



Kettleburgh Parish Council

Flood Working Group Feasibility Study Report

**A Community Flood Management Plan for
Kettleburgh**

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Flood Working Group Feasibility Study Report

Contents

Objective of the study and study process	3
The objective	3
To achieve that	3
The FWG now recommends.....	3
Background.....	3
Problem statement – what are we hoping to fix?.....	4
Analysis of current situation	5
Impacts	5
Responsibility for managing flood risk	5
The Department of the Environment, Food and Rural Affairs (Defra)	5
The Environment Agency	6
Lead Local Flood Authorities.....	6
Grant Funding	6
East Suffolk Internal Drainage Board (ESIDB).....	6
A potential solution – requirements, resources, drivers.....	7
Legislation.....	7
Parish Councils.....	7
Parish Council power to fund or carry out works.....	7
Mapping requirements - infrastructure and watercourses.....	7
Known need for interventions	9
Potential future interventions to understand	10
Stakeholder analysis	10
Summary of stakeholder support	10
Community Engagement: ‘Door-to-door’ survey	13
Feedback from engaging with parishioners	13
Outline Business Case, evaluation	13
Resource demands.....	13
Outline ongoing direct cost of developing, maintaining and updating a Community Flood Plan	13
Potential funding	14
Outline benefits	14
Being prepared in an emergency	14

Flood Working Group Feasibility Study Report

We can address the problems in the Problem Statement	14
More meaningful responses to planning applications	14
Option analysis	14
Approach	15
Leadership	15
Fit and context	15
Management	16
Appearance.....	16
Annexe – OS Geographic Information Systems (GIS)	17

About this version: in version 3.1 the report has been redacted to remove the names of individuals and the names are replaced with roles.

Flood Working Group Feasibility Study Report

Objective of the study and study process

The objective was: to provide the Parish Council with sufficient information necessary for acceptance or rejection of the proposal to develop a Community Flood Management Plan for Kettleburgh.

To achieve that a Flood Working Group was set up and its resulting documentation and photographic reports can be found on the dedicated page of the village website.

The FWG now recommends a project to deliver a Community Flood Plan (See Option Analysis).

Background

Kettleburgh has experienced significant flooding events in the last ten years, resulting in a detrimental impact on the community, with homes flooded requiring residents to relocate during restoration, sewage spills into the environment, road closures and financial implications. Multiple authorities are involved.

Several properties have suffered flooding to some degree, with one resident having her house flooded three times, and required extensive restoration necessitating her to move out of the village for several months while works were completed. On that basis, many residents have experienced the devastation of household flooding on multiple occasions, especially in the last decade, and have spent time and money on taking preventative measures. The distress and worry for the residents have been considerable, and they, along with the Parish Council have worked ad hoc with the authorities to do all they could.

The flooding event on 27th November 2019 resulted in five properties suffering flooding to the house and/or outbuildings, two properties had flooding in the porch and/or immediate area and managed to avert further flooding by construction of temporary barriers. In one case there would have been more extensive damage if the owner had not been at home, and in a second property if neighbours had not helped with sandbags. Flooding events can comprise of two elements: surface water flooding and flooding from the foul waste sewer.

The East Suffolk Internal Drainage Board (ESIDB) has adopted a 150m length of the watercourse, which is at high risk of frequent blockage. While this small length of watercourse will be under regular maintenance by the ESIDB, it is only a part of the watercourse, and a smaller part still of the water infrastructure in Kettleburgh that comprises of many watercourses that could contribute to later flooding events. See map under 'Mapping Requirements' for a view of the water courses in the central part of the parish.

When these issues were discussed, Councillors felt they did not have enough information on which to base a decision to proceed with development of a plan to address the problems experienced. This study was therefore requested to look at the feasibility of a project to develop a Community Flood Plan for Kettleburgh to reduce the risk of flooding and increase the resilience to the threat of these events, where it is not possible to prevent every event.

Flood Working Group Feasibility Study Report

Problem statement – what are we hoping to fix?

As stated in the Background, Kettleburgh has been subject to significant flooding. But response has not been optimal, partly because there has been misunderstanding of the roles of the various bodies involved in managing water infrastructure. This applies particularly to the role of the riparian owners, i.e., those businesses and individuals who own the land through which watercourses and sewage pipes pass. These roles could be clarified and documented, which would lead to better relationships and working together.

