



Havant Thicket Reservoir – Shaft 1 RMA

Emergency Flood Plan (EFP)

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Issue and Revision Record

HTR – Main Pipeline

Emergency Flood Plan

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1 Abbreviations and Definitions

Client	=	Portsmouth Water Limited
Contractor	=	Ward and Burke Construction Limited
CMP	=	Communications Management Plan
CSFs	=	Critical Success Factors
EA	=	Environment Agency
HTR MPW	=	Havant Thicket Reservoir Main Pipeline Works
HTR MRW	=	Havant Thicket Reservoir Main Reservoir Works
NR	=	Network Rail
OCI	=	Optimised Contractor Involvement
PW	=	Portsmouth Water Limited
RAMS	=	Risk Assessment / Method Statement
REAC	=	Register of Environmental Actions and Commitments
SPZ1	=	Source Protection Zone 1
SWS	=	Southern Water Services
WBCL	=	Ward and Burke Construction Limited
RMA	=	Reserved Matters Application

2 Introduction and Scope

1. The objective of the Havant Thicket Reservoir Project is to provide a new resource to supply drinking water in the water-stressed South-East of England, while maximising the community and environmental benefits of a new raw water reservoir.
2. Ward and Burke Construction Limited (WBCL) have been appointed by Portsmouth Water Limited (PW) to design, construct, and commission a new pipeline connecting Bedhampton Pumping Station to Havant Thicket Reservoir, including an emergency discharge structure at the Hermitage Stream, culvert upgrades and an Under Track Crossing.
3. The pipeline corridor extends from the Portsmouth Water pumping station at the Bedhampton works, northwards to the proposed control house within the reservoir site. It passes through the Leigh Park Estate under local roads and open spaces. The corridor also runs north along the Hermitage Stream before turning North-East and broadly following the Riders Lane Stream towards the reservoir site. The Southernmost point of the pipeline is located approximately 1 km north of Chichester Harbour and Langstone Harbour, which are Special Protected Areas (SPA) and Solent Maritime Special Area for Conservation (SAC).
4. A combination of open cut and micro-tunnelling techniques will be used for the construction of the pipeline. Open cut techniques will take place in two locations: the council playing fields adjacent to Havant Rugby Club; and land in the South-West of Staunton Country Park. Micro-tunnelling will be used for the remainder of the pipeline construction facilitated by eight construction shafts and the emergency discharge chamber.

2.1 Works Background

5. Portsmouth Water have outlined seven strategic drivers for this project to ensure continued focus on meeting the Project's objectives. These project drivers are:
 - **Quality:** Quality in procurement, design, and delivery to deliver an exemplar project to serve Customers in the short, medium and long term,
 - **Timeliness:** In service and operating by 2029 to support a major bulk transfer to Southern Water,
 - **Innovation:** Develop best practice in the largest new reservoir project in the South-East for decades. Capture learning from companies working in partnership to deliver better value for Customers,
 - **Flexibility:** Create a project that offers multiple uses and enables Portsmouth Water to be a strategic water supplier for the South over the medium and long term,
 - **Responsibility:** Realise and build upon our health, safety, and well-being goals,
 - **Connectivity:** Positive connection for all stakeholders – Customers, the local community, regulators, staff, contractors, shareholders, commercial partners, environmental groups, and individuals with a passion for the environment, and
 - **Environment:** A positive contribution to local and internationally important habitats. Direct support for Government's objective to reduce the damaging abstraction of water from rivers.

2.2 Scope of Document

6. This Emergency Flood Plan (EFP) is in support of the RMA application to respond to any potential flooding events during the Shaft 1 works phase of the HTR-MPW project to meet conditions outlined within the planning permission application (specifically Planning Condition 20 of planning permission ref. APP/20/00991). The aim of this EFP is to reduce the risk to life, mitigate damage and enable a safe and organised evacuation of occupants of the premises during a flood event. Shaft 1 represents the starting point for the wider HTR-MPW project which will see the construction of a shaft on the Bellway development site in Bedhampton. This shaft will enable tunnelling methods to be carried out under the Bedhampton railway track and will act as a receptor shaft for the Tunnel Boring Machine (TBM). This EFP is only in relation to construction activities at Shaft 1.

