

Havant Thicket Reservoir Project

Development Specification and Application Drawings

Portsmouth Water Ltd.

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Notice

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Executive Summary

by Bob Taylor, Chief Executive of Portsmouth Water

Havant Thicket Reservoir – supporting local and regional communities

Portsmouth Water's planning application to develop the Havant Thicket Reservoir marks the culmination of years of planning and collaboration and an innovative approach to developing new water resources in partnership with other water companies in the South East.

The reservoir, which would be the first to be built in the UK since the 1970s, would boost the resilience of water supplies in the water-stressed South East – protecting our customers and those of our neighbour Southern Water against the challenges of housing growth, climate change, and the impacts of taking too much water from the environment.

For example, the reservoir has a fundamental role to play in protecting two precious chalk streams in Hampshire – the River Test and River Itchen – by supporting Southern Water to reduce the amount of water they take from them.

Establishing the need for the reservoir

As monopoly suppliers, water companies are subject to stringent regulation and our plans for the reservoir have been rigorously scrutinised and tested by both our financial regulator Ofwat and our environmental regulators – the Environment Agency and Natural England, as well as by the Drinking Water Inspectorate, Consumer Council for Water and our own Customer Challenge Group.

The need for Havant Thicket Reservoir, and the water it will unlock to transfer to Southern Water from Portsmouth Water's other sources, was identified through both companies' planning processes and confirmed by the work of a wider regional collaborative group, Water Resources South East (WRSE). (WRSE is made up of six water companies located in the south east plus water industry regulators; its key function is to produce Water Resources Management Plans for the region).

The reservoir was included in WRSE's most recent regional strategy and Portsmouth Water and Southern Water's 25-year and 50-year Water Resources Management Plans, which gained approval from the Secretary of State for the Environment in 2019. It was then included in both water companies' five-year investment plans for 2020-25, also approved by Ofwat in late 2019.

On a national level, the case for increased investment to build resilience to drought across the UK was made in Water UK's Water Resources Long-Term Planning Framework, published in 2016, and the 2018 National Infrastructure Commission report – Preparing for a Drier Future.

Collaborative planning

We first developed detailed plans for the reservoir in 2008 but were unable to take it forward as we weren't able to justify the cost and the need for our own customers.

The reason we're able to go ahead with this application now, is the unique collaboration with Southern Water. They are driving the need for the additional water to meet the needs of their own customers, having signed a legal agreement with the Environment Agency to further protect chalk streams by reducing the amount of water they take from them.

Portsmouth Water already provides up to 30 million litres of water every day to Southern Water. By 2029, this will double to 60 million litres per day – through an additional 9 million litres per day (Ml/d) from existing sources and up to 21 million litres per day (Ml/d) enabled by the reservoir. Supplies will be released to Southern Water from our sources in the west, with the reservoir used mainly to supply our customers who live nearby.

We're able to do this as our supply area is only under 'moderate water stress' – mainly due to the underground springs, most notably at Bedhampton and Havant, which provide plentiful, reliable supplies of very clean water. In winter, much of this water is surplus to our requirements and flows out to sea so we can make much better use of it regionally by capturing it and storing it in the reservoir until it's needed.

Overall, the reservoir will be able to hold at least 8.7 billion litres of water and able to supply up to 21 million litres of water each day, enough to supply 160,000 people in an average year.

Community and environment benefits

As well as vital water resources, we're tapping into the site's potential to offer a host of wider benefits to our communities – education, health, wellbeing, local employment and training – and most importantly an overall net gain for the environment.

Building the reservoir would bring more benefits – for the environment, wildlife and local people – than the existing grassland and trees. While regrettably the development would mean the loss of some ancient woodland, we've engaged extensively with the Environment Agency, Natural England, the Hampshire County Ecologist and the local wildlife trust to develop a robust mitigation and enhancement plan.

We plan to create a new wetland to support threatened species of local and migrating birds, new woodlands, hedgerows and wildflower banks and improve existing woodlands. Tree planting started in 2019 with a further 3,000 planted this year to create a memorial woodland for local communities, as well as offering new foraging habitat for the 13 species of bat recorded on the site.

Our plans also include a visitors' centre with education facilities, play and picnic areas and paths for walking, running, dog walking, cycling and horse riding and throughout the project, we'll continue to explore ways the site can support local residents, with a particular focus on providing great facilities for young people.

For example, we intend to create opportunities for local residents to benefit from training, volunteering and employment as the reservoir and its amenities are created and come into day-to-day use.



Bob Taylor, Chief Executive Officer, Portsmouth Water

Definitions

For ease of reference, the following terminology has been used throughout this Development Specification document:

Term	Definition
The Scheme	As specified in The Application which is the subject of this Environmental Impact Assessment.
The reservoir site	Land area of the Scheme within the red line boundary at the reservoir site.
Pipeline corridor	Land area of the Scheme within the red line boundary along the pipeline route.
The Applications	The outline applications (one for the reservoir site and one for the pipeline)
The Applicant	Portsmouth Water (PW)
AOD	Above Ordnance Datum (usually mean sea level)
ES	Environmental Statement which accompanies the planning applications
EHDC	East Hampshire District Council
HBC	Havant Borough Council
HCC	Hampshire County Council
MI/d	Million litres per day
RPG	Registered Park and Garden

