



# **MILL ROAD STAGE 1 – FAST TRACK APPROVALS ACT (FTAA) APPLICATION**

## **PART F – FRESHWATER FISHERIES ACT APPROVAL**

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## 1. INTRODUCTION

This substantive application seeks approval under section 42(4)(j) of the FTAA for complex freshwater fisheries activities that would otherwise require approval under Regulations 42 and 43 the Freshwater Fisheries Regulations 1983 (**FFR**).

This Part of the SAR describes the complex freshwater fisheries activities for which approval is sought and addresses specific matters and information requirements in Schedule 9 of the FTAA. Information regarding standard freshwater fisheries activities is also provided, in accordance with the requirements of Schedule 5 of the FTAA.

This Part should be read alongside the relevant technical assessments and supporting information contained in the SAR, which provide the details underpinning the approvals sought for the Project. The documents relevant to this approval are the:

- a) Freshwater Ecology Assessment (**Appendix C7**);
- b) Freshwater Management Plan (**FMP**) (**Appendix C8**);
- c) Native Fish Capture and Relocation Management Plan (**NFCRP**) (**Appendix C9**); and
- d) Design Plans (**Appendix H1**).

Part B of the SAR contains an overview of the Project, the existing environment and the Project description.

## 2. COMPLEX FRESHWATER FISHERIES ACTIVITIES

The FTAA<sup>1</sup> defines the term ‘complex freshwater fisheries activity’ as:

“An activity that includes construction of any of the following:

- (a) A culvert or ford that permanently blocks fish passage;
- (b) A permanent dam or diversion structure;
- (c) Works –
  - (i) That require disturbance to a water body, including diversions, in-stream operations, and removal of gravel, that persists for more than 3 months; or
  - (ii) That require disturbance of any duration during the whitebaiting season to a water body within 500 m of the coast; or
  - (iii) That require disturbance of any duration during the relevant spawning season to a water body that is known for the spawning of trout, salmon, or native fish; or
  - (iv) That require repeated disturbance to a water body and are temporary works for which there is a period of 6 months or less between each period of work.”

The activities in **Table 2-1** below fall within the definition of complex freshwater fisheries activity.

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<sup>1</sup> Section 4 of the FTAA

**Table 2-1: Complex freshwater fisheries activities as part of this application**

| Reference | Complex freshwater fisheries activity                                                                                                                    | Proposed activities                                                                                                                                                                                                                                                                            |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (a)       | A culvert or ford that permanently blocks fish passage.                                                                                                  | Four permanent culverts are proposed within intermittent streams in the Puhinui catchment that will not provide for fish passage. These are culverts MM01, MM01A, MM01C and MM02.                                                                                                              |
| (c)(i)    | Works that require disturbance to a water body, including diversions, in-stream operations, and removal of gravel, that persists for more than 3 months. | Although detailed construction planning has not yet been undertaken, it is anticipated that, in some locations, temporary stream diversions will be required for periods exceeding three months to enable the construction of permanent culvert structures and/or permanent stream diversions. |

### 3. STANDARD FRESHWATER FISHERIES ACTIVITIES

While not requiring approval, this application also includes standard freshwater fisheries activities which are defined under the FTAA as:

“An activity that includes construction of any of the following:

- (a) A culvert or ford that could impede but not permanently block fish passage;
- (b) Weirs that comply with the conditions of regulation 72 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020;
- (c) Works –
  - (i) That require disturbance to a water body, including diversions, in-stream operations, and removal of gravel, that does not persist for more than 3 months; or
  - (ii) That require disturbance of any duration outside the whitebaiting season to a water body within 500 m of the coast; or
  - (iii) That require disturbance of any duration outside the relevant spawning season to a water body that is known for the spawning of trout, salmon, or native fish; or
  - (iv) That require repeated disturbance to a water body and are temporary works for which there is a period of more than 6 months between each period of work.”

**Table 3-1** outlines the standard freshwater fisheries activities included in the Project.

**Table 3-1: Standard freshwater fisheries activities included in the Project**

| Reference | Standard freshwater fisheries activity                                      | Proposed activities                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (a)       | A culvert or ford that could impede but not permanently block fish passage. | Five permanent culverts are proposed within intermittent streams in the Papakura catchment. These are culverts MM04A, MM04B, MM05, MM06 and MM10. Taking a conservative approach in the interpretation of this activity, the new culverts “could impede but not permanently block fish passage” as they are new instream structures. The culverts have, however, been designed to provide for fish passage. |

## 4. APPROVALS SOUGHT

Section 42(4)(j) allows an application under regulations 42 and 43 of the Freshwater Fisheries Regulations 1983 which provide for the following approvals:

- a) Regulation 42: Culverts and fords which impede fish passage; and
- b) Regulation 43: Dams or diversion structures which may be required to include a fish facility.

