



Ministry
of Defence

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DE&S SEC Policy Secretariat

Defence Equipment and Support
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Email: [REDACTED]

[REDACTED]

Via email: [REDACTED]

Our Reference:
FOI2016/07415

Date: 23 November
2016

Dear [REDACTED]

Thank you for your letter of 22 July 2016 requesting the following information:

On the 6th July 1989 a rain storm at the AWE Aldermaston site resulted in surface water flooding of the site and the mobilisation of contaminated materials to adjacent land to the north.

As a result of this event a number of storm water control measures (the North Ponds Water Management System (NPWMS) and Storm Water Bypass (SWBP) have been constructed to reduce the risk of such an event happening again in the future.

In relation to the above mentioned storm water control measures:

- Can the MoD provide design reports and drawings of the North Ponds Water Management System (NPWMS) and Storm Water Bypass (SWBP)?*
- Can the MoD confirm the storage volume of the NPWMS?*
- Can the MoD confirm that the NPWMS has been designed as a settling pond / sediment trap which ensures that even in the event that it is overtopped, no new radioactive material can be transported downstream?*
- Can the MoD provide the hydrology and hydraulics reports used to develop the design of the NPWMS and SWBP?*
- Can the MoD provide details of the return period (annual exceedance probability) of the storm that the NPWMS and SWBP are designed to protect against?*

I am treating your correspondence as a request under the Environmental Information Regulations (EIR). I apologise for the considerable delay in responding to your request. The Ministry of Defence (MOD) has conducted a search and located the following documents which fall within the scope of your request:

- Document A: North Ponds – New Surface Water Management Facility Pre-Qualification Specification. Work Package No: M110100

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- Document B: North Ponds – New Surface Water Management Facility Pre-Qualification Specification. Work Package No: M110100 – Post Issue Addendum (10/5/96) to Specification
- Document C: Environmental Programmes: North Ponds Storm Water Bypass Operations & North Ponds Aide Memoire. Document Ref EDMS3/800A456D/B/WM600 Issue 2 July 2014
- Drawing No 1: NPWMS and SWBP
- Drawing No 2: NPWMS and SWBP
- Drawing No 3: NPWMS and SWBP

These documents are attached, except Document C, of which I have included relevant extracts below, the remainder of the document being out of scope of this request. Drawings 2 and 3 have been withheld in their entirety under section 12(5)(a) of the EIR (National Security), as explained below.

I must inform you that some of the information you requested has been withheld as it falls within scope of the exemption provided for at sections 12(5)(a) (National Security) of the EIR. Other information sought has been redacted as it falls within the scope of the exemption provided for at section 13(1 & 2) (Personal Data).

Section 12(5)(a) has been applied to details of building numbers, facility design information including system storage volume and annual exceedance probability, and other site information. The balance of public interest lies in withholding this information to ensure that hostile states and third parties are not provided with information that would assist in targeting or disrupting safety, security or operations at AWE and its contribution to the UK's defence nuclear programme. I have set the level of prejudice against release of the exempted information at the lower level of "would be likely to" rather than "would".

Sections 13(1 & 2) have been applied to the names of individuals. The balance of public interest lies in withholding this information to protect the personal data of individuals. For these reasons I have set the level of prejudice against release of the exempted information at the higher level of "would" rather than "would be likely to".

I note that your information request was in the form of a number of questions, set out above. The Information Commissioner has directed (and this has subsequently been upheld by the Information Tribunal) that if a question can be answered by providing the applicant with copies of recorded information held by an authority then the authority should do so. Otherwise, it should simply state that it does not hold relevant information. We have therefore searched for recorded information which would answer your questions. I have set out responses to your questions below.

- *Can the MoD provide design reports and drawings of the North Ponds Water Management System (NPWMS) and Storm Water Bypass (SWBP)?*

Drawing 1 gives an overview of the NPWMS and SWBP. Document A gives the Pre-Qualification Specification, and sets out in section 4 the key requirements of the scheme. This was supplemented by Document B, a post issue addendum to the specification. The SWBP was added later to provide a defined route for exceedance flows.

- *Can the MoD confirm the storage volume of the NPWMS?*

As set out above, the storage capacity of the NPWMS is withheld under section 12(5)(a) of the EIR.

