WATER RESOURCE MANAGEMENT PLAN 2025 - 2050

Contents

1. Executive Summary

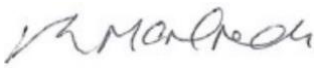
This Water Resources Management Plan 2024 (WRMP) is part of a statutory process. A Water Resource Management Plan (WRMP) sets out how a water company intends to achieve a secure supply of water for customers and a protected and enhanced environment. The duty to prepare and maintain a WRMP is set out in sections 37A to 37D of the Water Industry Act 1991 requiring the preparation of a plan at least every 5 years and for this to be reviewed annually.

Leep Network Water Limited (LNWL) has considered its remit of control and influence operating as a water company under the New Appointment and Variations (NAV) policy whereby water is solely sourced through incumbent water companies. As such we have considered the security of supplies for our customers in conjunction with core policy commitments aligned to the mandated ambitions to achieve Per Capita Consumption (PCC) of 110 l/h/d by 2050 whilst maintaining low or minimal levels of leakage. In doing so, we have demonstrated the appetite to invest in initiatives to drive improvements in both water efficiency, demand management and to monitor network health during the lifetime of the planning period (2025 to 2050) whilst continuing to engage with water companies aligned to the geographical regions in which we operate to contribute towards the resilience of water resources in those areas.

The Board has approved the core policies and ambitions detailed in the plan and is committed to monitoring progress against the plan throughout the planning period. Equally, the Board has assessed the arrangements for meeting future demands with due and proportionate regard to its obligations and has approved the proposals detailed in the plan for meeting that demand are both appropriate and adequate.

Due consideration has also been given to the exclusion of sensitive information from the plan on the grounds of national security and/or commercial confidentiality and can confirm that no exclusions have been made.

This is the main statutory document for the WRMP24, supported by the Water Resources Planning Tables.

Signed: 

Victoria Louise Manfredi

Director, Leep Networks (Water) Ltd

Date: 18 October 2024

Statement on Commercial Confidentiality and National Security

The purpose of this note is to confirm that, in line with the appropriate legislation, due consideration has been given to the exclusion of sensitive information from the Leep Networks (Water) Limited's Water Resources Management Plan for the period from 2025 – 2050 on the grounds of national security and / or commercial confidentiality and, consequently, a summary of our findings is set out below:

Commercial Confidentiality

No exclusions have been made on the grounds of commercial confidentiality.

National Security

No exclusions have been made on the grounds of national security.

1.1 Leep Networks (Water) Ltd

Leep Networks (Water) Ltd (LNWL) is a statutory water and sewerage provider operating in England under the New Appointments & Variations (NAV) policy as defined by the Water Services Regulation Authority (Ofwat). LNWL operates as a wholly owned subsidiary of Leep Utilities, which is 90% owned by Ancala Leep Utilities Holdco (Jersey) and 10% by Peel Holding Leep Utilities (IOM) Ltd.

LNWL began operations in 2007 as SSE Water Ltd, following the granting of its appointment at Old Sarum, near Salisbury. In May 2019, SSE Water was acquired by Ancala Partnership and became part of the Leep Utilities group. and has now been appointed to 137 sites providing water and water & sewerage services as at October 2024[1].

Each site considered in this plan is a geographically discrete supply zone subject to a bulk supply contract with the previous incumbent provider.

1.2 Water Services

LNWL has no water treatment works in service and this Water Resource Management Plan (WRMP) has been prepared from the perspective of a net importer of bulk potable water.
This position is reflected in the method used in creating the plan. The Water Resources Planning Guideline, Technical Guidance and the Water Resources Planning Guideline for New Appointments and Variations have been referred to in compiling the plan.

We will continue to support Government policy with regard to water efficiency and demand management, in addition to adapting to regulatory or legislative changes intended to better reflect the value of water to society. We will incorporate new initiatives where there is a clear benefit in doing so.

1.4 Board Assurance

The Board delegates day-to-day oversight of the business to the LNWL CEO but retains high level control of policy and direction. The Board confirms that it is fully committed to delivering the outputs and objectives outlined in this plan. The Board confirms that the plan aligns with its understanding of the requirements of the Water Resource Management Plan (England) Direction 2022, the Water Resource Planning Guidelines and supplementary guidance as applicable to LNWL.

The Board will monitor progress against the plan during the planning period through Quarterly Board Meetings.

The Board supports development of the plan throughout the planning period.

2. WRMP24

2.1 Compliance with Legislation

[1] Not all sites are considered separately in this document as some appointments are 'sub-sites' and are included within the zone of the original appointment. The total number of water resource zones considered in this plan is therefore 125.

When developing this plan, we have done so with reference to:

- The Water Industry Act 1991
- The Water Resources Act 1991
- The Water Resources Management Plan (England) Direction 2022
- The Water Resources Management Plan Regulations 2007
- Water Resources Planning Guidelines
- Water Resources Planning Guidelines – supplementary guidance New Appointments & Variations

We have applied the requirements in the Water Resources Planning Guidelines with reference to the proportionate approach that may be taken by bulk supply NAVs. This means that we have taken account of the relevant sections of the guidelines in all or part, but do not consider parts that relate to upstream conditions such as deployable output & catchment management factors.

We have explained our approach to the WRMP Direction 2022 in the table in Appendix 2.

2.3 WRMP24 Structure

This plan builds on our WRMP19 and retains a number of the assessments and explanatory notes, which are detailed in Appendix 1, modified in light of responses to our draft WRMP24 consultation.

We have aimed at simplifying our plan to remove much of the repetition of WRMP19 and to make the plan more accessible.

We have focused on developing key company policies directed at understanding our customer base and demand profiles and putting in place commitments and investment to better evaluate our network health and levels of leakage, which will assist us in effectively directing resources towards demand management options, such as active leakage control and customer communications.

2.4 WRMP24 Approach

For WRMP24, we have departed from the style of our WRMP14 and WRMP19 plans to shorten the overall document to make it more readable and accessible. We have built the plan around three core policies. These policies focus on developing a better understanding of our customers and networks to deliver greater clarity around forecasting, consumption and leakage, which will, in turn, inform our operational approach to active leakage and demand management through communication with our customers, bulk suppliers and retailers.

To support these policies, we will continue to develop our internal processes to utilise data arising from these improvements to more accurately track the health of our networks and the effectiveness of customer engagement and capital maintenance.

Enhancing our understanding of demand will also feed into our assessments of new sites so that we can provide an accurate and robust forecast of demand. This will not only ensure that sites are provided with sufficient headroom at the outset but should also enable us to tailor bulk agreements to specific types of site, thus avoiding excessive headroom and releasing upstream capacity back to the bulk supplier.

2.5 Annual Review of WRMP19

Further to the latest annual review of WRMP19 the following assessments were concluded:

Customer Demand
Our annual review of WRMP19 showed that although most existing sites demonstrated demand broadly in line with expected values, there were some which were in deficit or were close to it. Initial site demand as assessed by LNWL is directly linked to the planned build and assumed average occupancy. Changes in demographics over time and increases in build over and above the original planning permission are sources of uncertainty. The effects of Covid19 resulted in an increase in domestic consumption during the 2020 lockdowns. It is possible that such impacts are more apparent in NAV areas. With LNWL sites being predominantly residential, it seems reasonable to assume that pre-Covid, many of those persons travelling to places of employment would have done so into the incumbent's resource zone, meaning that such travel would have been seen as a net export of demand, some of which is no longer occurring. Whilst there will be some return to pre-pandemic levels, we need to consider that some changes will be permanent and we see this as an element of uncertainty.

Leakage
It is apparent from the review that some sites are registering higher consumption than anticipated. This may be a result of the Covid factors noted above but increased leakage cannot be ruled out. Although new networks can be reasonably considered to have low leakage, some of the LNWL networks are now well into their second decade and throughout WRMP24 we will focus on better understanding our network health.

Through our 'Waste of Water' programme, which is a response to noted excessive average daily consumption at premises, it is apparent that one source of undue consumption is malfunctioning internal fittings, such as lavatory cisterns. Although this is registered as consumption and does not come under network or supply-pipe leakage, we consider that it should form part of our overall approach to leakage as an important part of demand management.

3. LNWL Water Resource Zones

The Water Resource Planning Guidelines Section 4.4 "Defining a water resource zone" states that a water resource zone "…describes an area within which the sources of water and distribution of water to meet demand, is largely self-contained…". Our Water Resource Zones are essentially supply zones, as we have no sources of water apart from the bulk supply from the incumbent company. Thus, our levels of service mirror those of the incumbent zone within which the sites are located.

For WRMP24, our Water Resource Zones have been given a unique identifier for each site. Table 1 details our sites and zone numbers. These zone numbers are new for this plan as previously zone numbers were the identifiers used in our DWI reports. These are no longer suitable, as the water quality zones are now being amalgamated where sites are within one incumbent supply zone. The new Zone numbers used here are issued in the order of the date of appointment for each site.

We have also taken the view that sites which are supplied under one contract with the incumbent, are directly contiguous or share a network should be grouped as one zone, hence not all appointments as listed by Ofwat will appear separately.

Resource Zone	Site Name	Location	Date Granted
WRZ000	Liverpool International Business Park	Liverpool	25/10/2018

WRZ001	Old Sarum	Salisbury	01/10/2007
WRZ002	Llanilid Park	Pontyclun	09/03/2009
WRZ003	Hale Village	London N17	15/07/2009
WRZ004	Kennet Island	Reading	23/09/2009
WRZ005	Bromley Common	Bromley	16/02/2010
WRZ006	Park Views	Epsom	30/04/2010
WRZ007	Graylingwell Park	Chichester	17/08/2010
WRZ008	Kingsmere	Bicester	08/11/2010
WRZ009	Great Western Park	Didcot	28/03/2011
WRZ010	New South Quarter	London CR0	23/05/2011
WRZ011	Barking Riverside	London IG11	27/06/2011
WRZ012	Farndon Road	Market Harborough	20/07/2011
WRZ013	Brewery Square	Dorchester	22/03/2012
WRZ014	Marine Wharf	London SE16	04/04/2012
WRZ015	Riverlight	London SW11	16/05/2012
WRZ016	Norwich Common	Wymondham	20/07/2012
WRZ017	Hills Farm Lane	Horsham	27/03/2013
WRZ018	Newlands	Waterlooville	10/04/2013
WRZ019	Heart of East Greenwich	London SE10	24/07/2013
WRZ020	Embassy Gardens	London SW11	24/09/2013
WRZ021	Emerson's Green	Bristol	30/09/2013
WRZ022	Kingsbrook	Aylesbury	09/08/2016
WRZ023	Millharbour Central	London E14	13/11/2017
WRZ024	RAM Quarter	Wandsworth	13/11/2017
WRZ025	Prince of Wales Drive	London SW11	15/05/2018
WRZ026	White City	London W12	15/06/2018
WRZ027	Chatham Waters	Gillingham	01/06/2020
WRZ028	Media City	Salford M50	13/02/2009
WRZ029	No.1 Old Trafford	Salford M17	10/11/2020
WRZ030	Castle Irwell	Salford M6	02/06/2021
WRZ031	Oxted Gardens	Oxted	02/06/2021
WRZ032	Queen Street	Salford M3	29/06/2021
WRZ033	D'Urton Lane	Preston	14/07/2021
WRZ034	Worrall Street	Salford M5	19/07/2021
WRZ035	Wirral Waters	Birkenhead	09/08/2021
WRZ036	Dockers Club	Liverpool	24/08/2021
WRZ037	One Baltic Square	Liverpool	15/09/2021
WRZ038	Oldham Street	Manchester M1	21/09/2021
WRZ039	CITU	Leeds	30/09/2021
WRZ040	Redhill Way	Telford	21/10/2021
WRZ041	Liverpool John Lennon Airport	Liverpool	24/11/2021
WRZ042	Market Quarter	Rugby	06/12/2021
WRZ043	Heriot Street	Liverpool L5	07/12/2021
WRZ044	Station Road	Mickleover	24/12/2021

WRZ045	Gold Lane	Biddenham	19/01/2022
WRZ046	Hallgate Lane	Pilsley	26/01/2022
WRZ047	Bridle Lane	Downham Market	04/02/2022
WRZ048	Trafford Plaza	Salford M5	18/02/2022
WRZ049	Conrad Road	Witham	21/02/2022
WRZ050	Regent's Plaza	Salford M5	16/02/2022
WRZ051	Element - The Quarter	Liverpool L6	07/03/2022
WRZ052	Barton Farm	Winchester	31/03/2022
WRZ053	Roscoe Street	Liverpool	23/05/2022
WRZ054	Seashell Trust	Heald Green	01/06/2022
WRZ055	Sherdley Road	St. Helens	27/06/2022
WRZ056	Spencer's Park	Hemel Hempstead	29/06/2022
WRZ057	Anchorage	Manchester M50	04/07/2022
WRZ058	Stanton Cross	Wellingborough	06/07/2022
WRZ059	Golf Drive	Nuneaton	22/07/2022
WRZ060	Church Street	Braintree	04/08/2022
WRZ061	Twelvetrees Park	London E16	02/09/2022
WRZ062	Drakelow Park	Swadlincote	09/09/2022
WRZ063	Victoria Road	Warminster	14/10/2022
WRZ064	Woolavington Road	Somerset	07/11/2022
WRZ065	Victoria House	Manchester	17/11/2022
WRZ066	Viadux	Manchester	18/11/2022
WRZ067	Landmark X1	Salford	06/12/2022
WRZ068	Fiddington	Tewkesbury	19/12/2022
WRZ069	Landywood Lane	Great Wryley	14/02/2023
WRZ070	Poverty Lane	Liverpool	16/02/2023
WRZ071	Thickthorn	Kenilworth	27/02/2023
WRZ072	Main Road	Didcot	22/02/2023
WRZ073	Lapwing Drive	Hampton-in-Arden	22/03/2023
WRZ074	Rhodes Park	Sellindge	22/03/2023
WRZ075	Derwent Street	Manchester	27/03/2023
WRZ076	Broomhall Way	Worcester	28/03/2023
WRZ077	Oak Lane	Kingswinford	12/04/2023
WRZ078	Manor Road	Cheltenham	27/04/2023
WRZ079	Moorbridge Court	Maidenhead	25/05/2023
WRZ080	The Eight Gardens	London	25/05/2023
WRZ081	Coseley Park	Dudley	30/05/2023
WRZ082	Semington Road	Melksham	04/08/2023
WRZ083	Sundon Road	Harlington	15/08/2023
WRZ084	Twelve Acre Drive	Abingdon	13/09/2023
WRZ085	Perrybrook Farm	Gloucester	22/09/2023
WRZ086	Apedale Road	Newcastle-Under-Lyme	05/10/2023
WRZ087	Woodberry Down	Hackney	06/10/2023
WRZ088	Broadway	Maidenhead	23/10/2023

