

**MOKIHINUI HYDRO PROPOSAL
CONSENT APPLICATIONS
REVIEW OF ASSESSMENT OF ARCHAEOLOGY, CULTURAL
AND HISTORIC EFFECTS**

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1.0 Introduction

1.1 Background

This report provides a review of the assessment of environmental effects (AEE) provided by Meridian Energy Ltd (Meridian) in support of resource consent relating to a hydroelectricity scheme (the Mokihinui Hydro Proposal or MHP).

The MHP includes a dam located on the Mokihinui River approximately 3 km upstream from the township of Seddonville and 11 km upstream from the river mouth, a new lake upstream of the dam extending to just below the Mokihinui Forks Ecological Area, a new transmission line to carry electricity from the power station to the existing Inangahua-Waimangaroa transmission line at Cedar Creek, and a new substation at Cedar Creek.

This report will provide the decision-makers with information and advice related to the effects of the proposed activities on archaeology, cultural and historical values.

1.2 Qualifications

My name is Chris Jacomb. I am a director of Southern Pacific Archaeological Research (SPAR), a research group in the Department of Anthropology at the University of Otago. My qualifications are Bachelor of Arts and Master of Arts, both majoring in Anthropology and both obtained from the University of Otago. I have twenty-three years professional experience as an archaeologist in New Zealand including five years as a regional archaeologist with the New Zealand Historic Places Trust and three years as a director of SPAR. I specialise in New Zealand archaeology, with a focus on culture change in the prehistoric period and issues relating to archaeological site conservation, especially in relation to coastal erosion.

1.3 Scope of Report

This report is prepared under the provisions of Section 42A of the Resource Management Act 1991 (RMA).

To carry out this review of the consent application I have considered the relevant sections of the AEE submitted by Meridian.

I have also taken into account issues raised by submitters in relation to the effects on Archaeological, Cultural and Historic Heritage values.

Finally I have taken into account the statutory framework within which the application has been submitted, specifically the Resource Management Act and statutory documents prepared under that Act (the Buller District Plan, the West Coast Regional Policy Statement and the West Coast Proposed Water Management Plan).

In addition I carried out a site visit on Wednesday 5 March 2008 along with the following activities to further inform me on the application. I have also communicated with the applicant's heritage advisor.

2.0 Submissions

2.1 Summary of Submissions

2.1.1 General

Most of the submissions that made reference to heritage, archaeology or culture were in opposition to the MHP. The majority of those simply referred to heritage or history in a general sense, or if any detail was provided this was along the lines “there will be a loss of historic sites”. Several made reference to the importance of the track as a tangible link to the past while also being an important walking track through a remote and relatively pristine river valley.

A small number of submissions referred to specific aspects of the history or archaeology of the MHP site and to the effects of the proposal on those aspects. I summarise these as follows:

2.1.2 Historic Places Trust (Southern Region)

1. *Additional survey/assessment required:*
 - a. *Survey Andersons Flat, Tylers and hut site beside main track above Rough and Tumble Bridge.*
 - b. *Extend survey to coastline/rivermouth because of expected increased erosion as a result of sediment starvation*
 - c. *Carry out survey and assessment of pack track*
 - d. *Survey transmission line (possible effects on Charming Creek actively managed DoC site and recorded NZAA site, and the registered Burnetts Face near Denniston).*
2. *Request that roads be kept to a minimum (for transmission line) and that mitigation measures are put in place with regard to appropriate reinstatement of vegetation.*
3. *Prepare an Interpretation concept plan (appropriately qualified heritage professional) and ensure funding is in place for the interpretation.*
4. *Further consultation with Ngati Waewae.*
5. *Additionally, NZHPT requests that consultation is undertaken with the Te Tau Ihu tribes whose manawhenua interests within the area of the Mokihinui Hydro scheme have been recognized in the 2007 Waitangi Tribunal preliminary report WAI 785 (Te Tau Ihu o te Waka a Maui). NZHPT requests that any concerns of these manawhenua interests are taken into account and mitigated for.*
6. *Consultation with HPT to avoid conflict between RMA and HPA processes*

7. *Finally, an advice note re Historic Places Act and archaeological authority requirements*

2.1.3 Margaret Rich

1. *Restore the old track to Karamea*

2.1.4 West Coast Environment Network

1. *There are a number of significant historical sites in the Mokihinui Gorge which will be destroyed by the dam. These effects cannot be avoided remedied or mitigated.*

2.1.5 Forest and Bird (West Coast)

Loss of historical and cultural associations as follows:

1. *The Mokihinui River provides a contextual history of intense periods of activity arising from the pack route to Karamea, the gold fields, the geological history, and the long-standing track to the Mokihinui Forks.*
2. *The goldmining remnants at Andersons' Creek, Tylers, and Jones Creek/Seatonville, (amongst others).*
3. *The pack route to Karamea, including the remnants of the Iron Bridge, activity of walking these old routes and seeing the remnants of shack walls, hearths, and other mining relics amidst a healthy regenerating forest.*
4. *The devastation caused by the 1929 earthquake and the continued slip activity within the gorge, are reminders of milestone disasters in our nation.*
5. *The loss of this history is irreplaceable and any mitigation can only provide a partial sense of the context which currently exists. With inundation by the dam, there would be no way of experiencing the type of environment and conditions that were experienced back then. Any attempts to preserve these on a higher marked track is like removing them to a museum. The context is instantly lost.*

2.1.6 Green Party (West Coast)

1. *As well as tracing some historic artefacts not well known before, there are a number of glaring omissions in the Archaeological report.*
 - a. *The road up through the Rough and Tumble was the main road up to Karamea, pre 1929 earthquake, contrary to what is said in the Archaeological report, which has it as a pack track.*
 - b. *Relocation of the remains would do them an injustice and undermine their importance.*

I believe that the pack-track was gradually pushed up the gorge to the gold mine workings at Jones Creek and onto Specimen Creek by about the middle 1870's. Public road works of this nature were often used to occupy unemployed gold miners, and provide some limited financial assistance to the region.