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- *Can the MoD confirm that the NPWMS has been designed as a settling pond / sediment trap which ensures that even in the event that it is overtopped, no new radioactive material can be transported downstream?*

The NPWMS is designed to hold the collected surface water in tanks, allowing it to be sampled and monitored before being discharged – see Document A.

The NPWMS is not specifically designed as a settling tank/sediment trap; however provision is made in the design for sediment to be collected and disposed of accordingly. This will largely prevent suspended solids being transported downstream in the event of the scheme being overtopped.

In the event of storm conditions being forecasted the SWBP provides a means of diverting surface water from the historically uncontaminated area of site directly into the stream. This ensures that the NPWMS capacity is preserved for the surface water that has the potential to contain contaminated material – see the following extracts from Document C:

Extract 1:

Surface water from [REDACTED] has the potential to be RA contaminated. Surface Water from [REDACTED] [REDACTED] which has no history of RA contamination incidents, is considered to be not contaminated. Only surface water from [REDACTED] is to be diverted down the SWB. Via the closure of Valve [REDACTED]

Extract 2:

ONLY UNCONTAMINATED FLOW IS TO BE DIVERTED TO THE STORM WATER BYPASS AND THE IFT

- *Can the MoD provide the hydrology and hydraulics reports used to develop the design of the NPWMS and SWBP?*

Details of the hydrology and hydraulic design parameters are contained within Document A and supplemented by Document B.

- *Can the MoD provide details of the return period (annual exceedance probability) of the storm that the NPWMS and SWBP are designed to protect against?*

As set out above, the return period which the NPWMS and SWBP are designed to protect against has been withheld under section 12(5)(a) of the EIR.

If you are not satisfied with this response or you wish to complain about any aspect of the handling of your request, then you should contact me in the first instance. If informal resolution is not possible and you are still dissatisfied then you may apply for an independent internal review by contacting the Information Rights Compliance team, Ground Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail CIO-FOI-IR@mod.uk). Please note that any request for an internal review must be made within 40 working days of the date on which the attempt to reach informal resolution has come to an end.

If you remain dissatisfied following an internal review, you may take your complaint to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information Commissioner will not investigate your case until the MOD internal review process has been completed. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website, <http://www.ico.org.uk>.

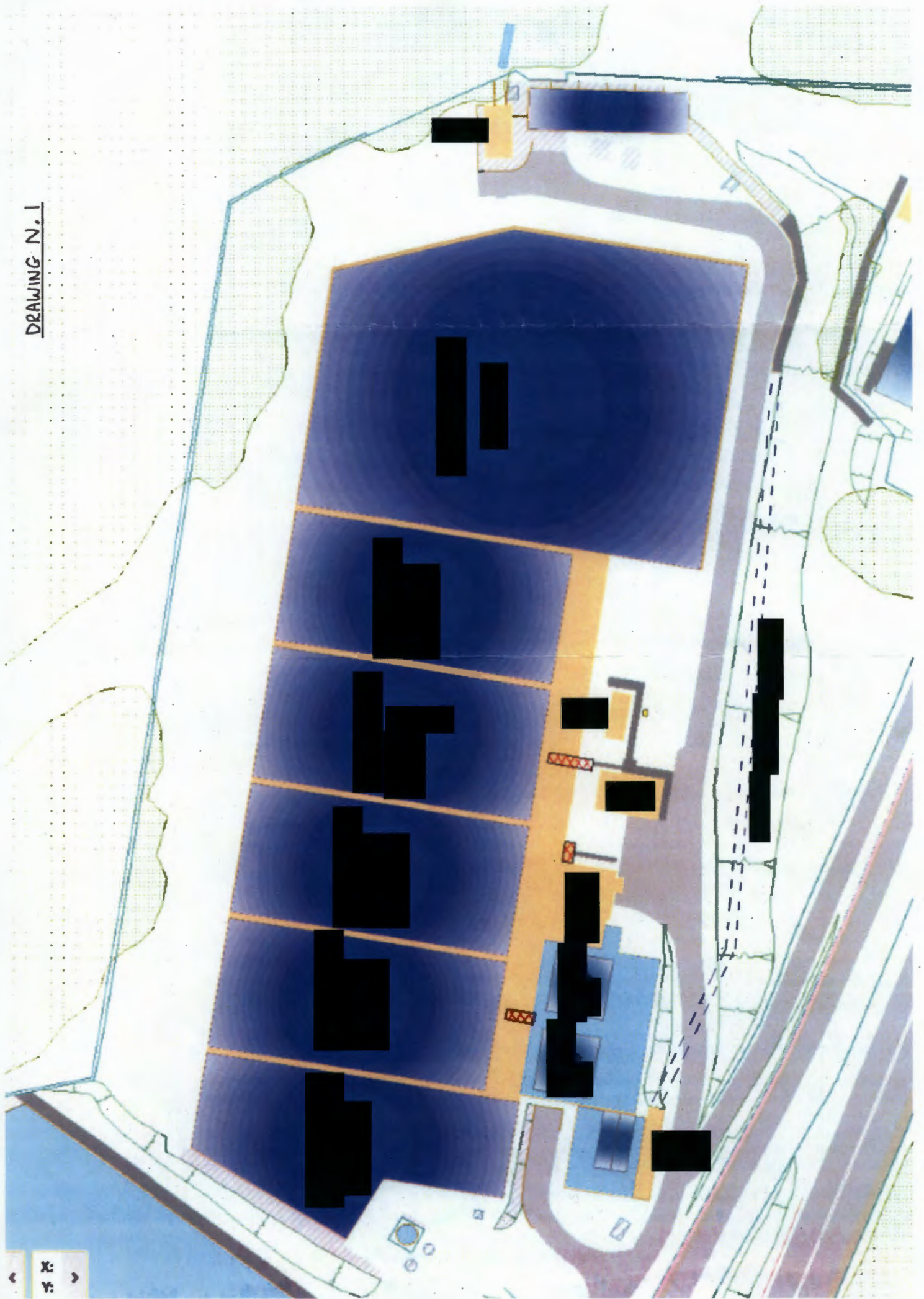
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Yours sincerely,