WRZ089	Wirral Waters (legacy)	Birkenhead	20/11/2023
WRZ090	Eady Drive	Market Harborough	24/11/2023
WRZ091	Milestone Road	Carterton	28/11/2023
WRZ092	Flowers Lane	Crewe	04/12/2023
WRZ093	Canada Water A1&A2	London	21/11/2023
WRZ094	Winterbrook Lane	Wallingford	07/12/2023
WRZ095	Canford Park	Bournemouth	11/12/2023
WRZ096	Yaddlethorpe	Scunthorpe	14/12/2023
WRZ097	Sandyhill Lane	Ipswich	19/12/2023
WRZ098	Pinchington Lane	Newbury	02/01/2024
WRZ099	Dunstall Farm	Moreton-in-Marsh	18/01/2024
WRZ100	Lotmead Villages	Swindon	01/02/2024
WRZ101	Chilsey Green Farm	Chertsey	14/02/2024
WRZ102	Kingsgrove	Wantage	29/02/2024
WRZ103	Valley Park	Didcot	18/03/2024
WRZ104	Birchwood Lane	Derby	19/03/2024
WRZ105	Shenley Wood	Milton Keynes	20/03/2024
WRZ106	Montem Lane	Slough	16/04/2024
WRZ107	One Eastside	Birmingham	11/06/2024
WRZ108	Langford Bridge	Newton Abbott	20/06/2024
WRZ109	Barming	Barming	20/06/2024
WRZ110	Clayton Road	Hayes	12/07/2024
WRZ111	Wharton Road	Winsford	17/07/2024
WRZ112	Burton Road	Horsea	08/09/2024
WRZ113	John Clark Way	Higham Ferrer	21/08/2024
WRZ114	Greenwich 19.05	London	23/08/2024
WRZ115	Shetcliffe Lane	Bradford	23/08/2024
WRZ116	Bodingtons Brewery	Manchester	28/08/2024
WRZ117	School Lane	Forton	05/09/2024
WRZ118	Mastin Moor	Chesterfield	06/09/2024
WRZ119	Kingsley Drive	Harrogate	11/09/2024
WRZ120	Lumina Village	Manchester	26/09/2024
WRZ121	West Sompting	Worthing	02/10/2024
WRZ122	Elm Way	Castleford	02/10/2024
WRZ123	Clapham Park	London SW4	07/10/2024
WRZ124	White Post	Stratton-on-the-Fosse	14/10/2024

Table 1 LNWL Water Resource Zones

All appointments made up to 11 October 2024 are covered by this plan. Subsequent appointments will be added at most six months from the date of publication and at the annual review of the plan.

3.1 LNWL Metering

All our sites are 100% metered. The majority of our legacy meters are 'dumb', though since 2019 all new and replacement meters are AMI capable.

Direction 3f requires companies to provide an estimate of the cost of any smart meter programme. Until our trial programme is complete and has been assessed, we will not have an approved forward budget. Some indicative figures are, however, provided in section 5.2 'Developing real-time measurement of customer demand'.

4. Supply-Demand Balance

Water companies with deployable output have a duty to make available sufficient resources to meet normal demand plus an additional capacity to account for uncertainties in the supply – demand balance. This is expressed as Target Headroom (TH) and may be in the form of additional storage capacity or abstraction and treatment facilities.

LNWL has no deployable output and therefore we have viewed TH from the perspective of variations in demand, within the context of the consumption figures agreed for the bulk contract.

The general method of assessing TH is to use one of two approaches. For small companies and those with no deployable output, the UKWIR 1998[2] methodology is generally accepted. In this method, a score is assigned to each source of uncertainty depending on the degree of that uncertainty and the scale of its impact on the supply-demand balance. These factors are shown in the table below:

	Supply Related	Score Range
S1	Vulnerable surface water licences	0 to 10
S2	Vulnerable ground water licences	0 to 10
S3	Time limited licences	0 to 15
S4	Bulk transfers	0 to 5
S5	Gradual pollution of sources causing a reduction in abstraction	0 to 15
S6	Accuracy of supply-side data	0 to 5
S7	Single source dominance and critical periods	0 to 15
S8	Uncertainty of impact of climate change on source yield	0 to 10
	Demand Related	
D1	Accuracy of sub-component data	0 to 5
D2	Demand forecast variation	0 to 15
D3	Uncertainty of impact of climate change on demand	0 to 5

[2] A revised methodology "UKWIR Improved Methodology for Assessing Headroom" was issued in 2002, but we have continued with the 1998 method as we believe it to be most appropriate for a NAV

All LNWL supplies are provided via bulk metered connections and the Water Available For Use (WAFU) is therefore defined by a demand-driven assessment agreed with the donor company. The reliability of the supply is dependent upon the resource zone of the donor company being maintained at a sustainable level, with sufficient hydraulic capacity and operational flexibility within the surrounding network. LNWL can have little or no impact on Supply Related matters as they pertain to licenses, pollution or supply-side data as these are fully within the remit of the bulk supplier and will be assessed within their own WRMP. We also believe it is reasonable to assume that the development sites which comprise our zones have already been accounted for within local area planning and have thereby formed part of the donor company's overall resource zone assessment.

In that respect, of the Supply Related factors in the table above, we have assessed S4 Bulk (Transfers) from the perspective of operational reliability and hydraulic capacity and S6 (Accuracy of Supply Side Data) from the perspective of the accuracy of the bulk transfer measuring equipment. Bulk connections are made to diverse and interconnected networks within large resource zones, following hydraulic and resource assessment by the donor company. This assessment takes into account the expected maximum annual consumption, the daily average consumption and the likely peak flow characteristics of the site with any additional network capacity required being installed as part of the supply agreement. For these reasons, we would score S4 as being at the reliable end of the spectrum.

For the Demand-related factors we would rate D1 as 4 to 5, owing to having no specific detail on sub-components and D3 as 0 to 1, reflecting the limited impact of climate change on demand. For D2 – Demand forecast variation, we recognise that the 25-year span of this plan provides an inherent level of uncertainty. Our sites are discrete geographical areas, which will be fully built to their planning consent and in WRMP19 we did not consider additional demand arising from an increase in construction beyond the original planning consent. Our annual review in 2022 demonstrated that some sites have shown a moderately significant growth over that stated by the consent. Demographic factors, such as changes in occupancy, will be the other main source of uncertainty and our forward policy of understanding occupancy at existing and future sites will feed into this assessment. For this plan, we still assess D2 as being moderately reliable.

We consider this method of assessing uncertainty has value with regard to resource planning but where a bulk supply is concerned uncertainty is most likely to manifest as an additional amount over and above the initial demand assessment.

In our negotiations with the incumbent operators we have specifically agreed clauses allowing for a variation in the maximum demand allowance for any given site. This option may be exercised to account for any long-term deficit situation where other methods, such as demand management and active leakage control, are considered unlikely to have the desired effect. Such negotiations would be intended to establish what, if any, hydraulic capacity improvements were required to the incumbent's network.

In our WRMP19 and with reference to our assessment of uncertainty we set a specific minimum TH across our zones of 3% of available input. Taking the above into account we now believe that it would be prudent to aim for a target headroom of 5% of the initial site demand estimate.

4.1 WRZ Supply-Demand Balance

Table 2 below shows our zones, grouped by incumbent bulk supplier, along with the contracted

maximum annual demand and resulting Supply-Demand Balance (SDB), when measured against the expected demand.

Resource Zone	Site Name	Incumbent Clean	WAFU m3/annum	SDB on expected consumption
WRZ000	Liverpool International Business Park	United Utilities	788000	781500
WRZ001	Old Sarum	Wessex Water	126000	13470
WRZ002	Llanilid Park	Dwr Cymru Welsh Water	29403	2673
WRZ003	Hale Village	Thames Water	283500	23900
WRZ004	Kennet Island	Thames Water	115882	12012
WRZ005	Bromley Common	Thames Water	90200	12980
WRZ006	Park Views	Sutton & East Surrey Water	100000	62600
WRZ007	Graylingwell Park	Portsmouth Water	109500	24500
WRZ008	Kingsmere	Thames Water	268800	57070
WRZ009	Great Western Park	Thames Water	420800	57800
WRZ010	New South Quarter	Thames Water	54750	13610
WRZ011	Barking Riverside	Essex & Suffolk Water	1398000	193450
WRZ012	Farndon Road	Severn Trent Water	79900	8710
WRZ013	Brewery Square	Wessex Water	100000	17450
WRZ014	Marine Wharf	Thames Water	71148	6468
WRZ015	Riverlight	Thames Water	101640	9240
WRZ016	Norwich Common	Anglian Water	50700	15060
WRZ017	Hills Farm Lane	Southern Water	120100	6890
WRZ018	Newlands	Portsmouth Water	317900	30750
WRZ019	Heart of East Greenwich	Thames Water	94626	11746
WRZ020	Embassy Gardens	Thames Water	276700	135970
WRZ021	Emerson's Green	Bristol Water	325000	25400
WRZ022	Kingsbrook	Thames Water	323800	49300
WRZ023	Millharbour Central	Thames Water	124500	25390
WRZ024	RAM Quarter	Thames Water	90900	17970
WRZ025	Prince of Wales Drive	Thames Water	115300	23010
WRZ026	White City	Thames Water	254000	9500
WRZ027	Chatham Waters	Southern Water	255900	149530
WRZ028	Media City	United Utilities	353000	256750
WRZ029	No.1 Old Trafford	United Utilities	277516	238026
WRZ030	Castle Irwell	United Utilities	60500	5500
WRZ031	Oxted Gardens	Sutton & East Surrey Water	41106	28786
WRZ032	Queen Street	United Utilities	26499	2409
WRZ033	D'urton Lane	United Utilities	30250	2750
WRZ034	Worrall Street	United Utilities	10648	968
WRZ035	Wirral Waters	United Utilities	41987	3317
WRZ036	Dockers Club	United Utilities	27951	2541

WRZ037	One Baltic Square	United Utilities	35816	3256
WRZ038	Oldham Street	United Utilities	14235	3235
WRZ039	CITU	Yorkshire Water	30734	2794
WRZ040	Redhill Way	Severn Trent Water	54450	4950
WRZ041	Liverpool John Lennon Airport	United Utilities	313900	313790
WRZ042	Market Quarter	Severn Trent Water	49275	9425
WRZ043	Heriot Street	United Utilities	10950	2590
WRZ044	Station Road	Severn Trent Water	27786	5206
WRZ045	Gold Lane	Anglian Water	60079	32439
WRZ046	Hallgate Lane	Severn Trent Water	13414	2384
WRZ047	Bridle Lane	Anglian Water	57724	31074
WRZ048	Trafford Plaza	United Utilities	24455	5535
WRZ049	Conrad Road	Essex & Suffolk Water	18150	1650
WRZ050	Regents Plaza	United Utilities	74825	17075
WRZ051	Element - The Quarter	United Utilities	64240	14740
WRZ052	Barton Farm	Southern Water	74095	45055
WRZ053	Roscoe Street	United Utilities	11673	2653
WRZ054	Seashell Trust	United Utilities	46264	10514
WRZ055	Sherdley Road	United Utilities	41851	9291
WRZ056	Spencer's Park	Affinity Water	72671	6671
WRZ057	Anchorage	United Utilities	41254	10674
WRZ058	Stanton Cross	Anglian Water	90863	49033
WRZ059	Golf Drive	Severn Trent Water	109678	40868
WRZ060	Church Street	Anglian Water	63609	34429
WRZ061	Twelvetrees Park	Thames Water	125500	11540
WRZ062	Drakelow Park	South Staffordshire Water	242000	22000
WRZ063	Victoria Road	Wessex Water	121000	11000
WRZ064	Woolavington Road	Wessex Water	15250	2050
WRZ065	Victoria House	United Utilities	25550	6080
WRZ066	Viadux	United Utilities	53655	12735
WRZ067	Landmark X1	United Utilities	23232	2112
WRZ068	Fiddington	Severn Trent Water	150122	56122
WRZ069	Landywood Lane	South Staffordshire Water	6352	852
WRZ070	Poverty Lane	United Utilities	119720	27210
WRZ071	Thickthorn	Severn Trent Water	66550	5800
WRZ072	Main Road	Thames Water	8954	814
WRZ073	Lapwing Drive	Severn Trent Water	14734	3624
WRZ074	Rhodes Park	Affinity Water	20000	2180
WRZ075	Derwent Street	United Utilities	23000	9800
WRZ076	Broomhall Way	Severn Trent Water	16249	6129
WRZ077	Oak Lane	South Staffordshire Water	32912	2992
WRZ078	Manor Road	Severn Trent Water	46803	17403

WRZ079	Moorbridge Court	South East Water	15609	1419
WRZ080	The Eight Gardens	Affinity Water	156000	20920
WRZ081	Coseley Park	South Staffordshire Water	57112	5192
WRZ082	Semington Road	Wessex Water	19162	3322
WRZ083	Sundon Road	Anglian Water	26536	11106
WRZ084	Twelve Acre Drive	Thames Water	44891	4081
WRZ085	Perrybrook Farm	Severn Trent Water	76827	28477
WRZ086	Apedale Road	Severn Trent Water	58283	21733
WRZ087	Woodberry Down	Thames Water	71000	5760
WRZ088	Broadway	South East Water	68064	20874
WRZ089	Wirral Waters (legacy)	United Utilities	71540	16290
WRZ090	Eady Drive	Severn Trent Water	61815	23065
WRZ091	Milestone Road	Thames Water	30250	8250
WRZ092	Flowers Lane	United Utilities	56940	12940
WRZ093	Canada Water A1&A2	Thames Water	75100	34640
WRZ094	Winterbrook Lane	Thames Water	70422	5402
WRZ095	Canford Park	South West Water	110111	32661
WRZ096	Yaddlethorpe	Anglian Water	45143	22893
WRZ097	Sandyhill Lane	Anglian Water	17849	8249
WRZ098	Pinchington Lane	Thames Water	19100	1830
WRZ099	Dunstall Farm	Thames Water	35000	6500
WRZ100	Lotmead Villages	Thames Water	350400	103510
WRZ101	Chilsey Green Farm	Affinity Water	26290	7590
WRZ102	Kingsgrove	Thames Water	94310	8510
WRZ103	Valley Park	Thames Water	520354	47414
WRZ104	Birchwood Lane	Severn Trent Water	34970	12940
WRZ105	Shenley Wood	Anglian Water	40535	5085
WRZ106	Montem Lane	Thames Water	25652	2332
WRZ107	One Eastside	Severn Trent Water	117802	43932
WRZ108	Langford Bridge	South West Water	71349	22779
WRZ109	Barming Phase 2A	South East Water	22000	2200
WRZ110	Clayton Road	Affinity Water	51909	5999
WRZ111	Wharton Road	United Utilities	29182	6632
WRZ112	Burton Road	Yorkshire Water	24000	2550
WRZ113	John Clark Way	Anglian Water	57269	24269
WRZ114	Greenwich 19.05	Thames Water	54450	7040
WRZ115	Shetcliffe Lane	Yorkshire Water	18150	6490
WRZ116	Bodingtons Brewery	United Utilities	80855	16695
WRZ117	School Lane	United Utilities	26171	5931
WRZ118	Mastin Moor	Severn Trent Water	52454	19784
WRZ119	Kingsley Drive	Yorkshire Water	19602	1782
WRZ121	West Sompting	Southern Water	94900	43860
WRZ122	Elm Way	Yorkshire Water	24321	2211

WRZ123	Clapham Park	Thames Water	62920	5720
WRZ120	Lumina Village	United Utilities	89060	20030
WRZ124	White Post	South West Water	50673	16353

Table 2 – WRZ SDB against expected consumption

Table 3 shows the SDB when desired headroom is taken into account.

