



HUMBERSIDE FIRE AND RESCUE SERVICE

Service Delivery Support

Water Supplies for Fire Fighting

Owner	Director of Service Delivery Support
Responsible Person	Head of Fleet and Equipment
Date Written	December 2017
Date of last review	February 2021
Date of next review	February 2024

CONTENTS

1. [Introduction](#)
2. [Equality And Diversity](#)
3. [Aim/Objectives](#)
4. [Application](#)
5. [Legislative Requirements](#)
6. [Guidance](#)
 - [Statutory Provisions](#)
 - [Water Undertakings](#)
 - [Adequacy of supply in Water Mains](#)
 - [Responsibility of Water Undertaking to Fire & Rescue Services](#)
 - [Obligations of Water Undertakings](#)
7. [Hydrants](#)
 - [Hydrant Marking and Identification](#)
 - [Location of Hydrants](#)
 - [Damage to Hydrants](#)
 - [Hydrant Defects](#)
 - [Redundant Hydrants](#)
 - [Fixing of Hydrants](#)
 - [New Hydrant Installations](#)
 - [Guidelines](#)
 - [Indication on Plans](#)
 - [Acceptance Test](#)
 - [Hydrants uses by Outside Bodies](#)
 - [Private Hydrant Installations](#)
 - [Guidance for use of Fire Hydrants for re-filling of Fire Appliances](#)
8. [Recording Procedures](#)
 - [Hydrant Records](#)
 - [Hydrant Inspections & Standard Tests](#)
 - [Testing of Hydrants](#)
 - [Hydrant Defect Forms](#)
9. [Open Water Supplies](#)
10. [Appendix A: Hydrant Defect & Repair Monitoring](#)
11. [Appendix B: New Hydrant & Water Mains Scheme Monitoring](#)
12. [Appendix C: Proposed Water Scheme](#)

1. INTRODUCTION

Humberside Fire and Rescue Service (HFRS) acknowledges and accepts its responsibility for taking all reasonable measures for securing that an adequate supply of water will be available for the Authority's use in the event of fire.

It is essential that Humberside Fire and Rescue Service (HFRS) make all necessary provisions to ensure an adequate supply of water is available for firefighting.

2. EQUALITY AND INCLUSION

HFRS has a legal responsibility under the Equality Act 2010, and a commitment, to ensure it does not discriminate either directly or indirectly in any of its functions and services nor in its treatment of staff, in relation to race, sex, disability, sexual orientation, age, pregnancy and maternity, religion and belief, gender reassignment or marriage and civil partnership. It also has a duty to make reasonable adjustments for disabled applicants, employees and service users.

3. AIM/OBJECTIVES

To ensure an adequate supply of water is available for firefighting.

To efficiently and effectively inspect and maintain HFRS fire hydrant stock and make provision for future fire-fighting needs and requirements.

4. APPLICATION

This policy applies to all Full-time and On-Call fire fighters and specialist Support Staff.

5. LEGISLATIVE REQUIREMENTS

- National Guidance Document on the Provision of Water for Fire Fighting 2007
- Fire and Rescue Services Act 2004
- Traffic Management Act 2004
- Street Works Regulations 1992
- Water Industry Act 1991
- Water Resources Act 1991
- New Roads and Street Works Act 1991

6. GUIDANCE

Statutory Provisions

Responsibilities of the Fire and Rescue Service with regard to the provision of water for fire-fighting are defined in the Fire and Rescue Services Act 2004, Section 38, which briefly states that a Fire and Rescue Authority shall take all reasonable measures for securing that an adequate supply of water will be available for the Authority's use in the event of fire. Sections 39, 40, and 41 of the Act expand upon this requirement and with regard to agreements between Fire and Rescue Authorities and Water Undertakings. Additional provisions relating to the subject are included in the Water Industry Act 1991, Sections 37, 38, 65 and in the National Guidance Document on the Provision of Water for Fire Fighting 2007.

Requests for advice about the provision of water for fire-fighting may be received by the Service and the advice given should be included in a Goodwill Advice Report; before any report is prepared or advice given appropriate reference should be sought from Fire Safety.

Water Undertakings

Adequacy of Supply in Water Mains

The water undertaking is obliged by statute to maintain a supply of water in the mains but not necessarily sufficient for fire-fighting purposes. If the Fire and Rescue Authority considers that the available supplies are inadequate, it is empowered to enter into agreement with water undertakings to improve the supply by increasing the size or extending the length of a main, but is liable to bear the cost of such improvements.

