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## WWUP Governance Group

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### 1. Introduction

The Governance Group has been advised in detail over the last year and a half nearly of the WWUP Prefeasibility investigations conducted on the 6 possible scheme options.

This report brings together all the elements of those investigations as a set of conclusions most recently informed by:

- Recommendations by the project's lead engineers on the technical/financial aspects
- The outcomes from the multi-criteria analysis
- Recent feedback from the WWUP Stakeholder Advisory Group

It then makes recommendations on how the project could progress.

### 2. The Decision-Making Process

The process used to decide which scheme(s) go through to full feasibility must clearly demonstrate to both the Governance Group and eventually the Environment Court the logical sequence used to decide what schemes are selected based on the investigation findings. Therefore, the process must be totally transparent and rational.

To date the process has been about bringing many elements of information together eventually resulting in the MCA table – a means of representing how the schemes compare with each other.

As a result of the Prefeasibility investigation findings:

- No schemes were discounted as no fatal flaws were identified
- and
- All schemes remain potentially feasible based on the information to date

Therefore, at least one scheme will proceed through to the full Feasibility phase investigations. That being the case, selection of the most favourable scheme is therefore first stage of the decision-making process, followed by the next most favourable scheme based on the schemes that are left to choose from, etc.

The table below outlines the range of scenarios if any one of the schemes (on the left) is the most favourable scheme e.g. **if Te Mara was the most favourable scheme**, then its command area would:

- completely overlap with Wakamoekau
- partially overlap with Black Creek & Mangatarere
- no overlap with Tividale, White Rock Rd and Te Mara

<b>If a scheme below is the most favoured i.e. selected first</b>	<b>Schemes with totally 'overlapping' command areas</b>	<b>Schemes with partially 'overlapping' command areas</b>	<b>Schemes with no 'overlapping' command areas</b>
<b>Tividale</b>	No other schemes	None	All other schemes
<b>White Rock Rd</b>	No other schemes	None	All other schemes
<b>Te Mara</b>	Wakamoekau (as a 'standalone' scheme)	Black Creek & Mangatarere	Tividale, White Rock Road
<b>Wakamoekau</b> (as a 'standalone' scheme)	Te Mara	Black Creek & Mangatarere	Tividale & White Rock Road
<b>Black Creek</b> (incorporating Wakamoekau)	Te Mara, Wakamoekau (as a 'standalone' scheme), & Mangatarere	That part of Black Creek that comprises Wakamoekau	Tividale & White Rock Road
<b>Mangatarere</b>	No other schemes	Te Mara, Wakamoekau & Black Creek	Tividale & White Rock Road

### 3. Engineering Recommendations

For completeness, so the Governance Group is aware of the technical conclusions, an extract is included below which are the recommendations section of Tonkin & Taylor's (T&T) engineering report - it summarises the lead engineer's perspective on the complex technical and cost components.

Note this extract does not include any consideration of the social, environmental or cultural themes. Note also, scheme names highlighted in bold where they are mentioned in the T&T recommendations.

“The MCA scores for financial favourability, opportunities for savings and risks for cost increases and technical issues produced in this report comprise one component of the wider MCA process being coordinated by the WWUP Project Team. Inputs from other specialists, addressing environmental, financial, social and cultural themes, will be integrated with T&T's scores in the MCA. The resulting comparison of schemes (ranking) will provide an important input into decisions on what schemes should be studied during full Feasibility.

T&T has compared the six schemes by considering the financial, risk and opportunity scores presented in this report. The three sets of scores have been considered separately rather than numerically combining the scores into an overall ranking. Based on this comparison considering engineering aspects and cost, the following interim recommendations are provided, which will need to be reviewed in the wider MCA context integrating inputs from other specialists:

- Scheme 206 **Wakamoekau** appears to be the most promising scheme in terms of potentially advancing to full Feasibility.
- Scheme 215 **Mangatarere** and Scheme 210 **Black Creek** are the next most promising. Scheme 210 Black Creek is marginally more promising in terms of the financial and opportunities scores, but has a notably less favourable risk score than Scheme 215 **Mangatarere**.
- A staged programme of development could be considered with Scheme 206 **Wakamoekau** comprising Stage 1, and either the southern half of Scheme 210 **Black Creek** or Scheme 215 **Mangatarere** considered as Stage 2.
- Scheme 197 **Te Mara** is only moderately favourable in terms of financial scores, but has the most favourable risk and opportunity scores of any of the schemes and is only 10% more expensive than the highest ranked scheme in terms of \$/ha and 13% more expensive in terms of \$/m<sup>3</sup> supplied in a dry year. Potentially, a smaller scheme size could be considered that minimises the scheme's dependence on water harvesting from the Ruamahanga River and minimises overlap with the command areas of the schemes above.

