

# **SMALL RESERVOIR**

## **ON-SITE PLAN FOR RESERVOIR DAM INCIDENTS**

**06 March 2009**

(Club Logo)

# SMALL RESERVOIR

## ON-SITE PLAN FOR RESERVOIR DAM INCIDENTS

06 March 2009

### Document History

			DOCUMENT REF:			
01	Issue	GHT	HGE	ERF	ERF	06/03/09
Revision	Purpose Description	Originated	Checked	Reviewed	Authorised	Date

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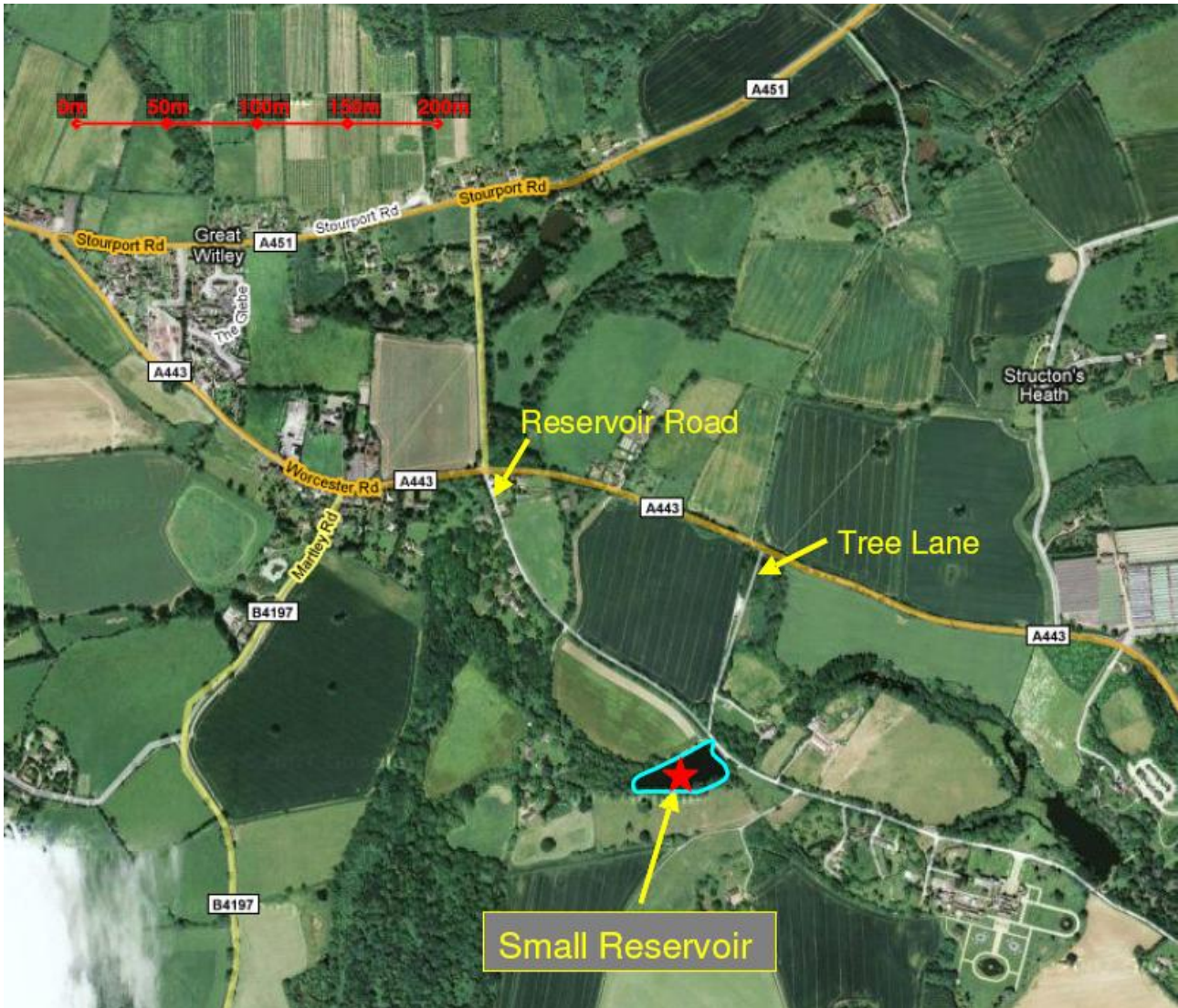
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# 1. RESERVOIR / PLAN DETAILS

## Reservoir Location

5 Ashley Road, Epsom, Surrey. KT18 5BW.  
Grid Reference: SD 215684



## Reservoir Owner

Small Pond Fishing Club  
10 Ashley Road, Epsom, Surrey, KT18 5BW.  
Ph. 01372 523481  
Mobile: 07771 031584

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**Reservoir Use**

Recreational fishing.