██████████

Defence Equipment & Support Policy Secretariat

DRAWING N.1



< X: >
< Y: >

NORTH PONDS

NEW SURFACE WATER MANAGEMENT FACILITY

**PRE-QUALIFICATION SPECIFICATION
(AWE/DSE01/B/PS/EP/M11010/001/96: ISSUE 1; 22/4/96)**

WORK PACKAGE M1101000

POST ISSUE ADDENDUM (10/5/96) TO SPECIFICATION

The following additional information applies to section 4.3 (DESIGN CRITERIA, RESTRICTIONS AND CONSTRAINTS) of the above referenced specification:

With respect to 4.3 (vi):

- 1. 1 in [redacted] year return period storm

The rainfall intensities of [redacted] and [redacted] mm/hr are average intensities and are associated with durations of 2, 4 and 6 hours respectively.

The corresponding peak rainfalls are [redacted] and [redacted] mm respectively.

The corresponding total rainfalls are [redacted] and [redacted] mm respectively.

- 2. 3 month return period storm

A total rainfall of [redacted] mm shall apply to the referenced [redacted] hour (sampling, testing and assay) duration.

The following additional information applies to section 4.2.2 (iv) (Surface Water Storage) of the above referenced specification:

- 1. The finished ground level at both the PE & TW facilities are approx, + 100.00 A.O.D.

[redacted]

ED/DSE01

10/5/96

forwarded to [redacted] to [redacted] on 10/5/96.

~~RESTRICTED~~

AWE/DSE01/B/PS/EP/M11010/001/96

ISSUE : 1

DATE : 22/4/96



NORTH PONDS [REDACTED]

NEW SURFACE WATER MANAGEMENT FACILITY

PRE-QUALIFICATION SPECIFICATION

WORK PACKAGE No: M110100

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AWE/DSE01/B/PS/EP/M11010/001/96

ISSUE : 1

DATE : 22/4/96



NORTH PONDS [REDACTED]

NEW SURFACE WATER MANAGEMENT FACILITY

PRE-QUALIFICATION SPECIFICATION

M11010

	SIGNATURE	PRINT NAME	DATE
Originator	[REDACTED]	[REDACTED]	23/4/96
Checked	[REDACTED]	[REDACTED]	23/4/96
	[REDACTED]	[REDACTED]	23/4/96
Approved	[REDACTED]	[REDACTED]	23/4/96

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DOCUMENT A-

AWE/DSE01/B/PS/EP/M11010/001/96

ISSUE : 1

DATE : 22/4/96

DOCUMENT ISSUE RECORD.