Where a consistent problem with fire-fighting water supplies is noted, discussions with the water undertaking should take place.

For the purposes of dealing with a particular fire, the incident commander may request a water undertaking to increase the supply and pressure of water in a specific main. In such circumstances the water undertaking must take all possible steps to comply.

Responsibilities of Water Undertaking to Fire and Rescue Services

It is the duty of a water undertaking to allow any person to take water for extinguishing fires, from any of its water mains or other pipes on which a fire hydrant is fixed. Water must not be taken from a fire hydrant for any other purposes, without prior permission from the water authority being obtained. All requests for non-emergency use of fire hydrants must be put through the Water Office. The purposes for which the water is required and the hydrant from which the water is to be withdrawn must be stated at the time of the request.

Under the Water Act 1989, Section 81, no charge is made for water used to test apparatus installed or equipment used for extinguishing fires or for the purpose of

training persons for fire-fighting. Although Fire and Rescue Services are permitted to use water from hydrants for the purpose of fire-fighting, it is important that it should not be used wastefully. This applies particularly during periods of drought or if, for other reasons, it is known that there is a shortage in any specific area.

Obligations of Water Undertakings

A water undertaking must enter into any agreement reasonably proposed by a Fire and Rescue Authority under section 39, subsection (1) of the Fire and Rescue Services Act 2004.

It is an offence for a water undertaking to fail to comply with its obligations under section 57 of the Water Industry Act 1991 relating to water for fire-fighting and its obligations are enforceable by the Secretary of State.

Other duties and responsibilities of water undertakings with regard to water supplies for fire-fighting are described in sections 42 and 43 of The Fire and Rescue Services Act 2004, and section 47 of the Water Act 1989.

7. HYDRANTS

Any hydrant installed by a water undertaking for use by Fire and Rescue Services must comply with the British Standard Specification 750:2006.

Hydrant Marking and Identification

The location of each hydrant provided for fire-fighting purposes will be indicated by a marker plate which must comply with British Standard Specification 3251:1976 (R1993).

Water undertakings are obliged to ensure that each fire hydrant installed by them is indicated by such a plate, which should ideally be fixed to a special post designed to carry the plate; in the absence of such a post, the plate may be placed on any wall or fence adjoining a street or public place. The expenses incurred by the water undertaking in fixing these plates will be borne by the Fire and Rescue Service.

The fixing of hydrant indicator plates may also be carried out by Fire and Rescue Service personnel, but the consent of the owner or occupier must be obtained before any work is undertaken on private property. Should any difficulty be encountered in obtaining such consent, the Water Office need to be informed. Indicator plates must never be attached to telecom or electricity poles.

- The British Standard Specification for marker plates provides for various materials to be used for the construction of hydrant indicator plates, including cast or sheet metals, alloys, plastic materials etc.

- The plate should be coloured yellow, 205mm by 180mm in size, with the letter 'H' embossed there on in black. Inserted in the top section of the 'H' should be 28mm black figures to indicate the size of main in millimetres and in the lower section of the 'H' should be inserted similar figures to indicate the distance of the hydrant cover from the plate in metres, (see diagram 1 below).

It is optional whether the letter and the digits are recessed, flush or raised to suit the design and material on the plate. The term flush shall include use of the finish only to produce the markings, e.g. vitreous enamelling on a flat plate.

- All fire hydrant indicator plates will be individually marked showing the individual hydrant number across the top of the plate in the designated spaces using the appropriate numerals. (See [diagram 1](#)).
- Hydrants on roads of motorway standard will be indicated by means of Class B plates. (see [diagram 2](#) below).

DIAGRAM 1



DIAGRAM 2



Hydrants not on Service records are not the responsibility of the Fire and Rescue Service and marker plates should not be installed. If in doubt contact the water office.

Location of Hydrants

It is essential that fire hydrants are easily identifiable for fire-fighting, inspection and repair purposes.