Resource Zone	Site Name	Incumbent Clean	WAFU m3/annum	SDB on expected consumption	SDB against target headroom
WRZ000	Liverpool International Business Park	United Utilities	788000	781500	780850
WRZ001	Old Sarum	Wessex Water	126000	13470	2217
WRZ002	Llanilid Park	Dwr Cymru Welsh Water	29403	2673	0
WRZ003	Hale Village	Thames Water	283500	23900	-2060
WRZ004	Kennet Island	Thames Water	115882	12012	1625
WRZ005	Bromley Common	Thames Water	90200	12980	5258
WRZ006	Park Views	Sutton & East Surrey Water	100000	62600	58860
WRZ007	Graylingwell Park	Portsmouth Water	109500	24500	16000
WRZ008	Kingsmere	Thames Water	268800	57070	35897
WRZ009	Great Western Park	Thames Water	420800	57800	21500
WRZ010	New South Quarter	Thames Water	54750	13610	9496
WRZ011	Barking Riverside	Essex & Suffolk Water	1398000	193450	72995
WRZ012	Farndon Road	Severn Trent Water	79900	8710	1591
WRZ013	Brewery Square	Wessex Water	100000	17450	9195
WRZ014	Marine Wharf	Thames Water	71148	6468	0
WRZ015	Riverlight	Thames Water	101640	9240	0
WRZ016	Norwich Common	Anglian Water	50700	15060	11496
WRZ017	Hills Farm Lane	Southern Water	120100	6890	-4431
WRZ018	Newlands	Portsmouth Water	317900	30750	2035
WRZ019	Heart of East Greenwich	Thames Water	94626	11746	3458
WRZ020	Embassy Gardens	Thames Water	276700	135970	121897
WRZ021	Emerson's Green	Bristol Water	325000	25400	-4560
WRZ022	Kingsbrook	Thames Water	323800	49300	21850
WRZ023	Millharbour Central	Thames Water	124500	25390	15479
WRZ024	RAM Quarter	Thames Water	90900	17970	10677
WRZ025	Prince of Wales Drive	Thames Water	115300	23010	13781
WRZ026	White City	Thames Water	254000	9500	-14950
WRZ027	Chatham Waters	Southern Water	255900	149530	138893
WRZ028	Media City	United Utilities	353000	256750	247125
WRZ029	No.1 Old Trafford	United Utilities	277516	238026	234077
WRZ030	Castle Irwell	United Utilities	60500	5500	0

WRZ031	Oxted Gardens	Sutton & East Surrey Water	41106	28786	27554
WRZ032	Queen Street	United Utilities	26499	2409	0
WRZ033	D'urton Lane	United Utilities	30250	2750	0
WRZ034	Worrall Street	United Utilities	10648	968	0
WRZ035	Wirral Waters	United Utilities	41987	3317	-550
WRZ036	Dockers Club	United Utilities	27951	2541	0
WRZ037	One Baltic Square	United Utilities	35816	3256	0
WRZ038	Oldham Street	United Utilities	14235	3235	2135
WRZ039	CITU	Yorkshire Water	30734	2794	0
WRZ040	Redhill Way	Severn Trent Water	54450	4950	0
WRZ041	Liverpool John Lennon Airport	United Utilities	313900	313790	313779
WRZ042	Market Quarter	Severn Trent Water	49275	9425	5440
WRZ043	Heriot Street	United Utilities	10950	2590	1754
WRZ044	Station Road	Severn Trent Water	27786	5206	2948
WRZ045	Gold Lane	Anglian Water	60079	32439	29675
WRZ046	Hallgate Lane	Severn Trent Water	13414	2384	1281
WRZ047	Bridle Lane	Anglian Water	57724	31074	28409
WRZ048	Trafford Plaza	United Utilities	24455	5535	3643
WRZ049	Conrad Road	Essex & Suffolk Water	18150	1650	0
WRZ050	Regents Plaza	United Utilities	74825	17075	11300
WRZ051	Element - The Quarter	United Utilities	64240	14740	9790
WRZ052	Barton Farm 2A	Southern Water	74095	45055	42151
WRZ053	Roscoe Street	United Utilities	11673	2653	1751
WRZ054	Seashell Trust	United Utilities	46264	10514	6939
WRZ055	Sherdley Road	United Utilities	41851	9291	6035
WRZ056	Spencer's Park	Affinity Water	72671	6671	71
WRZ057	Anchorage	United Utilities	41254	10674	7616
WRZ058	Stanton Cross	Anglian Water	90863	49033	44850
WRZ059	Golf Drive	Severn Trent Water	109678	40868	33987
WRZ060	Church Street	Anglian Water	63609	34429	31511
WRZ061	Twelvetrees Park	Thames Water	125500	11540	144
WRZ062	Drakelow Park	South Staffordshire Water	242000	22000	0
WRZ063	Victoria Road	Wessex Water	121000	11000	0
WRZ064	Woolavington Road	Wessex Water	15250	2050	730
WRZ065	Victoria House	United Utilities	25550	6080	4133
WRZ066	Viadux	United Utilities	53655	12735	8643
WRZ067	Landmark X1	United Utilities	23232	2112	0
WRZ068	Fiddington	Severn Trent Water	150122	56122	46722
WRZ069	Landywood Lane	South Staffordshire Water	6352	852	302
WRZ070	Poverty Lane	United Utilities	119720	27210	17959

WRZ071	Thickthorn	Severn Trent Water	66550	5800	-274.72
WRZ072	Main Road	Thames Water	8954	814	0
WRZ073	Lapwing Drive	Severn Trent Water	14734	3624	2513.05
WRZ074	Rhodes Park	Affinity Water	20000	2180	398
WRZ075	Derwent Street	United Utilities	23000	9800	8480
WRZ076	Broomhall Way	Severn Trent Water	16249	6129	5117
WRZ077	Oak Lane	South Staffordshire Water	32912	2992	0
WRZ078	Manor Road	Severn Trent Water	46803	17403	14463
WRZ079	Moorbridge Court	South East Water	15609	1419	0
WRZ080	The Eight Gardens	Affinity Water	156000	20920	7412
WRZ081	Coseley Park	South Staffordshire Water	57112	5192	0
WRZ082	Semington Road	Wessex Water	19162	3322	1738
WRZ083	Sundon Road	Anglian Water	26536	11106	9563
WRZ084	Twelve Acre Drive	Thames Water	44891	4081	0
WRZ085	Perrybrook Farm	Severn Trent Water	76827	28477	23642
WRZ086	Apedale Road	Severn Trent Water	58283	21733	18078
WRZ087	Woodberry Down	Thames Water	71000	5760	-764
WRZ088	Broadway	South East Water	68064	20874	16155
WRZ089	Wirral Waters (legacy)	United Utilities	71540	16290	10765
WRZ090	Eady Drive	Severn Trent Water	61815	23065	19190
WRZ091	Milestone Road	Thames Water	30250	8250	6050
WRZ092	Flowers Lane	United Utilities	56940	12940	8540
WRZ093	Canada Water A1&A2	Thames Water	75100	34640	30594
WRZ094	Winterbrook Lane	Thames Water	70422	5402	-1100
WRZ095	Canford Park	South West Water	110111	32661	24916
WRZ096	Yaddlethorpe	Anglian Water	45143	22893	20668
WRZ097	Sandyhill Lane	Anglian Water	17849	8249	7289
WRZ098	Pinchington Lane	Thames Water	19100	1830	103
WRZ099	Dunstall Farm	Thames Water	35000	6500	3650
WRZ100	Lotmead Villages	Thames Water	350400	103510	78821
WRZ101	Chilsey Green Farm	Affinity Water	26290	7590	5720
WRZ102	Kingsgrove	Thames Water	94310	8510	-70
WRZ103	Valley Park	Thames Water	520354	47414	120
WRZ104	Birchwood Lane	Severn Trent Water	34970	12940	10737
WRZ105	Shenley Wood	Anglian Water	40535	5085	1540
WRZ106	Montem Lane	Thames Water	25652	2332	0
WRZ107	One Eastside	Severn Trent Water	117802	43932	36545
WRZ108	Langford Bridge	South West Water	71349	22779	17922
WRZ109	Barming Phase 2A	South East Water	22000	2200	220
WRZ110	Clayton Road	Affinity Water	51909	5999	1408
WRZ111	Wharton Road	United Utilities	29182	6632	4377
WRZ112	Burton Road	Yorkshire Water	24000	2550	405

WRZ113	John Clark Way	Anglian Water	57269	24269	20969
WRZ114	Greenwich 19.05	Thames Water	54450	7040	2299
WRZ115	Shetcliffe Lane	Yorkshire Water	18150	6490	5324
WRZ116	Bodingtons Brewery	United Utilities	80855	16695	10279
WRZ117	School Lane	United Utilities	26171	5931	3907
WRZ118	Mastin Moor	Severn Trent Water	52454	19784	16517
WRZ119	Kingsley Drive	Yorkshire Water	19602	1782	0
WRZ121	West Sompting	Southern Water	94900	43860	38756
WRZ122	Elm Way	Yorkshire Water	24321	2211	0
WRZ123	Clapham Park	Thames Water	62920	5720	0
WRZ120	Lumina Village	United Utilities	89060	20030	13127
WRZ124	White Post	South West Water	50673	16353	12921

Table 3– WRZ SDB against expected consumption plus headroom

4.2 Regional Supply-Demand Balance

Table 4 shows the Supply Demand Balance against expected consumption in total for each incumbent supplier as at October '24.

Supplier	Against expected consumption	Against expected consumption + headroom
Affinity Water	43360	15009
Anglian Water	233637	205970
Bristol Water	25400	-4560
Dwr Cymru Welsh Water	2673	0
Essex & Suffolk Water	195100	72995
Portsmouth Water	55250	18035
Severn Trent Water	310552	238496
South East Water	24490	16375
South Staffordshire Water	31036	302
South West Water	71793	18586
Southern Water	245335	215369
Sutton & East Surrey Water	91386	86414
Thames Water	719309	363755
United Utilities	1823569	1716454
Wessex Water	47292	13880
Yorkshire Water	15827	5729

Table 4 – Regional Supply Demand Balance

4.3 Supply-Demand Balance Assessment

Deficits

In our draft plan we noted that a number of sites indicated a paper deficit when assessed against a) expected consumption and b) expected consumption plus headroom. For legacy sites this SDB may have been a result of unforeseen changes in demand due to increased occupancy or construction over and above expected. It is also noted that our earlier contracted volumes assumed a smaller level of uncertainty of between 3 & 5%. There are a number of new sites not yet in supply which are showing a long-term deficit, which is the result of erroneous calculations at contract stage.

We responded to these deficits by, in the first instance, approaching the bulk suppliers and agreeing an increase in the contracted volumes and have set in place controls to ensure that future calculations of site demand are consistent. Where the deficit is against the target headroom only and that deficit is minimal we have not taken any action and will instead monitor consumption at the sites. Only one site (WRZ026 White City) shows a significant shortfall. However, this site is currently the subject of an increase in properties for which an application has been made to the regulator. We have received a draft bulk contract for this increase, including the original site, which also includes an uplift to account for the additional headroom. We do not therefore intend to seek a separate variation as the new contract will replace the existing. For legacy sites, in addition to requesting an increase we will continue to establish the root causes with reference to our annual review of WRMP19 and we expect our ongoing development of our water balance activities to form a significant part of that process

The deficits have not resulted in a reduction in service to those customers. Further discussion may be found in Appendix 1.

Change Management
Our bulk contracts contain clauses permitting either party to request a variation to the contract, including requests for an increase or decrease in the contracted volume.

Restrictions to supply
Other than Force Majeure or temporary planned or unplanned works, there are no provisions for the arbitrary restriction of the supply. All contracts require LNWL to mirror restrictions imposed by the bulk supplier on its own customers as a result of ordinary or emergency drought orders.

Duration
With the exceptions noted here, all contracts are enduring with the exception of Llanilid Park.

Llanilid Park was granted prior to Ofwat requiring contracts as a prerequisite for approval. An interim contract was signed in 2011, which did not specify WAFU but limited the number of properties that could be supplied to 250. Subsequently, the LNWL part of the site has been limited to the existing build of 243 residential properties and the WAFU shown in Table 2 is the amount that would be requested for this number of properties. Natural Resources Wales (NRW), in their response to our draft plan, have noted that the company should confirm when it expects a formal contract to be concluded with Welsh Water (DCWW). We have previously agreed with DCWW to return the site to them and the subsequently made a formal application to Ofwat. All preliminary enquiries have been completed and we are expecting the public consultation to take place in October ’24. We would then expect the variation to our appointment be confirmed before 2025.

5. WRMP24 Policy Commitments

5.1 Monitoring of Bulk Meters

All our sites are supplied via bulk meters. We receive monthly invoices based on the consumption recorded at these meters and these readings can indicate variations or increases in consumption over time. However, it is clear that such trends will only become apparent when the site is predominantly or fully complete and we have a consistent record, with a risk that ‘embedded’ leakage becomes accepted as part of the site consumption profile.

As a result of the outputs from our review of WRMP19 it is apparent that our level of day-to-day

network knowledge requires enhancement to more fully understand individual consumption patterns and to enable us to accurately reconcile consumption with distribution input.

A key element of identifying possible leakage is the nightline characteristics of a site. There are several factors in effectively using such data to identify leakage as opposed to consumption. It is necessary to understand how the site characteristics compare with similar arrangements, what the minimum flow means in terms of litres/head/day and what the trend is over time. There are inherent limits to the level of certainty that may be given to data from bulk telemetry. The sensitivity of the recording equipment, frequency of sampling and actual customer use will all have an impact and in using the data it will be important to have developed a robust approach to establishing parameters which may trigger active leak detection activities. At the time of publication of this Plan, we have installed in excess of 50 bulk loggers and are now developing a comprehensive method of collating customer consumption, incumbent invoicing and outputs from our own loggers as part of our overall water balancing process. Outputs from this process will be used to determine when and where active demand management should be applied.

Operationally, real-time monitoring of distribution input and customer metered consumption will go some way towards identifying both immediate potential leakage and monitoring developing trends over time.

We commit to gaining full coverage to network flow and volume information across all our sites, wherever possible.

5.2 Developing Real-Time Measurement of Customer Demand

Demand - Household

In our initial assessment of a potential new appointment we assume a standard level of consumption per unit, of 110m^3/annum. We also assume an average occupancy of 2.4 people per household, which results in a notional PCC of 131 litres. The CCW 'Company Performance Data Appendices 2020-21' shows PCC for measured properties ranging from a reported 116.6 litres (South West & Bournemouth) to 153.75 litres (Northumbrian), with an overall average of 132 litres. As we have 100% metering, we do not include unmeasured PCC in our estimates.