There could be better understanding in the village of water-related insurance/accountability issues and of the very technical nature of watercourse maintenance. Otherwise, there is the risk that inappropriate private activities could take place that could make matters worse. Now, some riparian owners may be incurring costs inappropriately in preparation for work by statutory bodies.

The Parish Council is not well linked into the District and County Council's water management activities and personnel, or those of the Environment Agency and other major water authorities, so there is not ready access to their flood vulnerability analysis work. There are also no documented links to national early warning systems. Our water infrastructure is not documented, and the documentation would need to be maintained. We lack:

- a collaboratively understood comprehensive maintenance structure
- an appointed flood warden;
- an available store of response materials such as sandbags, pumps, clay for temporary barriers, clean up materials;
- a well-known, documented response plan that meets community needs, for such as emergency supplies or accommodation until wider recovery starts.

On the other hand, we would probably not have so great a need for some of this as other more remote communities. But it would be good to have documented in one place where funding might come from, in the form of grants for example, in the event of a need for flood recovery. We could also document how any flood would be documented after the event, so lessons could be learned.

With climate change, new risk factors may come into play, not just rainfall. Because watercourses are not fully documented and understood, there is the risk that significant ones like the river Deben may behave differently, and smaller ones not so far involved may be involved in future flood events. There is the potential for significant building work in the vicinity of local at-risk watercourses, but no mapping of water infrastructure or analysis of the way water behaves is available to support an *informed* response to any planning applications. At the moment, only limited pre-emptive, or mitigation, activities take place, i.e., those aiming to prevent flooding rather than treat it.

All parishes with a watercourse through them are deemed at risk of flooding as identified by the Environment Agency and should have a local flood plan in place in the event of a potential emergency. If the Parish Council is to take forward its business as a council most effectively and efficiently it should be aware of and have documented its built and water infrastructure – the 'configuration' of its area. Without a documented view of its water components, it will need to 'reinvent the wheel' every time an issue arises. In documenting the components, it would also identify the stakeholders needing to be involved in maintaining them and the maintenance actions needed to avoid flooding. Documentation such as this should take the form of a Community Flood Management Plan tailored to the specific needs of the community. Kettleburgh does not currently have such a plan.

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Analysis of current situation

Impacts

- Impact of Flooding – Cost of repairing roads and infrastructures. The cost of flooding to the economy in 2015/16 was estimated to cost the economy £1.6 billion. Suffolk County Council has agreed in January 2022, to £20m to boost improvement of roads over the next three years It agreed to spend £10m on drainage work in priority flooding spots and an additional £10m will be spent on pavement repairs.
- Cost to householders recovering their homes - increased cost of insurance. Once flooding is over, costs may be covered by the homeowner's insurer, but there are many who do not have comprehensive cover and face a large bill. Those affected may need to consider extra flood defences. It can take many months or even years to get a home back to its original state and the disruption caused can be catastrophic to people's lives. Flood prevention measures-including non-return valves, raising power points and laying tiled floors – can cost around £15,000.
- Maintaining and recovering services/loss of utilities - smaller more frequent flood events disrupt homes, businesses and infrastructure, and these costs are now being incorporated into flood and coastal erosion risk management (FCERM) investment decisions.
- Providing short and longer term or even permanent re-housing for displaced residents
- Communicating developments and progress with the community affected
- Health and safety concerns - disease issues, influx of contaminated water may result in replacement items and structures - walls, floors.
- Psychological distress and hardship for vulnerable residents - homes and businesses have been left struggling with expensive flood damage repairs, with bills for drying out and repairs costing an average of £20,000.
- Disruption - smaller more frequent flood events disrupt homes, businesses and infrastructure, and these costs are now being incorporated into strategic flood investment decisions.

Responsibility for managing flood risk

There is no single body responsible for managing flood risk in the UK because of the role of the devolved administrations in Scotland, Northern Ireland and Wales. Responsibility is joint and several among many bodies.

The Department of the Environment, Food and Rural Affairs (Defra) is the policy lead for flood and coastal erosion risk management in England. New or revised policies are prepared with other parts of government such as the Treasury, The Cabinet Office (for emergency response planning) and the Department for Communities and Local Government (for land-use and planning policy). These national policies are then delivered by **Risk Assessment Management Authorities (RMAs)** which are:

- Environment Agency
- Lead Local Flood Authorities
- District and Borough Councils
- Coast protection authorities
- Water and sewerage companies
- Internal Drainage Boards
- Highways Authorities

Flood Working Group Feasibility Study Report

The Flood and Water Management Act 2010 requires these Risk Management Authorities to co-operate with each other, and act in a manner consistent with the National and Coastal Erosion Risk Management Strategy for England and the Local Flood Risk Management Strategies developed by the Lead Flood Authorities.