In 1880 or thereabouts, the Karamea Road was re-directed up the Mokihinui pack-track to opposite Rough and Tumble Creek, where a bridge was built. The 'road' or horse-track to Karamea continued up the Rough and Tumble, over the saddle near Happy Valley and down Glasseye Creek.

The horse-track is marked on maps from 1909 and 1918 though by 1912 the new road to Karamea (which is the existing Highway 67 called The Bluffs) was cut through and the first car reached Karamea in about 1915.

Cattle were regularly taken up the pack-track till the 1929 earthquake, when some sections of the pack-track suffered slips, and two men S. Russell and J. Russell were both killed. Their memorial crosses can be seen beside the track.

It is not clear to me how much of the historic pack-track will be submerged by the new lake, but it disturbs me that Meridian frequently referred to the track as 'degraded' and giving 'limited access'.

In fact it is a perfectly well-maintained track, albeit a trampers' track. There are two very short sections which require care. One slip has a marked trail around it and a second slip has a wire bolted across it.

Apart from these sections 90% of the pack-track is in excellent condition and is in fact a superb example of the track makers skill and expertise. There are many finely crafted stone retaining walls, and expertly cut bluffs negotiated. There has been little historic research done on the Mokihinui River pack-track.

Of the 16 or so pack-tracks I calculate to currently exist on the West Coast, none has that close association with the gorge structure for such a significant tramping distance. Since I have tramped almost all of these pack-tracks I feel well qualified to comment that the Mokihinui stands out in this regard.

The Mokihinui River pack-track is not only significant for the West Coast, it is nationally significant, and is arguably one of the finest surviving river gorge pack-tracks of its type anywhere in the country.

2.1.8 Ngati Waewae

The following text comprises excerpts copied directly from the Ngati Waewae Cultural Impact Assessment of 18 June 2008 that relates to archaeology or cultural heritage.

“...Cultural Effects

Meridian has consulted with Ngati Waewae as to the values of the Mokihinui River for Ngati Waewae/Poutini Ngai Tahu. This is in accordance with the provisions of the Treaty of Waitangi, Te Runanga o Ngai Tahu Act 1996 and the RMA 1991.

As a consequence of that consultation this cultural impact assessment report was drafted by Ngati Waewae which confirms the high cultural importance of the River, as a kohanga/nursery, spawning ground for mata, and a repository for our heritage values such as wahi mahi tupuna hapu, te ara tupuna and their taonga artefacts.

...Also evidence of early hunting and gathering is adjacent to the awa.

2.2 Comments on Submissions:

I agree with the HPT submission that there should be an assessment provided of Andersons Flat, Tylers¹ and the hut site beside main track above Rough and Tumble Bridge. These are items that are not assessed in the report and have come to my notice as a result of the submissions.

I do not agree with the HPT submission that further survey work is required at the river mouth. The issue of effects on archaeological sites from expected increased erosion as a result of sediment starvation has been covered in the applicant's further information. However, if further modelling indicates that sediment starvation will have effects further upstream than the area of the river mouth (e.g. in the vicinity of the old wharf piles on the true right), then further survey and assessment will be required upstream.

I agree with the HPT submission that the pack track should be surveyed and assessed. It is clear from the submissions, particularly that of Mark Pickering, that the investigation carried out by Meridian did not in fact provide sufficient information to allow an adequate assessment of the pack track. It is my conclusion that further work is necessary on the recording and assessment of the pack track as requested by the HPT. This is further discussed below in section 3.4.9

I agree in part with the HPT submission that the transmission line be surveyed. The construction of the transmission line has the potential to affect historic heritage in three ways; through access road construction, through tower installation and through construction of the substation near Denniston. Also, there are three places where adverse effects on heritage might be reasonably expected to arise from the construction of the transmission line, as follows:

1. In the vicinity of the substation. This has now been dealt with as a result of the initial request for further information and no further work is required there beyond the accidental discovery protocol offered by the applicant.

¹ Tylers is referred to in the Forest and Bird West Coast submission as well as the HPT one, but neither identify it. I have assumed that it is a site of some historical or archaeological value situated within the MHP design footprint and that it should therefore be assessed.

2. In the vicinity of the Burma Road. The applicant has made an undertaking that work in the vicinity of the Burma Road will be monitored by an archaeologist. [The Consultant's report says that "micro-siting of the pylons will be monitored" for the purposes of any consent conditions this should be modified to say "road construction and micro-siting of pylons in the vicinity of Burma Road will be monitored...".]
3. In the vicinity of the Charming Creek walkway. Here the effects could be both direct (i.e. the road construction and the micro-siting of pylons could damage archaeological sites) and indirect – through, for example, visitors being able to see the pylons and access roads while walking the Charming Creek walkway. I consider that the possible effects of the transmission line on the Charming Creek walkway have not been addressed and that the HPT submission is valid and that the transmission line should be surveyed in the vicinity of the Charming Creek walkway.

The HPT raises valid issues with respect to (a) mitigation measures for vegetation reinstatement, (b) the need to avoid conflict between RMA and Historic Places Act processes and (c) the wording of the advice note requested by the HPT regarding the Historic Places Act and archaeological authority requirements. All of these aspects are covered by draft conditions.

I agree that the interpretation concept plan requested by the HPT should be a condition of consent. It would both help to guide the interpretation and ensure that a commitment to appropriate funding is made by Meridian. The plan should not be signed off by the consenting authority until its content has been agreed to by the HPT.

