Notice is given that an ordinary meeting of the Consent Commission – Commissioner will be held on:

Date:	**Monday 30 June 2014**
Time:	
Meeting Room:	**Yacht Club, Tarakohe Harbour, 995 Abel Tasman Drive, Golden Bay**
Venue:	

Consent Commission – Commissioner

AGENDA

MEMBERSHIP Dr Jeff Jones

(Quorum 2 members)

Contact Telephone: 03 543 8455
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Note: The reports contained within this agenda are for consideration and should not be construed as Council policy unless and until adopted.

AGENDA

1 OPENING, WELCOME

2 REPORTS

The application seeks the following:

The Tasman District Council (Engineering Services Department) seeks to remove 14,000 cubic metres of gravel from the true right hand bank Aorere River which has built up from the flood events in December 2010, April 2011 and November 2011. The length of the section of river being worked on is approximately 900 metres. The site is located approximately 2.5 km upstream of the Collingwood - Puponga Main Road Bridge.

The applicant is undertaking this work to fulfil their functions under the Soil Conservation and Rivers Control Act 1941.

SUBMISSIONS:
The application was limited notified to one party and one submission has subsequently been made on this Resource Consent.

2 REPORTS

2.1 TASMAN DISTRICT COUNCIL

Decision Required

Report To:	Consent Commission – Commissioner
Meeting Date:	30 June 2014
Report Author:	Pete Keyanonda, Consent Planner - Natural Resources
Report Number:	REP14-06-01
File Reference:	RM130737
Attachments:	1. 21 Attachment 1: Aerial photograph of the site 2. 23 Attachment 2: Map denoting persons who have provided written approval 3. 25 Attachment 3-1: Memorandum from Tasman District Council's Resource Scientist Rivers and Coast 4. 27 Attachment 3-2: Updated Memorandum from Tasman District Council's Resource Scientist Rivers and Coast Recieved 17 June 2014 5. 31 Attachment 3-2: Photograph A 6. 33 Attachment 3-2: Photograph B 7. 35 Attachment 4: Resource Consent Decision RM070685 for Lamb Contracting Limited 8. 51 Attachment 5: Resource Consent Decision NN010109 for the Tasman District Council

1 Summary of Proposal

1.1 The applicant seeks to remove 14,000 cubic metres of flood deposited gravels from the true right bank of the Aorere River. The applicant is undertaking this work to fulfil their functions under the Soil Conservation and Rivers Control Act 1941. The applicant has also stated in the further information received on 26 March 2014 that they may only extract 9000 cubic metres from the top two sections of the beach.

1.2 The applicant has duties and functions under the Soil Conservation and Rivers Control Act. The activities carried out under the Soil Conservation and Rivers Control Act are subject to the Resource Management Act 1991 and the regulatory framework to be provided by Part IV.

The objectives of the Soil Conservation and Rivers Control Act 1941 are the:

(a) promotion of soil conservation;
(b) prevention of soil erosion;
(c) prevention of damage by floods; and
(d) utilisation of lands in such a manner as will tend towards the attainment of these objectives.

1.3 The Soil Conservation and Rivers Control Act provides the Tasman District Council with the ability to provide works and services in a river in order to meet these objectives. The day-to-day river works and services required under the Soil Conservation and Rivers Control Act and provided by the Council are carried out in accordance with its Rivers Activity Management Plan.

1.4 The gravel has been deposited on the bank in the extreme flooding events of December 2010, April 2011 and November 2011.

1.5 The purpose of the proposal is to restore the flood carrying capacity of the river.

1.6 The applicant currently holds a global consent NN010109 for maintenance works within rivers throughout the district. This consent allows gravel extraction from all river beds throughout the district for the purpose of "beach clearance and fairway maintenance or improvement for river control purposes in accordance with best management practices". The extraction is limited to 40,000 cubic metres annually and 4000 cubic metres from a single site over a rolling five year period. NN010109 expired on 30 June 2011. The applicant applied for a new consent (RM100851) for the same activity under NN010109 on 30 November 2010. RM100851 has not yet been granted and the applicant is operating under the original consent in accordance with the provisions of Section 124 of the Resource Management Act 1991. The applicant propose to exercise their functions under the NN010109 consent and extract 4000 cubic metres of gravel from the beach on top of the proposed 14,000 cubic metres applied for in this consent.

1.7 The applicant is proposing to extract material from the beach using an excavator and dump trucks. No gravel will be taken from the wetted bed of the river and no works will occur in the water course itself. Some gravel will be removed from the site while some will be stock piled on the adjacent land.

2 Site Description

2.1 The gravel beach located on the true right hand bank of the Aorere River. The beach is located approximately 2.5 km upstream from the Collingwood - Puponga Main Road Bridge. The beach is approximately 950 m in length and is accessed via a driveway over private property at 149 Swamp Road. An aerial photograph showing the site can be seen on Attachment 1.

2.2 Lamb Contracting Limited currently holds resource consent RM070685 which allows the consent holder to take up to 3500 cubic metres (solid measure) during the first year of exercising the consent and 2000 cubic metres (solid measure) of gravel from the beach in subsequent years until 7 April 2015. These yields were subject to volumes of gravel accumulating above the base level of the beach. This consent forms part of the existing environment.

3 Status of Application

3.1 Zoning: Nil - Crown River Bed However, Rural 2 Zone rules still apply.
Areas: Nil

3.2 This work is not Permitted by Rule 28.5.2.1 as more than 5 cubic metres will be extracted in one year.

3.3 The works are being done for river management purposes and the volume is greater than that specified in the Controlled Activity Table 28.5A (1000 cubic metres) and Restricted Discretionary Activity table 28.5B (0 cubic meters) therefore the proposal is a Discretionary Activity as the works are being undertaken under the Soil Conservation and Rivers Control Act 1941 to prevent or mitigate the adverse effects of flooding.

3.4 Overall the proposal is a **Discretionary Activity** according to Rule 28.5.2.5 of the Tasman Resource Management Plan (TRMP).

4 Notifications and Submissions

4.1 Written Approvals

Prior to notification written approvals were received from:

A Christopher Nalder and Susan Rose Brown - Owners and Occupiers of 90 Whakamarama Road, Collingwood;

B Ian and Aileen Kerr - Owners and Occupiers of 254 Collingwood - Puponga Road;

C Raewyn Lee Henry and Warwick James Henry - Owners of 228 Collingwood - Puponga Road, Written Approval Received and
Trevor Kerr and Diane Street - Occupiers of 228 Collingwood - Puponga Road;

D River Glen Limited - Owners and Occupier of 166 Collingwood Puponga Road;

E Nalders Rockville (2001) Limited - Owners and Occupiers of 149 Swamp Road, Collingwood;

F Brendan Richards - Owner and Occupier of 240 Collingwood - Bainham Road, Collingwood; and

G Riverside Farm 2008 Limited - Owner and Occupier of 164 Collingwood - Bainham Main Road, Collingwood.

Pursuant to Section 104(3)(a)(ii) of the Act the decision-making panel must not have any regard to any effect on these parties. The locations of these parties' properties are identified by the above letters and shown on the Map in Attachment 2.

4.2 Notification

The application was limited notified to:

- Lamb Contracting Limited

4.3 Submissions

Submissions in opposition

Submitter	Reasons	Heard?
Dick Lamb for Lamb Contracting Limited	- No cost benefit analysis is provided for the work. - The LIDAR information provided in the application is indecipherable. - The proposed stock pile positions are within a flood plain and will impede flood flows. - The continued exercise of RM070685 is compromised by the activity. - The guarantee of public access should be secured by the use of the excavated material to form the Wigzell Road extension towards the Northeast. - There is no information in the application that suggests that people have continued access to the stock pile positions.	YES

4.4 Comments on Submissions

4.4.1 The issues raised in the submission are primarily based on access to the gravel resource, the exercise of the existing consent held by Lamb Contracting Limited, the reliability of the data, the stock piles in the flood plain and the formation of an existing paper road.

4.4.2 The submitter holds resource consent RM070685 which allows the consent holder to take up to 3500 cubic metres (solid measure) during the first year of exercising the consent and 2000 cubic metres (solid measure) of gravel from the beach in subsequent years until 7 April 2015. These yields were subject to volumes of gravel accumulating above the base level of the beach. This consent forms part of the existing consented environment. This application is to remove gravel from the same area of river and beach as the Lamb Contracting Limited's RM070685 application. Mr Lamb raised concerns with regards to the LIDAR information and its accuracy in determining the yields on the beach. From this, further information was requested from the applicant to provide clear and decipherable plans that clearly illustrate the gravel yields and gravel accumulation on the beach as well as providing a clear description of the methodology used to calculate the yields.

4.4.3 The applicant responded with maps denoting the gravel deposition thickness (shown on Attachment 2) as well as confirming the methodology used to calculate the yields. The applicant states that the latest analysis was done using in-house software called "Global Mapper". This software creates two surfaces wherein the volume change between the two surfaces is calculated at the LIDAR sample point/cell size level and then aggregated over the cells. The cells are less than 1 square metre each). This methodology has been reviewed by the Tasman District Council Resource Scientist - Rivers and Coast Eric Verstappen who concludes that this methodology provides a very accurate and reliable calculation of beach volume change.

4.4.4 The applicant confirms that the final proposed stock pile locations (if on private land) will be confirmed with the relevant land owner.

4.4.5 It states in the application that the applicant has entered into discussions with the submitter regarding extraction of the gravel resource. The applicant states that they have offered to extract the volume of gravel consented in RM070685 and place it in a location that the submitter has access to. This was rejected by the submitter.

4.4.6 I consider the parts of the submission relating to cost - benefit analysis, to be outside of the scope of my considerations under the Resource Management Act 1991. I consider that this issue to be best addressed through either an Annual Plan or other process. This part of the submission will therefore not be addressed within this report.

5 Statutory Considerations

5.1 Section 104

A decision on this application must be made under Section 104 of the Act. The matters for the Council to address are:

- Part 2 (Sections 5, 6, 7 and 8)
- Effects on the environment (positive and negative)
- Objectives and Policies of the TRMP
- Other matters

6 Sections 6, 7, and 8

The following matters are relevant to this application:

6.1 Matters of National Importance

- S.6(d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers.
- S.6(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

6.2 Other Matters

- S.7(a) kaitiakitanga.
- S.7(aa) the ethic of stewardship.
- S.7(d) intrinsic values of ecosystems.
- S.7(f) maintenance and enhancement of the quality of the environment.
- S.7(g) any finite characteristics of natural and physical resources.
- S.7(h) the protection of the habitat of trout and salmon.
- S.7(i) the effects of climate change.

6.3 Treaty of Waitangi

6.3.1 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).

6.3.2 The Ngāti Kōata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu, and Te Ātiawa o Te Waka-a-Māui Claims Settlement Act 2014 (the CS Act) received Royal Assent on 22 April 2014 and commenced on 23 April 2014. The CS Act created Statutory Acknowledgements over generally Crown-owned portions of land or geographic features (such as lakes, rivers, wetlands, mountains or coastal marine areas). With respect to bodies of water such as lakes, rivers, and wetlands, the Statutory Acknowledgement excludes any part of the bed not owned or controlled by the Crown.

6.3.3 A Statutory Acknowledgement recognises the particular cultural, spiritual, historical and traditional association of an iwi with the identified site/area. This type of redress enhances the ability of the iwi to participate in specified Resource Management Act 1991 processes. When a claimant group and the Crown reach agreement on a final settlement offer they enter into a Deed of Settlement setting out the terms of that settlement.

A Statutory Acknowledgement involves:

- The settling iwi provide a statement of their association with the site/area of significance.
- This statement is recorded in the Deed of Settlement.
- The identification and description of the area over which the redress will apply. This is referred to in the legislation as the 'statutory area'.
- The Crown then acknowledges the statement from the iwi in statute (the settlement legislation).

6.3.4 Schedule 1 of the CS Act recognises Ngāti Rārua, Ngāti Tama ki Te Tau Ihu, and Te Ātiawa o Te Waka-a-Māui association with the Aorere River. Statements of the three iwi's association with the Aorere are detailed in Te Tau Ihu Statutory Acknowledgements 2014.

Section 43(1) of the CS Act states that:

"On and from the effective date, a relevant consent authority must have regard to the statutory acknowledgement relating to a statutory area in deciding, under Section 95E of the Resource Management Act 1991, whether the relevant trustees are affected persons in relation to an activity within, adjacent to, or directly affecting the statutory area and for which an application for a resource consent has been made."

6.3.5 The Section 95E determination for this consent predates the CS Act and was made on 5 November 2013. Notice of the application was given to both Tiakina and Manawhenua ki Mohua as resource management representation for the relevant iwi on 16 October 2013. No issues have been raised by iwi prior to the writing of this report.

7 Key Issues

7.1 The key issues are:

- River bed stability and channel efficiency
- Adverse effects on ecosystems
- Natural character, landscape, cultural, recreational and amenity values
- Water quality
- Gravel management and effects on existing consent holders

7.2 Key issue 1: River bed stability and channel efficiency

7.2.1 Erosion, degradation, aggradation or accretion can worsen natural hazards, particularly (in the case of aggradation or accretion) a reduction of channel carry capacity of a waterway can exacerbate flooding effects and cause bank erosion which can increase the risk of loss or damage to land, buildings and property. Aggrading of river beds may result in reduced effectiveness of river works, structures and affect waterway capacity, including flood flows and the water levels of adjacent aquifers.

7.3 **Objectives and Policies river bed stability and channel efficiency:**

7.4 **Objective 27.2.2 1.** *The stability of river beds and the efficiency of rivers to carry flood waters and sediment are maintained.*

7.5 **Objective 27.2.2 2.** *Activities in river beds including the construction of structures are carried out in a way that avoids, remedies or mitigates adverse effects on the stability of river beds and efficiency of rivers to carry flood waters and sediment.*

7.6 **Policy 27.2.3.2.** *To provide for the carrying out of activities which enhance river bed and bank stability and flood carrying efficiency of river channels while avoiding, remedying or mitigating adverse effects, including from noise and dust, on river uses and values and those identified in Schedule 30A.*

7.7 **Assessment of proposal against the above Policies and Objectives and Part 2**

7.8 The applicant states that significant bank erosion has occurred on the left bank of the area since the December 2010 and subsequent floods. The build-up of gravel on the right bank has resulted in the river forming a deep channel on the left bank which is undercutting the existing rock protection works. The applicant states that by extracting the gravel from the right bank, the river flow will be directed away from the problem areas which will help protect the existing structure as well as protecting the river bank, and adjacent land while increasing the flood capacity of the river.

7.9 The applicant is proposing to extract material from either the length of the beach or the upstream sections of the beach identified as "Beach 1 and Beach 2" shown on the map in Attachment 3, using an excavator and dump trucks. No gravel will be taken from the wetted bed of the river and no works will occur in the water course itself. Some gravel will be removed from the site while some will be stock piled on the adjacent river bank, the locations of which will be agreed upon in consultation with the adjacent landowners. The submitter has raised concerns regarding the proposed stock pile locations as they are in a flood plain. It is considered that while the stockpiles may divert and deflect flood water, they will not cause adverse effects on any adjacent property that has not provided their written approval. Should a flooding event be large enough to wash the stock piles downstream, it is considered that the effects of this will not be unlike if the gravel was mobilised from the beach and washed downstream.

7.10 This work will follow best practice. There will be a temporary release of sediment from undertaking the works if and when the river floods over the worked area. It is considered that this sedimentation will be no worse than a large fresh passing down the river. Any adverse effects resulting from this are considered to be temporary and will not cause permanent changes to the flow dynamics or exacerbate flooding downstream.

