

CONDITIONS FOR GREY DISTRICT COUNCIL

RESOURCE CONSENTS : LUN 1379, LUN 1380 AND LUN 1496

GENERAL CONDITIONS

1. METHOD OF OPERATIONS

- 1.1 All activities authorised by these consents shall be undertaken in accordance with the information contained in the Application, Assessment of Environmental Effects ("Arnold Valley Hydro Electric Power Scheme Arnold River") and all supporting technical documents and plans, as provided to the Consent Authority, except where inconsistent with these conditions.

2. LAPSING OF CONSENTS

- 2.1 Pursuant to section 125(1) of the Act, resource consents LUN 1379, LUN 1380 AND LUN 1496 shall not lapse until ten years from the commencement of these consents.

3. NOTIFICATION OF EXERCISE OF CONSENT

- 3.1 The Consent Holder shall notify the Environmental Services Manager of Grey District Council in writing of the intention to exercise any consent at least 3 months prior to the commencement of any activities under these consents.
- 3.2 The Consent Holder shall notify the Environmental Services Manager of Grey District Council in writing as soon as practicable of the date that activities first commence under these consents.
- 3.3 The Consent Holder shall notify the Environmental Services Manager of Grey District Council in writing of the intention to complete construction works three months prior to the cessation of construction activity.
- 3.4 The Consent Holder shall notify the Environmental Services Manager of Grey District Council in writing as soon as practicable after construction activities cease.

4. COMPLAINTS REGISTER AND NON-COMPLIANCE

- 4.1 The Consent Holder shall maintain and keep a complaints register for any complaints about the construction activities and operation of the hydro scheme received by the Consent Holder in relation to traffic, noise, dust, or other environmental effects of the activity. The register shall record:
- i. The date, time and duration of the incident that has resulted in a complaint.
 - ii. The location of the complainant when the incident was detected.
 - iii. The possible cause of the incident; and
 - iv. Any corrective action taken by the Consent Holder in response to the complaint, including the timing of that corrective action.
- 4.2 The register shall be available to the Environmental Services Manager of the Grey District Council within 48 hours of any formal request from the Manager being received by the Consent Holder. Complaints received by the Consent Holder that may infer non-compliance with the conditions of these resource consent shall be forwarded to the Manager within 48 hours of the complaint being received.
- 4.3 Unless otherwise stated within these consents, in the event of any breach of compliance of the conditions of these consents the Consent Holder shall notify the Environmental Services Manager of the Grey District Council within 48 hours of the breach being detected. Within 5 days of any breach the Consent Holder shall provide written notification to the Environmental Services Manager of the Grey District Council which explains the cause of the breach, and if the cause was within the control of the Consent Holder, steps which were taken to remedy the breach and steps which will be taken to prevent any further occurrence of the breach.

5. REVIEW OF CONDITIONS

- 5.1 Pursuant to Section 128(1) of the Act, the Consent Authority may review any of the conditions of these consents by serving notice either:
- i. Within a period of two months of the date of commencement of these consents; or
 - ii. Within a period of three months commencing on the third anniversary of the date of commencement of these consents and three yearly thereafter.

for any of the following purposes :

- i. To deal with any adverse effects on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
- ii. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.
- iii. To deal with inaccuracies contained in the consent application that materially influenced the decision made on the application and is such that it is necessary to apply more appropriate conditions.
- iv. To assess the appropriateness of imposed compliance standards, monitoring parameters, monitoring regimes and monitoring frequencies and to alter these accordingly.
- v. To ensure the adequacy of the operation of the Traffic Management Plan, Landscape Management Plan, Scheme Rehabilitation and Weed Management Plan and Construction Noise and Vibration Management Plan required under the conditions of these consents.
- vi. To vary the amount of the bond required under Condition 6 of these consents in order to provide the Consent Authority with adequate security, to avoid, remedy or mitigate any adverse effects arising from the failure to comply with any one or more of the conditions of these consents which are the subject of the bond, including all rehabilitation works required by these consents and all monitoring obligations of the Consent Holder.

6 BONDS

Performance Bond

- 6.1 The Consent Holder shall provide and maintain in favour of the Consent Authorities (jointly for their respective interests) a bond or bonds to secure the completion of rehabilitation in accordance with the Scheme Rehabilitation and Weed Management Plan.
- 6.2 The Consent Holder shall not exercise these consents until the bond, or bonds, have been executed by the Consent Holder and guarantor and deposited with the Consent Authorities.
- 6.3 Unless the bond is a cash bond to the consent authorities, the performance of the conditions of the bond shall be guaranteed by a guarantor acceptable to the consent authorities. The guarantor shall bind itself to pay for undertaking and completion of any condition in the event of any default.
- 6.4 If the Consent Holder is unable at any time to arrange a guarantor for the quantum as determined in accordance with Conditions 6.7 and 6.8, the Consent Holder will provide a cash bond or bonds for the quantum within 60 days of the date of the renewal specified in Condition 6.6.
- 6.5 The bond shall be in a form acceptable to the Consent Authorities.
- 6.6 The Consent Holder shall provide the bond or bonds for the quantum determined in accordance with Bond Conditions 6.7 and 6.8 for a minimum term of three years, such term to be renewed for a minimum of a further three-year term (or such other term as the parties may agree) on a yearly basis commencing on the first anniversary of the date that the first bond is executed by the Consent Holder and guarantor and deposited with the Consent Authorities.
- 6.7 The amount (quantum) of the bond may be varied from time to time, but at any given time shall be sufficient to cover the estimated costs at that time (including any contingency) of compliance with all conditions, including (but not limited to) :
 - i. Demolition and/or removal of temporary buildings and structures erected during the course of construction activities.
 - ii. Rehabilitation by re-contouring, spreading sub-soils and topsoil, re-vegetation and weed control until disturbed areas have been re-established with suitable vegetation;
 - iii. Stabilisation of earthworks and landforms.
 - iv. Rehabilitation of watercourses disturbed by construction activities, including the installation of erosion protection works where necessary.
 - v. Construction and maintenance of roads.
 - vi. Construction of bridges.

- 6.8 The initial bond quantum shall be set at the 80% level of confidence for the estimated costs determined by a suitably qualified specialist acceptable to the Consent Authorities in accordance with Bond Condition 6.2, based on the first Annual Work Plan and probabilistic calculations using the Monte Carlo simulation technique. Thereafter, the same specialist, or an alternate specialist acceptable to the Consent Authorities, shall review and prepare a report for the parties on the bond quantum at yearly intervals based on the same methodology, but using the Annual Work Plan for the coming year. If the reviewed bond quantum is higher than the current bond quantum, then the bond quantum shall be increased accordingly within 30 days of the parties receiving the report, unless the Consent Holder invokes Bond Condition 6.9.
- 6.9 Should the Consent Holder not agree with the bond quantum determined in accordance with Bond Condition 6.7, then the matter shall be referred to arbitration in accordance with the provisions of the Arbitration Act 1996. Arbitration shall be commenced by written notice ("notice of arbitration") by the Consent Holder to the Consent Authorities advising that the amount of the bond is disputed, such notice to be given within 14 days of the Consent Holder receiving the report referred to in Bond Condition 6.8. If the parties cannot agree upon an arbitrator within 7 days of the notice of arbitration, then an arbitrator shall be appointed by the President of the Institution of Professional Engineers of New Zealand. Such arbitrator shall give an award in writing to the parties within 30 days after his or her appointment (the "date of arbitration decision"), unless the parties agree that the date of arbitration decision shall be extended. The Consent Holder shall bear the full and reasonable costs of the parties in connection with this arbitration. In all other respects, the provisions of the Arbitration Act 1996 shall apply. Pending the outcome of that arbitration, and subject, the current bond shall continue in force. The bond quantum shall be adjusted in accordance with the arbitration decision.
- 6.10 If the decision of the arbitrator is not made available by the date of arbitration decision specified in the bond report prepared in accordance with Bond Condition 6.8, then the amount of the bond shall be the quantum specified in the bond report prepared in accordance with Condition 6.8, until such time as the arbitrator does give a decision in writing to the parties. At that time, the amount of the bond shall then be adjusted in accordance with the arbitration decision.
- 6.11 The bond shall remain in place for a period of 12 months once rehabilitation works are complete and the scheme commissioned. Rehabilitation is not complete until the closure criteria are met.
- 6.12 The provisions of Section 109 shall apply to any bond, or bonds, required pursuant to the above.
- 6.13 The Consent Holder shall meet the costs of providing any bond, or bonds, including the costs of the bond and any substitute bond.

