



Wairoa Wastewater Scheme Stakeholder Group Meeting

Meeting 3 - 29 May 2017

INTRODUCTION



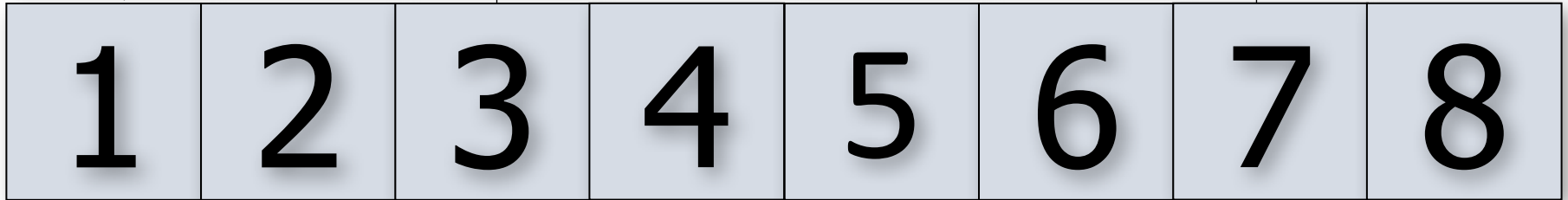
Outline

Introduction

Project Name

Options

Other Matters



1

2

3

4

5

6

7

8

Meeting 2 recap

Technical Reporting

Community Engagement

Administration

RECAP - MEETING 2



Recap

- Conscious of need to look at options, while also conscious of need to help people understand – balance
- Branding – to discuss
- Covered range of technical issues – Fact Sheets
- Discussed pillars to be considered when developing options: cultural, financial, social, environmental
- Discussed developing technically feasible and affordable options

Any corrections to notes

Details covered and questions

PROJECT NAME



Group name

Project name





TECHNICAL REPORTING – STRUCTURE AND REASONING

Reason

- Supports option development
- Supports engagement

Two phases

- Initial reporting – based on information known now
- Detailed reporting – based on decisions that are made

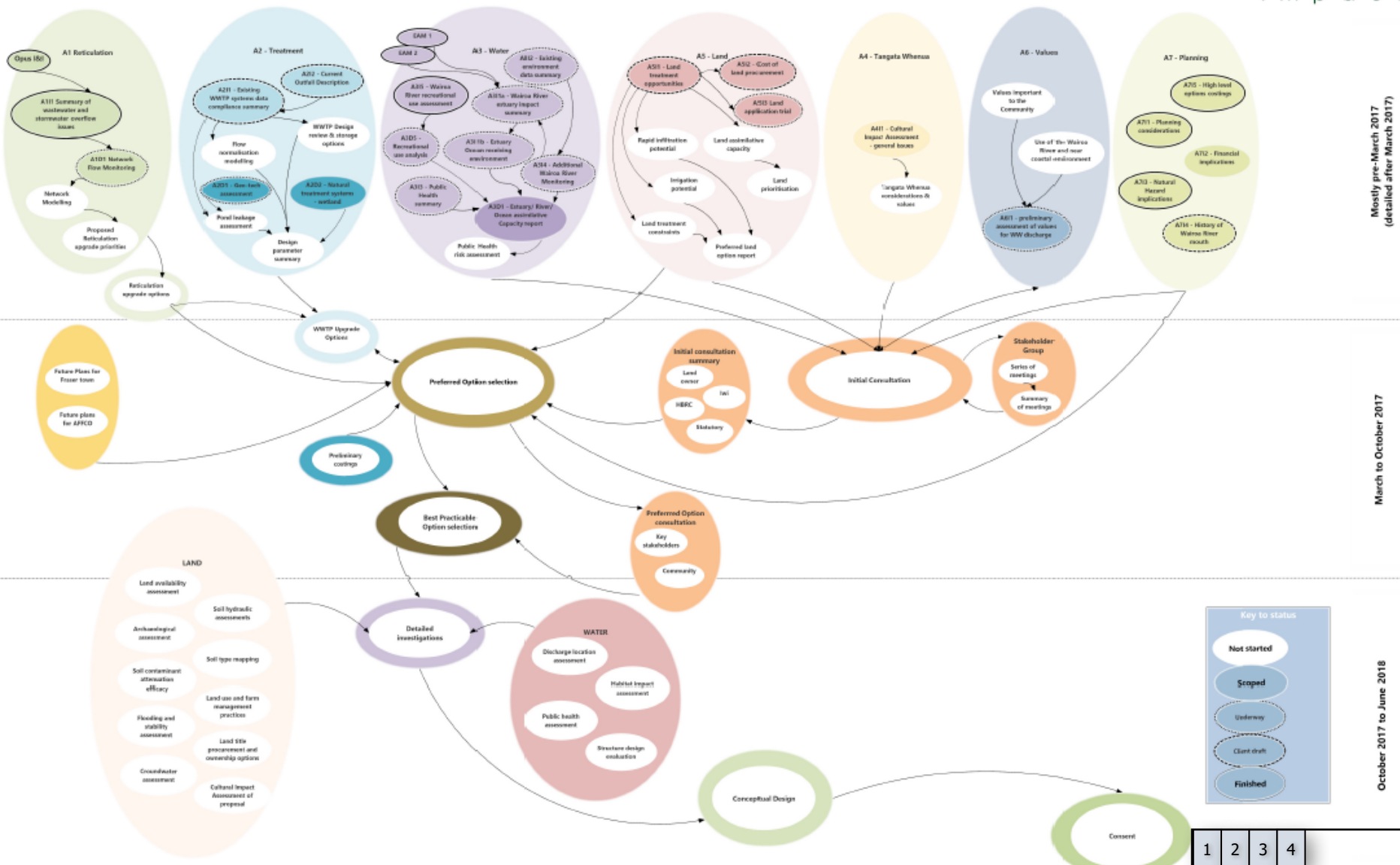
Grouped into like technical areas

- Reticulation, treatment, land, water, planning, tangata whenua, values

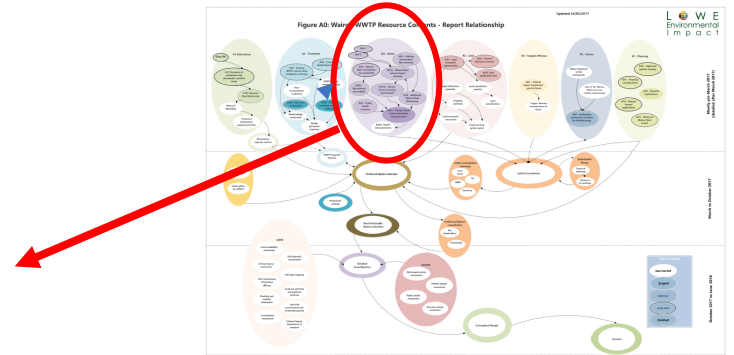
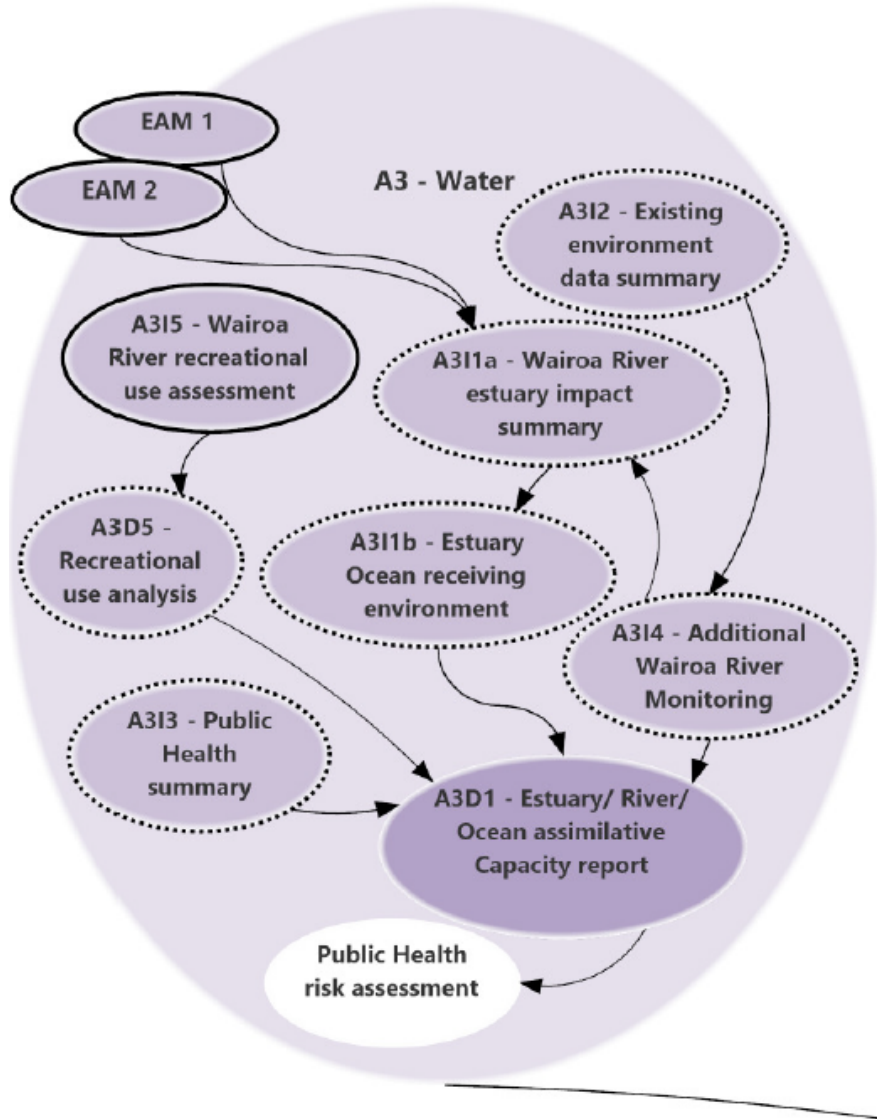