The Environment Agency's work includes developing long-term approaches to developing national flood and coastal erosion risk management strategies. [LIT 10194 ANGLIAN FRMP SUMMARY .pdf \(publishing.service.gov.uk\)](#)

Lead Local Flood Authorities (LLFAs) are county councils and unitary authorities, which lead in managing local risk. They are required to prepare and maintain a strategy for local flood risk management in their areas.

Grant Funding - The application we made to East Suffolk Council Enabling Team for £2,000 in order to better manage our at-risk watercourse, was accepted because it was aligned with the Team's current Risk Management Strategies:

[Managing flood risk: roles and responsibilities | Local Government Association](#)

[Flood Risk Management Strategy – Green Suffolk](#)

[Home : Water Management Alliance \(wlma.org.uk\)](#)

East Suffolk Internal Drainage Board (ESIDB) - IDBs have an important role to play in flood risk management, and in creating and managing natural habitats. Each IDB operates within a defined area, known as a drainage district. They are made up of elected members who represent land occupiers, and others nominated by local authorities who represent the public and other interest groups. IDBs are independent public bodies responsible for managing water levels in low-lying areas. They are the land drainage authority within their districts and their functions include supervising land drainage and flood defence works on ordinary watercourses.

IDBs hold the powers in Section 25 Land Drainage Act 1991 to require works to maintain a proper flow of water in ordinary watercourses in internal drainage districts.

This work is primarily funded by drainage rates and levies from land occupiers and local authorities. Using those funds, they closely manage water levels, both in watercourses and underground (groundwater), by improving and maintaining ordinary watercourses, drainage channels and pumping stations to reduce the risk of flooding.

They can involve local people and encourage volunteering.

Kettleburgh will benefit not only from their pioneering initial clearance, but also from regular monitoring and annual scheduled works, such as those shown in the current schedule of works, showing how our at-risk watercourse would be included.

[Homepage | Association of Drainage Authorities \(ada.org.uk\)](#)

[East Suffolk IDB Works Programme for 2021=22 \(wlma.org.uk\)](#)

Flood Working Group Feasibility Study Report

A potential solution – requirements, resources, drivers

Legislation - any solution to our problem must first and foremost comply with legislation governing water management:

[Managing flood risk: roles and responsibilities | Local Government Association](#)

Parish Councils do have a key role to play - Parish Councils and residents can play an important role in managing flood risk at the community level. There are many actions residents, businesses and communities can take to help protect themselves and their communities. Future flooding and the destructive impact of flooding on homes, businesses, families, and livelihoods can be reduced.

Areas at risk should most importantly prepare Community Flood Plans (see links below) and residents can ensure each household has its own flood plan. Individuals can also help by getting involved with local Flood Warden schemes, as well as gathering information on flooding by reporting any flood incidents in their area. Parish Councils can raise additional funding for local flood resilience and flood defence measures, as well as undertaking regular maintenance. It seems only a small number of Parish Councils have already implemented Flood Management Plans, to varying degrees of effect, so there is an opportunity for Kettleburgh to lead to an extent, if it so wishes.

[19.Roles-of-parish-councils-and-communities.pdf \(floodtoolkit.com\)](#)

[What parish and town councils can do to manage flood risk in their community | BHIB Councils Insurance](#)

[surrey community flood resilience project \(nationalfloodforum.org.uk\)](#)

Parish Council power to fund or carry out works - the Society of Local Council Clerks in its Advice Note concerning Ditches, Drains and Watercourses tells us:

“The local council may ... contribute towards the expenses of any persons in carrying out drainage etc. works. This provision would enable the council to finance the whole or part of the cost of a pond clearing scheme being carried out by a voluntary organisation. Roadside ditches belong either to the highway authority or to the landowner whose property fronts onto the highway. It is a question of fact in each case. Under the s. 100, Highways Act 1980, the highway authority has the power but not a duty to clean out roadside ditches. Section 259 Public Health Act 1936 enables the statutory nuisance provisions in Part III of the Environmental Protection Act 1990 to be applied to any pond, pool, ditch, gutter or watercourse which is so foul or in such a state as to be prejudicial to health or a nuisance. The First-tier Tribunal has power to order the cleansing of ditches etc. under section 28 of the Land Drainage Act 1991.”