1. Introduction

- 1.1. This Development Specification forms part of the outline planning application submissions for a proposed new reservoir and pipeline (the Scheme) at Havant Thicket, Havant.
- 1.2. There are two planning applications which will be determined together, one for the reservoir site and one for the pipeline corridor. These have been submitted by Portsmouth Water.
- 1.3. Chapter 2 of this Development Specification defines and describes the principal components of the Scheme for which permission is sought.
- 1.4. Chapter 3 sets out key design principles, actions and commitments which planning applications for reserved matters will be required to comply with.
- 1.5. The following documents are also submitted in support of the planning applications:
 - Engineering and Design Report;
 - Planning Statement;
 - Development Specification (this document);
 - Environmental Statement (Volumes 1 - 4) including Non-Technical Summary. The Volume 4 Appendices include the following standalone reports:
 - Outline Construction Environmental Management Plan including Record of Environmental Actions and Commitments or REAC (ES_Volume_4_Appendix_A2.1_OEMP)
 - Transport Assessment (ES_Volume_4_Appendix_A13.1_TA)
 - Flood Risk Assessment (ES_Volume_4_Appendix_A15.2_FRA)
 - Water Framework Directive Compliance Assessment (ES_Volume_4_Appendix_A15.1_WFD)
 - Arboricultural Impact Assessment (ES_Volume_4_Appendix_A9.14_AIA)
 - Design and Access Statement;
 - Statement of Community Involvement;
 - Outline Biodiversity Mitigation and Compensation Strategy
 - Article 4.7 Statement.
- 1.6. The following drawings are submitted in support of the planning applications:

Reservoir Application

- HTR-ATK-ZZ-ZZ-GS-Z-0140 Site Location Plan
- HTR-ATK-ZZ-ZZ-GS-Z-0141 Site Boundary Plan
- HTR-ATK-ZZ-ZZ-GS-Z-0142 Site Survey Plan
- HTR-ATK-ZZ-ZZ-DR-L-0001 Outline Masterplan
- HTR-ATK-ZZ-ZZ-DR-L-0006 Planning Application Strategy Key Plan
- HTR-ATK-ZZ-ZZ-DR-L-0007 Key Plan 1
- HTR-ATK-ZZ-ZZ-DR-L-0008 Key Plan 2
- HTR-ATK-ZZ-ZZ-DR-L-0009 Key Plan 3
- HTR-ATK-ZZ-ZZ-DR-L-0012 Landscape Plan - Control House
- HTR-ATK-ZZ-ZZ-DR-L-0013 Landscape Plan - Staircase

- HTR-ATK-ZZ-ZZ-DR-L-0014 Landscape Plan - Gipsies Plain
- HTR-ATK-ZZ-ZZ-DR-L-0015 Landscape Plan - North West Corner
- HTR-ATK-ZZ-ZZ-DR-L-0016 Landscape Plan - Viewing Platform
- HTR-ATK-ZZ-ZZ-DR-L-0018 Section A
- HTR-ATK-ZZ-ZZ-DR-L-0019 Section B + C
- HTR-ATK-ZZ-ZZ-DR-L-0020 Section D + E
- HTR-ATK-AR-RE-DR-D-0001 Northern Access Route off B2149
- HTR-ATK-AR-RE-DR-D-0002 Northern Access Junction off B2149
- HTR-ATK-AR-RE-DR-D-0005 Southern Access Route off Swanmore Road
- HTR-ATK-AR-RE-DR-D-0006 - 0005 Southern Access Junction off Swanmore Road

Pipeline Application

- HTR-ATK-ZZ-ZZ-GS-Z-0140 Site Location Plan
- HTR-ATK-PI-BR-DR-C-0009 Overall Plan and Route
- HTR-ATK-PI-BR-DR-C-0021 Red Line Boundary Drawing (Ch0-1600)
- HTR-ATK-PI-BR-DR-C-0022 Red Line Boundary Drawing (Ch1600-3200)
- HTR-ATK-PI-BR-DR-C-0023 Red Line Boundary Drawing (Ch3200-4500)
- HTR-ATK-PI-BR-DR-C-0014 Site Plan (Ch0-800)
- HTR-ATK-PI-BR-DR-C-0015 Site Plan (Ch800-1600)
- HTR-ATK-PI-BR-DR-C-0016 Site Plan (Ch1600-2400)
- HTR-ATK-PI-BR-DR-C-0017 Site Plan (Ch2400-3200)
- HTR-ATK-PI-BR-DR-C-0018 Site Plan (Ch3200-4000)
- HTR-ATK-PI-BR-DR-C-0019 Site Plan (Ch4000-4564)
- HTR-ATK-PI-BR-DR-C-0010 Typical Stream Crossing Detail
- HTR-ATK-PI-BR-DR-C-0011 Typical Pipeline Construction Detail
- HTR-ATK-PI-BR-DR-C-0012 Typical Under Track Crossing Detail
- HTR-ATK-PI-BR-DR-C-0013 Hermitage Discharge Structure Detail
- HTR-ATK-PI-BR-DR-C-0020 Typical Culvert Detail

2. Application Parameters

Introduction

- 2.1. The application parameters establish what is being applied for. They are summarised in Table 2.2 below and illustrated in the planning drawings and Planning Application Strategy Key Plan.
- 2.2. An outline planning application is being submitted for development of a Reservoir and a separate outline planning application for the Pipeline. As the Reservoir and Pipeline are a 'single project' (i.e. inextricably linked) it is supported by one Environmental Statement (ES) which assesses both the Reservoir and Pipeline as one scheme. One set of documents has been provided to cover both elements of the Scheme. Both planning applications will be determined together.
- 2.3. The application for the Reservoir will include vehicular and pedestrian accesses, an operational control house and visitor facilities - a visitor centre, bird hide, car park and recreational walking and cycling network. The level of detail required for different elements of the Scheme has been discussed and agreed with the Havant Borough Council (HBC) and East Hampshire District Council (EHDC), the host Local Planning Authorities (LPA). More detail is required in some areas to allow the LPA to determine the impact of the Scheme on the sensitive ecological, landscape and heritage setting. This is discussed in more detail below.
- 2.4. The works at Bedhampton pumping station do not require planning permission and can be implemented under Portsmouth Water's Permitted Development Rights.

