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## SAVING WATER - WATER STRESS AND ASHFIELD

**October 2023**

1. WATER STRESS

Background

1. Climate change is anticipated to mean that we are going to be faced with mean higher temperatures. This will increase evaporation from reservoirs and water courses during spring and summer. It is also likely to drive up demand for water, which will also increase as the population grows. The impact of climate change on rainfall is uncertain, however, it is likely that rain that does fall will be in heavier bursts in winter and summer. Heavier rain tends to flow off land more quickly into rivers and out to sea, rather than recharging groundwater aquifers. A further risk is of prolonged dry periods.
2. Further information on the implications of climate change and the need for water adaptions is set out on the Climate Change Committees website at <https://www.theccc.org.uk/topic/water-scarcity/>
3. Water stress or scarcity occurs when demand for safe, usable water in a given area exceeds the supply. On the demand side, water is used by agriculture, industrial and for domestic use. On the supply side, sources include surface waters, such as rivers, lakes, and reservoirs, as well as groundwater, accessed through aquifers.
4. Serious water stress is defined in the Water Industry (Prescribed Conditions) Regulations 1999[[1]](#footnote-1) as amended, as where ‘the current household demand for water is a high proportion of the current effective rainfall which is available to meet that demand; or, the future household demand for water is likely to be a high proportion of the effective rainfall which is likely to be available to meet that demand’.

Greater Nottingham and Ashfield Outline Water Cycle Study Final Report February 2010. Entec.

1. The Water Cycle Study highlighted in 2010 that the water resource situation in the East Midlands is significantly constrained. There was little opportunity to develop new water resource schemes; current licensed abstractions may be curtailed in order to protect the environment; and climate change is expected to reduce resource availability further. This situation reinforced the importance of managing the demand for water in this area. As a result of the constraint in the region on water resources, it is recommended that all new homes were built to the water consumption standards of the Code for Sustainable Homes Level 3/4 as a minimum in order to reduce demand from new households; and that the Councils include policies to support the water company’s water efficiency activities to help reduce demand from existing development.

Severn Trent Water, Water Resources Management Plan 2019 (WRMP)

1. The plan sets out how Severn Trent Water intends to provide supplies of water over the next 25 years and beyond. It considers how it will accommodate the impacts of population growth, drought, environmental obligations and climate change uncertainty in order to balance supply and demand.
2. In summary, Severn Trent Water forecasts a significant deficit will develop between supply and demand for water over the medium term unless they act. It identifies that one key difference from previous plans is the need to prevent the risk of future environmental deterioration, which is a fundamental requirement of the Water Framework Directive. The consequence, is that some of our current sources of water cannot be relied upon in the future and alternative ways of meeting demand are needed.
3. The District of Ashfield falls within the Nottinghamshire Water Resource Zone, which is identified in the WRMP as having the greatest supply/demand deficit (Page 26).The Plan identifies that the combined impact of increasing demand and the impacts of climate change beyond 2045 may mean Severn Trent needing to consider developing a number of new water supply options including:
* Final effluent reuse schemes.
* Exploit existing underground void dewatering activities for potable water supply with enhanced water treatment methodologies.
* Additional surface water storage.
* New river intakes with new water treatment works.
* Aquifer storage and recovery.

In the longer term, Severn Trent may also need to consider increasing capacity at some of the larger reservoirs in our region.

1. The WRMP sets out on page 26 in relation to water stress that;

*“We do not currently have the power to implement a compulsory metering programme as we are not classified by the Environment Agency as a seriously water stressed area. However, the scale of the emerging supply / demand challenge means there are grounds for exploring with Environment Agency and Defra whether such an application would be appropriate, for either the whole region or specific water resource zones, and the timescale over which it would be applied.”*

Severn Trent Water Climate Change Adaptation Report 2021

1. The Severn Trent Water Climate Change Adaptation Report 2021[[2]](#footnote-2) highlights the risks that arise from climate change and the changing weather patterns. It identifies a number of measures in relation to both supply and demand to look to ensure that water is always available. This includes the possibility of ‘water trading’, moving water from where it’s most plentiful to where it’s most needed, including between different water companies.