**Reservoir Type**

Earth embankment.

**Supervising Engineer**

George Mitchell (Dam Consulting Ltd.)  
5 Lake Road, Epsom, Surrey, KT18 7GH  
Ph. 01562 524511  
Mobile: 07773 015484

**Plan Contents**

**Purpose**

To ensure that relevant staff are aware of their responsibilities and the process to be followed in the event of a possible, probable or actual reservoir incident at Small Reservoir.

**Scope**

From: The planning of what is required and what actions are to be taken, should a reservoir incident arise, to reduce the impacts of the incident.

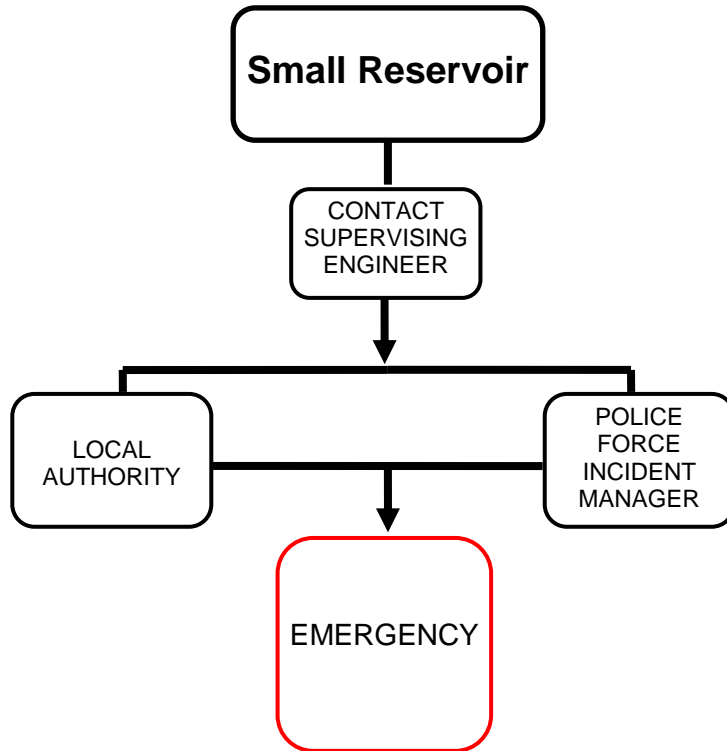
To: How to undertake the required actions during an actual reservoir incident.

**References**

Section 10 Report.

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2. RESERVOIR INCIDENT ALERT



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**3. ON-SITE ACTION AND TRIGGER LEVELS**

STAGE	STATUS	DETAILS OF TRIGGER(S)	UNDERTAKER'S ACTIONS	LOCAL RESPONDERS' ACTIONS
STANDBY  (dam breach possible)	ALERT	<ul style="list-style-type: none"> <li><input type="checkbox"/> Earthquake/landslip affects local area.</li> <li><input type="checkbox"/> Movement in dam crest/slope/toe observed.</li> <li><input type="checkbox"/> Uncontrolled release of water, embankment/tunnel etc.</li> <li><input type="checkbox"/> Movement in up or downstream embankment.</li> <li><input type="checkbox"/> Advice from Inspecting/Panel Engineer.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Arrange immediate visit by Supervising an/or Inspecting Engineer.</li> <li><input type="checkbox"/> Increase frequency of readings and surveillance.</li> <li><input type="checkbox"/> Consider notifying the Police and LA when there is any on-site activity related to a significant potential problem</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Police/LA may contact all relevant partners to place on standby.</li> </ul>
	ADVISORY	<ul style="list-style-type: none"> <li><input type="checkbox"/> A structural problem in the dam has been detected or reported to the Undertaker.</li> <li><input type="checkbox"/> A precautionary drawdown is to be carried out to reduce the likelihood of failure to an acceptable level.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Undertaker reports details of incident to Police.</li> <li><input type="checkbox"/> Undertaker attends scene and provides updates to local responders and Supervising Engineer.</li> <li><input type="checkbox"/> Undertaker implements On-site Plan and relevant actions in conjunction with relevant Engineer.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Police contact relevant Cat 1 (Local Authority, EA etc) and Cat 2 partners to place on standby.</li> <li><input type="checkbox"/> Police, in conjunction with Cat 1 partners, consider possible activation of Tactical (Silver) Control on precautionary basis to review procedures, undertake relevant forward planning including evacuation, public information and warning.</li> <li><input type="checkbox"/> Police, in conjunction with Cat 1 partners, consider possible activation of Strategic Coordinating Group (Gold Control) on precautionary basis to review procedures and undertake relevant forward planning including evacuation, public information and warning.</li> </ul>