Project Description

Reservoir Application

- 2.5. Planning permission is being sought for:
Development of a reservoir for raw water storage, with control house, visitor centre and car park, recreational facilities for public amenity and a wetland along the northern shore of the reservoir.
- 2.6. The components of the Reservoir Application comprise:
 - A pumped storage reservoir, with the minimum required total storage capacity of 8,700 million litres (Ml), to support the planned bulk supply transfer of at least 21Ml/d in extreme (currently defined as 1:200 year) drought conditions.
 - Construction of an earth embankment;
 - Construction of a control house partially incorporated within landscaped earth mounding adjacent to the south west embankment;
 - Construction of an overflow discharge/spillway at the south-western side of the reservoir and associated works;
 - Construction of a new junction on the B2149 Manor Lodge Road and a new junction on Swanmore Road and access routes from both junctions to the visitor car park;
 - Provision of 193 car parking spaces and between 70 and 75 overflow spaces plus spaces for staff, coach/minibus and disabled drivers sited to the north west of the reservoir;
 - Construction of perimeter tracks and a network of bridleways, cycle paths and footpaths;
 - Construction of a visitor centre / café (sui generis and A3), with storage areas and welfare facilities to the northwest of the reservoir to be used for recreational and education purposes;
 - Provision of picnic area(s) and children's play area(s);
 - Creation of a permanent wetland on the northern side of the reservoir and construction of bird watching hide/screen(s);

- Construction of a slipway on the western bank of the reservoir for operational use only;
- Provision of viewing areas on the southern embankment and western edge of the reservoir; and
- A small section of the proposed pipeline (210m) is included in the reservoir application.

Pipeline Application

2.7. Planning permission is being sought for:

Development of a new pipeline to transfer water from Bedhampton Springs to fill the reservoir in the winter and draw it off to treat and supply when needed in the summer.

2.8. The components of the Pipeline Application comprise:

- Construction of an underground, bi-directional pipeline linking the reservoir with the existing pumping station at Bedhampton;
- Emergency drawdown discharge structure at Hermitage Stream;
- Upgrades to existing culverts; and
- Washout and air valve chambers (typically below ground).

Construction

Reservoir Site

2.9. The construction of the reservoir will be spread over several phases over approximately 10 years to take account of detailed design, environmental mitigation, preparatory operations, seasonal clay working limitations and time taken to fill the reservoir with water. The construction compound will be located within the reservoir site red line boundary in the area which will eventually accommodate the visitor centre and car park. Reservoir construction traffic will access the site via the northern access off the B2149.

2.10. The key elements of the proposed construction sequence are indicated in Table 2.1:

Table 2.1: Indicative Construction Programme

Dates	Key activity / milestone
Spring 2021	Planning permission expected
Spring 2021 – November 2022	Commencement of works. Species relocation, tree felling, preparatory work on habitats avoiding breeding / nesting seasons, enabling works including access road construction.
March 2023 – September 2026	Construction of culvert structure, embankment and reservoir control house
Autumn 2026 – Spring 2029	Construction of visitor facilities. Filling of reservoir in stages with pumped water from Bedhampton Springs. Testing and commissioning.

Pipeline Corridor

2.11. The reservoir and pipeline will be constructed in phases, to reduce the amount of traffic travelling to and from the reservoir site at any one time. It is likely that the pipeline will be broken down into sections to allow multiple teams to operate at the same time.

2.12. As the pipeline will be routed through residential areas, there is insufficient space for a dedicated construction compound and laydown area to support these activities. Therefore, the main

construction support site and laydown areas at the reservoir site will be used throughout the construction of the pipeline.

- 2.13. Whilst it is expected that both the northern and southern access points will be available, HGV construction traffic will be required to use the northern access as the main access point, with the southern access only being used for construction of the top third of the pipeline. Construction traffic for the lower two thirds of the pipeline will access the pipeline corridor directly from junctions 2 and 3 of the A3(M). School term times will be avoided where the pipeline runs close to schools. The traffic impact is discussed in more detail in the Transport Assessment which accompanies the planning applications.
- 2.14. Small scale, portable welfare facilities will be provided for the pipeline workforce along the pipeline corridor at appropriate locations.
- 2.15. Each section of the pipeline that is being worked on will require fencing to secure the site and protect the public.
- 2.16. Land incorporated in the pipeline corridor for the temporary works of the pipe installation will be returned to its pre-existing condition and use on completion.
- 2.17. The outline planning approval will be subject to detailed Traffic Management and Construction Environmental Management Plans which will include measures to reduce disruption from construction activities.