7. MANAGEMENT PLANS

- 7.1 Prior to the commencement of construction activities as authorised by these consents, the Consent Holder shall provide the Environmental Services Manager of the Grey District Council with the following Plans, as prepared by suitably qualified persons in accordance with Conditions 8, 9, 10, 11 and 12. Construction shall not commence until the plans have been peer reviewed and certified¹ by the Environmental Services Manager of the Grey District Council as being in compliance with consent conditions :
- i. Construction Management Plan.
 - ii. Traffic Management Plan.
 - iii. Construction Noise and Vibration Management Plan.
 - iv.. Landscape Management Plan.
 - v. Scheme Rehabilitation and Weed Management Plan.
- 7.2 Subject to any other conditions of these consents, all works shall be carried out in accordance with the latest certified version of the Plans.
- 7.3 The Consent Holder may, at any time after receiving certification, request amendments to the above plans by submitting the amendments in writing to the Environmental Services Manager of the Grey District Council for certification that the Plan with those amendments, continues to meet all the necessary requirements of these consents. Minor amendments to take into account unforeseen

¹ Certification is defined by the Consent Authority as ensuring that the Management Plans contain the necessary information specified in the conditions and meet the requirements set out in more specific conditions of consent.

conditions on site, or conditions that require immediate action do not need to be submitted in advance of the work being undertaken, but shall be submitted on completion of the works relating to the minor amendment.

8. CONSTRUCTION MANAGEMENT PLAN

8.1 The Construction Management Plan objectives shall be:

- To ensure that the practices and procedures for Construction achieve compliance with the conditions of consent seeking to mitigate the adverse effects of construction activities.
- That the Consent Holder undertakes its best endeavours to ensure that the environmental nuisance effects of construction activities are minimised to the greatest extent possible.
- To ensure that bed disturbance shall be limited to the extent necessary to undertake the work.
- To ensure best endeavours are taken by the Consent Holder to minimise the release of sediment during disturbance to the bed of any waterway.
- To ensure the management and mitigation of adverse effects as a consequence of in-stream works, including: measures to avoid the spread of Didymo; and that the use of machinery activity in the bed of any waterway is kept to a minimum.
- To ensure that bed disturbance shall not damage any riverbank or cause flooding or erosion.

8.2 The Consent Holder shall produce a Construction Management Plan specifying those procedures to be adopted by the Consent Holder, or parties under its control with respect to the construction of the Arnold Valley HEPS, in order that compliance with the conditions of these resource consents as they relate to construction effects can be achieved, these procedures shall also include the management or mitigation of in-stream construction activities.

8.3 This Management Plan shall be provided to the Environmental Services Manager of Grey District Council before construction work on the proposed Arnold Valley HEPS commences. That Plan shall be prepared by a suitably qualified person and shall provide details as to the construction programme, and methods for the management of environmental nuisance arising as a consequence of construction activities.

8.4 The Construction Management Plan shall as a minimum address the following matters:

- i. A construction programme including: timetable, sequence of construction events and duration.
- ii. Methods for the management of nuisance dust generated as a consequence of construction activities undertaken in exercising these consents.
- iii. Methods to manage the Left Branch of the Arnold River at Killeen Island while the aqueduct and tailrace are being constructed.
- iv. Training and supervision of operators and contractors during construction activities at the Arnold Valley HEPS.
- v. Details of the minimum requirements for investigations, inspections and monitoring throughout construction to ensure that construction is being undertaken in accordance with the requirements of these conditions.
- vi. Methods and timing of in-stream works.
- vii. Details of temporary diversion works and coffer dams.
- viii. Sources of materials to be used including any rock use for erosion protection works;
- ix. Measures to minimise sediment release to water.
- x. Measures to maintain fish passage; and
- xi. Measures for cleaning machinery and equipment prior to use in waterways.

9. TRAFFIC MANAGEMENT PLAN

9.1 The Traffic Management Plan objectives shall be :

- To ensure the maintenance of a safe and efficient transport system; and
- To minimise potential adverse effects of the construction of the project as a consequence of vehicle movements.

- 9.2 The Consent Holder shall prepare a Traffic Management Plan for the execution of the works. This plan shall be prepared in accordance with the CoPTTM so that compliance with all other conditions of these consents can be achieved. It shall include (but not be limited to) consideration of:
- i. Construction sequence and methodology for all traffic activity associated with the project.
 - ii. Hours of operation, including times and days when traffic-generating activities would occur.
 - iii. Description of the types of vehicles that will be used on public roads.
 - iv. Details and locations of where works will occur within the road reserve and the method of traffic management control to be used.
 - v. Management strategies where full compliance with safety standards may not be achieved, including active control of traffic at locations where full safe stopping distances cannot be achieved for the temporary traffic volumes expected.
 - vi. Description of routes for haulage of materials on public roads, and measures for ensuring the road network is maintained in a satisfactory condition including provision for upgrades to Stratford Road and Maori Gully Road.
 - vii. How provision will be made for access to affected properties during construction.
 - viii. Temporary work-site access arrangements.
 - ix. The contractor's travel plan outlining measures to increase the occupancy of vehicles for travel to work and to minimise fuel use by all vehicles involved with the scheme.
 - x. Procedures for liaison between the community, the Consent Holder, the contractor and the relevant road controlling authorities about traffic related matters.
 - xi. Monitoring of road closures and deviations to ensure that excessive disruption or traffic hazards are not created.
 - xii. Monitoring of hazardous traffic conditions arising from dust on public roads and on-site haul roads.
 - xiii. Preparation of road safety audits prior to implementation of traffic controls and on-going monitoring of traffic conditions to ensure road safety is maintained.

9.3 The Traffic Management Plan shall be submitted to the District Council's Assets and Engineering Manager at least one month prior to the proposed commencement of the work.

10. NOISE MANAGEMENT PLAN

- 10.1 The Noise Management Plan objectives shall be :
- To ensure that the practices and procedures for the management of Construction activities achieve compliance with the conditions of consent seeking to mitigate the adverse noise effects of construction activities.
 - That the Consent Holder adopts the Best Practicable Option in accordance with Section 16 of the Resource Management Act 1991 to avoid excessive noise from construction activities.
- 10.2 The Consent Holder shall prepare a Construction Noise and Vibration Management Plan (CNMP) which shall be submitted to the Environmental Services Manager of the Grey District Council at least one month prior to commencement of any construction works or related activities. The plan shall be reviewed not less than annually, and/or at the request of the Environmental Services Manager of the Grey District Council following the receipt of a complaint related to construction noise or vibration.
- 10.3 The Construction Noise and Vibration Management Plan shall include specific details relating to the management of all construction works associated with the Project, including (but not limited to) :
- i. Construction sequence.
 - ii. Machinery and equipment to be used.
 - iii. Hours of operation, including times and days when construction work would occur.
 - iv. The design of noise mitigation measures such as temporary barriers or enclosures.
 - v. Construction noise limits and minimum buffer distances for specific activities and areas in order to comply with the relevant noise criteria.
 - vi. Details of vibration testing of equipment to confirm that the vibration standards set out in German Standard DIN4150 are not exceeded.
 - vii. Development of alternative strategies where full compliance with NZS6803:1999 and German Standard DIN4150 may not be achieved, including consultation with residents and other occupiers to achieve acceptable outcomes.
 - viii. Detailed methods for monitoring and reporting on construction noise and vibration during construction, including the location of vibration monitoring for construction activities that are adjacent to occupied dwellings.

ix. Noise and vibration complaint procedures and response procedures/times.

10.4 The Construction Noise and Vibration Management Plan shall include a sub-section entitled "Traffic Noise Management". In this sub-section the Consent Holder shall describe the methods and measures used (including the use of calculations of maximum hourly vehicle numbers using the noise of vehicles representative of those to be used on the project) to ensure cumulatively hourly sound levels from this source of no more than 70 dBA Leq (1 hour) measured at 1m from the most exposed façade of any existing occupied dwelling or school building.

11. LANDSCAPE MANAGEMENT PLAN

11.1 The Consent Holder shall undertake rehabilitation and enhancement of the land surface, topsoil, drainage and vegetation in all disturbed areas, to achieve an outcome generally in accordance with the concepts shown in the Indicative Rehabilitation Sections' in Annexure 1 of these conditions (except where otherwise specified in Condition 44.1 and in accordance with the following objectives:

- To establish an indigenous vegetation cover on all disturbed areas appropriate to the site's location.
- To minimise maintenance after completion of planting.
- To visually integrate finished structures, landforms and vegetation into the surrounding landscape.

11.2 A Landscape Management Plan shall be prepared and maintained by the Consent Holder for the duration of the construction period and an 18 month maintenance period following completion of all plantings required under the conditions of these consents. The Landscape Management Plan shall detail how the objectives set out in Condition 11.1 are to be achieved, in compliance with all other conditions of these consents. The Plan shall be submitted to the Environmental Services Manager of the Grey District Council at 12-monthly intervals, and at least one month prior to construction commencing.

11.3 The Landscape Management Plan shall include the following :

- a) Details of all landforms, finishing, layouts, soiling, planting and grassing, roads, tracks, structures and maintenance programmes proposed for the forthcoming 12 months.
- b) Plans, layouts, sections, photographs, written explanations, schedules, quantities and timetables as necessary.
- c) Methods for monitoring the success of revegetation plantings for 18 months following the planting.
- d) Rehabilitation procedures that will maximise the blending of the private haul roads, canal and pond embankments and other proposed structures within the adjacent landscapes.
- e) The management practices for identification, prioritisation, salvage, stripping and stockpiling of vegetation and other rehabilitation resources.
- f) After the first 12 months and at each review required under Condition 11.4 thereafter, a review of landscape activities and construction for the previous 12 months.
- g) For that area of earth forming and tree plantings of canal embankment non-engineered slopes and margins at Stream Crossing (i), Maori Gully provide detail of lessening the visual and landscape character effects on Maori Gully.
- h) Measures to ensure that the power station switchyard will be located and formed to minimise the removal of existing forest and to minimise visibility from the railway and Arnold Valley Road.
- i) In relation to temporary buildings in the vicinity of the power station and switchyard, measures to ensure that the temporary buildings will be located and formed to minimise the removal of existing forest.
- j) In the area of the tailrace, identify how the Consent Holder will:
 - i. Minimise the area of forest removed.
 - ii. Carry out vegetation protection measures to the remaining forest edge and other remaining vegetation.
 - iii. Naturalise the location and shape of any possible excess cut stockpile areas.
 - iv. Reinststate all disturbed ground surfaces.
 - v. Establish, off-site if necessary, an area of new native forest equivalent to that removed for penstocks, power station and tail race canal construction.
 - vi. Complete all such works at the earliest opportunity, but no later than one season following completion of works.

