

The Royal Society for the Prevention of Accidents



Water and Leisure Report

Water safety audit for Leeds City Council

**Template for a Water Safety Policy
Specific site guidance and generic guidance on sample sites**

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0. Introduction and Terms of Reference

This report was commissioned by Leeds City Council (LCC) to provide a generic review of the areas of open water within the City Council area as well as to give specific site recommendations on the sample sites visited.

In making these assessments and proposing recommendations, which flow from this report, particular emphasis has been placed the RoSPA publication '*Safety At Inland Water Sites - Operational Guidelines*' together with the revised British Standard for BS 5499-11 '*Water Safety Signage*'. Additional reference has also been made to the '*Visitor Safety in the Countryside Groups publication 'Managing Visitor Safety in the Countryside'*' (www.vscg.co.uk).

Consideration is also given to the implications of recent court judgements and accident investigations where these have a bearing on water safety and provision of rescue equipment and edge protection measures.

In the recommendations that follow RoSPA has endeavoured to identify all the risks; however it is essential that plans, risk assessments and operating procedures are continually developed and reviewed in response to changing legislation, best practice documents, *active monitoring* and the *investigation and outcomes of accidents and near misses*.

Summary of Hazard and Risk

Areas of open water particularly in areas where the public are either encouraged to visit and or can be present in large numbers can create a danger to any person walking or playing alongside them.

The main risks associated with the hazard are:

- Drowning through immersion.
- Physical injury.
- Health problems associated with untreated or polluted water.

Drowning

This can occur from either accidentally falling or deliberately accessing the water and usually arises from one or more of the following factors:

- *Uninformed or unrestricted access to the water hazard.*
- *Ignorance, disregard or misjudgement of the danger.*
- *Lack of skill to handle the prevailing weather conditions.*
- *A lack of suitable life saving equipment.*
- *Lack of supervision.*
- *Inability of the victim to cope (or be rescued) once in danger.*

Although each of these above may be a contributory factor, the major cause of potential danger on any site will be *ignorance or misjudgement of the danger* (which is why such emphasis is placed upon signage in this report).

Physical injury

Injuries are generally caused by falls; slips, trips and are likely to be exacerbated by wet and slippery conditions.

Potential poor water quality associated health issues

Water can both contain contaminants (such as pollutants) and toxins that cause ill health, and can be the medium to promote the spreading of bacteria that cause disease and infections. Blue green algae toxins, leptospirosis, cryptosporidium and e-coli are some examples.

Furthermore, employees can also be at risk carrying out maintenance work on the waterside and acting outside their experience and competence without the necessary training and the provision of safety equipment.

3. Existing management of the risk

Water hazards when risk assessed are usually controlled by:

- Physical features to deny or control access, such as barriers or gates.
- Education to raise awareness of the dangers by providing information through signage, leaflets and the use of the local media, etc.
- Documented risk assessments.
- Documented maintenance arrangements.
- Supervision by having a physical presence on site.
- By having in place agreed operational procedures such as formal written Normal Operational Procedures (NOP's) and having an Emergency Action Plan (EAP) and, when deemed appropriate, rescue equipment suitable for the risk.

A risk assessment review can be used to determine what should be done, but in itself it can be only part of a total assessment strategy. The conducting of risk assessments by LCC only ensures that you have a full understanding of the hazards and risks, which are the basic premise of why a risk assessment should be carried out. The risk assessment strategy should highlight the need for documentation such as NOP or EAP, formal supervision or information dissemination arrangements.

The starting point in establishing safe sites is to develop a **Safety Policy and Safety Management System**, which clearly identifies responsibilities and resources to support this approach. This is based upon acknowledged good practice and design principals as contained in, for example, HSE publication (HSG 65) '*Successful Health and Safety Management*, and BSI (BS 8800, 1966) '*Guide to Occupational Health and Safety Management Systems*'. Both these documents stress that the key to adopting a planned approach to safety management lies in developing an effective approach to risk assessment. At present, there is a requirement under legislation, *which is implicit in the management regulations*, to carry out risk assessments but that there no statutory requirement to put in place specific controls, which could include among others, fences and rescue equipment.