Parish Councils have the power under Section 260 of the Public Health Act (1936), to undertake maintenance works on ponds, ditches and other open drainage in order to prevent the feature from becoming a risk to health.

Mapping requirements - infrastructure and watercourses

Access to detailed mapping will be critical for any Community Flood Plan to operate, needing to identify all the watercourses and related infrastructure accurately. It would also need to be practicably accessible to potential co-ordinators to enable them to monitor and act.

Flood Working Group Feasibility Study Report

There is some existing County flood mapping that we could take on board. Ordnance Survey has fully detailed watercourse mapping. “The OS MasterMap Networks – Water Layer” provides a detailed centre line following the curve of a waterway precisely. With this water network data, you can look up the height of any watercourse, along with its flow direction, gradient, length, and width anywhere along its length. It includes the coordinates of watercourse sources and where they meet. Under the Public Sector Geospatial Agreement, the parish is able to access this resource free. Kettleburgh Parish Council is now registered for this service to save time if a decision is taken to proceed with a Community Flood Plan. See the Annexe for more details and a Case Study for use of the system. Application software is needed to use and present the data:

Parish Online (click for more detail) - Parish Online is an easy-to-use, cost-effective mapping tool that helps councils access maps and manage their local area. It includes Ordnance Survey mapping and high-resolution aerial photography as well as over 250 map datasets used in planning, transport and environment. It costs £40 pa, but a grant from Insurance Company may reduce this cost significantly.

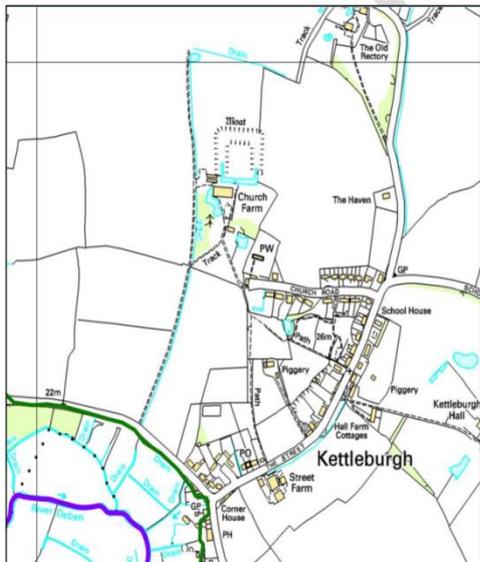
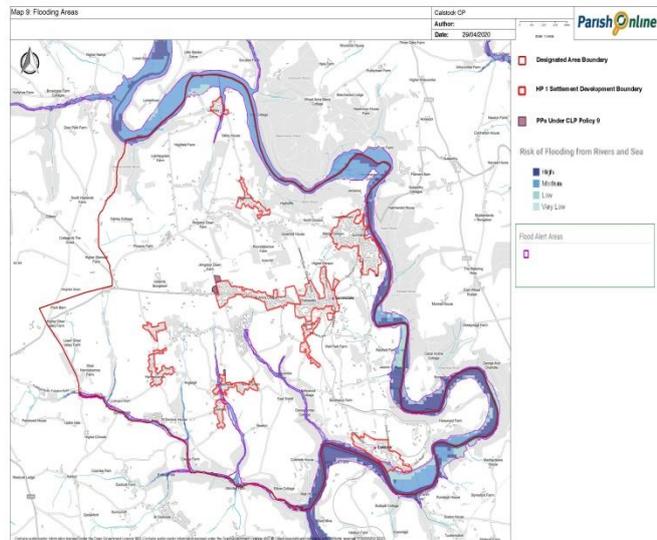


Figure 1 Map of Village
Current IDB basic mapping of Kettleburgh



Example of map using OS Water Layer data and Parish Online

Pear Technology (click for more detail) - provides interactive mapping software designed for non-IT specialists. The full range of Pear Geographic Information Systems (GIS) products is backed up with a full map preparation service and technical support.

The **Principal Authority** (click for more detail) may also be able to provide web-based solutions and services.

‘Our Water’ is a tool that could enable community groups to improve their understanding of local flood risk and possibly help maintain the local watercourses. The tool is used by walking around a targeted area and noting the location, condition, and other attributes of a watercourse and its features.