Fleet and Equipment Water Supplies for Fire Fighting

- In isolated cases it may be impossible to indicate hydrants in the normal manner by the use of a standard type plate, e.g. in the case of hydrants on enclosed premises in fields or behind fences. Where such conditions apply, the indicator plate is to be fixed in as obvious position as possible with a small black arrow indicating, as clearly as possible, the direction of the hydrant.
- To assist in their location, all hydrant indicator posts must be painted yellow and where appropriate, lids can also be painted yellow. Care must be taken in areas of high pedestrian traffic to ensure that members of the public are warned that freshly painted posts are still wet. Where appropriate the wording “Wet Paint” should be indicated on the ground adjacent to the post using the materials provided.
- If a hydrant is located within a grassed area, this should be kept clear by the Hydrant Maintenance Technician using the appropriate equipment.
- Fire and Rescue Service personnel will not undertake the breaking open of any land which is covered under the New Road and Street Works Act 1991 to install a hydrant indicator post. When this type of work is required, the details should be sent to the Water Office on a Form HD2.

Damage to Hydrants

The cost of repairing or replacing a damaged fire hydrant is borne by the Fire and Rescue Service, but if such damage is caused as a result of use other than for Fire Service purposes and the use has been authorised by the water undertaking or used illegally by a third party, the Fire and Rescue Service will not be liable for the cost, subject to the provision of reasonable evidence. Details of any such cases should be reported to the Water Office without delay.

Hydrant Defects

All fire hydrant defects should be forwarded to the Water Office on Form HD2. A separate defect form should be completed for each hydrant reported. Hydrant location accuracy should always be checked on the services GIS mapping software by hydrant maintenance technicians when completing defect forms.

The Water Office will place orders with the appropriate water undertaking for the repair of all defects, unless they can be rectified by an Equipment Maintenance Technician. In the case of a fault which renders a hydrant inoperable for fire-fighting purposes, is causing a serious loss of water or is considered a danger to the public, the water office must be notified as soon as possible and an HD2 form submitted. In cases of defects on a weekend, or out of office hours Service Control should be notified. For further information on this process (see [Appendix A](#) - Hydrant Defect and Repair Monitoring flow Chart).

Redundant Hydrants

Redundant hydrants which are retained by the Water Undertaking for their own purposes may or may not be indicated by them. Particular care must be taken to ensure that they do not become re-indicated as a Fire Hydrant.

Fixing of Hydrants

Water Undertakings fix hydrants on their mains (other than trunk mains) at such places as are required by the Fire and Rescue Service and must maintain and renew such hydrants as necessary. The cost of providing, maintaining, renewing and abandoning hydrants is borne by the Fire and Rescue Service.

If any work is to be carried out by a water undertaking, notice must be given to the Fire and Rescue Service thus providing an opportunity for the installation of new fire hydrants to maintain sufficient fire cover.

Under certain conditions the Fire and Rescue Service is given notice of road works which may affect fire hydrant installations and is given the opportunity to have work done on hydrants in-conjunction with the road works; Because the statutory limits which apply to such notices are short, it is essential that any requirements of the Service must be notified to the water undertaking without delay.

New Hydrant Installations

Proposals for all new water schemes involving mains on which hydrants may be installed are sent by the Water Undertaking to the Fire and Rescue Service for review and for the submission of any requirements. For further information on this process (see [Appendix B](#) – New Hydrants & Water Mains Scheme Monitoring flow chart).

With such proposals, and when a proposed extension, diversion or removal of water mains is notified to the Water Office, two sets of plans will be sent to the Hydrant Maintenance Technician who will be responsible for having the site surveyed, comments and recommendations are based on the following guidelines:

Guidelines

- Under normal circumstances hydrants for industrial, high risk and high density residential areas should be located at 120 metre intervals; Hydrants for low risk and residential areas should be located at intervals of 240 metres.
- Where mains are situated on both sides of a street and hydrants are required on both mains, they may be spaced at 240 metre intervals so that they are spaced diagonally at 120 metre intervals.
- Before any requirements are made for new hydrants, careful consideration must be given to the number and location of existing hydrants; they should be