- 11.4 The Landscape Management Plan shall be reviewed at least annually and the revised Plan shall be submitted to the Grey District Council within one month of the review being completed.

12. SCHEME REHABILITATION AND WEED MANAGEMENT PLAN

- 12.1 The Scheme Rehabilitation And Weed Management Plan objectives shall be
- To rehabilitate indigenous areas affected by the canal embankments.
 - To ensure the maintenance and protection of the Killeen Island SNA areas, and the restoration of the non-forested Killeen Island areas outside of the scheme requirements.
 - To ensure that newly exposed riparian surfaces do not become infested with weed species (including willow).
 - To ensure the protection of tall forest on the ex-Honey property.
 - To provide for wetland restoration between the canal and Arnold Valley Road on the ex-Bugo property.
 - To ensure that bared surfaces related to earthworks for the canal and other scheme infrastructure do not become weed infested areas.
 - To also ensure that revegetation programmes undertaken as mitigation are not compromised by weed infestation.
- 12.2 A Scheme Rehabilitation and Weed Management Plan, which complies with the relevant conditions of these consents, shall be prepared and submitted to the Consent Authority at least one month prior to construction commencing.
- 12.3 The Rehabilitation Section of the Plan shall as a minimum address the following matters :
- a) To establish a vegetation cover dominated by native species over all indigenous vegetated disturbed areas, including the canal embankments, batter slopes, access tracks, road margins, power station surrounds, infrastructure and vehicle storage areas, borrow pit, public amenity areas to be developed near the existing Arnold Power Station and riparian margins.
 - b) To ensure short and long term stability of disturbed land and their surrounds.
 - c) To minimise maintenance of vegetation and slopes after completion of rehabilitation through correct establishment.
 - d) To minimise erosion and protect water from the effects of erosion.
 - e) To rehabilitate all disturbed watercourses, including their banks and beds, to a similar state prior to disturbance.
 - f) To visually integrate finished structures, landforms and vegetation into the surrounding landscape so they appear to be naturally occurring features.
 - g) To remove all temporary buildings, plant and equipment.
 - h) To rehabilitate land adjacent to areas of ecological value disturbed by construction (as shown on Plans 1-3 in Annexure 2 of these conditions namely :
 - i. Killeen canal margins forest edge rehabilitation (4 ha, area 1 on plan).
 - ii. Jacks Creek canal edge riparian rehabilitation (9 ha, area 4 on plan).
 - iii. Maori Gully fenland canal edge rehabilitation (6 ha, area 3 on plan).
 - iv. Hardie wetland protection area (15 ha, area E on plan).
 - v. Honey's forest canal edge rehabilitation (3 ha area 5 on plan).
 - vi. Crozier land Head Pond beech forest edge, rehabilitation to beech forest (5 ha, area 2 on plan).
- 12.4 The Rehabilitation Section of the Plan shall also detail the means by which the objectives identified above are to be achieved, including :
- a) Methods for preparing revegetation surfaces.
 - b) Tables of species that will be planted and the densities at which they will be planted in different habitats.
 - c) The methods for rehabilitating watercourses.
 - d) The use of seed and plant resources genetically sourced from the locality or the Arnold River catchment.
 - e) The order in which different plant species would be introduced.
 - f) The maintenance regime that will be applied to ensure closure criteria in Condition 39.1 - Table 1, can be met.
 - g) The monitoring methodology that will be used to determine whether the closure criteria in Condition 39.1 - Table 1, have been met.

- h) The progressive revegetation of the site as areas of practical working size become available.
- i) The timescale of rehabilitation activities.
- j) Identification of constraints to restoration (e.g., weeds, pest animals, flooding, wet soils, frost) and the means by which these would be managed.
- k) Identification of the personnel or organisations that would carry out the rehabilitation.

12.5 The Weed and Pest Section of the Plan shall provide details of weed and pest control measures, including provision for :

- i. Willow monitoring and control along all newly exposed margins of the Arnold River to ensure no new willow populations establish.
- ii. Control of weeds in all construction and rehabilitation areas including but not limited to the canal embankments, batter slopes, access tracks, road margins, power station surrounds, infrastructure and vehicle storage areas, borrow pit, public amenity areas to be developed near the existing Arnold Power Station and riparian margins.
- iii. The target weed species shall include but not be limited to gorse, broom, Himalayan honeysuckle, Japanese honeysuckle, blackberry, buddleia, barberry, morning glory, willow and wilding pine.
- iv. Pest animal monitoring and control in the vicinity of the Maori Gully terrace wetland and within stands of forest on RS2719 and Lot 4 DP3248. Provision for baseline surveys and monitoring of pest species shall be included.

12.6 The Weed and Pest Section of the Plan shall as a minimum address the following matters :

- i. The goal(s) of the weed and/or pest control programmes.
- ii. A description of the areas within which control would be undertaken.
- iii. A description of exotic plant and/or animal pest species that would be targeted.
- iv. A description of the control techniques that would be used.
- v. The timeframe for and frequency of control operations.
- vi. A description of the monitoring that would be undertaken to assess the effectiveness of control operations.
- vii. The criteria (e.g., residual trap catch rates) that would trigger periodic pest control, if relevant.

12.7 The target weed percentage cover to be achieved, consistent with the closure criteria set out in Condition 39.1 –Table 1.

12.8 The Consent Holder may amend the Plan from time to time provided that the amendments have been made to improve rehabilitation works or to reduce adverse environmental effects. The Consent Holder shall provide a copy of the amended Plan to the Consent Authority prior to its implementation.

13. TRAFFIC AND INFRASTRUCTURE

13.1 Standards

To ensure that legal roads will function efficiently and safely during and after construction the Consent Holder shall use the following standards in the design and construction of any works on legal roads. The version of the standards used shall be that which are current at the date of consent.

- The Grey District Plan and standards referred to therein as operative on 18 March 2005.
- Land Development and Subdivision Engineering Standard NZS4404:2004.
- AUSTROADS: Guide to Traffic Engineering Practice.
- AUSTROADS: Pavement Design Manual including New Zealand Supplement 2000.
- New Zealand Transport Agency: Bridge Manual.
- New Zealand Transport Agency: State Highway Geometric Design Manual.
- New Zealand Transport Agency: Manual of Signs and Markings (MOTSAM).
- New Zealand Transport Agency: Code of Practice for Temporary Traffic Management (CoPTTM).
- Land Transport New Zealand: Road Safety Audit Procedures for Projects - Manual No. TFM9 (RSAP).
- Land Transport Safety Authority: New Zealand On-Road Tracking Curves for Heavy Motor Vehicles, August 2007 (RTS18).

14. Costs

- 14.1 All reasonable costs involved in the services of the Engineer and the Traffic Management Co-ordinator (TMC) in relation to the temporary traffic management of the project shall be carried by the Consent Holder for the duration of the project and for the following 18 month maintenance period. The contact details of the Traffic Safety Coordinator shall be included in the Construction Traffic Management Plan.

15. TRAFFIC SAFETY AUDIT

- 15.1 The Consent Holder shall arrange for a traffic safety audit of the design and construction of all new road bridges and the Arnold Valley Road realignment. These audits will be carried out by an appropriately qualified independent traffic engineer. The design audit is to be submitted to the Asset and Engineering Manager at the Grey District Council at least one month prior to construction works commencing at each site and the post-construction audit is to be submitted to the Asset and Engineering Manager at the Grey District Council within one month of the completion and commissioning of the works at each site.
- 15.2 Following a response from the Consent Holder any modifications to the completed works recommended by the auditor(s) and approved by the Council shall be implemented by the Consent Holder. A follow-up audit report is to be prepared and submitted to the Asset and Engineering Manager at the Grey District Council within three months of the completion of any approved modifications.

16. ACCESS FROM STRATFORD ROAD TO SCHEME INTAKE

- 16.1 The access track extending from the scheme intake to the northern end of the concrete flume section shall either be constructed as a single-lane all weather track provided with slow-speed passing bays or constructed as a two-way all weather track, at the Consent Holder's discretion. If passing bays are provided these shall be spaced no more than 400m apart, measured along the track centreline, and there shall be continuous visibility available for vehicle drivers on the track from each passing bay to the next passing bay. At passing bays the carriageway shall have a minimum overall width of 5.5m for a minimum length of 12.0m and the approaches to the widened carriageway shall be tapered at 1 in 10.