This application seeks approvals for:

- a) Four permanent culverts which do not provide for fish passage; and
- b) Temporary culverts or diversion structures required during stream diversions or other stream works which may impede fish passage.

As noted above, this Part of the SAR also includes details in relation to standard freshwater fisheries activities, but approval is not required for these activities.

## 5. INFORMATION REQUIREMENTS

Clause 9 of Schedule 5 and Clause 3 of Schedule 9 of the FTAA require the following information to be provided for standard and complex freshwater fisheries activities:

- (a) In relation to the structure and any fish facility:
  - (i) A description of the type of structure or fish facility;
  - (ii) The dimensions of the structure or fish facility;
  - (iii) The design of the structure or fish facility;
  - (iv) The placement of the structure or fish facility;
  - (v) The water flows;
  - (vi) The operating regime;
- (b) The freshwater species and values present (with particular focus on threatened, data-deficient, and at-risk species as defined in the New Zealand Threat Classification System);
- (c) The water quality and quantity in the surrounding habitat (at the proposed structure location, upstream and downstream);
- (d) How the passage of fish will be provided for or impeded.

**Table 5-1 to Table 5-3** below provide the relevant information.

Table 5-1: Information required for complex freshwater fisheries activities (Schedule 9, Clause 3) - A culvert or ford that permanently blocks fish passage

| Culverts or fords that permanently block fish passage |                       |                                                                                                                                                                                                       |                                                       |                                                    |               |                                                      |                     |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                  |  |
|-------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|---------------|------------------------------------------------------|---------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Structure or fish facility name / reference           | Waterbody             | Clause 3(a) in relation to the structure and any fish facility:<br>*refer Drainage Details Drawings, sheet numbers 60755376-SH-DR-0505 to 60755376-SH-DR-0508 for indicative structure design details |                                                       |                                                    |               |                                                      |                     |                           | Clause 3(b): The freshwater species and values present <sup>2</sup><br><br>• NT: Not Threatened<br>• AR-NU: At Risk – Naturally Uncommon<br>• AR-D: At Risk - Declining                                                                                                                                                                                                                                                                                                                                       | Clause 3(c): The water quality and quantity in the surrounding habitat (at the proposed structure location, upstream and downstream)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Clause 3(d): How the passage of fish will be provided for or impeded                                                                                                                                                                                                                                                             |  |
|                                                       |                       | (i) Type of structure or fish facility                                                                                                                                                                | (ii) The dimensions of the structure or fish facility | (iii) The design of the structure or fish facility |               | (iv) The placement of the structure or fish facility | (v) The water flows | (vi) The operating regime |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                  |  |
|                                                       |                       |                                                                                                                                                                                                       |                                                       | Slope (%)                                          | Culvert Shape |                                                      |                     |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                  |  |
| MM01                                                  | Puhinui catchment S03 | Culvert                                                                                                                                                                                               | 0.75 m diameter<br>65 m length                        | 17.7                                               | Circular      | Laid parallel to the slope of the stream bed         | Intermittent stream | Permanent structure       | The following freshwater species are present or assumed to be present: <ul style="list-style-type: none"><li>Cran’s bully (AR-NU, Low Value);</li><li>Redfin bully (AR-NU, Low Value);</li><li>Tuna hinahina/shortfin eel (NT, Low Value);</li><li>Tuna kuwharuwharu / longfin eel (AR-D, High Value);</li><li>Kākahi (AR-D, High Value); and</li><li>Kōura/ freshwater crayfish (NT, Low Value).</li></ul> Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.     | This is an intermittent stream within the heavily modified Puhinui catchment. Much of the upstream network flows through commercial and residential areas, with the upper reaches constrained within concrete-lined, unvegetated channels. This reflects a high degree of hydrological and habitat alteration.<br><br>SEV scores in the Puhinui catchment range from 0.446 (S02) to 0.681 (S12), corresponding to ecological condition categories from Fair to Good. Higher scores generally occur within the Puhinui catchment, indicating areas of relatively intact stream function and habitat quality.<br><br>This stream is assessed as being of moderate ecological value. Instream habitat and riparian features have been substantially affected by human activities. Its overall SEV score is 0.667 (Good) with fish and macroinvertebrate communities showing partial similarity to expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.60. There is no available upstream fish habitat.<br><br>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail. | N/A – As set out in Appendix G of the Freshwater Ecology Assessment, fish passage is not provided for at this culvert structure.<br><br>The culvert is proposed at the headwaters of S03, located within a transitional zone between intermittent and ephemeral streams, with no upstream habitat available for freshwater fish. |  |
| MM01A                                                 | Puhinui catchment S04 | Culvert                                                                                                                                                                                               | ≤ 0.6 m diameter<br>45 m length                       | 13.5                                               | Circular      | Laid parallel to the slope of the stream bed         | Intermittent stream | Permanent structure       | The following freshwater species are present or are assumed to be present: <ul style="list-style-type: none"><li>Cran’s bully (AR-NU, Low Value);</li><li>Kōura/ freshwater crayfish (NT, Low Value);</li><li>Redfin bully (AR-NU, Low Value);</li><li>Tuna hinahina/shortfin eel (NT, Low Value);</li><li>Tuna kuwharuwharu / longfin eel (AR-D, High Value); and</li><li>Kākahi (AR-D, High Value).</li></ul> Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail. | This is an intermittent stream within the heavily modified Puhinui catchment, which has undergone a high degree of hydrological and habitat alteration.<br><br>The stream is assessed as being of moderate ecological value. Instream habitat and riparian features have been affected by human activities. Its overall SEV score is 0.539 (Fair) with fish and macroinvertebrate communities showing partial similarity to expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.72. There is no available upstream fish habitat.<br><br>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | N/A – As set out in Appendix G of the Freshwater Ecology Assessment, fish passage is not provided for at this culvert structure.<br><br>The culvert is proposed at the headwaters of S04, located within a transitional zone between intermittent and ephemeral streams, with no upstream habitat available for freshwater fish. |  |
| MM01C                                                 | Puhinui catchment S05 | Culvert                                                                                                                                                                                               | ≤ 0.6 m diameter<br>62 m length                       | 12.6                                               | Circular      | Laid parallel to the slope of the stream bed         | Intermittent stream | Permanent structure       | The following freshwater species are present or are assumed to be present: <ul style="list-style-type: none"><li>Cran’s bully (AR-NU, Low Value);</li><li>Redfin bully (AR-NU, Low Value);</li><li>Tuna hinahina/shortfin eel (NT, Low Value);</li><li>Tuna kuwharuwharu / longfin eel (AR-D, High Value);</li><li>Kākahi (AR-D, High Value); and</li><li>Kōura/ freshwater crayfish (NT, Low Value).</li></ul> Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail. | This is an intermittent stream within the heavily modified Puhinui catchment, with a high degree of hydrological and habitat alteration.<br><br>Stream S05 is of moderate ecological value. Instream habitat and riparian features have been affected by human activities. Its overall SEV score is 0.568 (Fair) with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.73. There is no available upstream fish habitat.<br><br>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | N/A – As set out in Appendix G of the Freshwater Ecology Assessment, fish passage is not provided for at this culvert structure.<br><br>The culvert is proposed at the headwaters of S05, situated within a transitional zone between intermittent and ephemeral streams. There is no upstream habitat for freshwater fish.      |  |