Since 2019 all newly fitted meters at LNWL sites have been capable of AMI. We have a forward programme of assessment of legacy sites for retrofitting of such meters. We are assessing third-party options for AMI and, beginning 2022 – 23, have been trialling such options at selected existing sites, prior to a programmed roll-out. The initial zones chosen are WRZ014 (Marine Wharf), WRZ020 (Embassy Gardens) and WRZ023 (Millharbour Central). This action has full Board commitment and the timescales for conclusion of this activity will be informed by the results of the current trial and will be included in WRMP24 as soon as this is available, likely to be at the first annual review in 2025.

The three sites choses represent perhaps the most challenging of our current appointments, being inner-city high-rise apartments with limited access and with meters fitted in apartments, requiring coordination between the building management, the Company and customers. A number of the apartments are investment units or absentee owners, so not always occupied. Not all the installations are a simple case of 'screw out / screw in' and in some cases new meter carriers must be fitted, where possible. This means higher costs and slower installation.

The current trial programme is therefore seeing costs ranging from £280 to £300 per meter including labour and equipment.

It is reasonable to expect that installations at other sites, particularly those where the meters are

accessible from the outside or from common areas, will be cheaper and more rapid.

Demand – Non-Household
We do not specifically assess non-household consumption during the application process as our sites are predominantly residential and commercial properties are often only presented as, for example, retail units without any specifics around final use. Larger sites will often include one or more schools, which may be included in our model but will generally be catered for within the bulk contract by means of an 'uncertainty' factor added to the assessed residential consumption.
As most of our non-household premises are small to medium enterprises we have seen relatively little penetration by Retail Licensees, generally focused on larger consumers.

As at October 2024, LNWL had 290 water supply points in the market of which 60 were registered with a Retail Licensee. We have hitherto had relatively little contact with these Licensees outside standard market interactions.

Demand – General
As we develop our ability to monitor consumption we will also develop internal processes geared towards using all available data to provide reporting more closely aligned to the requirements of this plan, our drought plan and annual reporting. We are now using a new billing system to assist with our reporting and have recently implemented the first phase of an Operations-focused interactive job management system, which will, amongst other things, be the primary repository of network incidents involving repairs and maintenance. Over time, data from this application, along with the previously noted bulk logger programme, will provide valuable insight into areas that may be considered to have higher risk of losses or damage and will help inform our capital maintenance programme.

5.3 Enhance Our Understanding of Occupancy

Residential Occupancy
We have historically assumed an occupancy of 2.3 persons per unit across the board. The Office of National Statistics now suggests that the average is closer to 2.4 and we will generally use this figure in the Tables. Whilst this figure is useful in assessing initial demand, it may not be representative of certain types of development. High-end apartment sites may have lower than average occupancy or be occupied only part of the year. Urban landscape sites may well have a different demographic to central city developments and the nature of NAV appointed areas, insofar as they are geographically discrete, renders them more likely to show variations in PCC due to the lack of the statistical levelling effect of much larger sample sizes.

Non-Household Occupancy
Although most of our appointments are wholly or mainly residential there are some instances where non-household demand is significant. Primary examples are Hale Village in London and Brewery Square in Dorchester. In the case of the latter, approximately 50% of billable consumption is non-household, though we expect this balance to shift towards household as the site progresses. One source of uncertainty with regard to non-household demand is the sometimes transitory and seasonal nature of occupancy. For example, Liverpool John Lennon Airport is assessed for DWI reporting purposes as having a population of 1,500 but clearly many more people may pass through the site on any given day.

Considering these factors, we recognise the need to better understand the nature of our sites to track actual PCC more accurately and to better inform/develop any required PCC reduction initiatives. We undertake to gather improved occupancy data during our site assessment and customer on-boarding process. We will also seek to develop ways to gather such data on legacy

sites.

5.4 Customer Engagement

Plans are in place to continue understanding current incumbent customer engagement plans to inform our wider programme of engagement with our customers, where this is feasible to do so. This will build on our current customer campaign plan and initiatives in such areas as:

- Continue issuing 'Save Water' messaging via our website and directly to customers via emails and SMS
- Continue communicating any relevant information relating to current or planned Temporary Use Bans, as applicable
- Improving the accessibility of our website and key messages relevant to water resources and/or drought
- Improving bills to provide comparison information to influence customer behaviours

6. Stakeholder Engagement

6.1 Residential Customers

One of our core policies for this plan is understanding our customers both from a perspective of levels of occupancy and consumption patterns and to engage with them to explain our present and future actions to reduce consumption and wastage.

We will improve our on-boarding process to capture more specific detail about households and will review our current communication touchpoints to enhance our ability to reach customers quickly and easily in their preferred manner. Our website is under review to improve accessibility and relevance.

During the 2022 drought events, we were able to reach 66% of our customers directly via email and text. We will work to improve this coverage and will seek cost-effective ways of reaching those customers for whom digital contact is not possible or desirable.

6.2 Non-Household Customers

LNWL has a relatively small number of non-household customers, most of which are small to medium enterprises. As we have not exited the non-household retail market, most such customers receive communications directly from the Company. Although the level of commercial consumption is relatively low compared with residential, we recognise the importance of ensuring that we understand that consumption and that we can effectively communicate with those customers.

We will ensure that the planned improvements for household customers are mirrored for commercial premises.

6.3 Retail Licensees

A number of Retail Licensees operate within the LNWL sites and we expect this number to grow over time. Interaction with these Licensees has largely been limited to financial or operational contact. It is clear that we need to improve our level of engagement and focus on developing common strategies for ensuring that non-household consumption is efficient and adequately monitored.

In March 2020 a Joint Regulators letter was sent to retailers and wholesalers focused on delivering greater water efficiency in the business sector. The Retailer Wholesaler Working Group hosted by Market Operator Services Ltd produced a five-point action plan in response. Although to date we have not been involved in the working group we will review the outputs and engage with the group

to understand how we may contribute to its objectives. Throughout the period of this plan we will engage with Licensees to e ensuring that demand at non-household premises is properly benchmarked and, where necessary, is actively reduced.

6.4 Bulk Supply Companies

An important part of our developing communication plans is ensuring that our messages and objectives align with those of the incumbent companies providing services to our sites. The national objective of reducing average PCC to 110 litres per day by 2050 is supported by the Company, though we are mindful that small, discrete supply zones may exhibit consumption patterns that lie above this level, but do not necessarily imply excessive consumption.

To ensure alignment and consistency of messaging, we will instigate regular meetings with all bulk suppliers throughout the onward development of this plan.

6.5 Regional Plans

The National Framework these groups operate under is aimed at strategic objectives to improve resilience to drought, minimise interruptions to supplies and enhance the wider environment. We do acknowledge the focus on long-term reductions in water usage and leakage reduction and consider that NAVs have a role to play in these objectives. We note that the forward plans include a monitoring framework to track progress in reducing demand and will coordinate with this objective as details become available, as we consider that NAVs with 100% metering may be well placed to provide valuable data in this regard.

The INA Water Sub Committee has been discussing involvement in the Regional Planning groups as a way of ensuring that we align our objectives with those of the incumbent companies and that we have some input into the developing approaches to demand management. With limited resources, the NAVs within the INA have determined that a division of responsibilities is rational, with individual NAVs representing the INA at specific regional groups. The INA will become an associate member of the overarching regional group and each NAV choosing one or more groups to attend and report to the sub-committee. LNWL is likely to initially attend the South East Group.

7. Problem Characterisation

The UKWIR report “WRMP 2019 Methods – Decision Making Process: Guidance” notes that the Problem Characterisation Assessment is a tool for assessing a company’s vulnerability to various strategic issues, risks and uncertainties. Though primarily aimed at full-service companies with abstraction, treatment and storage, nevertheless we have taken a high-level approach to determining any current and future risks.

In addition to this and aligned to our Environmental, Social and Governance (ESG) strategy, we continue to develop and review our Climate Change Risk & Opportunity programme and framework considering key risks within the industry and relevant mitigation to minimise potential threats whilst also exploring potential opportunity initiatives.

7.1 Supply Side Risk

We consider that our primary supply-side risk is failure of the bulk supplier to adequately plan for future resource zone demand or changes in resource availability, leading to a reduction in the levels

of service available to its customers, including any NAVs. NAVs are required to reflect the bulk supplier's level of service and thus have an interest in the long-term plans of that supplier.

The very dry weather of 2022 and subsequent national declaration of drought with associated TUBs, whilst in line with stated service levels may presage a shift in climate in excess of that predicted within incumbent company plans. We will engage with incumbent companies to understand their approach to ensuring resilience of supplies and understand how we may support those objectives.

7.2 Outage

We consider that outage is most likely to occur upstream of our bulk import and may be related to failure of treatment works, the bulk supplier's delivery systems, loss of deployable output or contamination of the source supply. Outages resulting from loss of network functionality, either within our zones or within the bulk supplier's network, are not reliably quantifiable and are necessarily limited in scope. We have experienced limited events associated with issues at treatment works and incumbent planned works, but these have not resulted in more than a temporary reduction in service and have affected much wider areas that those encompassing our zones. We therefore do not consider that there is value in classing these as a significant risk from the perspective of resource availability.

7.3 Water Quality

All companies must prepare drinking water safety plans, an element of which concerns water quality changes resulting from changes in raw water supply, treatment or reduced flows in networks. The Drinking Water Inspectorate recently issued an information letter (05a / 2022) to all companies reminding them that the use of a drought order does not allow a derogation from existing obligations, such that the requirement to supply wholesome drinking water applies in all circumstances. The letter refers to Ordinary Drought Orders and Emergency Drought Orders, with the latter covering rota cuts, standpipes and water tanks. We consider that the risk of an emergency drought order is sufficiently low that we have not considered it as part of this plan.

An Ordinary Drought Order may require a bulk supplier to change raw water sources, quality or volume of water into treatment works. In such circumstances, the supplying company is required to put in place actions to ensure that it meets its legal obligations regarding water quality.

Should a bulk supplier to LNWL determine that it needs to change its supply arrangements such that there may be a change to water quality (as opposed to a drought permit to extract more from an existing source), we will engage with that supplier to understand the implications for our own customers and take actions deemed necessary to ensure the wholesomeness of the supply.

7.4 Demand Side Risk

The primary demand-side risks are increased leakage and customer demand. Improving our understanding of customer demand and leakage through the use of real-time monitoring will go some way towards establishing robust data over time, allowing us to better predict and plan for changes in demand. The knowledge gained will also better inform our initial assessment of a new site and thus feed into our discussions with the bulk supplier. Currently, we take our assumptions about customer demand and add a factor for uncertainty and headroom, presently 10%. Although simple, our ongoing objective is to more closely tailor our predictions according to the characteristics of the site. For example, a site solely consisting of apartments with no significant distribution network will have a different demand profile and much lower unaccounted for water than an urban site with houses, gardens and a long network. It may therefore be reasonable to reduce the expected demand in such cases.

Equally, impacts such as climate change are likely to have more effect on demand at locations with a higher requirement for maintenance of green spaces.

We assess our demand side risk as therefore being fundamentally linked to the availability of more granular and accurate data, through improvements in our understanding of occupancy and consumption patterns.

8. Supply Forecast

LNWL supplies water to each of its water supply areas via bulk supply connections from the incumbents' water networks in accordance with the bulk supply agreements in place for each site. We do not own or operate any treatment capacity. Our Levels of Service as detailed in our Drought Plan (https://www.leeputilities.co.uk/lnwl-drought-plan) are therefore inherently linked to those of the supplying company. The contracts specifically require LNWL to mirror any demand restriction activities. Table 4 indicates our Levels of Service, updated to include all sites included within this resource plan.

9. Demand Forecast

When forecasting the expected demand for a site, we take a notional consumption per unit of 110m^3/annum, a projection of the property connection rate reflecting build-out of the new properties at a site and an assumption around void properties and leakage rates to derive the demand profile. The outcome is then factored to provide a notional headroom for uncertainty. The bulk contracts reflect this final figure.

In our annual 2022 review of our WRMP19, we compared water imported in 2019 – 22, 2020 – 2021 and 2021 – 22. We also looked at the number of residential connections in each period and compared them with the maximum expected build. Table 5 shows the number of residential connections as of October 2024against the expected maximum for sites for which we have data.

WRZ	Site	Planned build	Build at October 2024	Completion against expected %
WRZ001	Old Sarum	1023	827	81%
WRZ002	Llanilid Park	243	243	100%
WRZ003	Hale Village	1260	1285	102%
WRZ004	Kennet Island	942	954	101%
WRZ005	Bromley Common	702	691	98%
WRZ006	Park Views	340	340	100%
WRZ007	Graylingwell Park	738	648	88%
WRZ008	Kingsmere	1743	1754	101%
WRZ009	Great Western Park	3300	3518	107%
WRZ010	New South Quarter	374	375	100%
WRZ011	Barking Riverside	10905	2977	27%
WRZ012	Farndon Road	629	595	95%

WRZ013	Brewery Square	655	375	57%
WRZ014	Marine Wharf	588	585	99%
WRZ015	Riverlight	840	843	100%
WRZ016	Norwich Common	324	325	100%
WRZ017	Hills Farm Lane	1011	722	71%
WRZ018	Newlands	2565	1333	52%
WRZ019	Heart of East Greenwich	641	711	111%
WRZ020	Embassy Gardens	1534	1595	104%
WRZ021	Emerson's Green	2534	2620	103%
WRZ022	Kingsbrook	2450	1811	74%
WRZ023	Millharbour Central	901	935	104%
WRZ024	RAM Quarter	663	353	53%
WRZ025	Prince of Wales Drive	839	930	111%
WRZ026	White City	1491	1382	93%
WRZ027	Chatham Waters	967	590	61%
WRZ028	Media City	875	1136	130%
WRZ029	No.1 Old Trafford	359	355	99%
WRZ030	Castle Irwell	500	367	73%
WRZ031	Oxted Gardens	112	111	99%
WRZ032	Queen Street	219	221	101%
WRZ033	D'urton Lane	250	213	85%
WRZ034	Worrall Street	88	86	98%
WRZ035	Wirral Waters	347	30	9%
WRZ036	Dockers Club	231	175	76%
WRZ037	One Baltic Square	296	296	100%
WRZ038	Oldham Street	100	99	99%
WRZ039	CITU	254	10	4%
WRZ040	Redhill Way	450	241	54%
WRZ041	Liverpool John Lennon Airport	1	1	100%
WRZ042	Market Quarter	360	356	99%
WRZ043	Heriot Street	76	79	104%
WRZ044	Station Road	203	175	86%
WRZ045	Gold Lane	249	215	86%
WRZ046	Hallgate Lane	98	93	95%
WRZ047	Bridle Lane	240	20	8%
WRZ048	Regents Plaza	525	92	18%
WRZ049	Trafford Plaza	172	175	102%
WRZ050	Conrad Road	150	155	103%
WRZ051	Element - The Quarter	450	410	91%
WRZ052	Barton Farm	264	236	89%
WRZ053	Roscoe Street	82	83	101%
WRZ054	Seashell Trust	325	174	54%
WRZ055	Sherdley Road	296	61	21%