17. ACCESS AND PARKING FOR THE LOWER WHITEWATER COURSE

- 17.1 The access track extending from Arnold Valley Road to the Lower Whitewater Course shall either be constructed as a single-lane all weather track provided with slow-speed passing bays, or as two way all weather track. If passing bays are provided they shall be spaced no more than 400m apart, measured along the track centreline, and there shall be continuous visibility available for vehicle drivers on the track from each passing bay to the next passing bay. At passing bays the carriageway shall have a minimum overall width of 5.5m for a minimum length of 12.0m and the approaches to the widened carriageway shall be tapered at 1 in 10.
- 17.2 During the construction and operation of the access track to the Lower Whitewater Course, all practicable measures will be taken to minimise the destruction of vegetation along the margins of the track.
- 17.3 Vehicle parking spaces for the Lower Whitewater Course shall be provided adjacent to the course on Killeen Island. The parking area(s) and access roadways shall be finished to an all weather surface. The parking area shall provide for at least 30 parking spaces.

18. ROAD BRIDGES

- 18.1 The Consent Holder shall fund and construct two-lane bridges where Arnold Valley Road crosses the canal, and single-lane bridges where Stratford Road and Maori Gully Road cross the canal. The width of the bridges shall be determined in accordance with the New Zealand Transport Agency Bridge Manual. For the avoidance of doubt, "preferred minimum" clearances between the bridge safety barriers and adjacent traffic lanes shall be adopted rather than "absolute minimum" clearances. In determining the required bridge width for the Arnold Valley bridges, the Consent Holder shall submit to the Council a report on current Average Annual Traffic Volumes and expected future Average Annual Traffic Volumes, sufficient to meet the requirements of the Bridge Manual. Design statements and associated documents and plans shall be submitted to the Asset and Engineering Manager at the Grey District Council to confirm that the proposed bridge(s) will meet the required design parameters of the New Zealand Transport Agency Bridge Manual.

18. STRATFORD ROAD

- 19.1 For the first 300m along Stratford Road, measured along the road's centreline from the centreline of Arnold Valley Road, the Consent Holder shall widen the carriageway of Stratford Road as required to accommodate the swept paths of two opposing maximum-road-legal-sized truck and full trailer vehicles to pass with a minimum of 600mm clearance between truck bodies and 300mm clearance from wheel tracks to the edge of the sealed carriageway.
- 19.2 For the remainder of Stratford Road the Consent Holder shall maintain the road carriageway to at least its present width, with provision for passing bays at the approaches to the new bridge and splays at junctions with construction and canal service roads.

20. ARNOLD VALLEY ROAD RE-ALIGNMENT

- 20.1 The Consent Holder shall construct the realignment of Arnold Valley Road to a minimum overall sealed carriageway width of 7.0m, with 1.0m unsealed drivable shoulders.

21. SEALING AND WIDENING OF MAORI GULLY ROAD AND STILLWATER ROAD

- 21.1 Prior to construction the first 1.1km of Maori Gully Road measured westwards from the intersection with Arnold Valley Road shall be widened and sealed to a minimum carriageway width of 6.0m, except in the location where the canal bridge will be constructed that is to be sealed following construction of the bridge to the width determined by the New Zealand Transport Agency Bridge Manual.
- 21.2 Prior to haulage from Borrow Area 8, the section of Maori Gully Road from the canal haul road to 2.2km from the Arnold Valley Road is to be sealed to a minimum carriageway width of 7.0m. The next section to 3.0km from Arnold Valley Road is to be provided with an overall unsealed carriageway width of 8.0m (including shoulders) and the remaining sections of Maori Gully Road and Stillwater Road leading to Borrow Area 8 shall be widened to 6.0m. Additional widening is to be provided on bends in accordance with the standards outlined in Condition 13.1. Traffic management controls shall be specified within the Traffic Management Plan for sections of Maori Gully Road and Stillwater Road where the truck stopping sight distance (in terms of AUSTRROADS appropriate for the operating speed) is not met within the sections of road that are 6m wide.

22. DEBRIS ON PUBLIC ROADS

- 22.1 The Consent Holder shall take the best practicable option to avoid the deposit of debris onto public roads during the construction period. Any facilities required to achieve this outcome shall be installed prior to work commencing. In the vicinity of Maori Gully Road, such facilities shall include (but need not be limited to) wheel wash facilities at all vehicular access/exit points to or from any part of the construction site, or from the Borrow Pit 8 area, leading on to Maori Gully Road.

23. ROAD MAINTENANCE - MAORI GULLY ROAD, STRATFORD ROAD AND STILLWATER ROAD

- 23.1 The Consent Holder will maintain Stratford Road as a sealed road throughout the construction period.
- 23.2 The existing condition of Maori Gully Road, Stillwater Road and Stratford Road and associated facilities to be used by construction traffic (as identified in the Traffic Management Plan) shall be investigated and reported upon in a Base Condition Report that shall be prepared by the Consent Holder.
- 23.3 The Base Condition Report shall:
- i. Contain information including as a minimum, but not limited to: classifier traffic counts, video and photographic records and falling weight deflectometer measurements.
 - ii. Identify the existing condition of roads, which roads or sections of roads require upgrading, potential remedial works during construction and monitoring requirements during and at the end of the construction period. It shall also identify any works which it would be more appropriate to carry out post the construction period.
- 23.4 The Base Condition Report shall be lodged with the Assets and Engineering Manager of the Grey District Council a minimum of 3 months prior to the commencement of construction works at the project site. The cost of any technical peer review of the Base Condition Report undertaken by or on behalf of the Assets and Engineering Manager of the Grey District Council (to certify its adequacy prior to final acceptance of the Report) shall be borne by the Consent Holder.

- 23.5 The Consent Holder shall be responsible for the maintenance of those parts of Stratford Road, Stillwater Road and Maori Gully Road to be used by construction traffic in the Grey District for the duration of the construction period, except for any maintenance, repairs or reconstruction of these roads arising from unusual or extreme weather events.
- 23.6 The Assets and Engineering Manager will require the Consent Holder to produce subsequent annual Base Condition Reports during the construction period and may require Additional Base Condition Reports, where road condition is worse than determined in the initial Base Condition Report. The cost of any technical peer review of the Additional Base Condition Report undertaken by or on behalf of the Assets and Engineering Manager of the Grey District Council (to certify its adequacy prior to final acceptance of the Report) shall be borne by the Consent Holder.
- 23.7 The Consent Holder shall nominate an experienced road maintenance contractor to carry out maintenance and restoration work, the appointment of which shall be approved by the Assets and Engineering Manager of the Grey District Council before any work commences.
- 23.8 The Consent Holder shall be responsible for preparing a Post Construction Condition Report at the conclusion of construction works with respect to all roads subject to the Base Condition Report. The Post Construction Condition Report shall be lodged with the Assets and Engineering Manager and shall provide data with respect to road condition that is consistent with that contained in the Base Condition Reports, within 3 months of the completion of construction works or where the Assets and Engineering Manager agrees that construction works are substantially complete. The cost of any technical peer review of the Post Construction Condition Report undertaken by or on behalf of the Assets and Engineering Manager of the Grey District Council (to certify its adequacy prior to final acceptance of the Report) shall be borne by the Consent Holder.
- 23.9 The Consent Holder shall ensure that those sections of Maori Gully Road, Stillwater Road and Stratford Road used by construction traffic in the Grey District are restored to a standard that is consistent with or exceeds the condition recorded in the Base Condition Report.
- 23.10 The Consent Holder shall fund the cost of all widening, strengthening and maintenance work on Maori Gully Road, Stillwater Road and Stratford Road required by the conditions of these consents and during the construction period. If it is identified that it would be more appropriate to carry out any works post construction, this work will also be at the Consent Holder's costs unless it attracts Land Transport New Zealand financial assistance in which case the Consent Holder shall fund the agreed proportion of the local share of the cost of the works. This information shall be included in the Base Condition Report.

24. ROAD MAINTENANCE - ARNOLD VALLEY ROAD

- 24.1 The Consent Holder shall fund a proportion of the local share of the cost of maintaining and restoring the section of Arnold Valley Road that will be adversely affected through the use of the road by construction-related traffic during the construction period, being \$20,000 (twenty thousand dollars) including GST (at November 2008, subject to inflation) payable within one year of the commencement of construction.

25. ROAD CLOSURES

- 25.1 Roads severed by the canal and other structures which are not required to be retained for public access will either:
- i. Be stopped by the District Council (in terms of the Local Government Act 1974 s342 and Schedule 10), in which case the Consent Holder shall purchase the area of stopped road that is occupied by the structures and the Consent Holder shall bear the full cost of stopping the road; or
 - ii. The Consent Holder shall apply for the appropriate approvals from the Council to occupy the land.

26. ALTERNATIVE LEGAL ACCESS

- 26.1 Where these roads provide legal access to other properties, not owned by the applicant, the applicant shall provide alternative legal access to the property to the satisfaction of Council.
- 26.2 The applicant shall consult with affected property owners adjacent to Maori Gully Road and Stratford Road and provide continued and acceptable access arrangements to those properties.