<sup>2</sup> For the purposes of this application, the potential stream ecological value has been used as set out in the Freshwater Ecology Assessment.

|      |                        |         |                                 |     |          |                                              |                     |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                            |
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| MM02 | Puhinui catchment DS04 | Culvert | ≤ 0.6 m diameter<br>40 m length | 9.6 | Circular | Laid parallel to the slope of the stream bed | Intermittent stream | Permanent structure | <p>The following freshwater species are present or are assumed to be present:</p> <ul style="list-style-type: none"> <li>Cran's bully (AR-NU, Low Value);</li> <li>Redfin bully (AR-NU, Low Value);</li> <li>Tuna kuwharuwharu / longfin eel (AR-D, High Value);</li> <li>Kākahi (AR-D, High Value); and</li> <li>Kōura/ freshwater crayfish (NT, Low Value).</li> </ul> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p> | <p>This is an intermittent stream within the heavily modified Puhinui catchment, with a high degree of hydrological and habitat alteration. The stream is assessed as being of moderate ecological value and is located within Puhinui Gully / Watercare Bush SEA (SEA_T_4570). Instream habitat and riparian features have been affected by human activities. However, headwater streams located within an SEA are a moderately rare habitat within the sub catchment.</p> <p>The SEV score of this stream is 0.678 (Good), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.58. There is no available upstream fish habitat.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p> | <p>N/A – As set out in Appendix G of the Freshwater Ecology Assessment, fish passage is not provided for at this culvert structure.</p> <p>The culvert is proposed at the headwaters of DS04, situated within a transitional zone between intermittent and ephemeral streams.</p> <p>There is no upstream habitat for freshwater fish.</p> |
|------|------------------------|---------|---------------------------------|-----|----------|----------------------------------------------|---------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Table 5-2: Information required for complex freshwater fisheries activities (Schedule 9, Clause 3) – Works that require disturbance to a water body, including diversions, in-stream operations, and removal of gravel, that persists for more than 3 months**