4. Legal Responsibilities

Various pieces of legislation place statutory duties on the site owners/managers of water sites, or the person responsible for the sites, to provide for the safety and the well being of visitors, which **includes employees and members of the public. The consultant has highlighted those issues, which directly relate to the site-specific recommendations, which follow later in the report.**

Both statute and common law have a relevance to the operation and management of inland waters.

Statutory Health and Safety Requirements

Health and Safety at Work Act 1974: This is an enabling act with the aim of securing health and safety in the work place. Regulations made under the Act place more specific duties on employers than employees. **Section Three of the 1974 Act** specifically requires every employer to ensure, so far as is reasonably practicable, that he/she takes the necessary steps to ensure the **safety of non-employees affected by his/her activities.**

The Management of Health and Safety at Work Regulations 1999 (previously 1992): These were made under the 1974 Act. They require that health and safety is suitably managed so as to control risks effectively and present no harm to people. **The regulations require that adequate and suitable assessments of work related hazards should be carried out to determine the preventative and protective steps that must be taken.**

They also require employers to have access to competent advice, to monitor and review their systems, to have emergency procedures and to provide information and training. **They have major implications for the many inland open water and coastal sites operators, whose activities have a bearing on the public as well as employee safety.**

The Health and Safety (First Aid) Regulations 1981: These were also made under the 1974 Act, and are mainly concerned with the provision of first aid for employees. The regulations set out the range of numbers and training of first-aiders, and the type of equipment that should be provided.

Public Health Act 1936: This is an enabling law offering local authorities the power to regulate water users by by-laws (for example, to prohibit swimming).

Occupiers Liability Act 1957: This states that the occupier must **take reasonable steps** to ensure the **safety of visitors** to his/her land or premises. **This duty is particularly onerous where children are concerned.** **The occupier owes the duty of care not only to visitors but also to trespassers as well.**

The Health and Safety (Safety Signs and Signals) Regulations 1996: This implements European Directive 92/58/EEC, which came into force in April 1996. This standardises safety signs throughout member states of the European Union. The regulations require employers to use safety signs where there is a significant risk to health and safety of their employees that has not been avoided or controlled by the methods required under other relevant law, provided use of a sign can help reduce the risk.

*You should be aware that a new BSI standard has been developed specific to water safety signs. The standard BS 5499-11: 2002 was published on 20/07/2002 and RoSPA recommends that any new signage should conform to this standard in the future and that a regular review of existing signage is carried out. Those signs that are in need of repair or have poor legibility/clarity of image should be replaced straight away and all others should be subject to programmed replacement. The period of time for such replacement should be 'reasonable' in terms of overall cost against the safety gain or imperative. Overall it should not be unreasonable to expect that all signs should also comply with this new standard within a three-year period.

(This estimation could be modified by future court actions arising from signage issues).

Other Occupational Health and Safety Duties

Operators to whom the 1974 Act applies also have various duties, including the recording, notification and investigation of accidents to the enforcing authority (e.g. HSE or local authority Environmental Health departments). The appropriate enforcing authority must be notified, where a member of the public has drowned or has been taken to hospital for medical treatment, i.e. following a near drowning incident.

Common Law Duty of Care

Although there is a lack of direct legislation in this area, common law cases can be helpful to provide further guidance and powers to responsible bodies to effect preventative measures and the site owner must ensure that all facilities and equipment are suitable and safe to use. Under common law, liability to negligence may arise from the breach of fundamental duty, known as a ‘duty of care’. The duty is described as follows, and applies to members of the public as well as operators:

‘To take reasonable care to avoid acts or omissions which you can reasonably foresee would be likely to cause injury to your neighbour’.

The duty specified to take reasonable care. This can be defined as ‘what the reasonable man/woman would have foreseen as being necessary’. A certain level of risk is acceptable and it is expected that safety measures will be applied ‘as far as is reasonably practicable’. In other words, practicable measures have to be technically feasible, and costs in time, money and effort are reasonable.

In the case of safe management of inland water sites, **the duty of care means that the burden of taking adequate precautions falls on the site operator. A risk assessment of the facility and equipment should be undertaken and appropriate safety measure adopted.** A *water safety policy* and normal operating procedures document, together with an emergency action plan, should be completed and then monitored and reviewed at regular intervals. Before devising a water safety strategy hazards must be identified, risk determined and findings recorded. This is a legal requirement under the Management of Health and Safety Regulations 1999. **The duty of care is extended to protect people even from their own ill-judgement or wilful abuse of facility or equipment.**

0. Safety Provision – Definitions

In the individual *site-specific recommendations* the following terminology is used and the Consultant explains below the relevance to this report. (These definitions should be read in conjunction with these recommendations in *Section Six* of this report).