2.3 Objectives of Document

- Raise awareness of the risk of flooding in the specified location.
- Detail the flood warnings and estimate what lead time is available.
- Detail how the Plan is triggered, by who and when and define any areas of responsibility for those participating in the Plan.
- Describe what actions are required by the people in the development and to establish safe access and egress routes to a safe location.
- Outline the evacuation procedure and place of refuge for all personnel on site, taking into consideration individuals that may have restricted movement.
- Establish procedures for implementing, monitoring, and maintaining the Plan.

2.4 Legislation

7. The National Planning Policy Framework 2023 (NPPF) sets out the Government's planning policies for England and how they are to be applied and establishes a presumption in favour of sustainable development. The NPPF sets out that where development occurs in areas at risk of flooding that applications should be supported by site-specific flood risk assessments and be subject to the Sequential and Exception tests. It states that "All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property" (Section 14. Paragraph 167). Further information on Planning and flood risk can be found under section 14 of the NPPF.

3 Flood Risk

8. For works associated with Shaft 1, Hermitage Stream can be identified as the main possible emergency flood risk and is defined as a 'main river' by the Environment Agency and poses a fluvial flood risk. The Hermitage Stream has an approximate catchment size of 20 km², however 4.5 km² of that area is attributed to the Riders Lane Stream catchment. The upper catchment of the Riders Lane Stream includes five ordinary watercourses, which are ephemeral in nature and often run dry. The Scheme Reservoir Site is located at the end of Riders Lane Stream within a Shallow valley located between the residential settlements of Leigh Park and Rowlands Castle and is at risk of fluvial flooding from streams entering the reservoir and from rainwater. It is not anticipated that the reservoir site will pose a main flood risk for shaft 1 works. There is currently no attenuation measures in place at the Shaft 1 location. Surveys have been carried out for water mains in the area and it is confirmed there is no water mains within Shaft 1 working area, or any other services that may cause flooding (e.g. foul, waste pipes). A suction chamber located nearby within the Bedhampton Pumping Station area which collects water from natural springs in the area has been identified, but Shaft 1 works are outside the boundary of the suction chamber and is not expected to pose a flood risk.
9. The Nominal Tidal Limit (NTL) is at NGR SU 70511 06237 on the Hermitage Stream, just south of Meyrick Road. The Hermitage Stream flows over a weir at this point, after which it becomes a transitional waterbody, Langstone Harbour. There is a possibility of surface water flood risk due to the introduction of hard standing areas during the construction of shaft 1. Langstone Harbour also poses a threat of tidal flooding.