| Works that require disturbance to a water body, including diversions, in-stream operations, and removal of gravel, that persist for more than 3 months |                                                                 |                                                       |                                                                                                                                                                                                                  |                                                      |                     |                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waterbody                                                                                                                                              | Clause 3(a) in relation to the structure and any fish facility: |                                                       |                                                                                                                                                                                                                  |                                                      |                     |                                                                                                                                                                                                                                                                                                                                                       | Clause 3(b): The freshwater species and values present <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Clause 3(c): The water quality and quantity in the surrounding habitat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Clause 3(d): How the passage of fish will be provided for or impeded                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                                                                        | (i) Description of the type of structure or fish facility       | (ii) The dimensions of the structure or fish facility | (iii) The design of the structure or fish facility                                                                                                                                                               | (iv) The placement of the structure or fish facility | (v) The water flows | (vi) The operating regime                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| S03 – Puhinui catchment                                                                                                                                | Temporary stream diversions                                     |                                                       | Temporary stream diversions may be required within S03, S04, S05, DS04, S13, S12, DS05 and S17 for a period exceeding three months to facilitate construction of permanent culverts and/or permanent diversions. |                                                      |                     | Detailed construction planning has not yet been undertaken; therefore, the dimensions, design and placement of temporary stream diversions are not yet confirmed. Temporary diversions may include temporary channels or pipes to redirect flow around the work area, sandbag or earth bunds to isolate sections of the stream, or pump-over systems. | <p>The following freshwater species are present or are assumed to be present:</p> <ul style="list-style-type: none"> <li>Cran's bully (AR-NU, Low Value);</li> <li>Redfin bully (AR-NU, Low Value);</li> <li>Tuna hinahina/shortfin eel (NT, Low Value);</li> <li>Tuna kuwharuwharu / longfin eel (AR-D, High Value)</li> <li>Kākahi (AR-D, High Value); and</li> <li>Kōura/ freshwater crayfish (NT, Low Value).</li> </ul> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p> | <p>This is an intermittent stream within the heavily modified Puhinui catchment. Much of the upstream network flows through commercial and residential areas, with the upper reaches constrained within concrete-lined, unvegetated channels. This reflects a high degree of hydrological and habitat alteration.</p> <p>SEV scores in the Puhinui catchment range from 0.446 (S02) to 0.681 (S12), corresponding to ecological condition categories from Fair to Good. Higher scores generally occur within the Puhinui catchment, indicating areas of relatively intact stream function and habitat quality.</p> <p>This stream is assessed as being of moderate ecological value. Instream habitat and riparian features have been substantially affected by human activities. Its overall SEV score is 0.667 (Good) with fish and macroinvertebrate communities showing partial similarity to expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.60. There is no available upstream fish habitat.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p> | <p>Assuming the worst-case scenario, fish passage may be temporarily impeded during construction.</p> <p>Temporary effects on fish passage will be managed through the implementation of the NFCRP (<b>Appendix C9</b> of the SAR), which sets out the framework for managing the effects of accidental injury or mortality of native fish within impacted streams during construction of the Project.</p> |
| S04 – Puhinui catchment                                                                                                                                |                                                                 |                                                       |                                                                                                                                                                                                                  |                                                      |                     |                                                                                                                                                                                                                                                                                                                                                       | <p>The following freshwater species are present or are assumed to be present:</p> <ul style="list-style-type: none"> <li>Cran's bully (AR-NU, Low Value);</li> <li>Redfin bully (AR-NU, Low Value);</li> <li>Tuna hinahina/shortfin eel (NT, Low Value);</li> <li>Tuna kuwharuwharu / longfin eel (AR-D, High Value);</li> <li>Kākahi (AR-D, High Value); and</li> </ul>                                                                                                                                                          | <p>This is an intermittent stream within the heavily modified Puhinui catchment, which has undergone a high degree of hydrological and habitat alteration. SEV scores in the Puhinui catchment range from 0.446 (S02) to 0.681 (S12), corresponding to ecological condition categories from Fair to Good</p> <p>The stream is assessed as being of moderate ecological value. Instream habitat and riparian features have been affected by human activities. Its</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                            |

<sup>3</sup> For the purposes of this application, the potential steam ecological value has been used as set out in the Freshwater Ecology Assessment.