Edge Protection (where recommended)

Barrier, post and railing systems for water side edge protection

In some circumstances, where the risk is high due to the nature of the edge (or the hinterland activity) or that there is a danger that someone might get into difficulties, then fencing may be necessary.

The level of assessed risk will affect the choice of barrier. At low risk sites, the function of the barrier might be merely to 'deflect' the public from the water's edge; therefore a post and chain or a single rustic rail might be adequate.

Where overall risk is identified as moderate but where a particularly sensitive location is identified i.e. deep water or pinch points, a section of more substantial fencing may be required.

A high level of risk may lead to the installation of balustrade, combined with warning signs, to exclude members of the public from gaining access to the water's edge.

The balustrade or fencing will require regular maintenance and inspection; as it will be subject to vandalism; and it will usually remain scaleable. The effect of barrier erection on other user groups legitimately on or in the water, such as boaters, will also have to be taken into account to ensure that landing points and emergency access are provided and that there is no risk of crushing.

Consistency

An inconsistent treatment may well be counter productive in terms of accident prevention. It is therefore essential that the response to hazards and conditions is uniform.

Consistency can be attained by the use of an edge treatment classification where the response to a hazard can be banded. To achieve consistency, an edge-banding guide has been devised specifically to respond to the conditions at urban and coastal docks, marinas, canals, riversides and sea front promenades.

Banding

Where the profile and nature of the waters edge is a fundamental factor in risk, addressing the edge in isolation will not address all the safety issues. Adequate information and warnings, education of visitors; and where appropriate, rescue equipment and supervision should always supplement protective measures. Some physical measures to prevent public access are outlined below.

The RoSPA banding guide provides a framework to assist operators in developing a consistent response to certain levels of risk presented in an urban waterside environment. The banding defines the degree of risk present at the location not the specific edge treatment or control measure required. Where access restriction is not appropriate, steps must be taken to control risks to an acceptable level using well-established risk assessment techniques.

Band 1 Fencing

- Water less than 0.5 metres in depth providing an ornamental function.

- Solid well-defined edge e.g. coping stones; minimal height above the water surface; the edge should be stepped allowing a gradual approach into the water.
- This treatment is distinctive in that there is no fencing.

Band 2 Fencing

- The water will exceed 0.5 metres in depth.
- The edge is well defined and solid and not more than approximately two metres above the surface.
- This band may include footbridges or pinch points in Band 1 areas where balustrading is required to guide users and identify the risks.
- The site is unlikely to be accessible to unaccompanied children.
- The treatment is post and chain or similar balustrades.

Band 3 Fencing

- Deep water
- Solid, well defined edge
- Unlikely to be adjacent to dwellings, bridges, weirs and cuts.
- Other contributory factors may include the usual presence of people, walking or seated.
- The treatment is bollard/post and chain (or rail) supported by ladders and grab chains on the wall feature, and rescue equipment on the promenade.
- Ladders should be installed at 50 metre intervals.

Band 4 Fencing

- Band 4 will usually be required in order to directly deny access, either because of the extreme danger or because of the concentration of people near the hazard.
- Vulnerable groups such as the elderly and young children should be protected by Band 4, especially on or near structures, well-used public access points, dwellings, pubs, shops, schools, etc.
- The treatment is balustrading at least a metre high. Vertical railings, or alternatives, which are difficult to climb, are appropriate, without horizontal footholds.
- Because Band 4 treatment is essentially based on an exclusion principle, rescue equipment is not often necessary. The 'exclusion' factor also denies would-be rescuers from easy access.
- Hazard warning notices to promote safety awareness are still important within this band.

Specification

Although there is no specific standard or requirement that relates to water edge protection barriers, it is important that specifications for water edge treatments relate to something and recommendations are achievable in practice. There are some standards and guidance that can be used and current barrier, balustrade and fence designs are available that meet those requirements.