7.11 Overall it is considered that the adverse effect on the flood carrying capacity of the river will be less than than minor. The proposal will actually enhance the flood carrying capacity of the channel resulting in a positive effect for the environment and surrounding land owners as potential flooding effects will be reduced. There will be no permanent or lasting adverse effects from the proposal and the disturbance generated from the works will be temporary. As the applicant is restoring the flood carrying capacity of the watercourse it is deemed that the activity is consistent with the objectives and policies above as well as the relevant Part 2 matters. I am satisfied that conditions of consent can be imposed to adequately mitigate any adverse effects from the temporary works.

7.12 **Key issue 2: Adverse effects on ecosystems**

7.12.1 Adverse effects associated with bed disturbance and sediment discharge can destroy or smother river bed habitat and spawning areas. This may also reduce invertebrate habitat which in turn can impact on fish as they rely on invertebrates as a food source. Sediment discharges into water ways can reduce water clarity which reduces opportunities for fish feeding. Noise and close contact from disturbance activities can disrupt birds nesting and breeding. There are four bird species known to nest on braided open shingle river beds in the Tasman District. Black Fronted Terns are amongst the most threatened and endemic to the South Island of New Zealand. The protection of ecosystems and habitat is a fundamental issue when considering bed disturbance activities.

7.13 **Objectives and Policies relating to adverse effects on ecosystems**

7.14 **Objective 27.1.2.2.** *Activities in, on, under, or over the beds of rivers and lakes are carried out in a way that avoids, remedies, or mitigates adverse effects on aquatic ecosystems, including in particular:*

(a) aquatic habitats of:

(i) indigenous freshwater fish;
(ii) indigenous birds and other wild life, including river bed nesting habitats;
(iii) trout);
(b) braided and low land river ecosystems;
(c) fish passage.

7.15 **Policy 27.3.1.** *To avoid, remedy or mitigate adverse effects on aquatic ecosystems of structures and activities in, on, under or over river beds, including adverse effects on: (matters considered relevant)*
(d) Bird habitat, especially indigenous species and during nesting and rearing;
(f) invertebrate habitat and spawning areas due to smothering by sedimentation; and
(i) riverbed substrate compositions, hydraulics and channel morphology.

7.16 **Assessment of proposal against the above Policies and Objectives and Part 2**

7.17 All of the works will take place outside of the wetted bed of the river. Conditions of consent will require all activities involving hazardous substances (such as refuelling of vehicles) to be set back well away from the water course. There will also be a 3m buffer required from the extraction activities to the waterline. Sediment generated from the removal of gravel will unlikely be transported to the watercourse in fine weather. Conditions of consent will restrict works to dry periods where sediment mobilisation can be largely contained on the dry banks.

7.18 There will be a temporary release of sediment from undertaking the works if and when the river floods over the worked area. It is considered that this sedimentation will be no worse than a large fresh passing down the river. Any adverse effects resulting from this are considered to be temporary and will not cause permanent changes to the flow dynamics or channel morphology. Any sediment washed down is not considered to be of a scale that will smother habitats or destroy ecosystems.

7.19 There are no known bird nesting sites identified in the Tasman Resource Management Plan for the particular works site. The works will be temporary and completed within a short duration of time. It is considered that there will be no permanent destruction of disturbance of any nesting sites.

7.20 I am satisfied that appropriate conditions of consent will adequately mitigate any potential adverse effects on aquatic ecosystems and habitats. I am satisfied that the proposal is consistent with the policies and objectives above as well as any Part 2 matters.

7.21 **Key Issue 3: Natural character, landscape, cultural, recreational and amenity values**

7.21.1 A range of activities carried out in, on, under or over the beds of rivers and lakes, including on the surface may impact the natural character of the rivers, lakes, the landscape, amenity, recreational and cultural values, including heritage and wairua values. Noise from activities may also impact on people who live adjacent to rivers.

7.22 **Objectives and Policies relating to natural character, landscape, cultural, recreational and amenity values**

7.23 **Objective 27.5.2**: *The maintenance and, where appropriate, the enhancement of:*
(a) the natural character, amenity, recreational and cultural values and
(b) public access to rivers and lakes;
as a result of activities in the beds and on the surface of rivers and lakes.

7.24 **Policy 27.5.3.1:** *To avoid, remedy or mitigate adverse effects of structures and activities in, on, under or over river and lake beds or on the surface of rivers and lakes on:*

(a) Natural character;
(b) landscape values;
(c) amenity, cultural and social values, including recreational values such as whitebait fishing, trout fishing, game bird hunting, swimming and other surface water activities including canoeing and kayaking;

and including adverse effects arising from noise and congestions in or on rivers or at access points arising from commercial (motorised) activities, and to maintain or enhance, where appropriate public access to rivers and lakes.

7.25 **Assessment of proposal against the above Policies and Objectives and Part 2**

7.26 The lower Aorere River is an important migratory pathway for whitebait' fish species and provides excellent fishing at the mouth during the months from October to December. Inanga spawning occurs during high tides (spring tides) during February, March, and April and occurs between the Collingwood-Puponga Main Road Bridge and the upper limit of tidal influence, which is located downstream of the proposed works area.

7.27 The Aorere River is used in this area by recreational fishermen (trout and whitebait), boating (mainly kayakers), and, further downstream, swimmers. During the period that the works are occurring there will be disruption to those who use the area, however the effects on them will be relatively short-term (the applicant estimates a completion time of three weeks). While the works may be an inconvenience to users of the river it should be noted that the river needs to be managed for all uses.

7.28 I consider that the adverse effect on the environment and the public's enjoyment of the Aorere River will be no more than minor. There will be no permanent or lasting adverse effects from the proposal and the disturbance generated from the works will be temporary. As no work will be carried out in the wetted bed there should be a less than minor effect on water quality and habitat of game and recreational fish species.

7.29 The submitter raised the issue that public access to the river needs to be secured by the applicant forming Wigzell Road from the corner of Swamp Road to the beach towards the Northeast using the extracted material. I do not believe this is appropriate in this instance and I do not believe that this should be required of the applicant under this Resource Consent. I believe the cost implications, resourcing and planning of such an activity is more appropriate to be addressed in an Annual Plan process or another process. While it is acknowledged that public access to waterways is an important issue, I do not believe that prescribing how the applicant should achieve this through a Resource Consent process is appropriate, especially given that the application is for gravel extraction for river management and flood carrying capacity purposes. The end use of the excavated material is not a relevant matter for consideration in this proposal.

7.30 Noise generated from the works will be restricted to normal working hours and weekdays. Nevertheless all land owners adjacent to the work site have provided their written approvals. There were no cultural issues raised by iwi regarding the proposal.

7.31 The proposal is temporary in nature, conditions of consent will require the works to be outside of white baiting and trout spawning seasons as well as restricting the operating hours of the works. I consider that the adverse effects on the natural character, landscape, cultural, recreational and amenity values are not permanent and are suitably mitigated. I am satisfied that the proposal is consistent with the policies and objectives above as well as any Part 2 matters.

7.32 **Key issue 4: Water quality**

7.32.1 There may be activities in, on, under or over the beds of rivers that may result in reduced water quality. Fine sediment discharges from gravel extraction can smother aquatic habitats and disrupt fish and invertebrate feeding, migratory and breeding patterns. Fine sediment discharges can also reduce water clarity and subsequently affect amenity and recreational values.

7.33 **Objectives and Policies relating to water quality**

7.34 **Objective 27.3.2:** *Maintenance and enhancement of water quality where existing quality is degraded for natural and human uses and values, including iwi wairua values, through the carrying out of activities in the beds of rivers and lakes.*

7.35 **Policy 27.3.3.1:** *To avoid, remedy or mitigate adverse effects on river users and values from degraded water quality resulting from sediment, disease-causing organisms and nutrients including ammonia from activities in, on, under or over river and lake beds including:*
(b) gravel extraction or relocation.

7.36 **Assessment of proposal against the above Policies and Objectives and Part 2**

7.37 All the works will take place outside of the wetted bed of the river. Conditions of consent will require all activities involving hazardous substances (such as refuelling of vehicles) to be set back well away from the water course. There will also be a 3m buffer required from the extraction activities to the waterline. Sediment generated from the removal of gravel will unlikely be transported to the watercourse in fine weather. Conditions of consent will restrict works to dry periods where sediment mobilisation can be largely contained on the dry banks.

7.38 There will be a temporary release of sediment from undertaking the works if and when the river floods over the worked area. It is considered that this sedimentation will be no worse than a large fresh passing down the river. Any adverse effects resulting from this are considered to be temporary and will not cause permanent changes to the flow dynamics or channel morphology. Any sediment washed down is not considered to be of a scale that will smother habitats or destroy ecosystems.

7.39 I consider that the proposed activity will not adversely affect the values and uses or objectives identified within Schedule 30A of the Tasman Resource Management Plan.

7.40 I consider that subject to conditions, the proposal will not have an adverse effect on water quality that will be more than minor. I am satisfied that the proposal is consistent with the policies and objectives above as well as any Part 2 matter. Furthermore, the proposed activity is consistent with the Policies and Objectives in the National Policy Statement Freshwater Management 2011

7.41 **Key issue 5: Gravel management and effects on existing consent holders**

7.41.1 The applicant manages the rivers to mitigate flood risks and erosion and to maintain efficient channel capacity under the provisions of the Soil Conservation and Rivers Control Act 1941. They carry out a range of activities in the District's rivers, including rock protection, vegetation planting and clearance of vegetation from within channels. The works carried out to maintain stability of river beds and maintain efficient channels are identified in the Council's Rivers Activity Management Plan. These activities need to be assessed against the need to avoid, remedy or mitigate adverse effects on the environment.

7.41.2 If gravel beaches build up significantly, they can cause localised problems during floods as banks are over-topped. Part of the river works control programme requires management of gravel to deliver outcomes expressed in the Rivers Activity Management Plan which is prepared to fulfil Council duties and functions under the Soil Conservation and Rivers Control Act 1941.

The Rivers Activity Management Plan is expressly:

…to outline and summarise in one place, the Council's strategic and management long-term approach for the provision of river erosion protection and flood mitigation works and associated operation and maintenance of these works (from the Council's Tasman District Council Rivers Activity Management Plan)

7.41.3 The applicant's functions as the river management authority however has to be balanced with the submitters existing resource consent for gravel extraction (for commercial purposes) in the same location. The submitter's Resource Consent RM070685 allows the submitter to take up to 2000 cubic metres of gravel from the beach each year until 7 April 2015. This consent forms part of the existing consented environment. This application is applying remove gravel from the same area of river which could an effect on the consent holder in terms of the exercising of their consent.

7.42 **Objectives and Policies relating to gravel extraction and management**

7.43 **Objective 27.2.2:** *The stability of river beds and the efficiency of rivers to carry floodwaters and sediment are maintained.*

7.44 **Policy 27.3.3.6:** *To ensure that priority for the extraction of gravel is given to:*
(a) protection of the channel from erosion or instability;
(b) maintaining efficient movement of flood waters and sediment down the channel;
(c) preventing or mitigating adverse effects of flooding;
as determined in any river works programme prepared under the Soil Conservation and Rivers Control Act.
Note: Any river works programme prepared under the Soil Conservation and Rivers Control Act is specified in the Council's Rivers

7.45 **Policy 27.3.3.10:** *To allow for disturbances in the beds of rivers and lakes following extreme events to:*
(a) prevent or remedy damage caused by erosion or undermining existing structures or beds or banks of rivers caused by floods or extreme events;
(b) to remove or relocate debris and bed material that is likely to cause damage to existing structures or undermine bank stability or cause an increased risk of significant flooding;
(c) to repair existing bank protection or erosion control works.

7.46 **Policy 27.3.3.11:** *To promote, encourage or require activities in and alongside rivers, that are carried out to enhance riverbed and bank stability and flood-carrying efficiency of river channels, to be performed in accordance with best management practice which takes into account the:*
(a) risks of not carrying out the work, and
(b) costs of the proposed works, and
(c) nature, extent and duration of potential adverse effects and measures to avoid, remedy or mitigate them.

7.47 **Assessment of proposal against the above Policies and Objectives and Part 2**

7.48 The applicant is carrying out this work in order to enhance the flood carrying capacity of the channel. It is considered that the removal of the flood deposited gravel has a positive effect as not carrying out the work will lead to further bank erosion and the undermining of existing

flood protection structures. However, while the rules, objectives and policies give priority to works of this nature, other consent holders for gravel extraction must be taken into account as these consents form part of the existing consented environment and there may be at least a minor effect in terms of these other consent holder's abilities to exercise their consent.

7.49 In this instance I consider that the proposal to take 18,000 cubic metres (proposed 14,000, and the 4000 cubic metres allowed under NN010109) may have an adverse effect on the submitter and their ability to exercise RM070685. As detailed above RM070685 gives the submitter the ability to extract 2000 cubic metres per year until 7 April 2015. The applicant has provided calculations of gravel yields which show that the flood deposited material over the whole beach is approximately 14,639 cubic metres. The methodology for verifying this figure has been confirmed by the Tasman District Council Resource Scientist - Rivers and Coast as being a reliable and accurate methodology. The figure given is the yield of the flood deposited gravels only and not what existed on the beach prior to the flooding events. In other words, the applicant has applied to extract the amount that was deposited by the flooding events, as well as an additional 4000 (approx) cubic metres into the base level of the beach.

7.50 Lamb Contracting Limited currently holds resource consent RM070685 which allows the consent holder to take up to 3500 cubic metres (solid measure) during the first year of exercising the consent and 2000 cubic metres (solid measure) of gravel from the beach in subsequent years until 7 April 2015. These yields were subject to volumes of gravel accumulating above the base level of the beach. As there are no volumes given for the base levels of the beach, prior to the December 2010 flooding events, it is uncertain whether or not the beach had accumulated to a level that allowed the submitter to take the full allocation of 2000 cubic metres.

7.51 Should the applicant only decide to take approximately 9000 cubic metres from the top sections of the beach, it is considered that this would benefit the submitter as there will be additional gravel which has accumulated above the base level of the beach.

7.52 On balance I consider that the applicant's proposal should take priority as the rules, objectives and policies in the Tasman Resource Management Plan emphasise the importance and the priority of carrying out river management works (including gravel extraction) under the Soil Conservation and Rivers Control Act 1941. However, in saying so I also consider that the applicant is able to carry out these functions without causing an adverse effect on the submitter's current resource consent. I consider that if the applicant is only taking the amount of gravel deposited by the flood, the submitter may still able to exercise their consent as if the significant flooding events had not occurred. If the applicant is to take an additional 4000 cubic metres into the base level of the beach, then I consider that there may be an adverse effect on the submitter's ability to exercise the consent. If the applicant is to take 9000 cubic metres from the top sections of the beach then I consider that that the adverse effects on the submitter are negligible. I am satisfied that the applicant's proposal is consistent with the above mentioned objectives and policies as well as the matters outlined in Part 2.

8 Other matters

8.1 The applicant has stated that they have offered to extract and provide for him the amount of gravel under the submitter's consent and place it in a location that the submitter has access to. This may be a good practical option as it reduces the effects and disturbance on the beach. The works would be able to be undertaken in one operation by one party, rather than two parties tracking in out of the site. It is considered that the exploration of this option may represent the best outcome for both parties involved.

9 Summary of Key Issues

9.1 Overall it is considered that the proposal can be carried out without adverse effects on the environment being more than minor. It is considered that any potential adverse effects on the abovementioned key issues can suitability be mitigated thought conditions of consent. It is considered that the proposal has positives effects as the removal of the gravel will improve the channel stability and flood carrying capacity of the river. It is considered that the proposal may have adverse effects on the submitter's ability to implement RM070685, depending on how much gravel the applicant proposes to extract.

10 Section 5 and Recommendation

10.1 As a planner weighing up all of the relevant considerations in terms of Section 5 of the Act, should the applicant decided to take 9000 cubic metres of gravel from the top two beaches, I consider that a grant of consent **would** promote the sustainable management of natural and physical resources and I **STRONGLY RECOMMEND** that the application(s) be **GRANTED**, subject to conditions.