Application Detail

Reservoir Site

- 2.18. The outline application for the reservoir is being submitted with some details reserved for approval at a later stage. These will take the form of reserved matters applications.
- 2.19. Detail which is covered within this application (and is not reserved for a later stage) includes:

Location

- 2.20. As shown on the planning drawings which accompany the planning application.
- 2.21. The visitor centre, bird hide, and car park are located in the north west corner of the reservoir site.
- 2.22. A new wetland habitat will be created to encourage different wildlife to the site. It extends along much of the northern shore of reservoir and in front of the proposed visitor centre.
- 2.23. The location of the control house is dictated by the culvert which will run from the reservoir under the proposed embankment to the control building on the southern embankment.
- 2.24. The Viewing Area is on the western boundary (indicative location) and The Avenue Staircase is fixed along the alignment of The Avenue.

Appearance

- 2.25. This covers how the exterior of the reservoir and associated development will look to inform an assessment of the likely environmental impact.
- 2.26. It includes a range of gradients (1:5 to 1:7) for the inside and outside embankments and positioning of the embankment toe and/or crest position within a limit of deviation, where the profile may be subject to change, due to later site investigation findings.
- 2.27. The embankment toe and the gradient of the outside slope is fixed within one section along the boundary with Staunton Country Park.
- 2.28. The detail of the wave protection around the inner face of the reservoir embankment is also provided.
- 2.29. The appearance of the buildings (visitor centre, control house and bird hide) are illustrated in outline to inform an assessment of their likely visual impact.

Means of access

- 2.30. This covers accessibility for all routes to and within the reservoir site, as well as the way they link up to other local roads and pathways outside the reservoir site (including design of any off-site highway works).

- 2.31. Two vehicular access points are proposed, one from the north off the B2149 and along the route of an existing Forestry England track, and one from the south, off Swanmore Road. They will lead to the proposed car park. The detailed design of the car park, along with management arrangements at the access points and car park, will ensure that the route through the site is not used as a short cut.
- 2.32. Pedestrian access points will be from: the east at the existing Forestry England 'Forest of Bere' car park; south east at Gypsies Plain via an improved pedestrian access at Cedar Drive; the connection to Staunton Country Park along The Avenue; from Swanmore Road to the east by the viewing area; and in the north west corner from the car park.
- 2.33. An extensive network of walks of varying lengths forming circular walks are provided. The distance for a long circular route around the reservoir utilising the crest is approximately 5km (3.1miles) and less than 2km route for a shorter circuit through the woodland to the north.
- 2.34. An integrated cycle network is provided. The longest circular route on site will be approximately 5.5km (3.4miles) and there will be opportunities to connect to existing neighbouring routes.
- 2.35. The existing bridleway will be diverted to the south of the embankment, along the proposed operational maintenance track, a temporary diversion will be required to the north through Forestry England land during construction. This temporary diversion will revert back to a permissive route, following the opening of the permanent diversion. A new bridleway route along Cedar Drive will provide a safe entrance and exit for local horse riders.

Landscaping

- 2.36. The identification of proposed landscape features, including:
 - The Viewing Area
 - The Avenue Staircase
 - Where existing features of nature conservation interest and landscape importance have been retained and where advanced planting has taken place (i.e. Gypsies Plain and Memorial planting in the south east and south west corners of the Site).

Layout

- 2.37. Layout to show reservoir, access, internal movement network and the locations of the operational and recreation buildings, structures and facilities proposed and the way they are laid out in relation to adjacent land uses.
- 2.38. The detail of some elements of the Scheme layout will be subject to future reserved matters applications as set out below:
 - Wetland retaining structure and islands – permission is sought within this application for the approximate alignment of the wetland retention structure, its form, functionality, size and extent. The alignment will be reviewed and updated once the location of the borrow pits have been confirmed by further site investigation. The exact positioning of the islands is subject to reserved matters;
 - Viewing Area – permission is sought for the approximate location and outline design;
 - The land use layout for north west corner (visitor centre, car park and bird hide) – an outline layout of these facilities is provided to demonstrate how the uses could be accommodated within this area; and
 - The children's play areas and boat slipway (operational use only) will be shown as indicative in location only.

Scale

- 2.39. Includes information on the size of the Scheme, including maximum reservoir capacity and building envelopes (visitor centre, control house and bird hide).
- 2.40. Parameters have been set for the size of the buildings based on an indicative internal layout. The buildings are illustrated (in line with the parameters) in the relevant planning drawings.

- 2.41. More detail on how the design of the buildings and visitor facilities has evolved is described in the Design and Access Statement along with indicative visualisations and design principles to inform the reserved matters applications at a later stage.

Reserved Matters Applications

- 2.42. Following approval of this outline planning application, reserved matters applications would be prepared and submitted for approval in relation to the areas we are providing less detail at this stage, notably:
- The buildings - Visitor centre and bird hide and control house;
 - Layout of the north west corner including visitor centre, car park and bird hide;
 - Viewing area;
 - Embankment profile/toe (apart from where the embankment joins Staunton Country Park, which is fixed, see Table 2.2);
 - Wetland; and
 - Children's play areas.
- 2.43. Design parameters ('maximum envelopes') are provided in Table 2.2 and visualisations and key design principles in relation to all these areas are provided within the Design and Access Statement and summarised in Section 3 of this document. These will help to guide future reserved matters applications.
- 2.44. It has been agreed with HBC/EHDC that the time limit for submission of the reserved matters applications can be five rather than three years to give adequate time for consideration and design of these facilities. The details of the reserved matters applications must be in accordance with the outline approval, including any conditions attached to the outline permission.