My conclusion from my reading of the CIA is that Ngati Waewae is satisfied with the applicant's AEE and mitigation proposals with respect to "Cultural Effects" (including the applicant's suggested protocol for the accidental discovery of Maori archaeological sites).

As far as the requested consultation with Te Tau Ihu o te Waka a Maui is concerned, the Consultant's report indicates that this entity was notified of the application as an affected party by Buller DC. The Consultant's report implies that Meridian would be prepared to undertake the consultation, as follows:

"The views of those other Iwi as to the existence of such interest or association, and the extent to which they may be affected by the MHP will be sought by Meridian but are not yet known to Meridian but will be sought if necessary." (Barr n.d.: section 1.5 Limitations)

The requested restoration of the old track to Karamea (Margaret Rich submission) should be considered by Meridian, as an offset condition, and should be undertaken if feasible.

The submission by Forest and Bird is one of several that, while lacking any detail, shows a depth of community regard for the historic heritage of the Mokihinui Gorge that will have to be taken into account by the hearing panel. The Forest and Bird and the Green Party submissions make an important point about the loss of context for heritage items that can occur with a project of this nature.

3.0 Assessment of Effects

3.1 Introduction

I have reviewed the assessment of effects on archaeological, cultural and historic heritage values, and the mitigation proposed by Meridian. This is discussed below, with a focus on the following key issues:

- Identification of heritage values
- Assessment of significance
- Assessment of effects and mitigation offered
- Additional effects not considered by Meridian

3.2 Review of Identification of Heritage Values

3.2.1 Data used

The Consultant's report for the application is based on field work supported by some historical research. The survey included parts of the pack track, focussing on locations where mining and other activities were considered likely to have occurred on the basis of information contained in historical accounts. It also included the river mouth². The line of the transmission route was not inspected nor, initially, was the site of the proposed substation near Denniston (although this latter site was visited by the Consultant in response to the first request for further information).

The field methodology involved visits to parts of the MHP where historical research and the advice of local informants indicated that archaeological sites might be present. Only a relatively short time was expended on the field survey (one day on the ground plus a one-day rafting trip). Some aspects of the historical landscape that are identified as likely to be seriously affected – such as the pack track – were not examined in any detail. Others, which may only be affected indirectly (such as sites from which the transmission lines might be visible) have received little attention if any at all. The Consultant's report describes this work as providing the data for a "preliminary assessment". There is no suggestion that a more complete assessment has been considered necessary by Meridian in advance of the hearing. This leaves the Meridian assessment of historical heritage open to criticism in terms of adequacy and comprehensiveness.

Notwithstanding the preliminary nature of the field work, the applicant's archaeological assessment identified nine archaeological sites in the vicinity of the proposed reservoir (Table 1). All but one of these will be affected by the creation of the proposed dam.

² This was not indicated in the Consultant's report but was made known to me during a telephone conversation with her and in the further information provided.

Table 1. Sites identified within the MHP by the Meridian archaeological assessment (Barr 2007).

Site Number	Site Type	Elevation (mASL)
L28/23	Settlement (Seatonville)	60 (c 40 m too low ³)
L28/24	Battery	104
L28/25	Hut sites	161 (well above the reservoir level)
L28/26	Compressor	105
L28/27	Hut sites	105
L28/28	Pack track	varies
L28/29	Battery site (ledge)	below 100
L28/30	Mining machinery site	below 60 m
L28/31	Remains of Iron Bridge	below 60 m

3.2.2 Methodology

I consider that the methodology was, for the most part, appropriate for the study although the small amount of time spent on field work may mean that significant sites and effects have been missed. Further information about the area downstream of the dam and at the site of the proposed substation was requested and some responses received.

After reviewing the submissions, some of which introduced new information that was not available to me previously, I consider that further assessment is needed of the condition and significance of the pack track (see below) and of the possible effects on archaeology and historic heritage in the vicinity of the Charming Creek walkway. This is discussed further in section 4 below.

The following section describes and discusses the assessment of significance of, and effects on, the known sites and the mitigation offered:

³ This site (L28/23) is at about the same height above the river as L28/24 and it is therefore likely that there were errors in the heights recorded by the Consultant's GPS – possibly as a result of vegetation combined with poor satellite coverage.

3.3 Review of Assessment of Significance

3.3.1 Definitions used

The Consultant used the Historic Places Act definition of what constitutes an archaeological site⁴ but, in her significance assessment, did not make any reference to the definition of heritage used in the RMA⁵. Under the RMA, “heritage” (s6(f) matters of national significance) includes archaeological sites but also includes “historic areas” and “surroundings associated with” the heritage. If this definition had been employed in the Consultant’s assessment then more weight may have been given, for example, to the combined impact on a group of sites that form a nineteenth-century mining landscape, or to the visual effects of the transmission lines on the context of the historic heritage.

Furthermore, whereas the HPA has a cut-off date of 1900, after which its archaeological site protection provisions do not apply, the RMA has no such cut-off date. The implication of this is that the RMA can be used to protect a wider range of historic heritage sites than can be achieved under the HPA.

Finally, the HPA does not provide for public submission or notification. For these reasons, it is essential that as comprehensive a heritage assessment as possible be undertaken at the resource consent application stage.

⁴ Under the HPA, an archaeological site is
Any place in New Zealand that
 (a) either - (i) was associated with human activity that occurred before 1900; or
 (ii) is the site of the wreck of any vessel where that wreck occurred before 1900;
 and
 (b) is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand.