RoSPA's recommendations on design are based on the 'Building Regulations 1991 Protection from Falling, Collision and Impact (1998 edition) Part K2 and K3' and 'BS6180: 1995 Code of Practice for Barriers in and about Buildings'. These documents give the requirements and loading specifications for such barriers. RoSPA therefore recommends that the minimum height of fencing should be 1.1 metres from finished ground level. Posts should

be installed at maximum centres of 2000mm, and if used, vertical rail infill at 100mm centres to discourage climbing. The gap between the finished ground level and the bottom horizontal rail should be a maximum of 100mm.

Alternatives to vertical railed barriers can only be recommended if they meet the specifications contained within the guidance quoted and if they fulfil the requirement for discouraging climbing. Pre-tensioned stainless steel cabling instead of solid horizontal bars, fine mesh or solid panel infill, roll over top rails and the inward canting of the barrier, can all contribute to making the barrier less easy to climb.

Materials

Cast iron posts are suitable for pedestrian areas and non-vehicle control environments. Anti ram raid and traffic control posts should be cast in ductile iron or other materials that can cope with vehicle impact.

Positioning

If the balustrade is installed too far away from the edge, the remaining margin may invite access. *Specification exceptions can be allowed in respect of limited runs of balustrade being stepped back, e.g. to form angling bays for the disabled, to avoid capstans, etc, or where the coping stone is suspect.

See exceptions * above – The optimum recommended distance of the fence from the quay edge should be 300mm or less so as not to create a ‘haven’ on the other side. The maximum distance of the balustrade from the edge should be no more than 500mm.

Where a physical barrier is deemed essential due to the level of risk, but where standard fencing would be aesthetically detrimental to the environment, adequate protection can be achieved through sensitive design and choice of construction materials.

Edge Gradients

Where the solution identified in the report is to deflect people from the water’s edge, but where an open aspect is required, it is preferable to maintain a gentle underwater gradient from the edge.

This should be such as to allow an adult to stand with their head above water at a distance of two body lengths from the shore. This section of shallow water will provide protection from deep water. Grading above and below the water line can at some locations successfully control the risk of falling in.

It is therefore recommended, that shallow water should extend to a minimum of 2 metres from the waters edge, via a 1:3 gradient and a further protective margin of 1:75 metres with depths of 0.65 metres to 1.36 metres via a 1:2.5 gradient.

Signage Information

Emergency Point

This is a graphical sign/map at the entrances to the site (normally the car park) which explains the risks and consequent safety features to be found on site and should include the following: -

- Where the visitor is.

- Location of life saving equipment (if applicable).
- Reinforce ‘No swimming, No diving, No jumping’ (where applicable).
- A reminder to parents to keep young children under control especially next to water.
- What to do in the event of an emergency – location of assistance (if applicable) and relevant telephone points and numbers.
- Examples of safety signage found on site – use pictogram wherever possible and consider the potential ethnic diversity of visitors in the need to communicate information.
- Temporary signage slots to provide for ice or flood warnings.

Safety Point

Located at the risk either on the edge protection fencing (if provided) or a prominent location where a visitor can reasonably be expected to see one from whatever location they are at alongside the risk. Safety points should not be combined or confused with other site information.

They should include: -

- Repeat of the key information on the ‘Emergency Point’.
- Numbered or identified to facilitate documented records of a testing regime.
- **Where recommended** - life saving equipment relevant to the risk i.e. *life rings* for high drops into deep water or *throw lines* for long reach or shallow water.
- Rescue equipment should be located in suitable containers, which are visible at night. Containers should be positioned at a height so young children or a disabled person in a wheel chair can reach them.
- It is recommended that you ‘tag’ the containers so that you can instantly identify if they have been used or vandalised (similar to a fire extinguisher).

Maintenance Regimes

Life saving equipment should be checked and results documented weekly at well-used locations in the summer and more frequently at exposed locations throughout the year. Additionally, signage should be checked bi-monthly to ensure that it is in place and in good condition. To assist in this procedure it is recommended that all safety equipment and signage be numbered to reflect your documented checklists.

6. Site specific recommendations

This section of the report provides specific guidance on the sites visited during the audit. Additionally the recommendations, which take into account what is considered to be *reasonably practicable*, can be used as generic guidance for similar sites within the city limits. The consultant has prioritised these recommendations to allow the City Council to develop an action plan to implement these recommendations, which he strongly recommends they consider when completing their risk assessment procedures.

