

VEOLIA WATER PROJECTS LIMITED

WATER RESOURCES MANAGEMENT PLAN

APPENDIX 4 – CUSTOMER DEMAND MANAGEMENT

INTRODUCTION

An aim of the Water Resources Management Plan process is to reduce per capita consumption (PCC) to 118 litres / head / day. This can be achieved in a number of ways:

- Installation of efficient devices when new properties are constructed
- The education of existing customers to convince them to be more water efficient, whether that be by installing efficient devices or amending life style to be more water efficient
- Installation of metering so that customers are charged for actual volumes used.
- Installation of smart metering (including Automatic Meter Reading technology) so that more regular meter readings are obtained allowing the detection of customer side leakage

As part of this strategy it is important that customers are actively engaged by VWP, with documents such as the WRMP and Small Business Return uploaded to the VWP web page.

1 CUSTOMER SEGMENTATION

The VWP network although small is complex when one considers that MoD bases are embedded within the regulated system. Water mains cross the MoD boundary at numerous locations so it is not possible to easily split MoD usage away from regulated use.

Fortunately VWP also has the contract for maintaining and operating the MoD part of the network, which also includes the collection of data relating to the use of individual MoD buildings.

This has allowed VWP to build up a more complete picture of customer connections, population and water usage. An extract from the 2017/18 WRMP annual supply / demand table is included below.

	CUSTOMERS					
E	Properties					
43 _{AR}	Unmeasured household - properties	000's	3dp		0.341	0.341
42 _{AR}	Measured household - properties	000's	3dp		1.193	1.193
46 _{AR}	Unmeasured non household - properties	000's	3dp		1.500	1.500
45 _{AR}	Measured non household - properties	000's	3dp		0.161	0.161
44 _{AR}	Void household - properties	000's	3dp		0.014	0.014
47 _{AR}	Void non households - properties	000's	3dp		0.000	0.000
48 _{AR}	Total properties	000's	3dp		3.209	3.209
F	Population					
50 _{AR}	Unmeasured household - population	000's	3dp		0.818	0.818
49 _{AR}	Measured household - population	000's	3dp		2.863	2.863
52 _{AR}	Unmeasured non household population	000's	3dp		9.195	9.195
51 _{AR}	Measured non household - population	000's	3dp		0.386	0.386
53 _{AR}	Total population	000's	3dp		13.263	13.263
G	Occupancy					
55 _{AR}	Unmeasured household - occupancy rate	h/pr	2dp		2.40	2.40
54 _{AR}	Measured household - occupancy rate	h/pr	2dp		2.40	2.40
H	Metering					
56 _{AR}	Total Household Metering penetration (excl. voids)	%	2dp		77.77%	77.77%
57 _{AR}	Total Household Metering penetration (incl. voids)	%	2dp		77.07%	77.07%

The MoD customers have been included in the annual WRMP supply / demand table under lines 46 and 52.

The number of connections consists of 200 operational buildings and 1,300 service family accommodation within the MoD compound.

The number of military personnel is believed to be 5,595 based upon the number of barracks as well as the number of troops assigned to various military units at the base. Due to security reasons the MoD will not divulge the actual number of personnel. This population has no impact on reported PCC as the calculation is only performed for regulated customers.

The number of connections can impact on the leakage per connection values reported (refer to Appendix 1 – Leakage).

2 CUSTOMER ENGAGEMENT

Ref	Customer Segment	Strategy	No of Customers
2.1	MoD	Monthly meetings with MoD	9195
		Monitoring of performance via MUJV	
		Monitoring of performance via DIO	
2.2	Regulated	Metered	3249
		Unmetered	818
		Web page	
		Customer Engagement Project	
2.3	Wessex Enclaves	Wessex WRMP	840
2.4	Forest Drive	Customer Engagement Project	384
2.5	Leckford Bridge	Wessex WRMP	9000

The table above summarises the strategy in relation to engagement of customers split by customer segmentation. Number of customers refers to population not connections in the table above. Customer engagement will assist in influencing the consumption of water.

2.1 The MoD

The MoD accounts for approximately 50% of the customer connections and due to troop numbers some 69% of the population.

Monthly operational meetings are held with the MoD and performance is monitored by Multi-Utility Joint Venture (MUJV) and the Defence Infrastructure Organisation (DIO).

