

COUNCIL MEETING

Venue: Town Hall, Moorgate
Street, Rotherham

Date: Wednesday, 10 October 2007

Time: 2.00 p.m.

A G E N D A

1. To submit for approval the minutes of the Council Meeting held on 25th July, 2007 - Pages 19A to 33A (Section A)
2. To consider any communication received by the Mayor or the Chief Executive and to pass a resolution or resolutions thereon.
3. To consider any questions from the Public.
4. To receive a report from the Leader and to consider reports, minutes and recommendations of the Cabinet - Pages 33B to 67B (Section B)
5. To receive and consider reports, minutes and recommendations of the Standards Committee - Pages 6C to 8C (Section C)
6. To put questions, if any, to Cabinet Members and Chairmen (or their representatives) under Standing Order No. 7(1) and 7(3).
7. To put questions, if any, to the designated Members on the discharge of functions of the South Yorkshire Police Authority, South Yorkshire Fire and Civil Defence Authority, South Yorkshire Passenger Transport Authority and South Yorkshire Pensions Authority, in accordance with Standing Order No. 7(5).
8. Annual Scrutiny Report 2007/2008 - previously circulated - Councillor Stonebridge to present
9. To determine any item which the Mayor is of the opinion should be considered as a matter of urgency

T. C. MUMFORD

Assistant Chief Executive, Legal and Democratic Services

2nd October, 2007

ROTHERHAM BOROUGH COUNCIL – REPORT TO MEMBERS
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1.	Meeting:	The Council
2.	Date:	10th October, 2007
3.	Title:	Ulley Reservoir Ward 11 Rother Vale and Ward 15 Sitwell
4.	Programme Area:	Environment and Development Services

5. Summary

To report on the recent events at Ulley Reservoir and to outline options for the future of the reservoir in both the short and long term.

6. Recommendations

- i. In the short term, the reservoir be maintained in its current state (drawn down with pumping support).**
- ii. That a site investigation is commissioned, at a cost estimated to be £35,000, to give some clarity to the cost of rehabilitation.**
- iii. That the pumps that are currently on site and on hire be purchased at a cost of £156,720 funded from the Council's capital programme.**
- iv. That Cabinet recommends Council to approve the implementation of Option 1 – rehabilitation of the reservoir.**

7. Proposals and Details

Introduction:

A serious safety incident occurred at Ulley Reservoir, commencing at approximately 8.00 p.m. on Monday 25th June 2007 following very heavy and prolonged rainfall in the catchment. A significant scour hole, some 50 m wide and up to 6 m deep, occurred to the downstream face of the dam embankment adjacent to one of the three overflow spillways.

The scour was caused by the failure of the spillway which runs down the left mitre of the dam embankment. The rain started to fall on a wet catchment at 10:00 pm. on Sunday 24 June 2007. At least 63 mm of near-continual rainfall fell in a period lasting 22 hours. Of this, the majority of the rain (~52 mm) fell in a period lasting 12 hours.

The scour was initially noticed by a Park Ranger at around 8:00 pm. on Monday 25 June. Following the alert, an emergency operation commenced which involved Council staff, Emergency Services, a Civil Engineering Consultancy (Arup) and a Contractor (J N Bentley). By Wednesday evening of that week, the dam had been sufficiently stabilized to enable the re-opening of the M1 which had been closed early on Tuesday morning.

The incident precipitated the evacuation of residents in Catcliffe, Treeton, Whiston and Canklow and the closure of the M1 Motorway between Junctions 32 and 34, a section of the Sheffield Parkway and other major roads. There was also a threat to an adjacent strategic natural gas installation and major electricity supply infrastructure.

To summarise, the emergency works comprised:-

- Pumping from the reservoir to lower the water level and maintain it at 2.0-2.5 m below the sill level of the main (1943) overflow channel.
- Plugging up the Ulley spillway to prevent further erosion of the dam structure.
- Placing over 2000 tonnes of imported rock fill on a geotextile fabric to stabilise the damaged section of embankment.

To reduce the water level in the reservoir, up to 19 pumps were deployed at one time.