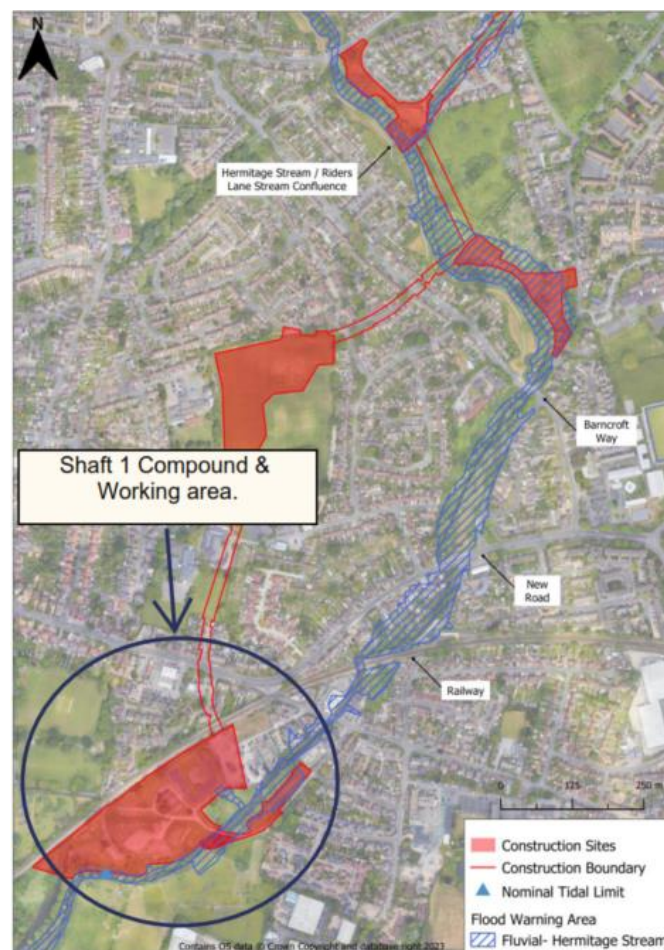
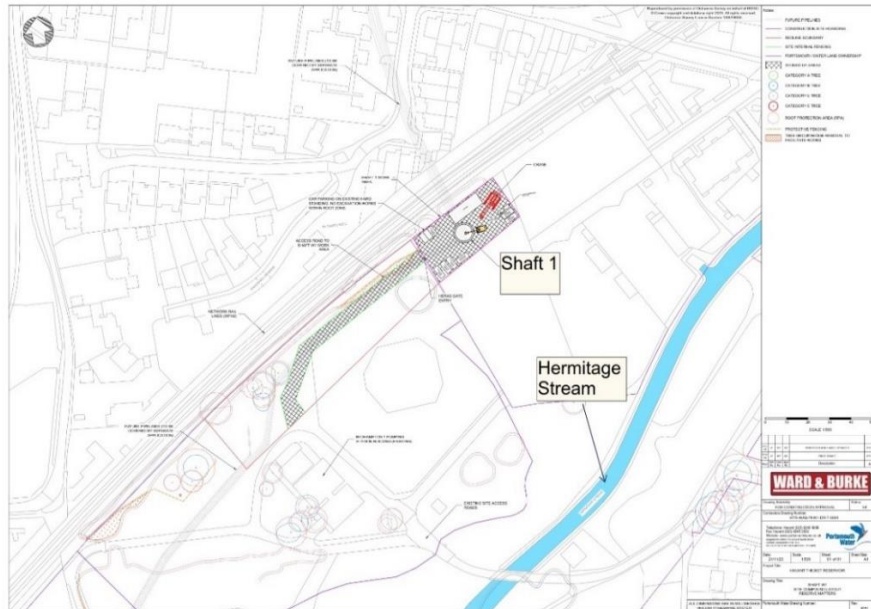




Figure 3 - Fluvial Flood - Langstone Harbour

3.1 Flood Warnings

10. The EA operate a flood forecasting and warning service in areas at risk of flooding from rivers or the sea, which relies on direct measurements of rainfall, river levels, tide levels, in-house predictive models, rainfall radar data and information from the Met Office. Measurements of water levels at Hermitage Stream are taken daily to inform the likelihood of flooding from the Stream. If flooding is forecast, warnings are issued by the EA using a set of easily recognisable codes. A description of the codes is shown in appendix A. The EA operates a number of flood warning methods, and these are:
 - EA Three Day Flood Risk Forecast: <http://www.environment-agency.gov.uk/homeandleisure/floods/125305.aspx>
 - EA Flood Warnings in Force by Region (updated every 15 minutes): <http://www.environment-agency.gov.uk/homeandleisure/floods/31618.aspx>
 - EA Flood line Warnings Direct (phone, text or email): <https://fwd.environment-agency.gov.uk/app/olr/home>
11. Other sources of warning include flood wardens, sirens, and the media. Call the EA Floodline for advice on what is available for the proposed development site (Environment Agency Floodline: 0345 988 1188) The flood Warning Area dial codes for Havant are given below:
 - Hermitage Stream, Fluvial- Dial code 316012
 - Portsmouth Harbour, Tidal- Dial code 316146