Updated 24/05/2017

Figure A0: Wairoa WWTP Resource Consents - Report Relationship



1	2	3	4
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TECHNICAL REPORTING – WHAT REPORTS



Reference	Task Name	Approved	Variation To Scope To Be Approved	New Scope To Be Approved	Completed
O1	Project Management	✓			
O2	Consultation Plan				✓
O3	Stakeholder Terms of Reference				✓
O4	Project Risk Assessment & Management	✓			
O5	Consultation			✓	
A111	Summary of wastewater and stormwater overflow issues				✓
A1D1	Network flow monitoring		✓		
A211	Existing WWTP system data & compliance summary	✓			
A212	Current outfall description				✓
A2D1	Geotech Assessment		✓		
A2D2	Natural Treatment – Constructed Wetland			✓	
A311a	Wairoa River Estuary Impact Summary				✓
A311b	Estuary/Ocean receiving environment		✓		
A3D1	Estuary/River/Ocean Assimilative Capacity			✓	
A312	Existing environment data summary		✓		
A313	Public Health Summary	✓			
A314	Additional Wairoa River Monitoring		✓		
A315	Recreational Use Assessment				✓
A3D5	Recreational Use Analysis			✓	
A411	Cultural Impact Assessment – General Issues	✓			
A511	Land Treatment Opportunities				✓
A512	Cost of Land Procurement				✓
A513	Land Application Trial			✓	
A611	Preliminary Assessment of Values for WW Discharges	✓			
A711	Planning Considerations				✓
A712	Financial Implications		✓		
A713	Natural hazard implications				✓
A714	History of Wairoa River Mouth				✓
A715	High Level Options and Costings				✓
A716	High Level Refined Discharge Option Costings			✓	

TECHNICAL REPORTING - SCOPES



A111 – Summary of wastewater and stormwater overflow issues

Date:	3 June 2016
Name:	Summary of wastewater and stormwater overflow issues.
Reference:	A111
Background:	The Wairoa wastewater treatment system requires a replacement consent by May 2019. The major consent non-compliance issue with the present system, and a major issue to be addressed in re-consenting, is the recurrence of wastewater overflows to the Wairoa River, from manholes and pump stations, during times of heavy rain and high river level.
Purpose:	To characterise the issue of uncontrolled overflows from the Wairoa municipal wastewater system in the light of available and existing information, and to recommend options to manage the issue.
What to Cover:	<ul style="list-style-type: none"> Information on the location, timing, preceding rainfall and river level in relation to overflow events; Information on the effects of overflows; Assessment of causes of overflows; Identification of priority actions required to reduce, and ultimately eliminate, the un-managed overflows; and Recommendation of a program of investigations to identify specific works requirements for the reduction of the overflows.
Exclusions:	<ul style="list-style-type: none"> Assessment of the Wairoa piped stormwater network.
Contributors:	LEI, WDC.
Project Manager:	HL
Who to Contact:	As needed
Who not to Contact:	Individual property owners.
Timing:	Started mid-2015; final report provided to Project Owner October 2015.
Costs:	
Type of Output:	Report and Recommendations.
Reference Material:	WDC asset information.
Status:	Completed.

TECHNICAL REPORTING - SUMMARY



Planning Report

- Need to consider options (BPO), need to address potential for land discharge, cultural matters, DoC considerations

Land Opportunities

- 5 zones of land, with limited highly suitable within 10 km for irrigation

Natural Hazards

- Potential for flooding and tsunamis.

Effects of current discharge

- No measurable impact in sediment or fauna around discharge

Public Health

- No effects attributed to current discharge

Community values

- Cultural and financial considerations ranked highest

TECHNICAL REPORTING – VALUES WORKSHOP



Discussed need to balance four pillars

- **Recreational**
- **Cultural**
- Financial
- **Environmental**

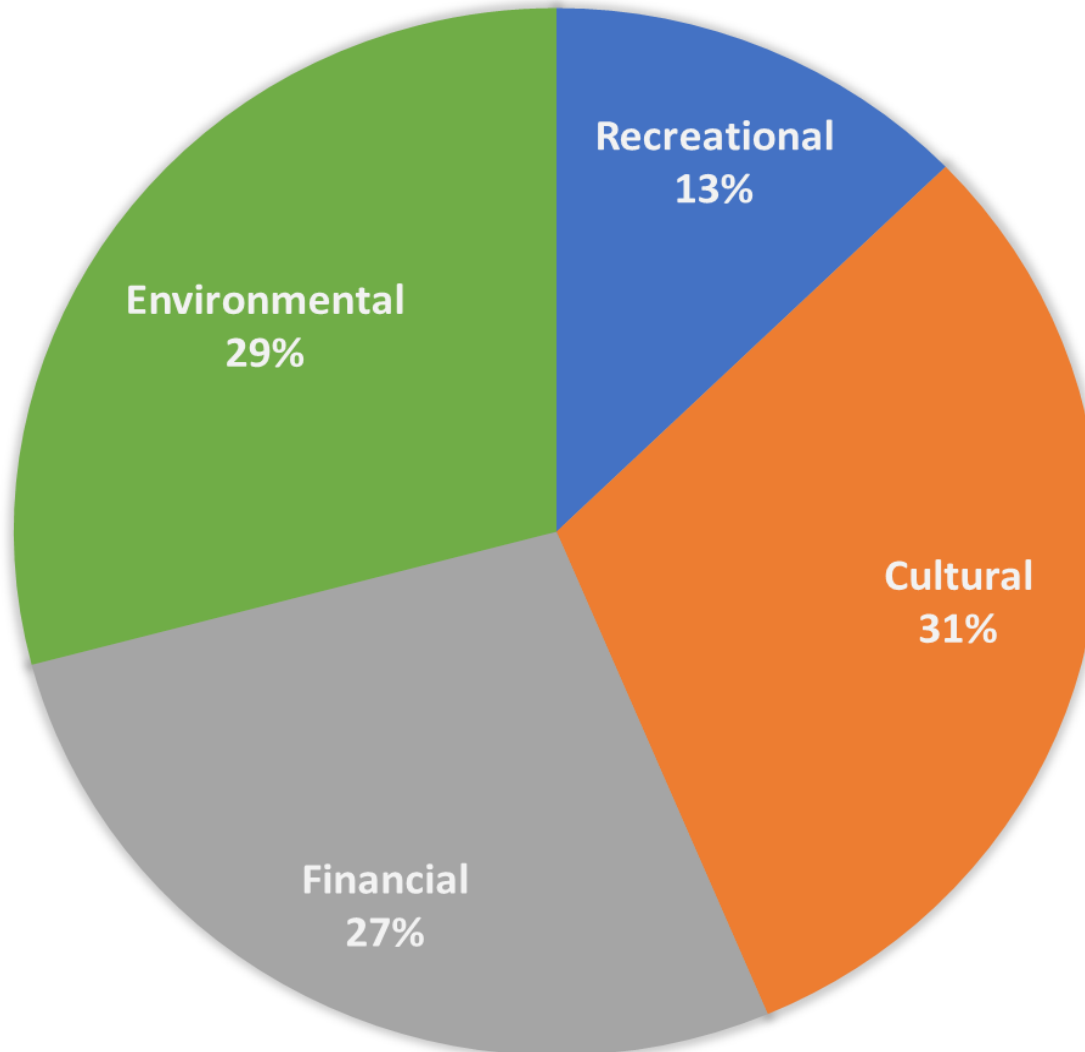
Group exercise

- Allowed identification of issues/what was important
- Provided a chance to 'vote' for what was important