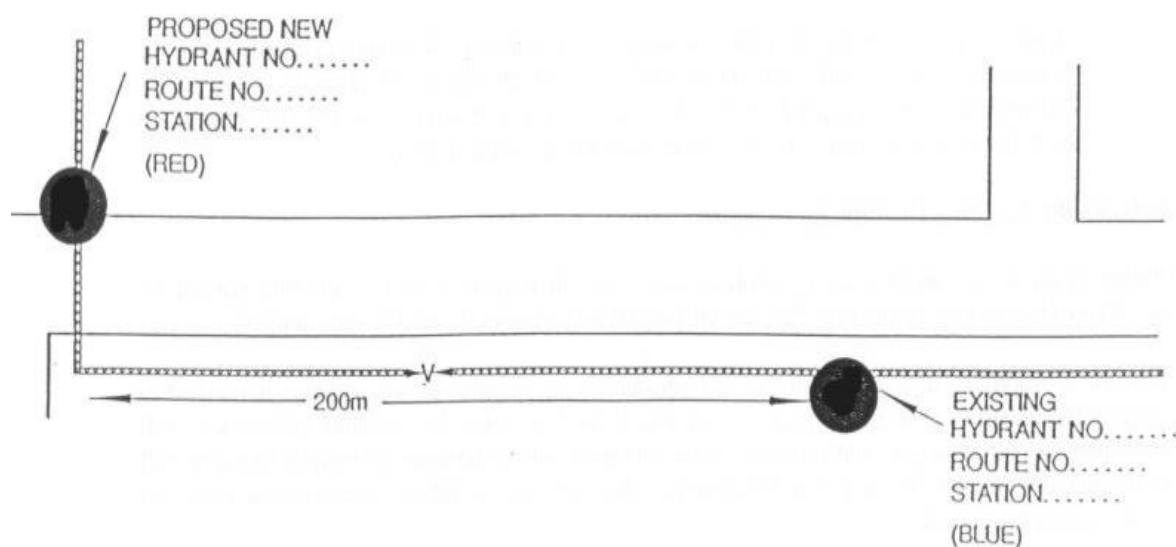
indicated on the plans in blue with the distance shown (see [Diagram A](#) as follows).

- Where the officer-in-charge of a station area or Fire Safety Officers have knowledge of developments or other matters that could affect future requirements of water supplies, they should submit a report to the Water Office at Service Headquarters.
- New hydrants on existing mains will only be approved in very exceptional circumstances due to the high cost of installation.
- Extra hydrants requested on mains rehabilitation schemes are chargeable.
- Where a 'Temporary Washout' (T.W.O) is suitable for Fire Service requirements, it can be accepted as an alternative to another hydrant.
- When making recommendations for new hydrants, Hydrant Maintenance Technicians should consider the size of the existing and the proposed mains relative to the fire risk of the area.
- New hydrants should only be recommended on mains of 90mm and over so the appropriate flow can be achieved.

Indication on Plans

- Requirements for new hydrants are to be clearly indicated on the plans by means of a solid red circle of 12.5mm diameter centred on the point of required installation; Any existing hydrants or water supplies are to be similarly indicated in blue with their identification number and distances indicated from any new requirements. When surveying has been completed, the relevant Equipment Maintenance Technician will ensure that one copy of the plans is retained by them for future reference, and one copy of the plans is returned to the Water Office at Service Headquarters without delay to allow updates to hydrant records to be carried out and requirements progressed to the relevant water undertaking. The plans should be returned with a completed 'Proposed Water Scheme' requirements form (see [Appendix C](#)) indicating comments and recommendations.

Diagram A



Acceptance Test

- When the Water Office receives notification from a water undertaking that a scheme has been completed, the relevant Equipment Maintenance Technician will be notified and will ensure that the new hydrant(s) is/are inspected, and the results are forwarded to the Water Office. Any Fire hydrants which fail inspection must be photographed. Temporary reinstatements are not a reason to reject new installations, unless they are dangerous or in an unsatisfactory condition.
- Before a new hydrant installation is accepted the Service must ensure that the installation is acceptable by carrying out testing as described in 4(c) below. The results are then forwarded to the Water Office.

Hydrants used by outside bodies

Under section 42 of the Fire and Rescue Services Act 2004, 'a person commits an offence if they use a fire hydrant otherwise than- (a) for the purposes of fire-fighting or for any other purposes of a Fire and Rescue Authority, or (b) for any purpose authorised by the water undertaker or other person to whom the hydrant belongs.'

Humberside Fire and Rescue Service will not be responsible for the payment of any repairs to hydrants when the damage has been caused by outside bodies such as contractors, when prior permission has been obtained to use it. The Hydrants should be inspected prior to and after use by outside bodies.

Illegal or unauthorised use and damage should be reported to the Water Office with photographs where available.

The cost of repairs to hydrants damaged by site developers after completion and which have been handed over to the Fire and Rescue Service will be the responsibility of the developers. After such hydrants are handed over to the Fire and Rescue Service a

check will be made by the Equipment Maintenance Technician to ensure that no damage to the hydrants has occurred.