Document Title : NORTH PONDS [REDACTED] NEW SURFACE WATER MANAGEMENT FACILITY: PRE-QUALIFICATION SPECIFICATION.

WP Number : M11010

Document Status : For issue

Issue	Description of Amendment	Date	Author	Checked	Approved
1	For issue	22/4/96	[REDACTED]	[REDACTED]	[REDACTED]

Previous issues of this document are to be destroyed or marked SUPERSEDED.

Distribution:

PMD: Project manager, [REDACTED]

ED/EA: [REDACTED]

DCC

File: M11010

~~RESTRICTED~~

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AWE/DSE01/B/PS/EP/M11010/001/96

ISSUE : 1

DATE : 22/4/96

1. INTRODUCTION.

A new surface water management facility is to be constructed on part of the existing North Ponds [REDACTED] site at AWE, Aldermaston.

The proposed new facility is a required improvement/enhancement of the existing surface water management system (retaining some features of the existing scheme):

The new facility will allow increased control over both the quantity and quality of the surface water leaving the Establishment at the [REDACTED] complex.

This specification has been prepared to enable prospective Tenderers (hereafter referred to as Tenderers), for the Design and Build Contract for the new facility, to submit their Outline Design (Preferred Option) for the new facility, in response to the objectives, functional and performance criteria detailed herein after.

In addition, at the Tenderers request, site visits with AWE attendance can be made; Tenderers shall contact the Project Manager (Ref. Section 7.) if they require to visit the site.

The specification does not cover (the possible control of) sub-surface (groundwater) flows exiting the site at the [REDACTED] complex. These are the subject of ongoing, separate, studies, the impact/recommendations of which would be incorporated into the new facility at detailed design stage, if required, by the appointed Design and Build Contractor.

2. SCOPE.

The scope of the required New Surface Water Management Facility covers the development of an Outline Design (Preferred Option) for a facility which can store surface water run-off over a range of storm flow conditions, and discharge uncontaminated water, at a controlled rate, off-site. The Outline Design will allow for the containment, monitoring and return of contaminated water to the main site, existing, treatment facilities or removal by tankerage.

3. SITE DESCRIPTION.

A description of the existing North Ponds [REDACTED] Site is given below, to provide Tenderers with information on the existing, site layout, surface water management system and ground conditions.

A comprehensive set of drawings, relating to these items, is included as Annex A of this specification for information.

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3.1 EXISTING SITE LAYOUT

The location of the North Ponds [redacted] site is indicated on drawing No. K30039/05, which is included with Annex A of this specification.

[redacted]
[redacted]

[redacted] The site has perimeter fencing on all sides.

The facility is situated at the northern boundary of the AWE(A) site, and comprises three ponds; the 'Upper [redacted]' and 'Lower [redacted]' dating from the 1950's and 60's and the 'Third Pond [redacted]', which was constructed in 1986. The ponds as described are located west to east across the facility, with the Lower and Third ponds being situated in a shallow valley; the valley falling to the north east towards Aldermaston Village. [redacted]

[redacted]
[redacted]
[redacted]

[redacted]
[redacted]

[redacted] The southern side of the pond was created by some minor regrading of the valley.

The sloping bank to the south east of the Third Pond consists of essentially undisturbed ground and is partially wooded.

3.2 EXISTING SURFACE WATER MANAGEMENT FACILITIES

The North Ponds Facility consisting of the three ponds with various interconnections are shown on the drawings, included with Annex A for information. Figure 1 of Annex A shows a schematic representation of the North Ponds system.

The facility forms part of the drainage path for surface water run-off from A Area including the Waste Management Group, Centre Site, Site Tip and the north western sector of B Area. These are referenced as sub-drainage areas 13 & 14 on Figure 2 of Annex A.

Historically all three ponds operated in conjunction, to discharge the collected surface water run-off off-site via the Third Pond through the Flow Measurement Chamber [redacted]. After leaving the site the watercourse runs through an adjacent property (Blue Circle Industries) to a lower catchment (Aldermaston Court Lake) and then to the River Kennet.

Currently the Upper and Lower Ponds are not used, being [redacted]. These ponds will be decommissioned under a future contract.

In addition the most westernly oil interceptor set and associated drainage run are not currently used, [redacted].