WRZ056	Spencer's Park	600	40	7%
WRZ057	Anchorage	278	290	104%
WRZ058	Stanton Cross	378	215	57%
WRZ059	Golf Drive	621	11	2%
WRZ060	Church Street	263	0	0%
WRZ061	Twelvetrees Park	1036	0	0%
WRZ062	Drakelow Park	2000	535	27%
WRZ063	Victoria Road	1000	134	13%
WRZ064	Woolavington Road	120	3	3%
WRZ065	Victoria House	177	176	99%
WRZ066	Viadux	372	354	95%
WRZ067	Landmark X1	192	183	95%
WRZ068	Fiddington	850	98	12%
WRZ069	Landywood Lane	50	50	100%
WRZ070	Poverty Lane	841	194	23%
WRZ071	Thickthorn	550	60	11%
WRZ072	Main Road	74	74	100%
WRZ073	Lapwing Drive	101	0	0%
WRZ074	Rhodes Park	162	28	17%
WRZ075	Derwent Street	120	160	133%
WRZ076	Broomhall Way	92	49	53%
WRZ077	Oak Lane	272	104	38%
WRZ078	Manor Road	265	0	0%
WRZ079	Moorbridge Court	129	0	0%
WRZ080	The Eight Gardens	1228	0	0%
WRZ081	Coseley Park	472	104	22%
WRZ082	Semington Road	144	22	15%
WRZ083	Sundon Road	138	0	0%
WRZ084	Twelve Acre Drive	371	0	0%
WRZ085	Perrybrook Farm	435	36	8%
WRZ086	Apedale Road	330	0	0%
WRZ087	Woodberry Down	584	259	44%
WRZ088	Broadway	429	432	101%
WRZ089	Wirral Waters (legacy)	500	150	30%
WRZ090	Eady Drive	350	23	7%
WRZ091	Milestone Road	200	0	0%
WRZ092	Flowers Lane	400	10	3%
WRZ093	Canada Water A1&A2	186	0	0%
WRZ094	Winterbrook Lane	582	12	2%
WRZ095	Canford Park	695	41	6%
WRZ096	Yaddlethorpe	200	0	0%
WRZ097	Sandyhill Lane	85	0	0%
WRZ098	Pinchington Lane	157	48	31%
WRZ099	Dunstall Farm	250	34	14%

WRZ100	Lotmead Villages	2199	0	0%
WRZ101	Chilsey Green Farm	170	17	10%
WRZ102	Kingsgrove	780	46	6%
WRZ103	Valley Park	4254	26	1%
WRZ104	Birchwood Lane	198	0	0%
WRZ105	Shenley Wood	320	0	0%
WRZ106	Montem Lane	212	0	0%
WRZ107	One Eastside	667	0	0%
WRZ108	Langford Bridge	437	0	0%
WRZ109	Barming	180	25	14%
WRZ110	Clayton Road	406	0	0%
WRZ111	Wharton Road	205	21	10%
WRZ112	Burton Road	195	0	0%
WRZ113	John Clark Way	300	0	0%
WRZ114	Greenwich 19.05	431	0	0%
WRZ115	Shetcliffe Lane	106	0	0%
WRZ116	Bodingtons Brewery	556	0	0%
WRZ117	School Lane	184	0	0%
WRZ118	Mastin Moor	297	0	0%
WRZ119	Kingsley Drive	162	0	0%
WRZ120	Lumina Village	464	0	0%
WRZ121	West Sompting	201	0	0%
WRZ122	Elm Way	520	0	0%
WRZ123	Clapham Park	623	0	0%
WRZ124	White Post	312	0	0%

Table 5 – Connections vs Expected

Table 6 shows the total volume imported for each year from 2019 – 2023 against the number of connections for well-established sites in Table 5 and the resulting annual demand per residential unit. These values do not exclude assumed unaccounted for water but do exclude commercial premises and exclude sites with minimal data.

Year	Number of connections	Volume imported (Ml)	m3/unit
2019-20	21670	2328	107.4
2020-21	23581	2624	111.3
2021-22	26616	2920	109.7
2022-23	27650	3047	110.2

Table 6 - Volume Imported & per-unit consumption

It is clear that 'overbuild' is a potentially significant component of demand uncertainty and although the overall consumption per unit is in line with our assumptions, we have taken this factor into account when considering our target headroom, as discussed in Appendix 1.

10. Levels of Service

The Water Resources Management (England) Plan 2022, Direction 3(b) requires companies to provide an estimate of the annual risk, expressed as a percentage, of the likelihood of its having to impose restrictions. The Direction also requires companies to explain how it expects this likelihood to change over the course of the planning period.

Our contracts with the incumbent suppliers specifically require that where restrictions are imposed by that supplier, we will mirror those restrictions in the affected zones. Following a review of the incumbents' draft plans, we have updated our levels of service as shown in Table 6. We note the requirement that companies should aim to improve their resilience against an emergency drought order to 1:500 by 2039 - 40. Table 7 shows the expected levels of service by this date. This represents a change over the first 14 years of the planning period. The change from 1:200 to 1:500 equates to a 60% reduction in risk (0.5% to 0.2%). This reduction will occur as a result of a variety of options being explored by the incumbent companies and the improvements are unlikely to have effect at an even rate. We are not aware of any expectations that the levels of service will reduce in the planning period, but we will update our service at our annual review to reflect any changes.

LNWL Resource Zone	Site	Bulk Supplier	Supplier's Resource Zone	Temporary Use Ban (L2)	Non-essential Use Ban (L3)	Rota Cuts, Standpipes(L4)
WRZ000	Liverpool International Business Park	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ001	Old Sarum	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 200 / 0.5%
WRZ002	Llanilid Park	both	Tywi Gower	1 in 20 / 5%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ003	Hale Village	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ004	Kennet Island	both	Kennet Valley	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ005	Bromley Common	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ006	Park Views	both	Single Zone	1 in 10 / 10%	1 in 20 / 5%	1 in 200 / 0.5%
WRZ007	Graylingwell Park	both	Single Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ008	Kingsmere	clean	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ009	Great Western Park	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ010	New South Quarter	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%

WRZ011	Barking Riverside	both	Essex	1 in 20 / 5%	1 in 50 / 2%	1 in 200 / 0.5%
WRZ012	Farndon Road	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ013	Brewery Square	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 200 / 0.5%
WRZ014	Marine Wharf	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ015	Riverlight	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ016	Norwich Common	both	Norwich and the Broads	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ017	Hills Farm Lane	both	West Sussex	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ018	Newlands	both	Single Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ019	Heart of East Greenwich	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ020	Embassy Gardens	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ021	Emerson's Green	both	Single Zone	1 in 15 / 6.7%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ022	Kingsbrook	both	Slough Wycombe Aylesbury	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ023	Millharbour Central	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ024	RAM Quarter	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ025	Prince of Wales Drive	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ026	White City	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ027	Chatham Waters	both	Medway West	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ028	Media City	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ029	No.1 Old Trafford	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ030	Castle Irwell	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ031	Oxted Gardens	both	Single Zone	1 in 10 / 10%	1 in 20 / 5%	1 in 200 / 0.5%
WRZ032	Queen Street	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ033	D'urton Lane	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ034	Worrall Street	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ035	Wirral Waters	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%

WRZ036	Dockers Club	clean	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ037	One Baltic Square	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ038	Oldham Street	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ039	CITU	both	Grid Surface	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ040	Redhill Way	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ041	Liverpool John Lennon Airport	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ042	Market Quarter	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ043	Heriot Street	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ044	Station Road	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ045	Gold Lane	both	Ruthamford Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ046	Hallgate Lane	clean	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ047	Bridle Lane	both	South Fenland	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ048	Trafford Plaza	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ049	Conrad Road	both	Essex	1 in 20 / 5%	1 in 50 / 2%	1 in 200 / 0.5%
WRZ050	Regents Plaza	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ051	Element - The Quarter	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ052	Barton Farm	both	Western	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ053	Roscoe Street	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ054	Seashell Trust	clean	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ055	Sherdley Road	clean	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ056	Spencer's Park	both	Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ057	Anchorage	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ058	Stanton Cross	both	Ruthamford North	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ059	Golf Drive	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ060	Church Street	both	Central Essex	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%

WRZ061	Twelvetrees Park	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ062	Drakelow Park	both	Single Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ063	Victoria Road	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 200 / 0.5%
WRZ064	Woolavington Road	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 200 / 0.5%
WRZ065	Victoria House	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ066	Viadux	both	Strategic Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ067	Landmark X1	both	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ068	Fiddington	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ069	Landywood Lane	both	Single Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ070	Poverty Lane	both	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ071	Thickthorn	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ072	Main Road	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ073	Lapwing Drive	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ074	Rhodes Park	both	Dour	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ075	Derwent Street	both	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ076	Broomhall Way	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ077	Oak Lane	both	Single Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ078	Manor Road	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ079	Moorbridge Court	both	WRZ4	1 in 10 / 10%	1 in 40 / 2.5%	1 in 50 / 2%
WRZ080	The Eight Gardens	both	Pinn	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ081	Coseley Park	both	Single Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ082	Semington Road	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 200 / 0.5%
WRZ083	Sundon Road	both	Ruthamford Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ084	Twelve Acre Drive	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ085	Perrybrook Farm	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%

WRZ087	Woodberry Down	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ088	Broadway	both	WRZ4	1 in 10 / 10%	1 in 40 / 2.5%	1 in 50 / 2%
WRZ089	Wirral Waters (legacy)	both	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ090	Eady Drive	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ091	Milestone Road	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ092	Flowers Lane	clean	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ093	Canada Water A1&A2	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ094	Winterbrook Lane	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ095	Canford Park	both	Bournemouth	1 in 20 / 5%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ096	Yaddlethorpe	both	Lincolnshire Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ097	Sandyhill Lane	both	Suffolk East	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ098	Pinchington Lane	both	Kennet Valley	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ099	Dunstall Farm	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ100	Lotmead villages	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ101	Chilsey Green Farm	both	Wey	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ102	Kingsgrove	clean	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ103	Valley Park	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ104	Birchwood Lane	clean	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ105	Shenley Wood	both	Ruthamford Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ106	Montem Lane	both	Slough Wycombe Aylesbury	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ107	One Eastside	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ108	Langford Bridge	both	Roadford	1 in 20 / 5%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ109	Barming	clean	WRZ6	1 in 10 / 10%	1 in 40 / 2.5%	1 in 50 / 2%
WRZ110	Clayton Road	both	Pinn	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ111	Wharton Road	clean	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%

WRZ112	Burton Road	both	Grid Surface	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ113	John Clark Way	both	Ruthamford North	1 in 10 / 10%	1 in 40 / 2.5%	1 in 200 / 0.5%
WRZ114	Greenwich 19.05	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ115	Shetcliffe Lane	both	Grid Surface	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ116	Bodingtons Brewery	both	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ117	School Lane	both	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ118	Mastin Moor	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ119	Kingsley Drive	both	Grid Surface	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ120	Lumina Village	both	Strategic Zone	1 in 33 / 3%	1 in 33 / 3%	1 in 200 / 0.5%
WRZ121	West Sompting	both	Sussex Worthing	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ122	Elm Way	both	Grid Surface	1 in 20 / 5%	1 in 80 / 1.25%	1 in 200 / 0.5%
WRZ123	Clapham Park	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 100 / 1%
WRZ124	White Post	both	Roadford	1 in 20 / 5%	1 in 40 / 2.5%	1 in 200 / 0.5%

Table 6 – Current levels of service

Table 7 shows the objectives for levels of service by 2039/40

LNWL Resource Zone	Site	Bulk Supplier	Supplier's Resource Zone	Temporary Use Ban (L2)	Non-essential Use Ban (L3)	Rota Cuts, Standpipes(L4)
WRZ000	Liverpool International Business Park	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ001	Old Sarum	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 500 / 0.2%
WRZ002	Llanilid Park	both	Tywi Gower	1 in 20 / 5%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ003	Hale Village	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ004	Kennet Island	both	Kennet Valley	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ005	Bromley Common	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ006	Park Views	both	Single Zone	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ007	Graylingwell Park	both	Single Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 500 / 0.2%

WRZ008	Kingsmere	clean	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ009	Great Western Park	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ010	New South Quarter	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ011	Barking Riverside	both	Essex	1 in 150 / 0.66%	1 in 200 / 0.5%	1 in 500 / 0.2%
WRZ012	Farndon Road	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ013	Brewery Square	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 500 / 0.2%
WRZ014	Marine Wharf	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ015	Riverlight	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ016	Norwich Common	both	Norwich and the Broads	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ017	Hills Farm Lane	both	West Sussex	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ018	Newlands	both	Single Zone	1 in 20 / 5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ019	Heart of East Greenwich	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ020	Embassy Gardens	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ021	Emerson's Green	both	Single Zone	1 in 15 / 6.7%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ022	Kingsbrook	both	Slough Wycombe Aylesbury	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ023	Millharbour Central	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ024	RAM Quarter	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ025	Prince of Wales Drive	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ026	White City	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ027	Chatham Waters	both	Medway West	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ028	Media City	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ029	No.1 Old Trafford	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ030	Castle Irwell	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ031	Oxted Gardens	both	Single Zone	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ032	Queen Street	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%

WRZ033	D'Urton Lane	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ034	Worrall Street	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ035	Wirral Waters	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ036	Dockers Club	clean	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ037	One Baltic Square	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ038	Oldham Street	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ039	CITU	both	Grid Surface	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ040	Redhill Way	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ041	Liverpool John Lennon Airport	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ042	Market Quarter	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ043	Heriot Street	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ044	Station Road	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ045	Gold Lane	both	Ruthamford Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ046	Hallgate Lane	clean	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ047	Bridle Lane	both	South Fenland	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ048	Trafford Plaza	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ049	Conrad Road	both	Essex	1 in 20 / 5%	1 in 50 / 2%	1 in 500 / 0.2%
WRZ050	Regents Plaza	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ051	Element - The Quarter	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ052	Barton Farm	both	Western	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ053	Roscoe Street	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ054	Seashell Trust	clean	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ055	Sherdley Road	clean	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ056	Spencer's Park	both	Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ057	Anchorage	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%

WRZ058	Stanton Cross	both	Ruthamford North	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ059	Golf Drive	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ060	Church Street	both	Central Essex	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ061	Twelvetrees Park	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ062	Drakelow Park	both	Single Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ063	Victoria Road	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 500 / 0.2%
WRZ064	Woolavington Road	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 500 / 0.2%
WRZ065	Victoria House	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ066	Viadux	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ067	Landmark X1	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ068	Fiddington	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ069	Landywood Lane	both	Single Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ070	Poverty Lane	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ071	Thickthorn	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ072	Main Road	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ073	Lapwing Drive	both	Strategic Grid	1 in 33 / 3%	1 for in 33 / 3%	1 in 500 / 0.2%
WRZ074	Rhodes Park	both	Dour	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ075	Derwent Street	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ076	Broomhall Way	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ077	Oak Lane	both	Single Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ078	Manor Road	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ079	Moorbridge Court	both	WRZ4	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 2.5%
WRZ080	The Eight Gardens	both	Pinn	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ081	Coseley Park	both	Single Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ082	Semington Road	both	Single Zone	1 in 100 / 1%	1 in 150 / 0.67%	1 in 500 / 0.2%