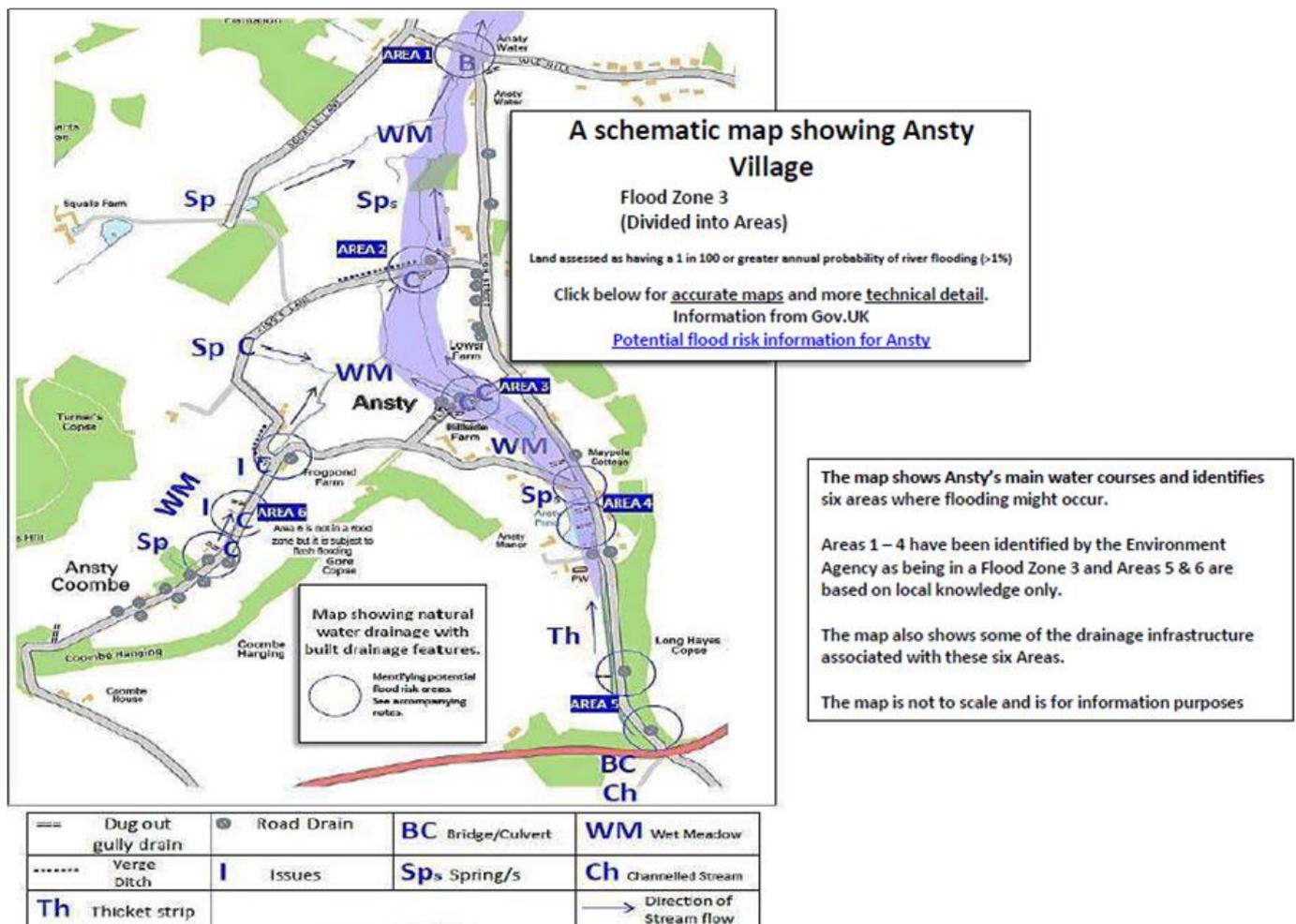
The ‘Our Water’ scheme was previously run with SCC having a significant supporting role. Unfortunately, the project has been halted for the past few years due to resource issues, so we will not be able to engage fully with it but if the tool is something the Parish Council would like to utilise, we may be able to ‘do a deal’ by assisting with providing some of the documentation and record sheets. (Contact: SCC Assistant Project Manager, Flood and Water Management, Growth, Highways, and Infrastructure Directorate).