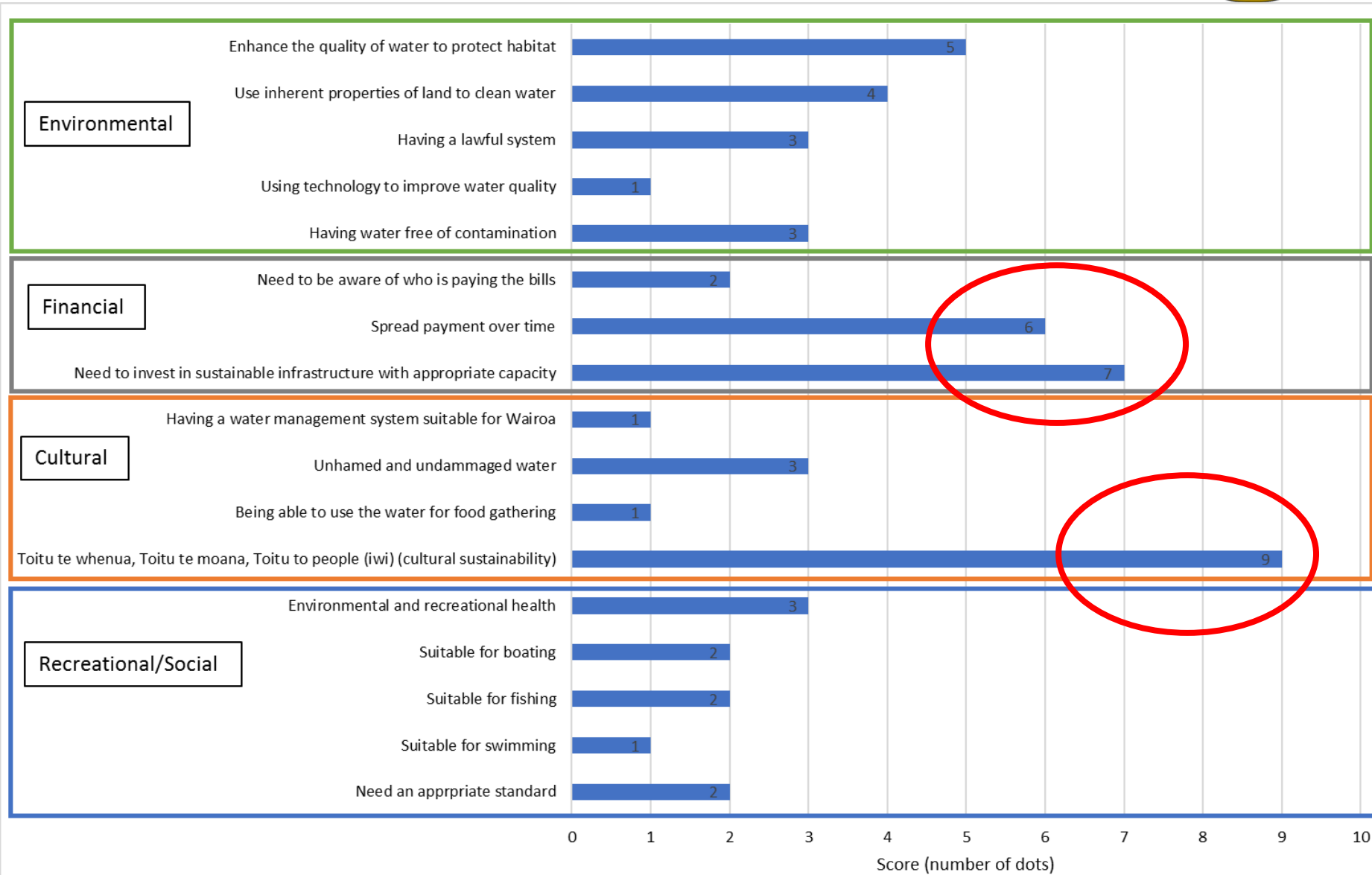
TECHNICAL REPORTING – VALUES WORKSHOP



RELATIVE IMPORTANCE OF PILLAR TO STAKEHOLDERS



TECHNICAL REPORTING – VALUES WORKSHOP



TECHNICAL REPORTING – VALUES WORKSHOP



Top four

- *Toitu te whenua, Toitu te moana, Toitu te iwi* - **Cultural**
- *Need to invest in sustainable infrastructure with appropriate capacity* - **Financial**
- *Spread the payment over time* - **Financial**
- *Enhance the quality of water to protect habitat* - **Environmental**

So what

- Representative of community?
- This information can be used to develop option selection process

MORNING TEA





OPTIONS – ARRIVING AT A BPO

Ultimately need to decide on a BPO

Need a selection criteria

Avoid pre-determination

4 pillars – assessment criteria

- Social
- Environmental
- Cultural
- Financial

Bottom lines

- Cost – how much is too much
- Cultural – what must happen



OPTIONS – FINANCIAL BOTTOM LINE

What we know

- 1,800 connections
- Likely to be loan funded (6 % interest)

What we need to know

- What increase in rates is affordable

What we will find out

- Money available to spend on project

OPTIONS – FINANCIAL BOTTOM LINE



Mortgage Calculator

User-Input Fields:

Loan Amount:	\$20,000,000.00
Interest Rate (%):	6.00%
Number of Years:	30
Number of Payments Per Year:	4
Start Date (optional):	01-Jan-2018

Fixed Calculations:

Scheduled Payment Amount:	\$360,370.40
Total No. Payments:	120
Total Payment Amount:	\$43,244,447.77
Total Interest Paid:	\$23,244,447.77
Date of Last Payment:	01-Jan-2048

Payment No.	Date	Start Balance	Payment Amount	Capital Paid	Interest Paid	Remaining Balance
1	01-Apr-2018	\$20,000,000.00	\$360,370.40	\$60,370.40	\$300,000.00	\$19,939,629.60
2	01-Jul-2018	\$19,939,629.60	\$360,370.40	\$61,275.95	\$299,094.44	\$19,878,353.65
3	01-Oct-2018	\$19,878,353.65	\$360,370.40	\$62,195.09	\$298,175.30	\$19,816,158.55
4	01-Jan-2019	\$19,816,158.55	\$360,370.40	\$63,128.02	\$297,242.38	\$19,753,030.53
5	01-Apr-2019	\$19,753,030.53	\$360,370.40	\$64,074.94	\$296,295.46	\$19,688,955.59
6	01-Jul-2019	\$19,688,955.59	\$360,370.40	\$65,036.06	\$295,334.33	\$19,623,919.53
7	01-Oct-2019	\$19,623,919.53	\$360,370.40	\$66,011.61	\$294,358.79	\$19,557,907.93
8	01-Jan-2020	\$19,557,907.93	\$360,370.40	\$67,001.78	\$293,368.62	\$19,490,906.15

OPTIONS – FINANCIAL BOTTOM LINE



OPTIONS – CULTURAL BOTTOM LINE



Land vs Water?

If land what drainage rate?

If water:

- Direct discharge?
- Some form of land passage?



OPTIONS – WHO DOING WHAT

WDC staff

- Reticulation and treatment
- Interconnected and relate to other council programmes