Current Situation:

At present, the level of the reservoir is being maintained at around 2.5m below the overflow weir level. The capacity of the pumps remaining on site together with the reduction in water level allows for sufficient storage capacity to cater for most rainfall events. Should a very severe storm occur, the dam and remaining spillway are in a sufficiently acceptable condition to allow the reservoir to fill and overflow and then subsequently be pumped down to the 2.5m level. It is estimated that such a storm

would be of about a 1 in 100 year return period. The draw down also reduces the pressure on the dam wall which is known to exhibit some degree of seepage through the wall. This has all been agreed with the All Reservoirs Panel Engineer, James Claydon, who is the primary expert working for the consultants retained by the Council to advise on this matter. However, he has advised that this cannot be allowed to remain the permanent situation.

There is a well established monitoring regime now in place, undertaken by the Rangers, whereby the water level in the reservoir is monitored at agreed frequencies dependant upon rainfall; the more intense the rainfall, the more frequent the inspections. Flow in the downstream outflow channel is also being monitored. This measures the volume of water seeping through the dam. The dam embankment itself is subject to regular visual inspections. There is also an established protocol agreed with James Claydon to deal with any changes that occur.

The water level is being controlled by pumping. There are now 4 pumps on two pontoons located at the northeast end of the dam, adjacent to Reservoir Road. These are protected by fencing and 24 hour manned security and are regularly inspected and serviced by the specialist contractor, J Bentley, who has a presence at the reservoir. The pumps are currently on hire at a cost of approximately £8,000 per week. The financial benefit of purchasing these pumps has been investigated. This indicates that there is an overall benefit in purchasing the pumps based on them being required for at least another 40 weeks. This period of time is considered to be the minimum period that pumps would be required if a decision to discontinue the reservoir was made. If rehabilitation is the chosen option this period would be longer.

Other works in the interests of safety have been undertaken during July and August, and other works have been commissioned. These include:

- Re-establishing the v-notch monitoring devices in by-wash streams and Ulley Brook. (to measure leakage)
- Provision of a permanent concrete plug to the damaged spillway and remove temporary measures established on the night of the storm.
- Reinstatement of damaged fencing and the establishment of security on site.
- Infilling of the by pass channel at the site of the sailing club slipway providing vehicle access to the shoreline.
- Freeing a seized valve in the draw-off tower .
- Provision of a permanent concrete plug to the Morthorn Spillway (Commissioned).

A Section 10 report (required under the provisions of the Reservoirs Act 1975), is being prepared by the All Reservoirs Panel Engineer (ARPE). This report is statutory and covers all aspects of the reservoir. It will contain recommendations for any future action which the ARPE considers to be required and a timescale in which those actions should be carried out. A draft of this report has been discussed with Arup engineers and the principal issues are discussed below.

Matters for consideration

There are essentially two principal courses of action open to the Council. The reservoir may be retained (rehabilitated) or removed or reduced to a level whereby it is no longer subject to the provisions of the Reservoirs Act (discontinued). This latter option has two variants associated with it; the basic works needed to rid the authority of its liability and a more expensive option to produce a different kind of amenity. Currently, the capacity of the reservoir is around 600,000 m³; in order to be discontinued any remaining volume of water must be less than 25,000 m³.

Rehabilitation

From the discussions of the draft Section 10 report with Arup, extensive works will be required to the remaining spillway installation and associated stilling pond as it enters Ulley Brook. These works are due in part to the re-categorisation of the dam to Category A in terms of its impact downstream in the event of catastrophic failure and in part due to the need to return the reservoir to its previous 'top water level'. (The remaining 1943 spillway is set at a higher level than the previous top water level and needs lowering).

Other works include erosion protection to the embankment, the removal of redundant pipework, the stabilisation of the bridgeworks providing vehicular access to the dam crest, abandonment of the by-pass channels and the rerouting of the outfall scour pipe.

An area of work also required where significant unknowns remain is the repair to the existing embankment core including a slurry cut off wall to the top portion of the dam

The scope of this work will depend on the results of an extensive site investigation operation with boreholes and trial pits being excavated on the dam itself and immediate surrounds. The investigation will cost around £35,000. These works have not yet been commissioned and the site investigation results would not be known until around Christmas time if the work was to be commissioned immediately; please see recommendation ii.