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4. OFF-SITE ACTION AND TRIGGER LEVELS

STAGE	STATUS	DETAILS OF TRIGGER(S)	UNDERTAKER'S ACTIONS	LOCAL RESPONDERS' ACTIONS
IMPLEMENTATION  (dam breach imminent dam has failed)	ALARM	<input type="checkbox"/> An emergency drawdown is required to avert failure of dam structure.	<input type="checkbox"/> Undertaker attends scene and provides updates to local responders and Supervising/Inspecting Engineer.  <input type="checkbox"/> Undertaker implements On-site Plan and relevant actions to mitigate failure or limit impact in conjunction with the relevant Engineer.	<input type="checkbox"/> Police activate and implement Off-Site Plan in conjunction with partners and undertake all necessary mitigatory actions.  <input type="checkbox"/> Police implement all relevant multi-agency command and control arrangements with participation of Undertaker and relevant Engineers.
	IMMINENT FAILURE	<input type="checkbox"/> Control of the reservoir has been lost and failure is inevitable.		
	FAILED	<input type="checkbox"/> The dam has failed and large uncontrolled release of water has occurred.		
STAND-DOWN  (floodwaters subsided or return to properties permitted).	POST – STANDBY	<input type="checkbox"/> Serious problem averted.	<input type="checkbox"/> Undertaker agrees and implements any urgent recommendations from the relevant Engineers.	<input type="checkbox"/> 'All clear' given. <input type="checkbox"/> Cat 1s review plans in light of response and any ensuing recommendations.
	POST-IMPLEMENTATION	<input type="checkbox"/> Water flows from the reservoir are minimal and efforts are focussed on consequences in zones of total and partial devastation.		<input type="checkbox"/> Cat 1s focus on on-going response and recovery operations affecting the needs of local populations, buildings, critical infrastructure etc.



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**5. ON-SITE ROLES AND RESPONSIBILITIES**

<b>Role</b>	<b>Typically Undertaken By</b>	<b>Responsibilities Include</b>
Incident Controller (IC)	Small Pond Fishing Club Manager - John Harris.	<ul style="list-style-type: none"> <li>• Direction of ALL Small Pond Fishing Club members in the field associated with any aspect of the incident response.</li> <li>• Assesses the problem.</li> <li>• Agrees technical solutions with Panel Engineer and Incident Manager.</li> <li>• Agreement of overall response &amp; recovery strategy with Incident Manager (Police to appoint).</li> <li>• Implement a range of measures to avert failure including the on-site plan.</li> <li>• Providing ongoing surveillance and situation assessments.</li> <li>• Communication with Incident Manager.</li> <li>• Overall H&amp;S of all personnel addressing incident.</li> <li>• Notification of and liaison with emergency service leaders on site.</li> <li>• Maintaining a log.</li> <li>• Record keeping.</li> </ul>
Marshalling Officer	The IC or their appointee	<ul style="list-style-type: none"> <li>• All Small Pond Fishing Club members arriving on site must 'check in' with the marshalling officer and 'check-out' when leaving.</li> <li>• Checking on continuity of response i.e. that if someone is leaving site their responsibilities are either fully executed or properly handed over.</li> <li>• Providing of safe approach routes to the emergency services.</li> <li>• Assists in information flows to incident team via the Information Officer.</li> <li>• Establishing an emergency control location and monitoring personnel requirements.</li> </ul>

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## 6. INCIDENT MANAGEMENT PROCEDURE

An impending dam failure at impounding reservoirs, or a structural failure of a service reservoir covered by the Reservoirs Act 1975, will be managed in accordance with the following procedure.

### **Local Incident Control**

Local incident control is the structure in which the field based response to an incident operates (ie. the Incident Controller's (IC) team). It refers to essential activities and how they are organised.

**Formal incident control is an essential element of managing MINOR and MAJOR incidents at Small Reservoir.**

The IC is the leader of all staff in the field. To ensure properly coordinated response, all other personnel must ensure that the IC is aware of and approves of their activities.