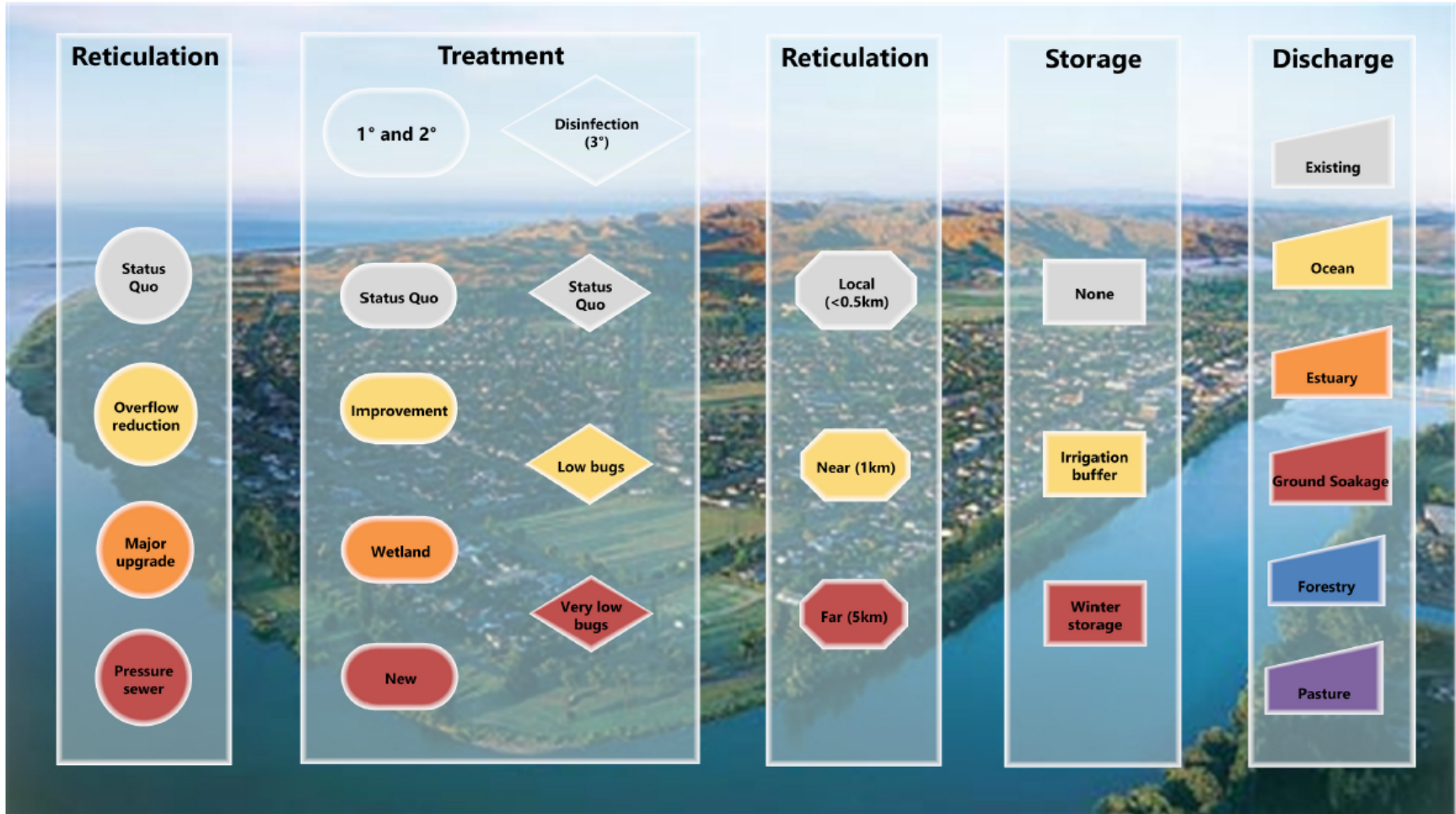
Community and WDC staff

- Discharge
 - Main discharge now
 - Pump station come back to

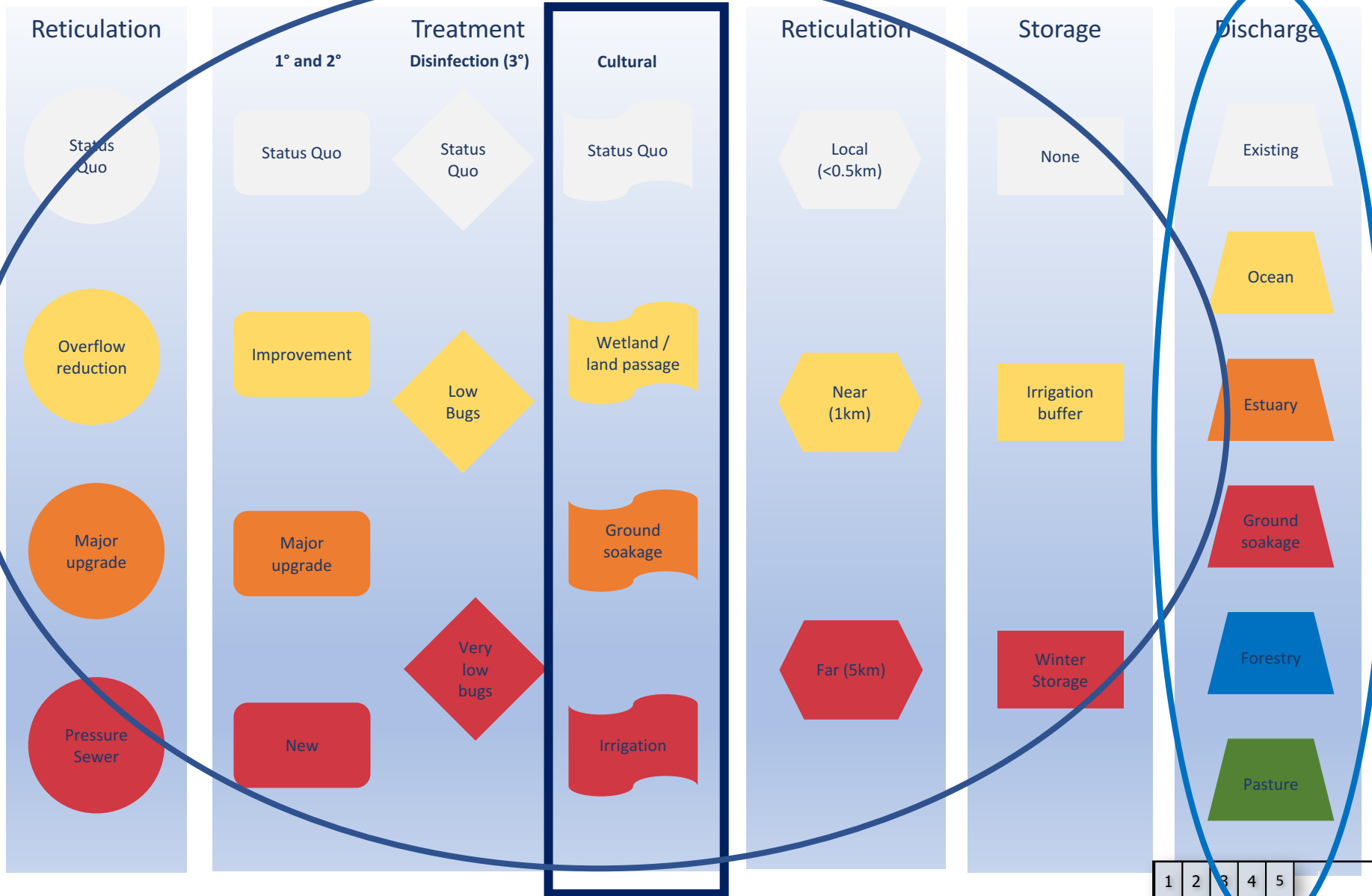
OPTIONS – MULTITUDE OF COMBINATIONS



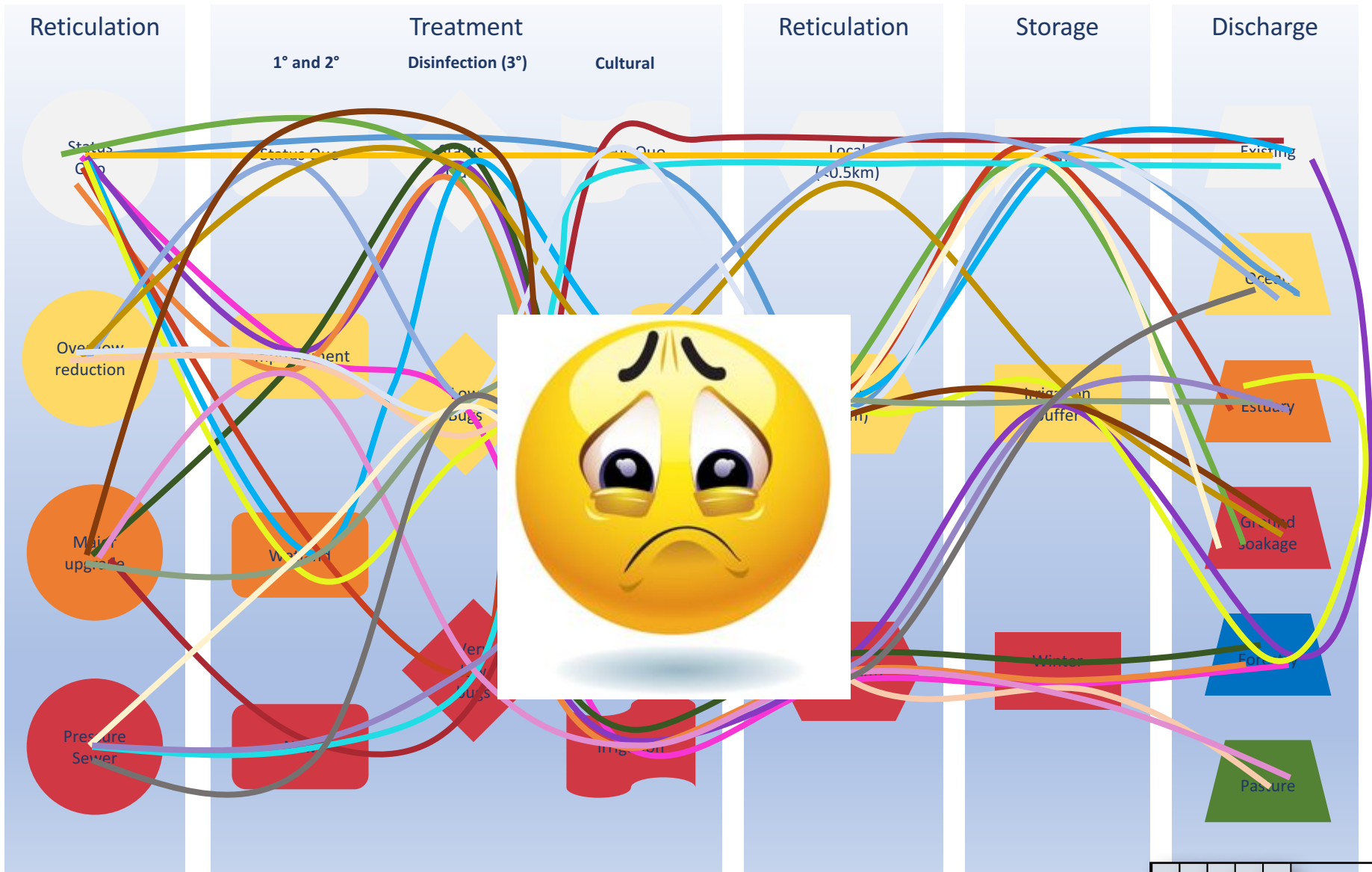
Wairoa Wastewater - Potential Treatment and Discharge Options