2.0 WATER STRESSED AREA AND ASHFIELD’S EMERGING LOCAL PLAN

* 1. Under the Water Industry (Prescribed Conditions) Regulations 1999, as amended, the Secretary of State may, after consulting the Environment Agency, determine the whole or any part of a water undertaker’s area to be an area of serious water stress for the purposes of these Regulations, where the Secretary of State considers that:
1. the current household demand for water in that area is a high proportion of the current effective rainfall which is available to meet that demand; or
2. the future household demand for water in that area is likely to be a high proportion of the effective rainfall which is likely to be available to meet that demand.
	1. The Environment Agency was requested to review their determination of water stressed areas identified in 2013. The updated report is identified as [Water Stressed Areas – final classification dated 1st July 2021](https://www.gov.uk/government/publications/water-stressed-areas-2021-classification). It sets out that the Secretary of State accepted their advice on the water company areas that should be determined to be in areas of serious water stress and has determined those areas as areas of serious water stress on 1 July 2021. A number of additional water company areas were identified as being in water stress in the 2021 determination including Severn Trent Water – excluding Chester zone.
	2. The use of the water stress determination is to allow water companies to consider compulsory metering in their water resources management plans. However, the report identifies that *“Local authorities can use the water stress determination to inform whether they can require the tighter standard of 110 litres per head per day in new developments.”* Consequently, subsequent to Severn Trent Water WRMP, the Environment Agency has updated its water scarcity status assessment and has designated Severn Trent Area (excluding the Chester Zone) as being in a seriously water stressed area.
	3. The National Plan Policy Framework 2023, paragraph 6, states that other statements of government policy may be material when preparing plans or deciding applications, such as relevant Written Ministerial Statements. On 1st July 2021 the Secretary of State for the Department For Environment, Food and Rural Affairs made a Ministerial Statement on ‘Reducing demand for water’ (Statement UIN HCWS140). It include a number of measures to support water efficiency in homes including:

*“Write to local authorities to encourage them to adopt the optional minimum building standard of 110 litres per person per day in all new builds where there is a clear local need, such as in water stressed areas.”*

* 1. The background evidence identifies that water usage is an important issue in relation to development in Ashfield and that measures should be undertaken to reduce demand. Severn Trent Water supplies water and wastewater treatment for homes and industry in Ashfield. The Environment Agency identifies in their Water Stress Area Classification 2021, ‘Areas of serious water stress’ for the purposes of Regulation 4 of the Water Industry (Prescribed Condition) Regulation 1999 (as amended). Area of water stress includes the Severn Trent Water Area (excluding the Chester Zone). The Ministerial Statement emphasises the need for local authorities in serious water stressed area to adopt the option minimum building standard of 110 litres per day in all new builds. As such, this provides the basis for Ashfield Local Plan Policy CC2 Water Resource Management requirement for residential development proposals to implement water efficiency measures to minimise water consumption, to achieve a requirement of not exceeding 110 litres per person per day. Water efficiency measures in the Local Plan will have a positive outcome on climate change adaptation, future water supplies, effects of abstraction and the natural environment.

3.0 ACTION BY INDIVIDUALS

* 1. Doing all we can to save water is important for us all. Not only can it save us money but it can help the natural environment as it diverts less water from our rivers, and reservoirs. It can reduce wastewater treatment costs and the amount of energy used to treat, pump, and heat water. This lowers energy demand, which helps prevent air pollution.
	2. Advice on water saving measures is set out on Serven Water website on saving water at:

<https://www.stwater.co.uk/wonderful-on-tap/save-water/saving-water-made-simple/>

* 1. Other measures could reflect the following:

Bathroom

* Shorten your showers – reducing your shower from eight minutes to five can save up to 30 litres of water.
* Turn off the tap when brushing your teeth – a running tap wastes approximately 6 litres per minute.
* Upgrade your toilet – Consider switching to a dual flush toilet, with two buttons allowing different quantities of water to flow. The lower flush option typically uses up to 4-6 litres of water per flush. Alternatively, try installing a cistern displacement device in your toilet – these can save up to 5,000 litres of water a year.
* Install low flow shower heads – these can save up to 60 litres of water per shower.
* Fit a tap aerator - this small, simple device mixes water with air, reducing the flow but maintaining the water pressure. They are cheap and easy to install and can save significant amounts of water. You can also buy taps with aerators already fitted.

Kitchen

* Fill it up - make sure your dishwasher or washing machine is fully loaded so that you make the most of the water being used. Avoiding pre-rinsing dishes can also help to reduce water waste.
* Use a washing up bowl – if washing up by hand, use a washing up bowl rather than continuously running the tap.
* Upgrade to a water-saving tap – taps designed to be water efficient can use up to 40% less water than a normal tap.

Garden

* Install a water butt – collecting and storing rainwater to use in your garden is a great way to conserve water while keeping your garden well-maintained.
* Use a watering can – use a watering can wherever you can for more targeted watering. Watering the garden with a hosepipe can use 1,000 litres of water an hour – more than 12 baths!4 If you are using a hosepipe, attaching a trigger nozzle will halve the amount of water used and help direct the flow to the root of your plants.
* Pick drought-resistant plants – consciously choosing plants that need less water, such as lavender or poppies, means you can more easily keep them healthy during dry summer months.
* Reduce evaporation – using mulch and bark in your garden will help to reduce water evaporation by up to 75%4. Minimise evaporation by watering in the early morning or late evening, allowing the water to soak into the soil and reach plant roots.

Source: <https://www.kingfisher.com/>

1. The Water Industry (Prescribed Conditions) (Amendment) Regulations 2007 [↑](#footnote-ref-1)
2. <https://www.stwater.co.uk/content/dam/stw/about_us/documents/stw-climate-change-adaptation-report-2021.pdf> [↑](#footnote-ref-2)