WRZ083	Sundon Road	both	Ruthamford Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ084	Twelve Acre Drive	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ085	Perrybrook Farm	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ087	Woodberry Down	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ088	Broadway	both	WRZ4	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 2.5%
WRZ089	Wirral Waters (legacy)	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ090	Eady Drive	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ091	Milestone Road	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ092	Flowers Lane	clean	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ093	Canada Water A1&A2	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ094	Winterbrook Lane	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ095	Canford Park	both	Bournemouth	1 in 20 / 5%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ096	Yaddlethorpe	both	Lincolnshire Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ097	Sandyhill Lane	both	Suffolk East	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ098	Pinchington Lane	both	Kennet Valley	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ099	Dunstall Farm	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ100	Lotmead villages	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ101	Chilsey Green Farm	both	Wey	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ102	Kingsgrove	clean	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ103	Valley Park	both	SWOX	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ104	Birchwood Lane	clean	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ105	Shenley Wood	both	Ruthamford Central	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ106	Montem Lane	both	Slough Wycombe Aylesbury	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ107	One Eastside	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ108	Langford Bridge	both	Roadford	1 in 20 / 5%	1 in 40 / 2.5%	1 in 500 / 0.2%

WRZ109	Barming	clean	WRZ6	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 2.5%
WRZ110	Clayton Road	both	Pinn	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ111	Wharton Road	clean	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ112	Burton Road	both	Grid Surface	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ113	John Clark Way	both	Ruthamford North	1 in 10 / 10%	1 in 40 / 2.5%	1 in 500 / 0.2%
WRZ114	Greenwich 19.05	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ115	Shetcliffe Lane	both	Grid Surface	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ116	Bodingtons Brewery	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ117	School Lane	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ118	Mastin Moor	both	Strategic Grid	1 in 33 / 3%	1 in 33 / 3%	1 in 500 / 0.2%
WRZ119	Kingsley Drive	both	Grid Surface	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ120	Lumina Village	both	Strategic Zone	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ121	West Sompting	both	Sussex Worthing	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ122	Elm Way	both	Grid Surface	1 in 40 / 2.5%	1 in 80 / 1.25%	1 in 500 / 0.2%
WRZ123	Clapham Park	both	London	1 in 10 / 10%	1 in 20 / 5%	1 in 500 / 0.2%
WRZ124	White Post	both	Roadford	1 in 20 / 5%	1 in 40 / 2.5%	1 in 500 / 0.2%

Appendix 1 – Further Discussion

Demand Assessment and Management

Demand Assessment

When first considering a new site, the Company adopts a simplified method, whereby the number of proposed units is multiplied by an assumed 110m^3/annum consumption. The resulting figure is then uplifted by 10% to allow for a) uncertainty and b) provision of headroom. Current consumption for the FY 2022 – 23 suggests per unit consumption of around 114m^3/unit/annum for all sites with sufficient bulk consumption records. This figure includes non-household (NHH) properties, which at some sites can present a significant proportion of demand. The figure also includes sites which are under construction and may have few properties occupied but a significant proportion of construction use.

If we exclude those sites in the early stages of development and those with significant NHH use, the average falls to 110.2m^3/unit/annum.

With this in mind, we do not presently intend to modify our method of assessment. However, we do recognise that NHH demand could be better understood. Generally, there is little specific data on the likely non-household uses apart from surface area or type of use (e.g retail, leisure etc.). We will continue to review current NHH consumption to improve our assignment of demand to different classes of NHH premises.

Supply-Demand Balance

In our draft plan we identified actual or potential deficits in a number of zones. In some cases these were at well-established sites and others at new sites where the deficit is projected to occur at a future time. These zones are shown in Table A1 below along with consumption for the 2022 – 23 financial year (where known):

Resource Zone	Site Name	Site Completion Status	WAFU m3/annum	SDB against expected consumption	SDB against expected consumption + headroom	Consumption 2022 - 23	Actual Deficit
WRZ003	Hale Village	102%	255000	-4600	-30560	269904	-14904
WRZ004	Kennet Island	102%	109900	6280	-4082	110364	-464
WRZ014	Marine Wharf	99%	65000	320	-6148	63240	1760
WRZ015	Riverlight	100%	82000	-10400	-19640	79128	2872
WRZ017	Hills Farm Lane	69%	120100	8890	-2231	67248	52852
WRZ019	Heart of East Greenwich	111%	75000	4490	-2561	90120	-15120
WRZ022	Kingsbrook	58%	281800	12300	-14650	161064	120736
WRZ030	Castle Irwell	52%	47500	-7500	-13000		
WRZ032	Queen Street	101%	20783	-3307	-5716		

WRZ033	D'urton Lane	11%	23725	-3775	-6525		
WRZ034	Worrall Street	99%	8541	-1139	-2107		
WRZ035	Wirral Waters	8%	33120	-5050	-8867		
WRZ036	Dockers Club	29%	21922	-3488	-6029		
WRZ037	One Baltic Square	17%	28090	-4470	-7726		
WRZ039	CITU	4%	26600	-1340	-4134		
WRZ059	Golf Drive	0%	71726	3416	-3415		
WRZ063	Victoria Road	0%	115500	5500	-5500		
WRZ067	Landmark X1	102%	18126	-2994	-5106		
WRZ068	Fiddington	0%	99396	5896	-3454		
WRZ072	Main Road	0%	7448	-691.9	-1505.9		
WRZ076	Broomhall Way	0%	10758	638	-373.81		
WRZ078	Manor Road	0%	30988	1838	-1076.73		

Table A1

The majority of the affected zones are new with three being at or around 100% completion, though these are recent apartment buildings, which, though complete from the perspective of meters fitted, currently have low occupancy. We have identified that the initial request for a bulk contract at these sites was based on an incorrect assessment of the required volume. The error has been corrected and additional validation procedures have been instigated.

The remaining sites are well established with good bulk consumption records.

We have now concluded our investigations and have signed variations to the bulk contracts, thus clearing the demand deficits.

We will, however, continue to investigate the cause of previous deficits where it is apparent that they were not due to inaccurate assessment or increased consumption from additional build or unaccounted for commercial development.

If the activities fail to identify any root cause, we will consider active leakage monitoring using a specialist contractor.

None of the deficits identified resulted in a reduction in service levels to customers.

Leakage

Following the receipt of responses to our draft Plan, we have reassessed our Plan to more closely align our objectives with those of the wider industry, particularly with regard to the requirement to reduce leakage by 50% by 2050.

It is known in the industry that the modern standard of new plastic PE pipe with fused joints will have much better leakage performance than existing cast iron or ductile iron mains which may have been in operation for over 50 years. All of the Company's networks (with one exception of a short section of overhead iron pipe) are constructed using High Performance Polyethylene pipe.

The clean water networks constructed at new development sites will be completely new assets. A

new network will not be subject to the deterioration levels found within existing and aged networks, consequently the condition and performance of new networks will be distinctly better than the average performance observed across the asset base of a major water company.

A UKWIR article "Long-term aging of polyethylene pipes" from September 2020[3] utilised data from a Severn Trent Water project looking at the long-term effects of ageing on PE pipework. The study concluded that polyethylene pipe will degrade over time due to oxidation, but that the expected useful life should be well in excess of the generally assumed 50 years – up to, potentially, 160 years. The article did note that the primary cause for concern remains the stability of electro-fusion couplings, with butt-fusion being considered superior. Electro-fusion couplings are commonly used and if installed correctly should be reliable. Such couplings are, however, dependent on correct preparation of the mating surfaces, a suitable ambient temperature and adequate heating and cooling cycles. Whilst we have not experienced any catastrophic failures of such fittings, there is a risk of increased leakage over time.

We have considered the application of the UKWIR guidance "Consistency of Reporting Performance Measures Reporting Guidance – Leakage" to our leakage assessment approach. We accept that the application of a documented and consistent approach is a desirable objective. For the purposes of this Plan, however, we do not believe that we have sufficient data to yet apply the principles of the report. As noted elsewhere, it is our intention to increase surveillance of our networks through the use of real-time telemetry on both the bulk supplies and the customer meters. At present, our understanding of night-time use is too limited to permit a rational application of the guidance.

Not all water 'lost' is leakage; illegal connections, use of hydrants (whether authorised or not), construction consumption and un-recorded metered supplies all contribute to the overall total. We therefore use the terms 'leakage' and 'unaccounted for water (UFW)' interchangeably.

Control and reduction of leakage

For WRMP19, we applied leakage at 3%, with an assumed deterioration rate of 1.5%, resulting in an average distribution leakage rate of 3.5% over the 20-year modelling period used within our assessments, flatlined for simplicity.

For our draft WRMP24 plan, we took into account the gradual degradation of the new networks and assessed unaccounted for consumption over the 40-year financial cycle as 3%, rising to 5% and then applied that over a shorter timescale, resulting in assumed UFW of 5% by year 25.

This has been seen as allowing an increase in leakage, though it was done as much to sensitivity check the agreed bulk delivery against how an increase in demand or UFW would affect headroom as it was to accept an inevitable reduction in the performance of the networks.

There is a government mandated target of 50% leakage reduction across the industry by 2050. Leakage rates vary between incumbent appointments but are generally significant and may account for upwards of 25% or more of distribution input in some areas. There is a financial and environmental cost associated with the abstraction, treatment, storage and delivery of undelivered water, which will only become more significant as demographic and climatic changes further stress limited raw resources.

[3] https://ukwir.org/long-term-aging-of-polyethylene-pipes

Incumbent companies have legacy networks that in some cases are over 150 years old. These networks are often within highly urbanised and inner-city areas, compounding the difficulty of identifying and repairing leaks. Furthermore, much water lost is through small-scale seepage, with no above-ground presence and resistant to location by current methods.

Incumbents would therefore focus their attention on actively seeking larger leaks and also implementing ongoing mains replacement activities, possibly based on network age or DMA information identifying potential high-loss areas. Such activities require significant capital investment, funded by customers. Incumbents will therefore be mindful of the law of diminishing returns as the cost per megalitre saved approaches an unsupportable level.

NAV companies have a different set of problems. Due to the nature of their business NAVs are highly sensitive to UFW as unbilled water erodes the already slim margins available, as it will show as consumption on the incumbents' bulk revenue meter/s supplying the sites and will incur waste as well as water charges, where applicable.

As companies under relative price control, NAVs have a low sustainable level of leakage. They must make careful financial decisions about where to focus their efforts in controlling UFW. Fortunately, the Company's networks are new and almost wholly PE pipework, with 100% metering hence UFW is expected to be low and in some cases (such as central-city apartments with minimal network) should be effectively zero. This fact, however, raises a problem when considered from the perspective of achieving 50% reduction in leakage. If leakage is already very low and not clearly identifiable by normal means, attempting to reduce it further would not necessarily be successful and the cost per megalitre saved could be seen as an inefficient use of resources.

Following a discussion with the EA after their response to our draft plan at which these and other issues were addressed, we understand that a reasonable approach will be to determine an acceptable level of UFW, on a company-wide basis and, where possible, reduce it.

In our dWRMP, we indicated that we assumed network deterioration would see leakage rise to 5%. Reviewing other NAV plans, this figure appears to be an acceptable starting point. We will therefore use 5% as our baseline UFW and we will focus our efforts on not only not exceeding that figure but will aim to see it reduced to 4.5% of the total DI across the Company.

We will achieve this by:

- Completing our retrospective meter replacement activities
- Installing AMI wherever possible
- Monitoring nightlines from our own loggers fitted to the incumbent meters
- Conducting enhanced water balance activities on a regular basis
- Undertaking active leakage detection using, where necessary, third-party contractors
- Continuing to communicate with our customers to encourage wise water use

We consider this to be an achievable target, which will require an ongoing real-time assessment of data received from customer and bulk meters. There are some technical challenges, not least that older legacy sites may be fitted with mechanical bulk meters with a poorer performance at low flows. In these cases we will consider the effectiveness of installing our own bulk meters within the site to validate the outputs from the incumbent's meter/s, though this is not currently a preferred option owing to the disruption caused to services and the low availability of suitable locations.

Other factors considered

Under Registration

Water meters are generally accurate, but where discrepancies occur the tendency is towards under-reading, particularly at low flows. This would have the effect of distorting the relationship between the bulk consumption figures and the residential meter reads. It is true that the bulk meters themselves may under-record, but they will generally be subject to flows predominantly within their accuracy range, with a subsequent reduction in the level of under-reading.

A figure of 1.5% is assumed in our financial models and we propose to apply this figure when we are in a position to review individual consumption against the bulk meter records as a result of our forward policy of comprehensive AMR / AMI coverage.

Weighted Average Demand

Weighted average demand is used by water companies to reflect variations in the components of demand and to account for changes occurring from, for example, company demand management exercises. We have considered the two elements affecting existing water company demands that we believe relate to our Zones. These are:

1) The proportion of metered properties; and
2) Changes in demand reflecting dry / wet / average years.

1. Proportion of Metered Properties

As all properties within our Zones are metered we do not believe that attempting to assess a weighted annual average for metered properties would produce meaningful results

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2. Changes in Demand due to Dry, Wet and Average Years

Providing a weighted average demand accounting for the ratio between dry / average / wet years would normally be assessed by considering the frequency with which such years occurred in a given period. We do not have deployable output that may be adjusted to account for differing demand levels over time. We therefore believe that an increase in consumption for dry years is best assessed by applying a percentage increase to individual property consumption for the life of the plan. The base percentage will be equivalent to the expected dry year increase within the bulk supplier's resource zone in which the LNWL Zone is situated. This approach allows an assessment of the available headroom, given that the potable water available for distribution input is contractually fixed at the beginning of the site. Any apparent deficit in the latter stages of a Zone's development may then be accounted for by improvements in data over time, discussions with the potable supplier or by additional demand management measures. We do not believe that assessing demand in wet years will provide any useful data, as we have no resources affected by a reduction in demand.

Peak Period Demand

Peak demand is usually expressed as the Average Day Peak Week (ADPW) figure and is used by water companies to identify potential short-term deficits within a resource zone. The ADPW demand results from an increase in consumption due to seasonal factors and reflects increases in such items as garden watering as well as personal consumption. Although ADPW demand may have a direct impact on storage or treatment facilities over the short term, we have no such facilities and we therefore consider that the question of peak demand will predominantly be related to the incumbent's network hydraulic capacity and that using the ADPW figure for this resource plan is therefore not relevant.

Climate Change

Although the exact effects of climate change cannot be predicted, evidence increasingly points to wetter winters and warmer, drier summers coupled with more extreme rainfall events. Climate Change is predominantly seen, therefore, as affecting deployable output through variations in rainfall, evaporation, and temperature patterns. As we have no deployable output, we do not currently intend any additional considerations for this element of climate change.

We would expect any increase in demand to manifest itself in an increase in PCC reflective of the DYAA. However, the exact percentage change within the donor company's area will be reflective of consumption across new metered, unmetered and optant properties, with a predominance of older properties with perhaps larger gardens and less efficient plumbing, as well as agricultural use. Increases in demand resulting from climate change within our donor companies' Plans are expressed in terms of change to deployable output and represented as a percentage increase in household demand. Such increases range from 0.5% to 2%.

This increase is not large and must carry with it some uncertainty. Further, a significant number of our sites either wholly or partly comprise high-rise apartment blocks without gardens, further reducing the potential impact on PCC.

Given the small and uncertain percentage increase in PCC that may be attributable to climate change, we do not intend to make any immediate adjustments to our demand profiles.