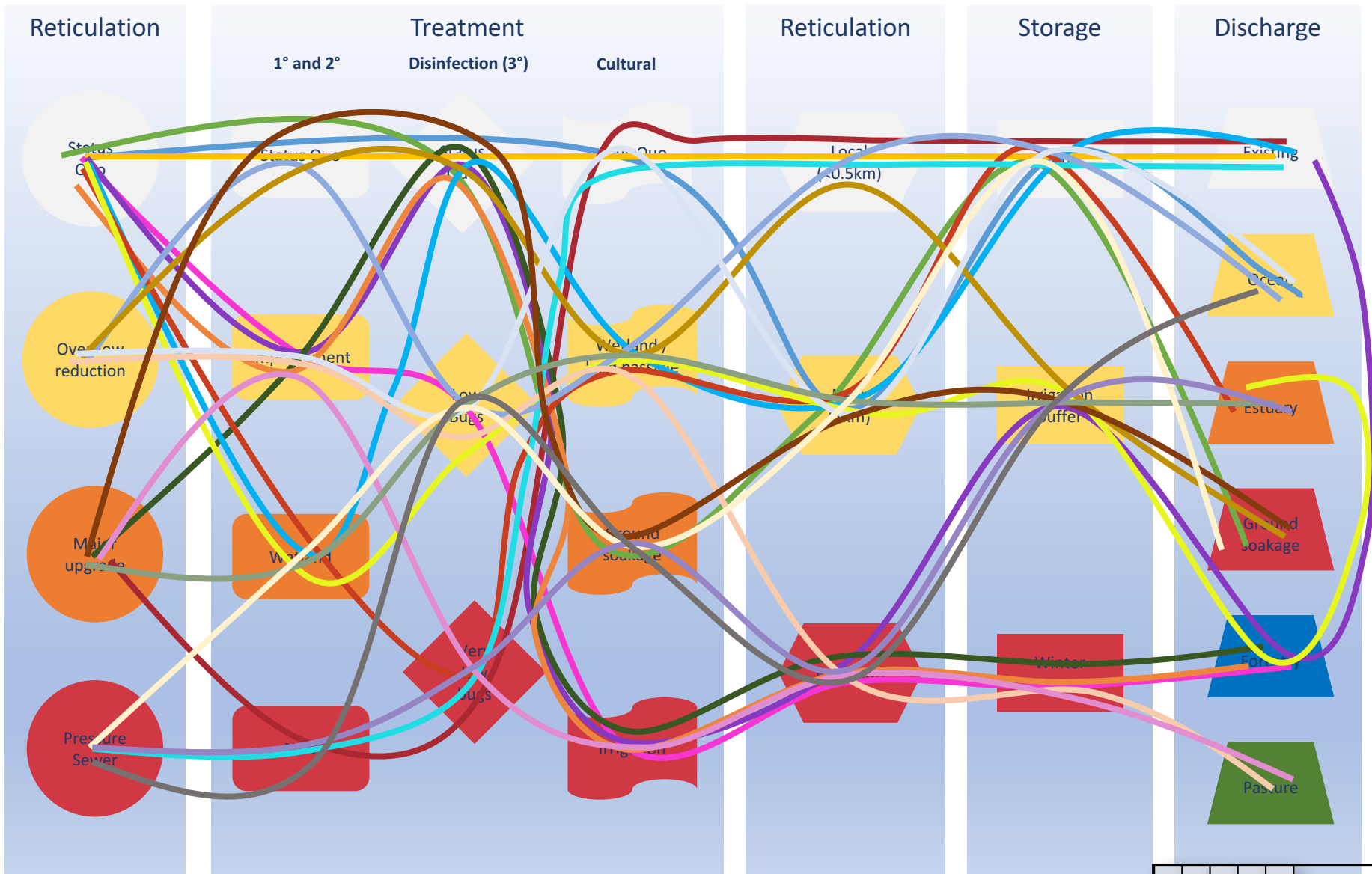
OPTIONS – MULTITUDE OF COMBINATIONS



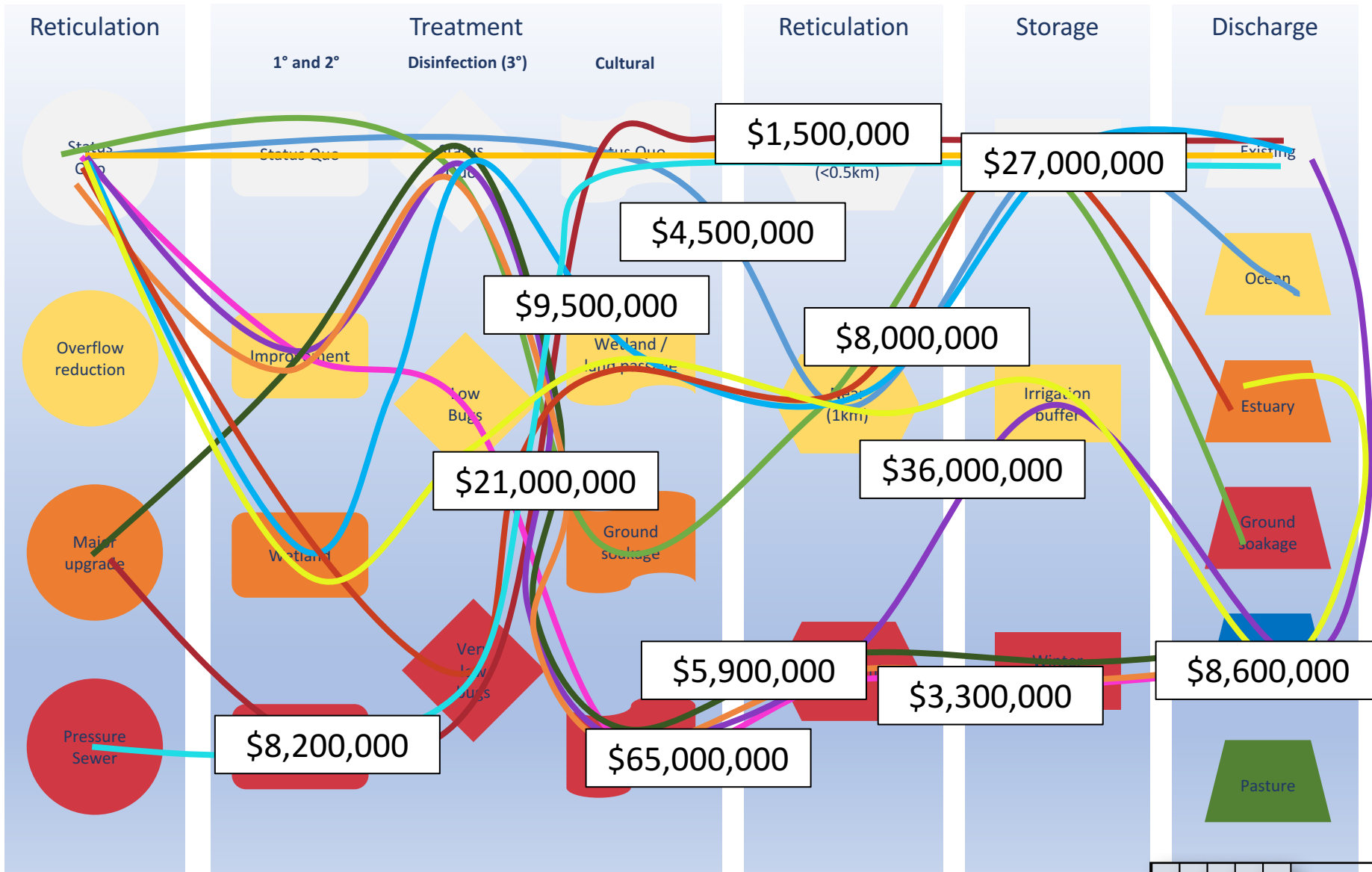
OPTIONS – MULTITUDE OF COMBINATIONS



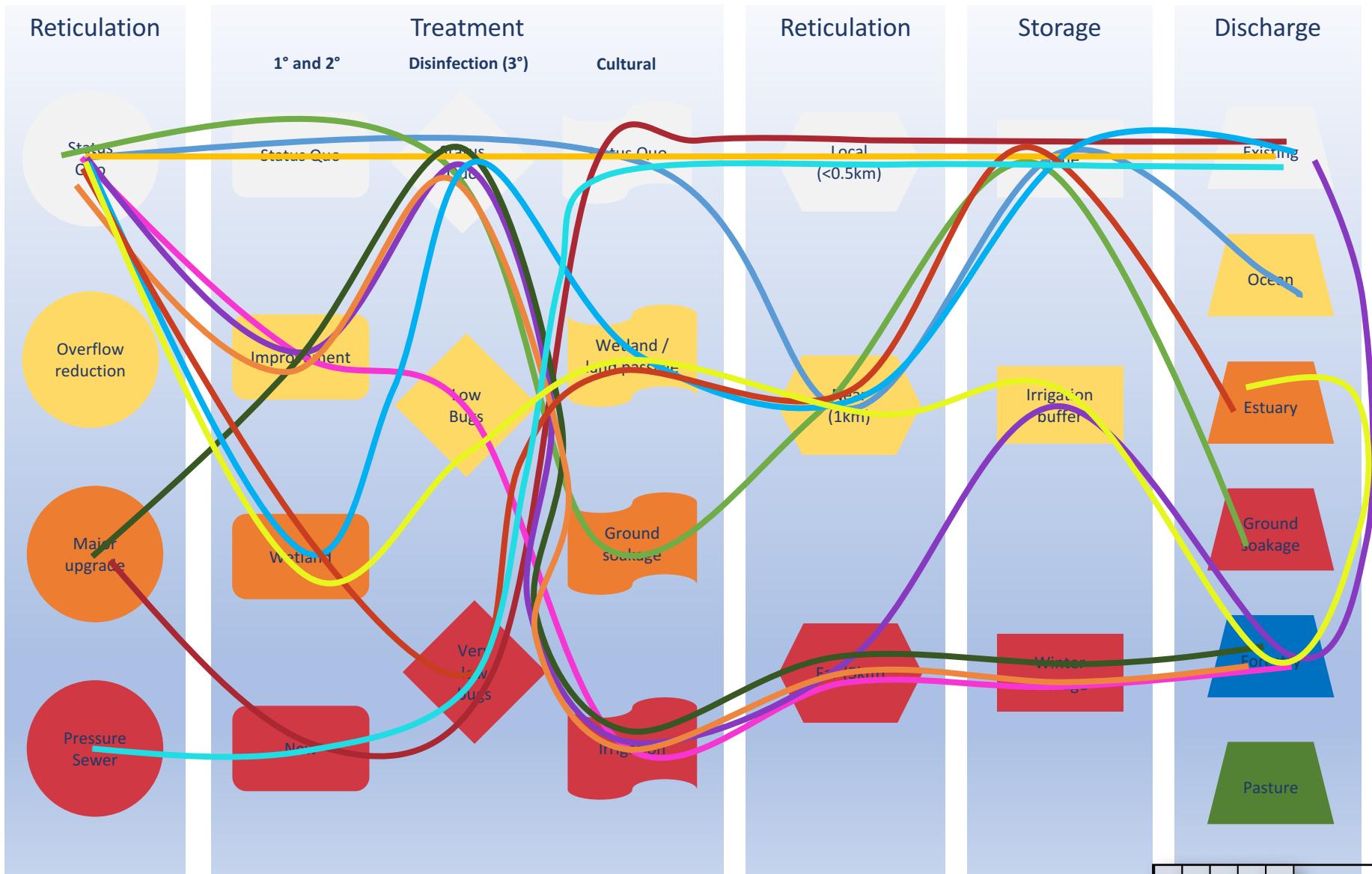
OPTIONS – SOME MORE PRACTICAL FOR WAIROA