10.2 Should the applicant extract 14,000 cubic metres on top of their 4000 cubic metre allowance under NN010109, given the information provided, I believe that there may be an adverse effect on Lamb Contracting Limited in terms of the exercising of their consent. Upon weighing up all relevant considerations I have a **NEUTRAL POSITION** on the proposal.

Should the application be granted, I recommend the following conditions:

1. **Best Management Practices**

1.1 All work authorised under this consent shall conform with contemporary Best Management Practices and shall be undertaken under the supervision of an appropriately qualified engineer with relevant river control experience.

1.2 All works shall be inspected by (or on behalf of) the TDC Engineering Manager as soon as practicable upon completion. The Engineering Manager shall ensure that any defective work is remedied within four weeks of the inspection. The Engineering Manager shall keep a log of such inspections, including any remedial requirements and the remedy thereof.

1.3 All works carried out under this consent shall be substantially in accordance with the RM130737 application, unless otherwise limited by other conditions of this consent.

1.4 One week before work commences the applicant shall inform the Tasman District Council Co-ordinator Compliance and Monitoring.

1.5 The stock pile positions shall be determined by the supervising appropriately qualified engineer with river control experience. The positioning and alignment of the gravel stockpiles shall be placed in a manner that they do not cause the deflection or diversion of flood waters that will cause adverse effects on any buildings, structures or property.

2. **Restricted Activities**

2.1 No gravel extraction or fairway clearance shall be permitted within 50 metres of colonies of birds that are nesting or rearing their young on gravel beds in this consent.

2.2 For the purpose of this consent, a colony of birds is defined as more than three nest sites within a 10 metre radius.

2.3 No works shall occur during the main period of inanga (the principal whitebait species) spawning, 15 February to 31 May.

3. **Construction Noise**

3.1 Construction noise emanating from the river protection works shall meet the limits recommended, and be measured and assessed, in accordance with NZS6803:1999 the Measurement and Assessment of Noise from Construction, Maintenance, and Demolition Work. Construction noise includes the noise generated from the extraction and stockpiling of gravel and any associated works.

4. **Hours of Operation**

4.1 Works shall only occur between the hours of 0700 and 1800 from Monday to Friday, and from 0800 to 1230 on Saturdays. Works shall not occur on Sundays or Public Holidays.

5. **Access and Safety**

5.1 This consent does not convey any right of access to any land. Any arrangements necessary or access are the responsibility of the consent holder.

5.2 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent, public access to riverbeds shall not be restricted, other than in situations where there is a demonstrable and necessary risk to public safety.

5.3 The holder of this consent shall maintain a high level of onsite safety and in particular shall erect warning notices where their activities are potentially hazardous to any person using the associated reach or river.

6. **Discolouration of Water**

6.1 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent the clarity of the receiving water shall not be decreased after reasonable mixing, by more than 50%, determined by the average of three water clarity measurements over an eight hour working day and by more than 20% 12 hours after cessation of activity.

6.2 The point of measurement for water clarity shall be approximately 200 metres downstream of the work site, but not less than seven wetted channel widths downstream. Clarity shall be compared with the stream clarity immediately upstream of the work site.

7. **Deposition of Fine Sediment**

7.1 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent, which discolour the river flow at times of spawning or egg development, that deposition of fine sediment (i.e. less than < 2mm diameter) on the river bed shall not be increased by more than 10% at any time. This shall be measured using the Bain and Stevenson method.

8. **Contaminants**

8.1 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent, the risk of contaminants entering water is minimised but ensuring that:

8.1.1 No contaminants (including, but not limited to oil, hydraulic fluids, petrol, diesel, other fuels, lubricants, paint, or solvent, but excluding sediment) are stored on the riverbed.

8.1.2 The refuelling or cleaning of equipment shall not take place in a position where spills may enter the river directly or indirectly (e.g. subsurface flow).

8.2 All spills shall immediately be contained, controlled by an approved product, and shall be removed from the site and disposed of as directed by Council's Co-ordinator Compliance and Monitoring.

8.3 Council's Co-ordinator Compliance and Monitoring shall be immediately informed of any spill affecting water.

9. **Extraction of Gravel**

9.1 The extraction of gravel and removal of overburden (clay, silt and vegetation) shall be limited to beach clearance and fairway maintenance or improvement for river control purposes, in accordance with best management practices.

9.2 **Location of Extraction**

The extraction sites and intended volumes for extraction shall be described in the annual works programme and variations forwarded to the Environment and Planning Manager.

9.3 **Records of Gravel Removed**

The consent holder shall keep a daily record of the gravel removed and shall forward to the Council's Council's Co-ordinator Compliance and Monitoring at the end of every week.

9.3.1 A copy of each annual river work programme and a record of the quarterly gravel returns and completed work reports (on a site by site basis) shall be supplied by the Engineering Manager to the Environment and Planning Manager.

9.3.2 Returns are to be submitted in "m^3 solid measure". A multiplier of 0.80 shall be used to convert "truck measure" to "solid measure".

9.4 **Restrictions in Respect to Water**

9.4.1 No gravel shall be extracted from flowing water

9.4.2 Material shall only be removed from those beaches that are more than 300 mm above normal water level.

9.4.3 Vehicles and machinery shall not be operated within 3 metres of natural water.

9.5 **Fees**

Shingle supervision and management fees have been set by Council resolution and will be payable on any gravel and sand extracted.

10. **Complaint Register**

10.1 The consent holder shall maintain a complaint register, which details the content of all complaints received and of actions taken where necessary to remedy any issue. Copies or details of the Complaint Register shall be made available to Council's Co-ordinator Compliance and Monitoring on request.

11. **Monitoring**

11.1 The consent holder shall, within three months of this consent becoming effective, provide the Manager, Environmental Information with a detailed monitoring plan indicating the means by which adverse effects will be identified and where necessary, incorporated as changes to any subsequent river works plan.

11.2 Inspections to check compliance with the conditions of this consent shall be carried out by the Environment and Planning Section's Compliance team. All reasonable costs of monitoring shall be paid in full by the consent holder. (In addition, for the Extraction of Sand and/or Gravel, specific monitoring fees are covered by Council resolution).

11.3 The consent holder shall meet all annual fees and charges as may be set by Council resolution.

12. **Review**

12.1 Pursuant to Section 128 of the Resource Management Act 1991, Council reserves the right at any time during the term of this consent to review the conditions in order to deal with any adverse effect which may arise from the exercising of the consent. This shall include but not be restricted to:

- The actual or projected effects of the extraction of river materials on river stability as

determined by analysis of cross section survey data and/or;

- Discolouration of Water Condition 9.1.

13. **Expiry**

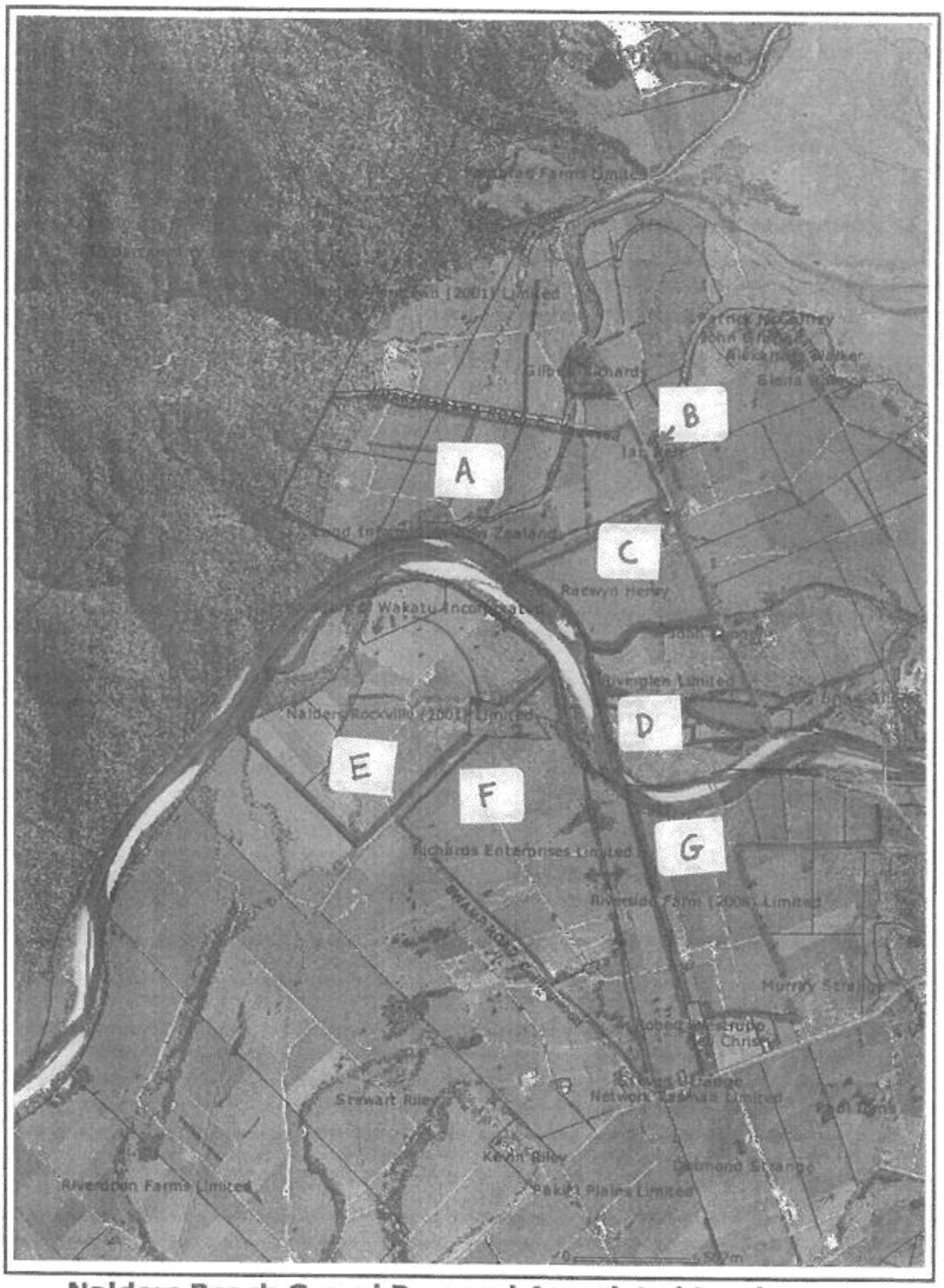
13.1 This consent shall expire in two years on.....

1:20,000

m

tasman district council

Map Output



Nalders Beach Gravel Removal Associated Landowners

14/10/2013 **DISCLAIMER:**
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tasman district council

Memorandum

TO: Pete Keyanonda

FROM: Eric Verstappen

DATE: 26 March 2014

FILE NO: RM130737

RE: **Gravel Volume Assessment Methodology**

As part of Council's LIDAR flying program, LIDAR was flown for the Aorere river area in question just prior .o the major flood event in the Aorere River in Dec 2010. The opportunity was taken to re-fly LIDAR for the river corridor and to analyse these two data sets to determine topographical (and hence volumetric) changes using GIS methods.

GIS software to analyse the enormous LIDAR data sets was at the time in its infancy and also unavailable to Council. Erosion and deposition changes on Nalders Beach (the beach subject to the gravel extraction application) were assessed for Council by Tonkin and Taylor, both numerically and graphically.

Simultaneously, TDC GIS staff was able to extract river cross section information from the raw LIDAR data set, enabling overlay and assessment of beach profile changes to be made. Several cross sections along the length of Nalders Beach were generated to see what changes had occurred. GIS were also subsequently able to plot difference maps for ranges of erosion and deposition heights from the raw data sets.

Traditionally, an end-area analysis of a set of cross sections along a beach has enabled an assessment of volumetric change to be made. This assessment method is relatively crude and only provides general trend data and at best, an approximation of the beach volume changes. Giles was going to use this method to assess the volume of beach erosion/deposition that had occurred as a result of the flood, using the set of cross sections I provided to show him the changes that had taken place. He was aware of the T&T assessment but presumably was uncertain about its veracity.

I have been working with another consultant who has recently obtained very specific Trimble earthworks volume assessment software. He was agreeable to checking the volume changes using the 2 LIDAR data sets for Nalders Beach. I was also pursuing with TDC GIS staff the ability to do this in-house at the same time, using Global Mapper software. The software program generates a very detailed topographic surface from the LIDAR data and calculates the height and thus volume change for each very small polygon (less than 1m2) over the whole beach area and aggregates the changes into net erosion and deposition change within the polygon. Both software packages produced near-identical assessment of volumetric changes.

The application provides an assessment of volume of erosion and deposition that occurred using the Global Mapper (and Trimble) software now available. Volume changes were determined from the two LIDAR data sets directly using the raw LIDAR data points that are typically 0.8m apart. This provides a very accurate and reliable calculation of beach volume change, which is a significant improvement on previous methods used, such as the end area method.

TO: Pete Keyanonda

FROM: Eric Verstappen

DATE: 13 June 2014

FILE NO: RM130737

RE: **Gravel Volume Assessment Methodology**

As part of Council's LIDAR flying program, LIDAR was flown for the Aorere river area in question just prior to the major flood event in the Aorere River in Dec 2010. The opportunity was taken to re-fly LIDAR for the river corridor and to analyse these two data sets to determine topographical (and hence volumetric) "above water" changes using GIS methods.

GIS software to analyse the enormous LIDAR data sets was at the time in its infancy and also unavailable to Council. Erosion and deposition changes on Nalders Beach (the beach subject to the gravel extraction application) were assessed for Council by Tonkin and Taylor, both numerically and graphically.

Simultaneously, TDC GIS staff was able to extract river cross section information from the raw LIDAR data set, enabling overlay and assessment of beach profile changes to be made. Several cross sections along the length of Nalders Beach were generated to see what general changes had occurred. GIS were also able to plot difference maps for a range of erosion and deposition heights from the raw data sets.

Traditionally, an end-area analysis of a set of cross sections along a beach has enabled an assessment of volumetric change to be made. This assessment method is relatively crude and only provides general trend data and at best, an approximation of the beach volume changes. Giles was going to use this method to assess the volume of beach erosion/deposition that had occurred as a result of the flood, using the set of cross sections I provided to show him the changes that had taken place. He was aware of the T&T assessment but presumably was uncertain about its veracity.

I have been working with another consultant who has recently obtained the latest Trimble earthworks volume assessment software. He was contracted to check the volume changes on Nalders Beach using the 2 LIDAR data sets. Around the same time Council GIS staff procured Global Mapper software, giving an in-house ability to calculate with some precision beach volumetric change. The software program generates a very detailed topographic surface from the LIDAR data and calculates the height and thus volume change for each very small polygon (less than 1m2) generated over the whole beach area. The software then aggregates the changes into net erosion and deposition change within the larger beach polygon. Both the Trimble and Global Mapper software packages produced near-identical assessment of volumetric changes.

The application provides an assessment of volume of erosion and deposition that occurred using the Global Mapper (and Trimble) software. Volume changes were determined from the two LIDAR data sets directly using the raw LIDAR data points that are typically 0.8m apart. This provides a very accurate and reliable calculation of beach volume change, which is a significant improvement on previous methods used, such as the end area method.

Lamb Contracting Ltd (LCL) holds consent to extract up to 2000 cubic metres (m3) of gravel off Nalder's Beach each year. This material can only be extracted from the beach above a certain

base level. This level is nominally 300mm above normal river flow level. LCL has made a submission expressing concern that this consent application, if granted, will adversely affect and compromise the ability to exercise their consent.

Beach volumetric change was further refined by splitting the Nalder beach polygon into 3 separate compartments, as detailed in the application. Each of these compartments contains in excess of 2000 m3 of gravel deposited during the 2010 flood event. Furthermore, each compartment contains a significant area of beach material deposition between 0.25 and 0.5m thick over and above the pre-flood beach level.