⁵ Under the RMA, *Historic heritage-*
 (a) means those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities:
 (i) archaeological
 (ii) architectural
 (iii) cultural
 (iv) historic
 (v) scientific
 (vi) technological; and
 (b) includes—
 (i) historic sites, structures, places, and areas; and
 (ii) archaeological sites; and
 (iii) sites of significance to Maori, including wahi tapu; and
 (iv) surroundings associated with the natural and physical resources

3.3.2 Statutory Framework

In carrying out her analysis of significance, the Consultant used criteria identified in Section 23 of the Historic Places Act 1993⁶ and Section 3.4.2.4 of the draft West Coast Conservation Management Strategy which outlines the Department of Conservation's process for assessment of historic and cultural values (condition, rarity, contextual value, information potential, amenity values and cultural associations). She did not make any reference to the "matters to be considered when assessing heritage places or sites" in the Buller District Plan, the West Coast Regional Policy Statement or the Proposed Water Management Plan⁷ and those that were used only partially overlap these. It is clear that any one of the criteria in these statutory planning documents prepared under the RMA might change the Consultant's assessment.

(Note – these criteria include: Evaluate and protect heritage resources by identifying those resources of historic, cultural or architectural value or of special significance to the District; consider the extent to which the place reflects important or representative aspects of New Zealand history; the level of community association with, or public esteem for, the place; the potential of the place for public education; the level of technical accomplishment or value, or design of the place including the rarity of technical accomplishment or design; and the symbolic or commemorative value of the place).

It is not appropriate to use the criteria for registration of historic places in the HPA 1993 (s23) or those in DoC's draft West Coast Conservation Management Strategy to assess heritage significance under an RMA process. These criteria were selected for a specific purpose and have no direct relevance to the processes set up in the RMA. The preferred option should always be to use the RMA itself and any statutory documents prepared under the RMA. In the case of the MHP there are three such documents, namely the Buller District Plan (operative), the West Coast Regional Policy Statement (operative) and the Proposed Regional Water Plan (proposed). None of these were used by the Consultant. Further information was requested on this matter and a response was received. In this response, each of the criteria identified in the West Coast Regional Policy Statement were used to assess the sites as requested. This assessment resulted in more specific explanations of the generally moderate to high level of significance that were ascribed to most of the sites in the Consultant's report. I summarise or quote from these as follows, under the relevant WCRPS criteria:

a) The extent to which the place reflects important or representative aspects of New Zealand history.

All sites identified were ranked as being of regional significance, with important links to similar sites elsewhere, with all being part of the original European settlement history of this part of the West Coast, and with the area in general being regionally significant in terms of early transport routes of both the pre-European and European periods.

⁶ Section 23 is the part of the Act that contains the criteria under which a nomination for registration should be considered by the Historic Places Act.

⁷ Relevant provisions are included in Appendix 1.

b) the level of association of the place with events, persons, or ideas of importance in the history of the district / region.

All sites ranked as being of regional significance, except the memorials (e.g. the Russell Crosses) which are assessed as being of local significance.

c) the importance of the place to Poutini Ngai Tahu.

“Statements on the importance of a place to tangata whenua can only be made by tangata whenua. Meridian Energy has carried out consultation with Ngati Waewae on this matter.”

d) the level of community association with or public esteem for, the place

“There is strong local community association with the sites and pack track along the Mokihinui River, and the values attached to these features should be considered high. Similarly there are strong associations with sites within the Charming Creek area and along the route of the proposed transmission line.”

The response goes on to say that the pack track doesn't get the use that this community association might imply, because it is in poor condition for much of its length.

e) the potential of the place for public education

This is described as being low at present, but not because of the potential of the sites themselves. The reason given is that it is because of poor access, dense vegetation and the condition of some of the features. The response then says “With the development of the MHP, while some features will be affected ... the potential to present and interpret features and the history of the Mokihinui District will be greatly increased.”

f) the level of technical accomplishment or value, or design of the place, including the rarity of technical accomplishment or design

These are described as being of local significance, except that the settlement sites contain “moderate to high archaeological values associated with social adaptation to settlement in isolation”.

g) The symbolic or commemorative value of the place

Assessed as moderate.

h) Whether it is an historic place known to date from early periods of the district's settlement

“All of the identified (and potentially unidentified) heritage sites within this area are significant in that they are associated with some of the earliest European settlement of this part of the West Coast. The routes that later became the pack tracks are also significant in that they were originally used by pre-European Maori as access along the coast to Karamea and inland.”

i) The rarity of the type of historic place

The sites are not considered to be rare as similar sites can be found elsewhere on the West Coast.

j) the extent to which the place forms a key part of a wider historical and cultural complex or historic and cultural landscape.

The sites are assessed as being of regional significance but a part of a wider picture of gold mining and exploration, nationally and internationally.

The responses outlined above are relevant to the discussion which follows in sections 3.4.0 – 3.4.15. An important point to note is that most of the sites are now assessed as being of regional significance according to the West Coast Regional Policy Statement criteria. On a scale of local, district, regional and national significance, this places the sites within the category of heritage site identified for protection in the Buller District Plan (Policy 4.6.8.2).

In this regard it should be noted that the Consultant has ranked the historical value of the Mokihinui as 3-4 out of 5 in her contribution to the applicant's Landscape assessment, but that it would be 5 (the highest possible ranking) if access was better (Rough n.d.: 38

The Consultant makes reference to a guideline provided on the New Zealand Archaeological Association website for assessing archaeological sites (Walton 2002) as well as an Australian guideline for the preparation of conservation plans (Kerr 2006). The only one of these that is directly relevant to the task of preparing an AEE for RMA purposes is Walton 2002, and there are limitations to the value of this document for the current application. The first is that it only refers to the assessment of archaeological values, and specifically excludes the assessment of other heritage values that a site may have. The second is that it was written before the 2003 amendment to the RMA that elevated historic heritage to a matter of national significance (RMA 1990 s6(f)).

