LOOKING AFTER THE ENVIRONMENT

The reservoir project will improve existing woodland and create valuable new wetland, woodland and parkland. A grant scheme will also support wildlife across Hampshire and West Sussex.

It will also help protect the River Test and River Itchen in Hampshire. By using the reservoir to supply our own customers, we can share supplies from our other water sources with Southern Water. So, they will be able to reduce the amount of water that they take from these sensitive chalk streams.

Creating the new wetland is a very important part of our plans to support wildlife and birds and create a positive legacy in the environment.

How we're considering the environment

We want to make sure our plans have a positive impact on the environment overall, however, the work to build the reservoir will change the grassland and woodland which is already there so it's vital we take steps to mitigate this.

We're undertaking an 'Environmental Impact Assessment' to identify the effect our work will have and the ways we can mitigate or compensate for this.

We've agreed our approach to this assessment with the local planning authorities, East Hampshire District Council and Havant Borough Council and we'll be looking at the topics listed in the following table, as well as the total impact of our development in combination with others in the area; and the risks to the reservoir from major disasters, such as a very long drought.

We're in the early stages of this assessment, but it will be included in our planning application in the autumn, which you'll be able to see and comment on.

The following tables show the key areas we'll be looking at, our approach and the steps we could consider:

TOPIC	KEY CONSIDERATIONS	OUR APPROACH	POTENTIAL MITIGATION AND COMPENSATION
Air quality	• Potential impacts of emissions, dust and traffic on the environment and people in sensitive places such as residential areas during construction. • Changes to local traffic with more vehicles travelling to and from the site during construction and when the reservoir is open.	• We're looking at existing levels of air pollutants and comparing them to the Government's Air Quality Strategy objectives. • We'll assess the effect of changes in traffic on local roads and sensitive places like residential areas, to identify the risk from dust and emissions during construction and the effect on air quality, from changes in traffic once the reservoir opens.	• We expect changes in air quality to be temporary, within safe levels, and not significant. • We'll develop an Environmental Management Plan, that includes measures to reduce our impact while we're building the reservoir e.g. restricting construction traffic to certain routes and times of day.
People and health	• Homes, businesses, schools and development land near the reservoir site and along the pipeline could be affected by issues such as noise or changes to views during construction. • Visitors to the reservoir, may use local transport.	• We're studying the potential impact of the reservoir and its visitors on local communities, alongside our other studies on noise, vibration, water, views and the surrounding landscape.	• We'll include measures to protect local communities from things like noise and traffic during construction in our Environmental Management Plan. • We'll identify opportunities to Improve the health and well-being of local communities, reduce inequality and encourage access to the facilities the site will offer. • The reservoir could benefit local communities with job opportunities and better public rights of way for walking, cycling and horse riding. Visitors to the reservoir may also visit local shops and other places of interest.
Biodiversity	• Building the reservoir will mean the loss of some woodland, including ancient woodland and woodland designated as a Site of Importance for Nature Conservation (SINC). • Other habitats, including grassland and watercourses like streams, will be lost. • Impacts on notable and protected species such as dormice and bats, including Bechstein's bat, and reptiles from habitat disturbance and loss. We'll also consider any risks of visitors disturbing wildlife when the reservoir opens.	• We're continuing to gather information on designated sites and key habitats, from studies and our surveys. • These have included surveys for bats, dormice, Great Crested Newts, reptiles, breeding and wintering birds, badgers and invertebrates. • A preliminary ecological study of the pipeline route options has already been done.	• We're working closely with organisations including local authorities, Natural England, Forestry England, Hampshire County Council and the Environment Agency, to develop a comprehensive ecological mitigation and compensation strategy. • This includes planting new woodland, and significantly improving the quality of existing woodland habitats near the reservoir site; mitigation for protected and notable species; the creation of new and good quality habitats (such as the wetland); and the creation of a grant scheme to support other nature conservation projects in Hampshire.
Transport	• Construction traffic and visitors travelling to and from the reservoir could affect local traffic. • Changes to the road network could affect local traffic flow (when considered with increased traffic from new housing developments). • Changes to the public rights of way could affect walkers, cyclists and horse riders.	• We're undertaking a transport assessment – gathering information on existing traffic at key junctions and using models to predict the impact our proposals may have on local traffic. • The number of visitors we're planning for is based on a recent study of similar local attractions. • We'll take into account an increase in traffic from new housing planned for the area. • We're also reviewing options in the area for other types of travel, such as buses or cycling.	• We'll develop an Environmental Management Plan to follow while we're building the reservoir, which could include measures like restricting construction traffic to certain routes and times of day. • If we think there'll be an impact from traffic when the reservoir opens to the public, we'll look at traffic calming measures or speed limits. • These would be developed with the Local Highway Authority, to make sure they'd fit in with the surrounding area.

