

VEOLIA WATER PROJECTS LIMITED

WATER RESOURCES MANAGEMENT PLAN

APPENDIX 8 – IMPLEMENTATION

INTRODUCTION

This appendix considers the overall programme of implementation of the WRMP.

There are other appendices and each contains a section on Plan of Action. This section contains screen shots of a Gantt chart that indicates a series of actions to be developed over the WRMP five year short term planning period:

- Appendix 1 - Leakage
- Appendix 2 - Resilience
- Appendix 3 - Climate Change
- Appendix 4 - Demand Management
- Appendix 5 - Supply / Demand balance
- Appendix 6 - Innovation
- Appendix 7 – Environment
- Appendix 9 – Leakage Analysis Methodology

1 REPORTING FRAMEWORK

The Water Resources Management Plan forms part of the VWP reporting framework which also includes:

- **Small Business Return / June Return** – Annual assessment of VWP operational performance
- **Supply / Demand Table and WRMP commentary** – This considers the current supply demand situation and allows comparison with the projected performance
- **Drought Management Plan** – The steps necessary in the unlikely circumstance that demand exceed supply

Water Industry Strategic Environmental Requirements (WISER) report – Indicates VWP impact on the environment and activities aimed at minimising the impact and improving the environment. This also includes the Water Industry National Environmental Programme (WINEP) that considers projects that may be required to protect the environment.

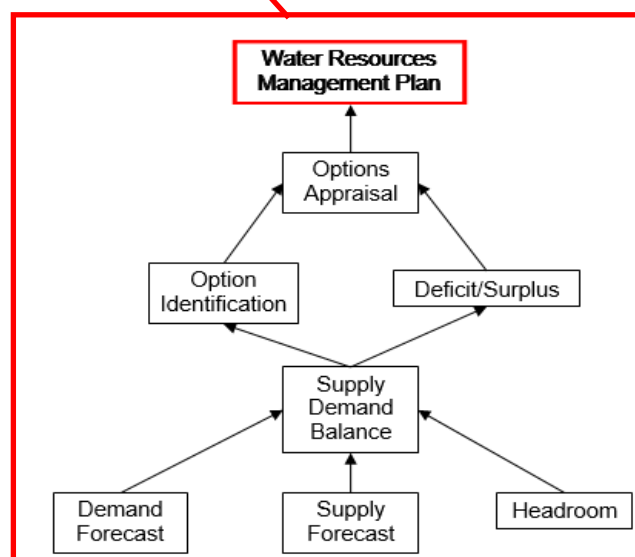
All these activities require board approval. In particular the Head of Operations is informed of regulatory requirements to assist in aligning VWP strategy.

The report has been assembled under the regulatory framework shown below:

PREVENTIVE December	REACTIVE October	MONITORING June
Water Resources Management Plan Supply over next 20 years Demand for next 20 years Supply / Demand Balance Works required to maintain the balance	Drought Management Plan Management Triggers and Scenarios Drought Action Plan Environmental Impacts Post Drought Actions	Small business Return / July Return Risk and Compliance statement Key Performance Indicators Customer experience Reliability and availability of supply Environmental impacts Finance Supply / Demand Table Production Import / exports Billing and leakage
INTERNAL REVIEW		
Annual commentary and review Forecast of growth v production Update on capital works required Resubmit to regulators every 5 years	Annual review of the plan Resubmit to regulators every 5 years	Submitted annually to the regulators
EXTERNAL REGULATORS AND REVIEW		
Department Environment Food Rural Affairs Drinking Water Inspectorate Water UK (working to deliver solutions) Market Operation Services Ltd (non-household) Environment Agency	Environment Agency Natural England	Environment Agency Natural England OFWAT (economic regulator)

Key Components of a WRMP

The Water Resources Management Plan forms part of a larger VWP strategy aimed at prevention of supply issues by monitoring performance and minimising risk through the implementation of the wider regulatory framework.