Flood Working Group Feasibility Study Report

The SCC Flood and Water Engineer is probably our 'most key' stakeholder. The post-holder at time of this report spent time with the FWG and walked the watercourse along The Street and Church Road, and identified important key aspects of the infrastructure. But such piecemeal work is insufficient. If the Parish Council decides to develop a Community Flood Plan, a full detailed map will be a critical component, using the resources chosen from those described above.

As stated earlier some parish councils have made progress with Flood Plans and the FWG researched a number of these. Anstey Parish Council in Wiltshire has clear mapping and a sample of this is shown below, from their Anstey Parish Community and Local Flood Action Plan [LIT 7488 3ee773.doc \(live.com\)](#)

It gives a detailed assessment of where the potential flood points might occur along the main watercourse. We would need to create a similar (hopefully better!) document, regularly updated, identifying the problem areas, and potential issues and consequences, and actions to alert local properties that may be at risk:



Maintenance and management requirements

Known need for interventions - basic assessment of the '2019 watercourse' including walking the swale has already revealed the sort of issue that will need to be addressed by any Plan. There are considerable obstructions along the watercourse, from vegetative debris to retaining walls. The walk with experts provided immediate insights. For example, the position on the debris and clearing of the watercourse was:

- Larger debris isn't bad if it is stable. It acts to slow water down during a surge. It should be retained if it poses no risk to being dislodged.

Flood Working Group Feasibility Study Report

- Unstable or loose debris can be problematic when dislodged and can cause surging and blocking when it reaches a grate. Periodic removal of loose debris should be part of the monitoring and maintenance strategy.
- If silting is occurring around debris that is being removed, then this also should be removed and not allowed to flow downstream.

It will be critical that there is an understanding of how the watercourses behave naturally in a relatively flat coastal area such as ours, and how different interventions can help – or hinder. Therefore, close communication with such as the ESIDB's Engineers will forge a coordinated approach, and a deeper understanding of what interventions will be most effective.

Monitoring the watercourses will be important on a regular basis, and the role of a Flood Warden must be considered (someone who walks the area regularly, has good local knowledge, and is keen to be actively involved in the Plan).

Potential future interventions to understand - the possibility of holding reservoirs further upstream has also been debated, with the example given of a Development at Debenham. In this case, it was reported that landowners were enthusiastic about providing the land to create engineered reservoirs/interventions that allow rapid water runoff from their fields to be held before discharging into the watercourses. Further investigation of this precedent is warranted.

Planting of trees and hedgerows for the benefit of flood management (retaining water and slowing down runoff) - Natural England is aware of the issues in the village and will be a resource in the preparation of any landscape strategies and subsequent funding. SCC should be providing KPC with detail of the case officer assigned to us. There may also be potential for the SCC Flood and Water Management Assistant Manager to enable grants for trees to be planted in specific areas with consent of landowners.

The constraining factor with some of our drainage watercourses including our currently 'at-risk watercourse', is their outlet at the Deben. It will therefore be important to work with authorities responsible for the Deben as the main watercourse in case any interventions made have an impact on tributary watercourses when the river is high.

Anglian Water may be able to survey relevant properties and their down pipes and drains to assess what improvements may be made to assist the flow of the system, but they will need to be contacted again to encourage progress.

Stakeholder analysis

Summary of stakeholder support

Identity	Stake holding	Assessment
Environment Agency [REDACTED]	Strategic overview for all flooding as well as coastal erosion. It is the risk management authority for flooding from rivers and sea	Encourages communities to create Flood Plans and improve the resilience of their communities. May not be directly involved, but possible Grant funding.