Base Year Population and Consumption

Residential

The Base Year for each Zone will be the numbers of connected properties in that year, increasing by yearly increments to the maximum build permitted under the planning consent. The rate of build is based on data provided by the housebuilder for that site and on historical evidence. Significant sub-division or infill is considered unlikely, particularly as such developments are subject to the constraints and requirements of the permission granted through the planning process, though from our 2022 review of our WRMP19, it is clear that some sites have exceeded the original projected build. Some change in the population make-up is expected, but an average occupancy of 2.4 persons / property will continue to be used until significant further data becomes available.

Commercial

Commercial demands are normally assessed either based on litres per square metre according to the proposed use or by specific information from the builder. Given that consumption within Zones is generally overwhelmingly residential, we propose that the assessed commercial consumption will be considered to be effectively zero, except within Zones where there is actual non-residential consumption or verifiable commercial demand data. In such zones, we will apply best practice in estimating the expected demand from non-household properties, particularly hotels, schools, and other premises with high populations, such as halls of residence.

Reduction of Per Capita Consumption

Responses to our dWRMP24 highlighted a desire to see the Company provide more detailed information on its plans to assist in reducing PCC to an industry-wide average of 110 l/h/d by 2050, in line with government targets.

This target is ambitious and poses different problems for NAVs and incumbents.

Incumbent companies are faced with aging infrastructure, a mix of old and new housing stock and incomplete metering penetration. We note that in their draft WRM plans, incumbent suppliers are broadly adopting the following approaches to reduce overall consumption:

- Reducing leakage by 50%
- Increase metering penetration, specifically smart metering
- Supporting regional initiatives through education and stakeholder engagement
- Supporting government objectives with regard to efficiency labelling
- Engaging with relevant regional resource planning groups
- Proactive customer engagement
- Wider public campaigns, through various media
- Incentives to house builders to maximise the efficiency of new properties
- Home and business water audits and incentives to update internal fittings

It is also worth noting that achieving the national target of 110 l/h/d will not be attained by just these methods and that government input will be significant. Some companies have also discussed the use of pricing structures, such as rising block tariffs, though acknowledging that these are unlikely to be popular and will require a change in the regulatory approach.

For NAVs, the available approaches are determined by their specific circumstances and resources. NAVs have new infrastructure and 100% metering. They operate across resource regions and their housing stock is built to the national efficiency standards applicable at the time. As small companies under relative price control, NAVs must make careful judgements about where to place resources to achieve desired outcomes in a sustainable manner.

In Ofwat's response to LNWL's draft WRMP, the regulator noted that '…NAVs should not be constrained by this target [110 l/h/d] and should aim to drive PCC down to much lower levels, where appropriate…'. Other NAVs received similar comments. Following a discussion with Ofwat, we understand that the objective is to see NAVs provide a lead to the industry by using their specific advantages to demonstrate the effectiveness of:

- Asset management through customer meter and bulk meter monitoring and response to indicators
- Customer communication to drive behavioural change
- Engagement with developers to encourage the uptake of efficiency measures
- Alignment with the bulk supply company to ensure consistent messaging
- Using targeted case studies to measure the outcomes

When considering its approach to the goal of an industry average 110 l/h/d, LNWL has taken into account discussions with the EA and Ofwat, in which it was agreed that NAVs should adopt a realistic approach to the glide path required to reduce consumption.

In Defra's instruction to publish, dated 21st August 2024, it was noted that the data tables in the draft plan showed an unrealistic reduction in the final two years of the plan. This has now been corrected, with a graduated reduction shown, in most cases, from 2036 – 37.

Taking these considerations into account, the Company, in line with its core commitments will adopt a phased strategy:

Phase 1 – 2025 - 2027

- Identify those sites with apparent PCC levels consistently 33% or more above 110 l/h/d
- Obtain updated occupancy details for those sites
- Where possible, increase the rate of meter upgrades to AMI at the selected sites
- Compare consumption with bulk imports to identify UFW
- Undertake leak detection activities where evidence indicates the necessity
- Communicate with customers where there appears to be excessive consumption or customer-side leakage
- Monitor the effectiveness of Phase 1 and modify approaches where necessary

Phase 2 – 2027 – 2030

- Continue with Phase 1
- Identify sites with PCC levels consistently more than 10% above 110 l/h/d
- Apply the methods employed in Phase 1
- Compare the performance of new sites with legacy sites of a similar type

Phase 3 – 2030 – 2050

- Continue Phases 1 & 2
- Apply new technologies where appropriate to capture smaller losses
- Confirm progress towards 110 l/h/d and adapt strategies where necessary

Water Efficiency

Water efficiency technologies at our sites are predominantly driven by the measures and standards implemented by the developer and owner of the site, and any housing design and construction companies commissioned by them to deliver properties at the site. Such measures are governed by Local Authority planning requirements, with reference to the Code for Sustainable Homes[4] as applicable to new build properties. LNWL is fully supportive of water efficiency measures incorporated by housing developers at all our sites.

The Company will engage with potential clients to understand their intentions with regard to the proposed level of water efficiency and if there are any opportunities for grey water recycling or rainwater harvesting. Incumbent companies generally offer a tiered approach to water efficiency payments, though we have little data as to the level of take-up. We have recently seen a presentation by one incumbent as part of their Developer Services Day, which does show that initial take-up has been relatively low and around 90% of what was approved was at the lowest tier. That company is now proposing to make the scheme more attractive. LNWL will continue to support these efforts and those of other incumbents.

It is worth noting that as part of that evaluation, the incumbent conducted an exercise to measure the actual consumption of water in new homes (predominantly apartments) built to the 110 litres

[4] The Code for Sustainable Homes (CSH) is a Government owned national standard intended to encourage continuous improvement in sustainable home building using an environmental assessment method for rating and certifying the performance of new homes based on BRE Global's EcoHomes scheme.

standard, Part G building regulations, using the 'calculation approach'. The exercise involved over 4,600 properties and more than 25 developers. All the properties were full AMI. The results suggested that PCC was 140.67 litres, based on an occupancy of 2 (if the occupancy was the national average of 2.4, PCC would be 117.23 litres). It was also noted that 6% of all the new properties had continuous flow and that 'leaky-loos' were the most common cause.

The incumbent has recommended that developers should use the 'fittings approach' in Part G when calculating the efficiency of new properties and LNWL will likewise encourage the same method.

In line with our comments under Leakage relating to the failure of internal plumbing and the outputs of the exercise referenced above, we consider there is scope for assessment of the overall quality of various fittings and appliances used in new-build properties. Although such items may be nationally approved and work effectively when new, evidence exists to suggest a wider understanding of the long-term reliability of such items is warranted.

Greenhouse Gas Emissions & Net Zero

In line with the WRMP Direction 2022, we have included here an assessment of the expected CO_2 equivalent from our current and future operations and our approach to achieving Net Zero

In 2008, the water industry accounted for approximately 1% of the total carbon emissions by the UK (source: "Preparing for the future – Ofwat's climate change policy statement"). This contribution will comprise direct energy use in abstraction, storage, treatment and delivery, plus other factors such as methane from wastewater treatment.

Leep Networks (Water) Limited has no abstraction, treatment and storage and no pumping is used on our clean water networks. Although we adopt infrastructure comprising polyethylene products, we do not consider it appropriate for the production of greenhouse gases resulting from the manufacture and transport of these products to be assessed by the end-user and we consider that this assessment would be more efficiently and properly undertaken by the producer. Equally, activities by self-lay providers installing the infrastructure are working on behalf of the developer. Contractors working on behalf of the Company should rightly be responsible for their own assessments of their CO_2 emissions. The Company's Supplier Validation Process takes account of these factors and the outputs will feed into our developing ESG proposals.

It has been suggested that an assessment could be made of the CO_2 emissions per megalitre delivered as determined by the bulk supply company and we note this approach has been used elsewhere. NAV companies do not undertake development and therefore do not, themselves, create the additional demand that such developments impose. The developments will have been in planning for some time and would thus form part of the future demand calculations of the incumbent company. We therefore consider that the carbon emissions associated with the additional abstraction and treatment of the demand associated with a new site is best dealt with in the bulk suppliers' plans as applying them again to our sites would be double counting.

The Company is part of the wider Leep Utilities group (LU), which operates multi-utility networks. As part of that group, the Company obtains support such as customer services, operations and project management. These activities will have a carbon footprint, primarily to do with transport and buildings.

Leep Utilities is developing an ESG structure which considers the activities of the group as a whole. We consider that this is the best way to account for the Company's activities and that attempting to

disaggregate the carbon contribution of activities solely related to LNWL would not necessarily yield meaningful results. For example, a project manager may visit a site to inspect electric installations and whilst there could collect water connections data, but the former would be the primary driver for the visit.

Leep Utilities ESG

Leep Utilities ESG programme is being developed to ensure that the group meets its environmental, social and governance objectives including, but not limited to, the following:

- Opportunities identified through the CC R&O programme presented to board for consideration
- Decarbonisation plan and appropriate targets delivered with traction towards the desired outcomes
- Demonstrable progress against WRMP24 with improvements in both leakage and PCC

The ESG plan is projected to develop across Financial Years 22/23 to 25/26, beyond which it will be fully embedded in the group's business approach.

Non-drought Hazard Assessment

Non-drought hazards may comprise such elements as loss of critical infrastructure, malicious or accidental damage, flooding, freezing, loss of power and loss of personnel. The majority of these risks are only likely to affect above-ground assets such as reservoirs, treatment works and pumping stations.

Taking a risk-based approach means applying a general methodology of first defining the hazard then considering the Likelihood of the hazard occurring, the Consequences of the event and the Vulnerability of an asset. Such risks may then be mitigated by existing or proposed control factors. For the purposes of this high-level assessment, we have used a scale of 0 to 4, with zero being 'no measurable risk'.

LNWL has no above-ground water assets, hence we have given consideration only to risks to our distribution network, which we believe are primarily malicious or accidental damage and freeze / thaw.

Malicious damage
We consider that malicious damage would be limited to excavation and damage of the network or damage to washout or valve installations. The amount of effort and equipment required would require significant planning, ruling out spontaneous vandalism and, in any event, would not result in long-term disruption. We rate this hazard as effectively zero.

Accidental damage
Accidental damage would most likely occur during excavation by others to undertake repairs or for the installation of services. Such damage would lead to a temporary disruption of supply and would have no impact on the long-term asset integrity, nor would it affect the overall resource position. We rate this hazard as less than one.

Freeze / Thaw

Freezing of large network assets such as distribution mains is unlikely, even for those above ground (for example, suspended on pipe bridges) due to the volume of water and the turnover of that volume. The primary risk with freezing conditions is the heave and slump effect on the ground surrounding the pipes. LNWL's network is fusion welded PE, which has a higher degree of flexibility than metallic or cement-based mains, many of which are of significant age and are thus subject to increased brittleness and corrosion. During the extreme winter event of March 2018, LNWL experienced no burst on any of its networks and no reports of customer-side leakage as a result of the conditions. We rate this hazard as less than one.

Summary
Taking the above into account, we believe that non-drought hazards do not represent a significant element in our appraisal from a water resource perspective and we therefore do not propose implementing any specific control measures.

SEA – Zone 0002 Llanilid Park
The SEA process enables all options considered by LNWL during the formulation of the preferred strategy to be appraised. This process thereby allows LNWL to demonstrate how it has considered the most environmentally favourable solutions within its overall strategy.

LNWL Zone 0002 (Llanilid Park) is wholly supplied by a bulk supply from Dwr Cymru Welsh Water and no abstraction or treatment options are being considered. Since WRMP19, the site has been completed and no further construction is planned. We therefore believe that no network-specific SEA is required for this site.

HRA – Zone 0002 Llanilid Park
The Habitats Regulation Assessment (HRA) is designed to provide protection for certain species of plants and animals, which may be particularly vulnerable. The assessment covers Special Protection Areas (SPA), Special Areas of Conservation (SAC) and wetlands of national importance, designated under the Ramsar Convention.

We have reviewed the Countryside Council for Wales website and used the interactive map to determine what, if any, areas covered by an HRA are in the vicinity. The site is a disused opencast mine bounded by the A473 to the North and the M4 to the South. There is a candidate SAC approximately 700m to the Northwest. As the LNWL network is now complete and consists of underground assets only with no abstraction or treatment we do not consider that this activity will have any impact on the proposed SAC and therefore do not propose undertaking an HRA.

Environment Wales Act and Wellbeing of Future Generations

In Defra's instruction to LNWL to publish its final plan, NRW encouraged the company to further consider its obligations. As noted above, our assets in Wales consist wholly of underground pipework hence our scope for actions relating to, for example, local amenities, is limited. Nevertheless, pending the transfer of the site to DCWW, we acknowledge that should, for any reason, the site remain with LNWL, it will be included in our onward intentions and ambitions regarding the efficient use of resources.

Included Zones
Only sites with a public water supply connection have been considered in this plan.

New Zones

Leep Networks (Water) Ltd is actively pursuing new sites, which will usually be subject to a new bulk supply contract. The contract will reflect the expected total demand for the site and will also incorporate a 5% margin for uncertainty + 5% for Target Headroom. New sites will usually be assigned a Zone number, although some sites may be small additional areas adjacent to and supplied from existing Zones. In such cases, it appears logical to update the parent Zone to reflect the additional demand, supplemented by an agreed increase in the WAFU via the original bulk contract.