The IC agree with the Incident Manager (Police to appoint) where local incident control is to be established, it could be one of the following:

- at the Small Pond Fishing Club house (which contains a two small meeting rooms with tables, chairs; power, two telephone lines, small kitchen and toilets); or
- a fixed safe marshalling point at the site of the incident perhaps with mobile incident centre; or
- a third-party office (e.g. Police Station, Local Authority Offices etc).

All staff must be aware that if they arrive on site and commence activities they are responsible for ensuring the handover/ continuity of those activities when they leave site.

The IC will appoint personnel to cover particular site roles (or agree with the Incident Manager why a particular role is not required). Individuals may be asked to cover more than one role. Additional Small Pond Fishing Club members may be needed to be drafted into the area to undertake roles. If a role cannot be filled locally the Incident Manager should resource it from a third party.

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## **7. MAINTENANCE OF ON-SITE PLAN**

A tabletop exercise of this On-site Plan is to be undertaken annually. If possible the exercise should coincide with the Supervising Engineers Annual Inspection. Each exercise will include a check of the following:

- All contact details in the On-site Plan are correct;
- All equipment and materials referenced in the On-site Plan are available in an emergency; and
- That all personnel named as having a role in the in the On-site Plan are fully aware of their role and what it entails.

A full site exercise of this On-site Plan is to be undertaken once every 10 years. If possible the exercise should coincide with the Section 10 Inspection. Each exercise will include the following:

- A full site exercise of the plan against a scenario;
- Deployment of site staff and assignment of roles and responsibilities;
- Communications with contractors regarding required equipment/material to confirm availability during an emergency; and
- Involvement of the Supervising Engineer;

Off-site exercising is to be undertaken in accordance with the Off-site plan. Participation in the Off-site exercising is required when requested.

The review and update of this On-site Plan should be undertaken as follows:

- As part of the Section 10 Inspection; and
- Following every exercise of the On-site Plan.

The On-site Plan should be updated if any details or information in the plan changes as a result of the exercises. The 'document history' table at the front of this plan should be updated following any review and update.

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# DATA SHEETS

**SMALL RESERVOIR**  
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**DATA SHEET A – Key Contact Details**

<b>Role</b>	<b>Name / Job Title</b>	<b>☎ Office</b>	<b>☎ Home</b>	<b>☎ Mobile</b>
<b>Undertaker's 24 hr emergency incident reporting no.</b>				
<b>Contact for Access to Site</b>				
<b>Supervising Engineer</b>				
<b>Inspecting Engineer</b>				
<b>Police</b>				
<b>EA / DEFRA emergency contact numbers</b>				
<b>Local Authority Emergency Planning 24-hour number</b>				
<b>Multi-Agency Control Room Telephone No's.</b>				

**Mobile Phone Reception Details**

There is mobile network coverage for the majority of site from all the major mobile networks.

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## DATA SHEET B – Communities at Risk

There is only one house located within 1 km downstream of Small Reservoir. The location of this house is shown on the attached outline breach inundation map.