Flood Working Group Feasibility Study Report

Identity	Stake holding	Assessment
<p>Suffolk County Council Flood and Water Engineer, Management, Growth, Highways, and Infrastructure.</p> <p>Assistant Project Manager, Flood and Water Management [REDACTED]</p>	<p>Suffolk County Council is a Lead Local Flood Authority as defined in the Flood and Water Management Act 2010: also, a risk management authority with responsibilities for dealing with flooding from surface water, groundwater, and ordinary watercourses</p>	<p>A key stakeholder, having first line contact with Clerk and Parish Council and coordinating any works with other stakeholders.</p> <p>SCC strongly encourages communities to actively help to manage their flood risk and make their community more resilient. Also:</p> <p>Provide advice for Riparian Owners.</p> <p>Guidance and support for residents considered to be at risk from flooding.</p> <p>Run a community self-help scheme to empower and support Parish Councils with maintenance of highways within communities.</p> <p>Flood Alerts Residents can sign up for local flood warnings</p>
<p>East Suffolk Internal Drainage Board Operational Engineer Water Management Alliance</p>	<p>This initiative is directly in line with strategic policy: SCC as a Lead Local Flooding Authority; Suffolk Flood Risk Management Partnership; Suffolk Joint Emergency Planning Unit (JEPU); and <i>East Suffolk IDB Supplementary Guidance for Adoption and Abandonment of Watercourses and Infrastructure-Asset Prioritisation Criteria policies (v2 June 2015)</i></p>	<p>Key Stakeholder, having direct interventions with the watercourses, liaising with SCC and Regular professional management will be a significant intervention in the prevention of future flooding, taking into account likely village expansion. There may be specific positive impacts on residents' insurance positions and reduced financial risk to the Parish Council.</p>
<p>East Suffolk Council District Councillor</p>	<p>This initiative is directly in line with strategic policy: SCC as a Lead Local Flooding Authority; Suffolk Flood Risk Management Partnership; Suffolk Joint Emergency Planning Unit (JEPU); and <i>East Suffolk IDB Supplementary Guidance for Adoption and Abandonment of Watercourses and Infrastructure-Asset Prioritisation Criteria policies (v2 June 2015)</i></p>	<p>ESC supports the Parish Council in actively encouraging preventive measures for flooding and supporting the resilience of the community. ESC Enabling Team awarded Kettleburgh PC a Grant of £2,000 for the adoption of the watercourse by the ESIDB</p>
<p>SCC Highways</p>	<p>Undertakes works on waterways in specific circumstances</p>	<p>Need to work with Highways in developing the Plan and management.</p>

Flood Working Group Feasibility Study Report

Identity	Stake holding	Assessment
<p>Suffolk Joint Emergency Planning Unit (JEPU) https://www.suffolk.gov.uk/community-and-safety/emergency-planning/</p>	<p>The Joint Emergency Planning Unit (JEPU) can support the community with the production of an Emergency Plan, which is generally generic but a section can focus on flood risk.</p>	<p>Further information provided by Suffolk Resilience Forum JEPU have various templates to support the plan and provide a better understanding of how Suffolk responds to reports of flooding. (SRF) Support and encouragement offered to the PC and could enable us to have a full Emergency Plan including a Flood Plan.</p>
<p>Parish Council</p>	<p>Parish Councils and residents can play an important role in managing flood risk at the community level. "Parish Councils have the powers under Section 260 of the Public Health Act (1936), to undertake maintenance works on ponds, ditches and other open drainage in order to prevent the feature from becoming a risk to health."</p>	<p>Kettleburgh Parish Council to consider adoption of the Community Flood Plan at meeting on 20th Jan 2022. It would need to work with other PCs sharing water infrastructure such as the Deben.</p>
<p>Parishioners</p>	<p>Parishioners have expressed concerns around flooding in all areas of the village, and some have been severely affected, by flood damage to their homes, displacing them for many months, increasing insurance costs, anxiety and distress fearing future events, and loss of personal belongings.</p>	<p>Community engagement exercise indicates 90% of parishioners support our having a Community Flood Plan in Kettleburgh. We will need to maintain this support and hopefully from it might come volunteers to help with the development and later the management processes agreed in the Plan.</p>
<p>Riparian Owners</p>	<p>Riparian owners have to be aware of ownership principles, environmental, considerations, and maintenance to consenting requirements</p>	<p>Riparian owners x 5 have been consulted during this study, and all have been very interested and supportive of a Community Flood Plan. We will need to maintain this support and hopefully from it might come volunteers to help with the development and later the management processes agreed in the Plan.</p>
<p>Individual Experts</p>	<p>Local resident previously involved with flooding in the area</p>	<p>Support indicated for the plan and offering expertise and making available previous infrastructure mapping. Local knowledge of historic events.</p>

Flood Working Group Feasibility Study Report

Community Engagement: 'Door-to-door' survey

Two councillors carried out a door-to-door survey, socially distanced (Covid-19 Pandemic) and with GDPR compliant identity badges, on the 29th and 30th October 2021. The following has been compiled from their verbal reports back and notes:

Feedback from engaging with parishioners - all residents interviewed bar two were enthusiastic about the idea of a joined-up strategy to tackle the effects of rainwater runoff. Some residents expressed interest in being involved in consultation.