There is no doubt in my mind whatsoever that the ability for LCL to fully exercise their consent can be preserved over Nalder's beach as a whole whilst allowing grant of consent. No evidence has been provided in the application as to the volume of material available above the "300mm above waterline contour", for either the pre-flood or post-flood state. However, some 14000-14500 m3 of material has been deposited above the pre-flood beach waterline during the flood event, equating to an average deposition depth of around 0.25m over the "dry" area of Nalder's Beach.

I have obtained an assessment of the pre-flood and post-flood beach volume above the water level and also above the "300mm contour" above water level. These (rounded) figures are shown in the table below. This is to determine whether LCL can reasonably claim an extraction right to any of the material deposited in the 2010 flood event. This would occur in circumstances where their ability to extract a full 2000m3 of material from the pre-flood beach was not possible.

	Upper Beach (cu.m)		Middle Beach (cu.m)		Lower Beach (cu.m)	
	Above WL	Above 300	Above WL	Above 300	Above WL	Above 300
Post-flood	10650	6750	9350	7050	39150	31950
Pre-flood	4350	3350	6600	4450	33750	26850
Difference	6300	3400	2750	2600	5400	5100

The sediment material volume available above water level on Nalders Beach as a whole and on the upper two beach compartments alone exceeds the applicant's upper limit for extraction sought for river management purposes. From a flood relief perspective, it is better to extract material off a beach down to at least water level, if not below that level. In addition, there remains more than sufficient volume of material available for LCL to fully exercise their consent, both from the upper 2 beach compartments and certainly from the lower beach compartment, which I understand to be their preferred source. This is the case even if they are constrained to extracting above the 300mm contour (which is the norm for "harvesting", more so than for river management for flood relief purposes).

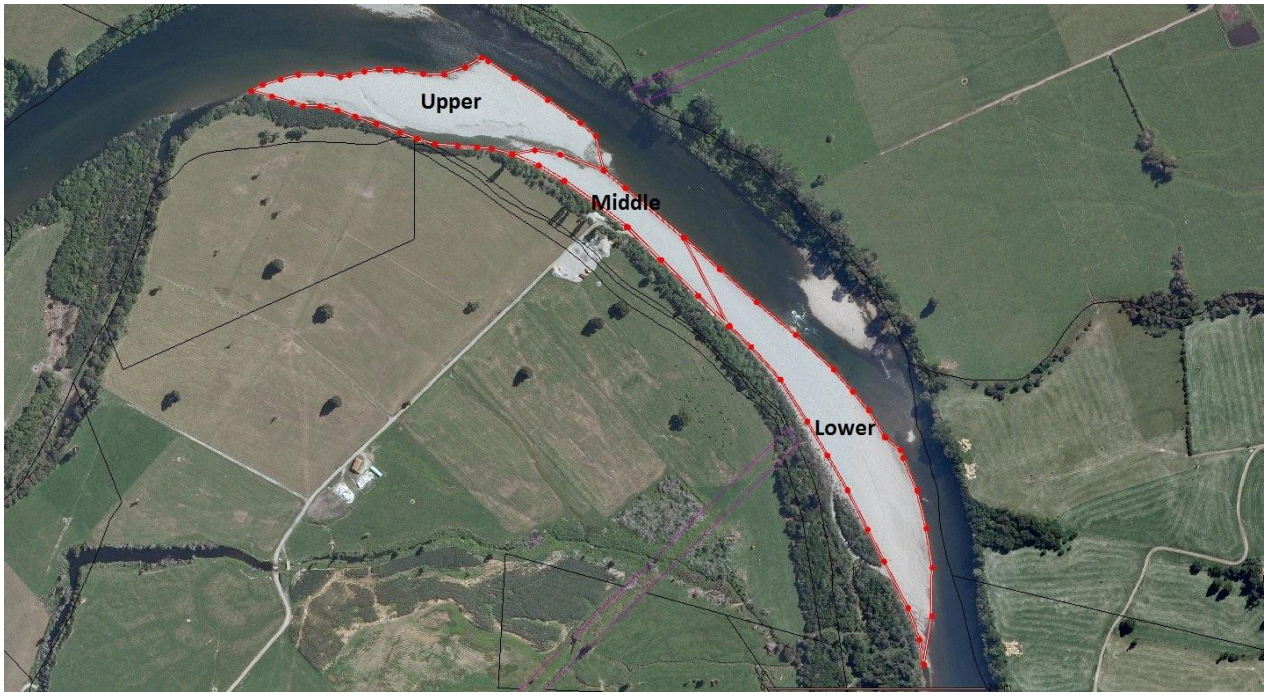
From the beach volume assessment, LCL have no priority claim on the material deposited on any of the beach compartments as a result of the 2010 flood, so as to be able to fully exercise their consent. This confirms that the applicant can at least fully extract all of the material deposited on the Nalder Beach during the 2010 flood event without affecting the ability for LCL to fully exercise their consent should they wish or be able to.

With respect to the potential for excavated beach material stockpiled on the right bank being subject to dispersal from floodplain flows during a flood event, this potential adverse effect is

considered to be remote and to be barely perceptible and de minimus. Photographs were taken from the air during the 2010 flood event, including of the existing stockpiled gravel materials on the right bank in the vicinity of the applicant's proposed stockpile site. These photos show the stockpiled material completely surrounded by floodwater near the peak of the extreme (approx. 0.5%AEP or 1 in 200 year) 2010 flood event.

Floodplain flows surround the stockpiles to an estimated depth of up to 1m (as seen in the photograph attached). However floodplain flows have little apparent velocity and appear to have been incapable of mobilising stockpiled material back into the river, across the floodplain or away from the stockpile location in more than an inconsequential and localised manner.


Stockpiled material from adjacent Nalders Beach, Dec 2010 Aorere Flood Event


Upper
Middle
Lower

TASMAN DISTRICT COUNCIL

Report and Decision of the Tasman District Council through its Hearings Committee

Meeting held at the Golden Bay Service Centre, Takaka

on 14 July 2008, commencing at 10.00 am

A Hearings Committee ("the Committee") of the Tasman District Council ("the Council") was convened to hear the objection lodged by **Lamb Contracting Limited** ("the Applicant"). The Applicant objected to Condition 2 of resource consent RM070685 and seeks amendment of the condition. The objection, made in accordance with Section 357A of the Resource Management Act 1991 ("the Act"), was lodged with the Council on 1 May 2008.

PRESENT:	**Hearings Committee** Cr N Riley, Chairperson Cr S Bryant Cr B Ensor
APPLICANT:	Mr R Lamb, Managing Director for Applicant Mr I Kerr, Witness
CONSENT AUTHORITY:	**Tasman District Council** Mr L Piggot, Consent Planner Natural Resources Mr E Verstappen, Resource Scientist Rivers and Coast Mr P Drummond, Rivers Engineer
IN ATTENDANCE:	Mr J Butler, Principal Resource Consents Adviser – Assisting the Committee Mrs N Heyes – Minutes Secretary

1. BACKGROUND AND DESCRIPTION OF THE OBJECTION

In 2007 the Applicant applied for resource consent RM070685 ("the consent") to extract 5,000 cubic metres (m^3) of gravel from a beach in the lower Aorere River, Golden Bay. The consent was granted under delegated authority for a duration of seven years.

However, the consent only allowed the extraction of up to 2,000 m^3 of gravel for the first year, followed by up to 2,000 m^3 per year thereafter. The further extractions in subsequent years were authorised only if monitoring and assessment confirmed that suitable gravel replenishment in the extraction area had occurred sufficiently to maintain a minimum mean bed level necessary to maintain river stability.

The consent conditions therefore require the Applicant to undertake monitoring and subsequent assessment to support any further take of gravel from the area. Monitoring of the gravel resource and confirmation of the sustainability of the resource was required annually if gravel extraction is to continue on an annual basis.

The decision as granted made it clear that if after monitoring and assessment it is found that gravel deposition has occurred above minimum required levels for bed stability purposes and also above the maximum allowable take of 2,000 m^3, the Applicant would be entitled to apply to change the conditions of the consent pursuant to Section 127 of the Act.

The activity authorised by RM070685 is a "stand alone" gravel extraction which is not for river management purposes (as authorised by a resource consent held by the Council and referenced as NN010109).

Conditions 1 to 4 of resource consent decision RM070685 are as follows:

Maximum Volume of Gravel Extraction

1. *No more than 2,000 cubic metres (solid measure) of gravel shall be removed during the first year of the exercising of this consent.*

2. *During the second year and subsequent years following the exercising of this consent, up to 2,000 cubic metres of gravel may be taken per year if this volume has accumulated above the base level of the beach, as defined by Condition 3.*

Monitoring of Gravel Accumulation

3. *The Consent Holder shall set up a monitoring programme designed to determine the volume of gravel that may sustainably be extracted annually from above the base level of the beach, and the contours of the area where the extraction is to take place. An annual monitoring report shall be supplied to the Council and no gravel extraction shall occur until this report is reviewed by the Council and accepted. Current and past data and reports shall be made available to the Council at other times if requested.*

4. The maximum volume of gravel to be extracted annually (with the exception of the first year, as per Condition 1) shall not exceed the volume determined by the Council's Co-ordinator Compliance Monitoring following the submission of the annual report referred to in Condition 3, and in no years shall exceed 2,000 cubic metres.

The Applicant objected to the decision and this objection was received by the Council on 1 May 2008. The objection satisfied the requirements of Section 357C of the Act and was therefore accepted by the Council.

The objection sought that the wording of Condition 2 be amended as follows:

"During the second and subsequent years, the total take of gravel will not be in excess of that accreted from the base level as established from the in 2008 contour model. Provision is expressly included that should the integrity of the flood protection rock armouring, the limitation flood levels over river banks or other deleterious matters be determined by Council's River Management Resource Scientist and or River Engineer, that additional extraction may be authorised above the annual take as determined by calculation from above the 2008 base level. A new base level will then be established on this lowered surface for subsequent years total annual extraction calculation."

Council staff did not support the objection and, therefore, that a Committee should be convened to hear the objection and make a final decision.

2. PROCEDURAL MATTERS

The Chair considered it appropriate that the format of the hearing be the same as that currently used by the Council for hearing resource consent applications.

The Chair informed the hearing that he had undertaken a site visit the day before the hearing. It was decided after the close of the public part of the hearing that a further site visit for the other members of the Committee was not required.

3. EVIDENCE HEARD

The Committee heard evidence from the Applicant, an expert witness, and the Council's reporting officer. The following is a summary of the evidence heard at the hearing.

3.1 Applicant's Evidence

Mr Lamb presented a number of aerial photographs and showed the pattern of buildup of gravel with reference to a recent aerial photograph which set out reference locations. He showed that the bulk of gravel at "Point B" is in approximately the same location in each photograph.

Mr Lamb stated that his position has never been that a annual take of 5,000 m^3 is a sustainable take from this river. He considered that a one-off take would be advantageous to the management of the river's flood path.

Mr Lamb did not favour the option of applying for a variation in the event that sustainable gravel yields are found to be higher than the maximum 2,000 m^3 take currently authorised as he believed it would be subject to more "protracted decision making by consents officials". He considered that the method of assessment of any maximum limit should be built into the consent condition.

With regard to the sustainability of the take, Mr Lamb stated that it should be concerned with balancing an appropriate quantity of abstraction of gravel as a proportion of that passing a particular point in the river against the requirement for continuing the supply of material downstream to maintain the level of the riverbed and supply material to the river delta.

He stated that observations of bed levels immediately upstream from the Aorere Road Bridge confirms that the average bed level exposed above normal river flows is rising and has been doing so for two decades. Mr Lamb stated that material is rapidly redeposited at Point B after extraction of material occurs. He also pointed out that redeposition at Point D is slow and that this section of beach is not included in any plans for extraction.

Mr Lamb stated that within the last 10 years the Council has granted a consent for the removal of around 5,000 m^3 of gravel for the construction of the Collingwood sewer and water schemes. He believed this gravel has been replaced but that the Council has not considered this to be proof of accretion.

By calculating the size of the river delta and averaging this volume over the 10,000 years since the last glaciation, Mr Lamb considers that a conservative average of 11,310 m^3 of gravel is transported down the Aorere River annually. Mr Lamb continued by saying that no evidence is presented by the Council's officers to show that an annual maximum take of 2,000 m^3 is "optimistic". He considers the officer's report to have no more basis in fact than his, and other locals', observations of the river.

Mr Lamb considered that the sustainable take may be well in excess of 2,000 m^3 per year.

With regard to flooding, Mr Lamb stated that observations by farmers and landowners living nearby to the river confirm that flooding patterns have changed recently. He considered this to be the result of gravel accumulation at Point B. Mr Lamb referred to the various aerial photographs to illustrate the changes over time.

Mr Kerr, a witness who lives nearby the subject site, then spoke in this regard. He stated that he considers the build-up of gravel at Point B to be diverting flood water so that it spills over the bank further upstream on the true left hand side; Point H rather than Point L as was the historic norm. Mr Kerr also suggested that when rock protection was placed at Point A sometime after 1984, a 20 tonne digger with a reach of six metres was only just able to place rock from the top of the bank. He suggested that the drop is now no more than 2.5 metres. Mr Kerr also stated that in other locations, particularly downstream of the proposed take site, river gravels have built up over time.

Mr Lamb considered that constriction of the flow channel by flood protection and gravel accumulation is compromising the stability of rock work.

With regard to current gravel volumes at the beach at Point B, Mr Lamb calculated that 300 millimetres above the river level on 12 May 2008 there was (conservatively) 3,110 m^3 of gravel. He considered that removing 5,000 m^3 of gravel from that beach would assist in alleviating flooding. He also calculated that at the beach at Point G there is 23,000 m^3 of gravel available. Mr Lamb presented as evidence a contour model of the current above-water gravel between the beaches at Point A and Point G. The model was drawn by Golden Bay Surveyors Limited.

Finally, Mr Lamb presented bed load calculations to show that the proposed gravel take will not affect sand deposition on the Collingwood beachfront.

Mr Lamb summarised by saying that no evidence was presented by the Council's officers to suggest that bed levels are being degraded in this section of the river. He considered that his evidence, both photographic and visual, suggested that river beach levels are currently aggrading. He considered that the material is available and that extraction will also help alleviate flooding problems.

Finally, he recommended that his objection to Condition 2 of the consent be upheld, that a one off take of 5,000 m^3 of gravel be granted with the majority to come from the beach at Point B, and with subsequent annual takes to be calculated on the basis of accretion above this reduced level, and a proportion from the beach and Point G.

Cr Ensor asked Mr Lamb whether, over the last 20 to 30 years, flooding has increased. Mr Lamb deferred to Mr Kerr, who stated that it has been fairly consistent.

Mr Lamb was also asked why he did not extract his full allocation under previous consents that he held. He stated that he didn't have the processing capacity. He explained that suitable volume must be available to develop markets and allow efficient processing.

3.2 Council's Reporting Officer's Report and Evidence

Mr E Verstappen stated that this case highlights a common misconception with gravel extraction activities that bars where gravel accumulates often present an appearance of having excess gravel when, in fact, that gravel is necessary to maintain the bed level.

He said that the major difference that makes this application unprecedented is the shift to ongoing extraction rather than just a one-off take. As a result he stated he has no idea what the effect might be. Mr Verstappen said that the key aspect is the mean bed level rather than just the bed level or gravel buildup in a given location. He said that generally, and particularly in rivers in the Tasman District, continuously taking gravel off the top of a beach reduces the overall mean bed level.

There is no tracking system or systematic record of observations or measurements for this river as there has been little interest in regular gravel take operations. Unless flows and, in this case, tides are identical then photos such as the ones presented by

Mr Lamb will vary markedly and may give the impression of an accumulation of gravel.
Mr Verstappen made the point that there is seldom any reason to rock-protect rivers that are aggrading. He said that there are two scenarios rock protection is used. Firstly, when the bed level is dropping and secondly where the location of the river is being held.