*Insert outline breach inundation map here*

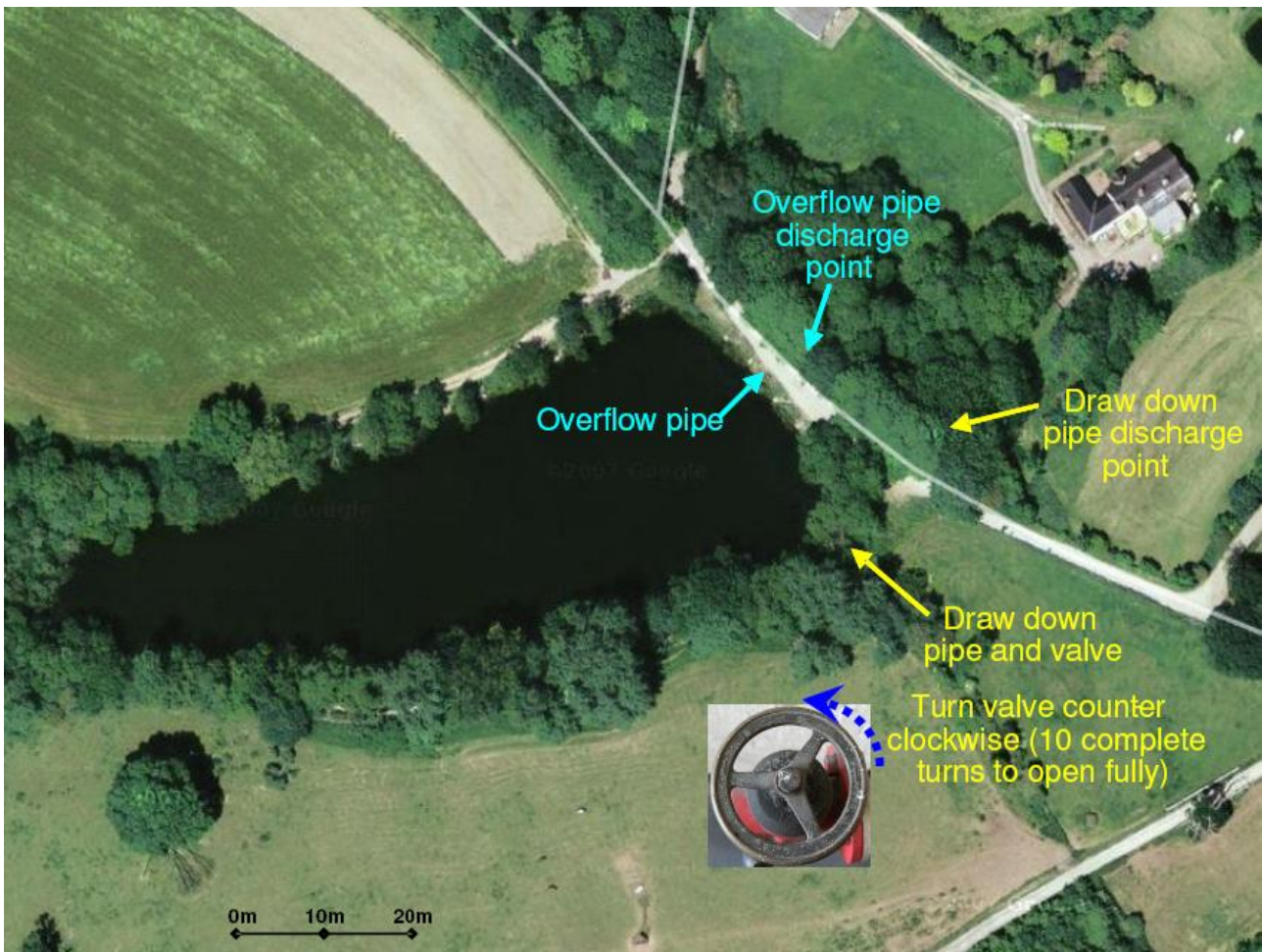
1. *This map and the information contained within it remain the property of the Environment Agency. It may not be copied, scanned (or reproduced in any format), or transmitted in any way other than those which are set out in the latest version of the national protocol issued by Defra in relation to information sharing of data, maps and intelligence in relation to dams and reservoirs for England and Wales*
2. *This map IS NOT INTENDED FOR any use other than for lawful purposes by bodies responsible for emergency planning who should follow their own appropriate procedures for such purposes.*
3. *The information contained in this map DOES NOT in any way reflect the structural integrity or likelihood of failure of the dam.*
4. *This map gives an indication only of the areas that may be flooded if the dam completely failed. It is based on a simplified modelling approach. Actual reservoir failure may give rise to conditions (flooded areas, flood depth, extent, velocity, hazard, and timing) which vary from those indicated.*
5. *The data used to create this map was gathered from various independent sources. Defra and the Environment Agency have no control over the quality of the input data and accept no responsibility for same.*
6. *To the extent permitted by law, neither Defra nor the Environment Agency shall be liable to a party using this map in contract, tort, negligence, breach of statutory duty or otherwise for any loss, damage, costs or expenses of any nature whatsoever incurred or suffered by that other party whether or a direct nature (whether such losses were foreseen, foreseeable, known or otherwise) or of an indirect or consequential nature including without limitation any economic loss or other loss of turnover, profits, business or goodwill.*

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## DATA SHEET C – Reservoir Operational Data

### Location Details

Location:	Leave M25 at J9 and take A24 in northerly direction for approximately 2.2 miles, then turn right into Ashley Road and follow for approximately 1.3 miles to the reservoir on the left side of the road.
Grid reference:	SD 215684
A4 Location / directions map with scale:	See map attached in Section 1
A4 Sketch of valve location and operation:	See below map
Site plan located at:	Small Pond Fishing Club 10 Ashley Road, Epsom, Surrey, KT18 5BW