TOPIC	KEY CONSIDERATIONS	ASSESSMENT APPROACH	POTENTIAL MITIGATION AND COMPENSATION
Noise and vibration	• Sensitive locations like residential areas could be affected by noise and vibration while the reservoir is being built, although the work will be quite a distance away. • A possible increase in traffic, with more vehicles travelling to and from the site during construction and once the reservoir is open, could create more noise.	• We're assessing the potential for noise and vibration during construction. • We're considering existing noise levels and what could cause a change in these: the distances noise could travel and how it would be affected by the land in between, and what is on it. • This assessment will give us a worst-case scenario for the highest levels of noise during the day and at night during construction.	• We'll identify measures to reduce noise, such as limits on working hours, in our Environmental Management Plan. • Most of the construction will take place on the site and will be screened to some extent by the embankments and existing woodlands.
Effects on the climate and vulnerability to climate change	• Building the reservoir could increase Green House Gases (GHG) emissions – during construction and when it's being used. • The reservoir's operation could be affected by the changing climate (UK Climate Projections 2018). • Climate change and climate variability present challenges and opportunities.	• We're using information from our design team, environment studies, construction experts and industry standards, to calculate the GHG emissions. • We'll compare these to an average number and show what that means in terms of carbon emissions (CO_2e). • We'll consider how the reservoir might be vulnerable to climate change in any way, for example during a very long drought. We'll draw from the findings of our other assessments like water and biodiversity to do this.	• We'll continue to explore ways to reduce carbon emissions by reducing waste, using low carbon materials, designing for energy efficiency and managing climate vulnerability risks. • Our Environmental Management Plan will also consider ways to reduce the amount of energy we'll use and how it will be generated. • Public access to the visitor centre will be carefully managed and will not be available 24 hours a day.
Landscape and changes in views	• Changes to the views from Staunton Country Park (Leigh Park Grade II* registered Historic Park and Garden) and the South Downs National Park, an Area of Outstanding Natural Beauty. • Changes to the views from homes in Warren Park, Leigh Park and Rowlands Castle, public rights of way and open space.	• We'll assess how much the landscape, views from homes in Warren Park, Leigh Park and Rowlands Castle, public rights of way, open space and viewpoints agreed with the local authority will be affected. • We'll use computerised tools to visualise the changes and study published 'Landscape Character Assessments'.	• We're already considering how we can limit landscape and visual impacts as we design the reservoir, its location and the materials we'll use to build it.
Historic environment	• Building the reservoir will result in the removal of existing woodland, 'The Avenue', Round Wood and Middle Clearing; and impact on the Sir George Staunton Conservation Area and the Grade II* registered Leigh Park. • The reservoir may result in changes to the setting of historic structures and views from the Grade II* registered Leigh Park. • There could be buried archaeological remains on the reservoir site and along the pipeline corridor.	• We're identifying all designated and non-designated heritage sites in and around the reservoir site. • We're gathering information from organisations, such as Historic England, to assess any impacts on the historic landscape and the potential for any archaeological remains to be found.	• We'll undertake archaeological surveys, evaluation and recording during construction, when they are needed, to mitigate the impact on archaeological remains which may be found.

TOPIC	KEY CONSIDERATIONS	OUR APPROACH	POTENTIAL MITIGATION AND COMPENSATION
Ground conditions	• Possible impacts from construction could include soil erosion, compaction of the ground and changes in its stability. • We may generate waste soil - particularly from the pipeline route.	• We'll consider the effect of our work on geology and explore the potential for ground contamination and the re-use of mineral resources, soils and waste. • We're analysing soil samples and water monitoring taken during ground investigations on the site last year.	• We'll include guidelines to prevent pollution in our Environmental Management Plan, which will set standards for how the reservoir is built. • We'll try to reuse as much of the soil as possible on site to avoid creating waste.
Materials and waste	• Local traffic may be disrupted as materials are transported to and from the site. • Some waste materials may not be able to be re-used. • Buying materials and disposing of waste may affect the availability of local supplies and waste sites.	• We're studying how much material we may need, how available it is and how much waste we may need to dispose of both during construction and when it's open to the public. • We're using information from ground investigations we carried out last year.	• We'll develop a plan to manage materials, working with the Environment Agency and Hampshire County Council. • Our aim is to re-use material produced during construction as much as possible (e.g. using material we dig out to build the embankments). • When we can't re-use material, we'll recycle it as much as possible.
Water (including flows, quality and ground-water)	• Potential risks to the water quality and flow in streams and other water bodies south of the reservoir, and Langstone Harbour. • There is potential to improve water quality and flows downstream and reduce the risk of flooding.	• We're investigating the risks of flooding, low water flows in streams etc below the reservoir and water quality – using samples and computer models. • We're also studying groundwater (water levels underground), using samples to explore any effects on the Hermitage Stream area. • Our work is guided by UK legislation – the Water Framework Directive.	• We'll produce a plan to manage the water which usually runs off to streams etc during construction. • When the reservoir is up and running, we expect it to reduce the risk of floods because it will hold water, particularly when flows are high in the Riders Lane stream. • We'll develop a plan to 'top up' flows in streams etc south of the reservoir when they're low in agreement with the Environment Agency.

We've recently planted hundreds of trees and created new ponds and hedgerows on the edge of the reservoir site to improve habitats for wildlife. This has included a mixture of more than 3,000 trees to create a memorial woodland in partnership with Havant Borough Council as a place for quiet reflection and a valuable new habitat to connect other areas of woodland nearby so birds and mammals can move around and feed more easily.