He stated that the beach may well have recovered and that the gravel may be available but that it also may not have recovered. No-one has the information.

Therefore his suggestion was to start small, monitor the effects of the take and then allow the take to continue and possibly increase. He suggested that visual clues may be misleading.

He said that the repercussions of a lowering bed were very expensive to the Council and that rock protection work is very easily destabilised.

Mr Verstappen pointed to the locations where the beach has not recovered well and for those reasons suggested a precautionary approach. If he is wrong the Applicant will be able to come back with recent data and it is not a big deal to change the consent. But he restated that a fundamental principle of river management is that one cannot rely on the eye as it is often misleading and doesn't measure other factors such as deepening under the water.

Mr Verstappen concluded by stating that the shift from one-off takes to a routine take is significant and that the Council holds a consent to allow extraction of gravel when rivers aggrade but that he hasn't used it at this location. He agreed with Mr Lamb that he has no evidence to suggest the bed may be dropping but that the absence of any scientific data is reason alone to take a very cautious approach.

Cr Riley asked whether there is any plan to monitor the river in the absence of this application. Mr Verstappen said that there are no plans as such monitoring is very expensive.

When asked about other takes in Golden Bay, Mr Verstappen said there is a longstanding take in the lower Takaka River, some in the upper Takaka River, but very little in the Aorere River. When questioned about the 10,000 m^3 taken for the sewer works from this beach Mr Verstappen said that it is unlikely that such a consent would be grated again based on the same lack of information.

Cr Ensor asked if the cost of monitoring may exceed the royalties taken. Mr Verstappen said that this was very likely but that it can be tailored to the area of concern and that other cheaper monitoring options such as LIDAR (Light Detection and Ranging) may become available.

3.3 Applicant's Right of Reply

Mr Lamb stated that he supports a precautionary approach but that there is no evidence of degradation here. He referred to the exposed bedrock at Point B and stated that increasing exposure of the bedrock, which would indicate degradation of the river bed, was not observed on the aerial photographs.

Mr Lamb stated that entire beaches have been removed by past contractors as part of developments and that they have been replaced during the next fresh or flood. He considered it unhelpful to describe the takes as sporadic.

4. PRINCIPAL ISSUES

The principal issues that were in contention were:

a) Is there any evidence that the bed of the Aorere River in this reach is degrading or aggrading? Both parties contended that there was very little evidence but, Mr Lamb contended that there was more evidence to suggest that the river is aggrading.

b) Is an initial take of 5,000 m^3 more appropriate than the 2,000 m^3 limit?

c) Is the approach taken by Council staff in setting the conditions (ongoing annual takes of up to 2,000 m^3 based on monitoring results) overly cautious? In the event that a greater take is found to be sustainable, will the requirement to vary the consent be overly bureaucratic and will the approach proposed by Mr Lamb (allowing the taking of all gravel above a measured level) be more appropriate?

5. MAIN FINDINGS OF FACT

The Committee considers that the following are the main facts relating to this application:

a) There is very little evidence to indicate how the river is behaving or how it will behave in the future under a regime of yearly gravel extractions. The Committee accepts and agrees with Mr Verstappen's comment that the eye is a poor guide to assessing a rivers behaviour.

With regard to the contour model drawn by Golden Bay Surveyors, the Committee notes that while it may be suitable for showing the gravel contours on the beach, it does not provide any useful information about what is happening below water level. Therefore, such a model will not be sufficient, nor even very useful, for determining the ongoing effects of the gravel take as required by Condition 3 of the consent.

b) Based on observations of the size of the beach by the Chair and on the measurements provided by Mr Lamb in his evidence, the Committee considers that the 2,000 m^3 allowed take for the first year is somewhat conservative. However, the Committee also considers that 5,000 m^3 of gravel is a very large amount and that a cautious approach must be taken.

c) The Committee is mindful of the very expensive and wide ranging effects that generally result from a falling mean bed level. The Committee is also clear that case law surrounding Section 88 and Schedule 4 of the Act clearly puts the onus on applicants to supply sufficient data. Given the lack of information available the Committee considers that the cautious approach taken by the Council's staff is appropriate.

The Committee is comfortable that the processing of applications to change consent conditions is a relatively simple matter and that it is unlikely to result in "protracted decision making" as alleged by Mr Lamb. The original application was a new application and for a large and regular take from a river where no such precedent existed and little or no information was available. The Committee is satisfied that an application to change conditions will be a simpler affair as it will be accompanied by some robust scientific data.

The Committee does not believe that the approach proposed by Mr Lamb is conservative enough given the uncertainties involved. Essentially, Mr Lamb is proposing that he has full and exclusive rights to all gravel above a minimum level (which may be lowered). The Committee considers that this puts no upper limit on the volume that may be extracted, may result in a large proportion of the bed load of the river being removed from the river system, and provides little or no uncertainty or contingency buffer.

6. RELEVANT STATUTORY PROVISIONS

6.1 Policy Statements and Plan Provisions

In considering this application, the Committee has had regard to the matters outlined in Section 104 of the Act. In particular, the Committee has had regard to the relevant provisions of the following planning documents:

a) Tasman Regional Policy Statement (TRPS); and

b) the Proposed Tasman Resource Management Plan (PTRMP).

6.2 Part II Matters

In considering this application, the Committee has taken into account the relevant principles outlined in Sections 6, 7 and 8 of the Act, as well as the overall purpose of the Act as presented in Section 5.

7. DECISION

Pursuant to Section 357D(1) of the Act, the Committee generally **dismisses** the objection but with amendments to conditions as shown in Section 9 below.

8. REASONS FOR THE DECISION

With the dearth of reliable and objective information available, the Committee does not consider that amending the conditions to allow all available gravel above a measured surface on a large beach to be an appropriate and sustainable use of natural and physical resources.

While there may be cause to allow such an activity in the future, it will need to be properly assessed to ensure it is sustainable and will not cause significant adverse effects on the environment. The Committee considers that the resource consent process (specifically the change of conditions process set out under Section 127 of the Act) is the appropriate forum for that change. Any such application will need to be accompanied by robust information.

Based on the evidence presented, particularly with regard to the accumulation of gravel at Point B, the Committee does feel comfortable allowing an initial gravel take that is greater than that approved by Council staff.

9. AMENDED CONDITIONS OF CONSENT

Only those consent conditions which are changed are presented below and the changes are shown either as underlined for additions or ~~strikethrough~~ for deletions. For the purposes of clarity, a complete amended set of conditions for the consent is attached at the end of this decision.

It should be noted that some changes have been made which are somewhat beyond the scope of the objection. However, the Committee considers them necessary to provide adequate certainty for both the Applicant and the Council.

1. No more than ~~2,000~~ 3,500 cubic metres (solid measure) of gravel shall be removed during the first year of the exercising of this consent. This gravel shall principally be taken from the beach identified as Point B on Plan A (attached).

2. During the second year and subsequent years following the exercising of this consent, up to 2,000 cubic metres (solid measure) of gravel may be taken per calendar year if this volume has accumulated above the base level of the beach, as defined by Condition 3.

3. The Consent Holder shall set up a monitoring programme designed to determine the volume of gravel that may sustainably be extracted annually from above the base level of the beach, and the contours of the area where the extraction is to take place. An annual monitoring report shall be supplied to the Council's Co-ordinator Compliance Monitoring during the month of November each year and, once submitted, no further gravel extraction shall occur until this report is reviewed by the ~~Council~~ Co-ordinator Compliance Monitoring and accepted. Current and past data and reports shall be made available to the Council at other times if requested.

   Advice Note:
   The Consent Holder is strongly advised to design the monitoring programme in close consultation with the Council's Resource Scientist Rivers and Coast and, if necessary, an appropriately qualified or experienced river monitoring professional. This is to ensure that the information provided is suitable and sufficient to allow the Council's staff to have confidence in the results and to accept the report.

4. The maximum volume of gravel to be extracted ~~annually~~ in each calendar year (with the exception of the first year, as per Condition 1) shall not exceed the volume determined by the Council's Co-ordinator Compliance Monitoring following the submission of the annual report referred to in Condition 3, and in no calendar year~~s~~ shall exceed 2,000 cubic metres (solid measure).

Issued this 31st day of July 2008

Cr N Riley
Chair of Hearings Committee

RESOURCE CONSENT

RESOURCE CONSENT NUMBER: RM070685

Pursuant to Section 104B of the Resource Management Act 1991 ("the Act"), the Tasman District Council ("the Council") hereby grants resource consent to:

Lamb Contracting Limited
(hereinafter referred to as "the Consent Holder")

ACTIVITY AUTHORISED BY THIS CONSENT: Gravel Extraction

LOCATION DETAILS:

Address of property: Aorere River Access from Swamp Road, Collingwood

Location co-ordinates: 2479851E 6059617N (New Zealand Map Grid)
See Plan A attached to this consent

Pursuant to Section 108 of the Act, this consent is issued subject to the following conditions:

CONDITIONS

Maximum Volume of Gravel Extraction

1. No more than 3,500 cubic metres (solid measure) of gravel shall be removed during the first year of the exercising of this consent. This gravel shall principally be taken from the beach identified as Point B on Plan A (attached).

2. During the second year and subsequent years following the exercising of this consent, up to 2,000 cubic metres (solid measure) of gravel may be taken per calendar year if this volume has accumulated above the base level of the beach, as defined by Condition 3.

Monitoring of Gravel Accumulation

3. The Consent Holder shall set up a monitoring programme designed to determine the volume of gravel that may sustainably be extracted annually from above the base level of the beach, and the contours of the area where the extraction is to take place. An annual monitoring report shall be supplied to the Council's Co-ordinator Compliance Monitoring during the month of November each year and, once submitted, no further gravel extraction shall occur until this report is reviewed by the Co-ordinator Compliance Monitoring and accepted. Current and past data and reports shall be made available to the Council at other times if requested.

Advice Note:
The Consent Holder is strongly advised to design the monitoring programme in close consultation with the Council's Resource Scientist Rivers and Coast and, if necessary, an appropriately qualified or experienced river monitoring professional. This is to ensure that the information provided is suitable and sufficient to allow the Council's staff to have confidence in the results and to accept the report.

4. The maximum volume of gravel to be extracted in each calendar year (with the exception of the first year, as per Condition 1) shall not exceed the volume determined by the Council's Co-ordinator Compliance Monitoring following the submission of the annual report referred to in Condition 3, and in no calendar year shall exceed 2,000 cubic metres (solid measure).

Location of Gravel Extraction

5. Notwithstanding Condition 3, the gravel shall be extracted only from the areas centred on locations marked on Plan A attached to this consent. The exact areas shall be clearly marked out by Council's Co-ordinator Compliance Monitoring or his delegated officer prior to the gravel extraction. Any contractors working on this site shall be made aware of this area, and that no extraction is to occur outside of this defined area.

Keeping of Records

6. The Consent Holder shall record the volumes of material extracted and submit these records to the Council's Co-ordinator Compliance Monitoring annually with the monitoring report referred to in Condition 3. This report shall include a daily record of the gravel extracted.

Gravel Royalties

7. Returns shall be submitted in "solid measure" and a multiplier of 0.80 shall be used to convert "truck measure" to "solid measure".

Advice Note:
The royalty for gravel extracted from this site is $3.50 per cubic metre as stated in the Schedule of Charges in the Tasman District Council Annual Plan 2007/2008. This fee is likely to change over the life of the consent, in future please contact the Council to determine the current fee.

General Conditions

8. The Consent Holder shall contact Council's Co-ordinator Compliance Monitoring at least 24 hours prior to commencing works for monitoring purposes.

9. The Consent Holder shall only skim off the top of the beaches in the marked areas. Material shall only be removed from beach sections that are more than 300 millimetres above normal water level, and vehicles and machinery shall not be operated within 3.0 metres of natural water.

10. The hours of operation shall be between 7.30 am and 6.00 pm.

11. The Consent Holder shall ensure that no machinery is left in the riverbed overnight and all fuel oils are removed from the site at the end of each day's work.

12. All the extracted gravel shall be moved off-site and there shall be no storage of extracted gravel on the riverbed or on stopbanks.

13. The Consent Holder shall take all practicable measures to limit the discharge of sediment where it may enter water. In particular, the extraction shall be carried out during fine weather periods when the risk sedimentation is least.

14. No contaminants, including but not limited to hydrocarbon fuels, lubricants, or hydraulic fluids shall be stored on-site unless provided with secondary containment. The refuelling or minor maintenance of machinery shall be undertaken in such a manner that should contaminant spillage occur, it is able to be contained and prevented from entering surface water or groundwater.

15. No refuelling or machinery maintenance shall take place in locations where hydrocarbon spills may enter water, either directly or indirectly. All spills shall be immediately contained and controlled by an approved product and shall be removed from the site for appropriate disposal. Any spills shall be immediately reported to the Council's Co-ordinator Compliance Monitoring.

16. The Consent Holder shall provide a copy of this resource consent and associated plans to all persons involved in the activities authorised by this consent.

17. There shall be no objectionable dust arising from this operation. If required, the spraying of water may be undertaken to control any dust.

18. The Consent Holder shall ensure that the site is left in a neat and tidy condition following the completion of each phase of the works.

Review of Consent Conditions

19. Council may, for the duration of this consent, review the conditions of the consent pursuant to Section 128 of the Resource Management Act 1991 to:

    a) deal with any adverse effect on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

    b) to require compliance with operative rules in the Proposed Tasman Resource Management Plan or its successor; or

    c) when relevant national environmental standards have been made under Section 43 of the Resource Management Act 1991.

20. The Council reserves the right stop any gravel extraction if there is found to be adverse effect on river maintenance activities.

Expiry

21 This consent will expire on 7 April 2015.

ADVICE NOTES

1. Officers of the Council may also carry out site visits to monitor compliance with resource consent conditions.

2. The Consent Holder should meet the requirements of the Council with regard to all Building and Health Bylaws, Regulations and Acts. Building consent will be required for these works.

3. Access by the Council or its officers or agents to the property is reserved pursuant to Section 332 of the Resource Management Act.

4. All reporting required by this consent should be made in the first instance to the Council's Co-ordinator Compliance Monitoring.

5. Council draws your attention to the provisions of the Historic Places Act 1993 that require you in the event of discovering an archaeological find (eg, shell, midden, hangi or ovens, garden soils, pit, depressions, occupation evidence, burials, taonga) to cease works immediately, and tangata whenua, the Tasman District Council and the New Zealand Historic Places Trust should be notified within 24 hours. Works may recommence with the written approval of the Council's Environment & Planning Manager, and the New Zealand Historic Places Trust.