## SMALL RESERVOIR

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#### Details of Dam

Name:	Small Reservoir
Use:	Recreational Fishing
Type:	Earth fill
Date built:	1961
Height:	2.1 m
Crest length:	55 m
Overflow / top water level:	160.5 mAOD
Total storage capacity:	30,000 cumecs
Design flood category:	Category D

#### Outflows and Controls

Number and Type:	1 – overflow spillway
Discharge Capacities:	N/A
Number of Scours:	0

#### Reservoir Capacities

Drawdown from TWL	Outflow Volume (ML)	Maximum Rate of Discharge	Time taken for Draw Down
N/A	N/A	N/A	N/A

#### Impact of Failure on Undertaker Operations

Closure of Small Pond Fishing Club.



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## DATA SHEET D – Emergency Draw-Down Procedure

- 1) **Authorisation for Draw-Down from:**  
Inspecting Engineer.
- 2) **Inform (Internal)**  
**Action normally undertaken by:** Small Pond Fishing Club Manager - John Harris.  
Small Pond Fishing Club members.
- 3) **Inform (External)**  
**Action normally undertaken by:** Police.  
Local Authority Emergency Planning Unit  
Environment Agency
- 4) **Equipment Required**  
Portable water pump(s) capable of pumping a total of at least 500 m<sup>3</sup> per hour. Pump placement location, approximate pump line length requirements and discharge points shown in below plan.



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- 5) Initiation**  
Manual operation of portable pumps.
- 6) Control**  
The normal acceptable rate of draw-down is 300mm per day. In an emergency this may be increased to 1000mm per day following authorisation from the Inspecting Engineer.
- 7) Additional Information**  
Ensure sufficient pump fuel supplies at all times during draw-down.

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**DATA SHEET E – Emergency Plant and Safe Access Routes**

<b>Access Routes For Vehicles</b>	Vehicular access to crest and toe possible. No vehicular access across dam crest.
<b>Parking</b>	Parking for up to 15 vehicles adjacent fishing club.
<b>Suitability for Use of Siphons</b>	Yes
<b>Suitability for Deployment of Pontoons</b>	Yes – but could have access issues
<b>Suitability for Use of High Volume Pumps (Fire Service)</b>	Yes
<b>Configuration of Other Pumping</b>	No
<b>Additional Information</b>	Access road to toe is narrow – vehicles only.
<b>Marshalling Point</b>	Adjacent to overflow spillway. See plan in Section 1 for location.
<b>Footpath</b>	Path across the crest, although not public, it is used by walkers.

See map in Data Sheet D for locations.

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**DATA SHEET F – Reservoir Construction Drawings**

*Insert reservoir drawings/sketches.*

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**DATA SHEET G – Contractor Contact Details**

**Pump Hire:**

**Contractor**

**Telephone Numbers**

**Name:** Andrew Sykes Hire Ltd

**Day time:** 01372 256012  
07772 157459

**Address:** Epsom

**Out of Hours:** 07772 157459

**Type of Service / Equipment:** Portable water pumps.

**Contractor**

**Telephone Numbers**

**Name:** All Purpose Pumps Ltd

**Day time:** 01372 214867  
07772 4278912

**Address:** Ashtead

**Out of Hours:** 07772 4278912

**Type of Service / Equipment:** Portable water pumps.

**Civil Contractors:**

**Contractor**

**Telephone Numbers**

**Name:** Williams Excavators

**Day time:** 01372 256012  
07772 457891

**Address:** Epsom

**Out of Hours:** 07772 457891

**Type of Service / Equipment:** Excavators, backhoes.

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**DATA SHEET H – List of Key Documents**

<b>Document Title</b>	<b>Document Reference</b>	<b>Document Storage Location</b>
Prescribed Form of Record (Statutory Document Under Reservoirs Act)	N/A	On shelf in Small Pond Fishing Club office.
Inspecting Engineers Section 10 Report	Dated 25 April 2004	On shelf in Small Pond Fishing Club office.

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## DATA SHEET I – Plan Distribution Details

The people identified in the following table hold a copy of this On-site Emergency Plan for Small Reservoir.

<b>Name</b>	<b>Position</b>	<b>Organisation</b>	<b>Reference No.</b>	<b>Version</b>
John Harris	Manager	Small Pond Fishing Club	R101	V001
Mark Simons	Manager	Local Authority	R102	V001
George Mitchell	Supervising Engineer	Dam Consulting Ltd.	R103	V001

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**DATA SHEET J – Additional Information**

N/A