Consequently, all the collected surface water run-off is, currently, discharged off-site [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

The main shortcomings of the existing facility, defining the need for the referenced improvement and enhancement works can be summarised as follows:

- (i) The Third Pond (existing available storage capacity of [REDACTED] m³) has insufficient storage capacity to balance and maintain the off-site discharge within the required limits (Ref. 4.3 Design Criteria, Restrictions and Constraints).
- (ii) The existing facilities (The Third Pond and the Flow Measurement Chamber) have insufficient storage capacity to hold water (throughout the required monitoring; sampling, testing and assay, period) before discharge off-site.
- (iii) The existing facilities do not allow for the sentencing and return of out of specification (contaminated) water (Ref. 4.4 Water Quality Criteria) to the main site, Trade Waste (TW) treatment plant (the only return facility is to the PE treatment plant).
- (iv) There are no purpose provided means for the removal of suspended solids; currently these either settle out in the Third Pond or (the smaller particles) are passed off-site in the discharge flows.
- (v) The existing flow recording arrangements at the Flow Measurement Chamber do not correlate well with the site rainfall records and are considered to be suspect.

3.3 SITE GROUND CONDITIONS

The applicable geological map indicates the site to be underlain by Plateau Gravels overlying Lower Bagshot Beds which in turn overlie London Clay.

Previous, limited, boreholes formed during a study of the Third Pond embankment stability terminated in the Lower Bagshot Beds (at approx. 10 m depth), but did not confirm the depth of this strata.

Figures 1.2 and 2.2, included with Annex A give details of three boreholes previously established at the site.

A ground investigation (for contaminants & soil profile) will shortly commence on the site; the results of this will be issued to the successful Tenderer to assist in detailed design development.

4. NEW SURFACE WATER MANAGEMENT FACILITY.

4.1 OBJECTIVES

Tenderers shall develop and present (Ref. 5.) their Outline Design (Preferred Option) for the New Surface Water Management Facility, to meet the following principal objectives:

- (i) The Outline Design shall address the shortcomings of the existing scheme (Ref. 4.2).
- (ii) The new facility shall allow increased control over both the quantity and quality of the surface water discharged off-site from the [REDACTED] facility. No unmonitored water shall be discharged off-site; 'contaminated water' shall be returned by pumping to the relevant main site effluent treatment plants (PE or TW as applicable) or be removed by tankering to the appropriate, AWE defined, waste streams. Return will be to the 'new' PE plant and not the plant currently used for the Third Pond.
- (iii) The Outline Design shall recognise the AWE, Waste Management Group (WVG), operator requirement for the facility/process to be essentially unmanned, except for routine maintenance, inspections and testing, sample collection and monitoring operations. To this end the process shall be developed to maximise automatic control/operation whilst providing for safe unattended operation of the facility.
- (iv) The Outline Design shall address the requirements for an energy efficient, safe, operationally flexible, facility/process, with a minimum of required through-life maintenance. To this end the scheme/process shall be developed to maximise gravity flows thereby minimising on pumping requirements.
- (v) The Outline Design shall be developed to minimise the impact on the local environment during the construction phase and service life of the new facility.

4.2 ESSENTIAL FACILITY REQUIREMENTS

Tenderers shall incorporate the essential facility requirements detailed in sections 4.2.1 to 4.2.4 below into their Outline Design (Preferred Option); section 4.3 details the design criteria, restrictions and constraints to be satisfied.

As indicated, items 4.2.1 to 4.2.4 are the essential facility requirements of the scheme/process. Tenderers shall give full details of all additional requirements/features arising from their particular Outline Design proposal.

The Tenderers shall be responsible for arranging (setting-out) the referenced essential (and additional) facility requirements on the available, restricted, site area (Ref. drawings K30039/05 & M30039/01, included with Annex A); an economic and hydraulic balance between the required depths of storage and facility plan area requirements should be sought.

4.2.1 Diversion of Drainage Flows [REDACTED]

4.2.2 Surface Water Storage

Surface Water Storage shall be provided downstream of [REDACTED]

The Surface Water Storage facility/facilities shall allow:

- (i) Holding storage for, contaminant, monitoring (sampling, testing and assay) purposes.
- (ii) Storage for storm flow balancing purposes.
- (iii) Discharge off-site of tested, uncontaminated, water.
- (iv) Discharge/disposal of contaminated water by either:
 - Pumping back to the main-site WMG (PE or TW) applicable facilities.
 - Removal by tankering to AWE defined, applicable, waste streams.