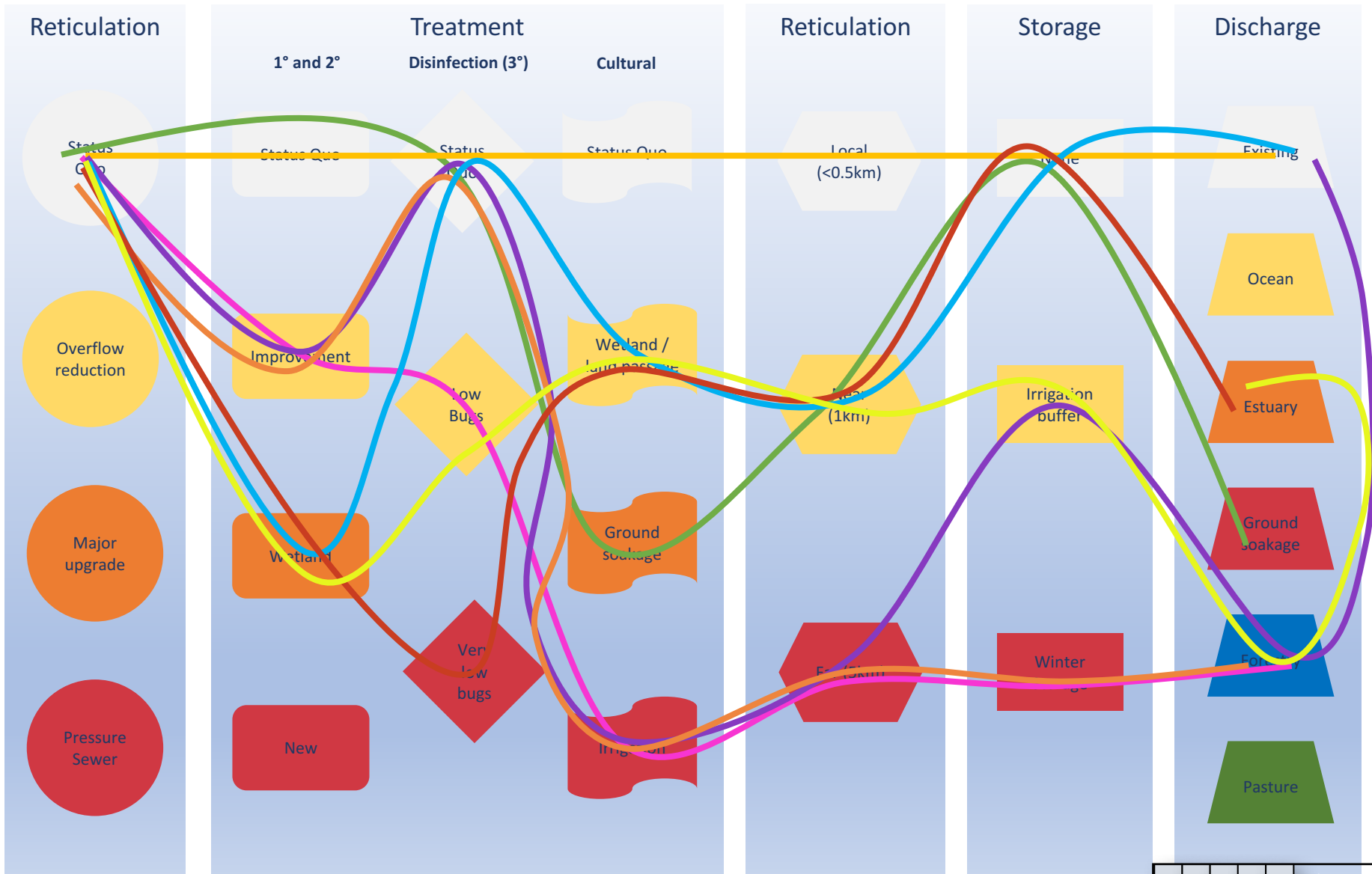
OPTIONS – COST OF FEASIBLE SYSTEMS



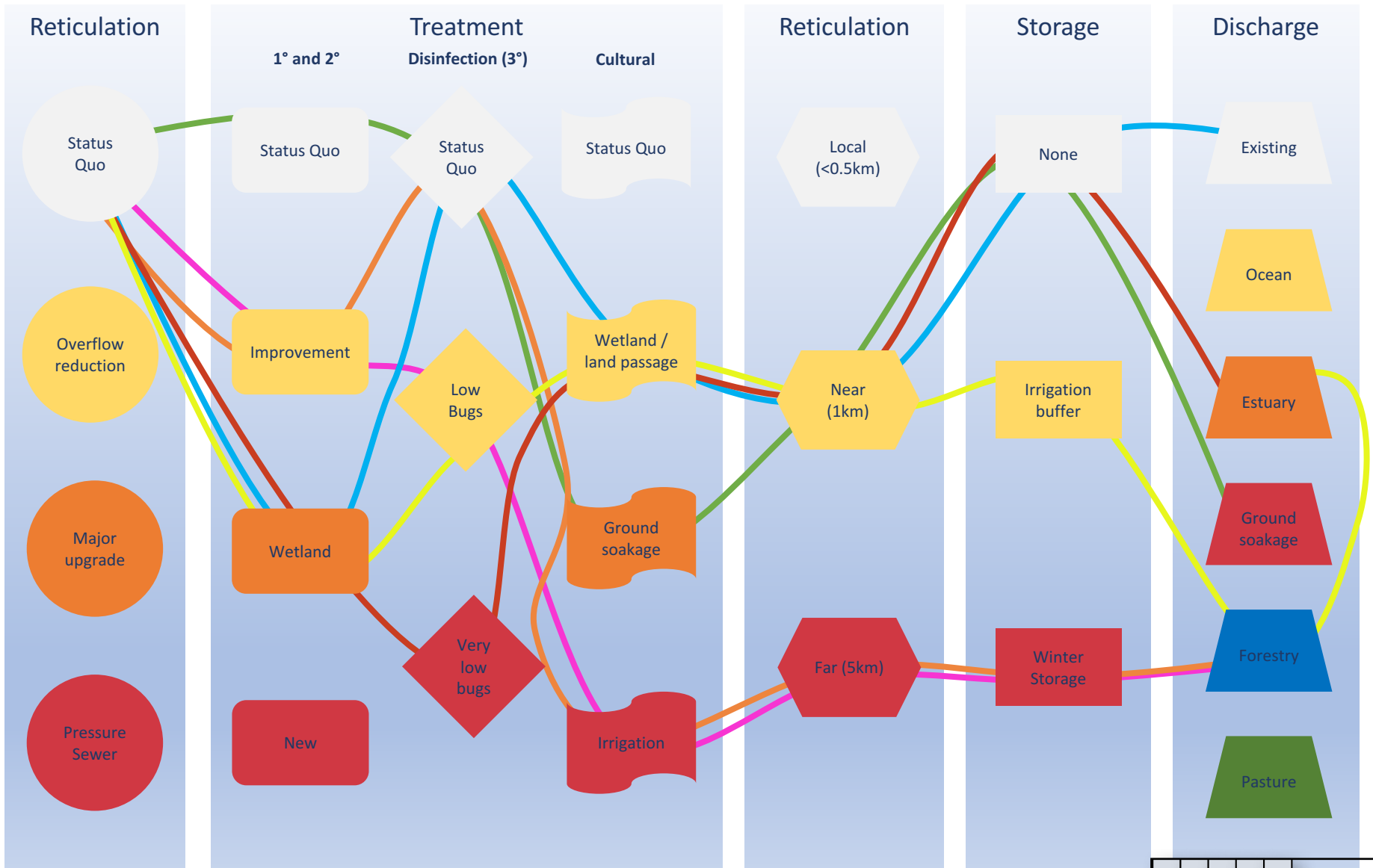
OPTIONS – OVERLAY COST BOTTOM LINE



OPTIONS – OVERLAY CULTURAL BOTTOM LINE



OPTIONS – TARGETED OPTIONS TO REFINE



OPTIONS – WHAT ARE OUR DISCHARGE OPTIONS



Status quo

Ocean

Overland flow - Rock trench/land passage/papatuanuku channel

Overland flow - Wetland

Rapid infiltration

Irrigation – non-deficit

Irrigation - deficit

OPTIONS – WHERE DOES THE WATER GO?