Pipeline Corridor

- 2.45. The outline application for the pipeline is being submitted with some details reserved for approval at a later stage. These will take the form of reserved matters applications.
- 2.46. Detail which is covered within this application (and is not reserved for a later stage) includes:

Location

- 2.47. As shown on the planning drawings which accompany the planning application. The indicative pipeline route is illustrated as a dotted red line.

Appearance

- 2.48. The application is accompanied by typical site sections and site levels and outline design of the outfall/discharge structure (on the Hermitage Stream). The structure would comprise an above ground kiosk and open channel outfall to the stream.

Scale

- 2.49. The new inlet / outlet pipeline will typically be installed in an open trench, typically 3.5m deep depending on location. The pipe will have a varying diameter (1.2m to 0.7m) depending on location. The crossing of the pipeline under the railway line will be installed using trenchless techniques.
- 2.50. The length of the pipeline is approximately 4.85km of which 210m is within the reservoir site (and included in the reservoir application).

Layout

- 2.51. The pipeline corridor (red line boundary) includes:
- The pipeline;

- Easement (the width of land which the asset owner requires for access to operate, maintain, repair and replace the asset as may be required);
- The construction space to install the pipeline including:
 - Pipeline trench width;
 - Working space either side of the trench; and
 - Areas for temporary welfare facilities (note main contractor compound will be at reservoir site only small temporary facilities assumed at pipeline).
- Space to allow access to pipeline during the construction and maintenance;
- 3 locations for culvert upgrades; and
- Provision for a footpath diversion in parkland along riverside.

2.52. It also includes some flexibility to allow for a small level of uncertainty, which will be refined as the detailed design develops and more information is known. When the pipeline is in the road, the corridor is limited to the extents of the public highway. Provision is also provided within the corridor for footpath diversions where the pipeline route follows the river in parkland. The corridor does not extend onto private properties.

Reserved Matters

- 2.53. Following approval of this outline planning application, reserved matters applications would be prepared and submitted for approval in relation to the areas we are providing less detail on at this stage, notably:
- Confirmation of pipeline route within red line boundary; and
 - Design of associated structures (appearance, scale, layout).

Planning Conditions

- 2.54. The outline planning permissions will be subject to planning conditions and reserved matters applications requiring the submission and approval of further details only, in respect of aspects of the Scheme that are not fully described in the planning applications. The planning conditions are likely to relate to:
- The time limit for commencement of development;
 - The details and drawings subject to which the planning permission is granted;
 - Any pre-commencement conditions including detailed traffic management plan and construction environmental management plan;
 - Any pre-occupancy or other stage conditions; and
 - Any conditions relating to post-occupancy monitoring and management.
- 2.55. The reserved matters applications will also be subject to future planning conditions.
- 2.56. Development cannot be started until all pre-commencement conditions have been discharged. Development is considered to have commenced once a 'material operation' has been carried out. In this case it could be works to construct an access.
- 2.57. Section 3 identifies what the reserved matters and planning conditions are likely to cover.

Application Parameters

- 2.58. Table 2.2 below identifies which parameters are fixed and which are outline. These have informed the environmental and traffic assessment work. The Parameters, which are outline, will be the

subject of future reserved matters applications and those which are fixed/full may be subject to planning conditions.

Table 2.2: Scheme Parameters

Element	Parameter	Level of detail
Reservoir capacity	Minimum required total capacity: 8,700 million litres Maximum capacity: at least 9,600 million litres, up to a Top Water Level (TWL) of 39.5m AOD.	Fixed
Supply rate	Output capacity: at least 21 Ml/d in extreme (currently defined as 1:200 year) drought conditions.	Fixed
Embankment	Max 20m high. Crest level 40.5m AOD. Length 2,770m. Inside slope: to range from 1:5 to 1:7. Outside slope: majority 1:7 with local variations to 1:5 at Round Wood and the Avenue woodland (see below). Outer toe (edge): +/- 2m horizontal range (north to south). Crest line position: 0 – 37m horizontal range (to north) to accommodate any potential future need for reducing the outer face slope from 1:5 to 1:7.	Outline
Embankment adjacent to Staunton Country Park	Toe (edge) of the embankment is fixed at a minimum of 25m from the edge of woodland along the southern boundary of the Site (known as Hammond's Lands Copse). Length of embankment at 1:5 is approximately 185m along this stretch and 390m of embankment with slope varying from 1:5 to 1:7. Staircase detail along alignment of The Avenue joining pedestrian access from Staunton Country Park with viewing area at the crest.	Fixed
Top Water Level (TWL)	39.5m AOD. 1.0m freeboard (height from TWL to embankment crest) to prevent/limit overtopping.	Fixed
Spillway / overflow	3m long weir/ 700mm diameter pipe.	Fixed
Slope protection material	Range of up to 450mm thick layer of protection. Rip-rap (rock armour). Rock mattresses would be brushed with topsoil allowing planting with aquatic / marginal species such as reeds and sedge grasses.	Fixed
Lowest operating level	27.5m AOD. Lowest 20% to be considered dead storage, minimum level before reservoir operationally fails.	Fixed