The AWE operator shall be responsible for sentencing (after monitoring) the contaminated water to the appropriate route.

The Tenderers shall size the Surface Water Storage facility/facilities to accept the run-off from storm conditions as defined in section 4.3 (Design Criteria, Restrictions and Constraints.); section 4.4 covers Water Quality Criteria.

Operational flexibility i.e. the filling, holding, discharge, maintenance and cleaning requirements define the need for sub-division of the holding (monitoring) storage element of the total Surface Water Storage volume, with sequential filling of these sub-divisions.

A process requirement is that the holding (monitoring) sub-divisions be filled, closed, sampled, assayed, certified and discharged in sequence; with the sampling and discharge operations being initiated manually.

The automatic control system shall therefore be required to continuously monitor the sub-division levels, the inlet and outlet status and the positions of the manual controls; allowing sequential filling without manual intervention. Control Philosophy/Control Measures are detailed in section 4.2.4.

Commencement of filling of the downstream sub-division volumes shall 'trigger' the closure of the upstream volumes. Likewise, the commencement of filling of the storm flow balancing

element of the total Surface Water Storage volume shall 'trigger' the closure of the downstream monitoring sub-division.

The methods of flow control (e.g. gates, penstocks, valves etc.) shall be proposed by the Tenderers in their Outline Design.

The receipt of alarms/indicators at the Shift Control Room, on the main site, will initiate the AWE operator water monitoring (sample retrieval, testing, assay and certification) process. Minimum and maximum durations of 2 and 3 working days shall be allowed for the monitoring period, from receipt of alarm.

Discharge shall only be initiated when water monitoring is complete.

Control Philosophy/Control Measures, inclusive of alarms/indicators are covered in section 4.2.4.

The Tenderers shall propose the form (e.g. culverting, piping, ponding, tankage etc.) and materials of the Surface Water Storage facility and shall configure it in relation to their total Outline Design proposal, inclusive of the essential facility requirements outlined in sections 4.2.1 to 4.2.4 and any additional requirements and features arising from their particular proposal. With respect to possible additional requirements and features Tenderers shall note the following:

- (i) Regular water sampling for both laboratory analysis and on-line monitoring of the stored water is intended.

Section 4.4 covers the water quality criteria to be met to allow water to be classified as uncontaminated.

Tenderers shall propose sampling methods with their Outline Design proposal, for both automatic and manual sampling.

- (ii) Tenderers proposals shall allow for water tested within specification to be discharged off-site, leaving a minimum of residual settled solids to be cleared from the storage facilities.

For water tested as contaminated, it is considered that settling of the sediments/solids will remove the bulk of the 'contaminants' (RA (which generally 'adhere' to suspended solids) and chemical contaminants).

- (iii) Water re-tested out of specification after (any) decontamination effort shall be discharged/disposed of by pumping and/or by tankerage as described in (iv) above.

Effluent acceptance levels (from the proposed new facility) at the WMG on-site PE and TW facilities are not yet fully defined; however a maximum of \blacksquare m³/day at each can be used for preliminary design purposes.

Detailed consideration of the required connections to the existing PE and TW facilities, and for the provision of a small heavy metal treatment plant at the TW facility, shall be considered during the detailed design stage by the appointed Contractor

- (iv) Wash-out/wash-down for decontamination (and routine cleaning) purposes, of all surfaces of the storage volumes is required.

The Tenderers shall consider surface material/surface finish and storage volume shape in their designs; to effect, safe, efficient cleaning of these during routine cleaning or decontamination of a contaminated storage volume.

- (v) No unmonitored water shall be discharged off-site.

The outlet effecting off-site discharge shall have provision to regulate these discharges and to ensure the maximum allowable flow rate of [REDACTED] l/s is not exceeded.

- (vi) Tenderers shall incorporate discharge flow measurement facilities in their designs, capable of measuring and recording all flows discharging to the off-site, downstream, receiving watercourse.

Specification of the flow measurement apparatus shall be made by the Tenderer, cognisance being taken of the need for a reliable, safe, simple, low-maintenance and accurate system.