Appendix 2 - Directions

Direction	Description 3. (1) In accordance with section 37A(3)(d), a water undertaker must include in its water resources management plan a description of the following matters—	Applicability
3 (a)	the appraisal methodologies which it used in choosing the measures which it has identified in accordance with section 37A(3)(b) and its reasons for choosing those measures.	Except insofar as demand assessment as outlined in Section 5.2 of our plan, we do not consider that this Direction applies.
3 (b)	for the first 25 years of the planning period, its estimate of the average annual risk expressed as a percentage, that it may need to impose prohibitions or restrictions on its customers in relation to the use of water under each of the following – (i) section 76(b); (ii) section 74(2)(b) of the Water Resources Act 1991(c); and (iii) section 75 of the Water Resources Act 1991 and how it expects the annual risk that it may need to impose prohibitions or restrictions on its customers under each of those provisions to change over the course of the planning period as a result of the measures which it has identified in accordance with sections 37A(3)(b)	We are required to mirror the incumbent company's levels of service. We have reported the current and future levels of service in our plan and have added text reflecting how we expect those levels to change between now and 2039.
3 (c)	the assumptions it has made to determine the estimates of risks under sub-paragraph (b), including but not limited to drought severity.	As a NAV, LNWL must reflect the risks assessed by the incumbent company, as noted in Section 10 of our plan.
3 (d)	In respect of greenhouse gas emissions – (i) the emissions of greenhouse gases which are likely to arise as a result of each measure which it has identified in accordance with section37A(3)(b), unless that information has been reported and published elsewhere and the water resources management plan states where that information is available; (ii) how those greenhouse gas emissions will contribute individually and collectively to its greenhouse gas emissions overall; (iii) any steps it intends to take to reduce those greenhouse gas emissions; (iv) how these steps will support the delivery of any net zero greenhouse gas emissions commitment made by it; and (v) how these steps will support delivery of the UK government's net zero greenhouse gas emissions targets and commitments.	We have included our assessment of greenhouse gas emissions in Appendix 1 of our plan.
3 (e)	the assumptions it has made as part of the supply and demand forecasts contained in the water resources management plan in respect of – (i) the implications of climate change, including in relation to the impact on supply and demand of each measure which it has	We have included our assessment of climate change in Appendix 1 of our plan.

	identified in accordance with section 37A(3)(b) (ii) household demand in its area, including in relation to population and housing numbers, except where it does not supply, and will continue not to supply, water to domestic premises; and (iii) non-household demand in its area, except where it does not supply, and will continue not to supply, water to nondomestic premises or to an acquiring licensee.	
3 (f)	its intended programme for the implementation of domestic metering including— (i) the proportion of smart meters to other meters. (ii) if it does not intend to install smart meters, the reasons for this, (iii) its estimate of the cost of that programme, including the costs of installation and operation of meters	All LNWL premises are metered. Since 2019, all meters fitted are AMR / AMI capable. We are trialing two AMI systems and are also replacing older 'dumb' meters. Further detail is given in Appendix 1.
3 (g)	its estimate of the total number of meters installed to record water supplied to domestic premises at the commencement of the relevant planning period and including a breakdown of— (i) the number of smart meters. (ii) the number of meters that are not charged by reference to volume. (iii) the number of meters that are charged by reference to volume including— (aa) optant metering. (bb) change of occupancy metering. (cc) new build metering. (dd) compulsory metering; and (ee) selective metering.	As for 3 (f)
3 (h)	its estimate of the total number of domestic premises which will become subject to domestic metering during the planning period and including a breakdown of— (i) the number of domestic premises with smart meters. (ii) the number of domestic premises with meters that will not be charged by reference to volume. (iii) the number of domestic premises with meters that will be charged by reference to volume including— (aa) optant metering. (bb) change of occupancy metering. (cc) new build metering. (dd) compulsory metering; and (ee) selective metering.	As for 3 (f)
3 (i)	its estimate of the impact on demand for water in its area of any increase in the number of premises subject to domestic metering.	All LNWL premises are metered hence this is not applicable.
3 (j)	its assessment of the cost-effectiveness of domestic metering as a mechanism for reducing demand for water by comparison with other measures which it might take to meet its obligations under Part III of the Act	All LNWL premises are metered hence this is not applicable.
3 (k)	its intended programme to manage and reduce leakage, including anticipated leakage levels and how those levels have been determined.	We discuss leakage and our part in contributing to the national target of 50% reduction in Appendix 1 and have adjusted the text in light of consultation

		responses and our discussion with the EA in April 2023
3 (l)	if leakage levels are expected to increase at any time during the planning period, why any increase is expected and if so, the proposed plan of works that will be undertaken to mitigate this.	As for 3 (k)
3 (m)	how its intended programme to manage and reduce leakage will contribute to— (i) a reduction in leakage by 50% from 2017/18 levels by 2050; and (ii) any leakage reduction commitment it has made in respect of its appointment area.	As for 3 (k)
3 (n)	In respect of any relevant regional water resources plan— (i) how this plan has been considered and reflected in its water resources management plan; or where the plan has not been considered and reflected in its water resources management plan, the reasons for this.	LNWL has not, to date, been directly involved with the Regional groups. Recent discussions within the Independent Networks Association confirmed NAV intentions to take part in these groups, with LNWL agreeing to represent the INA within the South East group. We expect this process to begin in 2023.

Appendix 3 – Site Locations

WRZ	Scheme	Location	Approximate Postcode	Grid Reference
WRZ000	Liverpool International Business Park	Liverpool	L24 8RL	SJ 41460 83421
WRZ001	Old Sarum	Salisbury	SP4 6GE	SU 14979 33809
WRZ002	Llanilid Park	Bryncae	CF72 8ES	SS 99360 82162
WRZ003	Hale Village	London - Tottenham Hale	N17 9GA	TQ 34645 89603
WRZ004	Kennet Island	Reading	RG2 0GS	SU 71433 70665
WRZ005	Bromley Common	London - Bromley	BR2 9GT	TQ 41977 67333
WRZ006	Park Views	London - Epsom	KT19 8FT	TQ 20502 62543
WRZ007	Graylingwell Park	Chichester	PO19 6PQ	SU 86550 06485
WRZ008	Kingsmere	Bicester	OX26 1AJ	SP 57061 22214
WRZ009	Great Western Park	Didcot	OX11 6AS	SU 50788 90006
WRZ010	New South Quarter	London - Croydon	CR0 4NR	TQ 31285 65446
WRZ011	Barking Riverside	London - Barking	IG11 0XF	TQ 46983 82341
WRZ012	Farndon Road	Market Harborough	LE16 9HN	SP 72296 86280
WRZ013	Brewery Square	Dorchester	DT1 1QT	SY 69197 90128
WRZ014	Marine Wharf	London - Deptford	SE16 7UD	TQ 36306 78802
WRZ015	Riverlight	London - Nine Elms	SW11 8DG	TQ 29401 77566
WRZ016	Norwich Common	Wymondham	NR18 0UJ	TG 12972 03140
WRZ017	Hills Farm Lane	Horsham	RH12 1EP	TQ 15406 30407
WRZ018	Newlands	Waterlooville	PO7 3DH	SU 67411 08814
WRZ019	Heart of East Greenwich	London - Greenwich	SE10 9GQ	TQ 39571 78175
WRZ020	Embassy Gardens	London - Nine Elms	SW11 7AX	TQ 29681 77523
WRZ021	Emerson's Green	Bristol	BS16 7LH	ST 67534 77650
WRZ022	Kingsbrook	Aylesbury	HP22 7BR	SP 84696 14838
WRZ023	Millharbour Central	London - Docklands	E14 9XP	TQ 37536 79678
WRZ024	Ram Quarter	London - Wandsworth	SW18 1UN	TQ 25641 74753
WRZ025	Prince of Wales Drive	London - Nine Elms	SW11 4FP	TQ 28800 77147
WRZ026	White City	London - Shepherd's Bush	W12 7RQ	TQ 23399 80676
WRZ027	Chatham Waters	Chatham	ME4 4FQ	TQ 77563 69623
WRZ028	Media City	Manchester	M50 2EQ	SJ 80258 97411
WRZ029	No.1 Old Trafford	Manchester	M17 1GL	SJ 81125 96520
WRZ030	Castle Irwell	Manchester	M6 6LW	SD 81861 00339
WRZ032	Queen Street	Manchester	M3 7GX	SJ 83509 98936
WRZ033	D'Urton Lane	Preston	PR3 5FF	SD 54040 34402
WRZ034	Worrall Street	Manchester	M5 4BZ	SJ 82279 97290
WRZ035	Wirral Waters	Birkenhead	CH41 1DS	SJ 31816 90246
WRZ036	Dockers Club	Liverpool	L6 0AZ	SJ 37788 93300
WRZ037	One Baltic Square	Liverpool	L8 5AN	SJ 35090 88788

WRZ038	Oldham Street	Manchester	M4 1AW	SJ 84625 98598
WRZ039	CITU	Leeds	LS10 1EE	SE 31215 32591
WRZ040	Redhill Way	Telford	TF2 9WZ	SJ 71787 11196
WRZ041	Liverpool John Lennon Airport	Liverpool	L24 1YD	SJ 43170 82608
WRZ042	Market Quarter	Rugby	CV21 3HX	SP 50927 75808
WRZ043	Heriot Street	Liverpool	L5 7SB	SJ 34620 92685
WRZ044	Station Road	Oxted	RH8 0GN	TQ 39460 52791
WRZ044	Station Road	Derby	DE3 9FP	SK 31135 35947
WRZ045	Gold Lane	Biddenham	MK40 4WS	TL 01803 50338
WRZ045	Gold Lane	Biddenham	MK40 4RA	TL 01675 50364
WRZ046	Hallgate Lane	Pilsley	S45 8HL	SK 42019 62791
WRZ047	Bridle Lane	Downham Market	PE34 3QN	TF 62392 04370
WRZ048	Trafford Plaza	Manchester	M16 0FF	SJ 81855 95939
WRZ049	Conrad Road	Witham	CM8 2SD	TL 81555 16529
WRZ050	Regents Plaza	Salford	M5 3QP	SJ 82197 97869
WRZ051	Element - The Quarter	Liverpool	L6 1EJ	SJ 36140 91205
WRZ052	Barton Farm	Winchester	SO22 6AX	SU 47511 31365
WRZ053	Roscoe Street	Liverpool	L1 2SX	SJ 35339 90044
WRZ054	Seashell Trust	Manchester	SK8 3HX	SJ 85851 85314
WRZ055	Sherdley Road	Warrington	WA9 5SY	SJ 50720 92787
WRZ056	Spencer's Park	Hemel Hempstead	HP2 7AH	TL 08156 09187
WRZ057	Anchorage	Manchester	M50 3BT	SJ 81099 97644
WRZ058	Stanton Cross	Wellingborough	NN8 1TL	SP 90839 68207
WRZ059	Golf Drive	Nuneaton	CV11 6LY	SP 38405 90605
WRZ060	Church Street	Braintree	CM7 5LL	TL 77062 26174
WRZ061	Twelvetrees Park	London - West Ham	E16 4EL	TQ 39023 82695
WRZ062	Drakelow Park	Burton-on-Trent	DE15 9UE	SK 24243 20140
WRZ063	Victoria Road	Warminster	BA12 8FH	ST 85731 45180
WRZ064	Woolavington Road	Puriton	TA7 8BQ	ST 32723 41377
WRZ065	Victoria House	Manchester	M4 7DB	SJ 854980 98085
WRZ066	Viadux	Manchester	M1 5LG	SJ 83768 97572
WRZ067	Landmark X1	Manchester	M5 4NB	SJ 82337 98204
WRZ068	Fiddington	Tewkesbury	GL20 8JN	SO 91988 32676
WRZ069	Landywood Lane	Walsall	WS6 7GF	SJ 98502 06568
WRZ070	Poverty Lane	Liverpool	L31 1GE	SD 38919 01702
WRZ071	Thickthorn	Kenilworth	CV8 2BT	SP 29840 70686
WRZ072	Main Road	Didcot	OX11 9LR	SU 52413 88446
WRZ073	Lapwing Drive	Hampton-In-Arden	B92 0BF	SP 21006 81297
WRZ074	Rhodes Park	Ashford	TN25 6BP	TR 10871 38046
WRZ075	Derwent Street	Manchester	M5 4EP	SJ 82551 97580
WRZ076	Broomhall Way	Worcester	WR5 3LY	SO 85424 51643
WRZ077	Oak Lane	Kingswinford	DY6 7DB	SO 90095 90315
WRZ078	Manor Road	Cheltenham	GL51 9TS	SK 31135 35947
WRZ079	Moorbridge Court	Maidenhead	SL6 8BX	SU 89266 81324

WRZ080	The Eight Gardens	Watford	WD24 4BX	TQ 10961 97558
WRZ081	Coseley Park	Dudley	DY4 8BY	SO 94573 92739
WRZ082	Semington Road	Melksham	SN12 6LB	ST 90278 62935
WRZ083	Sundon Road	Harlington	LU5 6LR	TL 03685 29923
WRZ084	Twelve Acre Drive	Abingdon	OX14 2HP	SU 50960 99390
WRZ085	Perrybrook Farm	Gloucester	GL3 4ZT	SO 88506 17291
WRZ086	Apedale Road	Newcastle-Under-Lyme	ST5 6BH	SJ 82700 48800
WRZ087	Woodberry Down	London - Hackney	N4 2UG	TQ 32518 87666
WRZ088	Broadway	Maidenhead	SL6 1NS	SU 88791 81003
WRZ089	Wirral Waters (legacy)	Birkenhead	CH41 1BH	SJ 31274 90370
WRZ090	Eady Drive	Market Harborough	LE16 9XE	SP 74214 85721
WRZ091	Milestone Road	Carterton	OX18 3RL	SP 27764 05970
WRZ092	Flowers Lane	Crewe	CW1 4SE	SJ 68797 58316
WRZ093	Canada Water A1&A2	London - Rotherhithe	SE16 2XU	TQ 35630 79242
WRZ094	Winterbrook Lane	Wallingford	OX10 9SL	SU 60127 88559
WRZ095	Canford Park	Bournemouth	BH11 9GL	SZ 04884 97180
WRZ096	Yaddlethorpe	Scunthorpe	DN17 2UH	SE 87917 06692
WRZ097	Sandyhill Lane	Ipswich	IP3 0JB	TM 17122 42481
WRZ098	Pinchington Lane	Newbury	RG14 7QQ	SU 47939 65495
WRZ099	Dunstall Farm	Moreton-in-Marsh	GL56 0DS	SP 20271 31789
WRZ100	Lotmead Villages	Swindon	SN4 0SN	SU 19420 85349
WRZ101	Chilsey Green Farm	Chertsey	KT16 9EW	TQ 03305 66914
WRZ102	Kingsgrove	Wantage	OX12 9FD	SU 40031 89060
WRZ103	Valley Park	Didcot	OX11 6BZ	SU 50514 89694
WRZ104	Birchwood Lane	Derby	DE55 4NF	SK 43433 54045
WRZ105	Shenley Wood	Milton Keynes	MK5 6LA	SP 83140 36149
WRZ106	Montem Lane	Slough	SL1 2QG	SU 96746 79933
WRZ107	One Eastside	Birmingham	B4 7EH	SP 07793 87032
WRZ108	Langford Bridge	Newton Abbott	TQ12 5LA	SX 87101 69240
WRZ109	Barming	Barming	ME16 9HS	TQ 72694 55346
WRZ110	Clayton Road	Hayes	UB3 1DU	TQ 09434 79703
WRZ111	Wharton Road	Winsford	CW7 3BQ	SJ 65990 66801
WRZ112	Burton Road	Horsea	HU18 1TQ	TA 20778 47053
WRZ113	John Clark Way	Higham Ferrer	NN10 8LF	SP 96438 68107
WRZ114	Greenwich 19.05	London	SE10 0SQ	TQ 39279 79669
WRZ115	Shetcliffe Lane	Bradford	BD4 6QJ	SE 18627 29847
WRZ116	Boddingtons Brewery	Manchester	M3 1LE	SJ 83890 99292
WRZ117	School Lane	Forton	PR3 0AG	SD 49107 51254
WRZ118	Mastin Moor	Chesterfield	S43 3DB	SK 45640 74886
WRZ119	Kingsley Drive	Harrogate	HG1 4TL	SE 31844 56122
WRZ121	West Sompting	Worthing	BN15 0DA	TQ 16435 04804
WRZ122	Elm Way	Castleford	WF10 5SF	SE 41379 24050
WRZ123	Clapham Park	London SW4	SW4 8PN	TQ 29626 73958
WRZ120	Lumina Village	Manchester	M16 0PU	SJ 81173 95762

WRZ124	White Post	Stratton-on-the-Fosse	BA3 4QA	ST 66578 52638