27. DESIGN AND CONSTRUCTION CERTIFICATION

- 27.1 Prior to the commencement of any construction activity undertaken on :
- i. The widening of Maori Gully Road, Stillwater Road or Stratford Road.
 - ii. The construction of Maori Gully Road, Stratford Road and Arnold Valley Road bridges.
 - iii. The re-alignment of Arnold Valley Road.
 - iv. The construction of any vehicle accesses to any road.
 - v. Any temporary road deviations required to allow canal and penstock excavations over Arnold Valley Road, Stratford Road or Maori Gully Road.
 - vi. Any other permanent works to be undertaken within the legal road reserve or any other structures to be placed on, through or under the legal road reserve.
- 27.2 The Consent Holder shall submit detailed plans from a Chartered Professional Engineer (CPEng) for the design and construction of the works to the Grey District Council Asset and Engineering Manager for certification that the design meets the criteria set out in the Construction Management Plan.
- 27.3 Following completion of construction of the works listed in Condition 27.1, the Consent Holder shall provide certification from a CPEng that the works have been completed in accordance with the approved design plans

28. NOISE

28.1 Noise and Vibration Standards

- 28.2 The Consent Holder shall ensure that all construction activities shall be designed and carried out to ensure that the noise from the work complies with the New Zealand Construction Standard NZS6803:1999 "Acoustics – Construction Noise" at all times at 1 metre from the most exposed façade of any existing occupied dwelling or school building.
- 28.3 All construction work shall be carried out in a manner that complies with the vibration standards of the German Standard DIN 4150.

29. MONITORING

Monitoring shall be undertaken where requested by the Council or residents so as to demonstrate that the Consent Holder is meeting the vibration standards of the German Standard DIN 4150.

- 29.1 The Consent Holder shall undertake noise monitoring (by a suitably qualified and experienced acoustic engineer) of the noise emanating from construction activities carried out at both day and night time periods. Adequate monitoring shall be carried out to be representative of the varying noise levels emanating from the different construction activities to demonstrate that the activity complies with the relevant limits as set out in New Zealand Standard NZS 6803:1999 "Acoustics – Construction Noise.6. Where the owner or occupier does not wish monitoring to be undertaken on their respective property, or has provided their written consent to the project, no noise monitoring will be necessary.
- 29.2 All construction noise monitoring shall be carried out in accordance with New Zealand Standard NZS 6803:1999 "Acoustics – Construction Noise". Monitoring at representative dwelling locations shall be carried out on at least two occasions annually. The results shall be provided to the Grey District Council in the form of a written review within 1 month of the measurements being performed.

30. COMPLIANCE WITH NOISE CRITERIA

- 30.1 Any on-going operations or maintenance activities related to the Arnold River Valley Hydroelectric Power Scheme (post construction) shall comply at all times with following noise criteria measured at any point within the notional boundary of any dwelling :
- i. Monday to Saturday
0700hrs to 2200hrs 55dBA L10
2200hrs to 0700hrs 45dBA L10
Sunday 45dBA L10
75 dBA Lmax all days between 2200hrs and 0700hrs

31. TERRESTRIAL ECOSYSTEMS

31.1 Bat Monitoring programme

Between the period of September and April immediately upon the uplift of building consent for the HEPS, the Consent Holder shall, in consultation with the Department of Conservation (West Coast Office – Tai Poutini Conservancy), develop and carry out a baseline survey of bat habitats within the areas of mature indigenous podocarp / beech forest canopy over 10m in mean height, located at the following properties:

- i. Honey's forest area SNA (Legal Description: Pt Lot 1 DP1791; Lot 3 DP 1791; Lot 2 DP3997) and
- ii. Killeen Island area SNA (Legal Description: RS2719; Lot 4 DP 3248)

and as generally shown on the Map 15.1 contained in 'Annexure 4' attached to and forming part of these consents.

31.2 In particular this survey shall identify the following:

- i. The number of bats observed (number of passes recorded by bat boxes, and/or number of bats seen).
- ii. The time of night the bats were recorded.
- iii. The location, both absolute and relative to the area to be disturbed by the Arnold Valley HEPS and its construction.
- iv. The distribution and abundance of observations.

32. POTENTIAL FURTHER SURVEY

32.1 Should the survey conducted pursuant to Condition 31.1 indicate the possibility that bats may be roosting (rather than simply absent or foraging) in the area, after consultation with the Department of Conservation, the Consent Holder will advise the Grey District Council what, if any further survey work should be required to identify the location of bat roost site(s). The additional work will include one or more of the following measures :

- i. One additional general survey as set out in Condition 31.2 above, together with such additional surveys as required to find the exact location of roost site trees.
- ii. Inspection of likely roost sites.
- iii. Where the above roost site locations surveys fails to find the roost sites the capture and attachment of transmitters to bats will be used to lead surveyors to roost sites. (Note that this would require a permit issued pursuant to the Wildlife Act 1953).

33. MITIGATION AND / OR MANAGEMENT

Prior to the commencement of any works authorised by the exercise of these consents in any areas of bat habitat (roosts) recorded by the surveys conducted in accordance with Conditions 31.1 and 31.2 above, the Consent Holder shall in consultation with the Department of Conservation develop and implement a programme and management plan to mitigate any adverse effects of proposed works on roost sites.

34. REPORTING

34.1 Within three months of the completion of the baseline monitoring programme required by Condition 31.1 together with the results of any additional survey pursuant to Condition 32.1 the Consent Holder shall prepare a report on the results of that programme together with any mitigation or management methods proposed pursuant to Condition 35.1. That report shall be forwarded to the Grey District Council, and a copy to the Department of Conservation (West Coast Office).

35. INVERTEBRATE MONITORING AND TRANSLOCATION

35.1 Prior to any disturbance activity related to the actual and substantive construction of the Arnold Valley HEPS being undertaken, the Consent Holder shall, in consultation with the Department of Conservation (West Coast Office), develop and carry out threatened Invertebrate and plant surveys to be conducted in the significant alluvial forest stands, including red beech-podocarp forest in that area as identified as the Killeen Island area SNA. This area is legally defined as RS2719; and Lot 4 DP 3248, and is as generally shown on the map, contained in 'Annexure 4' as 'Invertebrate and plant – search and transfer

area'. If threatened invertebrates or plant species are found, the Consent Holder shall undertake an assessment of their specific habitat requirements and, if practicable, individuals are to be translocated to areas of nearby similar habitat that would not be disturbed by the Arnold Valley HEPS.

36. VEGETATION HEALTH MONITORING PROGRAMME

36.1 A 'Vegetation Health Monitoring Programme' in the vicinity of the canal and inundation areas, identified as being :

- i. Killeen canal margins forest edge rehabilitation (4 ha, area 1 on plans 1-3 of Annexure 2 of these consents).
- ii. Honey's forest canal edge rehabilitation (3 ha, area 5 on plans 1-3 of Annexure 2 of these consents); and
- iii. Maori Gully fenland canal edge rehabilitation (15 ha, area 3 on plans 1-3 of Annexure 2 of these consents, only where this habitat is provided with a legal mechanism for protection as outlined in Condition 42.
- iv. Crozier head pond canal edge rehabilitation (5 ha, area 2 on plans 1-3 of Annexure 2 of these consents).

should be designed and drafted by a suitably qualified person. Monitoring of the 'Vegetation Health Monitoring Programme' shall be undertaken by a suitably qualified person, prior to construction activities commencing, and again at the six month, one year and five year intervals after the commissioning of the HEPS.

36.2 A report detailing the results of the monitoring programme in this condition shall be forwarded to the Grey District Council, and the Department of Conservation (West Coast Office – Tai Poutini Conservancy) on or about 1 December.

36.3 If the 'Vegetation Health Monitoring Programme' monitoring reveals any evidence on degrading vegetation health as a consequence of changes in hydrology associated with the construction of the HEPS, remedial action shall be undertaken with additional monitoring to determine the success of remediation. Where any remedial action is required, a letter advising of the nature of the action to be undertaken shall be forwarded to the Grey District Council and a copy to the Department of Conservation West Coast Office within 1 month of the need for such action being identified.

37. GRATIOLA NANA TRANSLOCATION

37.1 Prior to the commencement of any construction activities, the Consent Holder shall identify and mark all known sites of the herb *Gratiola nana* on Killeen Island potentially effected by construction activities. If any of the *Gratiola nana* sites identified and marked are to be disturbed by construction activities, the Consent Holder shall translocate the affected *Gratiola nana* from these sites to suitable habitat on Killeen Island. Where *Gratiola nana* has been translocated as a consequence of this condition, a formal letter informing of such shall be forwarded to the Grey District Council, and a copy to the Department of Conservation West Coast Office.