Priority one: *Requires action in the short term to address the issues raised*

Priority two: *Requires action as and when finances permit*

Priority three: *Should be considered a long-term improvement.*

Upper Lake - Roundhay Park

Reference should be made to the detailed specifications for safety measures in Section 5 of this report.

- *It is recommended that 'Emergency Points' be positioned at the main entrances to the site to alert visitors to the specific risks on site and the control measures in place to mitigate these risks. Priority One.*
- *The consultant was concerned about the steep embankment leading down to the water side (as discussed at the time of the inspection) and recommends that chicane type railings be positioned to arrest an out of control cyclist or mother with a buggy. Priority One*
- *Where desire lines have created gaps in the natural edge protection it is recommended that the edge protection be reinstalled (where deemed necessary by the risk assessment) by the planting of hostile vegetation (see Appendix at the end of this report for a planting guide). Priority Two*
- *The position where the water flows in from the upper lake should be protected by band four fencing that should be curled around at the edges to children or youths getting in front of the fencing. Your attention is also drawn to the need to have the fencing as near the edge as possible. Additionally it is recommended that hazard signage conforming to the new BSI for water safety signage indicates 'Deep drop - Danger Keep out'. Both these recommendations are Priority One.*
- *In view of the nature of the water hazard it is recommended that the life saving points be turned in to safety points. It is also considered that 'throw lines' are more appropriate to the risk and should replace the existing life rings. Although this is a Priority Two item it is considered a Priority One item that the existing life rings be provided with lines to enable a rescue to be affected. The signage on the safety points should include 'No swimming - No diving'.*
- *In reviewing the positioning of your safety points it is recommended that you adopt the criteria that one can be seen from whatever location a person is standing on the waters edge. Priority Two.*
- *It is recommended that a safety point with a throw line be located at the boating platform and that an additional second rail be installed in the fencing to prevent young children getting through the barrier. Signage should also indicate 'No Swimming - No Diving'.*
- *Where necessary it is recommended that action is taken to trim the branches overhanging the lake to facilitate better observation, clear lines to use life saving equipment and to prevent youth climbing out over the water. Priority Two.*
- *Where the pathway is very close to the water's edge it is recommend that hostile vegetation be planted to identify the water's edge. Priority Two.*
- *Where benches are provided it is recommended that these do not compromise the recommended width of pathway of 1 metre. Good practice dictates that benches are set back from the pathway so as not to force pedestrians or, in particular, parents with buggies, too close to the water's edge. Priority Two.*
- *When reviewing edge protection it is good practice to protect both sides of a bridge with band four fencing, curled at the edge to prevent access along the sides. It is recommended that you review the bridges around this lake with this criterion in mind. Priority Two.*
- *Finally, wild fowl (in particular ducks and geese) are compromising the edge gradients at certain positions around the lake (see Section 5 edge gradients). It is recommended that action is taken to reprofile this edge where appropriate to 1:3. Priority Two.*

Waterloo Lake

Reference should be made to the detailed specifications for safety measures in Section 5 of this report.

- *It is recommended that you progressively introduce safety points with throw lines across this site. Priority Two.*
- *It is recommended that an additional safety pint be located at the disabled access ramp. Priority One.*
- *It is recommended that band four edge protection is installed around the fishing pegs and that hazard signage identifies the deep water. Priority Two.*
- *It is recommend that the head wall (where the stream enters the lake) be protected by band four fencing and that suitable hazard warnings identify the risk. Priority One.*
- *It is recommended that band four fencing protect the sides of the bridge. Priority Two.*
- *It is considered to be good practice to provide a third rail or mesh infill 150 mm from the ground height where fencing is provided to prevent young children from accessing the water through this exposed gap. Priority Two.*
- *Wild life (in particular ducks and geese) is compromising the edge gradients at certain positions around the lake (see Section 5 edge gradients). It is recommended that action is taken to reprofile this edge where appropriate to 1:3. Priority Two.*
- *Where necessary it is recommended that action is taken to trim the branches overhanging the lake to facilitate better observation, clear lines to use life saving equipment and to prevent youths climbing out over the water. Priority Two.*
- *If in the future a boat club or franchised operation for boat hire is in operation, it is recommended that you review these operations, particularly in view of the City Councils' responsibility under Section Three of the HSWA. Priority Two.*
- *In considering suitable locations for 'No swimming' signage it is recommended that these could be located on posts in the water to reduce the possibility of vandalism or removal to a minimum. However this action must take into account the balance of risks, e.g. that this may encourage members of the public to swim out to the sign and the identified risks to staff in installing the signage. Priority One.*
- *Where the City Council is deliberately pursuing a policy of access for disabled persons to the water, it is recommended that you consider tactile edging to the water to provide an additional safe guard to their security. Priority Two.*
- *It is recommended that suitable signage prohibits the launching of boats from the slipway adjacent to the sluice. Priority Two.*