Element	Parameter	Level of detail
Emergency drawdown facility	Discharge capacity of 10.9 m³/s Reservoir can be lowered by 1/3 of water depth in 6 days. 1.4m diameter scour pipe and submerged discharge valve discharging into Riders Lane Stream at the proposed control house. 1.2m diameter inlet /outlet pipe discharging into the Hermitage Stream 3km downstream.	Fixed
Wetland retaining structure	A retained wetland extending for approximately 1.3km along the northern shoreline. 4No. retained wetland compartments, plus provision of an area for wet grassland habitat creation to the east of the retained wetland. Retention of wetland during drought levels in main reservoir. Minimum area of retained wetland provided ~10ha.	Outline (commitment to minimum area)
Control house	Maximum width of building frontage: 33m. Maximum height of building wall above external ground level: 6m (excluding security fence). Schedule of accommodation: total area approximately 430m² (excluding courtyard). Reinforced concrete outer structure with cladding, composite roof slab with green roof, steel frame /blockwork internal walls.	Outline
Visitor Centre	Maximum envelope of 35m x 55m and maximum height of 10m.	Outline
Bird Hide	Maximum envelope of 9m x 20m and maximum height of 5m.	Outline
Viewing Area	Location along the western boundary and outline design.	Outline
Vehicle Access	New junctions off B2149 (to the north) and Swanmore Road (to the south).	Fixed
Northern Access Route from junction with B2149 and car park	Single lane single, 3.65m wide carriageway with passing bays and 0.5m verges with 0.9m embankment slopes and a 6.45m wide footprint.	Outline
Pipeline	Maximum diameter of pipeline: 1.2m Maximum length: 4.85km (of which 210m within reservoir site and application) Maximum envelope for above ground kiosk (associated with discharge structure): H3m x W6.5m x L10.5m is the size of above ground kiosk at Hermitage Stream (excluding slab H0.5m x W6.5m x L11.6m). Overall height: 3.5m above ground level.	Outline

Planning Obligations

- 2.59. An agreement under section 106 of the Town and Country Planning Act 1990, also known as a planning obligation, between the applicant and HBC/EHDC will be used (one for both applications) to secure the following.

Outline Biodiversity Mitigation and Compensation Strategy

- 2.60. Portsmouth Water is committed to the delivery of both on and off-site mitigation and compensation measures to minimise the likely ecological and visual impacts associated with the construction of the reservoir. Habitat and biodiversity enhancements will be delivered as part of the Scheme including the provision of wetland habitats along the northern shoreline of the reservoir as outlined in the ES.
- 2.61. The planning applications will be accompanied by an outline Biodiversity Mitigation and Compensation Strategy, any permission will be subject to the requirement to submit a detailed Mitigation and Compensation Strategy including proposals for the Capital Grant Scheme.
- 2.62. The amount of river habitat mitigation required remains to be finally resolved with the Environment Agency. Portsmouth Water commits to delivering the necessary level of aquatic habitat mitigation reasonably required to offset the impacts of the development on the Hermitage Stream waterbody. The outline Biodiversity Mitigation and Compensation Strategy is intended by the Environment Agency and Natural England to be an adaptable document in relation to the ways in which these commitments are discharged, and will therefore be amended and updated through the delivery process with their input and agreement.

Bridleway diversion

- 2.63. A section 257 order will be applied for to divert the bridleway to the agreed final diversionary path, accompanied by section 106 obligations requiring a permissive path(s) to be in place at a sufficient time during the construction phase and the diversionary route to be constructed and useable by a certain point in the development. Upon the diverted bridleway becoming available for use, the Permissive Paths obligations would cease to apply. The diverted route would need to be constructed and made available as soon as possible during the construction phase. Relevant landowners would need to be a party to this agreement.

Site Management

- 2.64. A standard obligation in the S106 will require the reservoir site and pipeline management arrangements and maintenance, which would be incorporated into a Management Plan, to be submitted at a relevant point prior to 'occupation'.

3. Key principles

- 3.1. This section sets out some guiding principles which future planning applications for reserved matters will be required to comply with at a later stage. It also includes key actions and commitments which will form the basis of the reserved matters and planning conditions.

Scheme Environmental Design Principles

- 3.2. The following high-level environmental design principles are embedded into the design of the Scheme and will also provide a framework to guide the preparation of planning applications to discharge reserved matters and planning conditions:
- Create a safe environment to work and play. Use creative and intelligent design to minimise any short and long-term health and safety issues.
 - Maintain and integrate with the rural landscape character and woodland setting, through the design layout and material selection process, and where possible developing soft engineering solutions - limiting structures and ancillary clutter.
 - Design to be sympathetic to and blend in with the historic park and gardens landscape. Specifically considering impact on setting and views to and from the designated sites including the Grade II listed park and gardens, conservation area and South Downs National Park.
 - Design to minimise whole life costs such as maintenance and need for replacement ensuring durability in a challenging public setting and flexibility in the design to manage future requirements.
 - Maintain and enhance public access to the site, optimise opportunities to link to existing walking, cycling and bridleway routes.
 - Design of the site and all facilities for all ages and abilities.
 - Incorporate recreational facilities that are in keeping with the quiet enjoyment of the countryside setting, optimising health and wellbeing opportunities.
 - Optimise educational opportunities in all design elements.
 - Maximise opportunities for biodiversity in the design of the landscape and buildings and minimise and mitigate any conflict with wildlife through forward planning.
 - Where possible avoid ancient woodland, an irreplaceable habitat, and maintain a minimum 15m gap as buffer along the boundary (apart from at boundary with Staunton Country Park).
 - Incorporate public art into the design in an innovative and robust way.
 - Incorporate interpretation of the wider historic landscape and connections to the Grade II* RPG at Leigh Park and Sir George Staunton Conservation Area.
 - Optimise opportunities for a sustainable design where practical to include:
 - Improving energy efficiency in base design, consider decentralised low carbon energy sources to achieve an overall improvement in operational energy efficiency.
 - Improving climate resilience of the reservoir, ensuring management of reservoir flows, considering whole life sustainability impacts.
 - Minimising material quantities as much as possible and select alternative low carbon materials in design wherever possible.
 - Support the UK's Net Zero Carbon target by minimising where practical greenhouse gas emissions at all stages of the infrastructure lifecycle, and maximising opportunities for