38. REHABILITATION AND RESTORATION

38.1 The Consent Holder shall undertake rehabilitation and enhancement of the land surface, topsoil, drainage and vegetation in all disturbed areas, to achieve an outcome generally in accordance with the concepts shown in Annexures 1 and 2 of the consent conditions and shall specifically include the following areas :

- i. Killeen Island restoration (4ha, Area B on Plans 1-3 of Annexure 2), generally in accordance with Indicative Rehabilitation Section B: Beech Forest Regeneration or Section A: Grassland (as shown in Annexure 1), except that area of the lower whitewater course that will be subject to a landscape plan prepared under condition 48.
- ii. Killeen canal margins rehabilitation (4ha, area 1 on Plans 1-3 of Annexure 2), including that area of forest cleared to make way for temporary buildings adjacent to the power station, generally in accordance with Indicative Rehabilitation Section B: Beech Forest Regeneration or Indicative Rehabilitation Section D: Podocarp Forest Regeneration.
- iii. Crozier land Head Pond beech forest edge (5ha, area 2 on Plans 1-3 of Annexure 2), generally in accordance with Indicative Rehabilitation Section B: Beech Forest Regeneration.
- iv. Maori Gully fenland canal edge rehabilitation (6ha, area 3 on Plans 1-3 of Annexure 2), generally in accordance with Indicative Rehabilitation Section C: Wetland Shrubland or Section E: Wetland.

- v. Jacks Creek canal edge riparian rehabilitation (9ha, area 4 on Plans 1-3 of Annexure 2), generally in accordance with Indicative Rehabilitation Section B: Beech Forest Regeneration.
- vi. Honey's forest canal edge rehabilitation (3ha, area 5 on Plans 1-3 of Annexure 2), generally in accordance with Indicative Rehabilitation Section B: Beech Forest Regeneration. Bugo property wetland restoration (3ha, area D on Plans 1-3 of Annexure 2), generally in accordance with the Bugo Wetland Restoration Concept Plan. (Included in Annexure 1).

- 38.2 Rehabilitation of disturbed areas shall be progressive as areas of practical working size become available.
- 38.3 A record of the restoration and management activities as they occur shall be kept as monitoring of the management and restoration actions (including weed management) and shall be made available to the Grey District Council on request.
- 38.4 In the event that an emergency spill of water into Jacks Creek occurs, the Consent Holder shall provide Grey District Council and West Coast Regional Council with an assessment of any impacts on the environment that have occurred as a result of the spill. The Consent Holder shall rehabilitate all land and vegetation disturbed by the spill to achieve an outcome generally in accordance with Indicative Rehabilitation Section B: Beech Forest Regeneration and in accordance with the Scheme Restoration and Weed Management Plan. Rehabilitation shall be undertaken within 1 year of the spill occurring and shall be deemed complete when the following closure criteria are met, as determined by the monitoring required in the Scheme Restoration and Weed Management Plan:
- i. A mean native vegetation canopy cover of 90% and mean height of 50 cm, and an absence of weed species (< 1% mean cover).

39. REHABILITATION – REMOVAL REQUIREMENTS

- 39.1 Rehabilitation shall include the removal of debris, stockpiles and buildings as follows :
- i. The Consent Holder shall remove all stockpiles other than rock stockpiled for the purpose of maintaining erosion protection works.
 - ii. The Consent Holder shall remove all construction debris within six months of all construction being completed.
 - iii. Within six months of completion of commissioning of the scheme, the Consent Holder shall remove all temporary buildings, plant and equipment (whether attached to the land or not) associated with the exercise of these consents.
 - iv. This condition does not apply to any permanent earthworks, canal, storage pond, regulation pond and any associated plant, equipment, or monitoring structure which is permitted or required.
 - v. Rehabilitation of areas shall be deemed complete when rehabilitation meets the closure criteria set out in Table 1 below as determined by the monitoring required in the Rehabilitation Management Plan.

Table 1 Closure criteria of each rehabilitation area

Area	Closure Criterion
General rehabilitation areas (All areas subject to indigenous rehabilitation activities, other than those areas listed below in this table)	A mean native vegetation canopy cover of 80% and mean height of 1m for forested areas and 50 cm for all other areas, and an absence of weed species (< 5% mean cover).
Killeen Island riparian rehabilitation (Areas A and B on Annexure 2, Map 1)	A mean native vegetation canopy cover of 80% and mean height of 1m, and an absence of weed species (< 5% mean cover).
Killeen canal forest edge rehabilitation, including areas of forest cleared for temporary buildings (Area 2 on Annexure 2, Map 1)	A mean native vegetation canopy cover of 80% and mean height of 1m, and an absence of weed species (< 1% mean cover), with no bare soil unless covered with forest litter.

Jacks creek riparian rehabilitation (Area 4 on Annexure 2, Maps 1 and 2)	A mean native vegetation canopy cover of 90% and mean height of 50cm, and an absence of weed species (< 1% mean cover).
Maori Gully fenlands rehabilitation (Area 3 on Annexure 2, Map 2)	A mean native vegetation canopy cover of 80% and mean height of 50cm, and an absence of weed species (< 1% mean cover).
Honeys forest canal edge rehabilitation (Area 5 on Annexure 2, Map 3)	A mean native vegetation canopy cover of 90% and mean height of 50 cm, and an absence of weed species (< 1% mean cover), with no bare soil unless covered with forest litter.

40. REHABILITATION, WEED AND PEST CONTROL AND ACCORDANCE WITH MANAGEMENT PLAN

40.1 The Consent Holder shall undertake all rehabilitation and weed and pest control in accordance with the Scheme Rehabilitation and Weed Management Plan.

41. REHABILITATION REPORTING

41.1 The Consent Holder shall forward to the Grey District Council, and a copy to the Department of Conservation West Coast Office at or about 1 December each year following the commencement of construction, a report prepared by an appropriately qualified ecologist setting out the rehabilitation works carried out over the preceding 12 months. The report shall identify the progress towards achieving the rehabilitation goals and any changes proposed to the rehabilitation methods. This report shall also contain the weed and pest control results and any remedial steps to be taken in response to the results of these control measures.

42. ECOLOGICAL PROTECTION

Within six months of the completion of construction of the Scheme, the Consent Holder shall provide the Grey District Council with a legal description and protection mechanism or covenant to be applied to the areas of high ecological value and full restoration areas as listed below and shown on plans 1-3 in Annexure 2 of these consents:

- i. Killeen Island forest' (79 ha, area A on plan).
- ii. New restoration area adjacent to Killeen Island forest' (32 ha, area B on plan)
- iii. Honey's forest' (45 ha, area C on plan).
- iv. Bugo wetland restoration' (3 ha, area D on plan).

Such a protection mechanism or covenant is to act in a manner as to protect indigenous vegetation present or established on the sites identified above.

42.1 Should the landowner of the Maori Gully fenland be willing to have a protective covenant applied to the fenland then the Consent Holder will place a protective covenant over the fenland area shown as "E" on plans 1-3 of Annexure 2 of these consents within one year of the completion of construction of the Scheme.

42.2 Should the landowner of the Maori Gully fenland decline a protective covenant over the fenland then the Consent Holder will legally protect a minimum 14Ha parcel of land of similar ecological value elsewhere in the Arnold River Valley within 18 months of the completion of construction of the scheme. A report outlining the values of the alternative parcel of land, its legal description and the protection mechanism or covenant to be applied to the area shall be provided to the Grey District Council prior to the protective covenant being established.

43. LANDSCAPING

43.1 Landscape Reinstatement - General

- 43.2 The details of the reinstatement works on the canals and embankments between the end of the flume and the entrance to the headpond shall be in accordance with Annexures 1 and 2 of these consents, except that :
- i. Any embankment areas visible from Arnold Valley Road or the Midland Railway shall be required to be reinstated in the Podocarp or Beech Forest regimes shown the Indicative Rehabilitation Sections B and D of Annexure 1.
 - ii. The removal of forest shall be minimised.
 - iii. Particular attention shall be had to the naturalising of finished landforms within view of Arnold Valley Road; and
 - iv. In the areas shown on the plans in Annexure 2 as “no land owner negotiation”, the rehabilitation shall be as indicated on the plans and in general accordance with the Indicative Rehabilitation Plans and relevant visual simulations contained in Annexure 2.
- 43.3 On that part of the attached plans labelled “beech forest restoration” (adjacent to southern Arnold Valley Road crossing) additional beech forest planting in general accordance with Indicative Rehabilitation Section B: Beech Forest Regeneration in Annexure 2 of these consents shall be undertaken, in so far as the affected land is owned by the Consent Holder on completion of construction works.
- 43.4 The headpond embankments should be rehabilitated in accordance with plans 1-3 in Annexure 2 of these consents, except that at least 25% of each embankment length shall be in either beech or podocarp forest rehabilitation, including the 7200 metre mark facing Arnold Valley Road, as shown on Plan DWG No.22487-025 as contained in Volume 2: Figures and Drawings dated March 2006 accompanying the application as lodged.
- 43.5 That the rehabilitation of the penstocks area in beech forest regeneration proceed as proposed in the plans contained in Annexures 1 and 2 of these consents, except that rehabilitation in the penstocks area be required to ensure the potential for unnatural skyline effects of the head pond embankment, as seen from Arnold Valley Road, is minimised.
- 43.6 Revegetation shall be progressive as areas of practical working size become available.
- 43.7 All seed and plant resources shall be sourced from the following locations in order of preference :
- i. The general locality of the Arnold HEPS.
 - ii. The Hochstetter Ecological District; or
 - iii. The Grey River catchment.
- 43.8 The reinstatement of all works areas shall be completed within one season (12 months) of the finishing of construction in that area.
- 43.9 In the event of rehabilitation plantings for any area not becoming successfully established, they will be replanted and maintained until successful.

