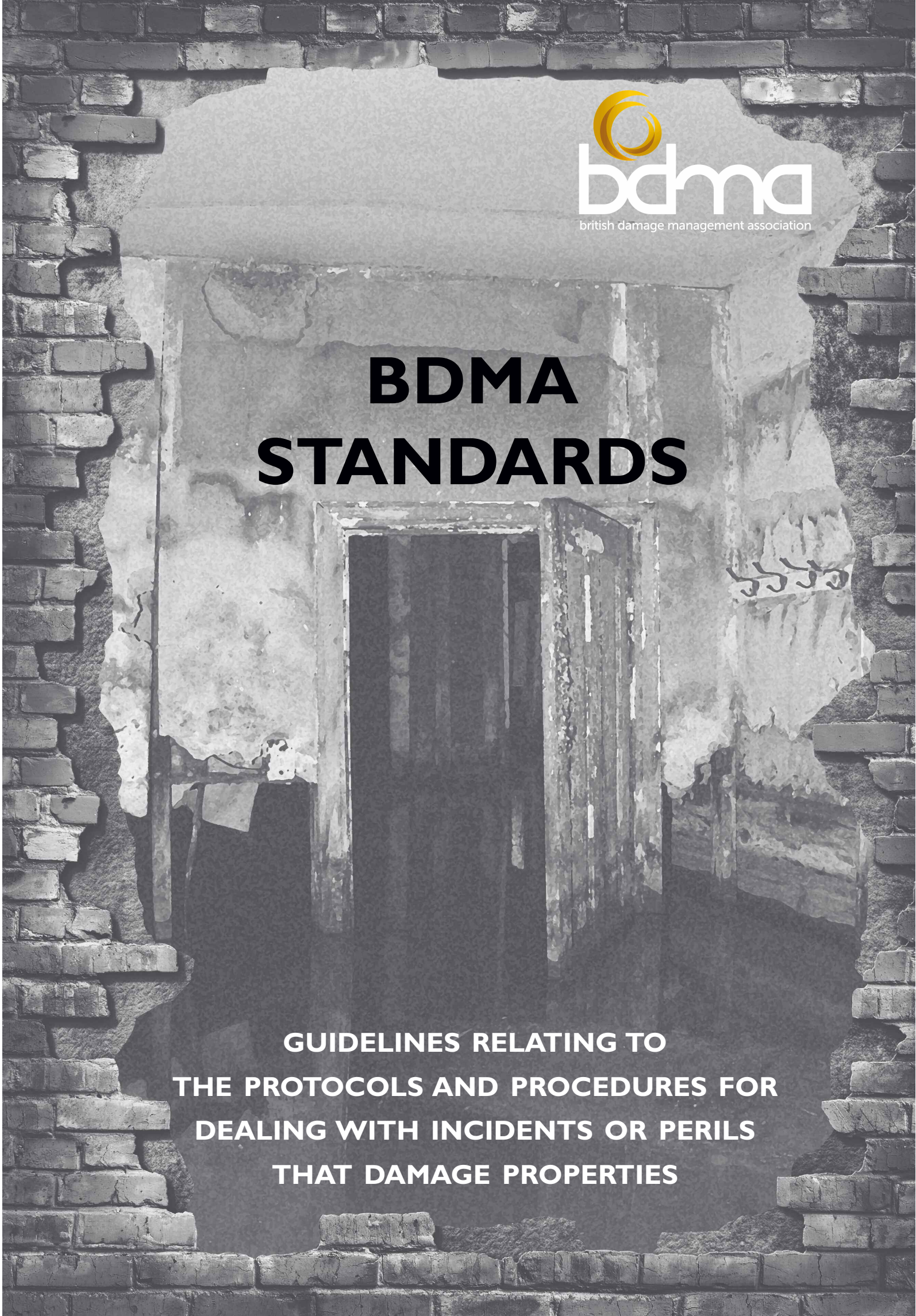


bdma
british damage management association

BDMA STANDARDS

GUIDELINES RELATING TO THE PROTOCOLS AND PROCEDURES FOR DEALING WITH INCIDENTS OR PERILS THAT DAMAGE PROPERTIES

BDMA STANDARDS

The Protocols and Procedures for dealing with incidents or perils that damage properties

Last updated 2016

Contents

Introduction

This document sets out the protocols and procedures for dealing with incidents and perils that cause damage to residential and commercial properties.

The British Damage Management Association (BDMA) was inaugurated in December 1999 with the aim of raising industry standards, providing accreditation for professional practitioners and facilitating recognition of specialist services in the recovery and restoration sector.

With the introduction of industry standards and accreditation by examination, practitioners who deal with the recovery and restoration of properties, following damage from a range of incidents and perils, are able to demonstrate competence through professional qualification and commitment to minimum standards.

The BDMA Standards identify the essential minimum procedures and protocols which should be followed in all cases of damage to properties. The processes are listed in three phases, accompanied by flowcharts to allow any interested party to check the project status and assess progress over the lifetime of the project.

The Intake Phase covers receipt of the initial instruction and preliminary contact with the customer to gather relevant information which will enable classification of the incident and inform the nature of the response.

The Stabilisation Phase covers the first visit to the property, surveying of the damage, prioritising actions to mitigate secondary damage, ratifying information gathered during the Intake Phase, providing advice to the customer, identifying the processes to be followed to achieve successful restoration outcomes, creating and agreeing a scope of works and undertaking any essential preparatory activity.

The Recovery and Restoration Phase addresses the restoration, reinstatement or replacement procedures that may be required to return the property to its pre-incident condition, wherever possible, together with suggested documentation and records to accompany the final invoice.

A series of flowcharts cover the process from start to finish and set out the sequence of activity for each phase of the project.

Additionally, examples of a typical end to end process for a range of scenarios are attached as **appendices**, and a series of supporting documents are available with in-depth information, where a greater understanding of specific processes or the basis for recommended actions is required.

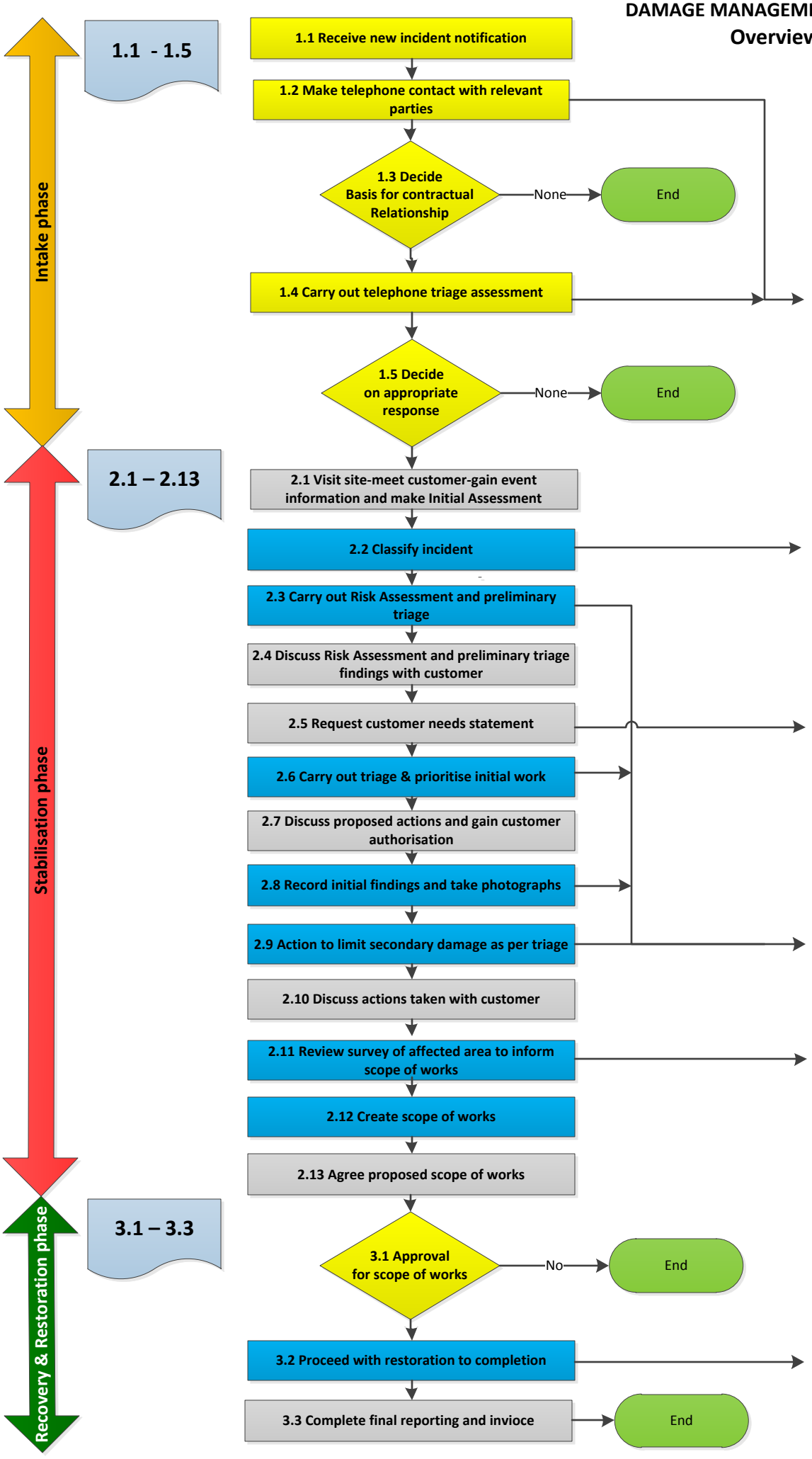
A comprehensive **Glossary** of terms can be found on the BDMA website at www.bdma.org.uk/glossary

In order to deliver the best resolution and most cost effective outcome when restoring damaged property, an appropriate and professional response is critical. An unprofessional approach and use of inappropriate techniques can lead to further ongoing damage and risks to health and safety, with associated additional costs, extended claim life cycle and unnecessary distress for the client.

Advances in damage management techniques, alongside a greater understanding of the benefits of professional restoration and taking into account ever changing construction methods and materials, confirms the importance of pursuing current best practice at all times in line with the most efficient and cost effective solutions.

The protocols and procedures outlined in these Standards provide a framework for delivery of best practice from notification of an incident through to completion of agreed restoration works, which allows for the incorporation of the most appropriate techniques to deliver a professional and satisfactory outcome for all parties involved.

DAMAGE MANAGEMENT INCIDENT
Overview



GENERIC PROTOCOLS WHICH APPLY TO ALL PHASES OF INCIDENT RESPONSE

Customer Relations:

It is important to understand the traumatic effects an incident or peril can have on the occupants of buildings, so at all times a compassionate empathetic attitude and professional manner should be observed and property dealt with in a respectful manner.

Technicians will be used to working in a variety of damage scenarios and can forget that it is likely to be a traumatic experience for the customer and one they have not had to deal with before. The technician is in a position to make the experience more palatable for the customer and should always aim to do so.

The customer needs to feel comfortable with the technician in their home or business premises, and the technician must be professional and considerate at all times regardless of the intrinsic value of the property or the customer's circumstances.

The technician should stay in the area where the work is required or where conditions need to be assessed; never wander around the house or business out of curiosity and only enter the premises or areas affected with permission of the customer.

The customer will want to understand what to expect at each stage of the project and, where they are the occupant of the property, may well be in a position to identify or highlight something the technician might not otherwise be aware of, so good channels of communication should be maintained throughout.

The technician should not make promises the organisation can't deliver, it is better to 'under-promise and over-deliver'. For example, if asked 'When will you be finished?' a realistic estimate is preferable to an optimistic one. The customer will be pleased if the work is finished earlier than expected.

Customer withdrawal from contract:

There will be times when the client may decide not to proceed further due to the costs or estimated costs of the work required to return the building to its pre-incident condition, or it may be that the client hasn't sufficient funds to allow the required visit(s) or work to be carried out, and the damage management company is not in a position to assist the client due to the financial implications.

At such times clear advice and guidance on steps that can be taken to mitigate the damage should be given and the client referred to either the individual or company who made the initial notification, or to a local government department, utility company, or agency that may be able to provide assistance and guidance. Where notification has been via a third party, they should be advised of the client's decision not to proceed.

Competency awareness:

The technician should be aware of their own levels of competence and should always arrange for appropriate and suitable contractors to carry out work requiring skills or authority for which they are not qualified or licensed.

Abusive or violent behaviour:

Being always aware of the client's circumstances and sensitive to the individual needs of different customers does not mean the technician has to accept abusive or violent behaviour.

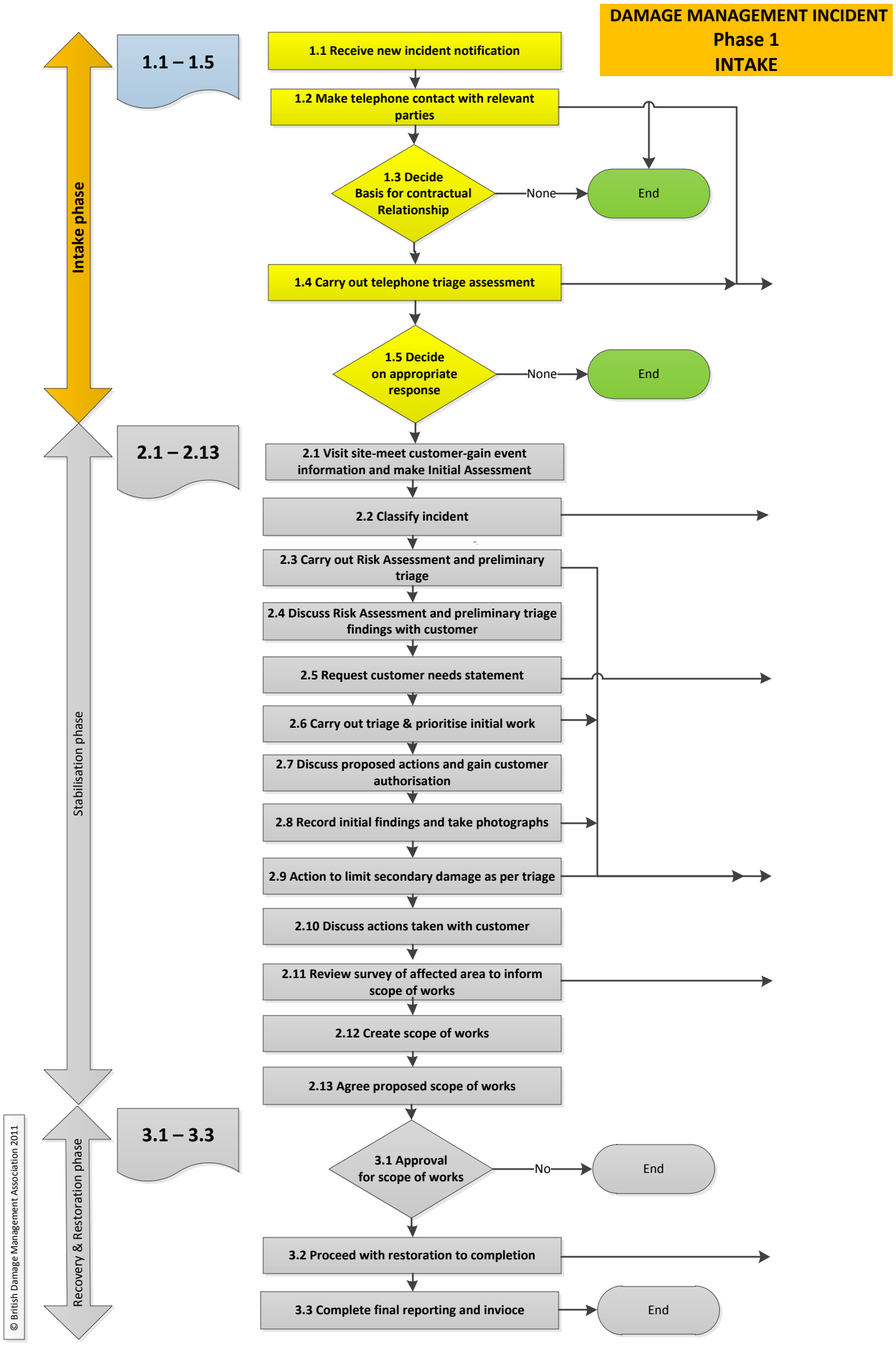
Individual company codes of practice in reference to abusive or violent clients or customers should be adopted, should the need arise, and the technician should have sufficient training to be competent in dealing with abusive or violent clients or customers should the need arise.

Further documentation:

Parties involved in a notified incident or peril will have different requirements and not all will need detailed knowledge of every aspect of the resolution process.

Technical information and procedures referred to throughout these Standards are explored and explained in more detail in associated supporting documents, for those requiring a greater level of understanding.

INTAKE PHASE


DAMAGE MANAGEMENT INCIDENT
Phase 1
INTAKE
Intake phase
1.1 – 1.5
1.1 Receive new incident notification
1.2 Make telephone contact with relevant parties
1.3 Decide Basis for contractual Relationship
None
End
1.4 Carry out telephone triage assessment
1.5 Decide on appropriate response
None
End
Stabilisation phase
2.1 – 2.13
2.1 Visit site-meet customer-gain event information and make Initial Assessment
2.2 Classify incident
2.3 Carry out Risk Assessment and preliminary triage
2.4 Discuss Risk Assessment and preliminary triage findings with customer
2.5 Request customer needs statement
2.6 Carry out triage & prioritise initial work
2.7 Discuss proposed actions and gain customer authorisation
2.8 Record initial findings and take photographs
2.9 Action to limit secondary damage as per triage
2.10 Discuss actions taken with customer
2.11 Review survey of affected area to inform scope of works
2.12 Create scope of works
2.13 Agree proposed scope of works
Recovery & Restoration phase
3.1 – 3.3
3.1 Approval for scope of works
No
End
3.2 Proceed with restoration to completion
3.3 Complete final reporting and invioce
End
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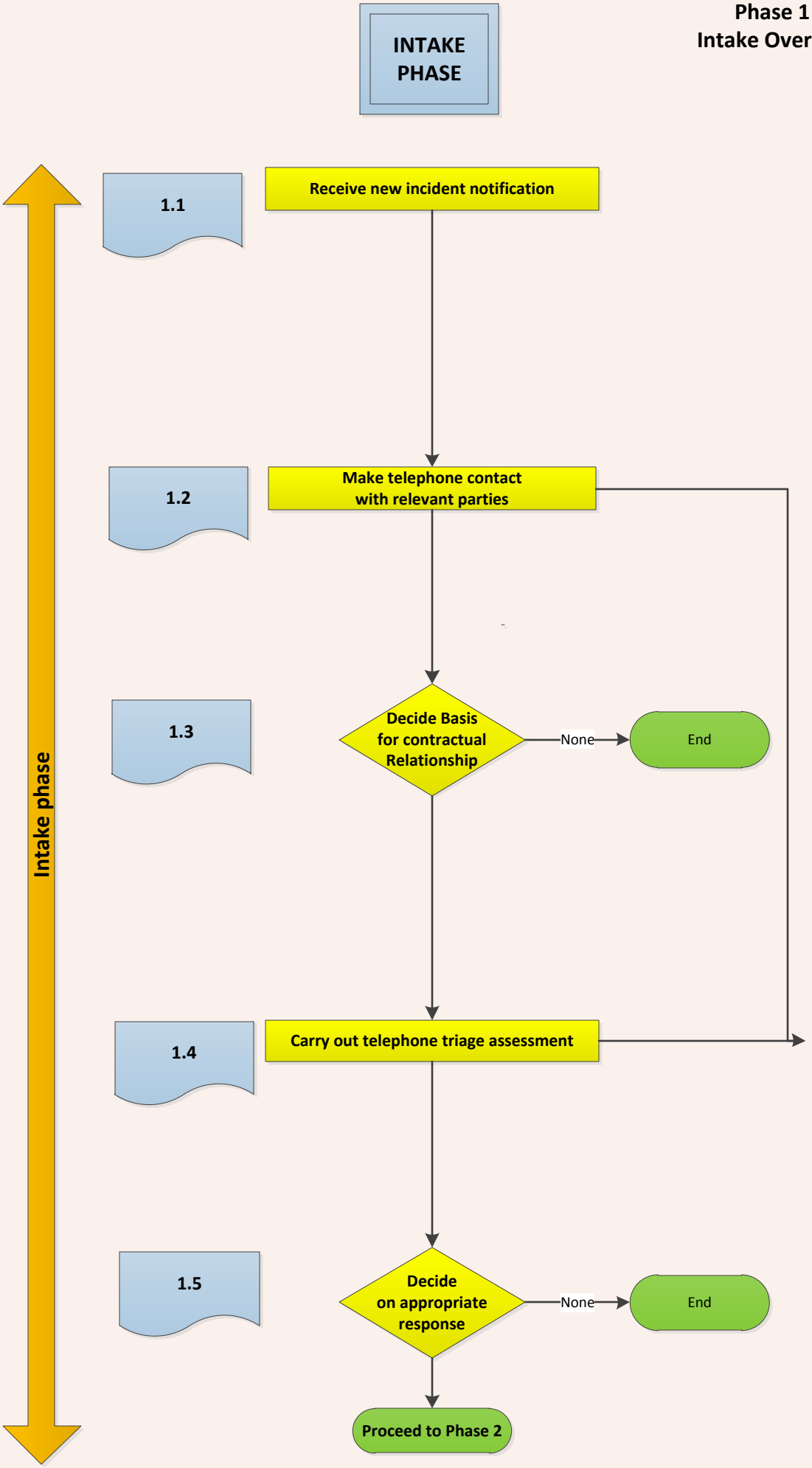
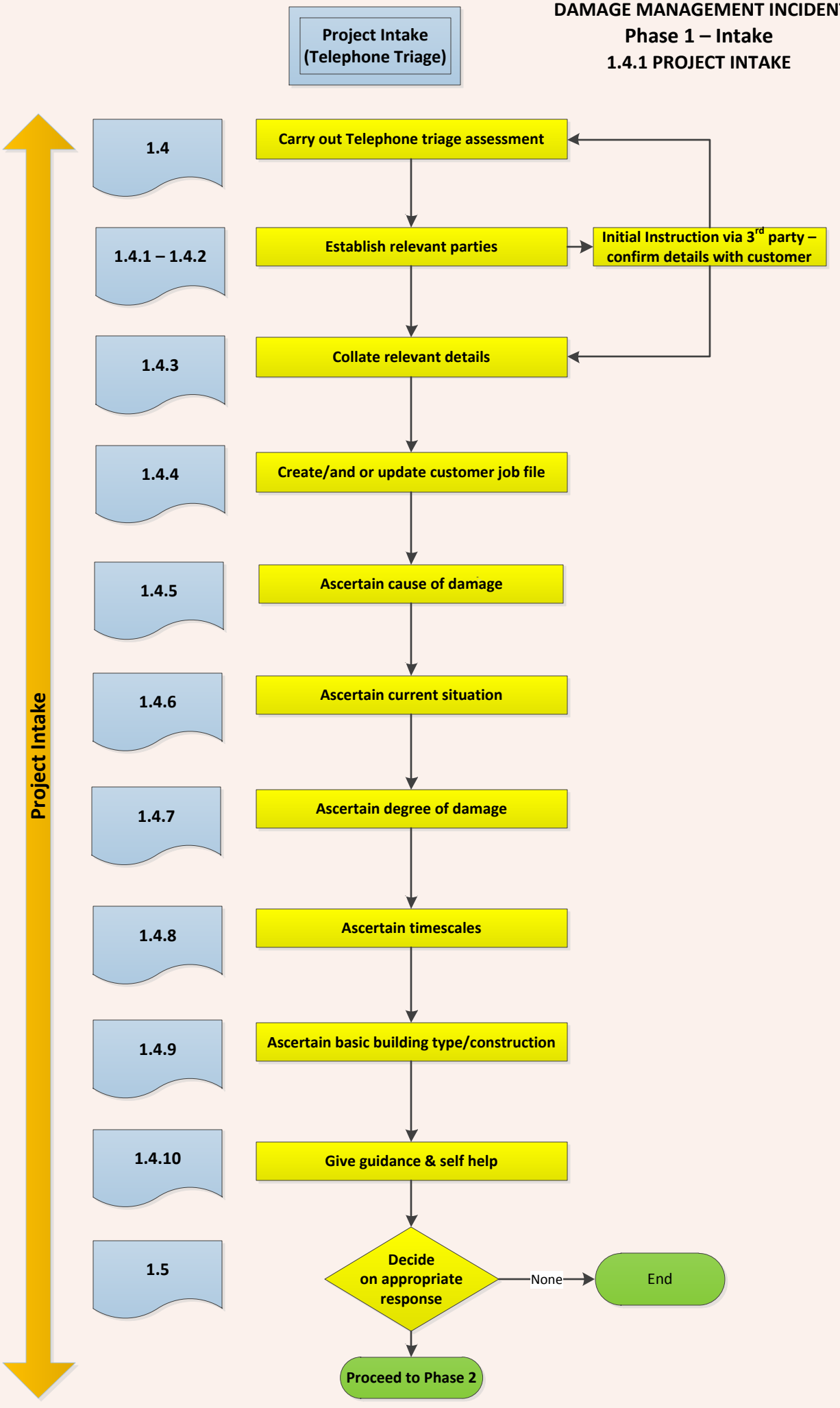
DAMAGE MANAGEMENT INCIDENT
Phase 1
Intake Overview



DAMAGE MANAGEMENT INCIDENT

Phase 1 – Intake

1.4.1 PROJECT INTAKE



Intake Phase (Phase 1)

1.1 Receive new incident notification

The receipt of information regarding notification of a new incident or peril could be by telephone, facsimile, email or by direct transfer into a database programme.

The instruction of the information could be from:

- The occupier of the property
- The owner of the property
- Third parties with involvement in the property
- Agents of the occupier, owner or third parties
- Insurers, Adjusters or Assessors
- Agents of Insurers or Adjuster
- Contractor involved in the restoration, repair or reinstatement of the property
- Third party supplier to the insurer or Adjuster
- Instruction by the client under terms of agreement within a contract
- Local authority or housing association

The information received will ideally include:

The client's details -

- Name
- Address
- Post Code
- Telephone contact details (landline(s) and mobile(s))
- Reference details (where applicable)

Where an Insurance related instruction has been received, the reference details should be the claims reference number and, if available, the insured's policy number (these are important for all communication with the client and the client's insurance provider)

Incident or peril type

Where an insurance related instruction has been received, the insurance policy type and the nature of policy cover

Date of incident or peril

Any third party involved (where applicable)

Where an Insurance related instruction has been received, a reference to the excess on the policy and the request to collect or not to collect this from the insurer's client

Initial damage caused by incident or peril

Sufficient information with regard to communication and details of the incident or peril should be collected from the client during this first notification. However, where an insurance related instruction or third party instruction has been received, some of this information may have to be collected on the subsequent call to the client.

All information received should be checked and recorded on the damage management company's database system together with date and time of receipt and input.

1.2 Make telephone contact with relevant parties

Initial telephone contact with relevant parties is necessary to:

- Gather all available contact information related to the incident
- Establish the basis of the contractual relationship
- Carry out preliminary triage to identify and prioritise actions
- Decide on the appropriate response to the incident

Where an Insurance related instruction or third party instruction has been received the subsequent telephone contact with the client affected by the incident or peril should be made within 48 hours for a non-emergency case, within 24 hours for an emergency case, or as per any agreed Service Level Agreements between the damage management company and its clients and/or third parties.

This telephone contact should confirm the information received during the new incident notification (1.1), amend any discrepancies in the information received during the initial instruction, where necessary, and ascertain any available additional information.

The extra information, which may be necessary to ascertain the appropriate response to the incident or peril and to enable good lines of communication with the client during the works and subsequent communication, should include:

- Other telephone contact numbers
- Work telephone contact numbers
- Where applicable, email address information for the client and, where applicable, the client's work email address
- Alternative accommodation details and contact details (where applicable)
- Relatives, friends or agent who may be acting on the client's behalf (where applicable)
- Third party details (where applicable) and contact telephone numbers

Contact with any relevant third parties to confirm that the initial communication with the client has been made, and/or to ascertain the third party's involvement

with the client for reporting purposes, should be made after the appropriate response has been agreed with the client and any subsequent visit following the telephone communication has been formally arranged.

1.3 Decide basis for contractual relationship, telephone triage assessment

It is important to ascertain the financial arrangements with the client prior to any subsequent visits or work being carried out and it is best practice to clarify and organise this during the initial contact with the client.

- Where the incident notification is via an agreed third party arrangement and contractual details are in place, the telephone conversation can proceed to the next stage.
- Where the incident notification is via the client then enquiries should be made to ascertain if an agreement with a third party is in place, with a contractual or non-contractual basis for payments, and authority gained from the client to approach the third party involved where applicable.
- Where the incident notification is via an agreed third party arrangement, or via the client where there are no third party arrangements in place, the client should be informed of the terms of payment in relation to any works that may take place.

At this point the client may decide not to proceed further and, where notification has been via a third party, they should be advised of the client's decision.

In line with best practice, where a client does not wish to proceed clear advice and guidance on steps that can be taken to mitigate the damage should be given and the client referred back to the party who made the initial notification, where relevant, or to a local government department, utility company, or agency that may be able to provide assistance and guidance.

1.4 Carry out telephone triage

In order to ascertain the information required to deal with the incident or peril promptly, efficiently and cost effectively and, wherever possible, to mitigate further damage, a series of questions should be asked of the client on the telephone to build as comprehensive a picture of the incident or peril as possible.

1.4.1 Establish relevant parties for triage assessment

Where the initial receipt of the new incident notification has come via the customer, they become the relevant party for the initial telephone triage assessment.

Where the incident notification or instruction has come via a third party, the relevant party for the triage assessment will be the client, or whoever is best placed to provide the information required, in line with any contractual arrangements.

1.4.2 Initial instruction via 3rd party

Where the initial receipt of the new incident notification has come via another contractor, Helpline or organisation not directly associated with the end user (customer), and they have provided all available information to date, the details should be confirmed with the customer who has suffered the incident.

1.4.3 Collate relevant details

All the information and contact details established so far should be collated and confirmed, as recorded, for future reference.

Any details that could potentially affect a successful restoration outcome should be established and recorded.

1.4.4 Update dedicated job file

The information regarding the initial notification of the new incident or peril should be updated with all of the additional information gathered, and recorded on the organisation's database or customer information system.

1.4.5 Ascertain cause of damage

From the information provided during the initial notification, where possible ascertain the exact cause and, where relevant, the initial source of the damage.

- If the incident or peril is water related, ascertain the initial source of the water and its route.
- If the incident or peril is fire related, ascertain the initial seat of the fire and the nature of the odours
- If the incident or peril is the result of accidental damage, ascertain the sequence of events leading to the incident and, where relevant, what type of material or activity has caused the problem.

1.4.6 Ascertain current position

Where the incident or peril is water related, establish whether or not the water ingress has been successfully halted.

Where possible at this stage, identify any visual Health & Safety issues as a direct or indirect result of the incident or peril, for example:

- loose building material, access & egress, utility damage etc.
- any visible bacterial or mould issues.
- issues due to the age or medical condition of any individuals affected.
- any other concerns affecting the interior or exterior of the property.

Ascertain what action has been taken, if any, by any parties including the client.

1.4.7 Ascertain degree of damage

Ascertain the approximate number of rooms involved, the level of damage and, where relevant, any significant damage to contents.

Where possible and relevant ascertain the approximate size(s) of room(s) or area involved.

Ascertain whether there is a possibility the damage could have affected neighbouring properties.

1.4.8 Ascertain timescales

Ascertain the timeframes involved, when the incident happened and when this was first reported.

Ascertain any timeframes that have been indicated to the customer by any relevant third parties.

Ascertain if specific action has been planned or agreed prior to this telephone conversation by the client and/or any other involved third parties.

1.4.9 Ascertain basic building type/construction

To assist in gathering the information required to decide an appropriate response, some of the questions asked should refer to the type of building construction.

Detailed information on building construction will normally be gathered during the first site visit. However, where the client is able to provide this information the following should be noted:

- Approximate age of original construction
- Construction material (e.g. brick, timber frame, stone)
- Roof (e.g. pitched, flat, tile, slate, thatch)
- Walls (e.g. cavity, insulation, wall coverings)
- Floors (e.g. concrete, wood block, floorboards, damp proofing)
- Windows and doors (e.g. wood, metal, PVC windows)
- Electrical systems and/or gas appliances (e.g. any known damage prior to, or as a result of, the incident)

1.4.10 Give guidance & self help

To assist in mitigating the damage and maximising the potential restoration options, advice should be given to help minimise the loss where relevant.

- Where there are Health & Safety issues that require immediate response, advice from competent individuals who are trained in Health & Safety should be sought, or the customer referred to those individuals directly.

- Guidance could be given on the removal of small undamaged objects or contents from damaged rooms or surfaces, the emptying of cabinets that may require moving by technicians, etc., with due care and attention to Health & Safety restrictions.

- Advise on mitigation of further damage to furniture/contents in water damage incidents by inserting plastic sheeting between the item and the damp source, and freezing of water damaged documents/photos enclosed in plastic bags.

- Dependent on the nature of the incident, advise on the opening of external windows and doors, with due care and attention to Health & Safety restrictions and security of the building.

Some insurers may require the policyholder to take steps to mitigate further damage where possible and their advice should be sought as applicable.

1.5 Decide on appropriate response

From the information gained from the client, any relevant third parties and the telephone triage assessment, an appropriate response should be outlined to the client at this stage.

As part of this process you will need to:

- Arrange a suitable appointment by mutual agreement with the client. This could be:

    - an emergency appointment to instigate the stabilisation phase

    - a visit within a more flexible timescale appropriate to the incident or peril based on the information acquired

- Give clear advice and guidance on steps to take to mitigate the damage in the short term and, if appropriate, refer them to a relevant and suitable tradesperson, or to a local government department, utility company, or agency for further guidance

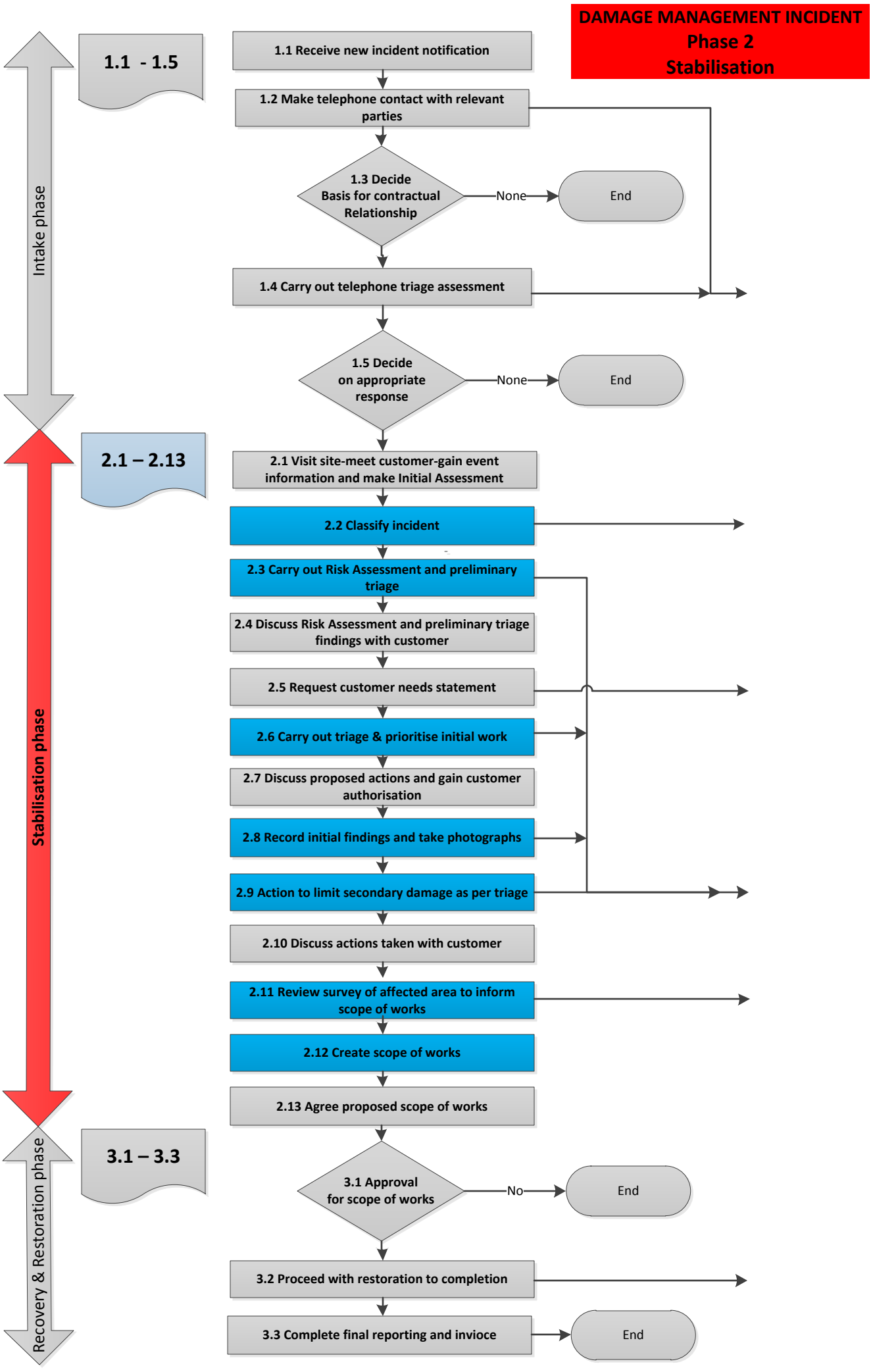
- If necessary give interim advice and refer to an adjuster or for validation by a third party

- If necessary give interim advice and refer to a third party for valuation or replacement

- If appropriate, refer back to a third party for guidance

Should the client decide not to proceed further, where notification has been via a third party, they should be advised of the client's decision.

STABILISATION PHASE


DAMAGE MANAGEMENT INCIDENT
Phase 2
Stabilisation
Intake phase
1.1 - 1.5
1.1 Receive new incident notification
1.2 Make telephone contact with relevant parties
1.3 Decide Basis for contractual Relationship
None
End
1.4 Carry out telephone triage assessment
1.5 Decide on appropriate response
None
End
Stabilisation phase
2.1 – 2.13
2.1 Visit site-meet customer-gain event information and make Initial Assessment
2.2 Classify incident
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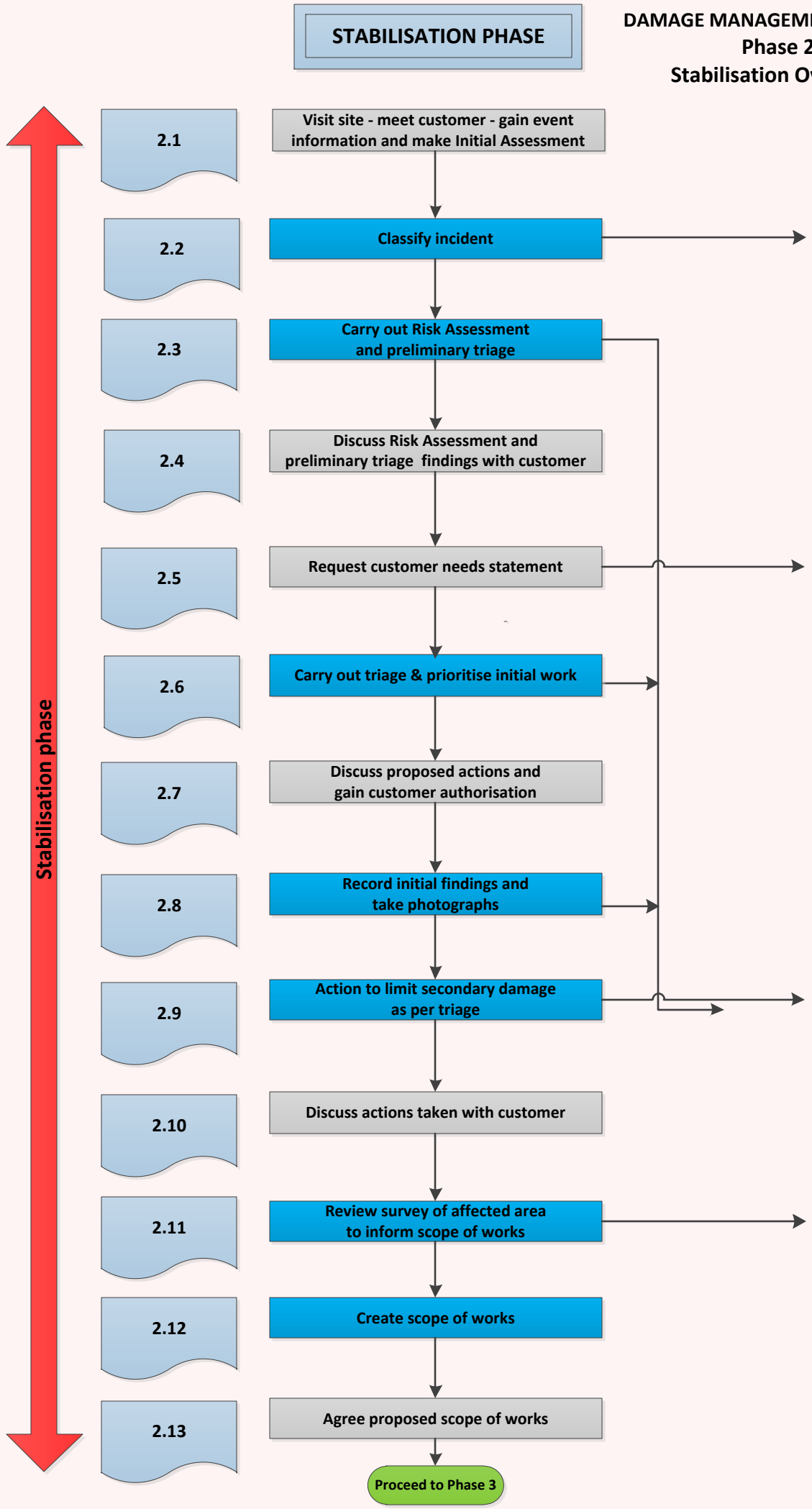
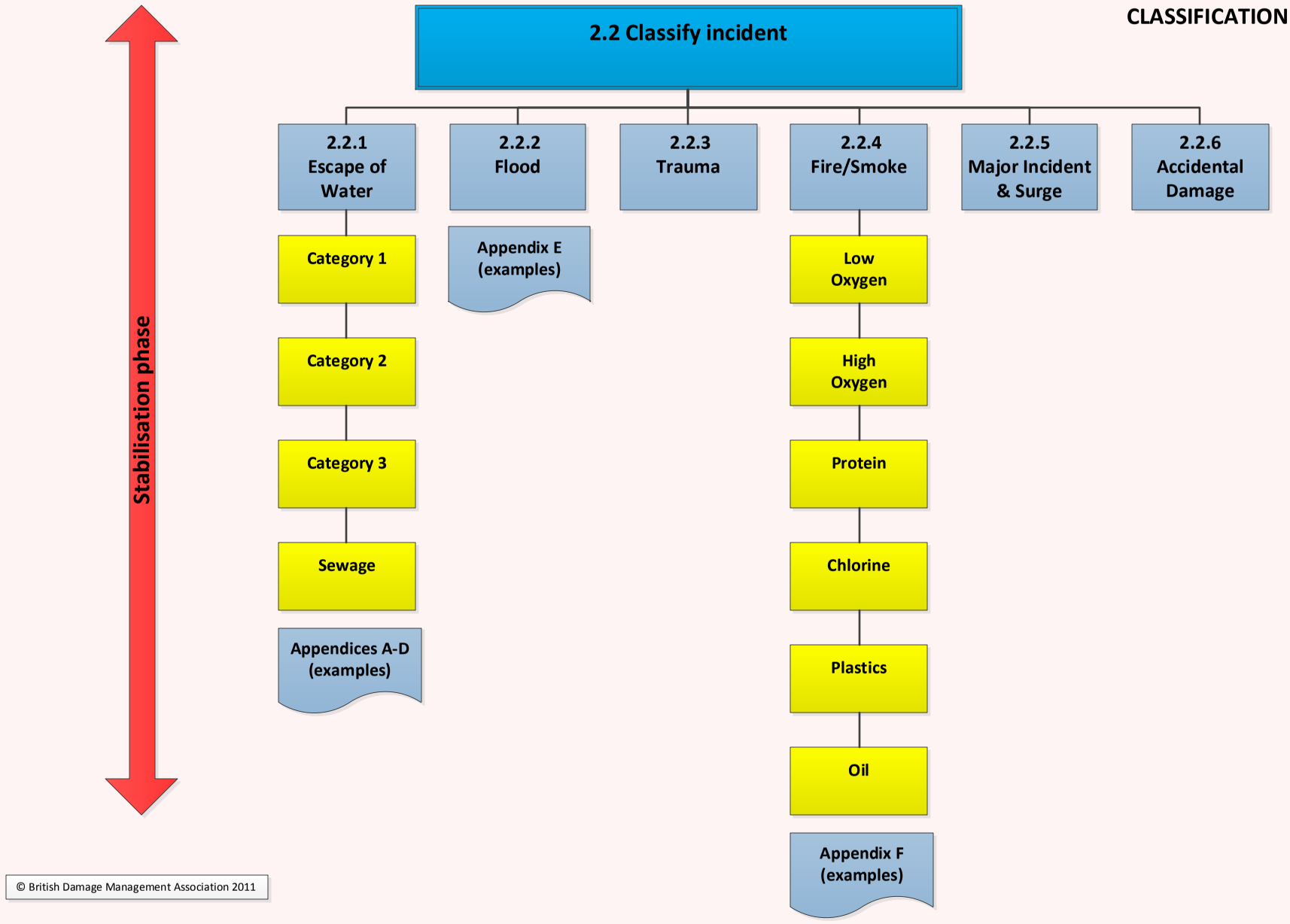
2.12 Create scope of works
2.13 Agree proposed scope of works
Recovery & Restoration phase
3.1 – 3.3
3.1 Approval for scope of works
No
End
3.2 Proceed with restoration to completion
3.3 Complete final reporting and invioce
End

DAMAGE MANAGEMENT INCIDENT
Phase 2
Stabilisation Overview

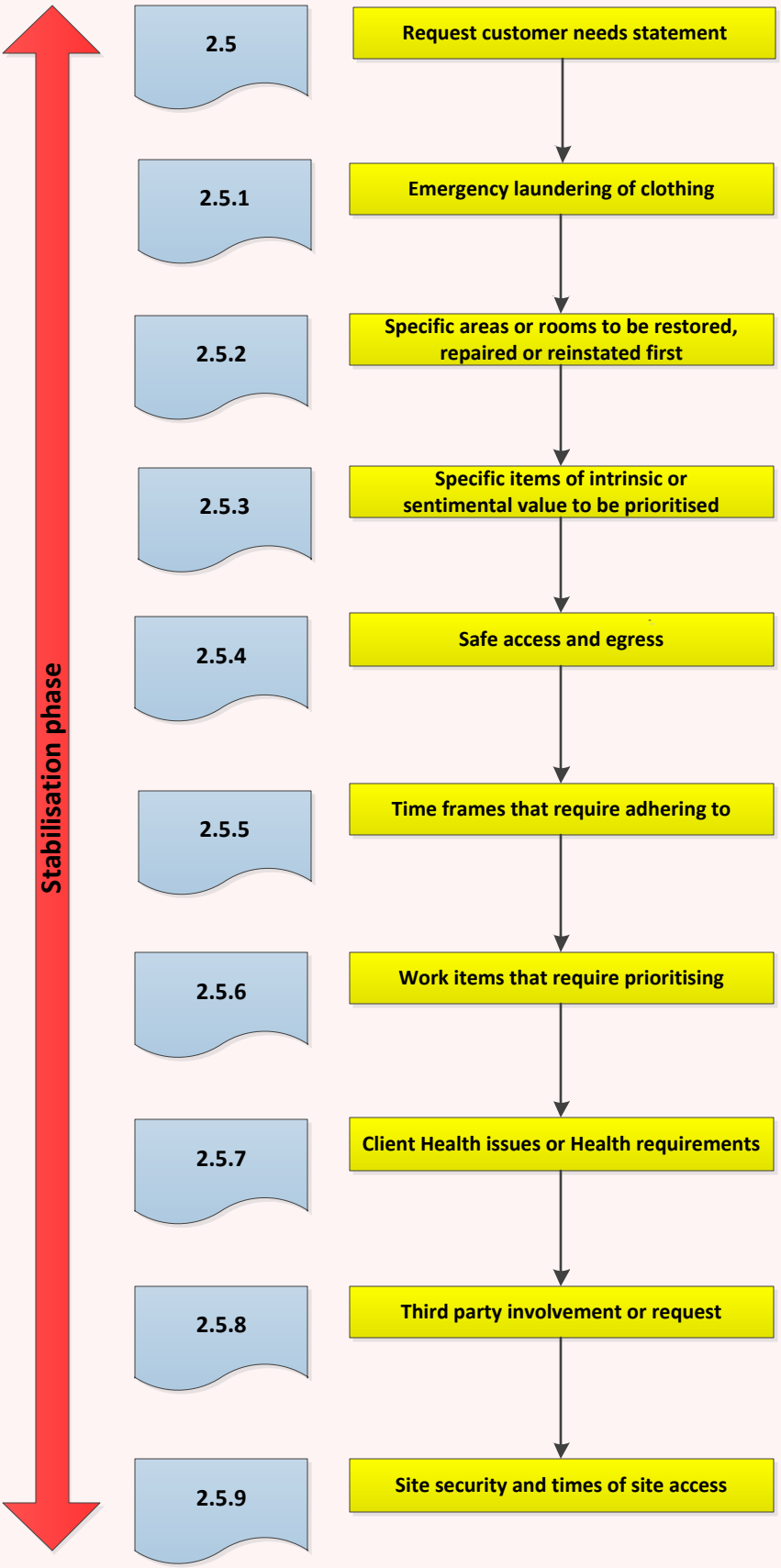


DAMAGE MANAGEMENT INCIDENT
Phase 2 – Stabilisation
CLASSIFICATION CATEGORIES



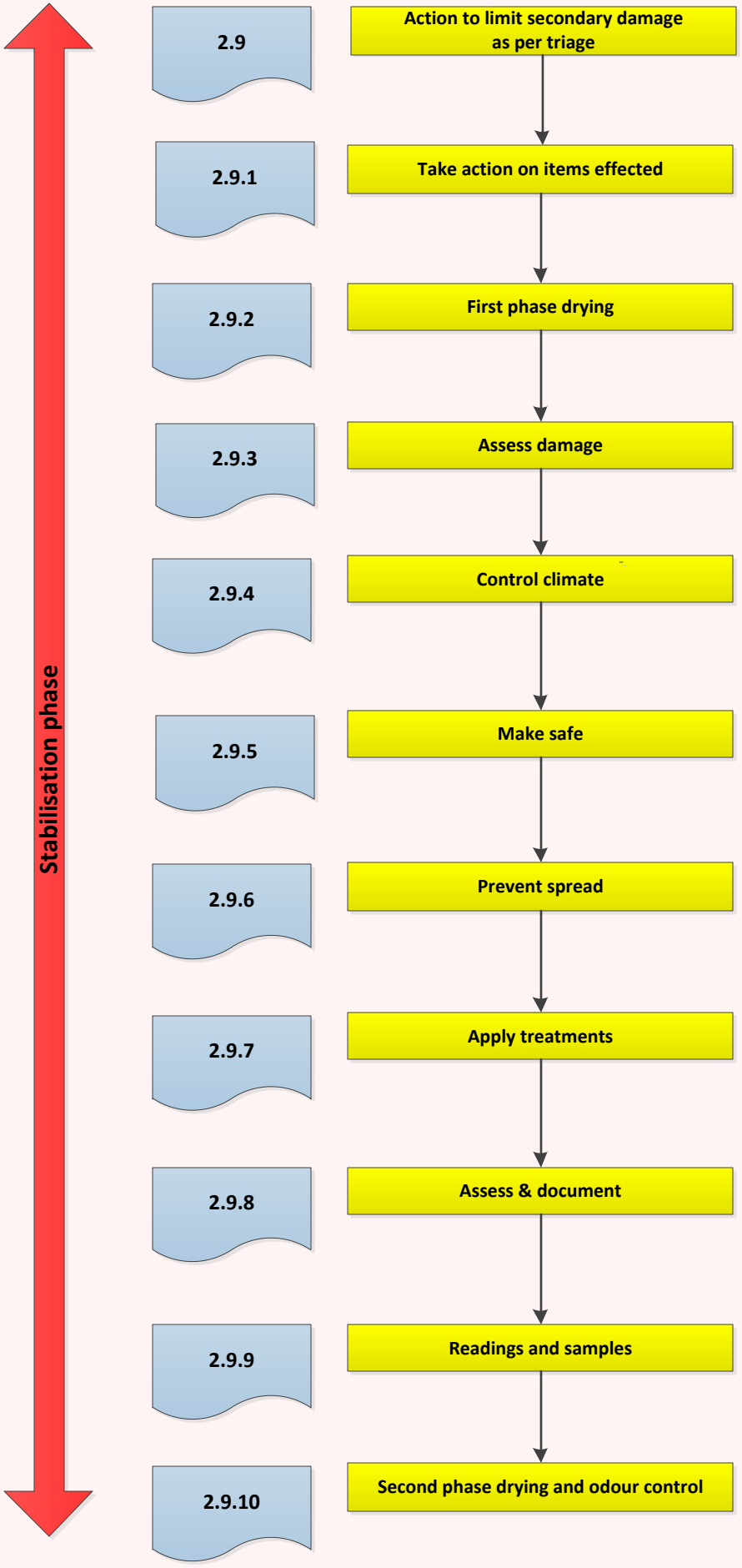
DAMAGE MANAGEMENT INCIDENT
Phase 2 - Stabilisation
2.5 CUSTOMER NEEDS STATEMENT

Customer Needs Statement

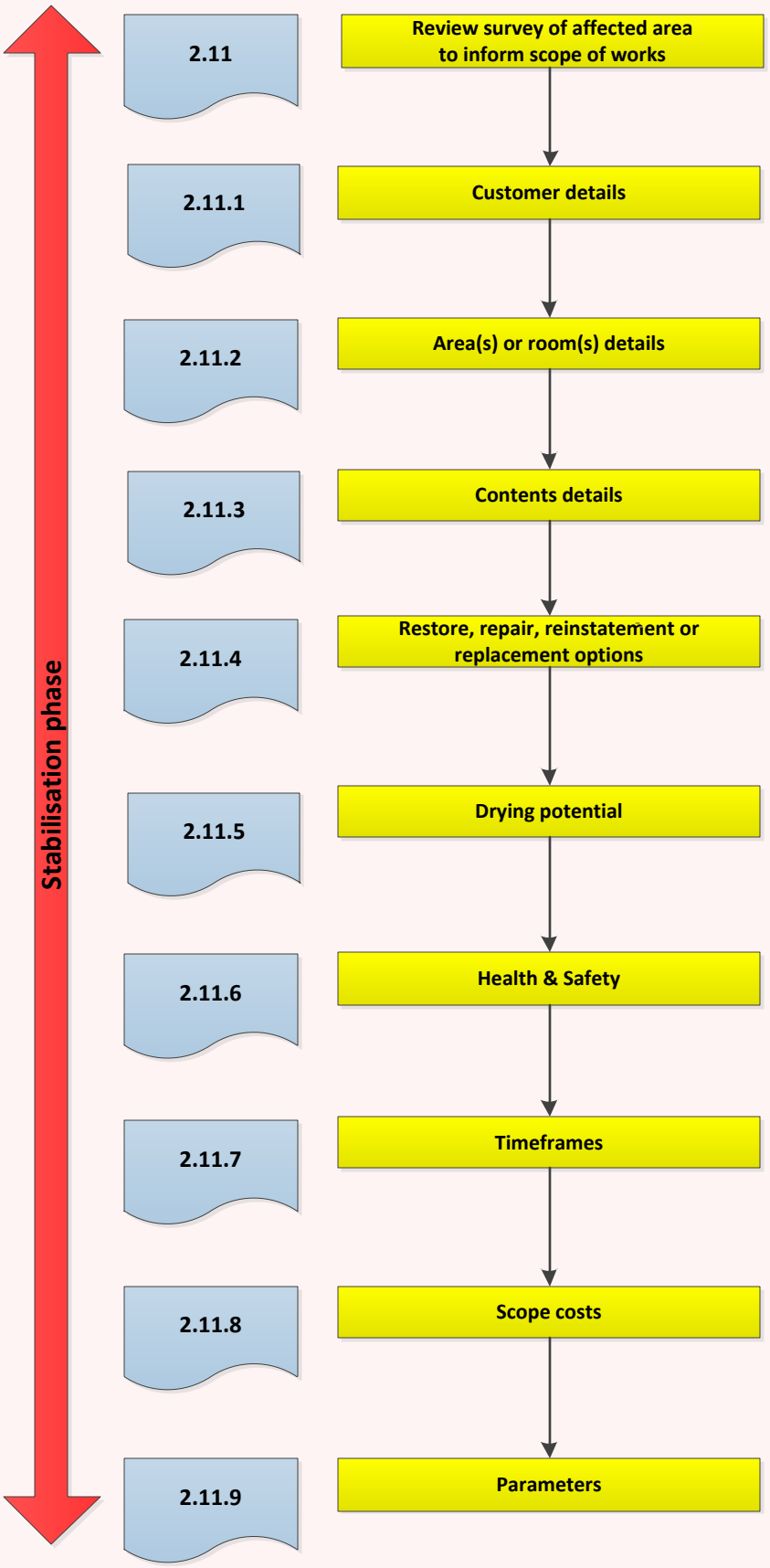


Stabilisation Actions

DAMAGE MANAGEMENT INCIDENT
Phase 2 – Stabilisation
2.9 STABILISATION ACTIONS



DAMAGE MANAGEMENT INCIDENT
Phase 2 – Stabilisation
2.11 SCOPE SURVEY



Stabilisation Phase (Phase 2)

2.1 Visit site – meet customer – gain incident information and make initial assessment

On arrival at the location of the incident or peril, introduction should be by verifiable proof of identity, (e.g. a corporate or BDMA identity badge, business card, etc.) and the client should be given a clear explanation of who the technician represents and what they are there to do.

Generic best practice in relation to behaviour, interaction and communication with customers and when attending their premises should be followed at all times.

If the incident or peril involves water damage it is imperative to ascertain that the water ingress has been halted and visually inspect the original source of the ingress.

It is also important to check whether the source was of clear/clean water, or foul/contaminated water. This must be noted on documentation and, if it is of foul/contaminated origin, appropriate Health & Safety procedures should be applied according to the type of incident.

The Health & Safety procedures on all visits to all type of incidents or perils should be:

- Suitable Risk Assessment
- Correct use of Personal Protective Equipment
- Cordoning off of the affected area (where applicable)
- Implementation of relevant and correct signage (where applicable)
- Implementation of suitable and correct control measures
- Communication of the risk and hazards to the appropriate parties

Where there has not been a resolution as to the source of the ingress of water, the water should be isolated at source wherever possible, without causing further damage or risks to the property, providing it is within the capabilities of the technician. Any such action should be noted on the relevant documentation.

If isolating the water source requires a specific tradesperson, or there is further potential damage or risks, this must be reported immediately for emergency services or the appropriate trade(s) to visit. Again such actions must be documented.

On the initial visit, it is important that information is gathered on all aspects of the incident or peril, and that a thorough initial assessment of the building internally and externally, in respect of the damage caused, is carried out and documented. This information is necessary to verify the information initially gathered by telephone.

Gathering detailed information on the nature of the incident is vital when the instruction is insurance related, so that a decision can be made as to whether the damage caused falls within the terms and conditions of the insurance policy or policies.

Where a technician is attending an insurance related instruction, it is important that they have a basic knowledge of insurance policies and the terms and conditions that apply to them.

It is important that the technician attending the site should have sufficient knowledge to successfully carry out a stabilisation visit so it is best practice that the technician should have a minimum relevant qualification.

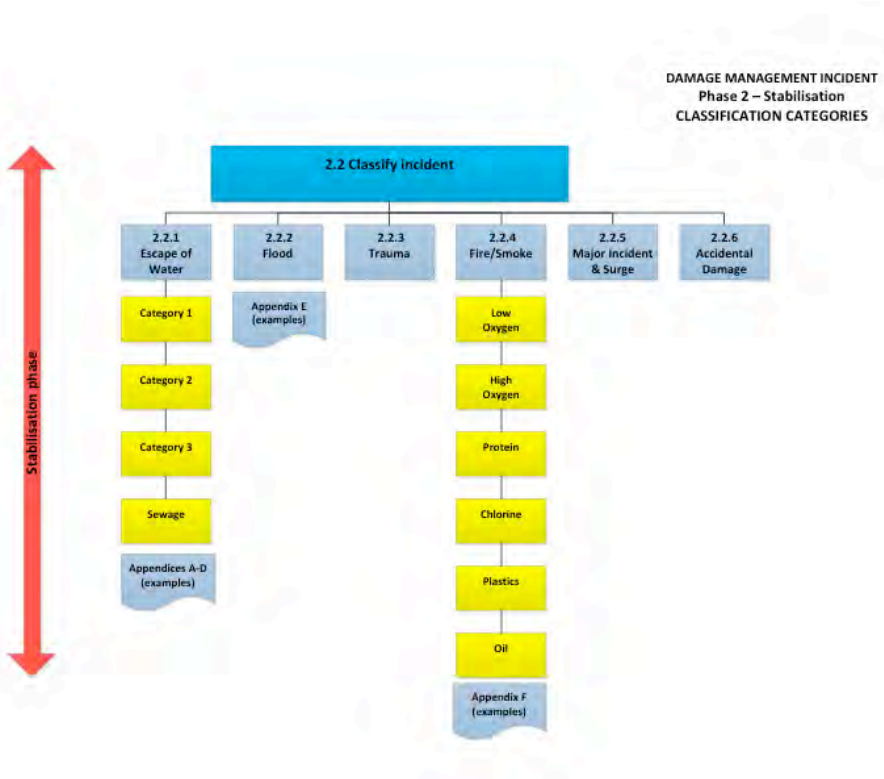
2.2 Classify incident

Once an initial survey of the building has been undertaken and documented, and sufficient information relating to the incident or peril has been ascertained, the incident should be classified by type in order to recommend the appropriate procedures to be followed and scope the required works.

The damage management industry primarily categorises incidents or perils into:

- Escape of Water (sub categorised according to nature and source)
- Flood
- Trauma
- Fire/Smoke
- Major Incident/Surge
- Accidental damage

There will of course be other types of incident or peril, for example burglary, theft, vandalism, etc., which would be dealt with by damage management technicians on an incident specific basis.



Parties involved in a notified incident or peril will have different requirements and not all will need detailed knowledge of every aspect of the resolution process.

Technical information and procedures referred to throughout these standards are explored and explained in more detail in associated supporting documents, should a greater level of information be required.

2.2.1 Escape of Water

The damage management industry has traditionally sub categorised the escape of water into buildings as:

Category 1

Water originating from a source that **does not** pose substantial harm to humans

Category 2

Water containing a significant degree of chemical, biological and/or physical contamination and having the **potential** to cause discomfort or sickness if consumed by or exposed to humans

Category 3

Water containing pathogenic agents, chemicals and other types of contamination and being **likely** to cause discomfort or sickness if consumed by or exposed to humans

Within these 3 Escape of Water categories it is also necessary to categorise the level of damage caused – whether there is only minor damage or major damage to the property and its contents as a result of the incident. Categorising the amount of damage will indicate which protocols to follow to ensure the correct restoration, repair or reinstatement procedures for the level of damage are implemented.

Sewage

Sewage contamination to a property is that of direct ingress, either from a backing up of the internal sewage waste outlets due to pressure in the external sewage waste system, or external ingress due to overflow or malfunction of the sewage waste systems.

Sewage water contains pathogenic material that **will cause harm to humans** if consumed or exposed and every effort should be made to limit the risk to the occupants of the property, and those that enter it, against potential ill health.

For these reasons the damage management industry has traditionally treated sewage or extreme foul water contamination as a distinct sub category.

It should be recognised that a contractor who deals with internal decontamination, sanitisation and odour removal requires extensive training, and must also be competent in the successful removal and reinstatement procedures in relation to any contaminated items, due to the potential Health & Safety risks to the occupants

of the building and any other third party. Additionally, due to the potential cost of replacements involved, a valuation surveyor may be required.

Where the contractor is not qualified or competent to dispose of contaminated source residue an appropriate disposal contractor should be contacted to meet legal requirements.

Examples of the typical protocols and procedures to be followed in response to incidents for each of the above Escape of Water categories are attached at the end of this document as Appendices A-D.

2.2.2 Flood

The damage management industry has traditionally categorised flood as an incident covering a localised, or series of localised geographic regions, involving ingress of substantial amounts of water in a property or properties. Such incidents require similar knowledge skills to other water damage categories plus project management skills and people management techniques.

Procedures in the event of flood are different to those for the day to day ingress of water, due to the volume of water and likely associated damage.

The principles related to the water source and sub categorisation can be applied as per Escape of Water where this can be identified. It should be noted that due to the nature and volume of flood water many procedures will be in line with those for a Category 3 and/or Sewage category.

An example of the typical protocols and procedures to be followed in response to Flood incidents are attached at the end of this document as Appendix E.

2.2.3 Trauma

The Damage Management industry has traditionally categorised Trauma as an event where specialised services are required to deal with the aftermath of an incident or peril where human or animal body fluids have been spilt are involved.

Health & Safety knowledge and sharps skills, plus containment, decontamination, deodourisation and sanitising processes, plus safe disposal techniques, are essential in this field of damage management and the operator should have received specific training in these disciplines.

An understanding of the psychological effects of this type of incident on the individuals involved is an essential skill and technicians must fully understand the correct protocols when dealing with this area of damage management.

2.2.4 Fire/Smoke

The damage management industry has traditionally categorised Fire and Smoke damage to buildings on an individual incident basis, as the contaminants involved

with smoke are entirely dependent on the materials burnt, fuel available, timeframe, temperatures reached, building construction methods, and building materials.

These incidents can be distinguished as:

Low oxygen fires (slow burning) causing, odorous and wet difficult to remove residue that require prompt mitigation procedures to minimise losses

- Strong odours which are difficult to remove from absorbent materials
- Deep set residues to porous surfaces
- Run lines on vertical surfaces due to condensation
- Wet cleaning techniques required and aggressive products for removal

High oxygen fires (fast burning) causing, dry residues that affect numerous areas and are carried into difficult to access places and items

- Items suffer from more thermal damage (scorching and distortion)
- Drier residues require dry initial removal techniques
- Large amount of smoke chains and cobwebs visible at high levels
- Voids and roof spaces may require some form of treatment

Protein fires which cause odorous residues that cannot be seen with the naked eye and require several different techniques in odour removal and restoration processes

- Odours often resemble item burnt (fish, chicken, meat etc)
- Dismantling of fixed items within the area of the seat of the fire is generally necessary
- Initial odour removal by air scrubbing or air cleaning
- Absorbent items may require ozone chamber treatments

Chloride residue fires which cause etching and discolouration to metals and plastics, and testing of surface Chloride levels, are required to ascertain the degree of damage and subsequent mitigation procedures

- Testing is required of all areas within the property to ascertain the spread and degree of residue present
- Electrical and electronic items require immediate mitigation actions
- Post testing of electrical and electronic items is essential
- Treatments to surfaces to stop and or restrict corrosion are necessary

Plastic based fires which can cause a build up of acidic residues which, when combined with the humidity of the air, water from the extinguishing of the fire or even cleaning attempts, can create corrosive acids which may etch surfaces and textiles

- Prompt action to reduce the acidity of the surfaces are necessary
- Odours are pungent and require several odour cleaning methods
- Climate control (dehumidifiers) must be installed at the stabilisation phase
- Climate control is essential throughout the restoration phase

Oil based fires which, depending on their substance base, can leave deposits of oleophillic material which attracts particles of incomplete combustion to surfaces and textiles

- Residues are generally black and sticky
- Dry removal techniques are essential (absorption or suction) as the first step of restoration
- Oleophillic materials discolour and stain easily
- Absorbent materials may require several different cleaning techniques

In the majority of cases several different materials will have been burnt or affected by the fire, so different types of residues and categories of damage can be present at the same time. This is further compounded by the effects of smoke movement and varying temperatures within the property.

In all cases the extinguishing methods used should also be taken into consideration, as they can create secondary issues associated with water damage categories.

With all fire types the length of time the smoke residues are left unattended the potential for more long term damage increases, so it is extremely important that smoke damage is addressed as quickly as possible to maximise potential restoration of buildings and contents.

An example of the typical protocols and procedures to be followed in response to Fire/Smoke incidents are attached at the end of this document as Appendix F.

2.2.5 Major Incident/Surge

The damage management industry has traditionally categorised Major Incident or Surge as an event where specialised services are required to deal with the aftermath, where substantial damage has been caused to a localised area or areas and the resulting effects have caused losses to the inhabitants of that area.

The specific procedures will depend on the nature of the damage and its cause, and will follow appropriate best practice as outlined under the relevant category, with the additional need to manage the high volume of premises involved, requiring more complex project management procedures and greater volumes of equipment, resources and manpower.

2.2.6 Accidental Damage

Accidental Damage can apply to both contents and buildings and, where covered by an insurance policy, knowledge of insurance terminology and insurance policy terms of reference, as well as knowledge of a variety of restoration and repair processes and methods is required. It is important to be able to recognise when specialist repair or restoration is appropriate and identify relevant providers.

Further/expanded information relating to specific technical activity on all the above perils can be found in the associated technical support documents

2.3 Carry out Risk Assessment and preliminary triage

Prior to a full survey and assessment the Health & Safety aspects of the site must be assessed and fully documented.

To do this in the correct format and following best practice it is recommended that the technician or surveyor has had sufficient training and obtained a qualification in Health & Safety at Work, the minimum being a Health & Safety Awareness course renewed every 2 years, and documentation available from the HSE should be utilised.

There are five steps to carrying out and maintaining a risk assessment.

1 Look for hazards – look for anything that could possibly cause harm or injury.

2 Consider who might be harmed and how – this could include people who may reasonably visit the property later but aren't present at the time of the assessment.

3 Evaluate the risk – what is the chance or likelihood of someone being injured? Are existing control measures sufficient?

4 Record details of the risk assessment where there are significant findings.

5 Review and revise the risk assessment as work progresses.

In conjunction with the Risk Assessment, information should be gathered on all aspects of the incident that will impact on the triage recommendations (see 2.6).

2.4 Discuss Risk Assessment and preliminary triage findings with customer

At this stage it is best practice to discuss the findings of the Risk Assessment and initial triage with the customer, as they may be able to add to the technician's observations by identifying issues that may not be obvious or visible, or which the technician may not be aware of. The customer's particular needs should also be taken into account when determining the next steps.

2.5 Request Customer Needs Statement

Prior to any further assessment it is prudent to ascertain the client's needs and requirements, so that these can be prioritised and factored into the scope of works.

These needs could include:

2.5.1 Emergency laundering of clothing

To assist the customer to maintain their day to day life, they will require sufficient clothing for at least one working week for themselves and any immediate family occupying the damaged dwelling, so it is best practice to suggest to the client that they put together a quantity of clothing for this purpose if applicable.

Depending on the findings of the risk assessment and triage this clothing may need to go through an emergency laundry process. This is most likely to be required in cases of fire or smoke damage.

2.5.2 Specific areas or rooms to be restored, repaired or reinstated first

In situations where the customer is able to continue living within the damaged premises, or occupation within the building can continue**,** discuss with the customer the options for prioritising specific areas or rooms for restoration, repair or reinstatement, so that loss of use can be minimised.

It will not always be possible at this stage for these rooms or areas to be fully restored to pre-incident condition but the objective would be to restore them sufficiently to allow their usage without any Health & Safety issues.

2.5.3 Specific items of intrinsic or sentimental value to be prioritised

Where items have been identified by the customer as valuable, or of sentimental value**,** they should be prioritised wherever possible so as to minimise the traumatic effects of the experience the customer has suffered.

Where this identification has been made by the technician it is best practice to discuss the steps to be taken with the customer to get their agreement.

These items should be photographed, documented and recorded, particularly where an insurer or adjuster is involved.

2.5.4 Safe access and egress

At all times the customer should be made aware of the safe access and egress points, and where the customer requires access and egress due to commercial matters, this should be taken into consideration when creating the scope for restoration and arrangements discussed with the customer in advance.

2.5.5 Defined timeframes

It is best practice to discuss with the customer any timescales that have been put in place by third parties or that may affect the completion of the restoration, repair or reinstatement of the building due to other circumstances.

Timescales to deliver the most efficient and effective completion of the restoration, repair and/or reinstatement of the building should be a priority in communications with the customer and any other parties involved.

Timescales that affect other contractors involved in the restoration, repair and any reinstatement of the building should be taken into consideration and factored in accordingly.

2.5.6 Items that require prioritising

Where specific items or equipment play a significant part in the day to day life of the customer, or are key to the continued occupation of the premises, attention should be given to prioritising these items so as to avoid the need for alternative accommodation wherever possible.

If this requires substantial immediate work the agreement of an insurer or adjuster may have to be sought prior to commencement.

2.5.7 Client Health issues or health requirements

Account should be taken of high risks groups including babies and infants (below 5 years of age), elderly persons (above 65 years of age), pregnant women, those with immune system deficiency, convalescing persons or those suffering from long term illness, persons registered disabled and those suffering from respiratory illness or disease, and they should be advised accordingly.

2.5.8 Third party involvements or requests

Where the customer's needs are in line with the parameters of the potential scope of works, any that can be carried out immediately should be put in train during the stabilisation phase, once they have been factored into the scope of works.

Actions taken to initiate any works identified and agreed in respect of customer needs should be documented and communicated with any relevant third parties as soon as possible. The requests or timescales of some third parties may need to be taken into consideration where they have an impact on customer needs.

Clarification may need to be obtained from third parties prior to taking action to carry out work identified as within customer needs, especially where these fall outside the parameters of the potential scope of works. If required, clarification should be obtained during the stabilising visit.

2.5.9 Site security and times of site access

Where site security is an issue, effective security measures should be put in place and site visit times should be pre-agreed with the customer and fully documented.

The technicians and staff having on site access should comply with all the agreed parameters of Health & Safety and security, as discussed and agreed with the customer and any relevant third party.

2.6 Carry out Triage and prioritise initial work

Once a dossier fully recording the area and degree of damage, building survey, incident classification and risk assessment has been produced, a full visual inspection will enable the technician to prioritise the actions required and determine what can be done to mitigate the loss and prevent secondary damage.

A Triage process involves:

- Assessment and identification of items or areas that require immediate action to prevent any further or secondary damage, and where urgent attention is needed to initiate initial restoration or repair procedures
- Assessment and identification of items or areas that can be restored or repaired but are not at any immediate risk of further damage
- Assessment and identification of items or areas that are beyond economical restoration or repair (BER)

Throughout the stabilisation phase information gathered should be used to update the triage conclusions where appropriate

The prioritising of the initial works should be carried out in line with the Triage assessment, needs statement and risk assessments and at all times the mitigation procedures should be efficient and cost effective.

2.7 Discuss proposed actions and gain customer authorisation

Prior to commencing the mitigating stabilisation procedures, check that the proposed works fall within the terms of the agreement with the client and/or, where an insurance policy agreement is in place, within the terms and conditions of the policy document/s.

Ensure any Delegated Authority is sufficient to cover the proposed work, and implement any requirement to collect an excess payment in advance.

Where the work is on the instruction of an insurance company or their agent, the customer must be made aware of the possibility of a repudiated claim if there is a possibility the damage is due to an uninsured risk, and work should be the minimum necessary to mitigate the circumstances, informing the client of the potential cost implications. In this case any third party should be notified immediately.

Before commencing the work, talk through with the client the proposed mitigation/stabilisation procedure, so that they are aware of what is intended to be done.

Where required, the client should be asked to sign an Authorisation document to allow the work to be carried out. The information contained in the Authorisation, and any potential consequences arising from the client signing the document, should be fully explained.

Any works should only commence after the Authorisation document has been willingly signed by the client.

2.8 Record initial findings and take photographs

Once the client and/or relevant third party has agreed with the triage and prioritised actions, this must be documented and all findings recorded.

Photographic images of the exterior of the building should be taken. It is recommended that images are taken from all sides of the property (where possible) so as to give a clear picture of the property type. Where there are areas of the building that may be relevant to the nature of the incident or peril, these should also be photographed. Where an insurance policy agreement is in place these images may help to identify any potential for repudiation.

Photographic images of the internal damage to the building and or contents should include a minimum of four photographic images per affected room, ideally one from each corner into the centre of the room.

Where specific items have been noted as damaged by the incident or peril, these too must be photographed, and an image of any serial numbers, product codes, or labels photographed or recorded.

Make note of the pre-damaged condition of any items deemed restorable, and take photographic images of the unaffected areas for control and comparison purposes.

Where there is a possibility of fraudulent behaviour, it is advisable to take as many photographic images as possible, as these will be of assistance with any potential future disagreement or dispute.

2.9 Action to limit secondary damage based on triage outcome

It is important that action is taken to minimise secondary damage.

Primary damage is damage that occurs at the time of the incident and over which you have no control.

Examples of primary damage are:

- Burnt timbers
- Scorching or heat damage
- Initial swelling of wood from water damage

Secondary damage is damage that occurs after the incident, within the first few hours, days and weeks.

Typical examples of secondary damage are:

- Rusting and corrosion from acidic fire residues
- Swelling and distortion of timber from delayed drying
- Mould growth and rot

One of the benefits the qualified technician offers is that they are able to take prompt and decisive action to reduce secondary damage. For a customer and, where applicable, an insurer this can mean a reduced overall cost, being able to retain items of sentimental value in good condition, and/or continued or quicker re-occupation of the property.

The stabilisation procedures identified during triage are necessary to mitigate the damage, and limit the loss by reducing the potential for secondary damage and

corrosion and increasing the potential for successful restoration and repair. This enables the damage to be reassessed prior to initiating subsequent actions.

2.9.1. Take action on items affected

In all types of incident:

- Remove items that are **not affected** from the area to a safe site.
- Remove items that are **affected but deemed salvageable** to a site for restoration.
- Remove items that are deemed **beyond restoration** or **beyond economical restoration** in preparation for safe disposal.
- Identify items **at risk of corrosion damage** that cannot be removed and take the appropriate protective measures.

In smoke damage situations:

- Control of the humidity is important and the **removal of vulnerable items to a stable environment**, with controlled levels of humidity, may be required. This is key step to control corrosion in chloride rich environments.

  Ambient RH values below 60% will start to slow down/retard corrosion and below 50% RH will significantly retard such corrosion. It also may be necessary to carry out water damage limitation techniques in some circumstances.
- In the majority of smoke damage situations it is considered best practice to install dehumidifiers during the initial visit, to assist in stabilising the climate, and helping to minimise the effects of secondary damage due to condensation.
- It is also considered best practice to install air scrubbing or air cleaning equipment during the initial visit also to assist in stabilising the climate in order to minimise the effects of particulates in the air and control odour problems.

2.9.2 First phase of drying, remove excess moisture

There are three phases of drying:

Phase 1 – Removal of liquid water

Phase 2 – Surface drying

Phase 3 – Drying of building material

During the stabilising visit it is important to initiate Phase 1 of the drying regime, which is critical in reducing the potential for secondary damage and assisting in the decrease of the overall Phase 2 and 3 drying times.

Extract surplus water from all items that will allow removal by suction, adsorption and absorption, taking care not to damage surfaces that have been deemed restorable (where applicable)

- The use of weighted vacuum tools on carpets affected with clean water can sometimes assist successful restoration by reducing the drying times significantly.
- The technician may choose to extract the water from the property with a submersible pump, or some kind of wet vacuum equipment.

The technician needs to be aware that when pumping water from basements or below ground level this may create a hydrostatic pressure differential. Water may exist in surrounding ground or adjoining cellars/rooms at a higher level and the pressure differential could cause structural damage.

In line with best practice do not reduce depth by more than 1m per day.

2.9.3 Assess Damage

Assess building materials for safety and potential for onsite restoration or removal procedures.

During water extraction processes check all items and areas thoroughly, as it is only when the surplus water has been removed that a true assessment of their condition, and the options for successful restoration can be made.

Where there is smoke damage:

- Chloride testing may be required on smoke damage, where plastics have been involved, to ascertain the degree of potential corrosive activity of the smoke residues.
- With smoke damage it can be difficult to predict if cleaning will be successful. Failure can sometimes be avoided by test processing. This means cleaning a sample item, and having it properly assessed before work proceeds. However, problems can arise for example with test cleaning of an area of a smoke contaminated wall or ceiling, as the appearance may differ once the whole area has been cleaned.
- Test cleaning of surfaces or items identified as requiring immediate action, and those that have been deemed to be restorable, will help to identify the methods likely to deliver the most satisfactory results.

2.9.4 Control Climate

Microbial organisms exist everywhere in natural environments, both indoors and outdoors.

- These are mainly bacteria and fungi (some fungi are known as moulds).
- The outdoor environment has a much heavier load of bacteria and fungi than will be found inside a normal property.
- When moisture levels in a property are within a 'normal' range then micro organisms maintain a stable relationship with building materials, and will usually be dormant.
- When moisture levels increase above a threshold value, spores can start to grow unless the increase is very temporary.
- Hygroscopic materials (materials which readily take up and retain moisture) respond to relative humidity levels. As the relative humidity rises so the moisture content of hygroscopic materials rises, as it lowers so the moisture level within the material drops again.

  This means, for example, that curtains and carpets in the home will normally have varying amounts of moisture depending on the weather conditions and how the property is used (e.g. cooking, washing and ventilation).

In a water damage incident you would expect the relative humidity to rise, and the moisture content of curtains and carpets not directly affected would also rise. If this continues for long enough the mould spores present in the carpets and curtains would commence growing and start damaging the fabrics.

It may be surprising to think of water as a pollutant, especially clean water. While the normal indoor environment is 'dry', following a water damage incident – even with clean water – this balance is changed.

Dormant mould spores respond immediately to the changed conditions and commence growing when the moisture level reaches a certain threshold. This threshold varies for different types of fungi/moulds.

The technician can help reduce the humidity by extracting the surface lying water and considering removal of items that are saturated.

The humidity can be further reduced by a variety of additional methods:

- **Ventilation** to the outside – for this to be successful the technician must have an understanding of Psychrometrics and be able to identify when the specific humidity of the outside air is less than that of the air within the property. In these circumstances, usually in winter, ventilation can be helpful especially in the first few hours when the moisture content of the air in the property will be very high.

- **Installation of drying equipment** to initiate climate control and reduce the effects of potential secondary damage (where applicable). The use of dehumidifiers can reduce the moisture load in the air and, if correctly balanced to the drying needs of the property, can maintain reduced humidity conditions.

Best practice is to achieve a Relative Humidity below 50% at a temperature of 20°c (+/-2°c) for category 1 & 2 water damage within 3 days, and for category 3 & 4 water damage within 5 days, from installation of the dehumidifiers.

Dehumidifiers reduce the Relative Humidity by extracting moisture from the air. They either work by condensing onto a cold surface (refrigerant type) or by absorbing moisture (desiccant type).

- Most refrigerant dehumidifiers work less efficiently at lower temperatures (below 15ºC) or at higher temperatures (above 30ºC).

- Desiccant dehumidifiers will work at very low temperatures. The desiccant material is capable of absorbing moisture from the air which, when heated, can be evacuated from the building or captured in a condensing unit. In some cases very low moisture content air can be delivered under a polythene envelope to create a microclimate on the surface of the damp material, (sometimes referred to as 'enveloping' or 'tenting').

  Because these units usually require venting to the outside of the building there can sometimes be difficulties in deploying them because of problems with building security if windows need to be left open. Some desiccant dehumidifiers can avoid the need for this by means of an attached condensing unit.

- **Heating**, or introducing warmed low RH air into the property, can lower the humidity, as the temperature rises, which will increase the capacity of the air to assist drying. This method also encourages drying by replacing the heat energy lost from the building's materials through evaporation. If this method is used it is essential that the moisture picked up into the warmed air is removed effectively.

  Note: the technician needs to be very careful, especially in the first hours/days, to avoid using blowers without adequate humidity control. The use of blowers on their own, for example, can rapidly increase the amount of airborne water vapour, with disastrous consequences from secondary damage becoming very quickly apparent.

Sewage incidents require special attention:

- When sewage decontamination is necessary it is best practice to not install air movement due to the risk of cross contamination, but to increase the amount of dehumidifiers to assist in the drying regime.

- It is also considered best practice to install air scrubbing or air cleaning equipment at the initial visit to assist in stabilising the climate and minimising the effects of the particulates in the air as well as controlling the odour problems.

2.9.5 Make safe

Make safe by removal of any building materials that are deemed a hazard or risk to occupants or third parties, and removal or suppression of items or areas that are odorous or emit substances that are a potential risk to Health & Safety.

Where there are building materials that are unsafe, and could cause injury or harm, they should be photographed, recorded and removed from the property. At all times Health & Safety requirements should be adhered to, and it is important to ensure items and material placed outside are within current bye-laws.

2.9.6 Prevent spread

Where there is water damage:

- Place furniture at risk of absorbing moisture from wet flooring onto blocks.
- Open doors and drawers of furniture to assist drying (but do not force as they will ease on drying).
- Remove contents likely to suffer from secondary damage to a drier environment, if available.
- Lift and remove unrestorable saturated items (e.g. carpets) to outside of property.
- If documents or photographs are wet consider arranging for the customer to wrap important documents in polythene and freeze so that they can be dealt with later.
- Remove damp items (e.g. papers, books, fabrics) from wood surfaces to prevent staining.
- Prevent spread of airborne contamination and take action to control air quality so that any threat of potential harm to the occupants, third parties or others are under control and the measures taken are within relevant Health & Safety guidelines.

Where there is smoke damage:

- In smoke damage situations, the protection of floors and floor coverings and initial cleaning is essential to prevent further damage.
- Clean floors and floor coverings at the start to remove residues, prevent transfer to other less affected areas, prevent splash and run staining, and reduce the risk of secondary damage.
- Cover to prevent recontamination or remove when dry.
- Some fire residues can cause staining so identify areas or items at risk due to time delays and clean accordingly.
- Clean items at risk of corrosion or staining damage.

- Clean sinks, baths and tiles to prevent splash and run staining and corrosion damage.

- If any chlorides are detected the following items must be cleaned as a priority and/or, if cost effective and practical, they should be removed to a stable environment immediately.

    - Electrical equipment and especially electronic circuitry are very vulnerable when chlorides are present.
    - Machinery and tools.
    - Metallic items such as door handles.
    - Stainless steel is particularly at risk of corrosion.
    - Aluminium windows.
    - Brass electrical fittings.
    - Gilding on picture frames or metal ornaments.
    - Plastic laminated surfaces on kitchen and cupboard units.
    - UPVC windows and doors.

    If this is not possible, tenting should be erected and equipment installed to create an appropriate localised humidity controlled environment.

- Prevent spread of airborne contamination and take action to control air quality so that any threat of potential harm to the occupants, third parties or others are under control and the measures taken are within relevant Health & Safety guidelines.

Improving the general environment to reduce re-contamination is an important part of the initial work required in order to mitigate the potential effects of secondary damage.

- Remove loose particulates and soot webs by vacuuming, taking care with vulnerable materials, such as wallpaper and fabrics. Prevent smudging by keeping the equipment nozzle away from direct contact with the surface being cleaned.

In all cases, check electrical supply and test status of fridges and/or freezers.

- If freezer contents are of high value can they be moved?
- If not, can a temporary supply be established?
- Is Portable Appliance Testing (PAT) required?
- Compare the cost of installation of a temporary electricity supply board as it could be much less than the value of the freezer contents or replacement cover if insured?
- If freezer door is kept shut contents will be unaffected for several hours.
- If fridges/freezers are emptied, prop doors open to permit airflow and prevent mould growth.

Potted plants should have leaves washed in deionised water on both sides to prevent stifling effects of residues and removed to stable environment if practical/cost effective.

2.9.7 Apply Treatments

Apply any required initial treatments.

It may be advisable during the visual inspection to apply a biocide to all surfaces, especially if water damage is from a foul/contaminated source; dwell time (approx 10 minutes) is required to allow the biocides to react with any potential pathogens.

Apply any treatments necessary to reduce the effects of secondary damage or corrosion.

Items identified as requiring immediate action which have been test cleaned, and for which the results gave a clear response of potential successful restoration, should either be cleaned or restored on site or removed from site for immediate restoration procedures. This should only be carried out with the consent, where appropriate, of the occupier, insurer or third party.

Use the right chemical or product for the job

Always follow the manufacturers' guidelines for the use of the chemical, product or process and, in addition, check labels of all products, to ensure they are used safely and in the right circumstances.

Even common domestic chemicals can be mixed to form dangerous gases, so caution should be exercised at all times.

Incorrect usage could cause damage to the item being cleaned and/or the environment.

All chemicals must have a Material Safety Data Sheet (MSDS) which should be accessible at all times and, where applicable, COSHH risk assessment.

2.9.8 Assess and document

Identify and document location of any trapped moisture.

- It is important to investigate any areas where it is possible water may have become trapped, behind panelling, boarding or pipe boxing for example, as these are areas where mould could quickly grow.
- Water trapped in floor insulation or voids – the technician needs to consider how the floor is constructed and whether it has insulation that could retain moisture.
- Water trapped behind or beneath impermeable surfaces such as vinyl wallpaper or tiling.
- When there are carpet grippers it's possible for water to track around the edge of a room between carpet grippers and the wall. If this occurs it could lead to a

section of saturated carpet on the far side of the room, which could remain undiscovered if the technician's survey, with moisture meters, is not thorough.

Take initial moisture readings and produce documentation including moisture maps.

Similar investigation to identify smoke ingress in hidden areas should be undertaken in cases of fire/smoke damage.

2.9.9 Readings and samples

Moisture readings should include as a minimum:

- Moisture Content (MC) of damaged area(s) or item(s) where applicable
- Wood Moisture Equivalent (WME) of damaged area(s) or item(s)
- Control measurements for drying targets/goals of MC or WME
- Relative Humidity (RH) and Temperature (T) of the internal areas affected within the building, and of unaffected and external areas for comparison
- Specific Humidity (SH) of the internal areas affected within the building, and of unaffected and external areas for comparison
- Control measurements for drying targets/goals of SH
- ERH (Equilibrium Relative Humidity) measurements (where applicable)
- Adenosine TriPhosphate (ATP) testing (where applicable)
- Chloride testing (where applicable)
- Swab sampling (where applicable)
- Asbestos sampling (where applicable)

In order to carry out moisture measurements correctly it is essential to have sufficient understanding of appropriate equipment currently available and to have sufficient training to understand the readings and take appropriate action. The technician should therefore be qualified in the relevant disciplines.

2.9.10 Second phase drying and/or odour control

Initiate second phase drying systems to assist in climate control and stabilisation of the environment prior to third phase drying of the property.

Water vapour in the air will quickly move through the property, as the drier air in unaffected areas attracts and absorbs moisture, leading to potential mould growth and extending damage beyond rooms originally affected, unless dealt with promptly.

The installation of air moving equipment in phase 2 of the drying regime will create quick evaporation of the surface and subsurface moisture, but this must be balanced with the installation of sufficient dehumidification equipment.

Options for specific targeted and/or envelope drying and advanced, specialised drying and heating applications should be considered.

Note: **A balanced drying system is established when the air has sufficient capacity to continue removing the water vapour produced as materials dry out**.

Ensure control measures for initial odours resulting from the incident or peril are implemented if required.

2.10 Discuss actions taken with customer

Once the initial work is complete, discuss the mitigation work carried out with the client, so that they are aware of what has been done.

Reassess the area and/or items involved in the incident or peril following the mitigation procedures. It is best practice to carry out a second triage at this point to categorise them further if necessary.

2.11 Review survey of affected areas to inform the scope of works

Review information gathered during the survey of the property, ensuring this includes details of the building construction and the areas and/or items damaged, making note of sizes, types, condition and degree of damage, as this is required in order to create sufficient method statements for the restoration, repair or reinstatement.

The scope of works should include:

2.11.1 Customer details

As recorded in the incident file

2.11.2 Area or room details

Name of each area/room the scope applies to and normal usage of the area or room

Room(s) measurements

Sufficient information on each type of material within the room that forms part of the scope of restoration, repair or reinstatement

Where possible, identification of items that could affect the restoration process and the precautions or processes recommended

2.11.3 Contents details

Detailed inventory of items per room affected

Where information is available identify approximate replacement cost

Where appropriate manufacturers' details and serial or code numbers

Type and degree of damage to the items that form part of the scope

2.11.4 Restore, repair, reinstate or replacement options

Potential and options for restoration, reinstatement, repair or replacement per area or item, listing specific processes and materials that may be required.

Identify and list specialised services or methods required to aid restoration, repair or reinstatement.

2.11.5 Drying potential

Where drying of the building is required, identify the appropriate Phase 3 drying regime and the timeframe of monitoring visits or level of remote monitoring necessary to take the required moisture readings, together with an estimated length of time the drying process can be expected to take.

Identify specialised equipment or additional equipment required to aid the restoration, repair or reinstatement and the supplementary cost of this specialised equipment.

Identify where the use of such specialised equipment delivers savings on time and energy and thereby reduces overall claims cost and life cycle, where appropriate.

2.11.6 Health & Safety

Relevant Health & Safety statements with the accompanying method statements.

Health & Safety issues that may affect the technicians and staff and/or occupants on site during the restoration, repair or reinstatement process.

2.11.7 Timeframes

Phases and timeframes of the restoration, repair or reinstatement.

Where and/or when third party or other contractors should commence their restoration, repair or reinstatement procedures if applicable.

2.11.8 Scope costs

Cost breakdown of restoration or repair method.

Cost breakdown including material cost breakdown of reinstatement method, if applicable.

Restoration or repair savings in material and labour costs against reinstatement or replacement cost and, where applicable, energy, time and overall cost savings.

2.11.9 Parameters

The scope should take particular account of the following:

- Cause of damage and any circumstances around the incident that may affect the outcomes
- Where this is an insured incident or peril, how the circumstances may affect the insurance claim

- Any latent defects in the building
- Pre-existing damage (mould or fungus)
- Any third party involvement
- Consideration of the status of the building, type of construction, age, condition and whether there is any listed status
- The scoping exercise should be undertaken in a methodical fashion with a clear audit trail
- Any measurements or samples taken should be in line with current methodology and in line with current Health & Safety regulations and guidelines

2.12 Create scope of works

All the information gained from the full survey of the building and the initial damage caused by the incident or peril and outcome of the triage assessment should be fully documented and included within the scope.

Method statements on the scope restoration, repair or reinstatement should be drawn up in a sequence that is easily understood by any party involved with the incident or peril.

Risk assessments should be relevant and current and indicate the scope requirements.

Alternative scenarios or methods, where appropriate, should be recommended if they offer more efficient, cost effective solutions and deliver improved benefits to the customer and/or insurer.

Consequences of delays or non completion of other works associated with the incident or peril should be identified and brought to attention within the document.

Full cost analysis and transparency of costs should be apparent within the scope, and any specific detail of costs that could affect the restoration, repair or reinstatement should be documented within the scope.

Health & Safety arrangements should be included within the scope and where appropriate identified or highlighted.

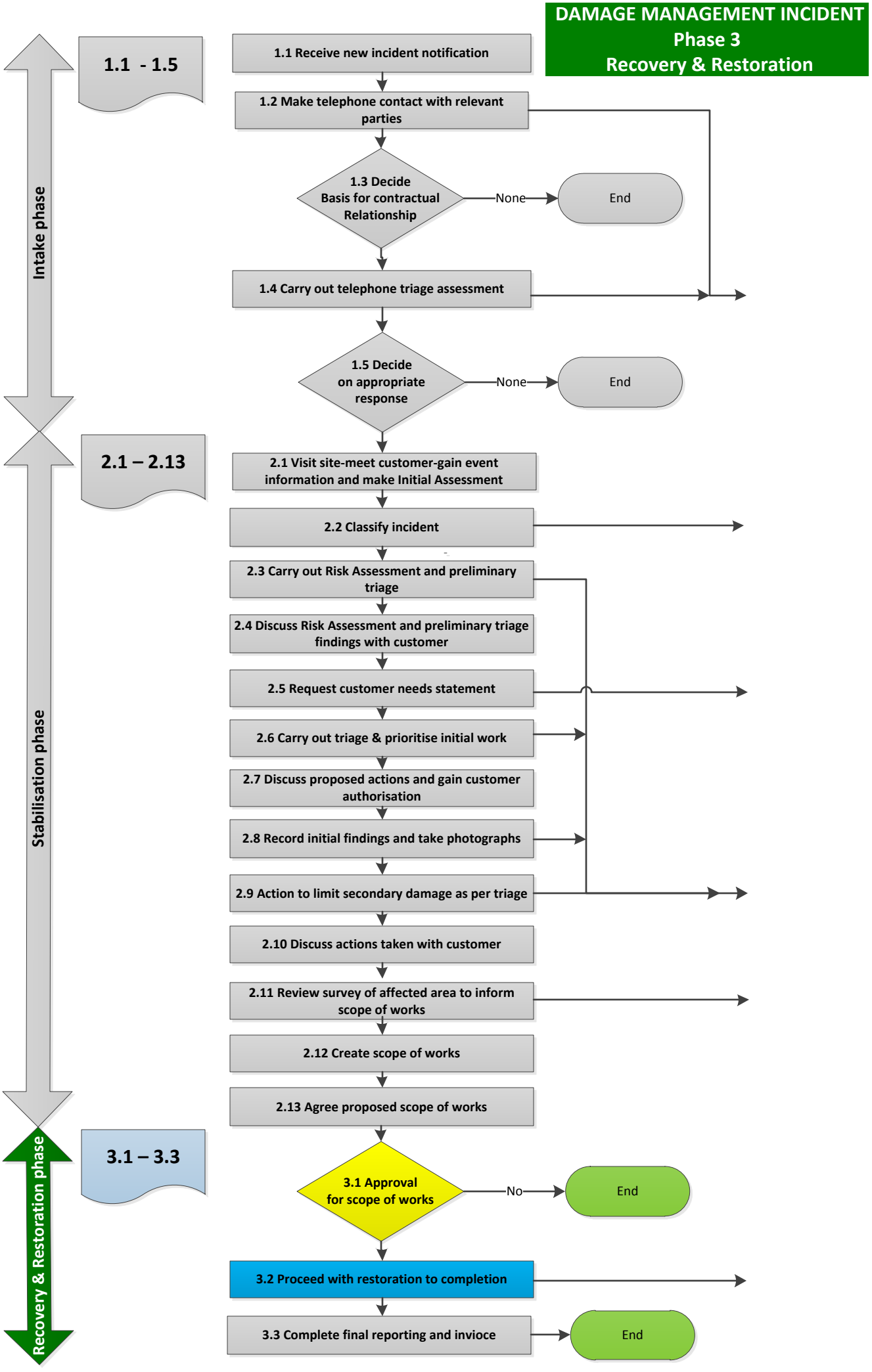
Approximate completion dates or timeframes should be included within the scope.

All relevant documentation and photographic evidence should be copied for reference, and the originals sent to the identified individual or organisation that will make the decisions relating to the scope of works and subsequent costs.

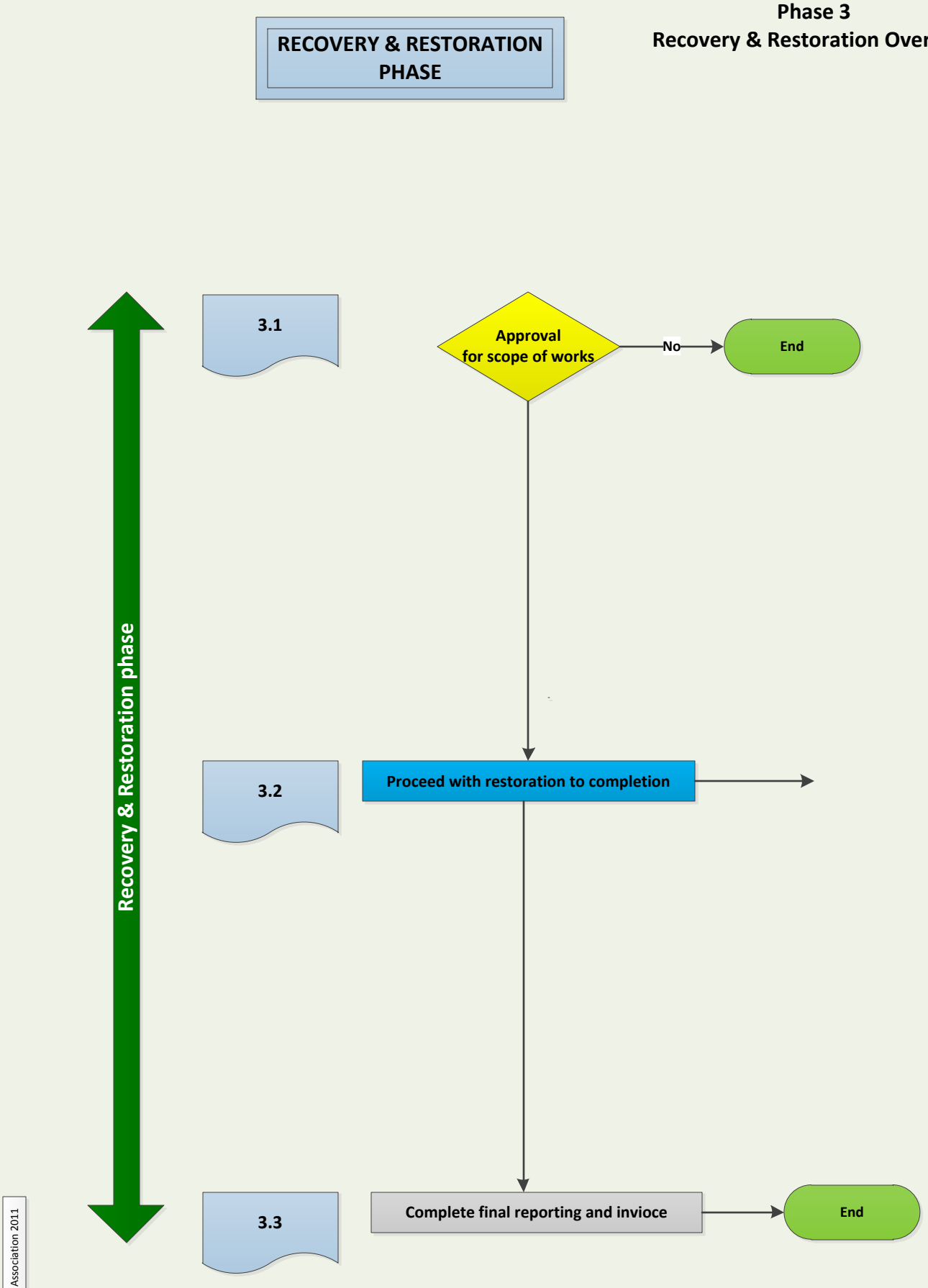
2.13 Agree proposed scope of works

Once the scope has been fully discussed with the customer, and agreed with any other relevant party if required, the recovery and restoration should be implemented. Any changes to the scope of work prior to acceptance should be fully documented and incorporated.

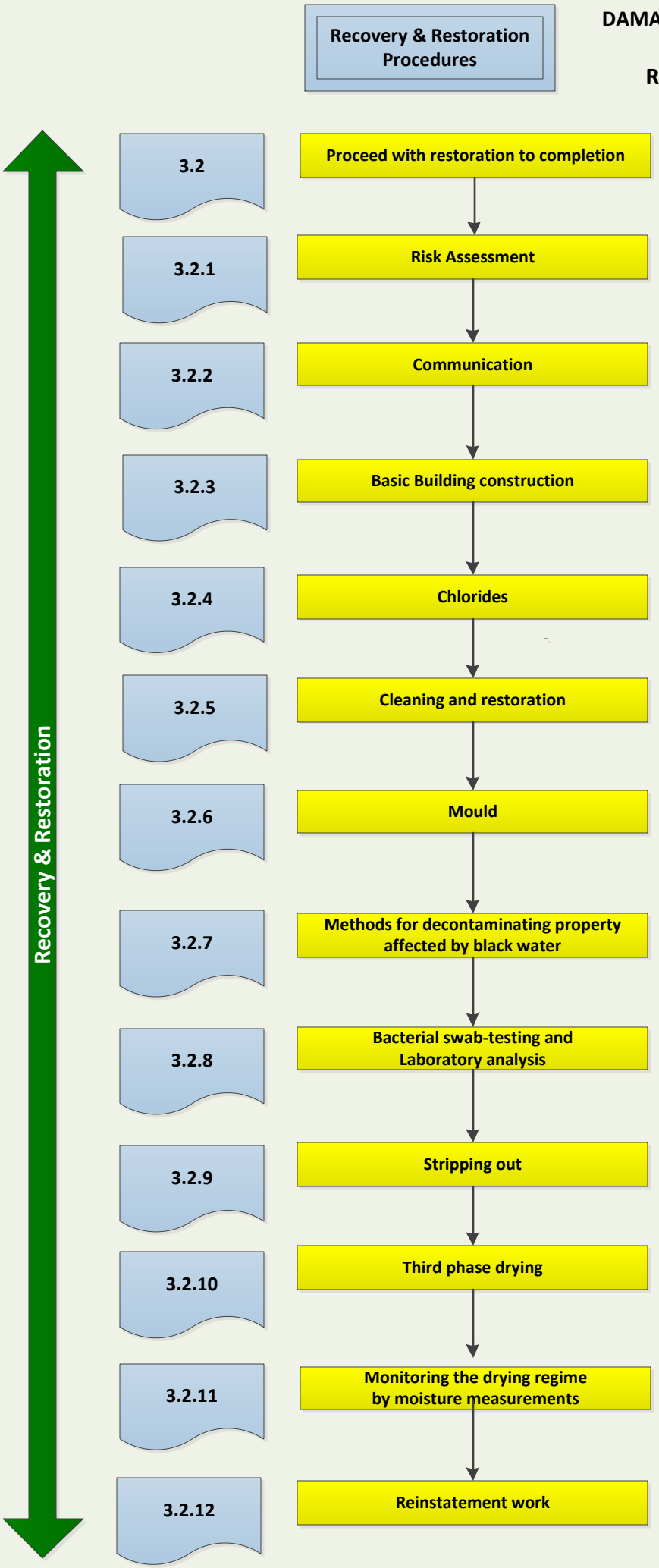
RECOVERY & RESTORATION PHASE


DAMAGE MANAGEMENT INCIDENT
Phase 3
Recovery & Restoration
Intake phase
1.1 - 1.5
Stabilisation phase
2.1 – 2.13
Recovery & Restoration phase
3.1 – 3.3
1.1 Receive new incident notification
1.2 Make telephone contact with relevant parties
1.3 Decide Basis for contractual Relationship
None
End
1.4 Carry out telephone triage assessment
1.5 Decide on appropriate response
None
End
2.1 Visit site-meet customer-gain event information and make Initial Assessment
2.2 Classify incident
2.3 Carry out Risk Assessment and preliminary triage
2.4 Discuss Risk Assessment and preliminary triage findings with customer
2.5 Request customer needs statement
2.6 Carry out triage & prioritise initial work
2.7 Discuss proposed actions and gain customer authorisation
2.8 Record initial findings and take photographs
2.9 Action to limit secondary damage as per triage
2.10 Discuss actions taken with customer
2.11 Review survey of affected area to inform scope of works
2.12 Create scope of works
2.13 Agree proposed scope of works
3.1 Approval for scope of works
No
End
3.2 Proceed with restoration to completion
3.3 Complete final reporting and invioce
End

DAMAGE MANAGEMENT INCIDENT
Phase 3
Recovery & Restoration Overview



DAMAGE MANAGEMENT INCIDENT
Phase 3 -
Recovery & Restoration
PROCEDURES



Recovery and Restoration Phase (Phase 3)

3.0 Review status following stabilisation

Prior to any work commencement the scope of works and survey findings will have been discussed in detail with the customer and any relevant third party and all recorded information will be available.

3.1 Approval for scope of works

Providing the customer wishes to proceed, swift agreement on the scope of works, where this is contractually required, is of paramount importance in order to deliver the anticipated outcomes and reduce the potential for secondary damage.

As outlined above all necessary agreements will have been reached prior to commencing the restoration & recovery phase.

3.2 Proceed with restoration to completion

On confirmation of the scope of works and associated costs, the restoration, repair or reinstatement works should commence as follows:

Emergency work:
- as a matter of urgency following receipt of confirmation
- OR within the agreed timeframe of any contractual or service level agreement

Non emergency work:
- as specified in the scope of works and agreed with the client
- OR within the agreed timeframe of any contractual or service level agreement

Any unforeseen deviations from the scope of works must be agreed with the client or third parties and fully documented.

Repudiation and Potential fraud

Where the technician is attending an insurance related incident they may be in a position to clarify whether the damage resulting from the incident or peril is within the terms and conditions of the relevant policy cover and, during the restoration, reinstatement or replacement works, should be aware of any attempt by the client to influence any changes in the agreed scope of works.

Additionally if, during any communications with a client, there is any suspicion of incomplete information being given or a reluctance to disclose any relevant information in connection with the incident or peril that will assist in completing the claim as per the scope of works, then it is best practice for this to be documented and reported to the relevant parties in line with the technician's organisation's internal procedures.

The technician should always be aware of any potential for fraud and inform the insurance provider of any suspicions, so that the insurer can decide on any appropriate action. It is not the technician's position to suggest or act on any potential fraudulent activity but only to inform others for them to take action if necessary.

Duty of care

The technician and his or her organisation have a general common law duty of care to protect others from injury in and around the workplace. The Health & Safety at Work Act 1974, and associated regulations and laws contain other specific requirements.

Health & Safety at Work Act – a criminal law matter

Failure to comply with the Health & Safety at Work Act is a criminal offence and, apart from the potential for serious injury, can have major consequences, of both a financial and reputational nature.

The laws include responsibilities to both people at work and the general public.

Other issues to take into consideration

During the course of recovery and restoration a number factors will be taken into consideration. Some of these are outlined below.

3.2.1 Risk Assessment

Assess the situation following the stabilisation phase, review risk assessment and update where necessary.

3.2.2 Communication

At all times during the restoration, repair or reinstatement works a clear line of communication must be maintained with the client and any third parties.

3.2.3 Basic building construction

Building construction can be diverse and complex and several different building techniques could be used on one building, particularly if it Is an older building which has had several 'makeovers' by different owners and had extensions added at different periods of time.

Original building components may have been replaced by modern materials, or just patched up due to wear and tear or damage. DIY attempts by property owners, or work by builders who are not experienced in older building repair techniques, may not always have used appropriate methods and materials.

Every building can be different from the next and, even with some basic knowledge of building construction, the construction method and how it will react to the incident or peril cannot be assumed.

The building's construction and materials will have been identified during the stabilisation survey and appropriate procedures included in the scope of works. However, when the building construction technique or style is outside the technician's knowledge, it is important to involve specialist restorers if appropriate.

3.2.4 Chlorides

Tests can be carried out to reveal levels of chlorides produced following a fire. This knowledge can be used to evaluate the likelihood of corrosive damage from fire residues.

PVC (Polyvinyl Chloride) – for example plastic drainage pipework is commonly made of PVC. When this burns hydrogen chloride is formed which combines with water to form hydrochloric acid, a very strong and damaging acid.

Repeat testing is required in different areas of fire damaged property as chloride levels are not consistent. Also look for visible corrosion to support the test results. Normally chloride testing should be carried out by a technically competent person.

The amount of damage caused by acids increases with:

Higher concentrations of acid in the fire residues. With chlorides fortunately it is possible to measure the concentration.

Time. This is a key issue as the damage increases with time and starts immediately after the fire.

Higher relative humidity (RH). Corrosion needs moisture, and is slowed at lower levels of RH. It is slowed below 60% RH, is very slow below 50% RH, and even slower below 40% RH. However below 30% RH there is a risk of electrostatic charges being generated which can cause damage to electronics.

Corrosion damage is serious and prompt action may be needed to prevent damage.

3.2.5 Cleaning and restoration

Cleaning should always be the first consideration of any restoration activity, especially in cases of fire or smoke damage as it is generally the most cost effective method for the restorative action.

In smoke damage situations cleaning is important to reduce the corrosive action of some smoke residues and to control the potential of cross contamination of unaffected areas. It is therefore imperative that cleaning is undertaken as soon as possible to mitigate the damage and increase the potential of restoration over replacement.

Professional specialist restorers can often achieve excellent results. However, the cost of such work must be measured against the value of the item. This may require independent verification.

Prior to any third phase drying techniques that may be required the building must be clear and free of any contaminates, otherwise the process of drying the building will cause free pathogens to be carried around the building, cross contaminating all areas of the building, whether or not they were initially affected by the water ingress.

3.2.6 Mould

Mould needs to be taken very seriously as it can cause potentially severe ongoing health problems and, if not dealt with appropriately, can lead to substantial damage to the property. It is therefore essential that those dealing with mould must have been properly trained and are qualified in this discipline.

Mould can usually be found in damp, dark or steam filled areas e.g. bathroom or kitchen, cluttered storage areas, recently flooded areas, basement areas, plumbing spaces, areas with poor ventilation and, outdoors, in humid environments.

Symptoms caused by mould allergy are watery, itchy eyes, a chronic cough, headaches or migraines, breathing difficulties, rashes, tiredness, sinus problems, nasal blockage and frequent sneezing.

Moulds can be separated into 3 groups in water damaged buildings:

- **Primary** – Relative Humidity between 65% - 80 % (Aspergillus & Penicillium)
- **Secondary** – Relative Humidity between 80% - 90% (Cladosporium)
- **Tertiary** – Relative Humidity above 90% (Fusarium, Stachybotrys & Chaetomium)

Various practices can be followed to mitigate mould issues, the most important of which is to reduce moisture levels that can facilitate mould growth.

It may be necessary to remove affected materials for remediation after the source of moisture has been reduced and/or eliminated.

In most cases it is prudent to sample the surfaces of potentially affected areas to ascertain the degree of contamination. Where contamination is found to be present air sampling must also be carried out. This enables a goal or target of decontamination to be set by comparison with samples from unaffected areas.

3.2.7 Methods for decontaminating property affected by 'black water'

Black water is a term used for water that is likely to be severely contaminated, e.g. Escape of Water Category 3, Sewage or Flood.

In some circumstances the addition of bactericides directly into the water may be appropriate. Use of bactericides may also be relevant once the water has subsided. When bulk contamination needs to be removed, in some cases shovelling may be required or, if liquid, vacuuming or pumping.

Consideration needs to be given to correct disposal of contaminated material in bulk ensuring that appropriate legislation is adhered to. Once the bulk of the contamination has been removed cleaning can start.

It is usually advisable to flush the surface with clean water and vacuum extract, followed by application of alkaline detergent with further rinsing. Multiple applications of detergent and rinsing are usually required to ensure thorough decontamination, paying special attention to crevices and edges.

Detergents can be more effective if allowed time to do their job. This is known as dwell time, and a longer dwell time can give you better results.

The technician may have decided to remove skirting boards to enable thorough decontamination and, in some cases, absorbent materials such as plasterboard will have to be removed.

At the end of the multiple cleaning process the technician is advised to carry out a quality assessment of the result, as reassurance to the property owner that the cleaning has been carried out satisfactorily. This may include testing by swab sampling or ATP testing and, in some cases, laboratory testing.

The organisation may have a policy to apply a sanitising agent to the now cleaned property. Care should be taken to ensure that a COSHH risk assessment has been carried out on the products that are intended to be used and that they are compatible with the usage of the property.

3.2.8 Bacterial swab testing and laboratory analysis

It is best practice to carry out clearance testing of Sewage, Flood or Escape of Water Category 3 contaminated areas after cleaning.

Microbiological testing can be carried out by local laboratories in most areas. They require a contact sample to be taken, typically with a special kit containing a glove and thin sterile sponge which is pressed onto the surface being tested. This needs to be handled carefully according to instructions to prevent cross contamination.

Microbiological laboratories will attempt to grow bacteria from the sample provided. Many bacteria do not live long outside the human body and this test will only detect viable bacteria. It is thought by many that faecal streptococci and E-coli (common gut bacteria) are good bacteria to test for – they survive longer than some other bacteria and so laboratories will often suggest testing for these as an indicator of any remaining sewage contamination.

A negative result from the laboratory does not necessarily indicate that the property is clean and hygienic. Dead bacteria can also be a health hazard, and viruses cannot be detected by a simple laboratory test. This means that thorough cleaning is absolutely essential.

Other types of test can assist in deciding whether a property is acceptably clean. Testing for the presence of ATP (Adenosine TriPhosphate) or a test for residual protein can indicate the level of cleanliness.

It is important to recognise the limitations of whatever method is used and that strict sampling methods must be adhered to get comparable results.

It is also important to be aware that we do not live in a sterile environment and harmless bacteria and other micro organisms are present all around us. The thoroughness and efficiency of the surveying of the property, and rigorous decontamination and cleaning, will be the best guarantee of a successful restoration of the property, with clearance testing being the final reassurance.

3.2.9 Stripping out

Removal of render and wood should not be carried out routinely.

It is an expensive option and the reasons for doing it need to be fully understood and justified, and the full authorisation of the client or third party should be obtained.

Removal of skirtings and doorframes can be required to enable thorough decontamination of the voids in the event of black/foul water or sewage ingress.

However it should firstly be ascertained whether it is possible to achieve the same result by flushing behind these items with a water spray jet.

This decision should be made with full knowledge of the incident conditions to ensure the decontamination is effective.

Similarly, the technician needs to consider **when and if removal of wall render and plaster is justified**. The decision to remove render and plaster cannot be taken lightly. This work greatly extends the project duration and cost, as well as adding to the stress for the occupants of the property.

Removal of wall render is sometimes suggested as a means of allowing the underlying wall structure to dry. However, although the exposed wall surface may dry more freely, it then has to be resurfaced with wet render and plaster. Additionally a property with exposed walls is likely to be uninhabitable.

Consequently there is an impact on cost for both the additional scope of work and relocation of occupants, so the overall benefit is questionable and must be clearly demonstrated where this process is recommended.

In some cases the wall may be slow to dry because of low permeance paint layers, and here a benefit can be achieved by puncturing the paint layer to allow moisture to escape more easily, removing the paint layer if practical, or using targeted specialised systems such as tented/envelope drying systems or advanced heat and direct drying systems.

In all circumstances individual property conditions need to be taken into account.

With all the variations in building types and materials used, it is essential to understand that it is not good practice to strip out a building on the very first visit, as materials dry at different rates and under different conditions.

To reduce the amount of unnecessary reinstatement work due to overzealous stripping out, it is best practice to allow a period of time for the building climate and building materials to stabilise in order to enable the initial saturation of water to be evaporated to the surface.

As a guide it is recommended that a building should have a period of 5-10 days after installation of the 2nd Phase drying regime prior to an inspection of water affected building materials, to ascertain what level of strip out may or may not be required to assist the building to regain a state of dryness and to confirm the appropriate 3rd Phase drying regime to be installed.

Working within the technician's competency limits

It is essential that in all the work technicians carry out they ensure they do not work outside their competency limits, as this could cause damage or injury. This includes recognising when additional expertise or specialisms should become involved.

3.2.10 Third phase drying of buildings

To assist in the third phase of drying water damaged property, knowledge of how different materials dry out is of great importance and how the drying actually takes place within a building, as it can be the case that differential drying can cause secondary problems, especially with wood.

The technician should have comprehensive knowledge of the science of drying and knowledge of the various specialised and advanced drying regimes and techniques together with a sufficient understanding of psychrometrics.

Options for specific targeted and/or envelope drying and advanced, specialised drying and heating applications should be considered where appropriate.

Problems with differential drying

Problems can arise where wood is dried from one side only, as this can sometimes cause distortion to occur.

An example is when a wooden floor or wood panelling is dried from the surface only. At first the surface becomes dry and the underside remains damp. The surface shrinks and the underside remains swollen, causing the boards to dip or "cup" in the centre.

Often this will flatten when the whole board dries, but sometimes this distortion will be permanent, ruining the item and requiring replacement.

This problem can be avoided by introducing dry air to both sides of the material to even up the process.

3.2.11 Monitoring the drying regime by moisture measurements

Monitoring the effects of the drying regime are important not only to check the effectiveness of the drying regime in place but also to ascertain when the building has been returned to the pre-loss level of dryness.

It is best practice that, if the monitoring results indicate that the installed drying regime is not assisting the efficient drying of the building the regime should be reviewed and adjusted or changed if necessary.

The time between moisture readings will vary dependent on the type of building and amount of moisture within it, and this schedule and timescale will be included in the scope or initial report and should be revised if necessary.

Recording readings

Moisture readings must be recorded on a drying/moisture plan or moisture measurement sheet and the comparison control readings/drying goals/drying targets, which are recorded in the same document, should be periodically checked during the timeframe of the drying of the building.

It is best practice to take readings on each visit from the same pre-identified places within the building or the building materials being dried, and the documentation should clearly show where within the building the readings are being continually taken.

Time lapse between monitor visits should be agreed during the stabilisation visit, as each building and type of ingress vary greatly, as do the phase 3 drying regimes installed. But it is best practice that the first follow up monitor visit to take moisture readings should be within 3-5 days after the initial readings taken at the stabilisation phase, and a review of the climate control should also be taken during follow up visit.

The option to monitor moisture readings remotely is increasingly used, where practicable, to reduce the requirement for technician visits and maintain a constant review of the efficiency of the drying regime.

It is recommended that technicians monitoring moisture reading data have sufficient knowledge and training to understand and interpret the readings, and take appropriate actions, and those undertaking the final monitoring visit have sufficient understanding of the readings to be in a position to sign off the outcomes of the drying and restoration process.

Those responsible for these actions should therefore hold qualifications at an appropriate level.

3.2.12 Reinstatement work

Restoration, repair or reinstatement work must be carried out in accordance with the scope of works and in line with best practice.

In addition to these standards, reference material which may provide further guidance and supporting information includes:

BDMA – Official Training & Reference Manual: Construction

BDMA – Official Training & Reference Manual: Damage Management (only available to BDMA Members)

CIRIA C623 – Standard for the repair of buildings following flooding

BRE – documents on repairs to flood damaged buildings

From time to time these documents are updated and revised or replaced so the most up to date versions should be used.

There will additionally be a number of good quality documents and manuals produced by individual organisations operating in the field of damage management and construction, and it is not the aim of these standards to replace such documents but to give clear guidance on what it should be possible to achieve through the application of best practice protocols and procedures.

3.3 Complete final reporting and invoice

A note of satisfactory completion, in line with the scope of the works, must be obtained. This must have been signed and dated by the client, or signed and dated by a relevant third party. Where this is not possible the reasons should be adequately documented.

Best practice recommends that a final report is also produced. The form this takes will often be dictated by pre-specified company or contractual procedures.

The final report is likely to include:

- Name of the occupant of the property
- Full postal address of the property
- Reference numbers/codes (where applicable)
- Report on the initial damage caused by the incident or peril together with details of the initial cause of the incident or peril
- Triage findings and subsequent actions taken to mitigate loss
- Name of each area/room the work applied to
- Relevant details, including size, amount and degree of damage in relation to materials and contents in each affected area/room
- Details of what was successfully restored or repaired, with the methods of restoration or repair and related timeframes

- Where there has been any strip out and reinstatement, details of why this was necessary.
- Details of any disposals and/or replacements.
- Cost breakdown of restoration or repair methods with clear indication of any changes to the original scope, and why those changes where required
- Cost savings on buildings and contents through restoration or repair by comparison with replacement.
- Cost savings due to efficiency in service or the use of specialised methods or specialised equipment in the restoration, repair or reinstatement work
- Savings in time on completion of the works due to efficiencies in work practices
- Total cost, including detailed breakdown

The final report, subsequent invoice and note of satisfaction should be accompanied by any other relevant documentation raised during restoration, repair or reinstatement of the incident or peril

Additional documentation may include:

- Electrical and/or gas certification in line with current building regulations
- The energy (electrical) used by equipment utilised in the drying phase (if applicable)
- Completion of works notes or certificates
- Certificates of guarantees of items, parts of items, fitments, treatments or work done
- Monitoring data and information recorded during the stabilisation and recovery and restoration drying phases (if applicable)
- Drying certificate with any pre-incident conditions which may have had an effect on the outcome noted.
- Relevant asbestos documentation/certificate (if applicable)
- Relevant laboratory tests and air sampling certificates (if applicable)
- Risk Assessments
- Time or worksheets (if required by third party)
- Any relevant additional documentation created or assimilated during all phases of the project

APPENDICES

EXAMPLES OF TYPICAL PROCEDURES

A. ESCAPE OF WATER – CATEGORY 1

B. ESCAPE OF WATER – CATEGORY 2

C. ESCAPE OF WATER – CATEGORY 3

D. ESCAPE OF WATER – CATEGORY SEWAGE

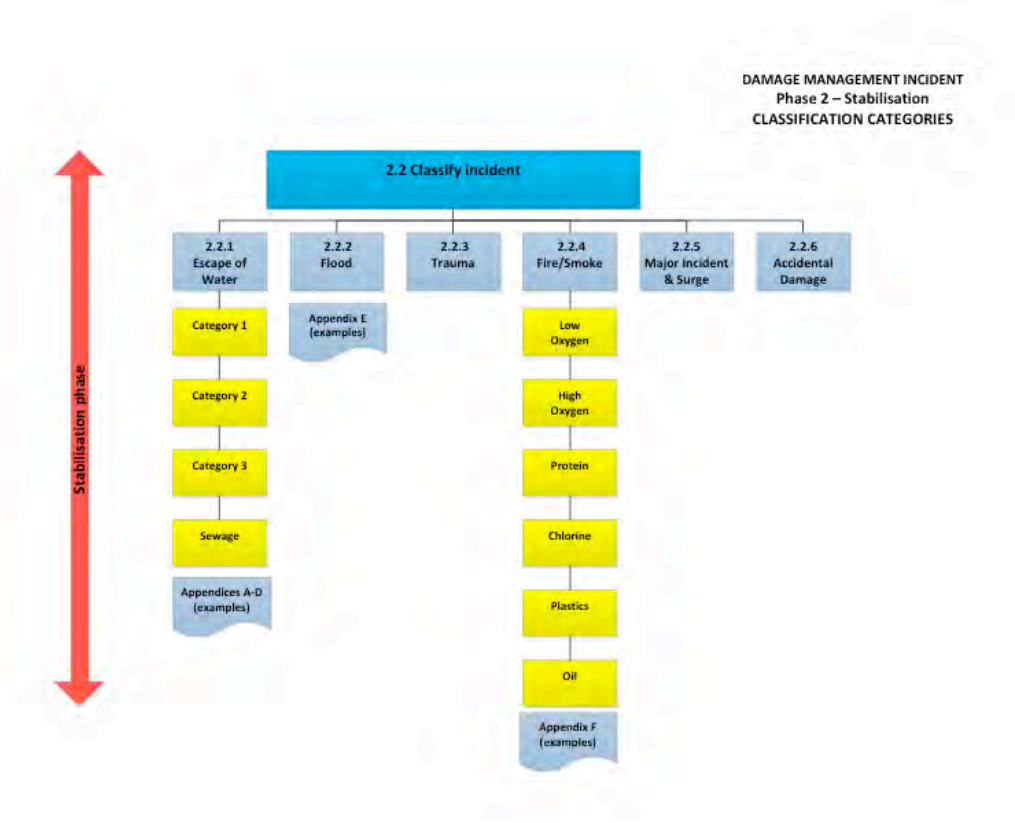
E. FLOOD

F. FIRE/SMOKE

APPENDICES

EXAMPLES OF TYPICAL PROCEDURES FOR MAIN INCIDENT CATEGORIES

The following pages provide examples of the procedures and protocols to be applied in a typical scenario for Escape of Water, Flood and Fire & Smoke categories



With all incidents there are numerous and quite often extraneous elements that cause some variation to the procedures and protocols that are generally followed.

The following examples relate to the technical aspects that would normally apply in a typical claims scenario for some of the main categories and sub categories.

However, it must be stressed that no one incident can be identical to another, so some variations to these guidelines are inevitable and they should only be viewed as examples of general protocols and procedures.

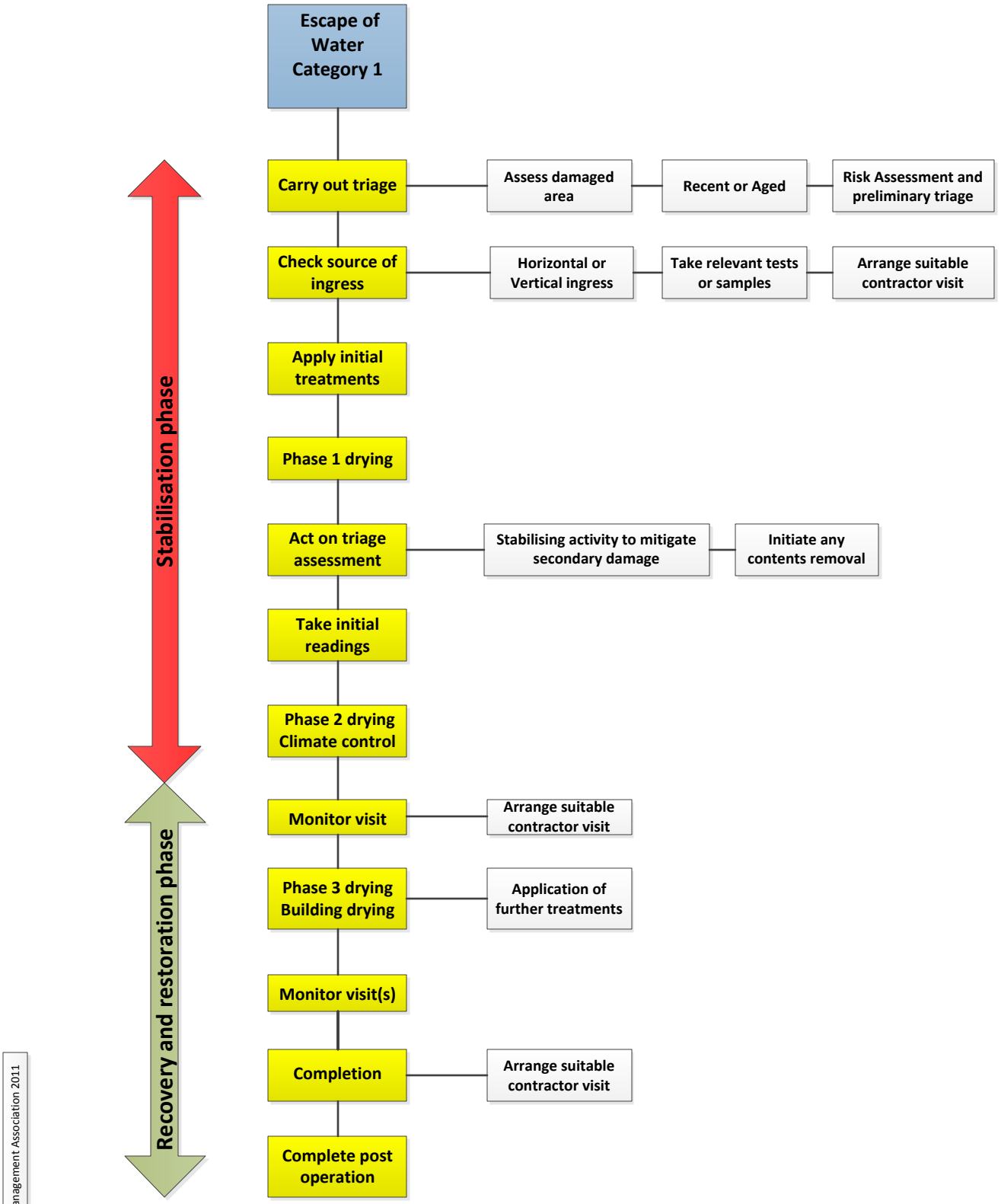
APPENDIX A

ESCAPE OF WATER – CATEGORY 1 EXAMPLE

Water originating from a source that **does not** pose substantial harm to humans

DAMAGE MANAGEMENT INCIDENT

Typical response to Escape of Water CATEGORY 1



ESCAPE OF WATER CATEGORY 1 – Typical response

Category 1 water damage is often referred to as a 'white water' contamination as the water source should contain no contaminates and it would be therefore anticipated that the majority of the items affected by this type of water ingress would be fully restorable back to their pre-damaged condition.

- Sources of water ingress for this type of category would be typically from electrical appliances water inlets, internal pipe work, central heating pipe or radiators, or sink or bath/shower overflow scenarios
- Water ingress would be less than 72 hours old
- Water ingress would be horizontal (on one level)

The age of the water ingress is extremely important as water that has been exposed to natural air for more than 72 can become contaminated with pathogenic material so that the nature of the water changes and therefore the process of removal and drying also changes.

Where the water has travelled through other materials and voids to enter occupied areas of a property, so has come from above that occupied area, causing a vertical ingress of water, it will have become contaminated with other potentially pathogenic material so, here too, the nature of the water changes and therefore the process of removal and drying also changes.

If the white water (Category 1) incident is **over 72 hours old** and/or it has **travelled vertically** into an affected space from above, then the incident becomes **Category 2** water damage and the procedures for that category would prevail.

STABILISATION

Carry out triage:

One of the primary objectives of triaging is to prioritise and mitigate secondary damage and therefore any actions identified against this objective should be implemented as a matter of urgency.

- The initial visit to a water damage incident would assess the age of the damage and re-categorise if necessary.
- Triage of the incident, followed by development of an initial scope of works and provisional cost of restoration should be ascertained at this stage.
- The initial assessment of the property should contain photographic evidence of the damaged area or areas including photographic evidence of the external view of the property and any external areas that may contribute to the damage or affect the restoration process.
- Photographic evidence should be made of any items damaged by the water ingress, whether they are to be restored or are Beyond Economical Restoration

(BER), and any identification material, serial numbers, make/makers name, reference numbers or markings on the items should be recorded.

- Risk assessments are necessary on all water damage incidents and must be completed on the initial visit and during the restoration process if and when the situation changes.
- In major incidents the access to power and water to initiate the restoration process must be considered and the appropriate and suitable contractors should be arranged to carry out the required work.

Check source of ingress:

Checking the initial source of the water damage should be carried out to ascertain that the source has been isolated, if not then action should be taken to mitigate the situation and where necessary relevant trades should be instructed

If the source of water ingress has penetrated the affected area from above and is a vertical ingress then the criteria for **category 2** would prevail

Samples or testing for microbial growth may be required dependent on the nature and amount of damage caused or where the ingress has saturated a concrete slab that is covered with a thermoplastic tile that may have to be removed. In this case the thermoplastic tiles may require testing for asbestos.

Apply initial treatment:

Biocides and mould inhibitors should be applied to damp surfaces to mitigate any potential secondary damage.

Where natural fibres have been affected an application of a treatment to prevent cellulosic browning (discolouration) may be required to help prevent staining during the drying process.

Phase 1 drying, removal of surplus water:

Extraction by suction/vacuum methods of the wet areas is required to remove surplus water and decrease the drying period

A secondary triage is required to ascertain the potential for further mitigation and restoration and to assess any potential of wicking of moisture into walls and plinths

Act on Triage assessment:

The triage assessment should have identified actions to mitigate secondary damage, such as reducing humidity levels, preventing spread of moisture to unaffected areas and reducing risk of mould development, etc.

The triage assessment should also have identified:

- items that may require removal from site for drying and restoration such as loose rugs or carpet squares or items that have stood on the wet area and through

capillary action have sustained water damage requiring off-site procedures to return them to their pre-incident condition.

- items that are BER or semi-permeable floor coverings (vinyl) that are perimeter fixed which inhibit the evaporation of moisture from the sub-floors beneath them and which may require uplifting to assist in the drying process.

Take initial readings:

Prior to the installation of any stabilisation equipment sufficient and relevant moisture readings should be taken and documented on a drying plan.

Control readings should also be taken and recorded accordingly

All readings should be taken with calibrated equipment suitable for the relevant materials. External temperature and relative humidity should also be recorded.

Phase 2 drying, climate control:

Installation of sufficient dehumidification and laminar air current equipment should be relevant to the size of the affected area/s.

Indoor climate control of under 50%RH at a temperature of 20-25^{o}C should be targeted within 3-5 days.

Additional heat should be utilised if the incident has affected the property's indoor heating system and or relevant dehumidification equipment should be installed.

Onsite drying techniques should be implemented for the drying of fitted floor coverings that have been identified as restorable during the triage.

RECOVERY & RESTORATION

Monitor visit:

The first monitor visit should be within 3-5 days of the initial visit to ascertain the indoor climate and degree of drying potential.

In **minor damage** second phase drying techniques this may be sufficient to complete the drying process within 3-7 days and completion procedures should then follow on immediately, including final moisture readings to ascertain a state of dryness which must be recorded on the drying plan.

In **major damage** second phase drying may take 7-14 days and all relevant readings should be recorded on the drying plan at each monitoring visit.

At this stage any alterations or adjustments to the original scope of works and/or consequently to the provisional cost of works can be made.

Phase 3 drying, building drying:

Where **major damage** has occurred sufficient targeted or specialist drying methods should be utilised and installed **during the first monitoring visit** to decrease the drying time and speed up the evaporation rate.

Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process.

Monitor visit(s):

All relevant readings for each monitoring visit should be recorded on the drying plan and any adjustments to the drying regime noted.

Completion:

Final moisture readings to confirm an acceptable or pre-incident level of dryness, where this can be determined, must be recorded on the drying plan and a drying certificate issued.

Complete post operation:

Once the property and contents are successfully dried any relevant re-installation of underlays and textile floor coverings (carpets) should be completed with subsequent cleaning and treating of the floor coverings in situ to return them to their pre-incident condition.

Any items removed for off-site restoration and/or storage should be returned and the relevant documentation for satisfaction and completion produced and signed off by the client/customer.

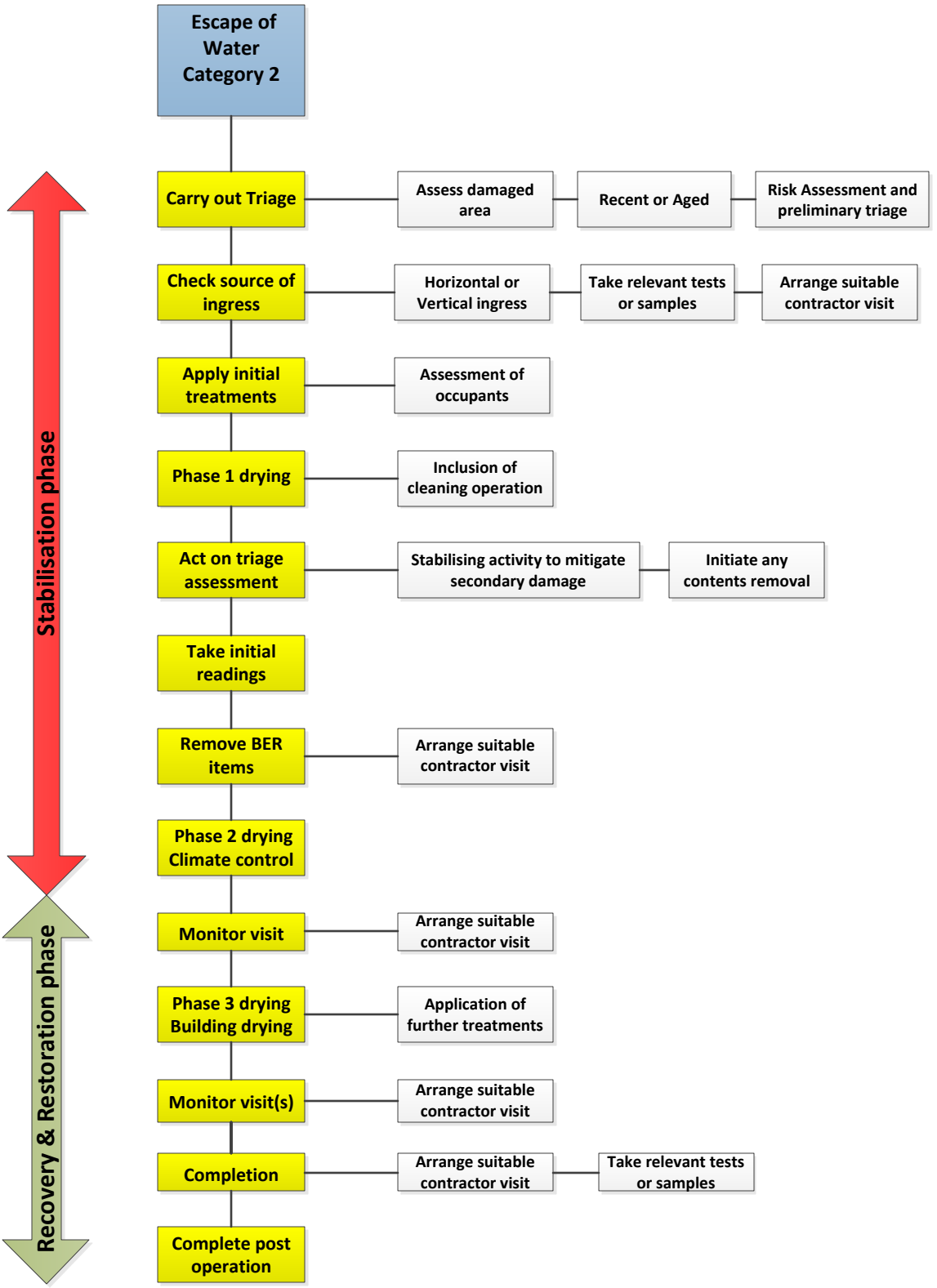
APPENDIX B

ESCAPE OF WATER – CATEGORY 2 EXAMPLE

Water containing a significant degree of chemical, biological and/or physical contamination and **having the potential** to cause discomfort or sickness if consumed by or exposed to humans

DAMAGE MANAGEMENT INCIDENT

Typical response to Escape of Water CATEGORY 2



ESCAPE OF WATER CATEGORY 2 – Typical response

Category 2 water damage is often referred to as 'grey water' contamination as
– the source of water has aged more than 72 hours from initial ingress
– and/or has travelled through materials that have contributed to its contamination
– and/or the original source of water contained a source of contamination which could make it potentially harmful to humans if consumed or exposed.

Sources of water ingress for this type of category would be typically from:

- electrical appliances water outlets or leakage from internal mechanisms. Ingress can be either horizontal or vertical
- internal pipework, central heating pipework or radiators, sink or bath/shower overflows
    - where the water has either travelled through materials into an affected space below and therefore is classed as vertical ingress
    - or, in the case of horizontal ingress, where this is more than 72 hours old

The age of water is extremely important. Water that is categorised as Category 2 grey water, if left to age in excess of 5 days from initial ingress can contain sufficient pathogenic material that the nature of the water changes and therefore the process of removal and drying also changes.

If the grey water incident is more than 5 days old the incident becomes **Category 3** water damage and the procedures for that category would prevail.

STABILISATION

Carry out triage:

One of the primary objectives of triaging is to prioritise and mitigate secondary damage and therefore any actions identified against this objective should be implemented as a matter of urgency.

- The initial visit to a water damage incident would assess the age of the damage and re-categorise if necessary.
- Triage of the incident, followed by development of an initial scope of works and provisional cost of restoration should be ascertained at this stage.
- The initial assessment of the property should contain photographic evidence of the damaged area or areas including photographic evidence of the external view of the property and any external areas that may contribute to the damage or affect the restoration process.
- Photographic evidence should be made of any items damaged by the water ingress, whether they are to be restored or are Beyond Economical Restoration

(BER), and any identification material, serial numbers, make/makers name, reference numbers or markings on the items should be recorded.

- Risk assessments are necessary on all water damage incidents and must be completed on the initial visit and during the restoration process if and when the situation changes.
- In major incidents the access to power and water to initiate the restoration process must be considered and the appropriate and suitable contractors should be arranged to carry out the required work.

Check source of ingress:

Checking the initial source of the water damage should be carried out to ascertain that the source has been isolated, if not then action should be taken to mitigate the situation and where necessary relevant trades should be instructed

Where the source of ingress could be of a vertical nature investigation of the route of the water should be made. This may involve partial removal of floorboards, or access holes being made to give access for inspection of voids and cavities by the use of bioscopes or fibre optic cameras.

Samples or testing for microbial growth may be required dependent on the nature and amount of damage caused or where the ingress has saturated a concrete slab that is covered with a thermoplastic tile that may have to be removed. In this case the thermoplastic tiles may require testing for asbestos.

Additionally, due to the nature and time element of the water ingress, investigation of potential mould development and or bacterial activity should be made.

Where potential ACMs (Asbestos Containing Materials) may have been damaged by the ingress, and could therefore be in an unstable state, relevant sampling and associated procedures and protocols should be observed.

Apply initial treatments:

Biocides and mould inhibitors should be applied to damp surfaces to mitigate any potential secondary damage.

Where natural fibres have been affected application of a treatment to prevent cellulosic browning (discolouration) may be required to help prevent staining during the drying process.

The nature of the water type could require use of products that may cause the occupants of the property distress or short term ill health, so assessment of the short term exposure limit must be made and adequate provision to minimise short term exposure should be made.

Phase 1 drying, removal of surplus water:

Extraction by suction/vacuum methods of the wet areas is required to remove surplus water and decrease the drying period.

The nature of the water type may require some containment and or removal techniques for mould and bacterial growth.

The use of cleaning agents to mitigate the losses and maximise the restoration potential should be used during the excess water removal phase.

A secondary triage is required to ascertain the potential for further mitigation and restoration and to assess any potential of wicking of moisture into walls and plinths

Act on triage assessment:

The triage assessment should have identified actions to mitigate secondary damage, such as reducing humidity levels, preventing spread of moisture to unaffected areas and reducing risk of mould development.

Where vertical ingress has occurred particular attention needs to be paid to hidden areas where water may have accumulated.

The triage assessment should also have identified:

- items that may require removal from site for drying and restoration such as loose rugs or carpet squares or items that have stood on the wet area and through capillary action have sustained water damage requiring off-site procedures to return them to their pre-incident condition.
- items that are BER or semi-permeable floor coverings (vinyl) that are perimeter fixed which inhibit the evaporation of moisture from the sub-floors beneath them and which may require uplifting to assist in the drying process.

Take initial readings:

Prior to the installation of any stabilisation equipment sufficient and relevant moisture readings should be taken and documented on a drying plan.

Control readings should also be taken and recorded accordingly

All readings should be taken with calibrated equipment suitable for the relevant materials. External temperature and relative humidity should also be recorded.

Installation of ERH (Equilibrium Relative Humidity) sleeves or boxes for continuous monitoring readings in damaged and controlled areas.

Remove BER items:

Any items identified as BER should be removed and appropriately disposed of.

Where major damage has occurred there may be a requirement for the removal of skirting boards and plinths to aid drying and/or cleaning and some of the internal fabric of the building which has become detached from its fixings may require removal and disposal or repair. The appropriate and suitable contractors should be arranged to carry out the required work.

Phase 2 drying, climate control:

Installation of sufficient dehumidification and laminar air current equipment should be relevant to the size of the affected area/s.

Indoor climate control of under 50%RH at a temperature of 20-25^{o}C should be targeted within 3-5 days.

Additional heat should be utilised if the incident has affected the property's indoor heating system and or relevant dehumidification equipment should be installed.

Onsite drying techniques should be implemented for the drying of fitted floor coverings that have been identified as restorable during the triage.

Where **minor damage incidents** have occurred **Phase 2 drying could be replaced by Phase 3 drying of targeted areas** with sufficient climate control to restrict the potential for secondary damage occurring.

RECOVERY & RESTORATION

Monitor visit:

The first monitor visit should be within 3-5 days of the initial visit to ascertain the indoor climate and degree of drying potential.

In **minor damage** second phase drying techniques this may be sufficient to complete the drying process within 3-7 days and completion procedures should then follow on immediately, including final moisture readings to ascertain a state of dryness which must be recorded on the drying plan.

Where Phase 3 drying of targeted areas has been installed, completion of the drying could be within 7-14 days.

In **major damage** second phase drying may take 10-30 days and all relevant readings should be recorded on the drying plan at each monitoring visit.

At this stage any alterations or adjustments to the original scope of works and/or consequently to the provisional cost of works can be made.

Phase 3 drying, building drying:

Where **major damage** has occurred there may be a requirement for the removal of skirting boards and plinths and some of the internal fabric of the building to aid drying. The appropriate and suitable contractors should be arranged to carry out any required reinstatement work.

Sufficient targeted or specialist drying methods should be utilised and installed **during the first monitoring visit** to decrease the drying time and speed up the evaporation rate.

Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process.

Monitor visit(s):

All relevant readings for each monitoring visit should be recorded on the drying plan and any adjustments to the drying regime noted.

Where longer drying periods are involved it may be appropriate to install remote monitoring equipment to reduce the number of visits required.

Completion:

In some circumstances post swab and or ATP (Adenosine TriPhosphate) testing to ascertain degree of any post contamination may be advisable

Final moisture readings to confirm an acceptable or pre-incident level of dryness, where this can be determined, must be recorded on the drying plan and a drying certificate issued.

Complete post operation:

Post cleaning and decontamination of areas affected

Check mould removal and/or containment techniques have been successful and apply further treatments if necessary

Once the property and contents are successfully dried any relevant re-installation of underlays and textile floor coverings (carpets) should be completed with subsequent cleaning and treating of the floor coverings in situ to return them to their pre-incident condition.

Any items removed for off-site restoration and/or storage should be returned and the relevant documentation for satisfaction and completion produced and signed off by the client/customer.

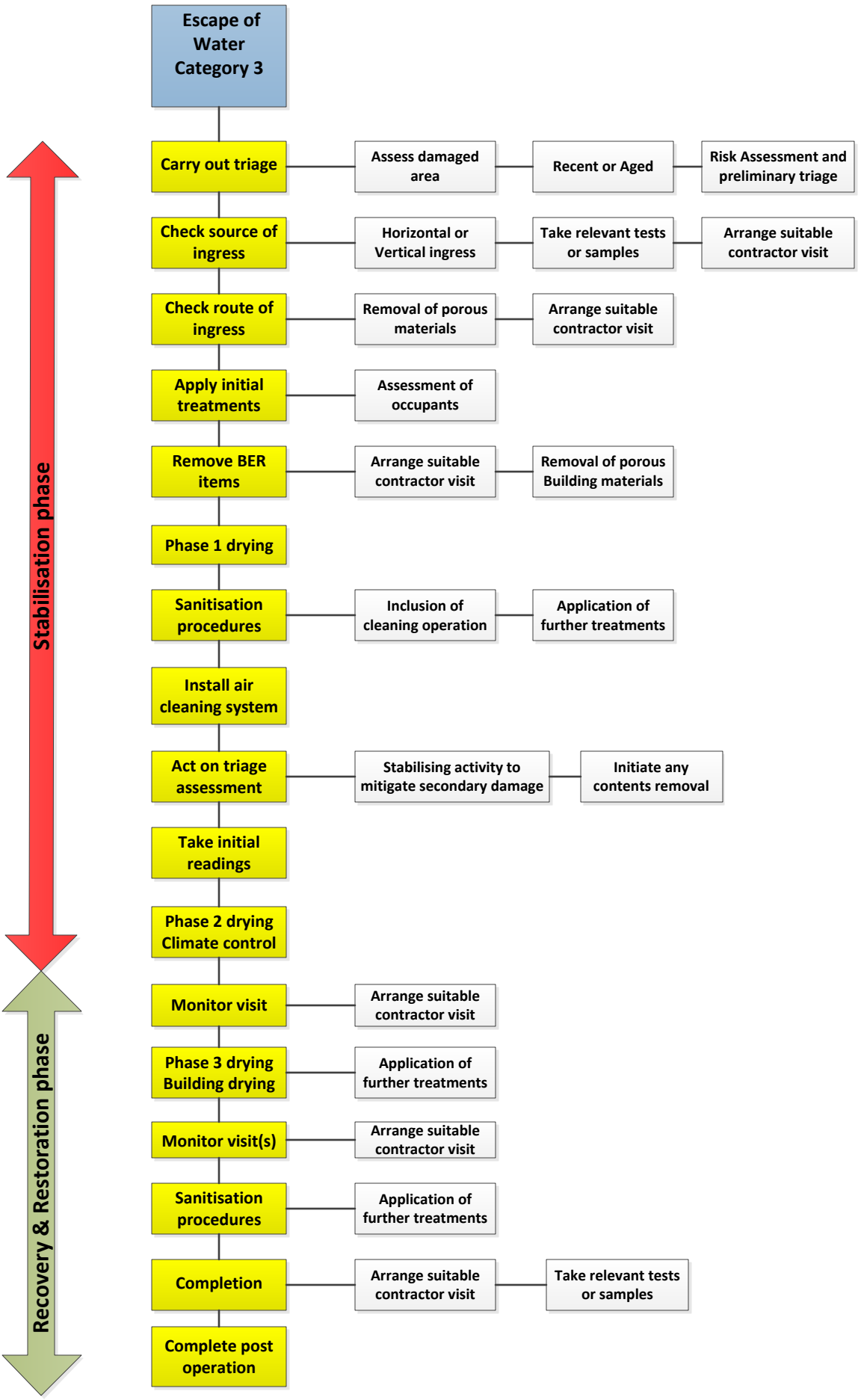
APPENDIX C

ESCAPE OF WATER – CATEGORY 3 EXAMPLE

Water containing pathogenic agents, chemicals and other types of contamination and being **likely** to cause discomfort or sickness if consumed by or exposed to humans

DAMAGE MANAGEMENT INCIDENT

Typical response to Escape of Water CATEGORY 3



ESCAPE OF WATER CATEGORY 3 – Typical response

Category 3 water damage, is often referred to as 'black water' contamination as the water has sufficient pathogenic material within it which would make it likely to be harmful to humans if consumed or exposed.

- Standing water that has been allowed to stagnate for in excess of 5 days and/or is from a source that could contain minimal waste water or sanitary ware contamination would come under this category.

STABILISATION

Carry out triage:

One of the primary objectives of triaging is to prioritise and mitigate secondary damage and therefore any actions identified against this objective should be implemented as a matter of urgency.

- The initial visit to a water damage incident would assess the age of the damage and re-categorise if necessary.
- Triage of the incident, followed by development of an initial scope of works and provisional cost of restoration should be ascertained at this stage.
- Particular attention should be paid to any chemical and biological effects due to the nature of the water.
- The initial assessment of the property should contain photographic evidence of the damaged area or areas including photographic evidence of the external view of the property and any external areas that may contribute to the damage or affect the restoration process.
- Photographic evidence should be made of any items damaged by the water ingress, whether they are to be restored or are Beyond Economical Restoration (BER), and any identification material, serial numbers, make/makers name, reference numbers or markings on the items should be recorded.
- Risk assessments are necessary on all water damage incidents and must be completed on the initial visit and during the restoration process if and when the situation changes.
- In major incidents the access to power and water to initiate the restoration process must be considered and the appropriate and suitable contractors should be arranged to carry out the required work.

Check source of ingress:

Checking the initial source of the water damage should be carried out to ascertain that the source has been isolated, if not then action should be taken to mitigate the situation and where necessary relevant trades should be instructed

Where the source of ingress could be of a vertical nature investigation of the route of the water should be made. This may involve partial removal of floorboards, or

access holes being made to give access for inspection of voids and cavities by the use of bioscopes or fibre optic cameras.

Samples or testing for microbial growth may be required dependent on the nature and amount of damage caused or where the ingress has saturated a concrete slab that is covered with a thermoplastic tile that may have to be removed. In this case the thermoplastic tiles may require testing for asbestos.

Additionally, due to the nature and time element of the water ingress, investigation of potential mould development and or bacterial activity should be made.

Where potential ACMs (Asbestos Containing Materials) may have been damaged by the ingress, and could therefore be in an unstable state, relevant sampling and associated procedures and protocols should be observed.

Check route of ingress:

As a result of the findings the following should be taken into account:

- Due to the nature of the water source some badly affected porous building materials may have to be removed for controlled disposal.
- Additionally, some building materials may have to be removed to access areas of contamination for effective analysis and decontamination procedures.
- Textile floor coverings and semi-permeable floor coverings should be uplifted for removal to allow decontamination of sub-floors and access to voids or gaps.
- Preliminary testing of contaminated areas should be carried out to ascertain the degree of contamination and as a reference for post testing of the affected areas.

Apply initial treatments:

Biocides and mould inhibitors should be applied to damp surfaces to mitigate any potential secondary damage.

The nature of the water type could require use of products that may cause the occupants of the property distress or short term ill health, so assessment of the short term exposure limit must be made and adequate provision to minimise short term exposure should be made.

Sufficient and appropriate PPE (Personal Protective Equipment) is necessary.

Remove BER items:

Any items identified as BER should be removed and appropriately disposed of.

Textile floor coverings (excluding rugs and squares) and semi-permeable floor coverings including underlays and any fixings that have been damaged beyond repair by the water ingress should be removed for controlled disposal.

Textile soft furnishings that have been seriously affected by the water ingress and cannot be immersion cleaned should be removed for controlled disposal.

Textile rugs and squares should be assessed for immersion cleaning processes.

Where **major damage** has occurred there may be a requirement for the removal of skirting boards and plinths to aid drying and/or cleaning and some of the internal fabric of the building which has become detached from its fixings may require removal and disposal or repair.

Phase 1 drying, removal of surplus water:

Extraction by suction/vacuum methods of the wet areas is required to remove surplus water and decrease the drying period

The nature of the water type may require some containment and or removal techniques for mould and bacterial growth.

The use of cleaning agents to mitigate the losses and maximise the restoration potential should be used during the excess water removal phase.

A secondary triage is required to ascertain the potential for further mitigation and restoration and to assess any potential of wicking of moisture into walls and plinths

Sanitisation procedure:

Decontamination of all affected surfaces should be carried out with the appropriate cleaning and disinfecting products or processes.

Skirting boards, plinths and or fixed cabinets or cupboards may have to be removed to access all potential areas of contamination.

Further **application of Biocides and Mould inhibitors** are required to prevent secondary damage occurring during the drying process.

Install air cleaning system:

Appropriate and sufficient equipment should be installed to prevent cross contamination and spread of any airborne particulates to mitigate any further damage and create a safe working environment during the drying process.

Act on triage assessment:

The triage assessment should have identified actions to mitigate secondary damage, such as reducing humidity levels, preventing spread of moisture to unaffected areas and reducing risk of mould development.

Where vertical ingress has occurred particular attention needs to be paid to hidden areas where water may have accumulated.

The triage assessment should also have identified:

- items that may require removal from site for drying and restoration such as loose rugs or carpet squares or items that have stood on the wet area and through capillary action have sustained water damage requiring off-site procedures to return them to their pre-incident condition.
- items that are BER or semi-permeable floor coverings (vinyl) that are perimeter fixed which inhibit the evaporation of moisture from the sub-floors beneath them and which may require uplifting to assist in the drying process.

Only **items that can be successfully restored** via immersion cleaning processes or total refinishing methods should be considered for restoration

Items that are **non porous or have a suitable sealed finish** should be assessed for immersion cleaning processes

Take initial readings:

Prior to the installation of any stabilisation equipment sufficient and relevant moisture readings should be taken and documented on a drying plan.

Control readings should also be taken and recorded accordingly

All readings should be taken with calibrated equipment suitable for the relevant materials. External temperature and relative humidity should also be recorded.

Installation of ERH (Equilibrium Relative Humidity) sleeves or boxes for continuous monitoring readings in damaged and controlled areas.

Phase 2 drying, climate control:

Installation of sufficient dehumidification and laminar air current equipment should be relevant to the size of the affected area/s.

Indoor climate control of under 50%RH at a temperature of 20-25^{o}C should be targeted within 3-5 days.

Additional heat should be utilised if the incident has affected the property's indoor heating system and or relevant dehumidification equipment should be installed.

Onsite drying techniques should be implemented for the drying of fitted floor coverings that have been identified as restorable during the triage.

Where **minor damage incidents** have occurred **Phase 2 drying could be replaced by Phase 3 drying of targeted areas** with sufficient climate control to restrict the potential for secondary damage occurring.

RECOVERY & RESTORATION

Monitor visit:

The first monitor visit should be within 3-5 days of the initial visit to ascertain the indoor climate and degree of drying potential.

In **minor damage** second phase drying techniques this may be sufficient to complete the drying process within 3-7 days and completion procedures should then follow on immediately, including final moisture readings to ascertain a state of dryness which must be recorded on the drying plan.

Where Phase 3 drying of targeted areas has been installed, completion of the drying could be within 7-14 days.

In **major damage** second phase drying may take 10-30 days and all relevant readings should be recorded on the drying plan at each monitoring visit.

At this stage any alterations or adjustments to the original scope of works and/or consequently to the provisional cost of works can be made.

Phase 3 drying, building drying:

Where **major damage** has occurred there may be a requirement for the removal of skirting boards and plinths and some of the internal fabric of the building to aid drying. The appropriate and suitable contractors should be arranged to carry out any required reinstatement work.

Sufficient targeted or specialist drying methods should be utilised and installed **during the first monitoring visit** to decrease the drying time and speed up the evaporation rate.

Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process.

Monitor visit(s):

All relevant readings for each monitoring visit should be recorded on the drying plan and any adjustments to the drying regime noted.

Where longer drying periods are involved it may be appropriate to install remote monitoring equipment to reduce the number of visits required.

Sanitisation procedures:

Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process.

Further mould removal and or containment techniques may be required.

Completion:

In some circumstances post swab and or ATP (Adenosine TriPhosphate) testing to ascertain degree of any post contamination may be advisable

Final moisture readings to confirm an acceptable or pre-incident level of dryness, where this can be determined, must be recorded on the drying plan and a drying certificate issued.

Complete post operation:

Post cleaning and decontamination of areas affected

Check mould removal and/or containment techniques have been successful and apply further treatments if necessary

Once the property and contents are successfully dried any relevant re-installation of underlays and textile floor coverings (carpets) should be completed with subsequent cleaning and treating of the floor coverings in situ to return them to their pre-incident condition.

Any items removed for off-site restoration and/or storage should be returned and the relevant documentation for satisfaction and completion produced and signed off by the client/customer.

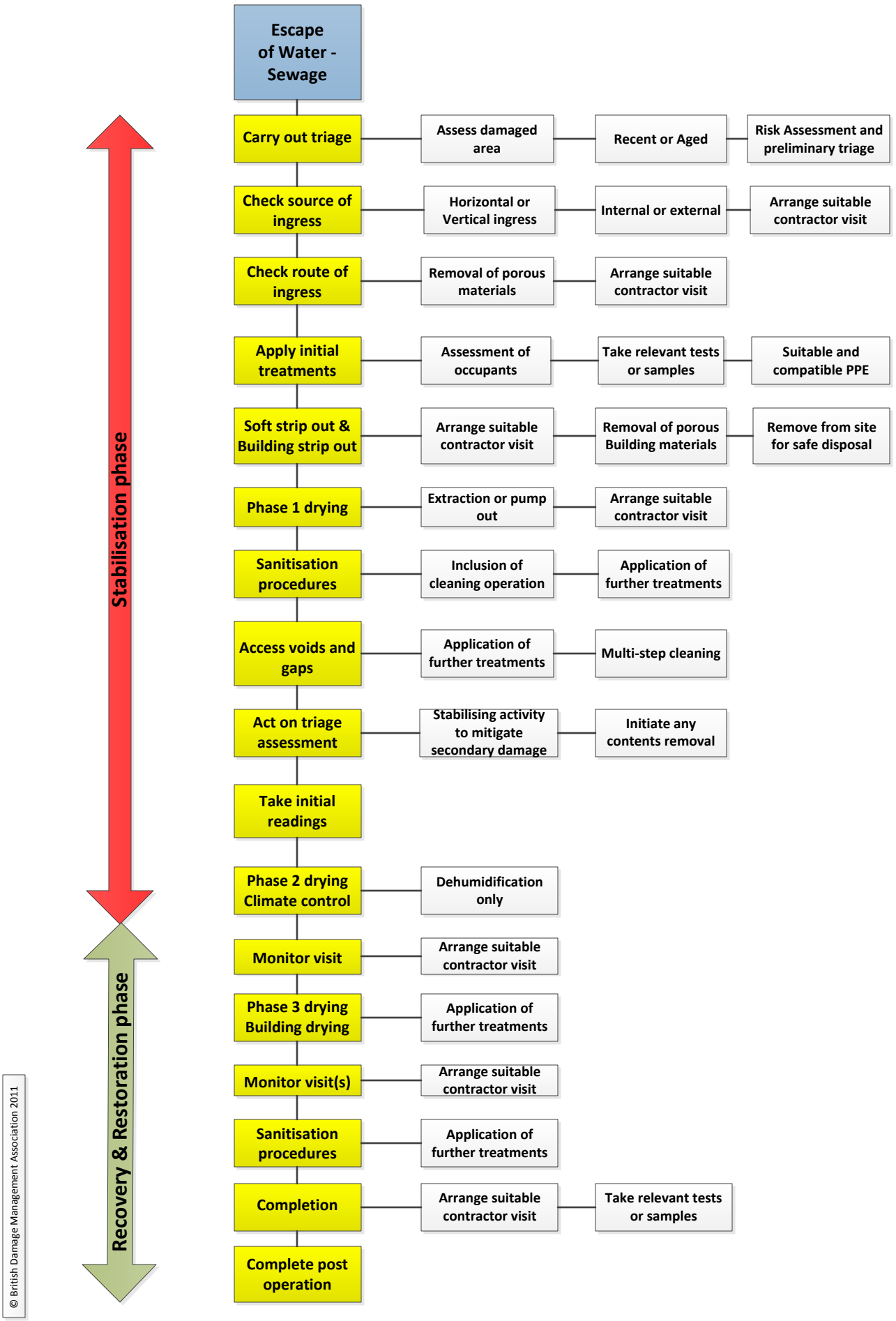
APPENDIX D

ESCAPE OF WATER – CATEGORY SEWAGE EXAMPLE

The damage management industry has traditionally treated sewage or extreme foul water contamination as a distinct sub category and it is recognised that a contractor who deals with internal decontamination, sanitisation and odour removal requires extensive training, and must also be competent in the successful removal and reinstatement procedures in relation to any contaminated items, due to the potential Health & Safety risks to the occupants of the building and any other third party. Additionally, due to the potential cost of replacements involved, a valuation surveyor may be required.

DAMAGE MANAGEMENT INCIDENT

Typical response to Escape of Water CATEGORY SEWAGE



EASCAPE OF WATER CATEGORY SEWAGE – Typical response

Sewage contamination to a property is that of direct ingress either from a backing up of the internal sewage waste outlets due to pressure in the external sewage waste system, or external ingress due to overflow or malfunction of the sewage waste systems.

Sewage water contains **pathogenic material that will cause harm to humans** if consumed or exposed and every effort should be made to limit the risk to the occupants of the property, and those that enter it, against potential ill health.

Sufficient and appropriate Personal Protective Equipment (PPE) is necessary at all levels of the restoration procedure for sewage or foul water (water that has been stagnating in an external environment that contains pathogenic material similar to that of sewage water) ingress.

Where the contractor is not qualified or competent to dispose of contaminated source residue an appropriate disposal contractor should be contacted to meet legal requirements.

STABILISATION

Carry out triage:

One of the primary objectives of triaging is to prioritise and mitigate secondary damage and therefore any actions identified against this objective should be implemented as a matter of urgency.

- The initial visit to a water damage incident would assess the age of the damage to inform appropriate actions.
- Triage of the incident, followed by development of an initial scope of works and provisional cost of restoration should be ascertained at this stage.
- Additional risk assessments and control measures relevant to the nature of ingress may be required.
- Particular attention should be paid to any chemical and biological effects due to the nature of the water.
- The initial assessment of the property should contain photographic evidence of the damaged area or areas including photographic evidence of the external view of the property and any external areas that may contribute to the damage or affect the restoration process.
- Photographic evidence should be made of any items damaged by the water ingress, whether they are to be restored or are Beyond Economical Restoration (BER), and any identification material, serial numbers, make/makers name, reference numbers or markings on the items should be recorded.
- Risk assessments are necessary on all water damage incidents and must be completed on the initial visit and during the restoration process if and when the situation changes.

- In major incidents the access to power and water to initiate the restoration process must be considered and the appropriate and suitable contractors should be arranged to carry out the required work.
- The degree of damage and use of welfare arrangements must be considered in relation to the occupancy of the property.
- The health and safety of the occupants must be considered as well as the security issues of the damaged property/site.

Check source of ingress:

Checking the initial source of the water damage should be carried out to ascertain that the source has been isolated, if not then action should be taken to mitigate the situation and where necessary relevant trades should be instructed

Where the source of ingress could be of a vertical nature investigation of the route of the water should be made. This may involve partial removal of floorboards, or access holes being made to give access for inspection of voids and cavities by the use of bioscopes or fibre optic cameras.

Samples or testing for microbial growth may be required dependent on the nature and amount of damage caused or where the ingress has saturated a concrete slab that is covered with a thermoplastic tile that may have to be removed. In this case the thermoplastic tiles may require testing for asbestos.

Additionally, due to the nature and time element of the water ingress, investigation of potential mould development and or bacterial activity should be made.

Where potential ACMs (Asbestos Containing Materials) may have been damaged by the ingress, and could therefore be in an unstable state, relevant sampling and associated procedures and protocols should be observed.

Check route of ingress:

As a result of the findings the following should be taken into account:

- Due to the nature of the water ingress badly affected porous building materials will have to be removed for controlled disposal and, where appropriate, building materials will have to be removed to access areas of contamination for effective analysis and decontamination procedures.
- Textile floor coverings and semi-permeable floor coverings have to be uplifted for removal to allow decontamination of sub-floors and access to voids or gaps.
- Preliminary testing of contaminated areas must be carried out to ascertain the degree of contamination and as a reference for post testing of the affected areas.

Due to the severe Health and Safety implications it is essential that removal and disposal is undertaken by an appropriately licensed contractor.

Apply initial treatments:

Swab or sample testing for the presence of E-Coli should be undertaken to ascertain the degree of contamination

Biocides and mould inhibitors should be applied to damp surfaces to mitigate any potential secondary damage.

The nature of the water type could require use of products that may cause the occupants of the property distress or short term ill health, so assessment of the short term exposure limit must be made and adequate provision to minimise short term exposure should be made.

Sufficient and appropriate PPE (Personal Protective Equipment) is necessary.

Soft strip out & Building strip out:

- All textile floor coverings and semi-permeable floor coverings together with underlay and fixings that have been affected by the ingress must be removed for safe disposal.
- All textile soft furnishings and porous cabinets (MDF and Chipboard) affected by the ingress must be removed for safe disposal.
- Items categorised as BER in the initial triage assessment should be removed for safe disposal.
- Porous building materials severely affected by sewage should be removed for safe disposal.

The appropriate and suitable contractors should be arranged to carry out the required work

Phase 1 drying, removal of surplus water:

Extraction by suction/vacuum methods of the wet areas is required to remove surplus water and decrease the drying period

The nature of the water type may require some containment and or removal techniques for mould and bacterial growth.

The use of cleaning agents to mitigate the losses and maximise the restoration potential should be used during the excess water removal phase.

A secondary triage is required to ascertain the potential for further mitigation and restoration and to assess any potential of wicking of moisture into walls and plinths

Any standing water that is contaminated with sewage and/or faecal matter will require use of a licensed waste disposal company in line with legislative requirements.

Sanitisation procedure:

- Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process
- Further mould removal and or containment techniques may be required
- Multi-step cleaning and disinfecting processes should be employed and sampling and or testing during the operation should be undertaken to assess the degree of removal of the effluent
- Further multiple cleaning and disinfecting processes may be required to achieve a level of sanitation that does not pose any hazard to health

Access voids and gaps:

  - Skirting boards, plinths and or fixed cabinets or cupboards may have to be removed to access all potential areas of contamination
  - Sub-voids, cavities and basement/cellars must be fully sanitised to the agreed levels prior to any drying regimes being installed

Act on Triage assessment:

The triage assessment should have identified actions to mitigate secondary damage, such as reducing humidity levels, preventing spread of moisture to unaffected areas, reducing risk of mould development and arresting the spread of contaminants.

Where vertical ingress has occurred particular attention needs to be paid to hidden areas where water and/or waste may have accumulated.

The triage assessment should also have identified:

- items that are BER or semi-permeable floor coverings (vinyl) that are perimeter fixed which inhibit the evaporation of moisture from the sub-floors beneath them and which may require uplifting to assist in the drying process.
- only high value soft furnishings will normally be considered for removal from site for drying and restoration following a sewage related incident.

Only **items that can be successfully restored** via immersion cleaning processes or total refinishing methods should be considered for restoration

Items that are **non porous or have a suitable sealed finish** should be assessed for immersion cleaning processes

Take initial readings:

Prior to the installation of any stabilisation equipment sufficient and relevant moisture readings should be taken and documented on a drying plan.

Control readings should also be taken and recorded accordingly.

All readings should be taken with calibrated equipment suitable for the relevant materials. External temperature and relative humidity should also be recorded.

Installation of ERH (Equilibrium Relative Humidity) sleeves or boxes for continuous monitoring readings in damaged and controlled areas.

Phase 2 drying, climate control:

Only dehumidification should be installed for the first 3-5 days to restrict cross contamination and secondary damage

However air movement may be used once the climate has been stabilised and cross contamination issues have been addressed.

RECOVERY & RESTORATION

Monitor visit:

The first monitor visit should be within 3-5 days of the initial visit to ascertain the indoor climate and degree of drying potential.

In **minor damage** second phase drying techniques this may be sufficient to complete the drying process within 3-7 days and completion procedures should then follow on immediately, including final moisture readings to ascertain a state of dryness which must be recorded on the drying plan.

Where Phase 3 drying of targeted areas has been installed, completion of the drying could be within 7-14 days.

In **major damage** second phase drying may take 10-30 days and all relevant readings should be recorded on the drying plan at each monitoring visit.

It should be noted that drying times are likely to be slightly extended due to the absence of air movers during Phase 2 drying.

At this stage any alterations or adjustments to the original scope of works and/or consequently to the provisional cost of works can be made.

Swab or sample **testing for the presence of E-Coli** should be undertaken to ascertain the degree of sanitation achieved.

Where the presence of E-Coli is confirmed the areas should go through a subsequent sanitisation procedure prior to further drying.

Phase 3 drying, Building drying:

Where **major damage** has occurred there may be a requirement for the removal of skirting boards and plinths and some of the internal fabric of the building to aid drying. The appropriate and suitable contractors should be arranged to carry out any required reinstatement work.

Sufficient targeted or specialist drying methods should be utilised and installed **during the first monitoring visit** to decrease the drying time and speed up the evaporation rate.

Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process.

Monitor visit(s):

All relevant readings for each monitoring visit should be recorded on the drying plan and any adjustments to the drying regime noted.

Where longer drying periods are involved it may be appropriate to install remote monitoring equipment to reduce the number of visits required.

Sanitisation procedures:

Multiple sanitisation applications will be necessary.

Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process

Further mould removal and or containment techniques may be required

Completion:

Swab or sample **testing for the presence of E-Coli** should be undertaken to ascertain the degree of sanitation achieved

In some circumstances post swab and or ATP (Adenosine TriPhosphate) testing to ascertain degree of any post contamination may be advisable

Final moisture readings to confirm an acceptable or pre-incident level of dryness must be recorded on the drying plan, and a drying certificate issued.

Complete post operation:

Post cleaning and decontamination of areas affected

Check mould removal and/or containment techniques have been successful and apply further treatments if necessary

Any items removed for off-site restoration and/or storage should be returned and the relevant documentation for satisfaction and completion produced and signed off by the client/customer.

APPENDIX E

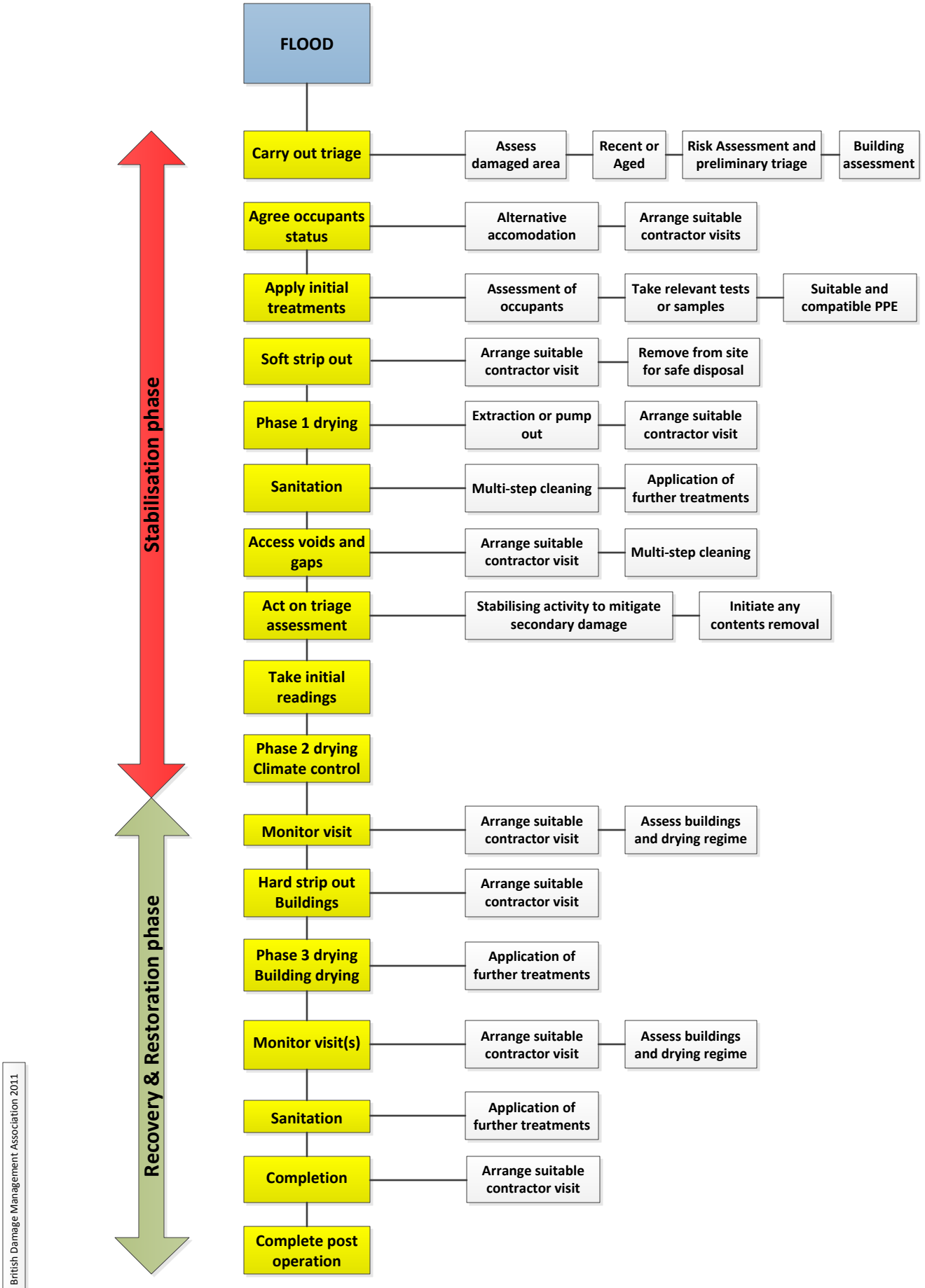
FLOOD EXAMPLE

The damage management industry has traditionally categorised flood as an incident covering a localised, or series of localised geographic regions, involving ingress of substantial amounts of water in a property or properties. Such incidents require similar knowledge skills to other water damage categories plus project management skills and people management techniques.

DAMAGE MANAGEMENT INCIDENT

Typical response to

FLOOD



FLOOD – Typical response

Procedures in the event of flood are different to those for the day to day ingress of water, due to the volume of water and likely associated damage. Whilst not affecting the specific procedures, where flooding is over a widespread area or areas it would be treated as a surge incident.

The principles related to the water source and sub categorisation can be applied as per Escape of Water where this can be identified. It should be noted that due to the nature and volume of flood water many procedures will be in line with those for a Category 3 and/or Sewage category. Additional project management and people management skills may be required.

STABILISATION

Carry out triage:

One of the primary objectives of triaging is to prioritise and mitigate secondary damage and therefore any actions identified against this objective should be implemented as a matter of urgency.

- The initial visit to a flood incident would assess the age of the damage to inform appropriate actions.
- Triage of the incident, followed by development of an initial scope of works and provisional cost of restoration should be ascertained at this stage.
- A thorough building survey should be undertaken to assess the damage done to the exterior of the building with an emphasis on the effects on drying and an assessment of the water table to ascertain the potential length of time for the stabilisation of the outdoor environment, which has an indirect effect on the drying potential of some buildings.
- Additional risk assessments and control measures relevant to the nature of ingress may be required.
- Particular attention should be paid to any chemical and biological effects due to the nature of the water.
- The initial assessment of the property should contain photographic evidence of the damaged area or areas including photographic evidence of the external view of the property and any external areas that may contribute to the damage or affect the restoration process.
- Photographic evidence should be made of any items damaged by the water ingress, whether they are to be restored or are Beyond Economical Restoration (BER), and any identification material, serial numbers, make/makers name, reference numbers or markings on the items should be recorded.
- Risk assessments are necessary on all water damage incidents and must be completed on the initial visit and during the restoration process if and when the situation changes.

- In major incidents the access to power and water to initiate the restoration process must be considered and the appropriate and suitable contractors should be arranged to carry out the required work.

Agree occupant status:

The degree of damage and use of welfare arrangements must be considered in relation to the occupancy of the property.

The health and safety of the occupants must be considered as well as the security issues of the damaged property/site.

Access to power and water to initiate the restoration process must be considered and the appropriate and suitable contractors arranged to carry out the required work.

Apply initial treatments:

Swab or sample testing for the presence of E-Coli should be undertaken to ascertain the degree of contamination

Biocides and mould inhibitors should be applied to damp surfaces to mitigate any potential secondary damage.

The nature of the water type could require use of products that may cause the occupants of the property distress or short term ill health, so assessment of the short term exposure limit must be made and adequate provision to minimise short term exposure should be made.

Sufficient and appropriate PPE (Personal Protective Equipment) is necessary.

Soft strip out:

- All textile floor coverings and semi-permeable floor coverings plus underlays and fixings that have been affected by the ingress must be removed for safe disposal.
- All textile soft furnishings and porous cabinets (MDF and Chipboard) affected by the ingress must be removed for safe disposal.
- Items categorised as BER in the initial triage assessment should be removed for safe disposal.
- Severely affected porous building materials should be removed for safe disposal.

Phase 1 drying, removal of surplus water:

Extraction by suction/vacuum methods of the wet areas is required to remove surplus water and decrease the drying period. In some cases submersible pumps will be required.

The nature of the water type may require some containment and or removal techniques for mould and bacterial growth.

The use of cleaning agents to mitigate the losses and maximise the restoration potential should be used during the excess water removal phase.

A secondary triage is required to ascertain the potential for further mitigation and restoration and to assess any potential of wicking of moisture into walls and plinths

Any standing water that is contaminated with sewage will require use of a licensed waste disposal company in line with legislative requirements.

Sanitisation procedure:

- Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process
- Further mould removal and or containment techniques may be required
- Multi-step cleaning and disinfecting processes should be employed and sampling and or testing during the operation should be undertaken to assess the degree of removal of the effluent
- Further multiple cleaning and disinfecting processes may be required to achieve a level of sanitation that does not pose any hazard to health

Access voids and gaps:

- Skirting boards, plinths and or fixed cabinets or cupboards may have to be removed to access all potential areas of contamination
- Sub-voids, cavities and basement/cellars must be fully sanitised to the agreed levels prior to any drying regimes being installed

Act on Triage assessment:

The triage assessment should have identified actions to mitigate secondary damage, such as reducing humidity levels, preventing spread of moisture to unaffected areas, reducing risk of mould development and arresting the spread of contaminants.

In view of the likely volume of water particular attention needs to be paid to hidden areas where water may have accumulated.

To mitigate any potential secondary damage during the drying period, **humidity control equipment should be installed in 1st floor areas**, or areas immediately above the flood area that may be used for occupation or storage.

The triage assessment should also have identified:

- Items that **have not sustained direct contact with the flood water** but require removal from site - these should be packed for off-site restoration and storage
- only high value soft furnishings will normally be considered for **removal from site for drying and restoration** following flooding.

- items that are **BER (Beyond Economic Restoration)** or semi-permeable floor coverings (vinyl) that are perimeter fixed which inhibit the evaporation of moisture from the sub-floors beneath them and which may require uplifting to assist in the drying process.

Items that are **non porous or have a suitable sealed finish** should be assessed for immersion cleaning processes

Only **items that can be successfully restored** via immersion cleaning processes or total refinishing methods should be considered for restoration.

Take initial readings:

Prior to the installation of any stabilisation equipment sufficient and relevant moisture readings should be taken and documented on a drying plan.

Control readings should also be taken and recorded accordingly

All readings should be taken with calibrated equipment suitable for the relevant materials. External temperature and relative humidity should also be recorded.

Installation of ERH (Equilibrium Relative Humidity) sleeves or boxes for continuous monitoring readings in damaged and controlled areas.

Phase 2 drying, climate control:

Only dehumidification should be installed for the first 3-5 days to restrict cross contamination and secondary damage

However air movement may be used once the climate has been stabilised and cross contamination issues have been addressed.

Options for specific targeted and/or envelope drying and advanced, specialised drying and heating applications should be always considered after the 3-5 day stabilisation period. However, if the flood event is widespread the availability of such techniques is likely to be restricted.

RECOVERY & RESTORATION

Monitor visit:

The first monitor visit should be within 3-5 days of the initial visit to ascertain the indoor climate and degree of drying potential.

- A **reassessment of the building internally and externally** should be made to assess potential of the drying regime and what type of drying technique should be installed to successfully dry the property in the most efficient and cost effective manner.

- Assessment of **what building materials should be removed**, that are deemed BER, that have deteriorated from the flood incident, or are inhibiting the drying process.

- Swab or sample **testing for the presence of E-Coli** should be undertaken to ascertain the degree of sanitation achieved. Where the presence of E-Coli is confirmed the areas should go through a subsequent sanitisation procedure prior to further drying.

- In **minor damage** where Phase 3 drying of targeted areas has been installed completion of the drying could be within 14-21 days.

- In **major damage** drying may take 21-45 days and relevant readings should be recorded on the drying plan during each monitoring visit.

- In some cases **where the building type and materials used create substantially difficult evaporation issues** drying periods should be agreed on an ad hoc basis.

Where longer drying periods are involved it may be appropriate to install remote monitoring equipment to reduce the number of visits required.

NOTE: **If flooding is widespread and substantial housing stock is affected it is likely there will be shortages in specialised equipment and consequently drying times will often be extended by significant margins.**

Hard strip out:

Removal of building materials which have been identified as BER, that have deteriorated from the flood incident, or are inhibiting the drying process.

The appropriate and suitable contractors should be arranged to carry out the required work.

Phase 3 drying, Building drying:

Where **major damage** has occurred there may be a requirement for the removal of skirting boards and plinths and some of the internal fabric of the building to aid drying. Appropriate contractors should be arranged to carry out any required reinstatement work.

Sufficient targeted or specialist drying methods should be utilised and installed **during the first monitoring visit** to decrease the drying time and speed up the evaporation rate.

Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process.

Monitor visit(s):

Continuous reassessment of the building internally and externally should be made to ensure the effectiveness of the installed drying regime and consider any need to change this in order to deliver the most efficient, cost effective and timely solution.

All relevant readings for each monitoring visit, or from the remote monitoring system, should be recorded on the drying plan and any adjustments to the drying regime noted.

Sanitisation procedures:

Further application of Biocides and Mould inhibitors are required to prevent secondary damage occurring during the drying process

Further mould removal and or containment techniques may be required

Completion:

Swab or sample testing for the presence of E-Coli should be undertaken to ascertain the degree of sanitation achieved

In some circumstances post swab and or ATP (Adenosine TriPhosphate) testing to ascertain degree of any post contamination may be advisable

Final moisture readings to confirm an acceptable or pre-incident level of dryness must be recorded on the drying plan, and a drying certificate issued.

Complete post operation:

Post cleaning and decontamination of areas affected

Check mould removal and/or containment techniques have been successful and apply further treatments if necessary

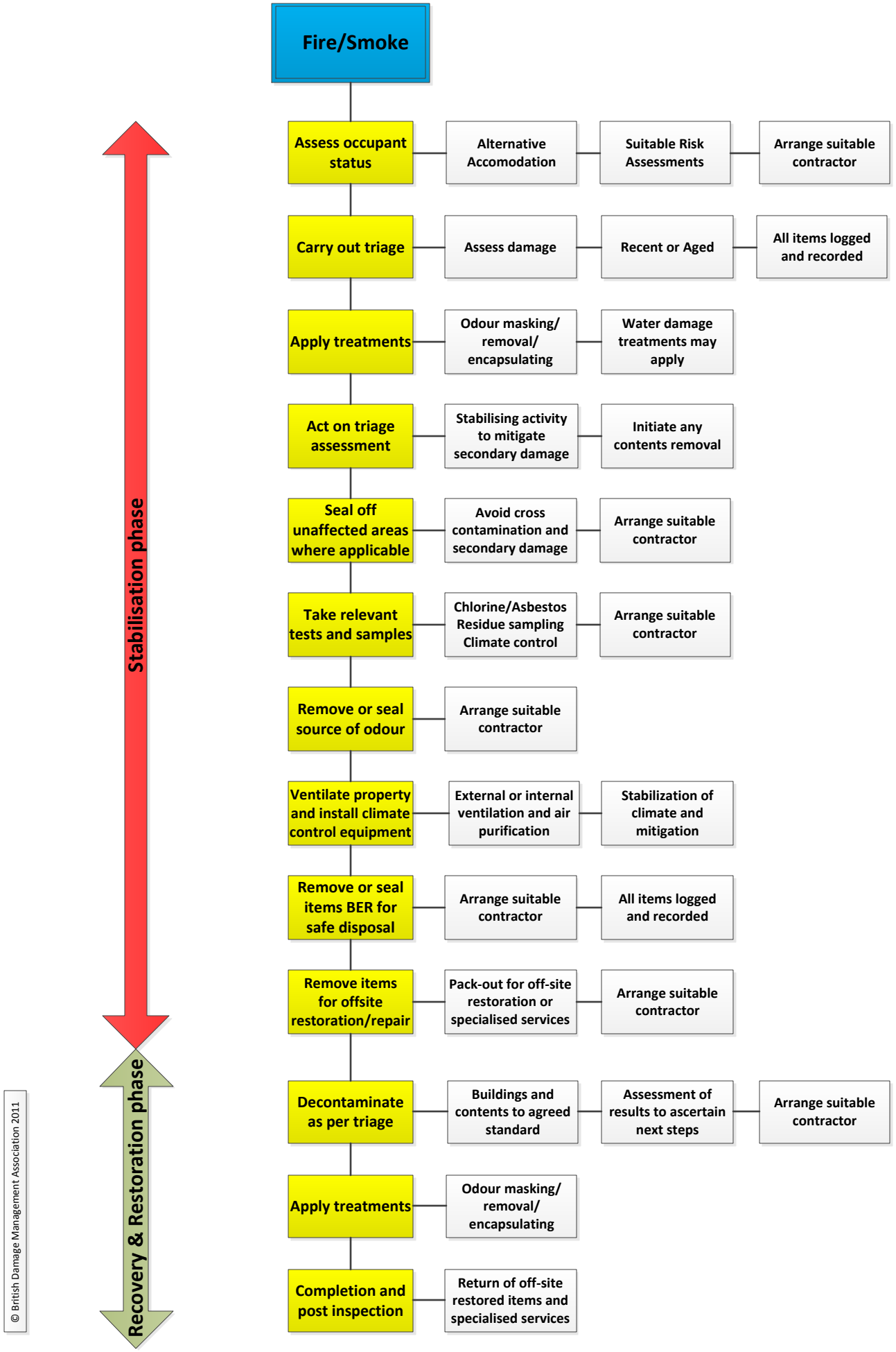
Any items removed for off-site restoration and/or storage should be returned and the relevant documentation for satisfaction and completion produced and signed off by the client/customer.

APPENDIX F

FIRE & SMOKE

The damage management industry has traditionally categorised Fire and Smoke damage to buildings on an individual incident basis, as the contaminants involved with smoke are entirely dependent on the materials burnt, fuel available, timeframe, temperatures reached, building construction methods, and building materials.

DAMAGE MANAGEMENT INCIDENT
Typical response to
FIRE/SMOKE
Appendix F



FIRE & SMOKE – Typical response

Fire and smoke damage, and consequently the appropriate response, will depend on the type and circumstances of the fire and the materials affected, together with the extinguishing methods used which can create secondary issues normally associated with water damage categories.

The most common types of fire and their associated effects can be distinguished as:

Low oxygen fires (slow burning) causing, odorous and wet difficult to remove residue that require prompt mitigation procedures to minimise losses

- Strong odours which are difficult to remove from absorbent materials
- Deep set residues to porous surfaces
- Run lines on vertical surfaces due to condensation
- Wet cleaning techniques required and aggressive products for removal

High oxygen fires (fast burning) causing, dry residues that affect numerous areas and are carried into difficult to access places and items

- Items suffer from more thermal damage (scorching and distortion)
- Drier residues require dry initial removal techniques
- Large amount of smoke chains and cobwebs visible at high levels
- Voids and roof spaces may require some form of treatment

Protein fires which cause odorous residues that cannot be seen with the naked eye and require several different techniques in odour removal and restoration processes

- Odours often resemble item burnt (fish, chicken, meat etc)
- Dismantling of fixed items within the area of the seat of the fire is generally necessary
- Initial odour removal by air scrubbing or air cleaning
- Absorbent items may require ozone chamber treatments

Chloride residue fires which cause etching and discolouration to metals and plastics, and testing of surface Chloride levels, are required to ascertain the degree of damage and subsequent mitigation procedures

- Testing is required of all areas within the property to ascertain the spread and degree of residue present
- Electrical and electronic items require immediate mitigation actions
- Post testing of electrical and electronic items is essential
- Treatments to surfaces to stop and or restrict corrosion are necessary

Plastic based fires which can cause a build up of acidic residues which, when combined with the humidity of the air, water from the extinguishing of the fire or even cleaning attempts, can create corrosive acids which may etch surfaces and textiles

- Prompt action to reduce the acidity of the surfaces are necessary
- Odours are pungent and require several odour cleaning methods
- Climate control (dehumidifiers) must be installed at the stabilisation phase
- Climate control is essential throughout the restoration phase

Oil based fires which, depending on their substance base, can leave deposits of oleophillic material which attracts particles of incomplete combustion to surfaces and textiles

- Residues are generally black and sticky
- Dry removal techniques are essential (absorption or suction) as the first step of restoration
- Oleophillic materials discolour and stain easily
- Absorbent materials may require several different cleaning techniques

In the majority of cases several different materials will have been burnt or affected by the fire, so different types of residues and categories of damage can be present at the same time. This is further compounded by the effects of smoke movement and varying temperatures within the property.

With all fire types **the longer smoke residues are left unattended the potential for greater long term damage increases**, so it is extremely important that smoke damage is addressed as quickly as possible to maximise potential restoration of buildings and contents and minimise building works and replacement.

STABILISATION

Assess occupant status:

The degree of damage and use of welfare arrangements must be considered with regard to the occupancy of the property.

The health and safety of the occupants must be considered as well as the security issues of the damaged property/site.

Access to power and water to initiate the restoration process must be considered and appropriate contractors arranged to carry out any required work.

Risk assessments and control measures should be relevant to the nature of damage.

Carry out triage:

The type and age of the damage must be assessed as **the potential for restoration diminishes with the time lapse from the initial incident**. Restoration of items must be considered, on the basis of potential results, as:

- immediate restoration to prevent deterioration
- restoration to pre-incident condition
- and items BER

The initial assessment of the property should contain photographic evidence of the damaged area or areas including photographic evidence of the outside of the property and any external areas that may contribute to the damage or affect the restoration process.

Photographic evidence should be taken of any items damaged by the fire/smoke, whether they are to be restored or are BER, and any identification material, serial numbers, make/makers name, reference numbers or markings on the items should be recorded.

This information is important in assisting in informing the scope of works and provisional cost of works documentation. If any adjustment to the scope of works is needed at this stage it should be documented and agreed.

As a first step it may be necessary to immediately install air scrubbing equipment and ventilate the property.

Apply treatments:

Initial odour suppressant methods, odour masking, odour encapsulating and/or air cleaning systems should be installed to reduce the effects of the smoke odours.

Escape of water category 3 procedures may be required, depending on the method used to extginguish the fire.

Act on triage assessment:

The triage assessment should have identified actions to mitigate secondary damage, such as need for immediate air scrubbing to remove smoke and odour and prevent spread to other areas; measures to contain particulates by restricting air movement, such as sheeting off of heavily contaminated areas and establishment of a 'clean room'; test cleaning of UPVC windows and doors; reduction of humidity levels, etc.

Initiate stabilising activity to mitigate secondary damage and arrange removal of contents identified for storage, restoration or disposal.

Seal off unaffected areas where applicable:

Where there is only minor damage, minimal areas are affected, or the property has multiple occupancy, measures must be undertaken to mitigate the losses and protect unaffected areas.

Systems to reduce the effects of cross contamination and spread of odour should be undertaken to minimise the restoration work and restrict this to the areas originally affected.

Take relevant tests and samples:

Where ACM's (Asbestos Containing Materials) are suspected the relevant procedures and protocols must be followed.

Relevant tests should be undertaken to ascertain the type of residue, the degree of damage and spread of the residue throughout the property, to identify the correct procedures and protocols required to maximise restoration of the damaged items and surfaces and plan the decontamination process.

Remove or seal source of odour:

Prior to any restoration works being undertaken **items within the initial seat of the fire** that are burnt, charred or scorched, should be removed from the property or site to reduce the emission of odour. Similarly any of the building fabric within this area that is BER, and that can be safely removed, should also be taken out of the property or site.

Where items or sections of the fabric of the building **cannot be safely removed**, or may affect the stability of the building if they are removed, methods of sealing those items, areas or surfaces should be undertaken.

Ventilate property and install climate control equipment:

Dependant on the fire/smoke residue type, techniques to ventilate the property should be undertaken to reduce and remove as much of the airborne particulate as possible to assist in the wellbeing of all contractors or persons on the property/site and to aid the potential of restoration.

Escape of water Category 3 procedures may be required depending on the method used to extginguish the fire.

Air cleaning systems should be installed, as well as equipment to reduce the Relative Humidity within the property.

Remove or seal items BER for safe disposal:

Items categorised as BER in the initial triage assessment should be removed for safe disposal.

Any identification material, serial numbers, make/makers name, reference numbers or markings on the items should be recorded.

Where items are **awaiting verification, valuation or validation from a third party** they should, where possible, be sealed to prevent cross contamination and removed from the property or site to a safe environment.

Remove items for offsite restoration/repair:

Items that can be successfully restored by immersion cleaning, re-finishing, repair/restoration and or specialised services should be removed off-site for the appropriate restoration methods.

Items that can be restored by cleaning and deodorising methods and require removal from site should be packed for off-site restoration and storage.

Items that have substantial sentimental value but are BER should be packed for the client/customer to view and agree the protocol to be followed with all parties

RECOVERY & RESTORATION

Decontaminate as per triage:

Decontamination methods to remove the smoke residues and odours from the property/site, should be completed as per the scope of works.

Assessment of the results of each stage of the decontamination works should be undertaken.

Apply treatments:

During the decontamination stage continuous odour suppressant methods, odour masking, odour encapsulating and/or air cleaning systems, if not already in place, should be instigated to remove the effects of the smoke odours.

Escape of water category 3 procedures may also be required.

Completion and post inspection:

Post cleaning and decontamination of areas that have been affected by any reinstatement works should be carried out.

All items removed for off-site restoration and/or storage should be returned and the relevant documentation for satisfaction and completion produced and signed off by the client/customer.

Post inspection of the property should be carried out in order to confirm suitability for ongoing occupation.

E&OE

BDMA STANDARDS

THE BRITISH DAMAGE MANAGEMENT ASSOCIATION
HARBOROUGH INNOVATION CENTRE, WELLINGTON WAY, MARKET HARBOROUGH LE16 7WB
www.bdma.org.uk

Important Information

1. Since the nature of damage incidents requires each scenario to be assessed on its own merits, the BDMA Standards allow for incorporation of the most appropriate techniques to deliver a professional and satisfactory outcome for all parties involved. Therefore, while the Standards set out protocols and procedures that should be followed at all times, the solutions will vary according to the specific circumstances of each incident in order to deliver the most appropriate and cost effective outcome.

Please be aware that as an Associate you may not claim to be a full member of the BDMA, since this implies accredited status, or use any version or variation of the BDMA logo or Collective Mark in any context whatsoever.