Irrigation - Deficit

Irrigation - Non-deficit

Irrigation - High-rate

Rapid Infiltration

Overland - Wetland

Overland - Rock trench

Pipe to Water

OPTIONS – WHAT ARE THEY



Pipe to water – River/Ocean

- | | |
|----------------------------------|---------------------------------|
| • Location: | Existing location or off shore |
| • Area needed: | NA |
| • Receiving environment: | River/estuary/ocean |
| • Changes in reticulation: | Not essential |
| • Changes in effluent quality: | Not essential |
| • Storage required: | None |
| • Indicative cost ¹ : | \$1,000,000 to \$20,000,000 |
| • | \$40 to 800/rateable connection |

1: Indicative costs are for the structure and associated capital works. They exclude consenting and contingency.

OPTIONS – WHAT ARE THEY



Overland flow –

Rock trench/land passage/papatuanuku channel

- | | |
|--------------------------------|-------------------------------|
| • Location: | Close to river |
| • Area needed: | 0.1 to 2 ha |
| • Receiving environment: | Land then river |
| • Changes in reticulation: | Not essential |
| • Changes in effluent quality: | Not essential |
| • Storage required: | None |
| • Indicative cost: | \$50,000 to \$500,000 |
| • | \$2 to 20/rateable connection |

OPTIONS – WHAT ARE THEY



Overland flow – Wetland

- Location: Relatively close to river
- Area needed: 3 to 5 ha
- Receiving environment: Land then river
- Changes in reticulation: Not essential
- Changes in effluent quality: Not essential
- Storage required: None
- Indicative cost: \$200,000 to \$500,000
 - \$8 to 20/rateable connection

OPTIONS – WHAT ARE THEY



Rapid Infiltration –

- Location: Close to river
- Area needed: 2 to 5 ha
- Receiving environment: Land then river/sea
- Changes in reticulation: Ideally reduction
- Changes in effluent quality: Not essential
- Storage required: None to some minor
- Indicative cost: \$200,000 to \$700,000
 - \$8 to 28/rateable connection

OPTIONS – WHAT ARE THEY



Irrigation – Non-deficit

- Location: Some close, most > 2 km
- Area needed: 200 to 300 ha
- Receiving environment: Land
- Changes in reticulation: Ideally reduction
- Changes in effluent quality: Potentially reduce bugs
- Storage required: Some to large
- Indicative cost: \$7,000,000 to \$11,000,000
 - \$280 to 440/rateable connection

OPTIONS – WHAT ARE THEY



Irrigation – Deficit

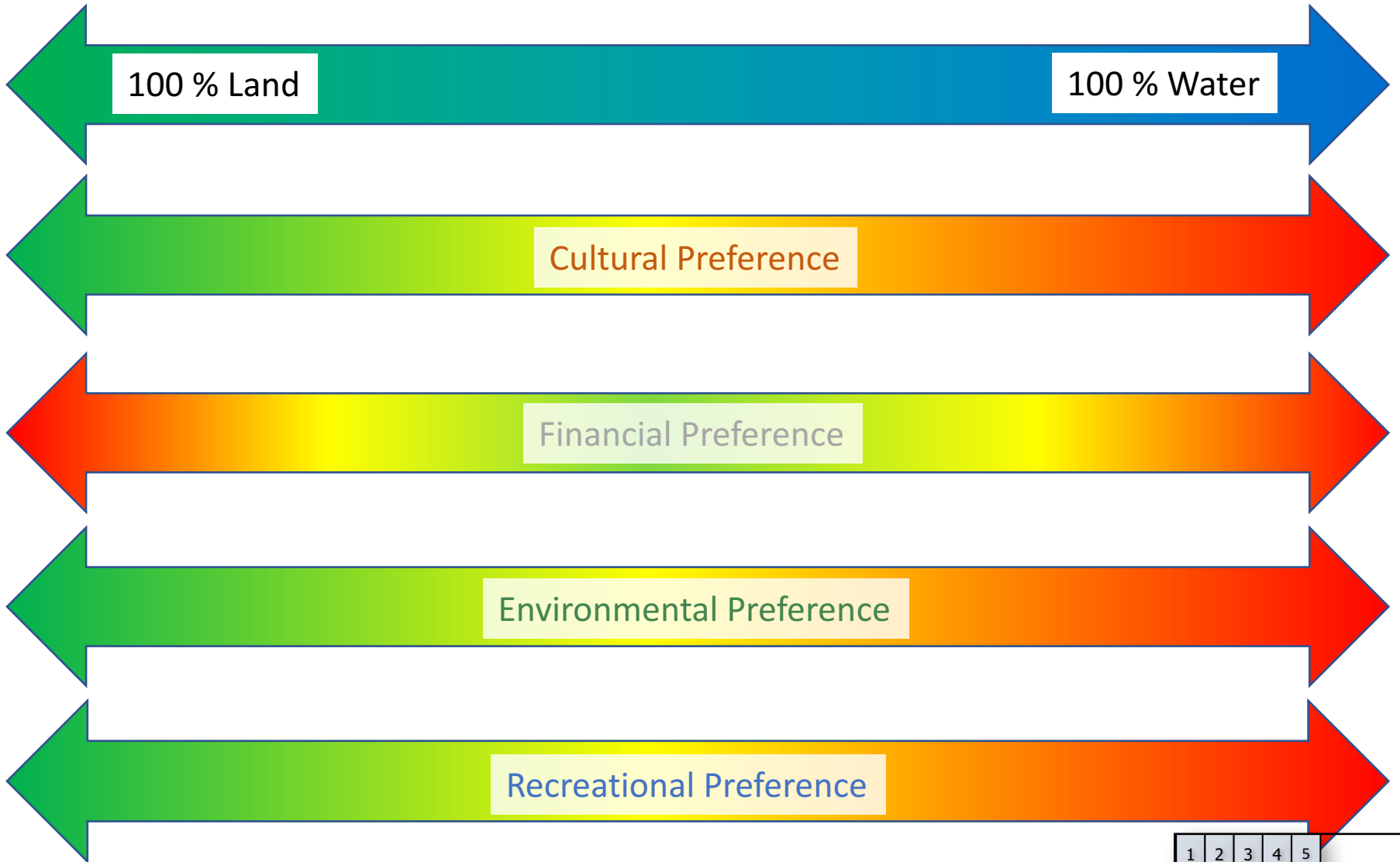
- Location: Some close, most > 2 km
- Area needed: 400 to 500 ha
- Receiving environment: Land
- Changes in reticulation: Preferable reduction
- Changes in effluent quality: Potentially reduce bugs
- Storage required: Large
- Indicative cost: \$14,000,000 to \$18,000,000
 - \$560 to 720/rateable connection