greenhouse gas removals through sequestration by vegetation and renewable energy generation.

- Design infrastructure which is resilient to expected climate change and extreme weather events.

Detailed Design Standards and Principles

- 3.3. The following detailed standards and principles should also inform the preparation of reserved matters and planning condition applications in relation to key elements of the Scheme. These are set out in the Design and Access Statement which provides more information on the design philosophy for these areas:

Reservoir

- A variation in slope gradient and planting to give the embankment a more natural appearance in keeping with Staunton Country Park.
- 1.2m height fencing along the edge of the reservoir will be provided for safety.
- During detailed design, continue to seek and act on any opportunities to reduce loss of ancient woodland and veteran trees further.

Wetland

- Materials to be used in its construction to be sourced from site as far as practically possible to limit the requirement for material imports.
- Siting to allow for what will be the operational area of the wetland area to be used for surface water management during construction.
- Any wetland vegetation that establishes within the surface water management system to be retained for inclusion in the operational wetland.
- Associated surface water management pipework will be designed so that in operation, it can be adapted to provide the required active wetland water level management control.
- The retaining structure will be designed primarily as an engineering feature with built-in wetland habitat complexity (i.e. berms and shelves to facilitate wetland vegetation establishment) to retain water and to protect the retained wetland area from the effects of wave action.
- Retaining structures will be designed to incorporate predominantly passive (no operation required) control as the mechanism by which water level management can be provided. This will be achieved through the provision of appropriately armoured spillways.
- The design and indicative location of seasonally inundated island (within the retained wetland area) and ephemeral shallows and raised areas with a target of achieving a neutral cut and fill balance.
- Existing intermittent stream inflows and high points in topography to both inform the alignment and compartmentalisation of the retained wetland – thus reducing required material for construction and improving sustainability in the long-term.
- The armoured downstream face of the retention structure to be designed to allow for the integration of bioengineered solution to 'green' the armoured face.
- Preference is for natural vegetation/wetland species colonisation as this often results in improved species complexity, although it is recognised that some over planting from imported nursery stock may be required at key locations.

Site Access

- Where practicable, ancient woodland soil arising from loss elsewhere will be used to form the northern access road embankment slopes.
- The feasibility of a “dig down” construction rather than a “build up” approach to be investigated along proposed northern access route to remove the need for embankment slopes.
- Hampshire County Council (HCC) design standards for bridleways suggests a minimum 3m wide path. The operational maintenance track and crest pathway are proposed 4m wide and permissive paths around the Visitor Centre will be a minimum 2m wide.

Buildings

Control House

- A limited palette of natural materials sympathetic to its surroundings is proposed, with large areas of living roof and a stone clad front facade.
- Perimeter security fencing will be required around all accessible retained sides, the front face of the building will be a solid wall with access gates and doors.

Visitor centre

- The visitor centre should include:
 - A reception area with information about water wildlife, the historic environment, and the activities for visitors;
 - A large open plan café with large windows to give views over the wetland, with seating for up to 50 people;
 - A waterside terrace, with wildlife viewing facilities and space for additional visitors;
 - A small space where locally grown food, art and other produce could be sold;
 - A flexible education and community space, with a separate outdoor area, cloakroom, toilets and storage; and
 - A staff area with office, break room, store and toilet.
- Level access to be provided to all public areas, including access from the café to the terrace area.
- Wayfinding signposts and markers to the centre and hide to be provided in the landscape, in materials in keeping with the natural surroundings, with clear signage located near/on the buildings.
- Sympathetic lighting to be provided to routes and key facilities.
- A small refuse area to be located within the visitor centre near the kitchen with the main secure bins store located within the car parking area.
- Access for emergency vehicles will be provided from the car park.
- Natural materials are proposed for the exterior of the visitor centre and educational bird hide to reflect the surrounding habitats, combined with large areas of glazing to provide views across the wetlands and reservoir.
- Where roof plant is required this should be incorporated into the building fabric or screened.
- The design should incorporate natural security solutions.

- Adequate cycle parking to be provided.

Car park

- The design of the car park to be in keeping with the rural nature of the reservoir site and improve connectivity for wildlife between Bells Copse and Havant Thicket.
- 5% of the total parking allocation will be for accessible parking as set out by HCC in the Parking Strategy and Guidance.