- Scheme 10 **Tividale** and Scheme 135 **White Rock Road** appear to be the least promising of the schemes, though Scheme 10 Tividale is relatively favourable on a \$/ha (net area supplied) basis. (Scheme 10 Tividale is least favourable on the basis of \$/m<sup>3</sup> supplied in a dry year. This is because the annual water demand (\$/ha) in a drought year is expected to be notably lower for the Tividale scheme than the other five schemes.) However, these schemes cover independent command areas that for the most part do not overlap with the schemes above, and also have cost estimates within 6% (Tividale) and 24% (White Rock Road) of the highest ranked scheme in terms of \$/ha or 22% (Tividale) and 22% (White Rock Road) in terms of \$/m<sup>3</sup> supplied.
- Potentially, an alternative dam site for Scheme 135 **White Rock Road** could be considered 5 km upstream of the current location that would avoid the need and cost of realigning White Rock Road and the associated bridge. (This site was identified in previous reports as Site 142 **Makara** and described as a potential alternative for Site 135 White Rock Road that could potentially be free of limestone, though this would need to be confirmed by site inspection.) No further investigation of the alternative dam site has been undertaken during Prefeasibility, but preliminary indications from earlier WWUP phases suggest that the site may be relatively cost-effective in terms of dam embankment earthworks. The alternative site would involve a smaller scheme due to reduced water availability.
- Scheme 197 **Te Mara**, Scheme 10 **Tividale** and Scheme 135 **White Rock Road** could provide an essential component of the long-term plan for maximising the capacity of the Wairarapa Valley.”

Areas requiring further investigation have been identified throughout this report. These identified areas will need to be rationalised and prioritised into a scope of work for any schemes progressing to full Feasibility. Priority could be given to investigating any areas that could represent ‘fatal flaws’ to eliminate unfeasible schemes early in the full Feasibility programme. Priority could also be given to commencing collection of any data that requires a long period of record, for instance hydrometric data.”

With respect to scheme costs, T&T also concluded that:

“The lowest ranked scheme is 24% more expensive than the highest ranked scheme in terms of \$/ha and 22% more expensive in terms of \$/m<sup>3</sup> supplied in a dry year. This is a relatively small difference when considered against the uncertainty range [of 45%] in the cost estimates. This indicates that all six schemes are in a similar range in terms of overall affordability.”

#### 4. Multi-criteria analysis derived conclusions

The table below depicts the overall scheme rankings for each of the four themes based on the specified theme weightings. As previously advised, a sensitivity test was conducted on each of the themes to understand the sensitivity of the weightings and identify the most appropriate.

<b>Combined Themes MCA Rankings</b> <i>Weightings are based on Options Refinement MCA pre-sensitivity testing weighting</i>	<b>Theme weightings</b>	10 - Tiviale	135 - White Rock Road	197 - Te Mara	206 - Wakamoekau**	210 - Black Creek*	215 - Mangatarere
<b>Financial</b>	70%	3.0	1.0	3.0	5.0	4.0	4.0
<b>Social</b>	10%	4.0	3.0	5.0	5.0	2.0	1.0
<b>Environmental</b>	10%	1.0	3.0	3.0	5.0	4.0	1.0
<b>Cultural</b>	10%	3.5	4.0	1.0	5.0	5.0	4.0
<b>Raw Combined Score</b>		3.2	1.7	3.0	5.0	3.9	3.4
<b>MCA Ranking</b>		2	1	2	5	4	3

\*Black Creek includes Wakamoekau

\*\*Wakamoekau is a subset of Black Creek but can also stand alone

#### Note:

- A ranking of 5 denotes the ‘most favourable’ scheme
- A ranking of 1 denotes the ‘least favourable’ scheme

Based on the multi-criteria analysis results above (and the sub-theme MCA information which supports this), the following conclusions are drawn in terms of what scheme(s) could be advanced to the Feasibility phase:

- **Wakamoekau** (as a ‘standalone’ scheme) is clearly the ‘most favourable’ scheme, in addition to being top ranking for all subthemes
- **Black Creek** is second ranked and when ranked alongside Wakamoekau, a significant portion of which coincides with Black Creek, they ‘share’ many features apart from their social rankings due to scale differences.
- Of the 2 schemes that don’t overlap with Black Creek (incorporating Wakamoekau), **Tiviale** is the next most favourable which also has the most favourable regional economics and farmer uptake.
- The **Te Mara** (and its self-filling sub-option) or **Mangatarere** schemes are not selected because they are both supplied with water from Black Creek scheme (incorporating Wakamoekau)
- Compared with the other schemes, **White Rock Road** is the least favourable scheme

## 5. Stakeholder Advisory Group meeting feedback

Considerable feedback was provided by the Stakeholder Advisory Group from their Thursday 28 May meeting which is highly relevant to the scheme selection process.