Canal Gardens

In general terms the water safety arrangements at this site are considered to be satisfactory. However observations made during the audit identify that *signage should be installed at the Fish Pond Wall stating 'Parents - do not allow children to climb onto this wall'.* Priority One.

Middleton Park

This site was subjected to a comprehensive risk assessment as it was used as the training venue for 'water safety training'. Reference should be made to the detailed specifications for safety measures in Section 5 of this report.

One of the main issues effecting the provision of safety measures around this site is the location of the site and the well-documented behavioural issues relating to the persons that visit it. With this in mind the recommendations that follow are designed to be robust and sustainable against determined vandalism and abuse.

- *It is recommended that the Educational Centre be used as a conduit in getting the water safety measure across. Safety signage relating to the park could be displayed within the perimeter fence. In view of the vandalism it is not recommended that life saving equipment be provided. Priority Two.*
- *The edge protection around the lake falls within RoSPA banding 2-3 and no additional fencing is required.*
- *It is however recommended that an emergency point be located at the main car park to the site drawing parent's attention to the water risks in the park. Priority Two.*
- *General 'No swimming' signage conforming to the pictograms in the new BSI for water safety signage should be strategically located on posts in the pond. Priority Two.*
- *In view of the proximity of the playground to the water it is recommended that warning signage remind parents of the adjacent water risk and that the gate be re-hung to open inwards so that young children cannot escape unsupervised from the play area. Priority One.*

Gledhow Valley Lake

The consultant was particularly concerned about the safety provision surrounding this lake. There appear to be a degree of confusion as to who owns or is responsible for the water and surrounding hinterland and this confusion is reflected in some very poor and potentially dangerous conditions.

- *It is strongly recommended that LCC quickly establish who is responsible and enter into a dialogue with them to ensure that remedial measures are instigated as soon as possible. Priority One.*
- *Of particular concern was the lack of any safety signage especially surrounding the dam wall. Hazard markings should be positioned. 'Danger - Deep Drop keep out' signage should be positioned. Priority One.*
- *Additionally there is a need to carry out maintenance to parts of the dam wall that are falling into disrepair. Priority Two.*
- *In addition it is recommended that band four fencing protect the dam wall. Priority Two.*
- *It appears that the mud in the lake is very soft and deep and warning signs should be positioned 'Danger - soft mud keep out'. Priority Two.*
- *The consultant was particularly concerned to observe that persons unknown are getting into the access shaft to vandalise the water flow controls. This is potentially a hazardous confined space and immediate action should be taken to strap and lock this access tunnel and to keep it under supervision. Priority One and Immediate.*

Bramley Falls Park

Reference should be made to the detailed specifications for safety measures in Section 5 of this report.

This site abuts a canal, which is owned and controlled by British Waterways who, as a general policy, do not provide edge protection along the canal banks nor signage and lifesaving equipment. However as riparian owners of the adjacent land, the consultant

recommends that LCC take the following measures to ensure that persons on *their* land are aware and 'as far as reasonably practicable' made aware of the risks.

- *It is recommended that where LCC land abuts the canal that a 1-metre strip of untrimmed vegetation be created to define the edge and deflect people from the water's edge. Priority Two.*
- *It is recommended that LCC position a sign where their pathway leads onto the canal stating 'Caution - unprotected waters edge - Parents please take care of young children'. Priority Two.*

Chippies Quarry

This is a very deep quarry in quite close proximity to a local school and reference should be made to the detailed specifications for safety measures in Section 5 of this report. It is apparent that LCC does not have a regular maintenance and monitoring system in place for this site.