3.1.1 Response to flood warnings

12. Once a flood warning has been issued, the site management team must discuss matters in relation to the warning and decide what steps to take in response to this to ensure the adequate safety of all personnel on site. It is important to estimate the lead time between the EA flood warning and the time flooding may occur to effectively implement precautionary measures if necessary. A Flood Alert or Warning is issued through the government website and Floodline Warning Direct service. The site manager should regularly check if there's a flood warning in the construction area and follow the official advice. If a Flood Alert or Warning is issued for the construction site area, the site manager should contact Floodline on 03459881188 (and provide the relevant dial code) to obtain further information. Flood Warning codes are not always used in sequence and a Severe Flood Warning may be issued immediately in case of imminent danger of flooding.

3.1.2 Key Personnel Involved:

Position	Name	Address	Phone number	Email address
Client	Portsmouth Water			
Principal contractor	Ward and Burke			
Principal Designer	Ward and Burke			
Project Director	Joe Dobey		07738 415509	Joe.Dobey@wardandburke.com
Project manager	Brien Curran		07739 324048	Brien.Curran@wardandburke.com
Assistant PM	Aaron O Neil		07743 936081	Aaron.Oneill@wardandburke.com
SHEQ manager	Christopher Bolton		07511 220342	Christopher.Bolton@wardandburke.com
Site manager				
EnvCoW				

3.2 Mitigating Flood Risk

13. A flood risk assessment has been carried out for the MPW (HTR-ATK-XX-XX-RP-Z-0042) which provides information on the areas along the pipeline route which may be susceptible to flooding. It is not anticipated that shaft 1 is in a high flood risk level and there is no predicted flood level. The shaft parapet will be raised 250mm above ground to mitigate flood risk resulting from an unlikely flooding event.
14. A drainage management plan will be implemented which will manage surface water run-off from new hard standing areas such as access roads, car parks, and storage compounds to ensure there is no increased flood risk. Sustainable Drainage Systems (SuDS) will be applied to drainage designs where possible to ensure optimum drainage solutions are achieved.

15. The development of a Construction Environmental Management Plan (CEMP) will outline the process for managing the volume and quality of discharged water for the construction compound, areas for construction use and other areas of hard standing and haulage roads.

4 Emergency Response

4.1 Site Evacuation

- Site evacuation procedures will be made known to all workers on site during induction and in relevant RAMS.
- An evacuation route from Shaft 1 Works to the Welfare facilities is available in Appendix B.
- In the event of emergency flooding, the site manager will initiate the emergency response, which will be known to all operatives on site.
- Identify a muster point to be used in the event of flooding.
- Evacuation procedures should be developed which identify when and how evacuation takes place, if necessary signed routes may be required, including the maintenance of signs and keeping evacuation routes clear.
- Consideration should be given to the road network around the site, especially if these are more likely to flood first and therefore affect evacuation time.
- The evacuation procedures should include options for the evacuation of all people on site.
- Personnel must avoid walking or driving through any flood water.
- Turn off any gas, electricity, or water services if safe to do so.
- Call 999 if in imminent danger.

4.2 Flood Protection

- Details of flood protection strategies to be established. Temporary flood barriers such as sandbags can be used to protect against flooding around site office locations.
- Designate operatives for carrying out flood protection measures and insure they have received the correct training and briefing on actions to be taken in a flooding event.

4.3 Safe Refuge

- Any unprecedented flooding events following breaches in defences or surface water flooding will require a safe refuge such that all occupants can take immediate action to keep themselves safe without relying on intervention from emergency services. This location must be in an area that will be unimpacted from unprecedented flooding events and must be accessible by all workers on site and made aware to everyone during the site induction and in relevant RAMS.