The Avenue Staircase

- A sunken tiered staircase to be provided, splitting at the top to offer 360 degree look out.
- A look out/viewing area to provide views across the water to the visitor centre and wetlands as well as looking back above the tree line of the Avenue.
- The grassed tiered slopes should reflect the historic Avenue and provide relaxation spots on the south facing slopes.
- A formal hedgerow to line the steps to offer a sense of grandeur.
- The sunken steps should not detract from the rural setting and will be made from local materials: flint cladding on the internal walls, compacted gravel on the landings and limestone steps to signify the importance.

Public Art

- A wide interpretation of public art should include use of features such as benches, walls and signposts. An integrated approach of public art with street furniture will be explored for items such as benches, cycle racks and bins.
- Public art should be used in part to celebrate and enhance the natural and cultural history of the area, including references to heritage features impacted by the Scheme, such as the Avenue.

Play Space

- Spaced play to combine nature-themed playground equipment with trails and greenways will create a playful trail experience for children and families.
- Spaced play to be included along the shorter 2km pedestrian route through the woodland north of the visitor centre.

Signage

- Legible signage will be provided. Clear signage to guide visitors to the visitor centre, trails and bird watching areas. Site specific signage, which complements the natural setting will be used.

Construction

3.4. The outline planning approval will be subject to detailed Traffic Management and Construction Environmental Management Plans which will include measures to reduce disruption, such as:

- Scheduling HGV deliveries for when the roads are less busy.
- Bussing workers to the pipeline site each day, to reduce the number of vehicles.
- Carefully planning the movement of workers and materials to minimise trips.

- Limiting the size of the construction areas in to reduce disruption to footpaths, residents and local roads.
- Considering different construction techniques to reduce the amount of disruption.
- Proposing alternating routes for construction traffic to relieve congestion.
- Routing construction vehicles along main roads such as the A3(M) to divert construction traffic away from residential areas for most of their journeys.
- Using other areas for parking for the construction teams and to store materials away from the working sites to reduce the number of construction vehicles travelling there.
- Staggering site activities to reduce traffic.
- Restricting when work can be carried out i.e. not overnight, except where all impacts can be fully mitigated.
- Considering noise insulation measures where appropriate.

Record of Environmental Actions and Commitments (REAC)

3.5. The Environmental Statement includes a REAC (Appendix A2.1) which will be implemented during the construction and operation of the reservoir site and access routes, and pipeline. The REAC will also inform the reserved matters applications and planning conditions for the Scheme. The relevant actions are summarised below and will help to inform discussions relating to the drafting of the planning conditions. The actions and commitments are relevant to both parts of the Scheme (reservoir and pipeline) unless indicated otherwise:

- 1) Reserved matters applications to be submitted within 5 years of outline consent granted.
- 2) Reserved matters (details) applications for reservoir to be prepared and submitted for approval in relation to the following components of the reservoir:
 - a. The buildings - Visitor centre and bird hide and control house;
 - b. Layout of the north west corner including visitor centre, car park and bird hide;
 - c. Viewing area;
 - d. Embankment profile/toe (apart from where the embankment joins Staunton Country Park which is fixed)
 - e. Wetland; and
 - f. Children's play areas.
- 3) Reserved matters (details) applications for pipeline to be prepared and submitted for approval in relation to the following:
 - a. Confirmation of pipeline route within red line boundary; and
 - b. Design of associated structures e.g. culverts (appearance, scale, layout).
- 4) Scheme to be constructed in accordance with the submitted design and approved planning drawings.
- 5) Preparation of an Archaeological Management Plan (Reservoir).
- 6) During detailed design, explore options for enhancement and interpretation of the historic environment as part of public realm amenities (Reservoir).
- 7) Preparation of detailed Biodiversity Mitigation and Compensation Strategy.
- 8) Preparation of a detailed long-term landscape and ecological management plan including management measures, monitoring and plan review requirements (post five-year aftercare period) (Reservoir).
- 9) A strategy for advance and phased mitigation planting / landscape reinstatement (Reservoir).

- 10) Preparation and implementation of a Watercourse Mitigation and Compensation Strategy (including fish management plan).
- 11) Preparation of an Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS), Tree Protection Strategy (Pipeline).
- 12) A Soil Management Plan including separate management of ancient woodland soils for restoration (Reservoir).
- 13) Preparation of a Construction Environmental Management Plan (CEMP) informed by the Outline CEMP and REAC.
- 14) Preparation of a Construction Traffic Management Plan to manage the impact of HGV traffic on the highway network (including construction sequencing plan).
- 15) Preparation of a construction travel plan to maximise opportunities for staff travel to and from the site using modes other than the private car.
- 16) Preparation of an operational travel plan to maximise opportunities for staff and visitors to travel to and from the site using modes other than the private car (Reservoir).
- 17) Preparation of a Site Waste Management Plan.
- 18) Preparation of a Materials Management Plan in accordance with CL:AIRE Definition of Waste: Development Industry Code of Practice.
- 19) Preparation of a Drainage Management Plan.
- 20) Preparation of a Restoration Plan (Pipeline).
- 21) Preparation of a Renewable Energy Strategy (Reservoir).
- 22) A strategy for offsite woodland and wood pasture creation (Reservoir).
- 23) Preparation of a strategy for capital grants scheme and / or biodiversity net gain strategy.
- 24) Preparation of a visitor management plan.
- 25) All permits, consents and licences to be in place prior to commencement of construction.

Planning Obligations

- 3.6. Planning Obligations are discussed in Section 2 above and will relate to:
- Outline Biodiversity Mitigation and Compensation Strategy;
 - The bridleway diversion; and
 - Site management.

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