Private Hydrant Installations

When an emergency situation necessitates the use of private hydrant installations the incident commander should not hesitate to use them. The location, capacity, and possible unreliability if they have not been tested, must be borne in mind when considering the use of such installations. These considerations should be noted during 7(2)d inspections.

Occasionally Humberside Fire and Rescue Service will write to the owners of private hydrants to advise them that HFRS has not recently inspected their hydrants and offer inspection services which are currently free of charge.

It is the responsibility of Private Hydrant owners to ensure that at least once a year, maintenance is carried out on all private fire hydrants by a competent person. Private hydrant inspections are only carried out after a written request has been received from the owner or their accredited representative. The permission of private installation owners or their accredited representatives must be obtained prior to the commencement of inspection or testing procedures. Tests of this nature will require indemnification and a signature from the current owner or accredited representative on form HD1. If in doubt on any matter contact the Water Office.

Private hydrants should be tested and inspected on the same basis as all normal hydrants, having regard to the special needs of meter bypass arrangements where applicable.

When a defect is found on a private installation, the Equipment Maintenance Technician administering the test will inform the Water Office of the results and the Water Office will inform the owner or accredited representative of the precise nature of the defect(s) in writing, and will provide the contact details of the relevant water authority. It is the owner's responsibility to arrange and pay for any necessary repairs. The owner should also be requested to inform the Water Office when the defect has been rectified and the hydrant is operable so Service records can be maintained.

Every Private Hydrant will have its own record and defects should be reported in the normal way which will be recorded and maintained by the Water Office so that a high standard of supervision can be maintained. Records pertaining to private installations are kept in the Water Office.

Guidance for use of Fire Hydrants for routine re-filling of Fire Appliances

The risks to the water supply network reduce when hydrants fitted to 150mm (6") mains and larger are used for re-filling purposes, however, care must be exercised, and hydrants should be opened no more than 1 complete turn of the valve key. (At a system

pressure of 3 bar this will deliver approximately 10 litres per second and fill an 1800 litre appliance from empty in less than 5 minutes).

8. RECORDING PROCEDURES

Hydrant Records

Records of fire service maintained hydrants, a number of private hydrants, new installations, abandonments, inspections, defects and repairs are maintained by the Water Office.

Under statutory requirements in the New Roads and Street Works Act 1991, records of all hydrant inspections must be recorded and notified to the local council street works departments. The electronic recording of these notices is carried out using specially designed software and is sent using electronic mail.

Hydrant Inspections and Standard Tests

Current legislation states that the routine testing and inspection of hydrants must be carried out by or in the presence of a person with the prescribed qualifications as a supervisor or operative under the Street Works Regulations 1992.

Above ground visual inspections may be carried out by station personnel for topographical knowledge purposes, but this must not involve the removal or lifting of lids. The lifting of lids for the purposes of fire-fighting is permitted under the legislation.

Hydrant inspection and testing is to be carried out as specified below in subsection (c). The routine inspecting of hydrants is carried out as part of a three year rolling programme which is available to view.

Inspection routes are pre-planned on the hydrant management computer system into 'walks' which are in the most advantageous sequence for inspection purposes.

Routine Inspection (route) sheets are completed by the Equipment Maintenance Technician with the inspection results and any address or sequence amendments required, which are then returned to the Water Office for updating on the Hydrant Management System. Hydrants which have been designated as High Risk (through a risk assessment approach) due to bad location, prone to silting etc. are inspected each year.

Motorway hydrants must not be inspected or tested from the hard shoulder of the motorway. Access to hydrants situated in these areas will be made from A and B roads above the motorway and should always be carried out by a two person team. Marker plates attached to bridges which cross over motorways should be regularly inspected and the replacement of any such marker plates should be carried out by a two person team, after consultation with the relevant Highways Agencies.

A visual above/below ground inspection should include:

- Remove hydrant lid.
- Ensure the chamber is in sound condition and free from debris to a minimum of below the spindle and outlet.
- Inspect the hydrant itself to ensure all its external component parts are present and in sound condition (A missing false spindle is not a defect, all Fire Appliances should carry each size of false spindle, there are currently three sizes; small medium and large).
- Ensure hydrant is not leaking from either the outlet, flange, spindle packing, gland or frost valve/drain plug.
- Ensure the hydrant lid and frame are in sound condition and do not present a trip hazard.
- Some hydrants are fitted with Water Authority logging devices if encountered these can be removed for fire-fighting purposes. Please ensure that the hydrant valve is fully closed before attempting to remove any device. Further information on logging devices is available from the Water Office.
- Replace lid.
- Ensure the post and/or plate is in sound condition and clearly states the hydrant number, size of main and distance from plate to hydrant. (See diagram 1 above). This information should be in metric measurements and Information on hydrant plates should be to the correct specification using the appropriate numerals available from Stores.
- Post and lids can be painted subject to weather conditions. Roadside kerbs should not be painted.
- Complete all relevant documentation (as described).