|                                 |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|---------------------------------|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                 |  |  | <ul style="list-style-type: none"><li>• Kōura/ freshwater crayfish (NT, Low Value).</li></ul> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>overall SEV score is 0.539 (Fair) with fish and macroinvertebrate communities showing partial similarity to expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.72. There is no available upstream fish habitat.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| <b>S05 - Puhinui catchment</b>  |  |  | <p>The following freshwater species are present or are assumed to be present:</p> <ul style="list-style-type: none"><li>• Cran's bully (AR-NU, Low Value);</li><li>• Redfin bully (AR-NU, Low Value);</li><li>• Tuna hinahina/shortfin eel (NT, Low Value);</li><li>• Tuna kuwharuwharu / longfin eel (AR-D, High Value);</li><li>• Kākahi (AR-D, High Value); and</li><li>• Kōura/ freshwater crayfish (NT, Low Value).</li></ul> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p>                                                                                              | <p>This is an intermittent stream within the heavily modified Puhinui catchment, with a high degree of hydrological and habitat alteration.</p> <p>Stream S05 is of moderate ecological value. Instream habitat and riparian features have been affected by human activities. Its overall SEV score is 0.568 (Fair) with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.73. There is no available upstream fish habitat.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                                                                                 |  |
| <b>DS04 - Puhinui catchment</b> |  |  | <p>The following freshwater species are present or are assumed to be present:</p> <ul style="list-style-type: none"><li>• Cran's bully (AR-NU, Low Value);</li><li>• Redfin bully (AR-NU, Low Value);</li><li>• Tuna kuwharuwharu / longfin eel (AR-D, High Value);</li><li>• Kākahi (AR-D, High Value); and</li><li>• Kōura/ freshwater crayfish (NT, Low Value).</li></ul> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                    | <p>This is an intermittent stream within the heavily modified Puhinui catchment, with a high degree of hydrological and habitat alteration.</p> <p>The stream is assessed as being of moderate ecological value and is located within Puhinui Gully / Watercare Bush SEA (SEA_T_4570). Instream habitat and riparian features have been affected by human activities. However, headwater streams located within an SEA are a moderately rare habitat within the sub catchment.</p> <p>The SEV score of this stream is 0.678 (Good), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.58. There is no available upstream fish habitat.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p> |  |
| <b>S13 – Puhinui catchment</b>  |  |  | <p>The following freshwater species are present or are assumed to be present:</p> <ul style="list-style-type: none"><li>• Common bully (NT, Low Value);</li><li>• Kōkopu / banded kokopu (AR-NU, Low Value);</li><li>• Cran's bully (AR-NU, Low Value);</li><li>• Redfin bully (AR-NU, Low Value);</li><li>• Tuna hinahina/shortfin eel (NT, Low Value);</li><li>• Tuna kuwharuwharu / longfin eel (AR-D, High Value);</li><li>• Kākahi (AR-D, High Value); and</li><li>• Kōura/ freshwater crayfish (NT, Low Value).</li></ul> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p> | <p>This is an intermittent stream within the heavily modified Puhinui catchment.</p> <p>This stream has high ecological value, is relatively uncommon within the district and is located within the Puhinui Gully SEA (SEA_T_4570). Instream habitat is largely intact; however, riparian features and water quality have been affected by human activities.</p> <p>The stream has a SEV score of 0.596 (Fair), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.49.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                                  |  |

|                                  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|----------------------------------|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>S12 – Puhinui catchment</b>   |  |  | <p>The following freshwater species are present or are assumed to be present:</p> <ul style="list-style-type: none"><li>• Kōkopu / banded kokopu (AR-NU, Low Value);</li><li>• Tuna hinahina/shortfin eel (NT, Low Value);</li><li>• Cran's bully (AR-NU, Low Value);</li><li>• Redfin bully (AR-NU, Low Value);</li><li>• Tuna kuwharuwharu / longfin eel (AR-D, High Value); and</li><li>• Kōura/ freshwater crayfish (NT, Low Value).</li></ul> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p> | <p>This is a permanent stream within the heavily modified Puhinui catchment.</p> <p>The stream has a high ecological value and is located within the Puhinui Gully SEA (SEA_T_4570). Instream habitat is largely intact; however, riparian features and water quality have been affected by human activities. This stream type is relatively uncommon within the district.</p> <p>It has a SEV score of 0.681 (Good), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.85.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                |  |
| <b>DS05 – Papakura catchment</b> |  |  | <p>No freshwater species have been identified or are assumed to be present.</p> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                                                                                                                                                                                                                                    | <p>This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment. SEV scores in the Papakura catchment range from 0.333 (S19 and S21) to 0.740 (S12), corresponding to ecological condition categories from Poor to Good</p> <p>The stream is of low ecological value. Instream habitat and riparian features have been significantly altered by human activities, due to location within a pastoral landscape.</p> <p>The SEV score is 0.349 (Poor) and fish and macroinvertebrate communities show only partial similarity to the expected assemblages for these stream types.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p> |  |
| <b>S17 – Papakura catchment</b>  |  |  | <p>No freshwater species have been identified or are assumed to be present.</p> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                                                                                                                                                                                                                                    | <p>This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment.</p> <p>The stream is of low ecological value and the stream type is relatively common within the district. Instream habitat and riparian features have been significantly altered by human activities, due to location within a pastoral landscape.</p> <p>The SEV score is 0.334 (Poor), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.30.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p>               |  |
| <b>S20 – Papakura catchment</b>  |  |  | <p>The following freshwater species is present or assumed to be present:</p> <ul style="list-style-type: none"><li>• Tuna hinahina/shortfin eel (NT, Low Value).</li></ul> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                                                                                                                                         | <p>This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment.</p> <p>The stream is of low ecological value and the stream type is relatively common within the district. Instream habitat and riparian features have been</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |

|                          |  |  |  |  |  |  |  |                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|--------------------------|--|--|--|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                          |  |  |  |  |  |  |  |                                                                                                                                                                                      | <p>significantly altered by human activities, due to location within a pastoral landscape.</p> <p>The SEV score is 0.411 (Fair), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.38.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p>                                                                                                                                                                                                                                                                                                                                |  |
| S21 – Papakura catchment |  |  |  |  |  |  |  | <p>No freshwater species have been identified or are assumed to be present.</p> <p>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.</p> | <p>This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment.</p> <p>The stream is of low ecological value and the stream type is relatively common within the district. Instream habitat and riparian features have been significantly altered by human activities, due to location within a pastoral landscape.</p> <p>The SEV score is 0.333 (Poor), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types.</p> <p>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.</p> |  |

**Table 5-3 Information required for standard freshwater fisheries activities (Schedule 5, Clause 9) - A culvert or ford that could impede but not permanently block fish passage**

| Culverts or fords that could impede but not permanently block fish passage (approval not required – information only) |                               |                                                                                                                                                                                                           |                                                       |                                                    |               |                                                      |                     |                           |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|---------------|------------------------------------------------------|---------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Structure or fish facility name / reference                                                                           | Waterbody                     | Clause 3(a) in relation to the structure and any fish facility:<br><br>*refer Drainage Details Drawings, sheet numbers 60755376-SH-DR-0505 to 60755376-SH-DR-0508 for indicative structure design details |                                                       |                                                    |               |                                                      |                     |                           | Clause 3(b): The freshwater species and values present <sup>4</sup><br><br>*NT – Not Threatened                                                                               | Clause 3(c): The water quality and quantity in the surrounding habitat (at the proposed structure location, upstream and downstream)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Clause 3(d): How the passage of fish will be provided for or impeded                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|                                                                                                                       |                               | (i) Type of structure or fish facility                                                                                                                                                                    | (ii) The dimensions of the structure or fish facility | (iii) The design of the structure or fish facility |               | (iv) The placement of the structure or fish facility | (v) The water flows | (vi) The operating regime |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|                                                                                                                       |                               |                                                                                                                                                                                                           |                                                       | Slope (%)                                          | Culvert Shape |                                                      |                     |                           |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| MM04A                                                                                                                 | Papakura catchment<br><br>S17 | Culvert                                                                                                                                                                                                   | 0.5 x 6m<br><br>41m length                            | 3.8                                                | Box           | Laid parallel to the slope of the stream bed         | Intermittent stream | Permanent structure       | No freshwater species have been identified or are assumed to be present.<br><br>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail. | This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment. SEV scores in the Papakura catchment range from 0.333 (S19 and S21) to 0.740 (S12), corresponding to ecological condition categories from Poor to Good<br><br>The stream is of low ecological value and the stream type is relatively common within the district. Instream habitat and riparian features have been significantly altered by human activities, due to location within a pastoral landscape.<br><br>The SEV score is 0.334 (Poor), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.30.<br><br>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail. | The culverts incorporate spoiler baffles (or spat ropes) to provide low-velocity flow pathways and refuge areas for fish moving through the structures. These features provide for low-velocity flow conditions within the culvert, enabling the continued upstream and downstream passage of fish. The culverts have been designed in accordance with the New Zealand Fish Passage Guidelines.<br><br>Refer to typical baffle layout in Drawing 60755378-SHRT-DR-0506 in <b>Appendix H1</b> . |  |

<sup>4</sup> For the purposes of this application, the potential stream ecological value has been used as set out in the Freshwater Ecology Assessment.