There is a fundamental flaw in the Consultant's report in respect of the type of assessment undertaken that needs to be addressed. I discuss this as follows:

There are two statutes under which decisions about the protection of heritage places can be made, namely the RMA and the HPA. There is no formal linkage between the two, but decisions made under one affect the way decisions can be made under the other. For example, resource consent may be granted for a major project on the basis of matters considered under RMA criteria for which the Historic Places Trust would be very reluctant to grant an archaeological authority under the HPA. Similarly, the Historic Places Trust might grant an authority for the destruction of a site that might not get through the resource consent process if assessed under RMA criteria. The Consultant's report reads as if the project is definitely going to gain consent and therefore any heritage values or sites that have not been assessed in advance of the resource consent decision can be assessed afterwards and dealt with under the HPA provisions. What this means in practice is that the opportunity that the RMA provides for the decision-makers to recognise and provide for the community's interest in the heritage (as expressed in statutory documents such as regional policy statements) will be lost. All that can practicably be done in this regard at the HPA stage is to make provision for mitigation in the form of information recovery through archaeological excavation.

Finally, the report does not discuss any alternatives to the current design that could be used to avoid, reduce or mitigate effects. For example, it is possible that the reservoir height could be reduced an amount that would maximise the preservation of heritage features but still be economically viable. This is discussed further in section 3.4.9, below.

3.4 Review of Assessment of Effects and Mitigation Offered

3.4.1 Effect 1 – Inundation of archaeological sites

The Consultant's report has identified seven archaeological sites that will be inundated and one that will be partially inundated. The sites that are expected to be completely inundated are listed in Table 2.

Table 2. Sites identified as likely to be inundated.

Site Number	Site Type
L28/23	Settlement (Seatonville)
L28/24	Battery
L28/26	Compressor
L28/27	Hut sites
L28/29	Battery site (ledge)
L28/30	Mining machinery site
L28/31	Remains of Iron Bridge

3.4.2 Effect 1 – Mitigation Offered by Meridian

It is recommended in the AEE that in advance of inundation a detailed archaeological investigation of the settlement area is carried out. This work should include the recording and mapping of visible features. Areas of hut sites and associated domestic features should be excavated using accepted archaeological techniques and appropriate material collected for analysis and recording.

There is a variety of mining equipment scattered around the area of the battery site by Jones Creek. This includes the stamp head, stamper box, remains of water pipes and a small pelton wheel. The location of this material should be logged and the material collected and moved to another location. Preference would be for the material to remain within the Seatonville/Jones Creek area.

It is further recommended that as part of the interpretation of this area, options are examined in regard to re-opening tracks to the areas of mining. While this would assist in presenting a full picture of activities in the area, it would have to be considered with careful regard to health and safety issues presented.

3.4.3 Effect 1 – Comment/Recommendation

The recommended mitigation for the settlement area (presumably Seatonville and the eastern huts) is appropriate if the project is to gain consent but, in addition to the relocation of material to high ground, the battery site should be treated in the same way as the domestic sites in terms of detailed recording and investigation.

The suggestion that options for reopening tracks to the areas of mining is acknowledged. If the project gains consent, this could be included in the Interpretation Concept Plan sought by the HPT.

The areas identified in the submission from the HPT and Forest and Bird (Tylers, Andersons Flat, hut site above Rough and Tumble bridge) require inspection and assessment before an informed decision can be made in respect of the resource consent application. If the project gains consent, then any sites found should be investigated, recorded etc as appropriate.

3.4.4 Effect 2 – Inundation of Isolated Historical Features

Isolated features will be inundated if the project gains consent, including a wire rope and the remains of the iron bridge across the Mokihinui River to the Rough and Tumble Creek track.

3.4.5 Effect 2 – Mitigation Offered

If the project proceeds, options for preserving some features of the bridge should be examined, in accordance with the ICOMOS (NZ) Charter and accepted conservation principles. These could include retrieving one part of the steel trusses and creating a feature of this on the walking track, close to the location of the original bridge. An interpretation panel could be erected here, outlining the location of the bridge and the link that the route up the Rough and Tumble Creek provided to Karamea prior to the road being constructed. It is further recommended that measurements and a more detailed photographic record of the bridge remains are compiled before the area is inundated. Recording should include the remaining trusses and evidence of the bridge abutments. Meridian has proposed an Archaeological Site Discovery Protocol as part of its contract documents and it is recommended that this becomes part of the induction of all contractors working on the project. It is recommended that this continues to be part of all documents associated with the project.

3.4.6 Effect 2 – Comment/Recommendation

The mitigation offered is appropriate if the project is to proceed, although a valid comment is noted in at least two submissions to the effect that the removal of a heritage item from its context has a detrimental effect on its ability to be properly appreciated.

The interpretation suggested should be included in the Interpretation Concept Plan recommended by the HPT.

3.4.7 Effect 3 – Partial Inundation of Pack Track

It is estimated in the AEE that 60 percent of the pack track will be inundated by the reservoir.

3.4.8 Effect 3 – Mitigation Offered

It is recommended that as part of the project a detailed base line inspection of the pack track is carried out, using guidelines for such work produced by the Department of Conservation (Breen and Nelson 2006). This work will allow any surviving historic features located along the length of the track to be fully recorded. These might include any cobbling, culverts and sluices, retaining features or isolated hut sites along the route which should be recorded prior to inundation if the project proceeds.

It has been suggested that the walking track be re-routed above the lake so that foot access is also enhanced. The creation of this track, passing through the area of Seatonville, could also be linked with presentation and interpretation of the remains of the settlement and mining operations in the area.

3.4.9 Effect 3 – Comment/Recommendation

The pack track assessment has been grouped by the Consultant with the assessments of all of the other sites in the AEE. However, the whole track was not examined by the consultant since she considered that the parts that were visited provided sufficient data for an assessment to be made.