6. This resource consent only authorises the activity described above. Any matters or activities not referred to in this consent or covered by the conditions must either:

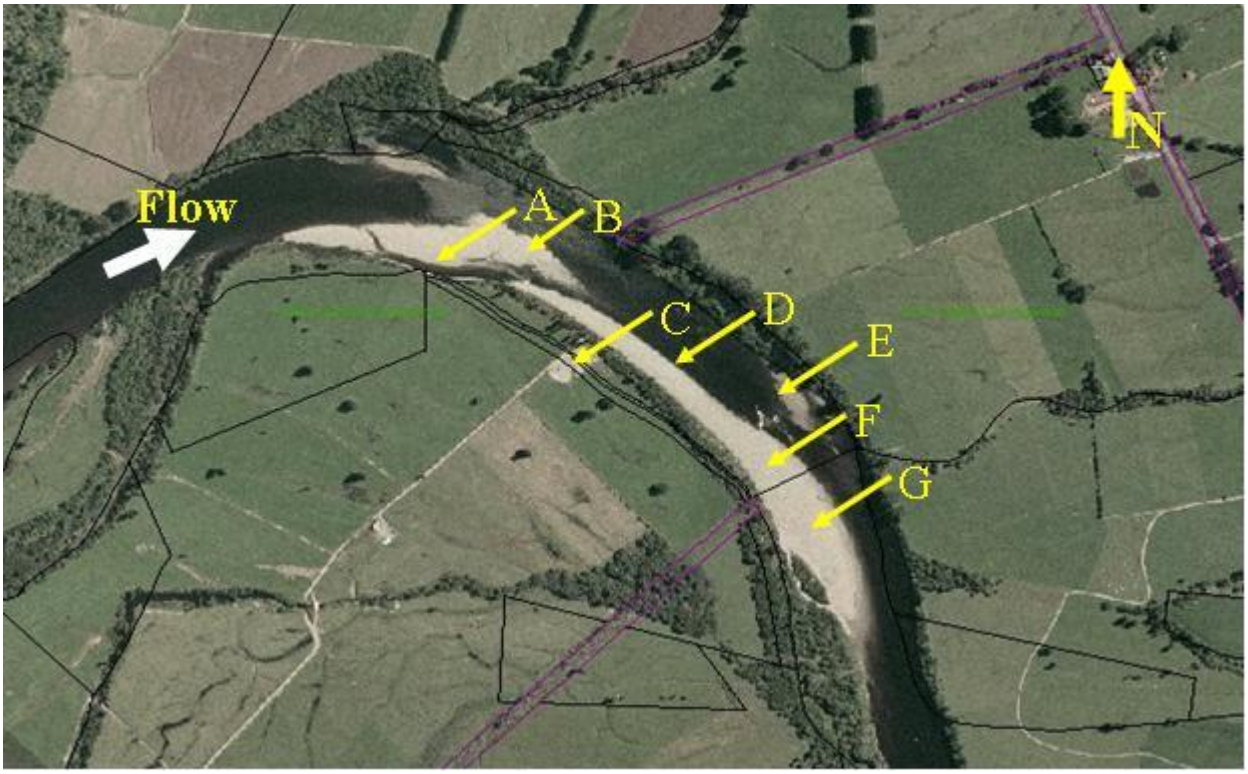
   a) comply with all the criteria of a relevant permitted activity rule in the Proposed Tasman Resource Management Plan (PTRMP);
   b) be allowed by the Resource Management Act; or
   c) be authorised by a separate resource consent.

7. Plans attached to this consent are (reduced) copies and therefore will not be to scale and may be difficult to read. Originals of the plans referred to are available for viewing at the Richmond office of the Council. Copies of the Council Standards and documents referred to in this consent are available for viewing at the Richmond office of the Council.

Issued this 31st day of July 2008

Cr N Riley
Chair of Hearings Committee

Plan A: Showing the Beach that the gravel will be extracted
RM070685, Lamb Contracting Ltd



Writer's Direct Dial No. (03) 5438 589
Writer's Email: jeremy.butler@tdc.govt.nz

31 July 2008

Lamb Contracting Ltd
Kowhai Point
Parapara RD 2
TAKAKA 7172

Dear Madam / Sir

DECISION ON OBJECTION TO RESOURCE CONSENT APPLICATION RM070685: LAMB CONTRACTING LIMITED

Pursuant to Section 357D of the Resource Management Act 1991 ("the Act"), please find enclosed a copy of the Council's decision on your objection referred to above.

Section 120 of the Act provides you with the right to lodge an appeal with the Environment Court in respect of this decision and/or any associated conditions. Section 121 of the Act requires that any such appeal must be made in the prescribed form and must state the reasons for the appeal and the relief sought and must be lodged with both the Environment Court (PO Box 2069, Christchurch; Phone (03) 962 4170 or Fax (03) 962 4171) and the Council within 15 working days of receiving this letter. A copy of your appeal must also be served on all persons who made a submission on the consent application within five working days of your appeal being lodged with the Environment Court.

Please feel free to contact Jeremy Butler, Principal Resource Consents Advisor if you have any questions regarding this decision.

Yours faithfully

Jeremy Butler
Principal Resource Consents Advisor

Tasman District Council

NN010109

RESOURCE CONSENT

LAND USE CONSENT

In accordance with the provisions of the Resource Management Act 1991 and subject to the attached conditions, the Tasman District Council (the Council) grants to:

Tasman District Council
Engineering Department
Private Bag 4
RICHMOND

Resource consent: *for river protection and maintenance works*

Location: *All rivers within Tasman District covered under the Nelson-Marlborough Regional Council Water and Soil Bylaw 1996*

DETAILS OF RESOURCE CONSENT – PURPOSE OF PERMIT

Specifically, Permit NN010109 is for the following river bank protection and channel stabilisation measures and maintenance.

1. *Weighted willows and other tree species.*
2. *Driven willow and poplar posts.*
3. *Mechanical and hand planted willows, poplars and other species.*
4. *Layering and cutting of willows.*
5. *Rock riprap, continuous and as groynes.*
6. *Gabions, continuous and as groynes.*
7. *Driven railway iron/steel/wooden retards, continuous and as groynes.*
8. *Mechanical beach clearance and fairway maintenance (including near bridges), removal of debris, soil, vegetation, gravel, shingle, sand or other material.*
9. *Removal of stranded trees and debris from channels and fairways.*
10. *Clearance and control of vegetation on banks and berms.*

The Resource Consent is granted for a term expiring on: *30 June 2011*

Environment and Planning Manager

Date

NN010109
CONDITIONS

1. **BEST MANAGEMENT PRACTICES**

1.1 All work permitted under this consent shall be planned and specified according to contemporary best management practices by an appropriately qualified engineer with relevant river control experience.

1.2 All works shall be for the purpose of river protection or maintenance and shall be limited to the Specific District Wide Activity Limits specified in the application (paragraph 19 of suggested conditions), with the exception of gravel extraction, refer to Condition 17.

1.3 All river works shall be inspected by (or on behalf of) the TDC Engineering Manager as soon as practicable upon completion. The Engineering Manager shall ensure that any defective work is remedied within four weeks of the inspection. The Engineering Manager shall keep a log of such inspections, including any remedial requirements and the remedy thereof.

1.4 All works carried out under this consent shall be substantially in accordance with the application as appended, unless otherwise limited by other conditions of this consent.

2. **EMERGENCY WORKS**

2.1 Not withstanding any of the conditions of this consent the consent holder shall have the ability to take the best reasonable practical approach in emergencies.

2.2 Emergency works carried out pursuant to this consent shall be restricted to those that meet the requirements of Section 330 of the Resource Management Act 1991.

2.3 The Environment and Planning Manager shall be advised of the need to carry out emergency works before, or as soon as reasonably possible after, the event.

2.4 Any remedial works resulting from the carrying out of emergency works shall be included in the variations to the works programme as submitted two monthly to the Environment and Planning Department.

3. **RESTRICTED ACTIVITIES**

In those areas identified as trout spawning areas in the attached schedule, no instream river works, or works on stream banks, or crossings of rivers, shall be undertaken during the periods of restricted activities as shown in the Schedule of Appendix A of this consent, unless specific dispensation has been obtained in advance from the affected party or parties, being the Department of Conservation and/or the Nelson-Marlborough Fish and Game Council. Every activity [in the Schedule Appendix A] shall be considered when preparing the two monthly work

programme. This schedule shall be amended from time to time as other restricted activities and sites are identified.

3.2 No river works shall occur in point bar or river beach riverine bird nesting or rearing sites in the period September to February inclusive, unless approved in 3.2.1.

3.2.1 Works shall only take place when a suitably qualified person in riverine birds has inspected the work site and access routes, and determined the works area is not used for nesting and rearing by birds. This inspection shall be repeated monthly for areas being worked over extended periods.

3.2.2 No vehicle or machinery shall be operated within 25 metres of any nesting birds or birds rearing their young; and

3.2.3 No gravel extraction or fairway clearance shall be permitted within 50 metres of colonies of birds that are nesting or rearing their young.

3.2.4 For the purpose of this consent, a colony of birds is defined as more than three nest sites within a 10 metre radius.

3.3 No instream river works, or works on stream banks and inundated riparian areas, or diversion of water away from the banks, shall occur in the tidally influenced sections of the District's rivers or streams during the main period of inanga (the principal whitebait species) spawning, 15 February to 31 May. The tidal region shall be taken as all that part of the watercourse or river below RL 5.0 metres a.m.s.l.

3.4 A copy of the schedule of restrictions shall be affixed to all annual works programmes and a copy of the schedule of restrictions shall be made available for public perusal at all Tasman District Council offices.

3.5 Although emergency works are exempt from these restrictions, every effort should be made to comply with the restrictions during emergency works.

4. **WETLAND PROTECTION**

The consent holder shall ensure that river management activities do not contravene Sections 17.4.9A and 17.5.9A of the Tasman Resource Management Plan, which prevent destruction or removal of indigenous vegetation, naturally occurring wetlands and coastal vegetation.

5. **PROTECTION OF ROADS, BRIDGES, RIVERBANKS, STOPBANKS AND OTHER STRUCTURES**

5.1 The activity shall not damage or affect the integrity of roads or bridges, or any lawful structures for flood protection or erosion control, or bank protection located in the bed or on the adjoining riverbank.

5.2 The consent holder shall consult with the appropriate roading authority or individual landowner before carrying out any river works within 30 metres of a road accessing a river or 50 metres of any bridge or weir or affected assets.

5.3 **Structures Requiring Consent**
The holder of this consent shall not place or construct any structure including any dam, weir, bund or stockpile which would dam, divert, obstruct or interfere with the free flow of water, including flood water, unless otherwise allowed under this consent provided for as in the current works programme.

6. **CONSTRUCTION NOISE**

Construction noise emanating from the river protection works shall meet the limits recommended, and be measured and assessed, in accordance with NZS6803:1999 the measurement and assessment of noise from construction, maintenance, and demolition work. Construction noise includes the construction of new bank protection and stopbanks and the upgrading of existing bank protection and stopbanks, the extraction and stockpiling of gravel and any associated works.

7. **HOURS OF OPERATION**

Works shall only occur between the hours of 0700 and 1800 from Monday to Friday, and from 0800 to 1230 on Saturdays. Works shall not occur on Sundays or Public Holidays. Emergency works are exempt.

8. **ACCESS AND SAFETY**

8.1 This consent does not convey any right of access to any land. Any arrangements necessary for access are the responsibility of the consent holder.

8.2 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent, public access to riverbeds shall not be restricted, other than in situations where there is a demonstrable and necessary risk to public safety.

8.3 The consent holder shall ensure that works do not impede any utility service provider's access to their property or infrastructure other than by agreement with the utility provider.

8.4 The holder of this consent shall maintain a high level of on site safety and in particular shall erect warning notices where their activities are potentially hazardous to any person using the associated reach or river.

9. **DISCOLOURATION OF WATER**

9.1 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent in rivers identified as trout or whitebait fishing rivers and during the respective fishing seasons for these species, or in trout or whitebait spawning rivers and at times of spawning or egg development for those species,

the clarity of the receiving water shall not be decreased after reasonable mixing, by more than 50%, determined by the average of three water clarity measurements over an 8 hour working day and by more than 20% 12 hours after cessation of activity. Where this condition proves to be consistently impractical, the consent holder, the Department of Conservation or the Nelson-Marlborough Fish and Game Council may present a case for this condition to be reviewed. Any review would require monitoring results to be presented as part of the case for a review. Water clarity can be measured by the black disk method. When it is necessary for plant and equipment to be operated within the active channel, all practical care shall be taken to minimise the instantaneous discolouration after mixing of water at a point approximately 200m downstream of the work site [refer also to Restricted Activities in Condition 3].

9.2 The point of measurement for water clarity shall be approximately 200 metres downstream of the work site, but not less than seven wetted channel widths downstream. Clarity shall be compared with the stream clarity immediately upstream of the work site.

10. **DEPOSITION OF FINE SEDIMENT**

10.1 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent, which discolour the river flow in any rivers identified as spawning rivers at times of spawning or egg development, that deposition of fine sediment (i.e. less than ≤ 2mm diameter) on the river bed shall not be increased by more than 10% at any time. This shall be measured using the Bain and Stevenson method.

11. **CONTAMINANTS**

11.1 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent, the risk of contaminants entering water is minimised but ensuring that:

11.1.1 No contaminants (including, but not limited to oil, hydraulic fluids, petrol, diesel, other fuels, lubricants, paint, or solvent, but excluding sediment) are stored on the riverbed.

11.1.2 The refuelling or cleaning of equipment shall not take place in a position where spills may enter the river directly or indirectly (e.g. subsurface flow).

11.2 All spills shall immediately be contained, controlled by an approved product, and shall be removed from the site and disposed of as directed by Council's Manager, Environmental Information.

11.3 Council's Manager, Environmental Information shall be immediately informed of any spill affecting water.

12. **VEHICLE CROSSING OF FLOWING WATER**

12.1 The passage of vehicles through flowing water shall be limited to situations where no reasonable alternative exists and, in any event, works shall be programmed to avoid the disturbance of spawning trout and their redds, of spawning whitebait and of nesting point bar or river beach riverine birds.

12.2 Where vehicles must cross flowing water, all practical care shall be taken to substantially remove fine sediment from the wheels or tracks and undercarriage of the vehicle. Where a water pit or spray equipment is in place, these shall be used to remove fine sediment. Where vehicles must cross flowing water and discolouration or bed sedimentation may occur, measures shall be considered which would reduce sedimentation. Such measures may include, amongst others, wash pits, minor and temporary diversions and temporary culverts.

12.3 No vehicles shall be used to cross water in areas identified as spawning waters during times when fish may be spawning or eggs development without the prior written approval of the Nelson-Marlborough Fish and Game Council or the Department of Conservation as appropriate.

13. **CLEARANCE OF RIPARIAN VEGETATION**

13.1 Clearance of riparian vegetation shall be limited to:

13.1.1 Provision of access to place bank protection, or to provide public access.

13.1.2 Removal of pest plants (e.g. broom and gorse).

13.1.3 Control of excessive growth along smaller streams where floodway capacity is significantly reduced below the design capacity.

13.1.4 Removal of old or damaged trees, or to remove trees causing bank erosion or a significant impediment to flow.

13.2 The consent holder shall ensure, where the habitat of any rare, vulnerable, endangered, protected game bird or fish species, or plant and animal species are identified, that as a result of carrying out any river works authorised by this consent, that ecologically sensitive sites and areas shall not be disturbed.

13.3 For riparian clearing the consent holder shall ensure that, as a result of carrying out any river works authorised by this consent:

13.3.1 The extent and duration of land clearing activities will be minimised to the extent possible.

13.3.2 The natural drainage of the site will be maintained to the extent possible.

13.3.3 Where necessary, cleared areas shall be contained with bunds to prevent run-off into streams.

13.3.4 The limits of clearing shall be clearly identified in the annual work programme and any variations to that programme.

13.3.5 Where necessary, exposed soil shall be seeded or revegetated as soon as reasonably possible following vegetation removal.

14. TRACKS AND CROSSINGS

14.1 For site access the consent holder shall ensure that, as a result of carrying out any river works authorised by this consent:

14.1.1 Stream crossing will be avoided where reasonably possible.

14.1.2 A vegetated buffer of at least 2 metres width shall be retained between access tracks and streams.

14.1.3 Erosion-prone areas shall be avoided where reasonably possible.

14.1.4 The minimum number of tracks reasonably possible shall be constructed.

14.1.5 Permanent track surfaces shall be maintained and protected against erosion; and temporary tracks shall be rehabilitated upon completion of river works.

14.1.6 Where required, water shall be diverted away from tracks to stop flow concentration and run-off into streams.

15. VEGETATION AND DEBRIS

15.1 All stacks of vegetation, river debris and stockpiles of gravel shall be placed in locations that are as flood-free as is reasonably practicable. If vegetation is stacked within the fairway where it could re-enter the active channel, it shall be cut into manageable lengths and removed or burnt (subject to permit) within six months. If burning is not practicable at any site, such stacks shall be placed to the edge of the fairway, or completely removed from the bed, banks or berms.