OPTIONS – HOW DO WE CHOOSE - CRITERIA

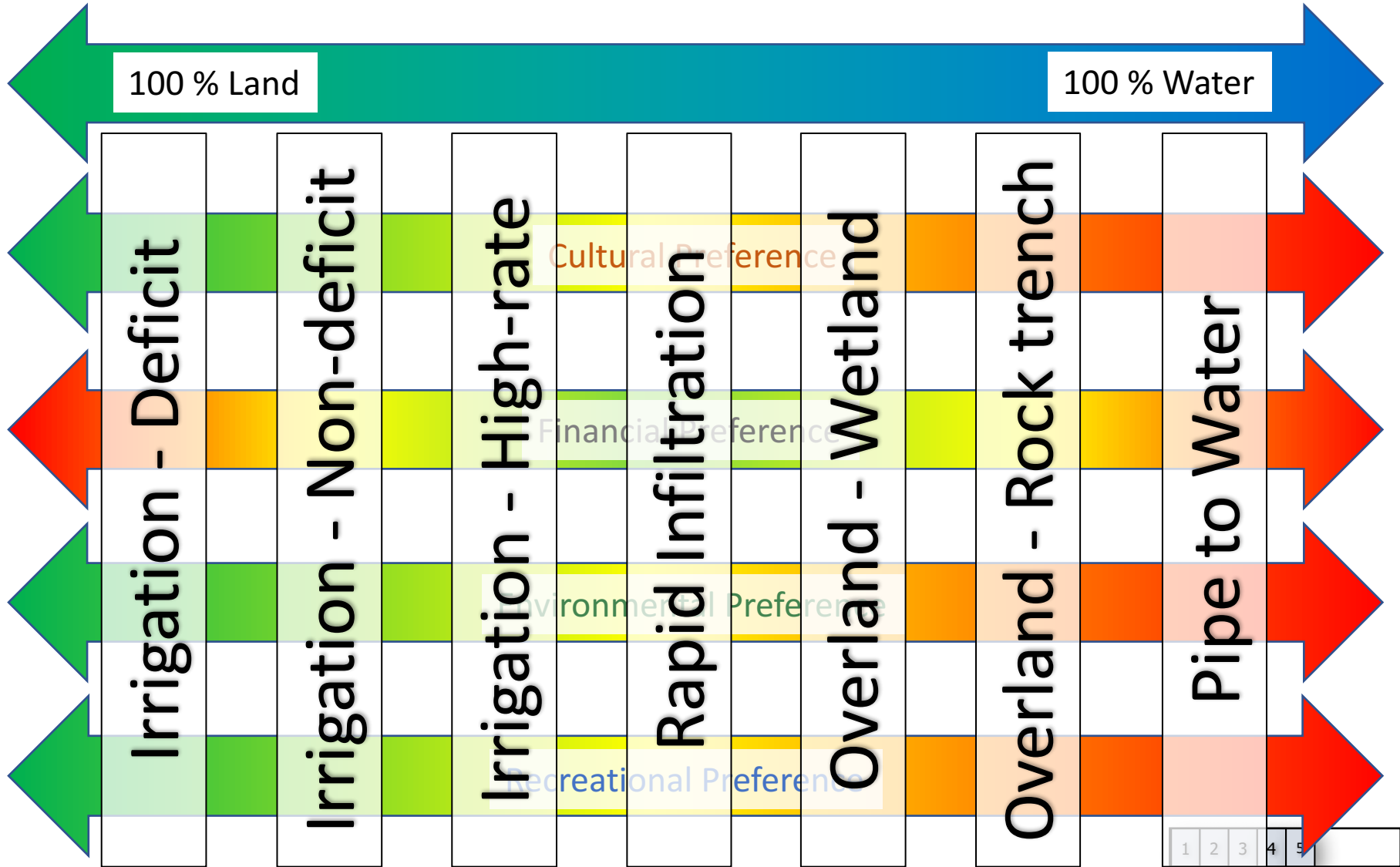


Pillar	Value	Yes	Maybe/ conditio nal	No
Cultural	Allows for food gathering			
	No pathogen contamination in shell fish			
	Requires irrigation			
	Has some form of land passage			
Financial	Impact on rates	<\$__ /yr	<\$__ /yr	<\$__ /yr
Recreational	Swimmable at discharge			
	Swimmable at _____ m			
Environmental	No nuisance weed/macrophyte growth			
	Biodiversity not compromised			

OPTIONS – HOW DO WE USE - CRITERIA



OPTIONS – HOW DO WE CHOOSE - CRITERIA



OPTIONS – WHAT ARE OUR DISCHARGE OPTIONS



~~Status quo~~

~~Ocean~~

Overland flow - Rock trench/land passage/papatuanuku channel

Overland flow - Wetland

Rapid infiltration

Irrigation – non-deficit

Irrigation - deficit

OPTIONS – EVALUATION – to be populated



		RT/LP /PC	W	RI	NDI	DI
Cultural	Allows for food gathering No pathogen contamination in shell fish Requires irrigation Has some form of land passage					
Financial	Impact on rates					
Social	Swimmable at discharge Swimmable at _____ m					
Environmental	No nuisance weed/macrophyte growth Biodiversity greater than QMCI of _____					
Look at further					1 2 3 4 5	

OPTIONS – EVALUATION – to be populated



		RT/LP /PC	W	RI	NDI	DI
Cultural	Allows for food gathering					
	No pathogen contamination in shell fish					
	Requires irrigation					
	Has some form of land passage					
Financial	Impact on rates					
Social	Swimmable at discharge					
	Swimmable at _____ m					
Environmental	No nuisance weed/macrophyte growth					
	Biodiversity greater than QMCI of _____					
Look at further						<div style="display: flex; justify-content: space-between; width: 100px;"> 1 2 3 4 5 </div>

OPTIONS – NEXT STEPS



What information is needed to confirm process and have confidence in decisions

Need for Councillor approval of process

Need Community input

Ultimately need councillor approval of BPO

Can we start looking at specific land and design options

COMMUNITY ENGAGEMENT – WHAT NEEDS TO BE DONE DIFFERENTLY?



Who do we engage with?

- Community
- Groups
- Individuals

How do we engage?

- Initial public meeting
- Individual/group meetings as requested

What information is shared?

- Start of the journey; or
- Jumps to viable options

Who should be involved?

- WDC project team
- Stakeholder Group?

When should we do it?

- After council meeting run ad for public meeting (end June)
- Individual group meetings July

OTHER MATTERS



Any other Fact Sheets needed?

AFFCO reporting



ADMINISTRATION



Future topics for discussion

Next meeting Focus – Site visit

Electronic copy of meeting records/notes



SITE VISIT - TODAY



Kopu Road pump station

Treatment plant

Current discharge



LUNCH

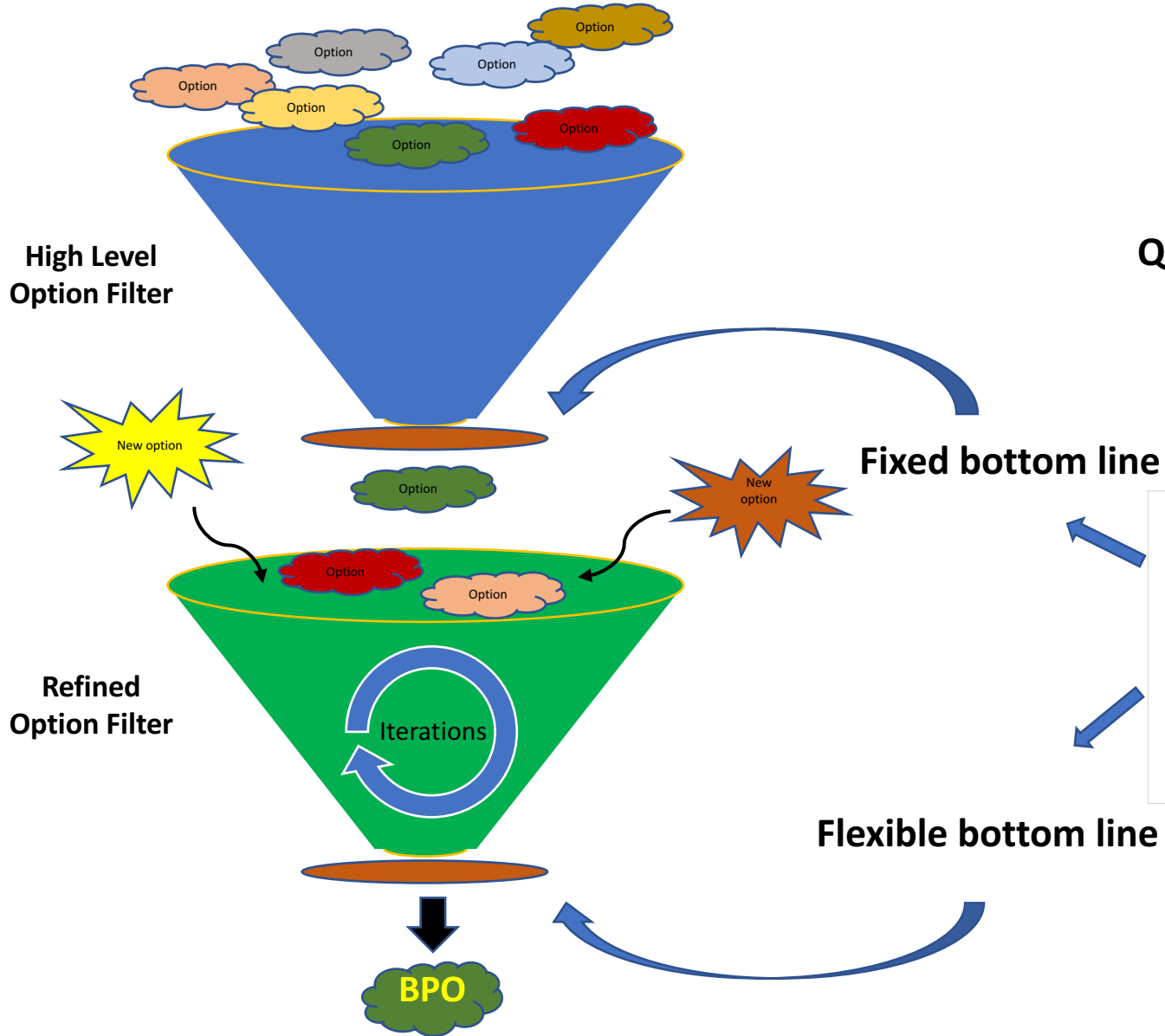


Photo dump





OPTIONS – FILTERING



Quadruple bottom line pillars

DEVELOPING OPTIONS – HOW TO DECIDE WHICH IS BEST?

	Option 1	Option 2	Option 3
Environmental	😊	😊	😊
Recreational	😞	😊	😊
Financial	😊	😞	😊
Cultural	😊	😊	😊
Workable	X	X	✓