|              |                           |         |                         |     |     |                                              |                     |                     |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>MM04B</b> | Papakura catchment<br>S18 | Culvert | 1m x 5m<br>16m length   | 4.0 | Box | Laid parallel to the slope of the stream bed | Intermittent stream | Permanent structure | No freshwater species have been identified or are assumed to be present.<br><br>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.                                                                                     | This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment.<br><br>The stream is of low ecological value and the stream type is relatively common within the district. Instream habitat and riparian features have been significantly altered by human activities, due to location within a pastoral landscape.<br><br>The SEV score is 0.334 (Poor), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types.<br><br>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>MM05</b>  | Papakura catchment<br>S21 | Culvert | 1m x 8m<br>60m length   | 1.3 | Box | Laid parallel to the slope of the stream bed | Intermittent stream | Permanent structure | No freshwater species have been identified or are assumed to be present.<br><br>Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.                                                                                     | This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment.<br><br>The stream is of low ecological value and the stream type is relatively common within the district. Instream habitat and riparian features have been significantly altered by human activities, due to location within a pastoral landscape.<br><br>The SEV score is 0.333 (Poor), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types.<br><br>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail.                                                                        | The culverts are designed as embedded culverts, with natural stream bed material placed over geotextile-lined base (as required) to replicate the existing stream channel through the structure. The embedded design maintains a natural substrate and low-velocity flow conditions within the culverts, enabling the continued upstream and downstream passage of fish. The culverts have been designed in accordance with the with New Zealand Fish Passage Guidelines. |
| <b>MM06</b>  | Papakura catchment<br>S20 | Culvert | 1m x 8m<br>35m length   | 2.7 | Box | Laid parallel to the slope of the stream bed | Intermittent stream | Permanent structure | The following freshwater species is present or assumed to be present: <ul style="list-style-type: none"> <li>Tuna hinahina/shortfin eel (NT, Low Value)</li> </ul> Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail.  | This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment.<br><br>The stream is of low ecological value and the stream type is relatively common within the district. Instream habitat and riparian features have been significantly altered by human activities, due to location within a pastoral landscape.<br><br>The SEV score is 0.411 (Fair), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types. The stream has a natural flow regime (hydraulic function) SEV of 0.38.<br><br>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail. | Refer to typical embedded fish passage culvert layout in Drawing 60755378-SHRT-DR-0505 in <b>Appendix H1</b> .                                                                                                                                                                                                                                                                                                                                                            |
| <b>MM10</b>  | Papakura catchment<br>S22 | Culvert | 0.5m x.4m<br>35m length | 1.1 | Box | Laid parallel to the slope of the stream bed | Intermittent stream | Permanent structure | The following freshwater species is present or assumed to be present: <ul style="list-style-type: none"> <li>Tuna hinahina/shortfin eel (NT, Low Value);</li> </ul> Refer to Section 3.3.2 and Table 3-2 of the Freshwater Ecology Assessment for further detail. | This is an intermittent stream within the Papakura catchment. The upper catchment is modified with streams degraded due to the predominantly rural land use. The lower catchment transitions to a more highly modified urban environment.<br><br>The stream is of low ecological value and the stream type is relatively common within the district. Instream habitat and riparian features have been significantly altered by human activities, due to location within a pastoral landscape.<br><br>The SEV score is 0.439 (Fair), with fish and macroinvertebrate communities showing only partial similarity to the expected assemblages for these stream types.<br><br>Refer to Section 3.3.3, Table 3-4 and Appendix E (Freshwater Ecology Results) of the Freshwater Ecology Assessment for further detail                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## 6. ASSESSMENT

In considering NZTA's application for complex freshwater fisheries activity approval, the panel must take into account, giving the greatest weight to (a):<sup>5</sup>

- (a) *The purpose of the FTAA*
- (b) *The alignment of the proposed activity with best practice and the New Zealand Fish Passage Guidelines; and*
- (c) *How the proposed activity will manage risks to freshwater values or habitat, including prevention of access to or spread of invasive species; and*
- (d) *The availability and quality of the habitat upstream and downstream of the proposed activity; and*
- (e) *The presence of threatened, data-deficient, or at-risk species under the New Zealand Threat Classification System in the vicinity of the proposed activity; and*
- (f) *The advantages and disadvantages of providing fish passage upstream or downstream of the proposed activity.*