Testing of Hydrants

The Renal Unit at Hull Royal Infirmary has confirmed that haemodialysis patients are not at risk in the event of loss of water pressure or pollution; this is mainly due to the design of dialysis units and the procedures in place with their local renal units.

Wet pressure testing of hydrants should only be carried out where there is reason to doubt the hydrant's integrity or that it is at an interval recommended by the hydrant manufacturer.

Wet pressure testing of fire hydrants should be carried as follows:

- (1) Remove fire hydrant lid and remove dust cap from hydrant bowl.
- (2) Screw standpipe on hydrant and tighten.
- (3) Fit key and bar to spindle.
- (4) Turn fire hydrant on very slowly to flush, use minimum turns.
- (5) Turn fire hydrant off.
- (6) Install pressure gauge in standpipe and open the air cock.
- (7) Turn fire hydrant on slowly until water appears at the air cock and a pressure is recorded on the gauge.
- (8) Close air cock.
- (9) Continue to open hydrant until fully open.
- (10) Check reading on gauge.
- (11) Close fire hydrant.
- (12) Open air cock to release pressure.
- (13) Remove pressure gauge from standpipe.
- (14) Remove standpipe from hydrant and replace dust cap on hydrant bowl.
- (15) Ensure that there is no leak from the outlet. If a leak is present operate the valve again and fully close the valve.
- (16) If the leak is still present it can be rectified by fitting a screw down blank cap to the outlet. Record the fitting of the blank cap on the hydrant management system.
- (17) Remove key and bar from spindle.
- (18) Replace hydrant lid.

Hydrant Defect Forms

Hydrant Defect forms or HD2 forms are required to be submitted when reporting any faults on hydrants. The form should be completed with as much information as possible and the hydrant number must always be entered. Hydrant Defect/Action codes are listed below, and care must be taken to accurately identify the correct action code.

Completed forms should be sent to the Water Office without delay.

<u>Code</u>	<u>Description</u>
0	No Defect
2	Lid / Frame Needs Replacement
3	Frame Out of Position
4	Pit Faulty
5	Unable to Locate

6	Plate Required
7	Post Required
8	False Spindle Needs Replacement
9	Defective Valve Spindle
10	No Water When Turned On
11	Unable to Turn Off
12	Hydrant Outlet Needs Replacement
13	Hydrant Leaking
14	Tilted – Unable to use
15	Insufficient Flow
16	Insufficient Pressure
17	Repair Not Carried Out
18	Repair Not Satisfactory
19	Capped Off
20	Fully Redundant
21	New Installation Required
22	Hydrant Not Installed
23	Unable to Lift Lid
24	Unable to Turn On
25	Ants in Pit
26	Car Parked over Hydrant
27	Requires Tarmac Reinstatement

9. OPEN WATER SUPPLIES

The Fire and Rescue Services Act 2004, Section 41 empowers Fire and Rescue Services to enter into agreement for securing the use, in case of fire, of water under the control of any person other than a statutory water undertaking, to improve access to such water, and to carry out other works including the laying and maintaining of pipes in connection with the use of the water for fire-fighting purposes.

Subject to any agreement that may have been so made, the Fire Service may use, for fire-fighting purposes, any convenient and suitable supply of water, but shall be liable to pay reasonable compensation for the water.

Fleet and Equipment Water Supplies for Fire Fighting

When an emergency situation necessitates the use of open water supplies, the incident commander should not hesitate to use them.

If, in the course of dealing with a fire an open water supply is used for which the owner claims compensation, the matter will be reported to the Water Office. Compensation claims will be forwarded to and reviewed by the Service Finance Officer.

The restrictions imposed by Section 24 of the Water Resources Act 1991 with regard to the abstraction of water does not apply to that used for fire-fighting or for the purpose of testing apparatus or training or practice in the use of such apparatus.