4.4 Reoccupation of the Site

- Reoccupation of the site must be carried out with great care. Depending on the severity of flooding events, there may be a number of hazards present such as environmental issues, loss of utilities, restricted access, and other issues that may need to be rectified before any operatives can re-enter the site.

4.5 Training & Document Control

- All personnel on site must be made aware of this plan and briefed on the procedures. This will be carried out during site induction and in relevant RAMS.
- Health and Safety records will be kept of which personnel initiate evacuation procedures and key personnel involved in the procedures.
- This plan will form part of the site Health and Safety file.
- This plan will be reviewed on a yearly basis to update any procedures where necessary resulting from lessons learned after activation of response procedures. This will enable the procedure to be improved and updated if needed.

5 Roles of Other Bodies

16. A response to a major flood event involves a number of organizations working together. The roles of the main organizations are summarised below.

5.1 Local Authority (Havant Borough Council)

- Work with the police, fire and rescue services and the Environment Agency to coordinate responses during severe flooding.
- Provide local advice to the public about the incident and what to do.
- Provide clean-up crews, waste removal teams and assistance.
- Deal with road closures and disruption to social services.
- Havant Borough Council does not supply sandbags or flood protection products directly to the public. Sandbags can be obtained from builder's merchants and DIY stores.
- Havant Borough Council provide advice and guidance for preparing for a flood emergency.
- The contractor is advised to contact Havant Borough Council if they require help or support to prepare for flooding.

5.2 Environment Agency

- Issue flood warnings.
- Monitor water levels and flows, assessing the risk, clearing obstructions.
- Advise the Emergency Services and local authorities.
- Maintain and operate EA owned flood defences and advise other owners of their responsibilities.

5.3 Police

- Co-ordinate the emergency services in a major flood incident.
- Save lives and protect properties.
- Establish cordons to facilitate work of other Emergency Services in saving lives, protecting, and caring for the public.

5.4 Fire Services

- Rescue those trapped by flood waters.
- Pump flood waters as part of the essential damage control.
- Assist other agencies to minimise the effect of major flooding on the community.

5.5 Reservoir Site Contractor – Future Water

- To Advise and notify W&B in case of any unprecedented flooding events that could take place at the Reservoir Site.
- Communicate any predicted possibility of flooding events occurring.

Appendix A - Environment Agency Warning Codes

Flood Alert



Key Message: Flooding is possible. Be prepared.

Timing: 2 hours to 2 days in advance of flooding

Actions: Be prepared for flooding
Prepare a flood kit of essential items
Monitor local water levels and flood forecasts.

Flood Alerts are to warn people of the possibility of flooding and encourage them to be alert, stay vigilant and to make early preparations for flooding.

Flood Warning



Key Message: Flooding is expected. Immediate Action Required

Timing: Half an hour to 1 day in advance of flooding

Actions: Act now to protect your property
Block doors with flood boards or sandbags and cover airbricks and other ventilation holes
Move family, pets, and valuables to a safe place
Turn off gas, electricity and water supplies if safe to do so
Keep a flood kit ready
Move cars, pets, food, valuables and important documents to safety

Flood Warnings are to warn people flooding is expected and encourage them to take immediate action to protect themselves and their property.

Severe Flood Warning



Key Message: Severe flooding. Danger to life

Timing: When flooding poses a significant threat to life and different actions are required
Stay in a safe place with a means of escape

Actions: Be ready should you need to evacuate from your home
Co-operate with the emergency services
Call 999 if you are in immediate danger.

Severe Flood Warnings are to warn people of a significant risk to life or significant disruption to communities caused by widespread or prolonged flooding and encourage them to take immediate action to protect themselves and follow the advice of the emergency services.

Warnings no longer in force

(no icon)

Key Message: No further flooding is currently expected for your area.

Timing: When river or sea conditions begin to return to normal

Actions: Be Careful. Flood water may still be around for several days and could be contaminated
If you've been flooded, ring your insurance company as soon as possible.
Warnings are removed to inform people that the threat has now passed.

Appendix B – Evacuation Route