- *It is recommended that an emergency point be created at the main entrance to the site. In addition to the recommendations in Section Five of this report for emergency points it is recommended that this sign indicates the degree of difficulty to walkers in walking around the perimeter. Refer to the Visitor Safety in the Countryside Groups publication 'Managing Visitor Safety in the Countryside' (www.vscg.co.uk). Priority One.*
- *The consultant was concerned that most of the provided rescue equipment was missing, demonstrating that no checking procedure was in place. It is important that the equipment and signage that is recommended in this section is maintained, checked and documented on a regular basis. Priority One.*
- *It is recommended that safety points (with throw lines) are positioned at strategic locations around the quarry and the safety points should emphasise 'Danger - Deep Water No Swimming. Priority One.*
- *A number of fishing pegs and edge protection measures are in poor condition and require urgent maintenance. Priority Two.*
- *It is good practice to trim branches that overhang the Quarry to discourage youths from climbing over the water. Priority Two.*
- *It is recommended that LCC review its working practices for litter pickers that come onto this site in view of the dangers from the deep water. Priority Two.*
- *In view of the proximity of the adjacent school it is recommended that the interactive teaching pack 'RU A Dummy 2' be used to make teachers and children aware of the risks from this deep quarry. Priority Two.*
- *LCC might wish to consider encouraging the fishermen to form themselves into a club so that there is an improved level of control of the activities around the Quarry. Where this has been done at other similar locations, it has had a very positive impact on safety. Priority Two.*

Farnley Balancing Pond

This is a very large balancing pond situated adjacent to a large residential estate. The Environment Agency has clearly taken measures to protect the public from the risk, however the consultant has identified some specific issues that will require discussion with the Environment Agency and LCC to improve safety and bring it in line with current standards. Reference should be made to the detailed specifications for safety measures in Section 5 of this report.

- *The band four fencing in place around the water is considered conforming to RoSPA's guidance, although additional band four fencing is required where there are gaps in the edge protection, particularly in front of the sluices and drainage channels. Priority Two.*
- *It is recommended that the band four fencing is continued to protect the bridges. Priority Two.*
- *It is recommended that a protective grid be positioned over the outflow pipe to prevent children climbing into it. Priority Two.*
- *It is recommended that signage (pictogram) warns of the dangers of deep water and these should particularly be placed along Tong Road. Priority Two.*
- *The review identified that the perimeter fence requires repair as several breaches in this fencing were apparent. Priority One.*
- *The open unprotected flood alleviation drainage channels that are nearly vertical require specific signage 'Danger - Deep Water Keep Out' (pictogram). Priority One.*
- *The level of exclusion edge protection negates the need for lifesaving equipment, however it is recommended that the old disused life saving equipment containers and poles be removed. Priority Two.*

Temple Newsam Estate

The review considered the water safety implications of the ponds and streams in this country park and, in the recommendations that follow, reference should be made to the detailed specifications for safety measures in Section 5 of this report.

It is recommended that an emergency point as detailed in Section 5 of this report be positioned on the approaches to the ponds.

Bottom Pond

The existing edge protection conforms to RoSPA band two-three edge protection and no additional safety precautions are required.

- *However it is recommended that you consider as a long-term solution planting hostile vegetation to protect the drop from the bridge. Priority Two.*
- *Signage stating 'Soft mud - No swimming' (pictogram) should be added to the detailed specifications for safety measures in Section 5 of this report, and should be positioned at a strategic location in the pond facing the grass embankment. Priority Two.*
- *The life saving equipment (life rings) positioned at this location are inappropriate for the risk and could encourage people to swim. It is recommended that it be removed. Priority One.*

Mid Lake

- *Life saving equipment as above. Priority One.*
- *Position signage as above. Priority One.*

Top Lake

- *Life saving equipment as above. Priority One.*
- *Position signage as above. Priority One.*

Avenue Ponds

It is recommended that signage indicates the dangers of a drop from the wall and that persons should not walk on the wall (pictogram). Priority Two.

General Health and Safety Observations

- *It is recommended that Rangers be equipped with throw lines and first aid kits to enable them to deal with an incident involving the water. Priority Two.*
- *It is recommended that you review your safe system of work for staff working alongside water and to identify if members of staff can swim. Priority One.*

Appendix

- RU A Dummy 2
- Risk Safety

Should you need any further clarification or support please contact the author Peter MacGregor on 0121 248 2000.