2. OBSERVATIONS

Each appendix includes an Observations and a Recommendations section.

The observations and recommendations in turn feed into the high level WRMP document. The appendices provide supporting evidence regarding the method of implementation proposed by VWP.

This also provides flexibility in terms of implementation of the plan. The technical elements of the supporting Appendices can be developed whilst the high level strategic WRMP strategy will remain unchanged.

3. RECOMMENDATIONS

The recommendations form the basis for the content of the Implementation plan.

The Gantt chart will be updated during the 5 year period of the WRMP and will be reviewed annually. The original plan of action is a base line against which progress can be measured and so the plan in section 4 of this Appendix will not change.

3.1 Unconstrained Options List

All options considered by VWP during the development of the WRMP are listed below:

Option Considered	Reference	Feasibility
Reduce leakage by laying new pipes	Appendix 1 Section 7.1	No
Reduce leakage by more active leakage control	Appendix 1 Section 7.2	No – maintain current effort
Reduce leakage using better pressure management	Appendix 1 Section 7.3	Yes
Leakage benchmarking	Appendix 1 Section 9.2	Yes – international benchmarking using ILI and LLI
Ground Water modelling includes Climate Change	Appendix 2 Section 1	Yes – Salisbury Hydrology Group and combined modelling
Performance and Risk	Appendix 2 Section 11.2	Yes – continue to develop process
Climate Change Methodology	Appendix 3 Section 4	Yes – confirm with DEFRA in line with best practice
Universal Metering	Appendix 4 Section 3	No – keep opt-in

Opt-in	Appendix 4 Section 6	Link to CCWater meter calculator
Customer Engagement	Appendix 4 Section 2	Yes
Renew LB Agreement	Appendix 5 Section 1.7	Yes – deadline of end of 2020
Reduce LB flow	Appendix 5 Section 1.7	Possible from 2041 / 42 onwards. It is currently a preferred option on return on investment as involves no cost
Assess Source Outputs	Appendix 5 Section 1.7	Yes – deadline of next WRMP
Improve Reporting	Appendix 5 Section 8	Yes
Audits of Asset Management and Maintenance	Appendix 5 Section 8	Yes – to ensure Asset Health and Reliability is improved
Modelling and GIS	Appendix 6	Yes – will be completed in 2019
Power BI Reporting	Appendix 6	Yes – continue to development regulatory section
PLaN – Pressure Loss across Networks method	Appendix 6	Yes – include with modelling activity
Smart AMR	Appendix 6	Possibly – keep informed of Veolia Corporate development
Audit Process as well as Function	Appendix 6	Yes – this helps ensure operations and WRMP align
INNS and Biodiversity	Appendix 7	Yes – complete NERC forms for the EA
Abandon GAC	Appendix 2 Section 4.4	No

4 PLAN OF ACTION

S/N	Element of Work	Pre S/N Req	2019				2020				2121				2022				2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Flow modulation business case	-																				
2	Trial site Flow Modulation	1																				
3	Additional Sites	2																				
4	Report Operational Use	-																				
5	Report USPL	-																				
6	Ground Water Data to Model	-																				
7	MoD Data added to GW Model	6																				
8	Southern Water GW Analysis	7																				
9	Wessex and MoD Analysis	8																				
10	GW modelling for all complete	9																				
11	Drought Management Plan	-																				
12	Climate Change Methodology	-																				
13	Customer Engagement	-																				
14	Smart AMR Corporate R&D	-																				
15	Supply / Demand Reporting	-																				
16	Audit of Asset Management	-																				
17	Audit of Maintenance	-																				
18	Future LB Agreed at board level																					
19	Leckford Bridge Agreement	18																				
20	Assess output of Source Works																					
21	Model Construction	-																				
22	Leakage Detection (PLaN)	21																				
23	Power BI Development	-																				
24	NERC Environmental Audit	-																				