The baseline inspection recommended as part of the project is appropriate. However the matter of when it should take place requires further discussion. The HPT has requested in its submission that the application be put on hold and that a thorough survey and assessment of the track be undertaken before the hearing. Given the degree of concern raised in many of the submissions about the importance of the track and the impact of its potential loss, the HPT's request is not unreasonable.

It is my opinion that, at the time of preparing this report, insufficient investigation and analysis has been undertaken by the applicant to demonstrate the significance of the track and the effect on heritage values of its inundation. I have prepared the following information in support of this concern:

Although little historical research has been undertaken on the pack track, it appears to have three phases of historical activity that contribute to its significance. The first is the stretch from the dam site to Seatonville (between Jones Ck and Specimen Ck) the construction of which began some time after 1867 and which had been completed as far as Coal Creek (about 1 km east of Seddonville) by 1874 (Barr 2007: 13-14). It appears that the first application for a mining license in the vicinity of Seatonville was made in 1873 (Barr 2007: 14) at which time the mine warden noted that, although the ground was rough, a track could be made there. I have done no research myself into the history of the pack track but it seems unlikely that the track would have been formed any further upstream than necessary to service the gold mining operation. Some support for this can be seen in an early but apparently undated survey plan, SO 11202 (Barr: fig. 6, see Figure 1 below). This plan shows a surveyed line labelled "Pack Track" that originates downstream from Seatonville and terminates at the upstream extent of the known historical remains in the Mokihinui Gorge. I will call this Phase 1.

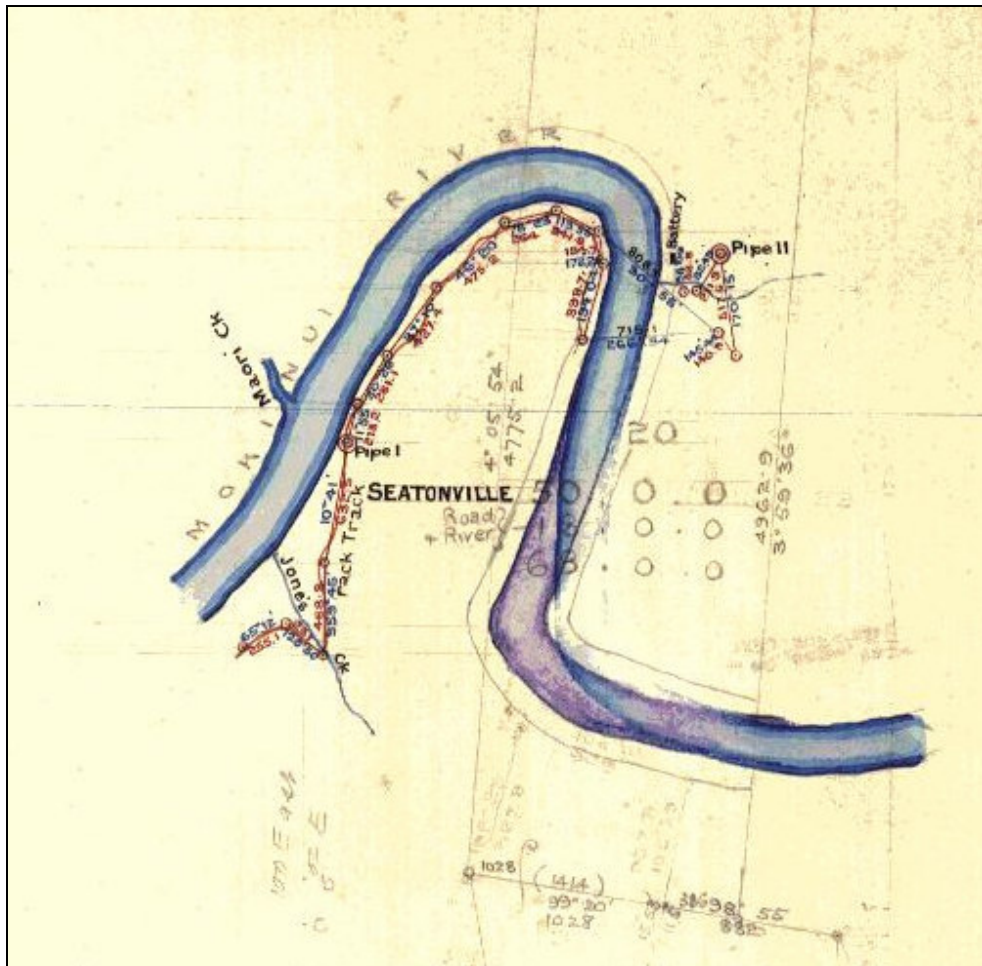


Figure 1. SO 11202 (date unknown) showing "pack track" terminating near Seatonville.

At some time a route was formed to Karamea via the Rough and Tumble Creek. The Iron Bridge was constructed over the Mokihinui River at the confluence to provide access some time around the turn of the century. This use of the track was slightly different from that to Seatonville and may have been intended for wheeled vehicles. I will call this Phase 2, although I am not certain of the chronological relationship with Phase 1.

Finally, there was a less formal track formed up to the Forks. I will call this Phase 3. It may in fact be better described as a "route" and is currently very difficult to follow in places.

According to this information, it is likely that only the stretch of track between the proposed dam site and Seatonville is especially significant historically. According to Mark Pickering's submission and an anecdotal report, this section is in much better condition than is indicated in the Consultant's report. The section from the dam site to the old iron bridge has added importance arising from its dual role in being part the Rough and Tumble Creek track.

Pack tracks are a relatively rare site type in New Zealand and are largely restricted to the South Island and specifically the West Coast. The destruction of some of the other sites, particularly the domestic sites at Seatonville, can be mitigated to some degree through archaeological investigation. This allows some of their information potential to be realised. The information potential of the pack track, however, is relatively low; its value is in its ability to contribute directly to the visitor's appreciation of the achievements of the people who constructed the road using pick and shovel. It will not be possible to mitigate the destruction of the pack track in any meaningful way by the construction of a replacement track.