The following provides a sample of the viewpoints demonstrating a reasonable level of consensus as to how many and which schemes should be selected to advance to the Feasibility phase.

- *Pick schemes with greatest area potential*
- *Don't make decision based on budget, but on desired outcome. Borrow more if necessary*
- *Choose two options that work together, not overlap*
- *Tividale is good apart from costs – what if the costs are wrong?*
- *Especially favour farmer uptake for Tividale*
- *Must decide on future regional economic potential*
- *[Select] Black Creek and Tividale*
- *Try and achieve outcomes/benefits from one site to concentrate negatives in one place*
- *Bring in Tividale to get valley-wide coverage*
- *Flexibility of command areas is important*
- *Like the staged scheme [Black Creek and Wakamoekau]*
- *Likes Black Creek recreation benefits/opportunities*
- *Ability to pay [for investigations] shouldn't limit second scheme; regional and community benefits*
- *Happy with discussion around the table contingent on consent conditions*
- *Black Creek largest area and best – no brainer*
- *Not a large difference in costs*
- *Need to understand environmental issues of large scale schemes*

In summary, based on the feedback received from the Stakeholder Advisory Group there was broad consensus that the Black Creek scheme (incorporating Wakamoekau) should be advanced to feasibility as should the Tividale scheme.

## 6. Concluding comments

### Reserve Schemes

It should be noted that no investigations were conducted during the Prefeasibility period on the 3 schemes (Martinborough South, Kiriwhakapapa and Te Ore Ore) held in 'reserve' as no 'fatal' flaws were found on the 6 'priority' prefeasibility schemes. For this reason, it is concluded that Martinborough South, Kiriwhakapapa and Te Ore Ore schemes should be discounted from further consideration by the WWUP.

### Feasibility Investigations

By the end of the next phase the project needs to determine whether the scheme(s) are worthy of applying for resource consent i.e. are they feasible?

The feasibility investigations will include refinement, optimisation and consideration of those elements with the most significant risks and opportunities such as, but not necessarily limited to:

- Nutrient 'headroom' / land use intensification scenario modelling inputs
- Cost savings identified by value engineering process
- Landowner engagement and other social issues
- Cultural values and interests
- Development of a consent strategy
- Development of a procurement strategy
- Ecological values
- Assumptions and criteria for the selected scheme(s)
- Uptake identification
- Commercial framework options

The exact scope of the feasibility investigations will be scoped in the next few weeks with experts in their respective professional fields, prioritised and then shared with the Governance Group. Again, the project will be looking for fatal flaws to the extent that investigations on a particular scheme may be discontinued.

In reality, 'unscheduled' issues will arise that it is subsequently determined will need to be investigated to determine scheme feasibility. It is expected that the feasibility phase will take up to 18 months to complete.

## **7. Recommendation**

*That the WWUP Governance Group:*

- 1. **Receives** the report*
- 2. **Notes** the contents*
- 3. **Endorses** the following schemes be advanced to feasibility phase investigations:*
  - a) Black Creek (Scheme 210), incorporating Wakamoekau (Scheme 206)*
  - b) Tividale (Scheme 10)*
- 4. **Endorses** the following prefeasibility phase schemes be discounted from further consideration by the Wairarapa Water Use Project:*
  - a) White Rock Road (Scheme 135)*
  - b) Te Mara (Scheme 197)*
  - c) Mangatarere (Scheme 215)*
- 5. **Endorses** the following prefeasibility phase 'reserve' schemes be discounted from further consideration by the Wairarapa Water Use Project:*
  - a) Martinborough South,*
  - b) Kiriwhakapapa*
  - c) Te Ore Ore*
- 6. **Endorses** the scoping of the feasibility investigations and reporting back to the Governance Group once this information has been assembled.*

Report prepared by:

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Project Director

### **Note:**

***The above recommendations were carried at the 4 June 2015 WWUP Governance Group meeting without amendment.***