15.2 The consent holder shall adopt the best practical option to avoid or mitigate the adverse effects of burning of vegetation and debris. These include smoke trespass and the deposition of ash.

15.3 All waste material, discarded machinery or parts generated by any works shall be removed completely from the riverbeds, fairways and berms.

16. **VISUAL IMPACTS**

16.1 When planning the annual works programme the consent holder shall have due regard for the potential for adverse visual impacts and shall limit that impact as far as is reasonably possible.

16.2 All railway irons; steel or wooden piles and wire rope, tyres and other artificial river control materials within river channels which are no longer performing any useful river control function and whether or not they are of recent origin, shall be removed as soon as practical after they have become evident.

17. **EXTRACTION OF GRAVEL**

17.1 The extraction of gravel and removal of overburden (clay, silt and vegetation) shall be limited to beach clearance and fairway maintenance or improvement for river control purposes, in accordance with best management practices.

17.2 **Location of Extraction**

The extraction sites and intended volumes for extraction shall be described in the annual works programme and variations forwarded to the Environment and Planning Manager.

17.3 **Records of Gravel Removed**

The consent holder shall keep a daily record of the gravel removed and shall forward to the Council's Environment and Planning Customer Service Section copies of that record three monthly.

17.3.1 A copy of each annual river work programme and a record of the quarterly gravel returns and completed work reports (on a site by site basis) shall be supplied by the Engineering Manager to the Environment and Planning Manager.

17.3.2 Returns are to be submitted in "m^3 solid measure". A multiplier of 0.80 shall be used to convert "truck measure" to "solid measure".

17.4 **Restrictions in Respect to Water**

17.4.1 No gravel shall be extracted from flowing water (except small quantities associated with the removal of lodged obstructions).

17.4.2 Material shall only be removed from those beaches that are more than 300 mm above normal water level.

17.4.3 Vehicles and machinery shall not be operated within 3 metres of natural water, except where provided for in the works programme as submitted to Council's Manager, Environmental Information.

17.5 **Quantity Available for Removal**

17.5.1 The consent holder is authorised to remove gravel as detailed in the annual river works programme and supplied to Council's Environment and Planning Manager.

17.5.2 In determining the quantities of gravel to be extracted the consent holder shall be limited to the assessed sustainable extraction for individual rivers as may be determined from time to time by analysis of cross-section data and other information and taking into account gravel removed under separate gravel extraction consents. The assessed sustainable limit shall not apply to situations where gravel is extracted from deposits that do not contribute to the bedload of the active river at the dominant discharge, i.e. mean annual flood.

17.5.3 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent, gravel extraction shall be less than 40,000 m^3 in any financial year (1 July to 30 June).

17.5.4 The consent holder shall ensure that, as a result of carrying out any river works authorised by this consent, the maximum volume of gravel extracted from a single site (e.g. a point bar or side bar) shall be less than 4,000 m^3, exclusive of overburden, per rolling 5-year period.

17.6 **Fees**

Shingle supervision and management fees have been set by Council resolution and will be payable on any gravel and sand extracted.

18. **WEED CONTROL**

18.1 The consent holder shall seek assistance from Council's Biosecurity Control contract staff in the preparation of strategies, which will address the need for noxious weed control on riverbeds and beaches.

19. **COMMUNICATION**

19.1 In preparing the annual works programme the consent holder shall communicate as necessary with representatives of the Department of Conservation, the Nelson-Marlborough Fish and Game Council, iwi and Council's Resource Scientist (Rivers). Those parties will be given 15 working days in which to provide a formal response. All written responses received shall be taken into account in any revision of the annual works programme.

19.2 Once finalised by the Engineering Manager, copies of the works programme shall be forwarded to the Department of Conservation, Nelson-Marlborough Fish and Game Council, iwi and Council's Environment and Planning Manager.

19.3 Two monthly works programmes, including variations or amendments to the annual works programme shall be made available in written form to the Council's

Manager, Environmental Information at least three days prior to the first day of the month to which the works apply.

19.4 A summary of the Council's forthcoming river works programme shall be made available to the general public through listings in Council's Newsline (or as printed in the Nelson daily newspaper or in relevant community newspapers).

19.5 Details of completed works shall be made available to the Manager, Environmental Information three monthly for consent compliance and state of the environment monitoring purposes.

19.6 The consent holder shall maintain a detailed file on meetings etc. held to advise people in the District on river works programmes or related issues.

20. **COMPLAINT REGISTER**

20.1 The consent holder shall maintain a complaint register, which details the content of all complaints received and of actions taken where necessary to remedy any issue. Copies or details of the Complaint Register shall be made available to Council's Compliance Co-ordinator on request.

21. **MONITORING**

21.1 The consent holder shall, within three months of this consent becoming effective, provide the Manager, Environmental Information with a detailed monitoring plan indicating the means by which adverse effects will be identified and where necessary, incorporated as changes to any subsequent river works plan.

21.2 Inspections to check compliance with the conditions of this consent shall be carried out by the Environment and Planning Section's Compliance team. All reasonable costs of monitoring shall be paid in full by the consent holder. (In addition, for the Extraction of Sand and/or Gravel, specific monitoring fees are covered by Council resolution).

21.3 The consent holder shall meet all annual fees and charges as may be set by Council resolution.

22. **REVIEW**

22.1 Pursuant to Section 128 of the Resource Management Act 1991, Council reserves the right at any time during the term of this consent to review the conditions in order to deal with any adverse effect which may arise from the exercising of the consent. This shall include but not be restricted to:

- The actual or projected effects of the extraction of river materials on river stability as determined by analysis of cross section survey data and/or;
- Groundwater levels as may be detected by the monitoring of adjacent bores.

- Modifications to the rivers or activities listed in Appendix A with the written approval of the relevant affected party.

- Discolouration of Water Condition 9.1.

Appendix A

Tasman District Council

Application for a Resource Consent

Details:	Landuse; Disturbance; Gravel; Watercourse
Applicant:	TDC Engineering Department
Address:	Private Bag, Richmond
Proposal:	To carry out specific activities for river protection and maintenance works as listed in items 1 - 10 below
Location:	All rivers within Tasman District covered under the Nelson Marlborough Regional Council Water and Soil Bylaw 1990
Map Reference:	Not applicable
Term Applied For:	Date of grant until 30 June 2011.

APPLICATION:

To carry out basic river protection and maintenance works (as listed in items 1 - 10 below) on all rivers in the Tasman District covered under the Nelson-Marlborough Regional Council Water and Soil Bylaw 1990. Unusual river control activities (such as major stopbanks or major diversions) which could involve significant effects (whether adverse or beneficial) upon the environment have not been included in this application.

The purpose of this application is to allow the TDC Engineering Department to carry out works in an efficient manner to maintain and enhance bank protection, stopbank maintenance, channel fairway maintenance and improvement (including near bridges), and to reduce the potential for flood damage to adjacent land.

The specific activities applied for are:

1. Weighted willows and other tree species;

2. Driven willow and poplar posts;

3. Mechanical and hand planted willows, poplar and other species;

4. Layering and cutting of willows;

5. Rock riprap, continuous and as groynes;

6. Gabions, continuous and as groynes;

7. Driven railway iron/steel/wooden retards, continuous and as groynes;

8. Mechanical beach clearance and fairway maintenance (including near bridges), removal of debris, soil, vegetation, gravel, shingle, sand or other material;

9. Removal of stranded trees and debris from channels and fairways;

10. Clearance and control of vegetation on the fairways, banks and berms.

The application is for land use and disturbance; for gravel removal (see attachment A); and for watercourse consent as set out on attachment B. The applicant considers all of these are necessary to enable the Council's river management functions to be carried out efficiently.

The applicant considers that the grant of consent for the above activities subject to the conditions suggested hereafter would greatly enhance the administration and operation of Council's river management functions with consequent environmental, economic and social benefits for the residents and ratepayers of the Tasman District.

The applicant asks that this application be processed on a non-notified basis pursuant to the provisions of Section 94(3) and more particularly those of Section 369(8) of the Resource Management Act 1991 (as amended in 1993).

BACKGROUND

The following statements paraphrased from the background to the existing river consent (NN930005) remain true.

"Council's annual river works programme comprises a large number of individual jobs at many different locations, usually numbering in the hundreds. When damaging flooding occurs a revised programme must be prepared, usually involving other locations. Although there are many separately priced jobs in the annual programme, only a few different types of activity are involved. It would be needlessly repetitive for separate consents to be obtained for every job at every location and by seeking consent to carry out categories of activity wherever those activities may be undertaken. This application seeks to simplify procedures and limit unproductive expenditure."

However, because the existing river consent does not allow the Engineering Department to undertake the removal of gravel, shingle or sand, the applicant has found it difficult to adequately co-ordinate activities in the performance of Council's river control functions. There is a fragmentation of functions between TDC Departments and co-ordination of decision-making is difficult, giving rise to confusion and inefficiencies in both

administration and operations. There is little tangible evidence of social, environmental or economic benefit as a result of the current system.

This application seeks to remedy those inefficiencies by allowing the applicant to effectively manage gravel removal, but only in so far as this activity is an integral part of the Council's river protection and maintenance programme, including maintenance near bridges. It also seeks to provide a basis of operations until the Rivers and Lakes section of the Proposed Tasman Resource Management Plan becomes operative.

ASSESSMENT OF ENVIRONMENTAL EFFECTS

This is generally paraphrased from the AEE that accompanied the existing rivers consent (NN930005), with the additional matters applied for assessed within item 8. (Each item applied for assessed individually.)

1. **Weighted willow and other tree species**

These are placed along actively eroding banks in order to establish vegetative protection. Whole or part trees are placed lengthwise, tied back to deadmen, and weighted down with concrete blocks, rock or gabion sausages. The presence of the branches decreases velocities along the bank and thus inhibits erosion and in the meantime the trees take root and grow. Sometimes brush may be laid underneath for greater immediate effect. As well as providing bank protection, the trees can improve aquatic and riverbank environment both in the short and long term.

Possible adverse effects include some introduction of silt to water during construction if work is undertaken in shallow water.

Remedy - Conditions suggested in this application should remedy or mitigate.

2&3. **Driven willow and poplar posts – Mechanical hand planting of willows etc.**

Where erosion conditions are less severe than above, vegetative bank protection can be provided more cheaply by planting trees along the toe and top of banks. Pile driven willow and poplar posts are used where less robust poles might fail prior to establishing.

To reclaim larger areas where conditions are less severe, willow and poplar poles of about 25mm diameter are planted to provide strip protection at the toe, side and top of riverbanks. Most of this planting is carried out behind a tractor-mounted ripper, but some hand planting is sometimes done using crowbars etc. As well as providing bank protection, the trees can improve aquatic and riverbank environments.

Possible adverse effects include:
- Where work has to be carried out in shallow water some silt may be temporarily introduced.
- Some temporary visual effects until growth establishes.

Remedy - These effects are usually very temporary and suggested conditions should mitigate.

4. **Layering and cutting of willows**

Willows are most efficient for protection and environmental purposes when actively growing. When they become aged they start to weaken and die and cutting encourages regeneration of healthy vigorous growth. Visual effects can be minimised by carrying out work in short blocks and removing and/or burning all trash. The removal of trash is important to prevent unwanted growth occurring from pieces of willow becoming stranded in riverbeds where their growth will cause problems. Cutting involves complete removal of limbs to allow regrowth to occur from the stumps. Where old trees have been neglected and create slumping and stream impediments, it is sometimes necessary to remove entire trees.

Layering involves falling along an appropriate alignment in each given situation and leaving the stems partially attached to the stumps. Regrowth and new roots develop along the length of the fallen stems as well as from the stump. Layering is carried out at sites where it is desirable to thicken the willow growth to impede flood flows on berms and thereby encourage the deposition of silt; and also where it is desirable to protect a lightly eroding bank. Layering where the tops of the stems fall into water can improve the aquatic environment for fish; and on land increases the cover for birds.

Possible adverse effects:

- Where limbs or whole trees are removed there will be a visual effect. Unwanted growth if trash stranded on beaches or on bridge piers. Loss of shade for fish (if trees overhung water) and loss of bird habitat. Flooding may sweep away layered material before it becomes established and it may become lodged on bridge piers and cause damage.

Remedy - Visual effects and loss of shade and habitat is usually overcome by regrowth in the medium term. Lodgement of trash etc. will be mitigated by the suggested conditions.

5. **Rock rip-rap continuous and as groynes**

This is used for continuous bank protection and/or as isolated strong points called stub groynes. Rock is usually placed from the bank by end tipping and placement by hydraulic excavator. It is sometimes delivered and placed from the riverbed where flows are small or non-existent, and/or riverside vegetation exists, which it is preferable to leave undisturbed. At some locations it is preferable to dig the rock in below bed level in order to allow for scour. At others it is left to settle naturally and is topped up as slumping occurs, or, where it is affordable, extra rock is placed at the toe as an apron.

Before rock is placed at some locations it is necessary to reshape the bank to a suitable slope. A series of stub groynes is sometimes used as a cheaper alternative to continuous rock if the erosion is limited. It is important that such rockwork does not occupy too great

a percentage of the bed width to avoid adverse effects upon opposite or downstream land.

Rock tends to blend well with the riverside environment and it includes spaces within its mass or behind projecting pieces where fish can seek shelter during floods, or from the heat of the day. It is important to limit the growth of larger species of vegetation in rockwork because root growth can "hold up" the rock and stem growth can loosen the structure, making it unstable and hastening collapse. Where this has occurred there is a need to undertake work by way of "collapsing" the rock structure and topping it up. When such rockwork has stabilised, vegetation can be allowed to establish on it but preferably smaller species.

The lack of vegetation along the length of rock bank protection structures needs to be balanced against the alternative, which would usually be an eroding bank, bare of vegetation and considerable silt discolouration of the river, even during freshes as distinct from flood.

Possible adverse effects:
- Some discolouration of water during construction.
- Diversion of water on to other properties if groynes extend too far into the riverbed.

Remedy - Discolouration of water is temporary and usually less than allowing erosion. These effects will be mitigated by the suggested conditions.

6. **Gabion basket walls and groynes**

These are occasionally used as an alternative to rock riprap for heavy duty bank protection and comprise woven wire crates filled with stones. They may be used in gravel rivers where rock is not readily available. They are expensive and have a relatively short life but can be useful where space is limited or vertical surfaces are appropriate. They provide little in the way of habitat and should be kept free of trees during their useful life to prevent premature breakdown.

Possible adverse effects:
- Discolouration of water during construction if base laid in water.
- Habitat limitations.
- May have visual limitations depending on site and observer.

Remedy – Cost will limit their use to cases of necessity. Suggested conditions will mitigate, if not eliminate, any adverse effects.

7. **Driven railway iron/wooden retards**

Parallel and groyne bank protection is sometimes provided by steel or wooden piles and walings. Occasionally wire rope is used instead of walings and wire mesh may be added in some situations. Also, tyres are sometimes used over piles and filled with gravel.

These types of work only partially block the passage of floodwater and have the advantage of being less susceptible to scour damage than impermeable groynes. They also encourage gravel to deposit in their lee, which simplifies and expedites subsequent tree planting. During construction it may be necessary to temporarily divert river flow away from the site, causing some temporary discolouration. However, silt may also be introduced to the water if the diversion is not carried out and the work undertaken in the water.

Usually they are not very attractive structures but after deposition and vegetation growth has occurred the sites can become attractive visually as habitat and perform a useful river control function. This type of work is now not used very often and usually in the District's smaller streams.

Possible adverse effects:
- Temporary introduction of silt to water.
- Diverted water may cause erosion on opposite bank of stream.
- Initial unattractive appearance.
- If destroyed or bypassed or otherwise become redundant, can be unsightly and dangerous if in the stream channel.