**Table 6-1** sets out an assessment of these matters.

**Table 6-1: Assessment against the criteria for applications for complex freshwater fisheries activity approval**

| Clause 5(1) Schedule 9                                                                                                                           | Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) The purpose of the FTAA                                                                                                                      | Approval of the complex freshwater fisheries activities will facilitate the delivery of the Project, which has significant regional and national benefits, as addressed in Part B of this SAR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| (b) The alignment of the proposed activity with best practice and the New Zealand Fish Passage Guidelines                                        | <p>Where fish passage is to be provided, all culverts and associated riprap and aprons have been indicatively designed in accordance with the New Zealand Fish Passage Guidelines to maintain existing fish passage. Any subsequent design refinements will be required to meet these guidelines.</p> <p>An exception applies to four culverts located within intermittent streams in the transitional zone between the ephemeral and intermittent streams. In these locations, the culverts have not been designed for fish passage as no suitable upstream fish habitat is present.</p> <p>Assuming the worst-case scenario, fish passage may also be temporarily impeded during construction of culverts, stream structures and stream diversions. Notwithstanding this, temporary effects on fish passage will be managed through the implementation of the NFCRP, which sets out the framework for managing the effects of accidental injury or mortality of native fish within impacted streams during construction of the Project.</p>                |
| (c) How the proposed activity will manage risks to freshwater values or habitat, including prevention of access to or spread of invasive species | <p>To manage the risks of the proposed complex freshwater fisheries activities to freshwater values and habitats, the following management plans have been prepared for the Project:</p> <ul style="list-style-type: none"> <li>• <b>NFCRP (see Appendix C9):</b> The objective of the NFCRP is to reduce injury and mortality of native fish within impacted streams and wetlands during construction of the Project. The plan also addresses the euthanising of any inadvertently captured pest or invasive fish species and states controls around the use of equipment to prevent the spread of exotic freshwater clams (see Sections 4.7 and 4.8 of the NFCRP).</li> <li>• <b>FMP (see Appendix C8):</b> The objective of the FMP is to, as far as practicable, manage residual adverse effects on streams, wetlands, and freshwater ecological values associated with construction of the Project. This includes specific measures relating to fish relocation (refer below), habitat creation and works occurring in proximity to streams.</li> </ul> |

<sup>5</sup> Schedule 9, clause 5 FTAA

| Clause 5(1) Schedule 9                                                                                                                                         | Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (d) The availability and quality of the habitat upstream and downstream of the proposed activity                                                               | The availability (quantity) and quality of the upstream and downstream habitat at each activity location is covered in <b>Table 5-1</b> , <b>Table 5-2</b> and <b>Table 5-3</b> .<br>Table 3-4 of the Freshwater Ecology Assessment also sets out the ecological values and existing features of the streams within the Project area.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| (e) The presence of threatened, data-deficient, or at-risk species under the New Zealand Threat Classification System in the vicinity of the proposed activity | No threatened or data-deficient species have been identified as present within the vicinity of the proposed activities.<br>At-risk species identified as present or assumed to be present within the vicinity of the proposed activities are kākahi and tuna kūwharuwharu (longfin eel).<br>Freshwater species and values are described in Section 3 of Freshwater Ecology Assessment and are also listed in the tables above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (f) The advantages and disadvantages of providing fish passage upstream or downstream of the proposed activity                                                 | Due to the location of four culverts at the headwaters of their respective intermittent streams and their position within the transitional zone between ephemeral and intermittent stream environments, there is no suitable fish habitat upstream of these structures. Accordingly, there are no advantages in providing fish passage at these culverts.<br><br>For the temporary stream diversions required to facilitate construction of culverts or permanent diversions, the disadvantages include a temporary impediment to fish passage and the potential need for increased fish salvage and relocation efforts.<br><br>Given the temporary nature of these works and the expectation that implementation of the NFCRP will adequately manage potential effects on native fish arising from this temporary impediment, there is no advantage in establishing fish passage during the construction period. |

## 7. PROPOSED CONDITIONS

A panel may impose conditions on an approval that the panel considers necessary to manage the effects of the activity on freshwater fish species, taking into account<sup>6</sup>:

- (a) *Best practice standards; and*
- (b) *The New Zealand Fish Passage Guidelines.*

No separate conditions are proposed for the complex freshwater fisheries activities approval.

The actual and potential effects of the freshwater fisheries activities will be managed through the proposed regional resource consent conditions, including Condition 1, which requires works to be undertaken in accordance with the relevant management plans, and the specific conditions that address streamworks (**Appendix G2**). The FMP, NFCRP and ESCP, along with the Site Specific ESCPs required by proposed Condition 4 address instream works such as damming and diversion, fish salvage and relocations, and management of discharges during earthworks and streamworks.

The proposed regional consent conditions and relevant management plans provide an appropriate framework for avoiding, minimising and managing the effects of the complex freshwater fisheries activities on freshwater fish species, in line with best practice standards and relevant guidelines.

<sup>6</sup> FTAA Schedule 9 Clause 6