No water will be used for exercises or other purposes not directly associated with fire-fighting without permission first having been obtained from the owner of the supply. Where water is used from any canal or open supply for exercise or drill purposes, every effort must be made to direct the water used back into the supply.

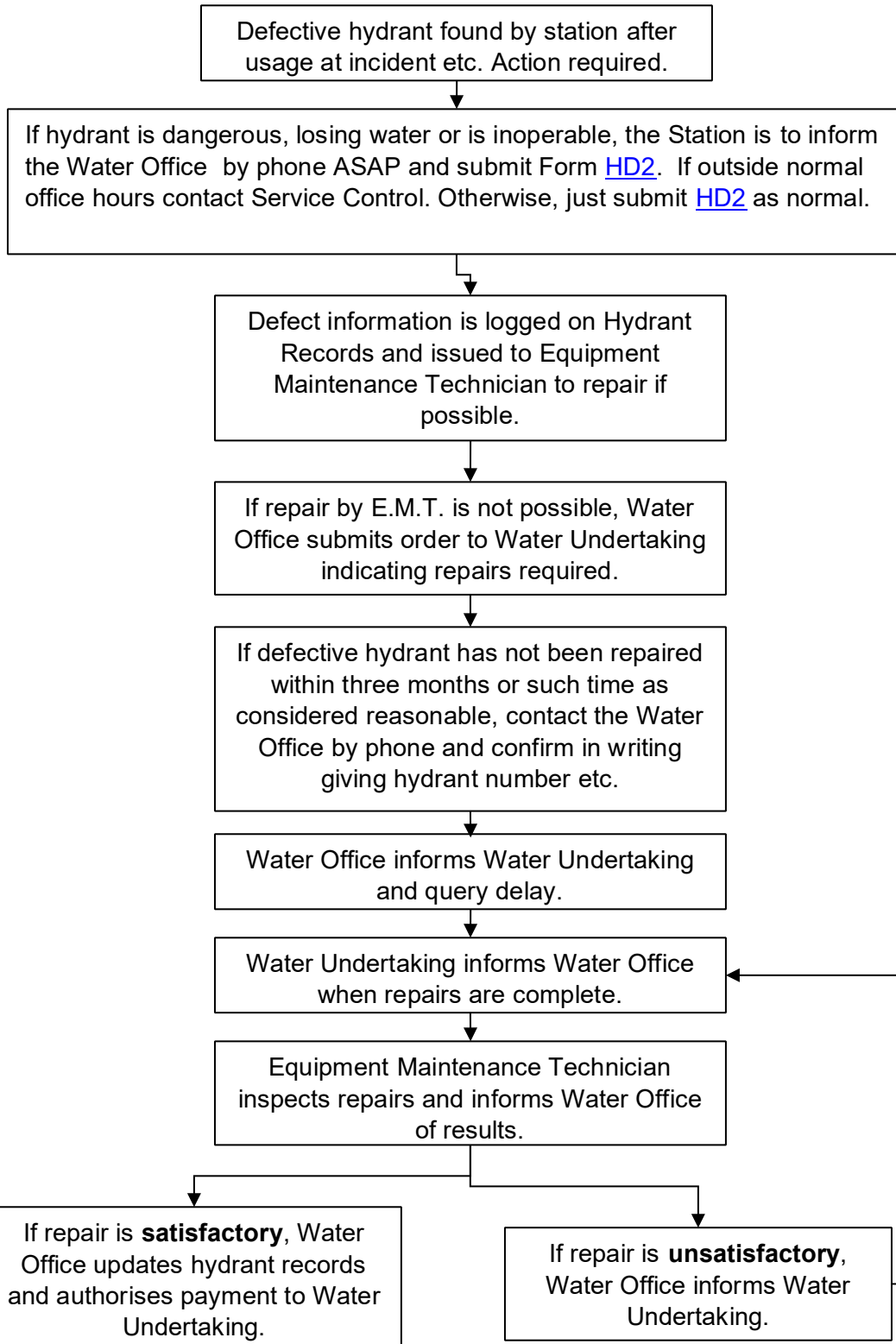
Water office contact. 01482 398543.