The recommended rerouting of the track above the proposed reservoir cannot be described as mitigation of the destruction of the pack track but it will be necessary if there is to be any interpretation of the remaining sites and relocated machinery close to Seatonville. Any such rerouting should make the maximum use possible of the existing pack track.

Early in my evidence I mentioned a way of protecting the majority of the track, and of the other archaeological sites within the reservoir footprint, while still allowing construction of a dam. This is explained more detail as follows:

The majority of the archaeological sites are very close to the 97-100 m reservoir height, and, according to the Consultant's report, 40 percent of the pack track is above that level (calculated on the basis that 60 percent will be inundated). I do not believe that the information currently available allows any of these figures to be used with any confidence. However, it is possible that a more careful evaluation⁸ could allow the plans to be altered slightly so that the effects on significant heritage are greatly reduced. This might only require a reduction in height of the reservoir by only a few metres, without any major effects on the economic viability of the MHP. As well as preserving the sites, an advantage of this would be that the sites remaining would be at a level easily visited by boat.

⁸ Based on the applicant's LIDAR data and more accurate measurement of the height of the sites and the pack track, e.g. using a barometric altimeter instead of a GPS.

Further information was requested in respect of this matter, and a response was received in part. The response stated that a better measurement of the pack track's height relative to that of the proposed reservoir could not be provided because of GPS issues. However, it did say that approximately 70 to 80 percent of the track was in good to average condition and would qualify as a "tramping track" or even an "easy tramping track" in many places. It went on to say that the upper 1.5 to 2 km was basically a "route". This is about 10 to 15 percent of the total length, which suggests that the amount of track downstream of Seatonville in good to average conditions is 80 percent or more.

3.4.10 Effect 4 – Construction of Transmission Line

Although no archaeological sites have been identified along the route of the proposed transmission line or at the substation site, there remains a chance that isolated unidentified historic sites, associated with mining or timber milling, may be located in the course of work on the construction of the transmission line, particularly where the line passes close to Burma Road and in the vicinity of the Charming Creek walkway.

3.4.11 Effect 4 – Mitigation Offered

It is recommended in the Consultant's report that all work on this part of the project is carried out using the Meridian Energy Ltd Archaeological Site Discovery Protocol. All those working on the construction of the transmission line should be aware of the protocol, and of the type of historic sites that may be encountered. It is recommended that at the micro-siting stage for pylons where the transmission line passes close to Burma Road that these site locations are inspected by an archaeologist. Should poles in this area be located on or within the immediate area of a historic feature, mitigation should include relocation of the pole to avoid the historic site.

3.4.12 Effect 4 – Comment/Recommendation

In the first section 92 request, the applicant was requested to carry out and report on an archaeological assessment of the substation site, since it had not been visited or assessed in the Consultant's report.

The response (following the requested visit) was that the potential of any sites being present in this area was considered to be low. It was recommended that all work in this area is carried out using Meridian Energy Limited's Archaeological Site Accidental Discovery Protocol.

Having reviewed the response, I agree with this assessment and that the earthworks necessary to construct the substation can proceed on the basis of an accidental discovery protocol.

The work in the vicinity of Burma Road has the potential to affect archaeological sites and it is my recommendation that either this area is surveyed and assessed in advance or that any road construction is monitored by an archaeologist.

As a result of my review of the submissions it has come to my attention that there may be indirect effects on the heritage values of the Charming Creek walkway and possible direct effects on sites in the path of the transmission lines nearby. It is not possible to evaluate any such effects or mitigation offered until such time as a survey and assessment has been undertaken by Meridian. There may be some flexibility in the routing of the transmission line so as to avoid or reduce any such effects. It should be noted that the Consultant's report states that the route of the transmission line was still a subject of consultation between Meridian and the Department of Conservation.

Further information on this issue was requested and a response received. The response was that it will be possible to avoid direct effects on sites during the micro-siting phase. This, of course, assumes that any such sites identified are relatively insignificant and would not have affected the resource consent decision process had they been identified in advance of the hearing. The response has not changed my opinion that the area potentially affected by the transmission line construction in the vicinity of Charming Creek should be surveyed and assessed in advance of the hearing.

Further information was also requested in respect of the visual effects of the transmission lines on heritage context and the response referred me to the landscape assessment (Rough n.d.) which assesses the visual effects as minor.

3.4.13 Effect 5 – Below the Dam

The Consultant's report does not directly consider the area downstream of the dam. There may be adverse effects on any archaeological sites present below the dam, particularly in the vicinity of the river mouth, as a result of consequent erosion. The applicant has advised, as a result of the section 92 request, that the mouth had been visited several times by the Consultant and that no sites were seen.

There is a Maori shell midden site recorded at the river mouth (L28/1 in the New Zealand Archaeological Association Site Recording Scheme) immediately southeast of the current settlement and I note that there is a long history of occupation and use of the area in a general sense, including a very early (1862) coal mine 2½ miles (approximately 4 km) up from the river mouth, gold mining dating to the mid-late 1860s, and a township (Kinnersley) dating to the same time (May 1967). One of the submissions refers to two wharves (one by SH67 and one further downstream on the true right, the pilings of which are still visible). None of these is expected to be affected by the MHP according to erosion modelling used by the applicant.

3.4.14 Effect 5 – Mitigation

The response to the section 92 request indicated that recommended mitigation for this area was the inclusion of annual monitoring inspections of the area downstream of the dam and around the river mouth to identify whether any sites have been exposed, and that specific management recommendations can be developed as necessary. It was further recommended that a report outlining the results of this should be filed with relevant agencies, detailing results and any recommended actions.