Remedy – Effects limited because of limited use of these systems. Can be mitigated by the suggested conditions.

8. **Mechanical beach clearance, fairway maintenance (including near bridges), removal of debris, soil, vegetation, gravel, shingle, sand or other material**

On single thread rivers in particular, it is important that a fairway be maintained which is clear of obstructions and is of reasonably uniform width. This condition tends to exist naturally in stable reaches of a meandering single thread river, the type that predominates in the Tasman District. The width, which is naturally clear of vegetation, varies according to the size of recent floods. The aim of beach clearance activities is to maintain a width which can accommodate larger floods rather than smaller floods. Many introduced plants grow extremely well in riverbeds and because of their comparative hardiness and rapid growth cause river control problems to an extent, which generally does not exist with native species. These plants can rapidly provide a dense cover, which during moderate floods can catch silt, sand, gravel and general material or debris.

Coupled with this is the natural tendency of rivers to increase or widen their meander pattern by eroding the outside of the bends, leaving the inside of bends more pronounced. The combined effect of these factors is for the beaches to become more established and "hardened" and in some areas more stable than the adjacent land. This, in turn, can hasten erosion elsewhere, generally on the outside of bends. Even for those bends where rockwork already in place limits lateral erosion, compensatory deeper vertical erosion then can occur, leading to a more incised water channel and thus more elevated beaches, measured with respect to the water line.

With regard to plants, the smaller ones can be controlled by spraying (subject to a separate consent). The larger plants, which are either not suitable or too risky to spray,

have to be mechanically cleared off the beaches. Generally, this is most efficiently accomplished by bulldozing or root raking, with the heaped vegetation burned (subject to fire permit), or stacked to one side of the fairway. This process can have the disadvantage of then facilitating the rapid regeneration of root material and the requirement for follow up spraying. An alternative is to strip a considerable amount of material with the vegetation but this can create quite large heaps of non-combustible material, which themselves can cause problems in fairways.

The removal of gravel associated with beach clearance, including near bridges, can be an important method for establishing and maintaining fairways clear of obstructions and of reasonably uniform width. Its use, like all other river management practices, will be assessed on a site by site basis in compiling the annual river works programme. In some cases the cost of alternative protection measures such as rockwork and tree planting may be lower, and therefore more effective.

Generally, gravel removal will only be used as a river management activity where the extraction and complementary river training works, such as edge shaping and planting, can be undertaken economically with an overall benefit to the river system.

With the judicious use of this activity, the applicant is confident that the overall efficiency of its river management operations will be enhanced without compromising the environment.

Possible adverse effects:
- Floods may carry stockpiled material to undesirable locations.
- Inappropriate extraction may cause unstable river management conditions, river and/or external effects such as lower groundwater levels.
- Reject material may impede flows.
- Discolouration of water if vehicles crossing regularly.
- Disturbance of wildlife amongst vegetation, and fish if water disturbance occurs.

Remedy –Actual methodologies will be worked out on a site by site basis. Careful and considered experienced river management judgement will be applied in assessing the need to remove gravel, shingle or sand from any beach. Effects will be mitigated by the suggested conditions.

9. **Removal of stranded trees and debris from channels and fairways**

Large trees can be eroded from riverbanks during floods and these may remain close to the bank, or become stranded elsewhere in the riverbed. If they remain close to the bank, they can cause significant erosion by direct diversion of flowing water. Trees stranded in the general riverbed can lead to the formation of gravel islands or beaches, which disrupt the established meander patterns and cause unnecessary problems. In either case, the remedy of the problem is likely to be more expensive and have greater overall adverse effect upon the environment than the removal of the trees. For such stranded trees there are several choices of action depending upon the type of tree, its location and whether it is dead or alive. The cheapest way to deal with such trees is to cut them into lengths short enough to pass through the river system without further problems. However, this usually

leaves some problem with the butt end uproot, which will not move easily, and if it is a willow or poplar, the pieces may take root anywhere they lodge. Willows and poplars should therefore be removed from the bed or fairway as soon as possible.

For other trees, if they are on a dry beach, spraying and subsequent cutting up may be sufficient but if they are in the general water channel they should be removed quickly before they produce greater problems. Trees stranded in the low flow channel provide some shelter for fish and it is sometimes argued that they should be left in place. The applicant considers that this is a very short-term view of real river situations because gravel inevitably accumulates in the lee of the tree and soon eliminates any associated aquatic habitat and the obstructing tree increases the possibility of existing habitat along the riverbank being eroded. In the removal process the disturbance of silt is usually over in minutes rather than hours.

Possible adverse effects:
- Introduction of silt to the water.
- Disturbance of fish.

Remedy - The suggested conditions will mitigate the first and eliminate the second.

10. **Clearance of Banks and Berms**

Riverbanks are, in most situations, legally part of the bed, although it should be kept in mind that there are numerous isolated sections of the District's rivers where the main channel is well into adjacent titles. Conversely, there are numerous tracts of un-alienated Crown riverbed land that are under the effective control of adjacent landowners. The removal of vegetation from the bed is restricted by the still operative Transitional Regional Plan. The clearance of berms refers to that riparian land within 8 metres of the top of riverbanks, which activity is also restricted under the Transitional Regional Plan.

The same Transitional Regional Plan which requires that a consent be obtained to remove vegetation, also requires that a consent be obtained before any vegetation is planted in any watercourse or floodway, or before floodwaters are obstructed, and it requires that owners/occupiers keep watercourses cleansed and maintained. The latter requirement is also stated in the Land Drainage Act, and in fact this Act still includes the right "for ever" for the successors of those who improved drains to "maintain in a due state of efficiency". Given the almost identical requirements of the Transitional Regional Plan regarding impeded flood flows, it appears that this right does not derogate from the Resource Management Act 1991. (Note that a "drain" includes every natural watercourse, and "watercourse" includes all rivers, streams, and channels through which water flows.)

Even if the foregoing requirements and rights did not exist, it is plain that allowing or encouraging a stream to become less capable of passing floodwater than has been normal in the past would result in adverse effects upon adjacent property owners and that they have the right to expect that the status quo will be maintained and to object to any proposed change.

Despite this legislative "chicken and egg" situation, along the greatest percentage of our riverbanks protection measures depend upon the provision and maintenance of vegetation. In addition to its river control function, the vegetation provides riparian habitat, and improves aquatic habitat by providing shelter, shade and food. In fact, very little riparian habitat would exist along the Tasman rivers if it were not for the river protection work carried out by river control authorities and landowners. Given their particular interest in preserving riparian vegetation for bank protection and flood control purposes, it is evident that the applicant is unlikely to permanently and unnecessarily compromise desirable existing vegetation.

The following are examples of occasions when clearance of riparian vegetation could be necessary:

(a) To provide access along a riverbank in order to place weighted willows or rock. Regrowth can occur as soon as the work is completed.

(b) To remove old man's beard, broom, gorse and blackberry prior to establishment of more desirable species, or to improve public access to rivers.

(c) To control the growth of willows, gorse, etc. along smaller streams where significant flood interference would be the alternative. When a waterway is narrow the presence of brush and tree growth has a major effect upon flood capacity and changes can be rapid because quite minor growth can represent a significant proportion of the available waterway. In these locations the removal does not need to affect shade, shelter, bank protection etc. because trees at or near to the top of the stream banks can still carry out these functions. As well as maintaining flood capacity, control of trees and scrub in these locations increases the probability of a healthy overhanging grass growth being maintained immediately adjacent to the low flow channel and this grass can perform a useful habitat enhancement role.

(d) In order to completely remove trees which are too old, or damaged, or poorly located, to have any further value for river control or environmental purposes.

Possible adverse effects of clearance of banks and berms:
- Piles of trash created which could be picked up by floods and detrimentally deposited elsewhere.
- Temporary loss of ground and above ground habitat.
- In tidal reaches, possible temporary damage to riverbank grasses etc. which could be used by spawning whitebait.

Possible adverse effects:
- Piles of trash which could be deposited at undesirable sites by floods.
- Temporary loss of some riparian vegetation and habitat.
- In tidal reaches possible temporary damage to whitebait spawning areas.
- Some discolouration of water when bigger trees are pulled clear.

Remedy - The suggested conditions will minimise the likelihood of adverse effects actually occurring.

SUMMARY

For an application of this nature specific locations are generally not identified until the annual rivers inspection takes place. The applicant is an accountable local government authority with significant and extensive river management responsibilities detailed in policies, asset management plans and long term financial strategies. The activities applied for are those which over the years have been found to be the most acceptable for a number of particular river control situations. They have proven to have had the least effects upon the environment.

Alternative methods of river control such as sheet piling, concrete lining and additional major stopbanking have not been applied for as the applicant considers that such undertakings are more site-specific and that each project should be separately assessed on its individual merits. Such schemes are not included in this application.

SUGGESTED CONDITIONS

1. All work which is permitted under this consent shall generally be planned and specified according to sound river engineering standards by a suitably qualified River Engineer with relevant river control experience.

2. A copy of each annual river work programme and a record of the quarterly gravel returns and completed work reports (on a site by site basis) shall be supplied by the Engineering Manager to the Manager, Environmental Information.

3. A copy of each annual river work programme and completed work reports shall also be forwarded by the Engineering Manager to the local offices of the Nelson-Marlborough Fish and Game Council and the Department of Conservation for their information.

4. Notwithstanding any of the conditions of this consent, the consent holder shall have the ability to take the best reasonable practical option approach to any emergencies (such as flooding). In such event the Manager, Environmental Information shall be notified of the existence of the emergency and a brief report of the event and any remedial action taken shall be supplied within three months after the event.

5. Reasonable care shall be taken at all times to limit or to avoid the introduction of silt to natural water. In any event, the clarity of the receiving water shall not be increased by more than 30% at a point 300 metres downstream of any work site, as measured by the Black Disc method and compared to immediately upstream of the site. The turbidity shall not be increased by more than 5 NTU at the same downstream location.

6. The passage of vehicles through flowing water shall be limited to situations where no reasonable alternative exists and, in any event, works shall be programmed to avoid

the disturbance of spawning trout and their redds, of spawning whitebait and of nesting birds.

7. No gravel shall be extracted from flowing water (except small quantities associated with the removal of lodged obstructions). Gravel, shingle or sand removal will be limited to a level at least 300 millimetres above low water level and will be associated with beach clearance and fairway maintenance or improvement, including near bridges.

8. All waste material, discarded machinery or parts which are generated by any works shall be removed completely from the riverbeds, fairways and berms.

9. All stacks of vegetation, river debris and stockpiles of gravel shall be placed in locations which are as flood-free as is reasonably practicable. If vegetation is stacked within the fairway, it shall be cut into lengths not exceeding 3 metres in length and burnt (subject to permit) within three months. If burning is not practicable at any site, such stacks shall be placed to the edge of the fairway and well away from the main river channel.

10. Groynes and retards shall not exceed 5% of the bed width measured at right angles to the direction of flow, unless they are being constructed to the line of a previous existing bank which has eroded within the previous two years.

11. All railway irons, steel or wooden piles and wire rope within river channels which are no longer performing any useful river control functions and whether or not they are of recent origin, shall be removed as soon as possible after they have become evident.

12. All reasonable steps shall be taken to maintain or enhance areas of native trees on river or stream berms where such trees pose no threat to bank stability, particularly in the Waimea, Motueka and Takaka catchments.

13. When planning work which involves the felling, cutting, removal or layering of blocks of willows and other riverside vegetation there shall be due regard for the visual impact of the work and shall limit the impact as much as is reasonably possible.

14. All river works shall be inspected by (or on behalf of) the TDC Engineering Manager as soon as practicable upon completion. The Engineering Manager shall ensure that any defective work is remedied within four weeks of the inspection. The Engineering Manager shall keep a log of such inspections, including any remedial requirements and the remedy thereof.

15. Inspections of the river works operations to check compliance with the conditions of this consent (or in response to complaints) may be carried out from time to time by the TDC Environment and Planning Manager, or his/her agent.

16. The consent holder shall pay to the TDC Environment and Planning Department annual fee of $ to cover the cost of monitoring.

17. Under Section 128 of the Resource Management Act 1991, Council reserves the right during the term of this consent to review the conditions of consent in order to deal with any adverse effect which may arise from exercising this consent and which is not adequately dealt with by the consent holder.

18. No in-stream river works or works on stream banks likely to impact on water flow are to take place in the bottom tidally influenced sections of the District's rivers or streams during the whitebait spawning season, from 15 August to 30 November. The tidal region shall generally be taken as all that part of the watercourse or river below RL 5.0 metres.

19. Specific District-wide Activity Limits (numbered as in application):

1. (Light) Weighted Willow work
   Programme Annual Limit 2500m (x 1.5m strip)
   Maximum single site extent 100m

2 & 3. Willow planting
   Programme Annual Limit 3000 poles, 2000 wands (1.5mx1.5m grid)
   Maximum single site extent 100m (generally done in bays)

4. Layering
   Programme Annual Limit 40,000 m (note: includes multiple 1.5m strips)
   Maximum single site extent 250 m bank length

5. Rock riprap
   Programme Annual Limit 15,000m^3 (equivalent to ~1500 lin m)
   Maximum single site extent 250 m bank length

6 & 7. Gabions and driven retards unlikely ever to be used (as more economic rock is always available)
   Programme Annual Limit 50 lin m (nominal)
   Maximum single site extent 50 lin m

8. Beach Clearance
a. Vegetation/overburden clearance
   Programme Annual Limit 40 ha.
   Maximum single site extent 5 ha.
b. Gravel extraction
   Programme Annual Limit 40,000 m^3 (total over whole District)
   Maximum single site extent 4,000 m^3 (per rolling 5 year period and exclusive of overburden)

The provisions of Condition 1 above in particular to apply with regards to gravel removal.

9. Stranded tree removal etc Event Dependent

10. Bank vegetation control
    Programme Annual Limit 20,000 lin m
    Maximum single site extent 200 m

20. (Suggested) Expiry Date: 30 June 2011.

Appendix A – Riverworks Controlled Activities

Activity by River Period of activity Affected Party	Whitebait Fishing *Mid August to end of November* *DOC*	Whitebait Spawning *Mid February to end of May* *DOC*	Birds Nesting and Rearing *Start of September to end of February* *DOC*	Spawning Trout *Start of May to end of September* *N.M.F&G.C*	Gamebird Hunting *Start of May to end of July* *N.M.F&G.C*	Trout Fishing *Start of October to end of April* *N.M.F&G.C*	Recreational Swimming etc *Start of December to end of March* *TDC.E&P*
Waimea	3 $	3 $			3^	C*	C
Wairoa/Lee/Roding				3	3(Only below Irvines ^)	C	C
Waiiti				3	3^	C	C
Eve's Valley Stream	3 $	3 $			3 $		
Moutere River	3 $						
Motueka River below Ngatimoti	3 $	3 $			3	C*	C
Motueka River above Ngatimoti			3(Between Wangapeka and Jansens Bridge)	3	3	C	C
Tadmor				3		C#	C
Motupiko				3		C#	C
Riwaka	3 $	3 $		3	3 $	C	
Takaka	3 $	3 $			3 $	C*	C
Anatoki				3		C	C
Waingaro				3		C	C
Aorere	3 (in lower reaches)	3 (in lower reaches)			3	C*	C

3 Activity restricting work in a particular river
C Activity requiring consideration when scheduling worksites
A bank box indicates that scheduling a work site in that particular river is acceptable
Whitebait spawning is a restricted activity which applies to the tidal influenced reaches of rivers below 5.0 amsl
* All or part open for fishing all year
^ Pheasant Hunting only Queen's Birthday and two other winter weekends
# Predominantly early season
$ Below bottom bridge only

DOC - Department of Conservation

N.M.F&G.C - Nelson Marlborough Fish & Game Council
TDC.E&P - Tasman District Council Environment & Planning Dept.