44. LANDSCAPE - FLUME/RAILWAY TUNNEL AREA

- 44.1 The Consent Holder shall undertake reinstatement works on Flume/railway tunnel area in accordance with the following :
- i. That the extent of any tunnel cut face, including surrounding tree removal and construction tracking or disturbance outside the cut area, be minimised, in the interests of minimising visual impacts.
 - ii. That constructed benches on the tunnel cut face be disguised by making their shapes irregular and by adding small scree slopes to help disguise the benches.
 - iii. That the edges of the tunnel cut face be feathered irregularly into the natural surroundings.
 - iv. That the finished face of the tunnel cut and any disturbed surroundings be hydroseeded on completion of engineering works and replanted within 1 season, using species typically found on rocky bluffs;
 - v. That the riverbank between the flume and Arnold River be naturalized in alignment and be as gentle in gradient as feasible, to provide for public access to the river;

- vi. That between the flume and the river, existing or replacement riparian vegetation, including species that are or will grow to tree-size, be provided for in the Landscape Management Plan, to ensure at least a partial visual screen between the river and flume;
- vii. That the visible faces of the flume structure be dark-coloured concrete and with surface texturing, to assist in visually integrating the flume with its surroundings;
- viii. That formation and reinstatement details of the flume and railway tunnel earthworks be provided for in the Landscape Management Plan.

45. LANDSCAPE - STREAM CROSSING 'I'

- 45.1 That canal construction in the Stream Crossing 'i' area as shown on Plan DWG No.22487-023 as contained in Volume 2: Figures and Drawings dated March 2006 accompanying the application as lodged, be required to achieve the following, and the details of how this is to be achieved shall be included in the Landscape Management Plan :
- i. On those parts of the attached plans labelled "landscape batters" (adjacent to Maori Gully Road and pertaining to stream crossing 'i'), earth forming shall be undertaken and rehabilitation shall be generally in accordance with Indicative Rehabilitation Section B: Beech Forest Regeneration (Annexure 1 of these consents), with the aim of lessening visual and landscape character effects on Maori Gully; and
 - ii. Such works shall be carried out at the earliest possible opportunity during or immediately after construction.

46. LANDSCAPE - TRANSMISSION LINES

- 46.1 The Consent Holder shall use its best endeavors to ensure that additional transmission lines should be sited to minimise their visual and landscape impacts, and in particular to avoid any skyline effects they may incur from public viewpoints or houses.

47. LANDSCAPE - REGULATION POND AND STOCKPILES

- 47.1 The Consent Holder shall ensure that:
- i. The exterior embankments of the Regulation Pond be contoured and shaped as naturalised landforms.
 - ii. Rehabilitation plantings surrounding the Regulation Pond shall include a proportion of tree species, to ensure visual screening; and
 - iii. Any excess cut stockpile areas shall be contoured and shaped as naturalised landforms.

- 50.2 Specific details of the above are to be shown in the Landscape Management Plan.

48. LANDSCAPE – LOWER WHITEWATER COURSE

- 48.1 A landscape plan shall be prepared for the Lower Whitewater Course and shall cover all areas of the course that will be open to the public, including vehicle parking and manoeuvring areas. The landscaping shall :
- i. Be generally in accordance with the plans contained in Annexure 1 of these consents.
 - ii. Shall complement the layout and enhance the function of the Lower Course.

- 48.2 The lower course landscape plan and details pertaining to its implementation shall be included in the Landscape Management Plan. Implementation of the lower course landscape plan is to be completed within one year of completion of construction works in that area.

49. LANDSCAPE - BORROW AREA 8

- 49.1 The Consent Holder shall ensure, once quarrying is completed, that Borrow Area 8 is to be :
- i. Formed and re-contoured so its final shape is fully integrated into surrounding landforms; and
 - ii. That the disturbed area be reinstated with suitable plantings.

- 49.2 Specific details of the above are to be shown in the Landscape Management Plan, and that the work is to be completed within one year of completion of works in that area.

50. LANDSCAPE - HAUL ROADS

- 50.1 The Consent Holder shall ensure that any compaction occurring along the length of any public road or private haul route outside the canal invert in excess of 0.5m of the formed width of the road or haul route is to be reinstated to natural ground on completion of works in their particular area. This will include ripping of any surface or subsoil compaction, reinstating of natural drainage, and reinstating of vegetation according to the Indicative Rehabilitation Plan in Annexure 1 of these consents.

51. LANDSCAPE ENHANCEMENT AREAS

- 51.1 The concept for Landscape Enhancement Areas as described in Figures 2 and 3 of Annexure 1 of these consents shall be developed in the Landscape Management Plan in accordance with those figures and information. All such areas to be constructed within 1 year of the completion of works in the area concerned.
- 51.2 The landscape enhancement areas shown in Figures 2 and 3 of Annexure 1 be serviced with supporting facilities such as toilets and waste disposal facilities and that they are maintained, and renewed at the end of their service life by the Consent Holder.

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52 PROVISION OF LOWER WHITEWATER COURSE

- 52.1 The Consent Holder shall construct the 'lower' whitewater course (the 'lower course') and associated systems as generally shown on the Plan in Annexure 3 attached to and forming part of these consents, except that planting / landscaping shall be in accordance with the landscaping plan required under Condition 48.
- 52.2 The Consent Holder shall ensure that the structural integrity of the lower course and the gates controlling flows from the regulation pond to the lower course are maintained.

53. ESTABLISHMENT OF TRUST

- 53.1 The Consent Holder shall establish, maintain and participate in a Lower Course Trust ('the trust'). The trust deed shall include the resource management purposes and procedural requirements set out in this condition.
- 53.2 The resource management purposes of the trust are :
- i. To ensure that the design of course adequately mitigates the loss of the beginner-intermediate kayaking resource the Arnold River provided prior to construction of the Arnold Valley HEPS. To participate in the detailed design construction and commissioning of the lower course;
 - ii. To manage the use of the course so that it adequately provides for a range of recreational users, including educational groups, individual users, casual groups and events.
- 53.3 The trust shall regulate its own procedures, provided that the trust shall :
- i. Be established prior to construction of the whitewater course.
 - ii. Provide input and feedback into the design and construction of the course.
 - iii. Consist of at least one trustee from each of the Consent Holder, a local recreation educational provider, a non governmental organisation representative of kayaking interests, and two local government representatives, one appointed by the Grey District Council and one appointed by the West Coast Regional Council.
 - iv. Be responsible for the maintenance of all non-structural aspects of the course including the access, parking, landscaping and public toilets.

54. DESIGN OF THE COURSE

- 54.1 The Consent Holder shall engage a suitably qualified course designer and engineer to design and oversee construction of the course. Appointment of the designer and engineer shall be undertaken in consultation with the Trust.
- 54.2 The design of the course shall achieve as a minimum the following :
- i. A pool suitable for instruction of beginners.
 - ii. A slow moving water section suitable for tubing and gate/instructional practice.
 - iii. A minimum of one feature play wave suitable for both kayaks and boogie boards.
 - iv. A 'finishing pool' prior to the flow release to the true left branch of the Arnold River
 - v. Provision of vehicle access and parking facilities.
 - vi. Power points at suitable locations for kayaking events sufficient to power lighting and standard equipment associated with events including computers, printers, sound systems, display boards, timing equipment.
 - vii. Anchor points for slalom gates.
 - viii. A pedestrian access track connecting the top of the course with the finishing pool;
 - ix. At least two footbridges; and
 - x. Features created where practicable from natural rock with the purpose of minimising the use of concrete.

- xi. An unsealed access track of at least 3 metres width, suitable for use by motor vehicles, which traverses along the eastern side of the Lower Course and provides access to and from the Finish Pool and Parking area'

54.3 The course shall be deemed to be complete when the designer and engineer certify completion of construction. A record of the certification shall be forwarded to the Asset and Engineering Manager at the Grey District Council and a copy to the West Coast Regional Councils within one month of the certification being completed.

55. OPERATION OF COURSE

55.1 The public shall have unrestricted access to the course during daylight hours, being sunrise to one hour after sunset, subject to the occupational health and safety requirements, security and the operational requirements of the Consent Holder

55.2 The Consent Holder, subject to operational or maintenance requirements (which shall always take precedence), shall as a first preference, release water from the Regulation Pond to the Lower Course.

55.3 The Consent Holder shall ensure that there is no less than 10 cumecs of flow down the lower course for 75% of daylight hours.

55.4 The Consent Holder shall ensure that an internet site is maintained that :

- i. provides real time information on Arnold River flows.
- ii. provides information from the gated regulation pond outflows including pond level, gate openings and flow.

55.5 The Consent Holder shall provide to the Trust and the consent authority the flow data on their request.

55.6 The Consent Holder shall notify the Grey District Council with a copy to the Trust:

- i. Of the timing and quantity of flushing flows by providing as much advance notice as practicable; and
- ii. Where practicable flushing flows shall be scheduled to occur on weekends.