3.4.15 Effect 5 – Comment/Recommendation

This is an appropriate response, provided that any erosion is minor. If modelling indicates that the effects are likely to be more extensive than currently expected, and that the anticipated level of sediment starvation leads to erosion further upstream than this, or along the coast near the river mouth, then further mitigation work will be necessary. The additional sites mentioned by the submitters indicate that there could be more sites potentially affected downstream of the dam than envisaged in the Consultant's report. On the basis of the information on potential increased erosion effects from MHP construction that is currently available, I do not consider that further assessment is necessary at this stage.

3.5 Effects Not Considered by Meridian

I have recently been informed that a historic railway tunnel at Chasm Stream has the potential to be affected by the required upgrade of the access road to the dam site. Any such effects should be considered at the hearing so that appropriate conditions can be attached as necessary to avoided, remedied or mitigated.

4.0 Conclusion

The preliminary nature of the field work associated with the assessment of historic heritage by the Consultant raises the question of its adequacy. It has only been able to address the heritage values of sites discovered either through historical research or advice from local informants. Only a day was spent on the ground survey. Some areas that might reasonably be expected to contain historic heritage values that will be affected (e.g. the Charming Creek area) were not visited or assessed at all, while others, such as the pack track, were in my opinion inadequately assessed.

The general approach of the applicant is that the information provided is adequate for the purpose of the application, and that any detailed assessment can be carried out after consent has been granted but in advance of works or inundation. However, on this basis any decision made in respect of a resource consent will have to be made on the basis of a report that the Consultant herself has described as a preliminary assessment. It is my opinion that this further assessment must be completed before a decision is made in respect of the granting of resource consent.

Conclusion 1. The Consultant's report, based as it is on only a preliminary assessment, does not provide the information necessary for an informed decision to be made in respect of the resource consent application.

The most significant archaeological values associated with this project are those relating to the pack track. These are principally visual and experiential – i.e. to do with a visitor's appreciation of historical heritage gained through walking along the track. Unlike many archaeological sites, the destruction of which can be mitigated to some extent by archaeological investigation and recording, the effects on the pack track cannot be mitigated in any direct or meaningful way. The Consultant's report assesses the pack track as having limited amenity values. A proper evaluation of Meridian's assessment of significance, effects on the pack track and mitigation offered cannot be undertaken until a detailed survey and assessment of significance has been undertaken.

Conclusion 2. Detailed survey and assessment of the condition and significance of the pack track is required prior to a decision and, ideally, prior to the hearing, as requested in the NZHPT's submission.

Because the loss of the pack track cannot be mitigated, it is worth examining options that would avoid or reduce adverse effects on it. It is estimated by Meridian that 60 percent of the track will be inundated. This is not an acceptable outcome for significant heritage. An informal examination of the available data suggests that this loss could be reduced significantly if the height of the reservoir was to be reduced by 5-10 m. It is also likely that the majority of the other threatened archaeological sites could also be preserved if this was done, since the majority are close to or just above the 100 m proposed maximum reservoir height. It is not possible to determine the actual effects on the pack track or the sites near the 100 m contour on the basis of the information currently available, although it appears from Figure 22 in the Consultant's report that much of the track between the proposed dam site and Seatonville is at or just above the inundation level.

Conclusion 3. An assessment is required of the viability of reducing effects on the historic pack track and other identified archaeological sites if the reservoir level is lowered (e.g. by 5-10 m).

There may also be effects, not assessed by Meridian at the time of writing this report, in the vicinity of the Charming Creek walkway. Any such effects, or possible mitigation that might be offered, cannot be assessed until such time as a survey of the transmission route has been carried out and direct and indirect effects assessed.

Conclusion 4. An assessment is required of the proposed transmission route in the vicinity of the Charming Creek walkway and of direct and indirect effects on heritage in this area.

The work in the vicinity of Burma Road has the potential to affect archaeological sites and it is my recommendation that, if the project proceeds, either this area is surveyed and assessed in advance of construction or that the road construction here is monitored by an archaeologist (in addition to the monitoring of micro-siting of the towers offered by Meridian).

Conclusion 5. In addition to the monitoring of the micro-siting of transmission pylons near the Burma Road offered by Meridian, monitoring (or preliminary archaeological survey) of any access road construction is required.

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West Coast Regional Council, n.d. *Proposed Water Management Plan*

Appendix 1 Relevant Heritage Provisions in Statutory Documents

Buller District Plan

Objective 4.6.7.1. To protect places and sites of historical and cultural value from the adverse effects of land use activities and to ensure where appropriate, access to historic and cultural sites is maintained and enhanced.

Policy 4.6.8.2. Evaluate and protect heritage resources by identifying those resources of historic, cultural or architectural value or of special significance to the District.

Intended Environmental Outcomes

IEO 4.6.11.1. Increased recognition and protection of sites/areas of historic/cultural significance.

West Coast Regional Policy Statement

- a) The extent to which the place reflects important or representative aspects of New Zealand history;
- b) The level of association of the place with events, persons, or ideas of importance in the history of the (district/region);
- c) The importance of the place to Poutini Ngai Tahu;
- d) The level of community association with, or public esteem for, the place;
- e) The potential of the place for public education;
- f) The level of technical accomplishment or value, or design of the place including the rarity of technical accomplishment or design;
- g) The symbolic or commemorative value of the place;
- h) Whether it is an historic place known to date from early periods of the district's settlement i.e., such items are likely to be included in the schedule;
- i) The rarity of the type of historic place; and
- j) The extent to which the place forms a key part of a wider historical and cultural complex or historical and cultural landscape.

Proposed West Coast Water Management Plan

POLICY 5.4.1 In the management of any activity involving water to give priority to avoiding, in preference to remedying or mitigating:

- (1) Adverse effects on:
 - h. significant historic heritage