Email: hydrantmaintenance@humbersidefire.gov.uk

**If you require any further guidance in relation to this policy, please
contact Water Office / Fleet & Equipment**

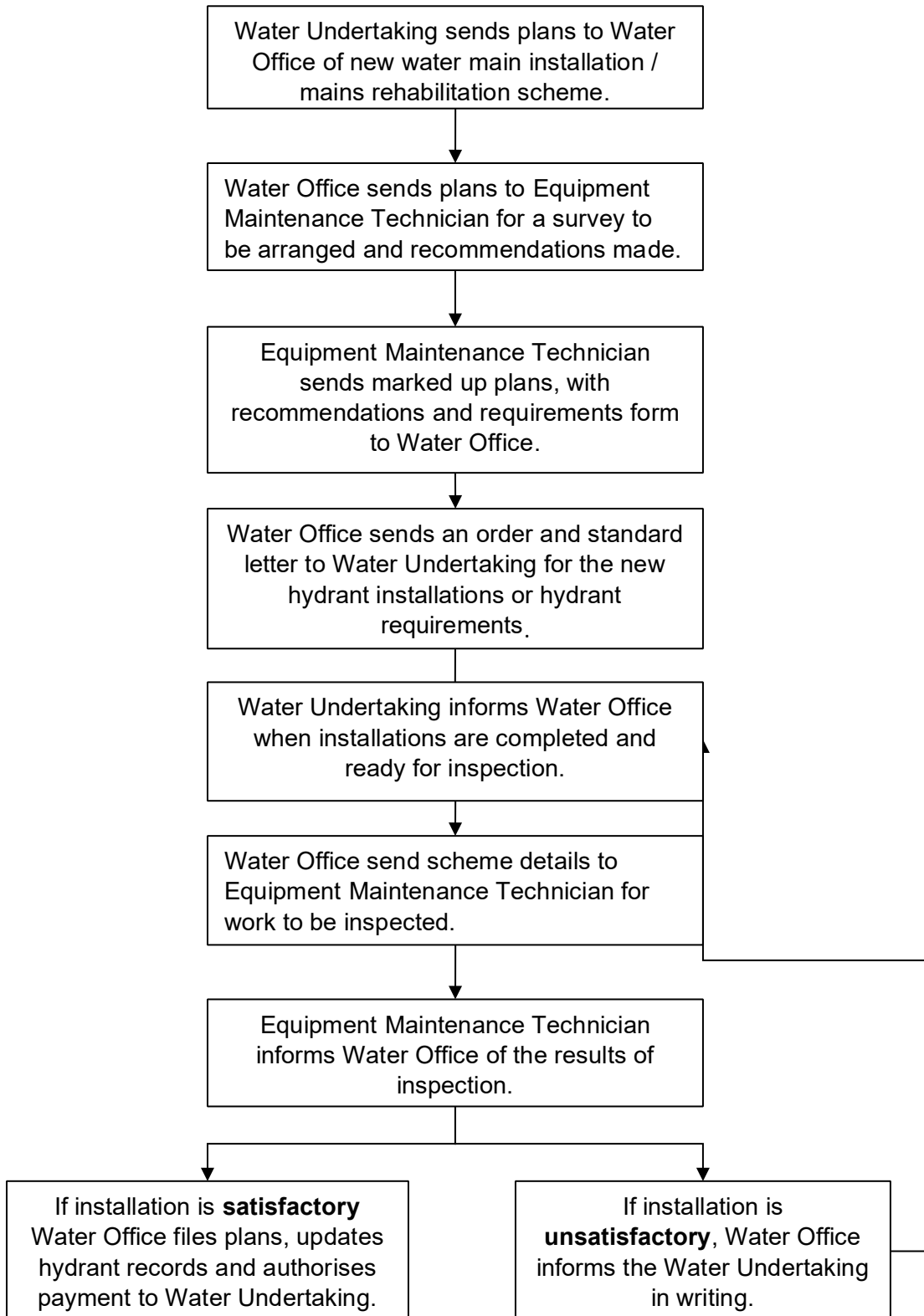
APPENDIX A

HYDRANT DEFECT AND REPAIR MONITORING



APPENDIX B

NEW HYDRANT & WATER MAINS SCHEME MONITORING



APPENDIX C

PROPOSED WATER SCHEME

Proposed Water Scheme Requirements Form

We have received a proposed scheme which requires inspecting & returning back to the Water Office with your requirements (see attached plans).

Scheme Number _____ Drawing Number _____

Station Area _____ Scheme Date _____

Scheme Title _____

New Development Mains Rehab Other _____



I confirm that the above scheme has been inspected. The following are my comments and recommendations:

_____ Hydrants are required

Signed:

(Technician)

Date: