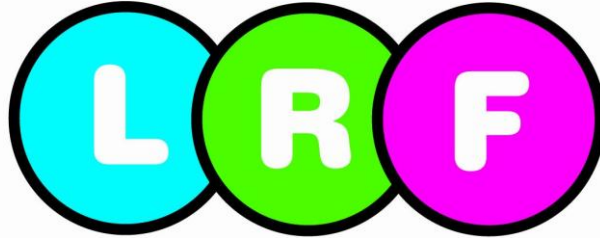


Devon • Cornwall • Isles of Scilly



Local Resilience Forum

MULTI AGENCY FLOOD FRAMEWORK



LRF Multi Agency Flood Framework

All items in this document are classed as open under the Freedom of Information Act unless otherwise stated. All closed items include the relevant Freedom of Information Act exemption.

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Distribution

Name	Department	Organisation
Flood Task and Finish Group	-	DCIoS LRF
MoT members	-	DCIoS LRF
LRF Secretariat	-	DCIoS LRF

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Details of changes should be sent to:

Devon, Cornwall and Isles of Scilly Local Resilience Forum Secretariat

Email lrf@devonandcornwall.pnn.police.uk

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1. INTRODUCTION

1.1 *Background*

This plan supersedes the previous Local Resilience Forum Multi Agency Flood Plan and provides a strategic overview of actions, roles and responsibilities specific to flooding and tactical information based on Local Authority boundaries. The risk of flooding has been assessed as very high in the Devon, Cornwall and Isles of Scilly Local Resilience Forum (DCIOS LRF) area. More information about the risk is contained in section 3 of this plan. This plan has been written with reference to the DEFRA Detailed Guidance on Developing a Multi-Agency Flood Plan

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254294/pb14046-develop-multi-agency-flood-plan.pdf

1.2 *Aim*

The purpose of this plan is to set out the principles that govern the multi agency response to a significant flooding incident in the 'DCIOSLRF area.

The plan and associated annexes are intended to be used:

- To manage the incident response to the threat of flooding.
- During the response to flooding to ensure medium term welfare needs are met for those in the flood area and surrounding non flooding areas who are affected by loss of utilities, transport or other vital services.
- Set-up the recovery group during the response phase to identify key buildings and infrastructure which could be affected that will impact on the long term recovery of the community.

1.3 *Framework Objectives*

- To provide an agreed common framework, protocol and process for all agencies responding to a major flooding incident within the DCIOSLRF area
- To set out the response issues that should be considered at both Strategic and tactical levels in responding to a major flood incident
- To provide a clear and concise procedure for the assessment of weather warnings that may lead to flooding, together with a corresponding escalation procedure and framework activation process
- To provide flood specific roles, responsibilities and actions for all agencies involved in the response to a flood incident
- To identify the flood risks within the DCIOS LRF area and provide mitigation through this framework
- To specify the scope of the plan in order to cover all forms of flood risk
- To reflect the risk of each type of flooding incident occurring within the DCIOS LRF area
- To identify communities within the DCIOS LRF area at risk of flooding and to pre-plan the local response to a flooding event

1.4 Flood Strategy & Aims During Response

- To save and protect life in conjunction with all category 1 and 2 responders..
- Where possible, to contain the scale and nature of the incident.
- To maintain and restore critical activities.
- To facilitate the recovery of the community.

1.5 Scope

This document is intended for organisations within the DCIOSLRF that would participate in and support, the response and recovery of communities affected by a flood incident.

It does not replace or supersede the LRF Combined Agencies Emergency Response Protocol (CAERP). This framework should be read and activated in the context of CAERP by which all emergencies (as defined by the Civil Contingencies Act 2004) are managed in the LRF area. CAERP outlines the roles and responsibilities of the organisations, which may be involved in an emergency within the LRF. Roles and responsibilities of organisations involved in the response to a flood incident are contained within this document at **Annex A**

This framework should be used:

- When there is a threat of flooding occurring no matter what the cause
- When a no notice flooding incident has occurred.

1.6 Organisational Responsibilities

All organisations involved in responding to a flood incident are to make their own arrangements both internally and with outside organisations to ensure that they are able to respond.

1.7 Critical Success Factors

The effectiveness of this framework is dependent on the following critical success factors:

- An effective public information and warning system
- An assembly either physical or via conference call of multi-agency incident commanders and liaison officers during the flood warning phase
- A dynamic risk assessment of the developing situation to determine the need, timing and priorities for implementing evacuation or shelter measures
- The timely mobilisation of staff
- The timely provision of transportation for evacuees especially the vulnerable
- An effective traffic management plan to divert non-essential traffic away from flood risk areas.
- Clear, signed handover from response to recovery for affected communities and locations.
- Effective and timely recovery plan for each affected community

These should be considered in line with the response objectives.

1.8 Audience

The intended audience is all organisations that may respond to flooding within the LRF area. The document has specific relevance to organisations participating at Strategic and Tactical Command locations.

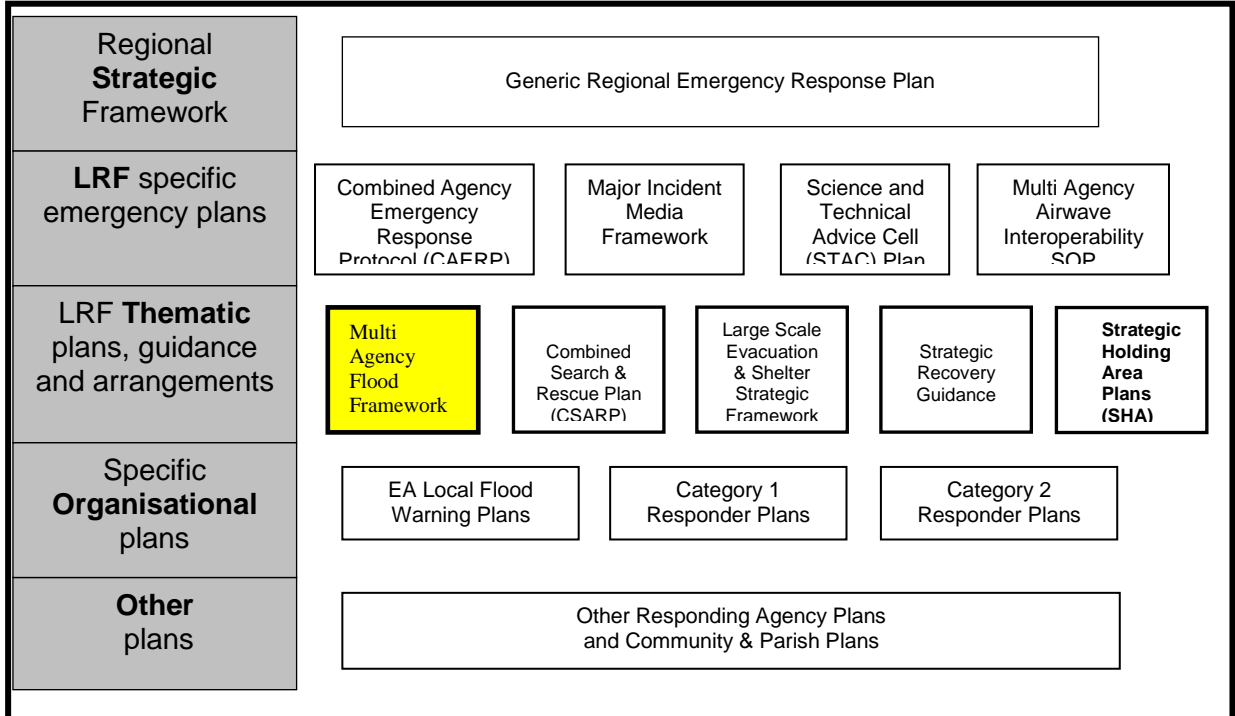
1.9 Review and Update

As a minimum this plan should be updated and reviewed a least every three years. Relevant updates should be inserted when they become available.

2. RELATED AND INTERDEPENDENT PLANS & PLANNING ASSUMPTIONS

2.1 Plans Overview

The relationship between this and other related LRF pla



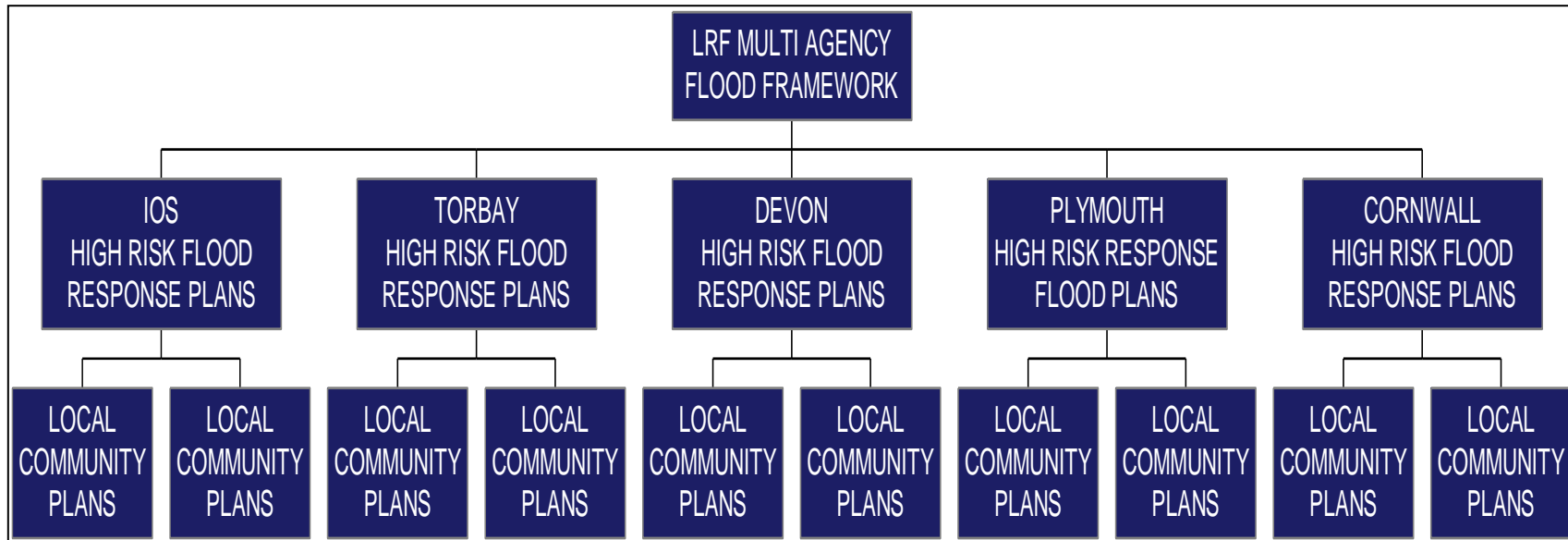
This is the Devon, Cornwall and Isles of Scilly Multi Agency Flood Plan

1. There are also High Risk Flood Response plans for communities with 100 properties or more at risk of flooding.
 - A. Major tidal/coastal flooding affecting more than 100 properties, 100 or more properties in Flood Zone 2 Tidal. (Refer to relevant Environment Agency map for specific details).
 - B. Major fluvial flooding affecting more than 100 properties, 100 or more properties in Flood Zone 2 Fluvial. (Refer to relevant Environment Agency map for specific details).
 - C. Major surface water or minor watercourse flooding affecting more than 100 properties, 100 or more properties in Areas Susceptible to Surface Water Flooding.
 - D. High risk of flash flooding affecting more than 15 properties, 15 or more properties in Flood Zone 2 Fluvial and a Very High risk of flash flooding (Environment Agency National Rapid Response Catchment Methodology).

The list of these locations are contained in **Annex F**. The recommended list of plans will develop over time as more information on risks to particular communities becomes available, particularly in reference to rapid response (flash flooding) and surface water flooding.

Figure 2a

Flood Plan Structure



2.2 Response Considerations

The following bullet points are possible characteristics of flood incidents:

2.2.1 Generic flooding

- People stranded over a large area and in need of rescue. This may only be possible using boats, helicopters or high-clearance vehicles. Rescue efforts may be hampered by severe weather
- People requiring evacuation and/or shelter
- Fatalities and casualties are likely to occur and locating missing persons (reuniting people) would be necessary
- Widespread structural damage, debris (including sediments) is likely to block roads and bridges, leading to significant transport disruption and the closure of primary transport routes within the affected areas
- Contamination of water supplies and loss of other essential services (water; electricity; telecommunications) for a period
- Drainage systems would 'back-up', forcing water to spill out of foul sewers and inside homes and buildings leading to health hazards
- Flooding of homes and businesses would create a requirement for temporary accommodation for up to 18 months
- Cordoned off areas would need to be maintained for up to 14 days. Many will try to return to hazardous areas to collect belongings
- There will be a significant movement of people. Many will self disperse but there will be those who require assistance both to move and to find accommodation
- Death of livestock, and consequently dead animals requiring disposal
- In addition to the immediate consequences of flooding, it may take between 6 and 18 months before business as usual conditions are restored due to the time required to dry-out buildings and repair the damage caused

2.2.2 Specific coastal and tidal flooding

- Inundation from breaches in defences would be mostly unpredictable, rapid and dynamic with minimal warning and less than 1 hour to evacuate. The depth and flow velocity would be unpredictable
- Inundation from overtopping of defences would be predictable at some locations but unpredictable in many others. Emergency services may have up to 8 hours to evacuate but is likely to be less depending on forecast information
- Salt damage to infrastructure and some destruction of property (including a significant number of mobile homes) leading to people needing alternative accommodation. In coastal flooding scenarios, up to 41800 residents are at direct risk from tidal flooding . However more residents may be at indirect risk due to loss of essential services such as water, sanitation and electricity
- People (including tourists) in coastal villages and towns evacuated from flooded sites will require assistance with sheltering or returning home. In Cornwall during the peak season, there are an estimated additional 290,000 visitors to the county in any given day. In addition there are 14 known licensed caravan and camp sites located within the tidal flood risk area, with the

capacity of up to 437 Touring caravans, 398 static Caravans/METHANE/Park Homes and 666 tent pitches. In Devon during the peak season, there are an estimated additional 200,000 visitors to the county on any given day.

2.2.3 Specific fluvial (river) flooding

- The event may include major flooding of a large built up area
- Inundation from overtopping of defences would be predictable at some locations but unpredictable in many others. Emergency services may have up to 3 hours to evacuate in some catchments but this is likely to be considerably less in most locations
- Properties could be flooded within built up areas and across a wide rural area
- The water depth and flow velocity would be variable and fast flowing water could necessitate the closure of bridges, road and rail links
- Most people would try to evacuate themselves and some could become stranded but it is still estimated that up to 110,000 people may need to be evacuated some of whom could require assistance with sheltering for up to 12 months
- In Cornwall during the peak season there are an estimated 290000 visitors to the county in any given day. In addition there are 39 known licensed caravan and camp sites located within the fluvial flood risk area, with a capacity of up to 128 Touring Caravans, 1882 Static Caravans/Park Homes and 1965 tent pitches. In Devon during the peak season there are an estimated additional 200000 visitors in the county in any given day. In addition there are 74 known caravan and campsites at risk of fluvial flooding
- Due to the number of catchments susceptible to flash flooding and without an Environment Agency Flood Warning Service many properties could be flooded in isolated communities due to very heavy local rain, typically thunder storm conditions. Deep water and high velocities could be experienced with very little warning posing a significant risk to life

2.2.4 Specific pluvial (surface water) flooding

- Flooding occurs very rapidly and often without warning. Flood waters may be deep and fast flowing depending on the local topography but are likely to subside quickly, usually within minutes rather than hours
- This type of flooding is most common in built up areas where large areas of concrete are unable to absorb excess water, however can also be a problem in rural areas, particularly when catchments are saturated causing water to run-off fields onto roads and into property or where there are rapid response catchments with settlements situated downstream from steep valleys where heavy localised rainfall occurs
- Forecasting of this type of flooding is difficult
- Indicative maps of the area at risk of this type of flooding are now available for emergency planning

3. FRAMEWORK ACTIVATION – THRESHOLDS AND TRIGGERS

3.1 Protocol for convening a Strategic Co-ordinating Group (SCG) meeting prior to a flood incident. (see figure 5a)

- 3.1.1 The Met Office, FFC and EA have the following roles re heavy rain and/or flooding. Met Office issue NSWWS (National Severe Weather Warning Service) and the Met Office Advisor (civil contingencies) provides specific and detailed guidance which includes heavy rain as one of the weather types, on current and forecast weather conditions up to 5 days ahead – plus trend 6-10 days ahead. The FFC provides 'flood risk guidance' up to 5 days ahead for the 4 types of flooding. EA provides Flood Warning Service.
- 3.1.2 EA and relevant Local Authority(s) discuss current information and consider there is a risk of flooding in their area and the relevant LA/EA need to share this information with multi-agency partners at LRF Level. This decision will take into account the risk and probability of flooding.. A Pre Event Assessment Telecon (PEAT) should be held between EA, MET Office, Police and relevant Local Authorities to discuss the requirement of a SCG / TCG as set out in Operation Link
- 3.1.3 LA/EA requests Police to activate cascade call out in Operation Link and to co-ordinate a SCG meeting to ensure the information is shared with all relevant LRF partners. In most instances this initial meeting is likely to be a teleconference. This will be co-ordinated by the duty Gold Chief of Staff or nominated deputy.
- 3.1.4 Meeting to be chaired by senior Police Officer. **NB: This meeting should be attended by senior emergency planning practitioners and other appropriate officers as this will still be the planning phase.**
- 3.1.5 Consideration must be given to the timescale for subsequent individual agency conference calls and concurrent activity, which may need to be held by partners to cascade this information.
- 3.1.6 Multi agency conference calls to disseminate this information will not be resourced by some agencies once a SCG has been held to discuss the possibility of flooding.

3.2 No Notice flood event

- 3.2.1 In the event of a no notice flood event the command and control as outlined in Figures 6b or 6c should be implemented and all relevant agencies notified by the police.
- 3.2.2 Partners being informed of flood incidents other than from the police should ensure that the police are informed of the flood incidents via the control room.
- 3.2.3 Partners should contact the Police Control Room and request TCG / SCG as appropriate is established immediately (unless notification has already been received).

3.3 Roles and Responsibilities

- 3.3.1 Specific roles and responsibilities of LRF partners can be found in **Annex A** . These are in line with those outlined in the Devon, Cornwall and Isles of Scilly Combined Agency Emergency Response Protocol (CAERP) section 3.



4. FLOODING WARNINGS

4.1 Flood Warnings - Background

The Environment Agency operates a flood warning service in areas at risk of flooding from rivers or the sea (excluding the Isles of Scilly).

If flooding is forecast, warnings are issued using a set of four easily recognisable codes. Comprehensive details are contained in the Devon, Cornwall and Isles of Scilly Local Flood Warning Plan. A description of the codes is shown below.

4.2 Warning Codes

 <p>FLOOD ALERT FLOODING IS POSSIBLE. BE PREPARED.</p>	<p>Flood Alert is issued in order that the public at risk and the emergency services and civil authority are aware of increasing chance of flooding and take appropriate preparatory action.</p> <ul style="list-style-type: none"> • Timing: Two hours to two days in advance of flooding. • Triggers: Forecasts or observations indicate flooding from rivers may be possible; forecast intense rainfall for rivers that respond very rapidly; forecasts of high tides, surges or strong winds. • Public Actions: Be prepared for flooding; Prepare a flood kit; move livestock. • Partner Actions: Monitor local conditions, weather and flood forecasts.
 <p>FLOOD WARNING FLOODING IS EXPECTED. IMMEDIATE ACTION REQUIRED.</p>	<p>Issued when flooding of homes and businesses is expected. Property owners, the public at risk, the emergency services and the civil authority should act to protect life and property.</p> <ul style="list-style-type: none"> • Timing: Half an hour to one day in advance of flooding. ○ Public Actions: Move family, pets and valuables to safe place; put flood protection equipment in place; turn off services if safe to do so. ○ Partner Actions: Keep up to date with local conditions, weather and flood forecasts; refer to flood response plans. In most instances, a Flood Warning will not escalate to a Severe Flood Warning, but Category 1 responders should be alert to that possibility and liaise with the Environment Agency in that respect. ○
	<p>Issued when flooding poses a significant risk to life or significant disruption to communities. Risk to life could result from deep fast flowing water, debris or damage to</p>


 <p>SEVERE FLOOD WARNING SEVERE FLOODING. DANGER TO LIFE.</p>	<p>buildings or structures. Significant disruption could result from widespread flooding or damage to critical infrastructure. In such circumstances, it is likely that there would be considerable disruption to traffic movement due to extensive road flooding.</p> <ul style="list-style-type: none"> • Timing: When flooding poses a significant threat to life and different actions are required. May be issued without prior issue of Flood Alert or Flood Warning if onset of severe flooding is rapid. • Public Actions: Stay in safe place; be ready should you need to evacuate; co-operate with the emergency services • Partner Actions: Act to protect life and property. This is likely to involve an enhanced response and the commitment of significant resource. Request residents evacuate their properties in the at risk locations if not already commenced
<p>Warning / Alert no longer in force</p>	<p>Issued when a Severe Flood Warning, Flood Warning or Flood Alert is no longer in force because no further flooding is currently expected for the area. No new impacts are expected, though there may still be standing water following flooding, flooded properties and flooded or damaged infrastructure.</p> <ul style="list-style-type: none"> ♦ Public Actions: Be careful around remaining flood water; contact insurance company if you have been flooded ♦ Partner Actions: Recovery phase actions

Figure 5b - Response level definitions

An alert level describes the expected scale of response to a flood incident. These are defined as:

Response Level	Actual or forecast Impact	Response
0. (Low flood risk)	<ul style="list-style-type: none"> No flooding 	<ul style="list-style-type: none"> No specific response, normal awareness of possible flood risk.
1. (Moderate flood risk)	<ul style="list-style-type: none"> Fast flowing rivers Bank-full rivers Flooding of fields and recreation land Minor road flooding Car park flooding Farmland flooding Surface water flooding (linked to river flooding). Spray/wave overtopping on coasts. Overland flow from rivers and streams Localised flooding due to heavy storms 	<ul style="list-style-type: none"> Consider the need for Strategic Co-ordination Group. Individual responders flood plans and procedures may be activated Some routine or preparatory responses may be underway, e.g. diversion of minor roads, duty officers put on standby, resources mobilised Heightened awareness if flood risk EA Issue Flood Alert
2. (Substantial flood risk)	<ul style="list-style-type: none"> Flooding of homes Flooding of businesses Flooding of cellars and basements Rail lines vulnerable in tunnels and cuttings Flooding of major road infrastructure Flooding of rail infrastructures Significant wave/spray overtopping on coasts Significant flood plain inundation (high risk to caravan parks or campsites) Flooding of major tourist/recreational attractions 	<p>As for level 1, plus:</p> <ul style="list-style-type: none"> Consider the need for Strategic Co-ordination Group Multi-agency flood plan activated if required. Responders undertake actions continued in MAFP if activated. EA Issue Flood Alert & Flood Warning

Multi Agency Flood Plan

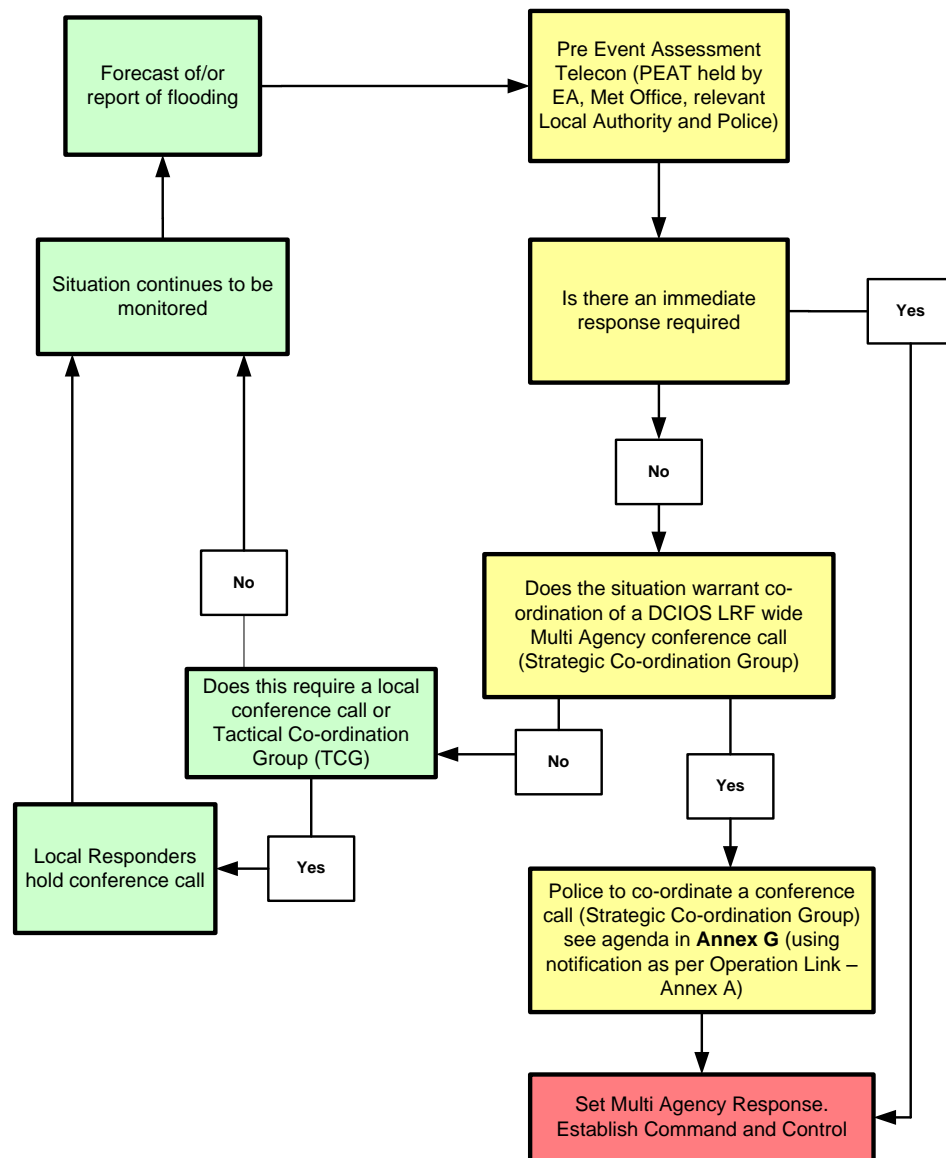
<p>3. (Severe flood risk)</p>	<ul style="list-style-type: none"> • Large numbers (at least 100) of homes/businesses expected to flood • Large numbers of people are likely to be affected by flooding • Highest risk to life • Severe adverse impact on local infrastructure anticipated: e.g. transport, hospitals & utilities • Significant impact on the capacity of professional partners, organisations and the public (e.g. vulnerable groups) to effectively respond • Flood defence failures or overtopping, which could result in extreme flooding 	<p>As for level 2, plus:</p> <ul style="list-style-type: none"> • Convene Strategic Co-ordination Group • Police co-ordinate multi-agency response • Multi-agency control centres open • EA issue Flood Alert, Flood Warning & where appropriate Severe Flood Warning
<p>4. (Recovery)</p>	<ul style="list-style-type: none"> • Flood water receding. 	<ul style="list-style-type: none"> • Local authority to facilitate rehabilitation of the community and restoration of the community.

5. COMMUNICATION PLAN

5.1 Multi Agency Communication Arrangements

The LRF Operation Link will detail multi agency arrangements, but in essence the primary means of communicating between the Devon, Cornwall and Isles of Scilly Local Resilience Forum (DCIOS LRF) members is by fixed telephone, mobile phones or e-mail. Emergency Service Staff in the field will use mobile and Airwave.

Figure 5a – Assessment Process for all flood events



NB: For extreme events or wide area flooding Command & Control will be established from the onset

5.2 Media

The media interest in any significant flood event, based upon historical experience, is likely to be very high. The Strategic Co-ordination Group's media response will be in line with the agreed LRF. Media Plan and Social Media Framework.

Upon declaration of a Major Incident the Strategic Co-ordination Group may if appropriate, initiate and maintain a link with the Government News Network to ensure that a common communications message is produced.

5.3 Warning the Public

The Environment Agency has a responsibility to issue flood warnings to the public (see section 3.8.2).

The issuing of guidance and information to the public following a flood incident will be co-ordinated by the police, with advice from the organisations represented at the Strategic Co-ordination Group.

Vulnerable people may require different and specialist communication methods.

SCG / TCG / Recovery Group should consider the most appropriate agency(s) to set up a help line to respond to queries from members of the public.

5.4 Warning time

In areas where the Environment Agency Flood Warning Service is offered for communities affected by fluvial flooding warnings are issued with between 0.5 and 2 hours notice of flooding occurring. In areas where the Environment Agency can provide a Flood Warning Service for communities affected by tidal flooding warnings are issued with between 4 and 8 hours warning.

For many communities no warning service is available and awareness raising by issuing of press releases and weather forecast information can provide up to 24 hours warning.

For communities affected by flash flooding no warning is available particularly for summer thunder storm conditions which are very difficult to forecast.

6. COMMAND AND CONTROL

6.1 Principles of Command and Control

The DCIOS LRF's CAERP details the command and control structure for dealing with a major incident, and will be set up as detailed below:

The command and Control structure of a single location flood incident is contained in **Figure 6b**

The Command and Control structure of a multi location flood incident is contained in **Figure 6c**

6.2 Science and Technical Advice Cell

The role of the Science and Technical Advice Cell (STAC) is to ensure timely co-ordinated scientific and technical advice during the response to an emergency.

Please refer to the Devon, Cornwall and Isles of Scilly LRF Science and Technical Advice Cell Plan.

6.3 Strategic Co-ordination Group - Initial Meeting Agenda

Details of the agenda for the initial meeting can be found at **Annex C**.

6.4 Tactical Co-ordination Command - Initial Meeting Agenda

The generic agenda for the initial TCC Command meeting can be found at **Annex D**. The agenda also includes a number of other considerations that the group may wish to consider.

6.5 Search and Rescue Co-ordinating Group (SAR Co-ordinating Group)

The purpose of a SAR Co-ordinating Group is to co-ordinate all search and rescue (SAR) taskings and resources involved in an incident where multiple SAR resources are involved in responding to that incident. This avoids duplication of effort and resources by various agencies who would ensure all taskings received by their own agencies are fed into the SAR Co-ordinating Group. This is outlined in the LRF Search and Rescue Plan.

In single location incidents this will be a bronze function. In multi incident locations this will be a TCC function. If required a SAR Co-ordinating Group will include the 4x4 cell.

6.6 Command and Control Structure

At the declaration of a Major Incident, the command and control of the multi agency response will follow national guidelines. The structure for flood response is shown in **figures 6a, 6b and 6c**. This must be initiated when flooding is anticipated.

Figure 6a – Flood Response Structure (Strategic and National

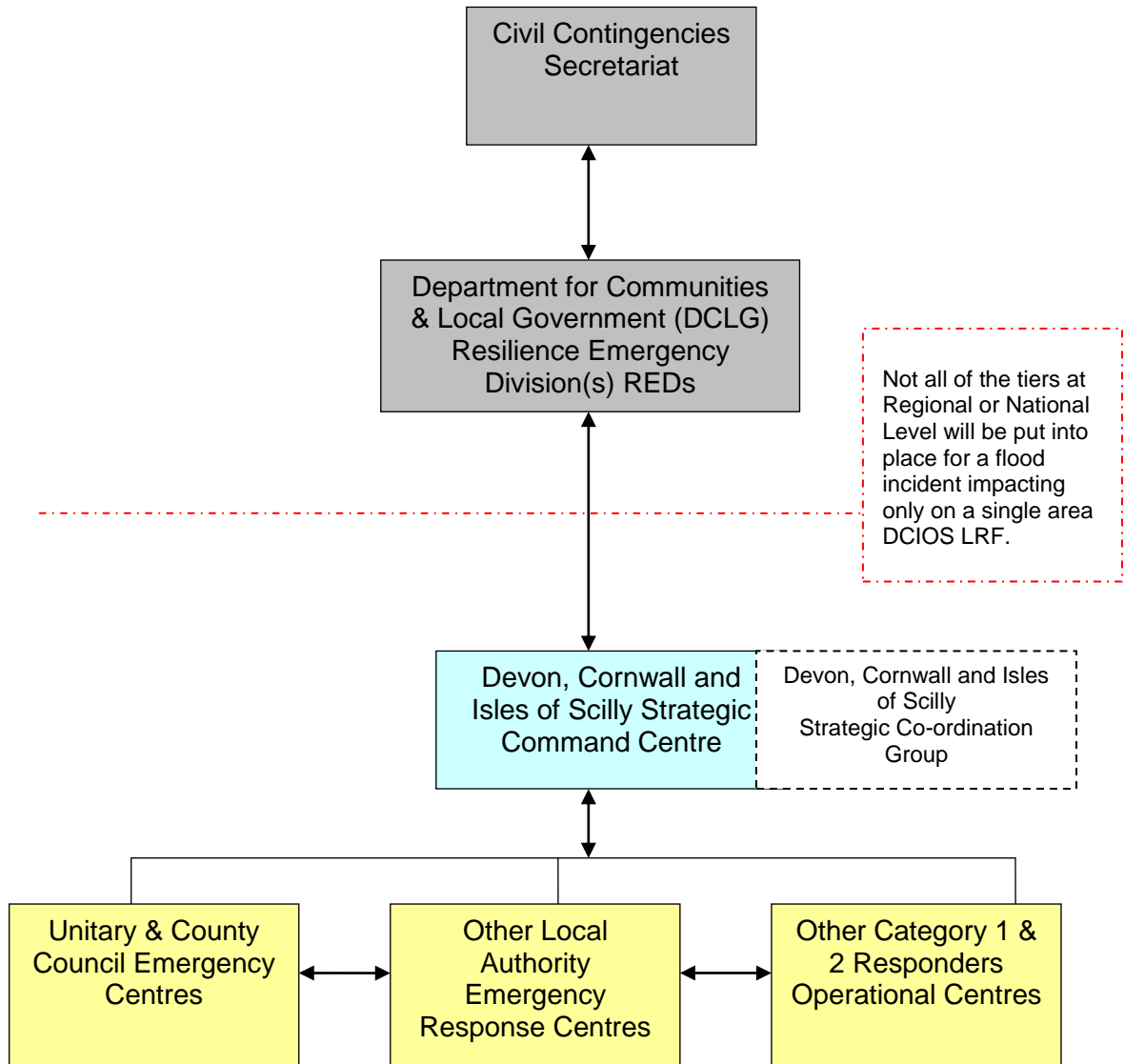


Figure 6b

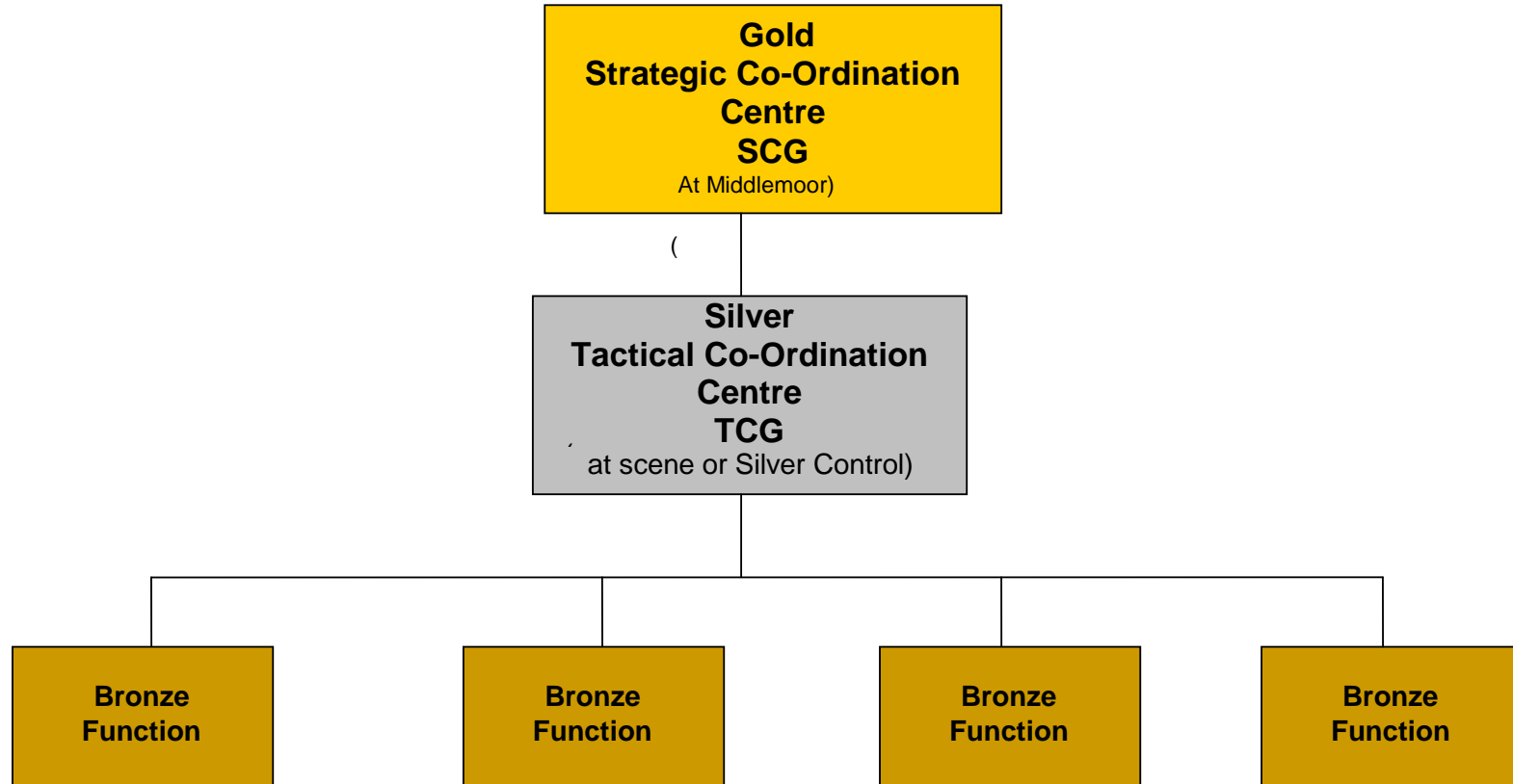
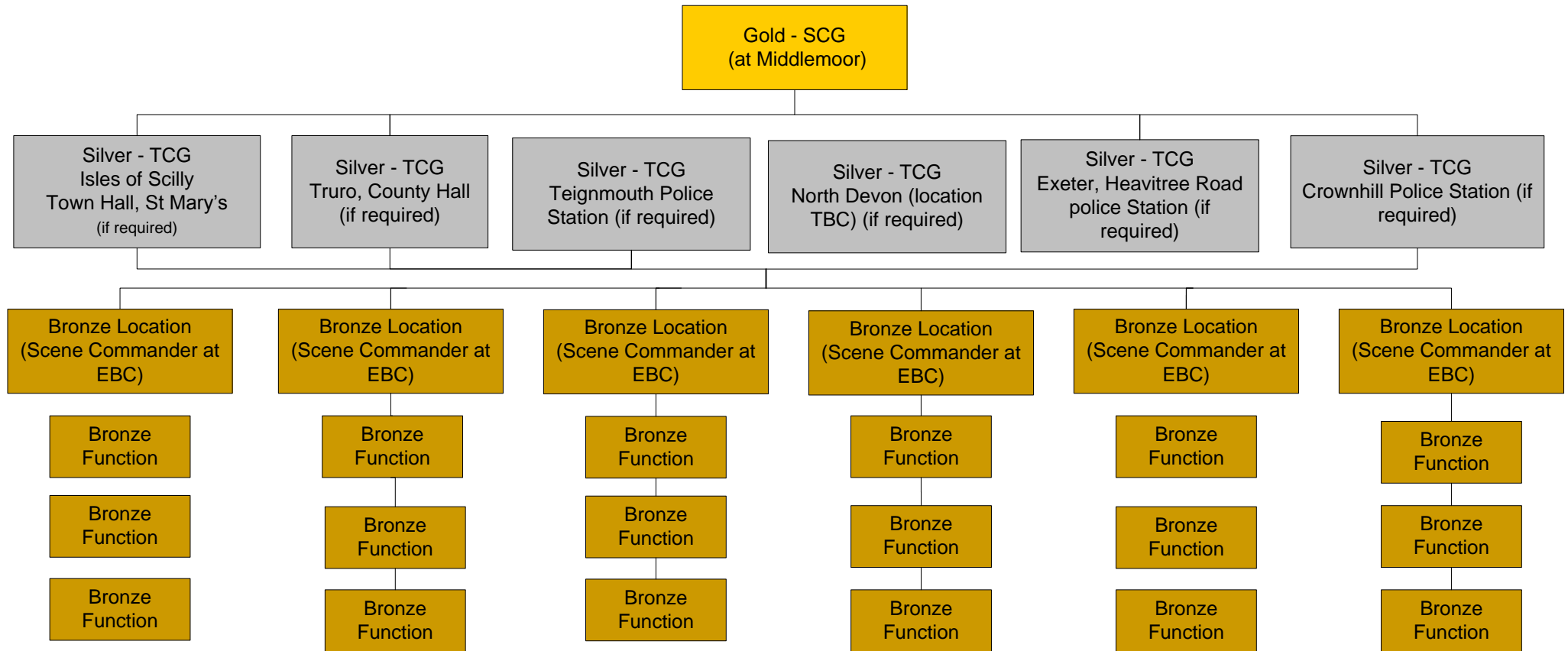


Figure 6c

Multi Location Flood Incident Command & Control



7. VULNERABLE PEOPLE AND GROUPS

7.1 Vulnerable People

Vulnerable people lists are held and maintained by individual organisations and establishments and will be made available to the SCG and/or TCG upon request.

7.2 Vulnerable Group Locations

Detailed locations of facilities / buildings for vulnerable groups (e.g. schools, nurseries, care homes) but not individuals' homes are contained, where necessary, within the High Risk Flood Response Plans. A list of the vulnerable locations for the DCIOS LRF area is held by the LRF Coordinator.

Communities will have some knowledge of vulnerable persons in their locations. Information should be obtained via community leaders to aid with their identification. If the Community Emergency Plan exists a liaison officer from the management team should be the link via Bronze.

As stated in the Vulnerable Persons Plan, each Local Authority is responsible for holding a list and mapping of all vulnerable sites within their area and to ensure that they are easily accessible at the time of an emergency to partner agencies, or to upload them when updated to Resilience Direct."

Further information can be found in the LRF Vulnerable People Plan.

8. KEY INFRASTRUCTURE

8.1 Critical National Infrastructure

Details of critical national infrastructure sites on known flood zone areas are held securely by Devon and Cornwall Police and will be made immediately available upon request by the SCG, they include some but not all;

1. Electrical Sub Stations
2. Water Treatment Works
3. Sewage Treatment Works
4. Telephone Exchanges
5. Gas / Fuel Depots
6. COMAH / REPPIR Sites
7. Strategic Highway Network

LRF Multi Agency Plans for dealing with the impacts that the loss of these sites might have on local communities are under development and will be held securely on behalf of the LRF by Devon and Cornwall Police and made immediately available upon request by the SCG.

When filling out the Situation Report, the effects or possible effects on these locations should be considered.

8.2 Other Key Infrastructure, Vulnerable Sites & Vital Domestic Supplies

A high level overview of a number of other key infrastructure, vulnerable sites and sites which supply vital domestic supplies, are located in the appendices for the High Risk Communities (see Annex K). Possible effects of flooding on utilities can be found at **Annex B**.

This will include

1. Police Stations
2. Fire Stations
3. Hospital / Accident and Emergency Departments
4. Ambulance Stations
5. Coastguard and RNLI Stations
6. Local Authority Offices and Depots
7. Prisons
8. Airports
9. Harbours / Docks and Marinas
10. Railway Stations / Tracks/other important access roads
11. Bridges (including utilities in their decks)
12. Motorways / Major Trunk Roads
13. Schools
14. Universities
15. Residential / Care Homes
16. Hotels
17. Children's Homes
18. Sheltered Housing

19. Hostels
20. Caravan / Holiday Parks
21. Electrical Sub Stations
22. Floor defences and associated equipment
23. Water Treatment Works
24. Sewage Treatment Works
25. Telephone Exchanges
26. Gas / Fuel Depots
27. Gas and Oil Pipelines - above and ground installations (AGI's)
28. Petrol stations
29. Supermarkets
30. Communication masts
31. Transport hubs
32. Banks
33. Location of animals and livestock

It is important that an overview of the affect or possible affect the flooding is having on the critical infrastructure. Gold should establish an overview of the condition of the various infrastructure networks based on information supplied by the TCCs.

9. EVACUATION AND SHELTERING OF PEOPLE

9.1 Evacuation and Shelter Plan

The decision to evacuate or shelter the community should be taken at an early stage with information being supplied by all relevant agencies. The needs of vulnerable people must be considered at an early stage as this may reflect the priority of these who need to be evacuated and the time this process will take.

If a severe flood warning is issued properties within the specified area should be encouraged and given assistance to evacuate.

The LRF Large Scale Evacuation and Shelter Strategic Framework outlines the generic multi-agency arrangements to evacuate shelter, accommodate and care for people displaced by evacuation.

Specific information in relation to flooding is contained within the High Risk Flood Response Plans and where necessary includes;

- safe evacuation routes, evacuation assembly points and rendezvous points.
- traffic management arrangements for roads in the Flood Action Zones (FAZs).
- shelters/reception centres to accommodate displaced victims (plus any valuables they may bring, including essential medication and pets)
- issues regarding the evacuation and sheltering of pets, welfare of livestock and zoos.(The Animal Welfare Act 2006 places a duty of care on anyone taking responsibility for the care of animals. As such a separate pet area should be established for at least one shelter, under the control of a designated local authority animal warden. Plans should be put in place for communicating to owners that animals will not be allowed into the main shelter for health and safety reasons. More information on evacuation and pets can be found in the LRF Evacuation and Shelter Plan)

Evacuation phase with regards to flooding occurs prior to flooding occurring. If flood water is present (whatever depth) this is a search and rescue operation due to the additional risk factors. For Health & Safety warnings see Section 6.13.

9.2 Evacuation Briefing Centres (EBC)

The EBC acts as a BRONZE CONTROL to co-ordinate the activities of the organisations involved in the evacuation for each High Risk Community either pre-evacuation or during search and rescue operation. These locations will be pre identified in the High Risk Flood Response Plans and will need to be identified at other locations where flooding has occurred or is likely to occur (locations where detailed plans do not exist). The Bronze Scene Commanders for these communities should be based at EBC.

The role of the EBC is to act as the central location for all responding agencies and Voluntary Organisations to attend, be equipped and briefed before carrying out the evacuation (or search and rescue operators for a community).

If specialist Search and Rescue (SAR) resources are required to carry out the evacuation at this location and a number of other locations a Search and Rescue Cell should be set up. See Section 6.10. A Bronze Evacuation Officer should be identified by the Police to oversee the evacuation/Search and Rescue operations at the community.

Multi Agency resources should be used to carry out the evacuation phase and appropriately trained personnel should be the only ones to enter water. If there is a Community Flood Plan and trained Flood Wardens then these may also be utilised in evacuation. The communities should be split into sectors by the Police Bronze and evacuation should be carried out in priority of risk and vulnerability.

The LRF Combined Search and Rescue Plan (CSARP), annex G contains the agreed process to search and mark properties requiring evacuation.

9.3 Evacuation Assembly Points (EAP)

Where a High Risk Flood Response Plan exists a number of EAPs have been pre-identified should additional EAPs be required or where flooding affects a community without a High Risk Flood Response Plan then the Police, in conjunction with the Fire and Rescue Service, will identify as many EAP's as necessary.

The relevant Local Authority will need to be informed early in this process to arrange transport for those being evacuated.

The aim of the EAP is to provide locations for evacuated persons to RV before moving to a Rest Centre or other accommodation.

The Police will advise the relevant local authority which locations will be used as early as possible.

All evacuation assembly points will be managed by the police, assisted by other relevant organisations.

These locations will be pre identified in High Risk Community Plans and will need to Identified at other locations should flooding occur or is likely to occur.

9.4 Rest Centre Plans

Detailed Rest Centre Plans are held and maintained by Local Authorities.

As soon as the decision is made to evacuate the Police should request the relevant local authority open rest centres to shelter displaced people.

Information should also be provided on the approximate number of people being evacuated and the estimated length of time shelter will be required.

The decision as to which rest centres will be used will be reached by discussion between the Police and relevant Local authority.

The Local Authority will organise the appropriate staffing of any rest centres.

9.5 Transport Arrangements

If transport, specialist or otherwise, is required by the Police for the evacuation they will ask the relevant Local Authority to arrange this, in conjunction with other organisations including private sector providers and South West Ambulance Service NHS Foundation Trust (SWASFT).

In most cases travel is likely to be in evacuees own vehicles or on foot excepting the need for additional support for vulnerable persons.

All agencies should be aware that roads, which may be required for transporting their own staff or evacuees, may not be passable.

9.6 Return Home of Evacuees

The decision to allow persons to return to their homes must be made by appropriate representatives of the Tactical Co-ordinating Group. However this may require a Policy decision to be made by the Strategic Co-ordinating Group.

Police will inform the Local Authority Officer responsible for Rest Centre Management as soon as it is safe for people to return home, so the manager can advise staff and evacuees and start the deregistration process.

It may not be possible for all evacuees to return to their properties due to damage and the Local Authority should seek to provide them temporary accommodation.

No announcements about returning to homes should be made to evacuees until Rest Centre Managers warn staff.

Rest Centre Managers will identify people needing assistance to return home and will make necessary arrangements.

9.7 Casualty Clearance

Should there be significant numbers of casualties resulting from a flooding incident they should be dealt with as described in plans such as the LRF Mass Casualties Plan alongside other plans such as LRF Large Scale Evacuation & Shelter Strategic Framework..

10 GLOSSARY OF TERMS

A glossary of terms and abbreviations used within the guidance text

Term or abbreviation	Meaning or definition
ALL CLEAR	Issued when there are no Flood Alerts or Flood Warnings in force
CATCHMENT AREA	The entire geographical area drained by a river and its tributaries; an area characterized by all runoff being conveyed to the same outlet
CCC	(Cabinet Office) Civil Contingencies Committee
CCS	(Cabinet Office) Civil Contingencies Secretariat
COBR	Cabinet Office Briefing Room
DECC	Department of Energy and Climate Change
DCIOS LRF	Devon, Cornwall and Isles of Scilly Local Resilience Forum.
EMERGENCY POWERS	The powers taken by the Government under the Energy Act 1976
ERAS (Extreme Rainfall Alert Service)	The Met Office and Environment Agency working in partnership have developed an Extreme Rainfall Alert Service (ERAS) delivered by their joint Flood Forecasting Centre
FFC	Flood Forecasting Centre
FLOOD DAMAGE	Flood damage is usually classified as tangible or intangible. Tangible damages are the replacement costs or monetary losses resulting from the effects of floodwater and debris on crops, soil, buildings, furnishings, goods, roadways, utilities and levees; the added costs of protective efforts, evacuation and emergency care; and losses because of the interruption of commercial activities. Intangible damages are those which are difficult to measure in monetary terms, such as harm to life and health, inconvenience and discomfort
FLOODPLAIN	The lowland areas, which border a river, usually

	dry but subject to flooding. Also the portion of a river valley which has been inundated by a river during historic floods
FLOODPLAIN MANAGEMENT	A program that uses corrective and preventative measures to reduce flood and erosion damage and preserve natural habitat and wildlife resources in floodprone areas. Some of these measures include: adopting and administering Floodplain Regulations, resolving drainage complaint, protecting riparian habitat communities, and assuring effective maintenance and operation of flood control works
FLOOD ALERT	Issued when flooding of low-lying land and roads is possible. The alert is issued in order that the public at risk and emergency responders are aware of increasing chance of flooding and take appropriate preparatory action.
FLOOD WARNING	Issued when flooding of homes and businesses is expected. Property owners, the public at risk, the emergency services and the civil authority should act to protect life and property.
FRS	Fire and Rescue Service
FSA	Food Standards Agency
GDS	Government Decontamination Service
GROUNDWATER FLOODING	Groundwater flooding is the result of a rise in the water table to above the rock or soil that makes up the land surface. The problem is most common in areas with chalk strata but can occur in any area with underlying permeable deposits, including sands and gravels.
LRF	Local Resilience Forum
MCA	Maritime Coastguard Agency
NSWWS	National Severe Weather Warning Service provided and supplied by the Met Office for heavy rain up to 5 days ahead
PPE	Personal Protective Equipment
PROPERTIES	All residential dwellings and commercial premises, including occupied mobile homes and caravans sites in low-lying coastal zones

	(including summer tourists)
PROPERTIES AFFECTED	A residential or commercial building where flood water has affected the utilities (energy and water) that supply that property
PROPERTY FLOODED	A residential or commercial building where flood water has entered to a level that has resulted in damage or limitation of use, including basements that are habitable or of commercial use
PROPERTY IMPACTED	A residential or commercial building where flood water that has entered the boundary of land but not resulted in the property itself being flooded
RCG	Recovery Co-ordinating Group
RDPH	Regional Director of Public Health
RESERVOIRS BREACH	This refers to a collapse of a reservoir dam. Flooding from these would be instantaneous with significant movement of debris (including vehicles) and sediment. The impact is likely to be devastating to anything in the floods wake. It is likely that there will be little or no warning.
RIVER (FLUVIAL) FLOODING	A river bursting its banks leading to flooding is usually caused by prolonged periods of heavy rainfall. Fluvial flooding can be both deep and high velocity, depending on the nature of the river catchments.
RNLI	Royal National Lifeboat Institute
SCG	Strategic Co-ordinating Group
SEVERE FLOOD WARNING	Issued when flooding poses a significant risk to life or significant disruption to communities This could relate to extreme water depths or velocities, danger from debris, danger from buildings or structures, critical infrastructure disabled, isolated communities, large numbers of evacuees or the need for military support. In such circumstances, it is likely that there would be considerable disruption to traffic movement due to extensive road flooding. Those at risk and emergency responders should act to protect life and property. This is likely to involve an enhanced response and the commitment of significant resource.
STAC	Scientific and Technical Advice Cell; Health,

	scientific and technical advice at the SCG level will be provided through the Science & Technical Advice Cell (STAC), which brings together experts from all agencies to provide advice to the Gold Commander.
STORM SURGE	<p>A storm surge is a change in sea level that is caused by a storm. It can lead to extensive flooding and can be dangerous for people living in many coastal areas. The main cause of a storm surge is high winds pushing the sea water towards the coast, causing it to pile up there. There is also a smaller contribution from the low pressure at the centre of the storm "pulling" the water level up, by about 1 cm for every 1 millibar change in pressure. The strong winds in the storm generate large waves on top of the surge which can cause damage to sea defences, or spill over the top adding to the flood risk. On the 5 December 2013 a large storm surge hit the east coast of the UK causing widespread flooding along the coast. This was a prime example of low pressure, high winds and high tidal conditions combining to produce a significant UK storm surge.</p> <p>Negative storm surge</p> <p>It is also possible for a negative storm surge to occur, when the wind direction blows the water away from the coast instead, causing the sea level there to drop. These are less dangerous than positive storm surges as they do not bring the risk of flooding, but they can damage ships in port and leave them stranded until the water level rises again.</p>
SURFACE WATER FLOODING	This usually happens where drainage systems are unable to cope with heavy spells of rainfall. It will be most problematic when catchments are already saturated or frozen and in built up areas with impermeable surfaces. It will usually occur rapidly, but be relatively short lived.
TCG	Tactical Coordinating Group
TIDAL AND COASTAL FLOODING	The combination of high astronomic tides and adverse weather conditions can cause storm surge and wave overtopping of defences. In severe events this may result in the breach of sea defences and inundation of the surrounding area.

Annex A - Flood Specific Roles and Responsibilities

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Environment Agency	Tidal, fluvial, surface water	Prepare and maintain Local Flood Warning Plan; Advise on development proposals; update flood risk maps; support LRF flood risk assessments; maintain watercourse capacity; maintain flood management structures; Develop and improve Flood Warning arrangements; Help inform DCIOS LRF multi-agency flood plan; Inform the public of risk and recruit to Flood Warnings Direct	Monitor catchments; Issue warnings to other responders, public and media; Operate EA defences; Liaise with other agencies and advise of likely escalation, Share understanding of catchments with other responders to help inform the response; Support LA's and Emergency Services, respond as necessary to other environmental impacts	(As for minor flood) Attend Gold and TCCs as requested so long as resources allow.		Support LA's and community as resources allow; Repair any damaged defences; Carry out reconnaissance to improve service for subsequent events

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Fire and Rescue Services (Cornwall FRS/Isles of Scilly FRS/ Devon & Somerset FRS)	Tidal, fluvial, surface water	<p>DCIOS LRF multi-agency flood plan.</p> <p>Standard operational response to a special service.</p> <p>Responsibilities under: Fire and Rescue Services Act 2004 The Fire and Rescue Services (England) Order 2007 Civil Contingencies Act 2004 (including business continuity plans) local IRMPs</p> <p>Direct receipt of flood warnings from EA, weather advisories from the Met. Office and NSWWS (National Severe Weather Warning Service).</p>	<p>Liaise with other agencies and prioritise response and resources.</p> <p>Give assistance with pumping with priority to flooding involving a risk of life, fire or explosion, (e.g. hospitals and homes for the elderly, public utilities and food storage, heritage sites).</p> <p>Environmental issues (e.g. chemicals).</p>	<p>As with minor flood.</p> <p>Proactive resource allocation including:</p> <p>mutual aid via Sections 13/16 of the FRS Act 2004; National Mutual Aid Protocol for Serious Incidents National Resillience and other FRS assets (e.g. boats) via FRSNCC in London.</p> <p>Assess resources.</p> <p>Follow DCIOS LRF procedures.</p> <p>Attend SCG and other co-ordinated response meetings.</p>	<p>No current statutory duty on FRSs for flood rescue; provision in line with local IRMPs.</p>	<p>Assist other agencies to minimise the impact on the community.</p>

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Devon and Cornwall Police	Tidal, fluvial, surface water flooding	Prepare and maintain operational response plans and with other organisations and partners review and exercise in accordance with the Community Risk Register	Strategic Aims: <ol style="list-style-type: none"> 1. Save and protect life in conjunction with other emergency services 2. Co-ordination of the emergency services, Local Authorities and other responding agencies 3. Secure, protect and preserve the scene and control sight seers and traffic. 4. Establish the condition of infrastructure in affected areas (road, rail, utilities etc, see Section 8) and mitigate the effects of flooding 5. Where possible contain the scale and nature of the incident 6. Co-ordination of Media response Maintain and restore	As with Minor Flooding (Medium consequence) Set up Gold and refer to the basic principals for dealing with a Major Incident in the Management of Major Incident Manual & NPIA Guidance on Emergency Procedures 2009	Consider Mutual Aid requests (see Force Mobilisation Plan) Ensure a Traffic Bronze is established in TCC to keep an overview of Transport Network including road, rail and air	Support the Local Authority in their role of Co-ordinating the recovery and assist in making the communities feel safe and be safe.

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Devon & Cornwall Police cont'd			critical activities 8. Assist in Safeguarding the environment 9. Prevention of crime. Protect property within limits that are reasonably practical to achieve 10. Protect the health & safety of responding personnel (see section 6.13) 11. Facilitate the recovery of the community 12. Collation and disruption of casualty survivor information 13. Family liaison 14. Identify any deceased on behalf of H.M Coroner 15. Evaluate the response and identify lessons to be learned 16. Facilitate judicial, public, technical or other inquires			

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Devon & Cornwall Police cont'd			<p>Establish: communication with the Environment Agency and inform the emergency services, local authority and other organisations affected.</p> <p>Co-ordinate the emergency response and establish a multi agency TCC. Identify locations for the multi agency Forward Control Point and TCC. A recovery group is established at the outset of an incident chaired by the Local Authority (see Section 10).</p>			
Maritime Coastguard Agency	coastal/tidal	<p>Responsibilities under the Civil Contingencies Act 2004.</p> <p>Direct receipt of flood warnings from EA, weather advisories from the Met. Office and NSWWS</p>	<p>Act upon local contingency plans as required in liaison with other agencies.</p> <p>For other areas liaise with other agencies as requested</p> <p>Attend SCG and other</p>	As for minor flooding		<ul style="list-style-type: none"> ▪ Participate in Community Flood Surgery's as requested.

Multi Agency Flood Plan

		(National Severe Weather Warning Service).				
Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Maritime Coastguard Agency cont'd		Operational coordination staff available 24/7	co-ordinated response meetings			
South Western Ambulance Service Foundation Trust	Tidal, fluvial, surface water flooding	<p>Met office weather warning system and advisory service in place.</p> <p>Major incident plan in place.</p> <p>Business continuity plan in place.</p> <p>On call officer cadre in place.</p> <p>Pager / SMS system in place.</p> <p>Airwave radio major incident deployment in place.</p> <p>Health on call cadre rota up to date.</p> <p>HPA on call cadre rota up to date.</p>		Attend		

Multi Agency Flood Plan

		Fall back control facility in place. Identified premises at risk of flooding and consider impact on				
Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
		service delivery EA mapping information received by emergency planning unit for distribution				
Local Authorities	Tidal, fluvial, surface water flooding	Up to date vulnerable persons and sites database Pre-determined rest, And reception centres Multi-agency pre-planning re; RVP's, transport routes etc. Pre-arranged communication strategy Updated information on council web site	Co-operation with all members of the TCG to co-ordinate the Response phase in accordance with LRF guidance. Transport of public / evacuees to rest centres Provision and staffing of rest / reception centres and associated services Provision of anti-flooding measures	Co-operation with emergency services and EA to co-ordinate the response Warning and informing the public Activation of information help-line for public Liaison with utility and transport companies especially water company to ensure provision of	<i>As required after immediate actions;</i> If applicable, provision of emergency mortuary and / or activation of mass fatalities plan (see separate plan for details) Local authority seek mutual aid from other local	Removal of mud / Debris Structural and condition surveying of council properties damaged by the flooding; remedial action to repair such properties Consultation with health authorities on hygiene and environmental health issues in affected areas

		Pre-arranged information help line and trained staff	and workforce to	clean drinking water to residents	authorities	Provision of temporary or longer-term accommodation for residents made homeless by the flooding
Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Local Authorities cont'd		<p>Pre arrange helpline for staff – (should they come in to work or not – is it safe?)</p> <p>Review of corporate council properties at risk</p> <p>Sand bag policy (District Councils in Devon)</p>	construct and maintain mitigating measures	<p>Co-ordinate response from faith and voluntary groups</p> <p>Transport of public / evacuees to rest centres</p> <p>Provision and staffing of rest / reception centres and associated services</p> <p>Providing signage for road closures</p> <p>Maintaining traffic flows (in conjunction with police) especially for emergency services and repair effort</p> <p>Provision of anti-flooding measures</p>		<p>Assisting residents in removal of damaged furniture and household goods</p> <p>Assisting in rearranging education of pupils affected by school closures</p> <p>Invoking council's business recovery plan if council premises are affected</p> <p>Provision of welfare advice</p>

Multi Agency Flood Plan

				and workforce to construct and maintain mitigating measures		
				Provision of resources		

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Health	Tidal, fluvial, surface water flooding	<p>Contribution to MAFF, planning for community health resources</p> <p>Met office weather warning system and advisory service in place</p> <p>Major incident plan in place</p> <p>Business continuity plan in place</p> <p>On call officer cadre in place</p> <p>Fall back control facility in place</p>	Engage with multi agency TCC if required	<p>Coordination of primary care resources, including:</p> <p>Primary Care Teams to attend rest centres and provide primary care medical support to evacuees;</p> <p>Coordination of community hospital resources;</p> <p>Coordination of community nursing and other community health service resources;</p> <p>Links with Acute and Foundation Hospital Trusts</p>		Participate in Community Flood Surgery's as requested.

Multi Agency Flood Plan

				Maintaining links with Social Services regarding rest centre medical requirements;		
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Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Health	Tidal, fluvial, surface water flooding			<p>Coordinate the overall NHS response and resources;</p> <p>Maintain links to Regional Office of the South West and Department of Health</p>	<p>The Strategic Health Authority may initiate command and control measures in a widespread or severe event where:</p> <p>More than one PCT is involved in responding</p> <p>One or more of involved PCTs is unable to cope</p> <p>The incident is so widespread or severe that it requires a strategic response, and/or Regional or National command and control measures have been implemented.</p>	

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Health	Tidal, fluvial, surface water flooding	<p>Risk assessments on vulnerable populations and critical infrastructures, focusing on risks to exposure to microbial and chemical contaminations, disruption to mains water, power and health risks.</p> <p>Ensure robustness of flood alert system, that HPA is within alerting cascade for multi-agency partners</p> <p>Make sure emergency plans are in place and known about, and they are consistent among organisations.</p>	<p>Maintain a rota for 24 hour cover set up</p> <p>Provide public health support and advice to NHS organisations, particularly primary care trusts and the RDPH, and other agencies involved in responding or managing the incident at a local level</p> <p>Provide surveillance of infectious disease</p> <p>Provide advice on chemical decontamination</p> <p>Provide impartial and authoritative advice to health professionals, other agencies and the public</p> <p>Carry out chemical contamination risk assessment</p>	<p>As for minor flooding, plus;</p> <p>Support the management of the incidents and support the co-ordination of the NHS response through attendance at control centres, including the strategic co-ordination centre</p> <p>Provide specialist input to incident management teams, including STAC if called.</p>		<p>Provide advice on clean-up of standing floodwater</p> <p>Continue to provide surveillance of infectious disease</p> <p>Continue to provide advice on chemical decontamination</p> <p>Carry out chemical contamination risk assessment</p> <p>Monitor short-term and long-term health risks associated with flooding (mental health issues from displacement)</p>

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Power & Gas Distributors	Tidal, fluvial, surface water flooding	<p>Identify critical infrastructure in predicted flood zone e.g. sub-stations, cable tunnels, joint bays, regulators – medium to low pressure.</p> <p>High pressure gas installations COMAH sites – storage (SW to delegate action).</p> <p>Vulnerable persons database – use system to pull off all addresses in a predicted area by post code.</p>	<p>Set up bronze command at site.</p> <p>Work with blue lights to isolate supplies. Make safe.</p> <p>Wait for water to recede.</p> <p>Re-establish supplies.</p>	<p>As previous with additional TCC and gold level command within company. Possible reconfiguration of supplies where possible.</p> <p>Possible lock-out of regulators to maintain pressures in gas mains.</p> <p>Invoke mutual aid and resource plans.</p> <p>Prepare for recovery.</p>		

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Water & Sewerage Service Providers (South West Water & Council of Isles of Scilly)	Tidal, fluvial, surface water flooding	<p>Prepare and maintain operational response plans</p> <p>Control room response to severe weather and flood warnings in place</p> <p>Vulnerable customer database in place</p> <p>Pre arranged response teams available</p> <p>Able to identify critical infrastructure in predicted flood zones</p>	Operational and tactical teams to prioritise response and resource	<p>As for minor plus Strategic team available</p> <p>Attendance at gold and TCC teams so long as resources allow this.</p> <p>National mutual aid scheme in place with other water companies.</p>		<p>Support local authority in recovery process</p> <p>Provide clean up services as appropriate</p>

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
BT	Tidal, fluvial, surface water flooding	<p>Flood warning received Environment Agency and distributed to key players and operational in BT and/or</p> <p>People and operations at risk identified</p> <p>BT holds copies of flood plain information and this can be mapped to BT buildings.</p> <p>BT key operational buildings flood plan activated upon notification from the Environment Agency. BT critical access network assets [underground] to be affected identify and plans in place for service provision in the event of a major</p>	<p>Possibility of water ingress to BT building</p> <p>People and operations at risk identified following risk assessment</p> <p>Activation of BT Group Incident response process</p> <p>Co-operation with emergency services and EA</p> <p>Provision of anti-flooding Workforce tasked to site if safe to do so</p> <p>Communications to workforce on action to take</p> <p>Key personnel identified as part of Incident management process</p> <p>Customer impact</p>	<p>Ingress into BT building which threatens BT equipment</p> <p>People and operations at risk identified following risk assessment</p> <p>Activation of BT Group Incident response Process</p> <p>Co-operation with emergency services and EA Provision of anti-flooding measures (e.g. sandbags)</p> <p>Workforce tasked to site if safe to do so</p> <p>Forward Control Point Manager appointed/ Engaged</p> <p>Local Liaison Managers working with government incident teams feeding back to</p>	<p>Risk assessment vital for People, operations and buildings</p> <p>Information for Government vital from which to base risk assessment</p> <p>Safety of BT people is paramount and may precluded BT teams attending on site.</p> <p>Customer service prioritisation as important part of the process</p>	<p>Once safe action may be taken to remove water</p> <p>Building closed to BT teams</p> <p>Water tested for contaminates.</p> <p>Remedial action taken if contaminates found</p> <p>Building is dried out</p> <p>Structural survey if required</p> <p>Equipment tested</p> <p>Building re opened</p> <p>Ongoing review of impact on networks and customer service – regular reports</p> <p>Incident management level</p>

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
BT cont'd		<p>flood BT service controls workforce determine on customer driven service priorities review requirements for blue light service communications</p> <p>BT threat Assessment Review Group [TARG] in place working with Government on increasing threat.</p> <p>BT Business Continuity Management structure and Group wide prioritisation put in place with BT to engage all Lines of Business in Impact of flood on service work stack scoped to identify impact on wet joints</p>	<p>identified and mitigation plan enabled</p> <p>Local Liaison Managers [LLMs] and Regional managers [RMs] working with Government</p> <p>Regional leads to coordinate on the ground requirements to feed into BT Incident response Teams</p> <p>BT Controls team rescheduling work flow and prioritising all customer service requirements</p> <p>BT liveried fleet to be repositioned outside the danger zone where possible</p>	BT operational teams	<p>to ensure ongoing communications.</p> <p>All to be managed through activated Incident management response</p>	<p>reduced and timescale for Business As Usual Identified</p> <p>Ongoing risk assessment</p>

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Highways Agency	Fluvial, surface water flooding & groundwater flooding on M5, A30, A38, A303	<p>Highways Agency is undertaking a national project identifying locations vulnerable to flooding on HA road network. When complete this will be used to manage/mitigate the risks</p> <p>Service Provider (who manages the network on behalf of the HA) Contingency Plans identify locations vulnerable to flooding and details the command structure on managing incidents.</p> <p>Access to EA data on areas susceptible to surface water flooding (CDs).</p> <p>Direct receipt of Met Office severe weather alerts and advisory service & EA flood warnings and acting upon these to ensure our Service Providers are monitoring and</p>	<p>Engage with multi-agency TCC if required</p> <p>Implement road closures on HA network with Devon and Cornwall Police when required.</p> <p>Implement diversion routes in liaison with Local Highway Authority</p>	<p>Engage with multi-agency TCC and/or Gold if required</p> <p>Managing Agent Contractor's staff to attend any incident affecting HA network and assist as appropriate</p> <p>Implement road closures on HA network with Devon and Cornwall Police when required.</p> <p>Implement diversion routes in liaison with Local Highway Authority</p>		<p>Clear and repair HA network road surface as required as flood waters recede</p> <p>Clear and repair any highway drainage as required as flood waters recede</p>

Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
Highways Agency cont'd		Rigorous maintenance of highway drainage on HA network				
DEFRA	Fluvial, Tidal, Groundwater, Surface water, Reservoir	<p>Ensure that structures and resources are in place to ensure that Flood Management Division and other parts of Defra can play their part in responding to a flooding event.</p> <p>Encourage Regional Government Offices and Local Resilience Forums (LRFs) to prepare appropriate emergency plans for flooding and providing guidance.</p> <p>Ensure central Government has appropriate national planning assumptions for flooding and that annual National Risk Assessments are</p>	<p>Use EA Reports to anticipate events (and their likely scale) as far as possible to provide triggers for the right levels of preparedness in central Government.</p> <p>Initiate communications across central government, including press offices and providing situation reports</p>	<p>Advise Defra Senior Management, Ministers, CCS and other Government Departments and agencies on the developing scale of events.</p> <p>Ensure effective communications with Parliament, the news media and others (see Annexes 4 & 5).</p> <p>Collect briefing on the impacts of the flooding on all Defra interests.</p> <p>Work with CCS in escalating or de-escalating the central Government response (see Table 2).</p> <p>Co-ordinate the cross-Government and multi-agency response to the flooding (supporting</p>		<p>Advise on follow-up Ministerial/VIP visits.</p> <p>Ensure arrangements are in place for identifying any lessons to be learned.</p> <p>Liaise with Association of British Insurers on insurance issues.</p>

Multi Agency Flood Plan

		maintained with CCS		CCS if event escalated to COBR).		
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Organisation	Risk	Pre-planning	Emergency Response			Recovery
			Flood (medium consequence)	Flood (high consequence)	Notes	
DEFRA cont'd		Direct reservoir undertakers to produce flood plans		Facilitate Ministerial and other VIP visits to the affected areas. Ensure that clear responsibilities are established for overseeing		

Annex B - Affects of Flooding on Utilities**1. Western Power Distribution**

If the floodwater affects Western Power Distribution's main substations electricity supplies to a significant area are likely to be lost. As well as affecting the supplies to properties, this will also result in the street lighting and traffic lights not working. There would be no mains electricity supply to any South West Water, Wales and Western, and BT installations within the affected area (although they may have standby generation). The time necessary to restore supplies would be dependent on the ability to travel within the affected areas.

Rising floodwaters may reduce the clearances from overhead lines. Over a road the minimum clearance for lines with a voltage of 33,000 volts or less is 5.8 metres, otherwise it is 5.2 metres.

Access to underground apparatus may be lifted by the water pressure. Live conductors should not be exposed as a result of this but there will be the hazard of open covers.

Underground cables should be relatively unaffected. However, if there is significant subsidence or ground movement near cables this may cause the cable to fail.

Flooding in properties may damage the internal electrical wiring. If the electricity supply is not switched off this may result in fires or persons receiving electric shocks. Properties affected by floodwater will need to have the internal wiring checked by a competent electrician before the main switch is back on.

2. South West Water and Council of the Isles of Scilly**2.1 Affect on Water Treatment Works**

Flooding of Water Treatment Works could lead to disabling of Air Blowers, Re-circulation Pumps, Wash Water Return Pumps and the Main Power Supply Transformers. This would mean an extended shut down for the Treatment Works and no water could be supplied to its dependent area.

2.2 Supply to Taps

Provided no significant burst mains occurred, there would be unlikely to be a problem with maintaining a portable water supply. It would be prudent, if the situation were serious, for pressure tests to be taken at strategic points, thus confirming the maintenance of positive pressure in the system.

2.3 Bursts

Questionable pressure readings would point to a burst main or mains. Small/medium bursts in the flooded area could not have their locations determined until well after the flows had abated. In the event of a serious trunk main failure, every effort would be necessary to both find the point of failure and to instigate a repair. This would require significant number of sandbags, etc., to protect the area during the work. For either eventuality, a Boil Water notice would be in effect. It may be possible to valve-

off some small-medium burst provided the valve positions were determinable, although this would certainly require extensive mains disinfection on reinstatement of supplies.

2.4 Back-Siphonage

Back-siphonage, although possible is unlikely whilst mains pressure remained positive. As a precaution, we would take random bacteriological samples during the period of flooding. If the results of the pressure tests suggest back-siphonage, either within the flow area or on higher ground, then we would declare our own incident and instigate Boil Water restrictions immediately over the affected area. The size of the affected area would depend on conditions at the time but could include all the properties in the flooded area and many outside it.

2.5 Emergency Tankers/Bowsers

These would certainly be extensively deployed in the first instance, it would be necessary to locate bowsers outside the flow area but the greater concern would be if a trunk main failed in which case areas very remote from the flood area might easily be affected.

2.6 Waste Water - Main Drainage

Any area under some feet of water would totally overload the public sewers with the floodwaters becoming contaminated with sewage - a number of properties would become flooded directly from water escaping from the sewers. Storm overflows would also have triggered resulting in pollution of streams and rivers and therefore floodwaters. Any sewage pumping stations within the catchment would be overloaded and, assuming they continued to work, would pump continuously, either to another part of the catchment, another catchment or to a treatment works. It is also most probable that overflows from the pumping stations would also be triggered. Some flooded areas could receive raw sewage but the dilution would probably be great and the environmental impact from this cause relatively light.

If sewers and other drainage systems became blocked during the event and also if pumping stations had failed due to flooding or damage to electrical equipment, it could take a considerable amount of time to return systems to normal. So much so that its possible problems could continue owing to the inability of the system to cope after floodwaters have subsided.

Getting to the various locations would be extremely difficult. Some manhole covers would lift causing hazards underfoot.

3. **British Telecommunications (BT)**

A major flood would certainly have an impact upon BT's infrastructure but this would vary depending on the level of the water and the force with which it arrived. The underground cable network is in the main waterproof although prevention of water ingress cannot be guaranteed and thus faults may well become apparent immediately or in the longer term.

Roadside cabinets are vulnerable as they only afford splash protection to the terminating cables. If water reached the air vents in the cabinet then service to

customers could be lost or severely disrupted. An increase in water level could also affect BT buildings such as telephone exchanges and repeater stations.

The apparatus contained in the exchange could itself be damaged and any loss of power either from the mains or from standby engines would cause loss of service. The provision of expedient service would be difficult as faults due to the constant exposure to water could only be effectively repaired once the area had dried out.

Any switch, transmission or power equipment damaged by the ingress of water into an exchange would also have to be replaced. The likelihood of failure in the longer term would make this an imperative in order to establish the true cost of the incident. An additional problem could be sewage-contaminated water in underground structures. Customer fault rates would be high during the incident and continue to increase as people return to their homes and attempted to make calls, possibly to find that their line was not working.

Once the water level had receded, any cables or equipment that had been exposed would have to be renewed before corrosion takes a hold. This would also include plug and socket terminals in customer premises.

BT, like many other organisations, would also find it difficult to deploy resources into the affected areas due to road blockages and collateral damage.

4. Wales and West Utilities/National Grid

4.1 Immediate Problems

A major flood may have an effect on Wales & West Utilities low pressure infrastructure but this would depend on the level of flood water. The pipeline network is resistant to water ingress but in the event of either third party interference damage or failure as a result of ground movement it is possible that water ingress would occur.

4.2 Flooding at a Pressure Reduction Station

It is possible that a pressure reduction station could be affected by floodwater if the equipment open ventilation pipes were breached. However, this is very unlikely as this would require the flood water to be at a depth of approximately 2 metres at the point of the installation. If this were to occur site attendance would be necessary and may result in the plant being isolated in a controlled manner, causing a loss of the gas supply to the affected areas.

4.3 Long Term Problems

If no system water ingress was recorded it is anticipated that there would be no long term problems with the pipeline network associated with a flooding incident. If water ingress were to occur or ground movement as a result of flooding incident caused damage to pipelines, the repairs would take priority in line with the operators safety and security of supply policy. The clearance of water following an incident of water ingress is a difficult engineering process and depending on the area affected may be a lengthy procedure, which may also be dependent on our ability to access the area following any flood damage.

Annex C – Strategic Co-ordination Group Agenda

Devon, Cornwall & Isles of Scilly LRF

STRATEGIC CO-ORDINATION GROUP AGENDA FOR PRE-FLOODING EVENT

Time:

Date:

1. Introduction and apologies
2. FOIA – Classification
3. Update on current flood/anticipated flood position and weather
 - a. Meteorological Forecast/Flood Risk (Met Office/EA)
 - b. Flood warnings (Environment Agency)
 - c. Areas at risk/vulnerable sites
 - d. Asset Management
4. Mitigation activities to be carried out by partners and partner information
5. Command and Control: reports from Silver(s) – other agencies required
6. Warning and Informing of partners and communities (including leads)
7. Media Strategy
8. External liaison
9. Business Continuity issues
10. Finance and Logistics
11. Any Other Business
12. Summary of key issues and strategic decisions
13. Time of next meeting/organisations attending next meeting

Annex D - TCC Control Initial Group Agenda & Considerations

TCG - TACTICAL CO-ORDINATING GROUP INITIAL MEETING

AGENDA

1. Silver Commander Introduction
 - a. Request all Partners to use 'mute' facility while meeting takes place to stop noise interference
2. Introduction of attendees – Name and Organisation
3. Outline of what has happened by Silver Commander
4. Any Urgent Actions/Issues that require immediate attention/discussion
5. Has/should there be a Major Incident declared?
6. Update from Scene Commanders/Bronzes or other Silver Commanders (Once update given they may leave tele conference and any actions for them will be recorded by Silver and given to them after the meeting or if urgent a Silver member of staff will contact them separately, this is to allow them to resume their operational duties)
7. Updates from Each Agency – (If weather related start with the Met Office followed by the EA, then all other agencies
8. Any requests for assistance from partners?
9. Current Command Structure- What Gold/Silver/Bronze are established/need to be established?
10. Review current membership of Silver group, are there any agencies/departments that need to be included in next meeting?
11. Strategy Setting
12. Media – Including Warning and Informing the public – Identify lead agency for media.
13. Time/date of next meeting

Other Considerations

- Identify decisions requiring to be made:
 - (Timely decisions on evacuation are crucial)
 - Now (this meeting)
 - Next 2 hours
 - Next 4 hours
- Specific warnings to the public
- General advice to the public
- Water rescue resources
- Identification of vulnerable populations (LAs and PCTs)
- Evacuation
- Transport
- Rest centres
- Identification of safe routes
- Rendezvous points (RVPs)
- Confirmation of communications, contact numbers etc
- Identification of potential future problems
- Press and media policy
- Future admin of TCC control (accommodation, feeding, communications, feedings, shifts etc)
- Timings of inter-agency updates/SITREPS/Meetings
- Handover of communities
- Infrastructure issues

**ANNEX E: OPERATIONAL REPORTING TEMPLATE FOLLOWING METHANE
FORMAT**

SITUATION OVERVIEW	
<i>Using METHANE provide a brief overview of the type of incident based on information gathered from agencies.</i>	
Major Incident Declared?	<i>(Include details of by who and when)</i>
Exact Location	
Type of Incident	
Hazards	
Access	
Number and nature of casualties/fatalities	
Emergency Services Involved	
Date and Time of Report	
Point of Contact	

Annex F - High Risk Communities

It has been agreed by the Devon, Cornwall and Isles of Scilly Local Resilience Forum (DCIOSLRF) that site specific tactical flood plans (High Risk Flood Response Plans) are required for communities where the flood risk has been defined in the LRF Community Risk register as High or very High.

This means the community is at risk from:

- A Major tidal/coastal flooding affecting more than 100 properties, 100 or more properties in Flood Zone 2 Tidal.
- B Major fluvial flooding affecting more than 100 properties, 100 or more properties in Flood Zone 2 Fluvial.
- C Major surface water or minor watercourse flooding affecting more than 100 properties, 100 or more properties in Areas Susceptible to Surface Water Flooding.
- D High risk of flash flooding affecting more than 15 properties, 15 or more properties in Flood Zone 2 Fluvial and a Very High risk of flash flooding (Environment Agency National Rapid Response Catchment Methodology).

High Risk Flood Response Plans

High risk flood response plans have been created by the local authority emergency planners for communities with 100 and more properties at risk in Devon in Cornwall.

Isles of Scilly Plan

One plan covers all the islands

Cornwall Council Plans

Bude, Stratton and Flexbury
Callington
Camborne and Redruth
Flushing
Hayle, Lelant and St Erth
Helston including Porthleven
Launceston
Liskeard
Looe
Lostwithiel
Mevagissey
Millbrook
Padstow
Par and St Blazey
Penryn
Penzance, Newlyn and Marazion
Perranporth and Bolingey
Polperro
Rosecraddock
St Austell
St Ives

Multi Agency Flood Plan

Truro
Wadebridge

Plymouth Council

Barbican
Plympton and Marsh Mills

Torbay Council

Brixham
Torquay
Paignton

Devon County Council Plans

Axminster
Axmouth and Seaton
Bampton
Barnstaple
Beer
Berrynarbour
Bideford
Braunton
Budleigh Salterton
Colyton
Combe Martin
CREDITON
Cullompton
Dartmouth
East Budleigh
Exmouth
Feniton
Harbertonford
Hemyock
Horrabridge
Honiton
Ilfracombe
Ivybridge
Kingsbridge
Lypstone
Lynton, Lynmouth and Brendon
Newton Poppleford
Okehampton
Otterton
Ottery St Mary
Salcombe
Sidmouth
South Brent
South Molton
Stoke Canon

Multi Agency Flood Plan

Tavistock
Tiverton
Totnes and Dartington
Woodbury