Discontinuance

The decommissioning or discontinuance of the dam would be achieved by cutting a notch in the dam wall and battering back the sides of the dam at a slope of 1 in 3 – effectively removing the majority of the dam construction. Extensive pumping operations will also be have to put in place prior to this operation and will have to remain during the works to protect against severe weather. Discontinuance also presents other significant challenges such as the exposure of silt at the base of the reservoir; silt that has accumulated over many decades and may exhibit contamination – primarily from petroleum based pollutants from the M1 motorway. Fish stock will have to be removed and the country park would need to be reinstated in some form and in the interim, security measures to prevent access on to any silt would be required.

The presence of silt contamination will significantly affect the likely cost of any discontinuance option. The estimated cost for the silt retrieval and testing is £8,500 and an instruction to proceed has already been given.

The reinstatement of the country park into a dry park or a park containing wet lands or similar (where the volume of water in any pond must be below 25,000m³) also introduces a potentially significant cost. This aspect is being explored currently in order to establish some realistic budget costings. Clearly, the cost of this element will depend upon the scale and nature of any redevelopment.

Summary of options and suggested course of action

- 1 Rehabilitation of the reservoir.
- 2 Basic discontinuation of the reservoir.
- 3 Discontinuation but treated to form a new amenity area.

Option 1, in effect maintains the status quo and allows Ulley Country Park to resume its normal and established activities. The dam would have a robust spillway arrangement, designed to meet the requirements of the new categorisation and other necessary remedial works would have been carried out. Future maintenance and statutory inspection would continue in line with current arrangements.

Option 2 would remove the liability that the dam presents but would leave a large area of denuded land which would have little amenity value until such time that investment could be made to redevelop the park area. Furthermore, it is likely that the public would have to be excluded from parts of the area on safety grounds – deep silt, old quarry faces etc. Water related activities would either have to be relocated or cease.

Option 3 would remove the liability of the dam and, dependant upon the size of the investment made, would allow a country park to be developed which would have a quite different character from the current park. As for Option 2, water related activities would either have to be relocated or cease. As may be seen from the following section, this option is likely to prove the most expensive one.

On the basis of maintaining a viable country park for the least immediate cost, it is recommended that Option 1 be adopted. Recognising that this course of action precludes the opportunity for developing a park of significantly different character, it does allow the continuation of present activities within an established and well visited park.

8. Finance

A significant level of uncertainty still exists in the costings of both options. Rehabilitation is currently expected to cost in the region of £2m to £2.5m to achieve. More certainty will be able to be given once the results of the site investigation are known.

The discontinuance option is likely to cost around £1.5m for the engineering works to the dam. Any silt removal operation, if it proves to be contaminated, will be a further significant cost. Reinstatement of the park could add a further £1.5m, but as noted above, this is dependant upon the scope and scale of any reinstatement.

As noted above, the cost of the on-going pumping operation is around £8,000 per week. Professional advice from the consultant is currently running at around £3,000 per week.

If the reservoir is retained there will be a need to recommission the statutory inspections. These currently cost around £4,000 per year.

In summary, the potential costs are as follows and Members' instructions are requested regarding which option should be pursued:

1	Full rehabilitation of the reservoir.	£2.5m
2	Basic discontinuation of the reservoir.	£1.5m - £1.9m depending on whether the silt is contaminated or not
3	Discontinuation but treated to form a new amenity area.	£3.0m - £3.4m depending on whether the silt is contaminated or not

9. Risks and Uncertainties

If the reservoir remains it will continue to be a liability and pose some risk. There will remain a statutory duty on the Council to manage and maintain the asset which will require secure funding.

Costs of both long term options are very much budget estimates at this stage and, in the case of rehabilitation, will depend to a degree on the site investigation results. In the case of discontinuance, costs will depend on any silt contamination and on the extent of any landscaping to recreate the county park

10. Policy and Performance Agenda Implications

The reservoir and the associated country park contribute to the 'Rotherham Alive' agenda.

11. Background Papers and Consultation

Ulley Reservoir – Post Incident Status Report July 2007 – Ove Arup and Partners

Any decision made should be communicated to interested groups and individuals e.g. friends groups, sailing club, ornithological groups etc. In the event of discontinuance being the chosen option, discussions should take place with those affected to give any possible assistance in re-location of current activities to suitable alternative venues.

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