56 SOCIAL IMPACTS

56.1 Community Liaison Group

56.2 The Consent Holder shall facilitate the establishment of a Community Liaison Group (CLG) comprised of representatives, where these wish to attend, of the Consent Holder, Tai Poutini Polytechnic, Work and Income New Zealand, local representatives for the Ministry of Education, and the West Coast Health Board, and where possible and appropriate representatives of other health or social service providers, including the New Zealand Ambulance Service. This Group is to be established within six months of the date of commencement of construction, and is to operate from the commencement of construction through to commissioning. Establishment of the CLG is to be confirmed in writing to the Environmental Services Manager at the Grey District Council within one month of its formation. This group shall meet bi-annually or at such times as are agreed by the group.

56.3 The Consent Holder, in conjunction with the CLG shall :

- i. Consider the implications of any updated forecasted scheme construction information from the Consent Holder in relation to the projected workforce requirements and the current status of the regional labour market.
- ii. Consider, and advise representatives of Tai Poutini Polytechnic, Work and Income New Zealand, and the Ministry for Education of potential training opportunities and labour shortages.
- iii. Consider, and advise representatives of Tai Poutini Polytechnic, Work and Income New Zealand, and the Ministry for Education of the expected arrival of incoming workers, and associated information, as available, as to likely household formation.
- iv. Consider, and advise representatives of the West Coast Health Board from the final design and contracting stages of construction through to commissioning, any gaps in the provision of health services as are related specifically to the Arnold Valley HEPS construction activity, associated workforce and household formation. The Consent Holder is to have regard to any recommendations from the CLG as to how short term assistance would overcome such gaps, and undertake best endeavours to assist the relevant health service providers to meet these needs, where these are necessary during the temporary construction period of the Arnold Valley HEPS.

- v. Circulate to relevant health service providers and emergency services, the forecasted scheme construction information, and liaise with emergency services to ensure that they are fully informed about project activities.

- 56.4 The Consent Holder shall during the construction period ensure that electronic information and a public notice board at the construction area access point are maintained and provide a minimum of one week notice in advance, of those periods where access to the upper river and reservoir as managed by the Consent Holder, will be restricted to the public, recreational users or commercial operators.
- 56.5 The Consent Holder shall provide to the public, recreational users, commercial operators, or the consent authority with subsequent scheduled periods of restrictions pursuant to condition 55.1 upon their request.
- 56.6 The Consent Holder shall manage as is practicable to do so its construction activities to minimise the periods for which access to the upper river and reservoir is restricted to the public, recreational users and commercial operators.
- 56.7 The Consent Holder shall appoint a member of the Construction Team as Controlled Access Liaison ('CAL') for the public, recreational users, or commercial operators to contact regarding controlled access to the upper river and reservoir during scheme construction. This member of the Construction Team shall be capable of being readily contacted during office hours by telephone or mobile phone, and the name of the CAL shall be notified in writing to the consent authority and commercial operators at least two months prior to construction activity commencing.

NOTES TO THE CONSENT HOLDER

Accidental Discovery Protocol

Work affecting archaeological sites is subject to a consent process under the Historic Places Act 1993. An archaeological authority (consent) from the New Zealand Historic Places Trust for the Arnold River HEPS was issued on 8 February [reference 2006/300]. All conditions of the authority must be adhered to.

- i. Should any archaeological material or sites be discovered during the course of work on the HEPS, that work in that area of the site shall stop immediately and the appropriate agencies including the Project Archaeologist, New Zealand Historic Places Trust and Mana Whenua shall be contacted immediately.
- ii. The following agreed procedure will be adopted in the event that koiwi, taonga or wahi tapu are unearthed or discovered or are reasonably suspected to have been unearthed or discovered during the course of construction activities.
 - a) Immediately it becomes apparent or is suspected by workers at the site that koiwi, taonga or a wahi tapu has been uncovered/discovered all activity within a 5m radius of the site will cease.
 - b) The plant operator will shut down all machinery or activity immediately, leave the area and advise his or her Supervisor of the occurrence.
 - c) The Supervisor shall take steps immediately to secure the area in a way that ensures that the discovery remains untouched as far as possible in the circumstances and shall notify the Project Manager.
 - d) Dependent on the nature of the discovery, the Project Manager will notify the nominated Te Runanga O Ngati Waewae representative, the project archaeologist, NZ Historic Places Trust and, in the case of suspected koiwi, the New Zealand Police.
 - e) The Te Runanga O Ngati Waewae representative will contact the appropriate kaumatua to act on their behalf in this matter in order to guide and advise TrustPower and other parties as to the appropriate course and will immediately advise the Project Manager of the identity of such kaumatua and such other details as may be appropriate in the circumstances.
 - f) The Project Manager will ensure that staff assistance is made available to meet and guide kaumatua, police, archaeologist or Historic Places Trust staff to the site, assisting with any requests that they may make.
 - g) If the kaumatua are satisfied that the koiwi, taonga or wahi tapu are of Maori origin the kaumatua will decide how the find is to be dealt with. In the case of an archaeological site, this decision must be made in conjunction with the Project Archaeologist. The kaumatua will communicate such decision to TrustPower, NZ Police and such other parties as are considered appropriate. In the event of a wahi tapu discovery further discussions may be required.
 - h) Activity on site will remain halted until the Project Archaeologist, Police, Historic Places Trust (as the case may be) and the kaumatua have given approval for operations to recommence.
 - i) The Project Manager shall ensure that kaumatua are given the opportunity to undertake karakia and such other religious or cultural ceremonies and activities at the site as may be considered appropriate in accordance with tikanga Maori (Maori custom and protocol).
 - j) All parties involved will endeavour to ensure that these matters are dealt with as expeditiously as possible – normally within a 24-hour time frame.

Private Land

The Consent Holder acknowledges that these consents does not confer a right of access, and that permission of the legal owner of administering body of that land may also be required.

Fees and Monitoring

The Council will require payment of its administrative charges in relation to monitoring, certification, supervision and administration fees, as authorised by the provisions of section 36 of the Resource Management Act 1991. The Consent Holder shall meet the reasonable costs of these fees as required by the conditions of these consents.

Transport

The level of temporary traffic management to be applied to the District roads affected by the scheme, in accordance with the Transit New Zealand: Code of Practice for Temporary Traffic Management is Level 1: Low to Moderate Volume Roads, and on any State Highway the level is to be determined by Transit New Zealand.

The CoPTTM includes provision for review and modification of the traffic management plan should changes in traffic or road conditions require it.

Should the traffic management plan require the imposition of temporary speed limits, parking restrictions, road closures or other Council or legal procedures, then a significantly longer lead time is required to expedite such procedures. Failure to recognise these lead times or to complete the requisite procedures ahead of the planned commencement of the work will lead to delays in the granting of Council's permission to carry out the work on the affected parts of the network. It is noted that the applicant will be required to apply for temporary road closures during construction periods. These temporary road closures may require the applicant to provide alternative road access.

The construction plans and completed works are to be audited by an independent auditor to identify any potential traffic-safety issues. Thus the role of the auditor is to ensure that the design is providing adequately for the safe and efficient operation of the District's transport system when the bridges and the realignment is operational, while the role of the Council is to ensure that the works are constructed in general accordance with the concepts proposed in the application and to satisfy all the conditions of these consents.

All bridge designs will need to be submitted to Council for approval. All bridge alignments shall be straight with road geometries each side to be re-aligned to suit.

To ensure allocation of liability and insurance information is included in the Deeds of Agreement to occupy road reserve, construction drawings and specifications will need to be submitted to Council for Approval. The applicant should supply as-build plans and details of construction costs for the facilities constructed on the public roads. Costs for all the activities to be located on road reserve are required whether the assets are to be transferred to Council or remain in the applicant's ownership.

Provision for the maintenance of structures is to be included in the Deeds of Agreement.

The Arnold River Bridge, which lies outside the project area but may be required to carry over-weight loads where materials are being brought in from outside the project area, is a Class I structure only. If the applicant is contemplating moving on a regular basis loads in excess of Class I over this or any other bridge structure outside the project area then the applicant may be required to contribute to strengthening the bridge. This information is included as advice only as use of roads and bridges by overweight (in excess of Class I loads) is subject to permission and a special permit from Council as the road controlling authority.

Where a vehicle crossing is to be used by the public for access to recreation areas then the crossing shall be laid out to TNZ Diagram D.

Health and Safety Management Plans prepared for any works on public land (including roads) shall be available at any time, if requested by the Consent Authority.

Resource consents granted for the Arnold Valley HEPS do not constitute written consent for works or structures in, under or above legal road reserve from the Grey District Council in terms of Section 176 of the RMA. The Consent Holder will be required to separately obtain such written consent in terms of the RMA and licence to occupy agreements in terms of the Local Government Act, prior to construction commencing.

All structures (AS DEFINED BY THE BUILDING ACT 2004) to be located within the legal road reserve require building consent.

Social impacts

Project Housing Co-ordination Role

The Consent Holder shall ensure that the role of project housing coordinator is appointed during the contracting stages of construction, and that this role is to operate within the six months of the date prior to the commencement of these consents, through to commissioning. The role of that party undertaking project housing coordination is to assist with provision of short-term accommodation for incoming workers and their families, throughout the commuting area, and investigate possibilities for providing short-term accommodation where necessary.

Annexure 1: Indicative Rehabilitation Plan Cross-Sections and Visual Simulations

Annexure 2: Landscape and Ecological Mitigation Plan

Annexure 3: Lower Whitewater Course Plan