The Tenderers Outline Design proposals shall clearly identify all required gravity and pumped interconnections between the various referenced facilities, and any other additional facilities/features arising from their particular designs. Proposals with respect to pumps inclusive of type, capacity and control shall be included with the design.

4.2.3 Control Building

Tenderers Outline Design proposals shall recognise the need for the New Surface Water Management Facility to be an essentially unmanned process/operation. However, regular attendance at the site will be carried out by AWE, WMG operatives for routine maintenance, inspections, sampling, testing and monitoring. Designs shall be developed to maximise automatic operation whilst providing for safe unattended operation of the facility.

A Control Building shall be included in the design. The Control Building, located local to the site, shall house a [REDACTED]

The MCC shall contain [REDACTED]. The MCC shall be designed to ensure that, in the event of a [REDACTED] failure an alarm is raised, backup level control would be provided automatically via [REDACTED]

The Control Building and MCC [REDACTED] these are detailed in section 4.2.4. [REDACTED]

- Selection, filling and rate of filling (indication) of the Surface Water Storage volume and its sub-divisions.
- Rate of outflow.
- Pump operation.
- On-line sampling of the stored water.

The following will also be initiated by AWE manual operation, expanded as required by the Tenderers design:

- Water sample retrieval for laboratory analysis (Ref. 4.2.2).

Alarms and indicators shall be provided for the following, expanded as required by the Tenderers design:

- To denote "Storage Full" status for the Surface Water Storage volume and its sub-divisions; to initiate sub-division changeover.
- [REDACTED] within the various applicable storage volumes; to alarm and override.
- [REDACTED] within the various applicable storage volumes; to initiate stopping of discharge.
- [REDACTED] maloperation.
- Pump status.

Remote alarms and indicators shall be [REDACTED] to denote the following, expanded as required by the Tenderers design:

- "Storage Full" status for each sub-division of the Surface Water Storage facility.
- [REDACTED] status for each sub-division of the Surface Water Storage facility.
- With [REDACTED] status for the storm flow balancing element of the facility also being provided.
- [REDACTED]

4.3 DESIGN CRITERIA, RESTRICTIONS AND CONSTRAINTS.

Tenderers shall note and allow for the following design criteria, restrictions and constraints in the development of their Outline Design proposals:

- (i) The available site is limited in area; the elements of the new facility shall be restricted (configured by the Tenderers) to [REDACTED]
[REDACTED]
[REDACTED]
- (ii) [REDACTED]
[REDACTED]
[REDACTED]
- (iii) The design shall allow for taking the Third Pond out of service i.e. the pond plan footprint can be used to locate part of the new facility.
- (iv) A minimum of the current storm water holding capacity ([REDACTED] m³) of the Third Pond shall be maintained throughout the new facility construction period, and the existing discharge capability shall also be available.

Tenderers shall make clear their proposals (physical and sequence) to comply with this requirement.

- (v) Existing system storm flow capacities, have been estimated in previous studies as follows:
 - Outfalls to the North Ponds site (Ref. Figure 2 Outfall Flows From Areas 13 & 14) were designed for the peak discharge during a 1 in 2 year storm event with:
 - Contributing impermeable area = 32.4 hectares
 - Time of concentration = 16 minutes (approx)
 - Estimated peak flow = 3356 l/s
 - Assessed as-laid capacity = 3964 l/s (i.e. the capacity immediately upstream of the oil interceptors).

- (vi) New facility flow criteria:
 - Base (dry weather) flow = [REDACTED] l/s
 - Maximum continuation discharge = [REDACTED] l/s

- The holding (for monitoring purposes) element of the total Surface Water Storage volume shall be sized to accept the run-off from a storm of [REDACTED]

return period, without resort to spilling to the storm flow balancing element of the facility. Two scenarios shall be considered in the design:

The storm over a duration of [REDACTED] hours, whilst the monitoring (sampling, testing and assay) of the impounded water is underway.

The storm over [REDACTED] hours duration with a rainfall intensity of [REDACTED] mm/hr.

- The total Surface Water Storage volume shall be sized to provide capacity to balance the flows resulting from a storm of 1 in [REDACTED] year return period with rainfall intensities of [REDACTED] and [REDACTED] mm/hr respectively, on the impermeable catchment area of 32.4 hectares. The maximum continuation discharge associated with these storm scenarios is [REDACTED] l/s.