The MoD implement their own strategies aimed at reducing legitimate usage and also reducing leakage. The MoD have commenced the creation of their own WRMP and are actively involved in providing data to the Salisbury Plain Hydrology Group to allow Ground Water modelling (refer to Appendix 2 – Resilience).

VWP therefore can be classed as actively engaging with the MoD on the supply / demand balance as well as general operational performance.

2.2 Regulated (Metered and Unmetered Customers)

An additional 42% of customer connections are metered and have Automatic Meter Reading (AMR) devices fitted.

Approximately 80% of the regulated customers are metered and so their bills are calculated from real usage figures. This in itself appears to have driven down PCC to 99 litres / head / day compared to an estimated 160 litres / head / day for unmetered usage.

The VWP webpage has been improved with all WRMP documentation available at:

<https://www.veolia.co.uk/services/tidworth-residential-water/tidworth-operations>

The WRMP has been communicated to customers via this method and feedback on the WRMP has been provided by the Consumer Council for Water (CCWater), the Environment Agency and OFWAT.

Work is proceeding to improve customer engagement with metered and unmetered customers, which will include a marketing campaign. This will better communicate the webpage and the location of the WRMP.

2.3 Wessex Water Enclaves

There are 3 Wessex Water Enclaves within the VWP area of supply where water is exported via 3 meters to small housing estates with a total property count estimated at 350.

These areas operated in accordance with their own Licence by Wessex Water. This arrangement originated before TWUL gained the inset as the MoD were supplying these legacy estates, two of which are Social Housing from the 1950's, the other being a new build private development in the 1980's. Consequently this agreement was carried over to TWUL and then VWP.

The enclaves supply points are thought of as part of the Commercially Metered customer base [as 3 individual commercial accounts] in operating terms and will be treated as such from a water resources perspective.

These customers are likely to refer to the Wessex WRMP as they are billed by Wessex.

2.4 Forest Drive Private Estate

This estate consists of 160 properties whose water charges are included in service charges. These customers are unlikely to be engaged and so as part of the VWP customer engagement project the service agents for the Forest Drive Private estate will be contacted with regards to the WRMP.

2.5 Leckford Bridge Supply (Wessex)

Direct communications continue with Wessex and the volume of water exported via Leckford Bridge is monitored daily. Meetings have been held to ensure that both Veolia and Wessex Water Resources Management Plans align.

It has been agreed that Veolia will continue to provide the following transfer volumes to Wessex via Leckford Bridge:

DYAA demand transfer from Veolia to Wessex 2.74MI/d

DYCP demand transfer from Veolia to Wessex 3MI/d

The total population in the Wessex area has been calculated by Wessex to be 9,000. These customers will reference the Wessex WRMP as they are billed by Wessex.

3. METERING AND PER CAPITA CONSUMPTION (PCC)

C	Consumption					
19 _{AR}	Measured non household water delivered	MI/d	2dp		0.45	0.45
20 _{AR}	Unmeasured non household water delivered (optional)	MI/d	2dp		3.22	3.22
21 _{AR}	Measured household water delivered	MI/d	2dp		0.28	0.28
22 _{AR}	Unmeasured household water delivered	MI/d	2dp		0.13	0.13
23 _{AR}	Measured non household - consumption	MI/d	2dp		0.45	0.45
24 _{AR}	Unmeasured non household - consumption	MI/d	2dp		3.22	3.22
25 _{AR}	Measured household - consumption	MI/d	2dp		0.28	0.28
26 _{AR}	Unmeasured household - consumption	MI/d	2dp		0.13	0.13
29 _{AR}	Measured household - pcc	l/h/d	0dp		98	98
30 _{AR}	Unmeasured household - pcc	l/h/d	0dp		160	160
31 _{AR}	Average household - pcc	l/h/d	0dp		112	112
32 _{AR}	Water taken unbilled	MI/d	2dp		0.00	0.00
33 _{AR}	Distribution system operational use	MI/d	2dp		0.01	0.01

It is evident from meter readings that the PCC for measured household customers is 98 litres / property / day whilst an assumption of 160 litres / property / day is made for unmetered usage.