(vii) The new facility is required to have a design life of 25 years.

(viii) Ambient temperature range -20° C to +30° C

4.4 WATER QUALITY CRITERIA

AWE will monitor water for radiological and chemical contaminants with the following limits set:

Maximum radiological activity: 100 Bq/m³ gross Alpha

900 Bq/m³ Tritium

Chemical contaminants will be monitored in accordance with "The Surface Water (Classification) Regulations 1989, Criteria for the Classification of Waters"; within classification DW1 limits.

In addition the following will apply:

Turbidity shall not exceed 20 mg/l

pH shall be in the range 6-9.

Water tested within these limits will be classified by AWE as uncontaminated and off-site discharge, at or below the [REDACTED] l/s maximum discharge rate, will be permitted.

Any water still contaminated after decontamination effort at the new facility will be assigned by the AWE operator, to the appropriate main site treatment facilities, or removed by tankage.

5. PRESENTATION OF OUTLINE DESIGN (PREFERRED OPTION).

Tenderers shall give a presentation of their Outline Design (Preferred Option) for the new facility to AWE on the date and time requested by the Project Manager (Ref. section 6.).

The presentation shall be of a maximum two hour duration and shall be attended by (approx. 10 in total) representatives of the AWE, Project Management, Engineering and Waste Management Divisions. Overhead projector facilities shall be made available to the Tenderers for the presentation.

Photocopies of all intended slides and explanatory notes shall be issued by the Tenderers at the presentation.

After the presentation Tenderers shall be required to respond to queries arising, raised by the AWE attendees; it is therefore essential that the presentation is attended by Tenderers representatives who have been involved, in all aspects of the development of the proposal.

6. TIMESCALES.

The Tenderer shall present their Outline Design (Preferred Option) to AWE on the date given in the accompanying Project Managers covering letter.

7. CONTACTS.

The AWE contact for queries with respect to this specification is:

Project Manager, [REDACTED] telephone number [REDACTED]

8. QUALITY SYSTEMS REQUIREMENTS.

Tenderers shall confirm that they operate a Quality Management System which is compliant with BS EN ISO 9001, 1994 and that they are registered with respect to this British Standard.

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AWE/DSE01/B/PS/EP/M11010/001/96

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DATE : 22/4/96

ANNEX A

**DRAWINGS & SKETCHES ISSUED TO TENDERERS
FOR INFORMATION**

RESTRICTED

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AWE/DSE01/B/PS/EP/M11010/001/96

ISSUE : 1

DATE : 22/4/96

ANNEX A: DRAWINGS & SKETCHES ISSUED TO TENDERERS FOR INFORMATION.

The following drawings and sketches are issued to Tenderers for information purposes, to assist in the preparation of their Outline Design (Preferred Option) for the North Ponds, New Surface Water Management Facility.

The drawings and sketches shall be read in conjunction with this pre-qualification specification.

DRAWING/SKETCH No.	DETAILS	NOTES
K30039/05	Location Plan of Proposed Facility	
K30039/01	North Ponds Area Services	Services local to the site
M30039/01	North Ponds Existing Site Layout	Modified (edited) version of previous LG Mouchel drawing
M30039/02	North Ponds X-Sections	Modified (edited) version of previous LG Mouchel drawing
FIGURE 1	North Ponds Schematic	Schematic representation of existing process
FIGURE 21	Outfall Flows Areas 13 & 14	
FIGURE 1.2	Borehole Locations	Previously installed boreholes
FIGURE 2.2	Geological Section	Borehole details
HR/0/861830	Ponds Survey Plan & Section	Previous survey data
HR/0/861831	Ponds Survey Sections	Previous survey data
HR/0/948843	Third Pond Sections	As-built drawing from previous Third Pond refurbishment project
HR/1/948844	Third Pond Plan	As-built drawing from previous Third Pond refurbishment project
HR/1/948845	Third Pond Site Layout	As-built drawing from previous Third Pond refurbishment project
HR/1/781164	Third Pond Flow Measurement Chamber	As-built drawing
HR/1/781052	Third Pond Outlets	As-built drawing
HR/1/781049	Control Chamber No. 4	As-built drawing
HR/1/781051	Control Chamber No. 6	As-built drawing
HR/1/781050	Control Chamber No. 5	As-built drawing