The assumption of 160 l/h/d may be on the high side when compared to England Water Company norms, but if this was reduced to 140 l/h/d then the impact would be to increase leakage by 0.015 MI/d. This is due to the small number of unmetered properties so the impact of varying PCC for unmetered customers is negligible (whether the strategy be selective, change of occupancy or opt-in).

All meters are fitted with Automatic Meter Readers (AMR) and this also helps in reducing PCC. User Supply Pipe Leakage (USPL) has been included in the calculation (refer to Appendix 1 – Leakage) but this only has a minor impact in the PCC calculation.

- The weighted average PCC is 112 litres / property / day which is less than the target of 118 litres / property / day set by the regulator.
- An opt-in metering strategy is followed by VWP as the estimated cost of installing meters to the 340 unmetered customers would be 206,000 GBP while the benefit by driving down PCC (from 160 to 98 l/h/d) would be 0.05 MI/d.

4 BENCHMARKING AND IMPROVEMENT

The VWP weighted average PCC of 112 l/h/d compares very favourably with the rest of the England and Wales Water Industry where the industry average is 139.6 l/h/d:

	2011-12	2012-13	2013-14	2014-15	2015-16	Trend
Industry Average	145.8	140.1	141.5	138.6	139.6	
Water and Sewerage Companies						
Anglian*	144.8	136.2	135.1	133.4	135.4	
Dŵr Cymru	152.1	144.4	144.6	141.5	138.5	
Northumbrian	146.2	140.5	141.2	141.9	144.7	
Severn Trent	125.0	120.9	129.3	126.4	130.4	
South West	134.5	136.7	136.9	134.6	136.6	
Southern	156.7	143.4	140.8	134.8	132.0	
Thames	160.6	154.7	156.2	150.9	149.3	
United Utilities	132.0	128.0	129.1	130.0	130.0	
Wessex	139.8	136.3	138.4	138.8	138.1	
Yorkshire	136.0	133.4	136.2	133.0	133.1	
Water only companies						
Affinity	157.6	148.5	154.7	148.3	152.2	
Bournemouth	146.4	142.4	144.1	138.4	133.6	
Bristol	142.0	141.0	144.0	143.0	141.1	
Cambridge	140.7	133.1	130.1	130.5	132.9	
Dee Valley	138.3	135.5	132.9	130.4	134.9	
Essex & Suffolk	153.0	147.4	151.9	151.0	150.7	
Hartlepool	123.7	123.1	124.7	119.9	127.5	
Portsmouth	160.0	149.0	148.0	145.5	143.3	
South East	167.2	159.4	155.6	148.2	161.2	
South Staffs	135.6	127.6	131.0	129.0	128.9	
Sutton & East Surrey	168.6	161.5	166.5	161.1	157.9	
* Anglian includes Hartlepool						

The process for installing a meter is included on the VWP web page and benefits of switching can be communicated with reference to the CCWater meter consumption calculator.

- A link from the VWP webpage to CCWater is possible and is actively being considered for implementation.
- The existing AMR system can be enhanced further. Veolia Corporate are in the process of developing smart tools that use regular meter readings returned by AMR to alert customers to high consumption and potential leakage. VWP will continue to track development of this (refer to Appendix 6 – Innovation for further details).

5 CONCLUSIONS

VWP actively communicates with the main stakeholders, but there is room for improvement in regards to engagement of regulated customers and Forest Drive Estate.

The weighted average PCC is 112 litres / property / day which is less than the target of 118 litres / property / day set by the regulator and compares very favourably with the industry average of 139.6 l/h/d.

An opt-in metering strategy is followed by VWP as the estimated cost of installing meters to the 340 unmetered customers would be 206,000 GBP while the benefit by driving down PCC (from 160 to 98 l/h/d) would be 0.05 Ml/d.

New developments will continue to be constructed with water efficiency in mind. VWP have a dedicated New Development Manager who directly communicates with the developers to help ensure that best practice is followed.

6 RECOMMENDATIONS

The existing customer engagement improvement project continues so that a marketing strategy is developed.

Implement a link from the VWP webpage to CCWater meter consumption calculator

VWP will continue to track development of smart AMR metering being developed by Veolia Corporate (refer to Appendix 6 – Innovation for further details).

7 PLAN OF ACTION

S/N	Element of Work	Pre S/N Req	2019				2020				2021				2022				2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
13	Customer Engagement	-																				
14	Smart AMR Corporate R&D	-																				