All residents interviewed were completely aware of the issues of storm water runoff in the village, the impact that the collection of the main village's water at the Low Street Junction has on the intersection and the houses at the lower end of the village. Almost all residents interviewed expressed some interesting anecdotal evidence about surface water runoff around their own property.

The concerns about storm water management were present in households interviewed at the lower, middle and upper reaches of the village. It is not just localised to those at the lower more vulnerable area. Water runoff is perceived to be problematic in localised swales and from field runoff where adjacent ditches are not being maintained and kept clear by farmers. The Church Lane swales are perceived to be dangerous to children.

Results of Survey to determine support for a Community Flood Plan in Kettleburgh:

Total dwellings in Kettleburgh	120
Households surveyed	20
Supported	18
Against	1
Declined to comment	1

Outline Business Case, evaluation

Resource demands will include:

- Technology - for mapping and production of information/publications
PGSA, Parish Online, SCC (Contact: SCC Assistant Project Manager, Flood and Water Management, Growth, Highways, and Infrastructure Directorate), may be able to access some previous infrastructure maps and watercourse information.
- Human resources – councillors/clerk/administration/Flood Warden/volunteers/Expert advisors/other managers of Community Flood Plans
- Funding - for mapping/licences/administration/phone and mileage/materials for production of information/surveying stakeholder qualitative data/consultant fees or expert advice.

Outline ongoing direct cost of developing, maintaining, and updating a Community Flood Plan

Funding for mapping / licences	PSGA OS Free, Parish Online Maximum	£40.00
Administration/Clerk Hours/phone/ mileage	Possible 10 hrs admin and mileage	£120.00
Materials for production of information, surveying		£30.00

Flood Working Group Feasibility Study Report

Consultant Fees/Expert advice	Possible if required	£120 00
Risk Assessment/Insurance	Covered under current Insurance Policy	£0
Emergency supplies preparatory to flooded homes	Example - Flood sax case of 20x22 litre Capacity Flood Sacks – these are better than ‘sandbags’, which actually are a poor solution.	£95.65 Ex VAT+ delivery (There might be more than this needed but keeping a lot of supplies doesn’t seem to be best practice)
Councillor and stakeholder time		Could be quantified but not a direct cost

Potential funding - from: Grant awards from supporting authorities, Precept; Reserves.

Outline benefits

Being prepared in an emergency can help to reduce stress, panic, and avoid loss of life. By planning in advance, we will be better prepared to respond in an emergency and better equipped to recover in the long-term. Working together as a community to complete a plan will help us respond quickly when flooding happens. It can help us decide what practical actions to take before and during a flood, helping reduce the damage flooding can cause. “We mustn’t wait until it happens again, we may not have time.”

We can address the problems in the Problem Statement. Over 5.5 million properties in the country are vulnerable to flooding. From past and recent incidents many local people know from bitter experience that they are vulnerable, but awareness of the risk gives us a chance to prepare. It is impossible to completely flood-proof properties but there are many things to be done that could reduce the damage. We can be seen to be taking meaningful action, be taking a lead and moving from uninformed to informed. We can reduce impact costs to residents and insurers.

More meaningful responses to planning applications such as DC/21/0757/FUL 16 house site. The local district/borough council is the Local Planning Authority (LPA) and is the decision maker (to grant or refuse planning permission on proposals) and considers consultees’ responses. SCC as the Lead Local Flood Authority is a statutory consultee in the planning process for drainage proposals for major developments. Working collaboratively with the authority and demonstrating that the Parish Council and community is doing all it can to be proactive to protect and increase the resilience of parishioners, will ensure that concerns raised by the Parish Council on behalf of the community will be considered much more seriously.

Option analysis

Normally at least three options would be looked at: Do nothing; Do Minimum; and Do ‘the full job’. In this case Do Nothing carries a weight of continuing risk, potential reputation damage for the PC, and potential significant costs of many types for residents and insurers. There is no clear ‘Do Minimum’ -perhaps a form of minimalist ‘Plan’? But in light of the:

- almost universal support from local residents, in particular riparian owners.
- universal support from all potential partner stakeholders;
- likely low costs (relatively); and
- significant benefits

Flood Working Group Feasibility Study Report

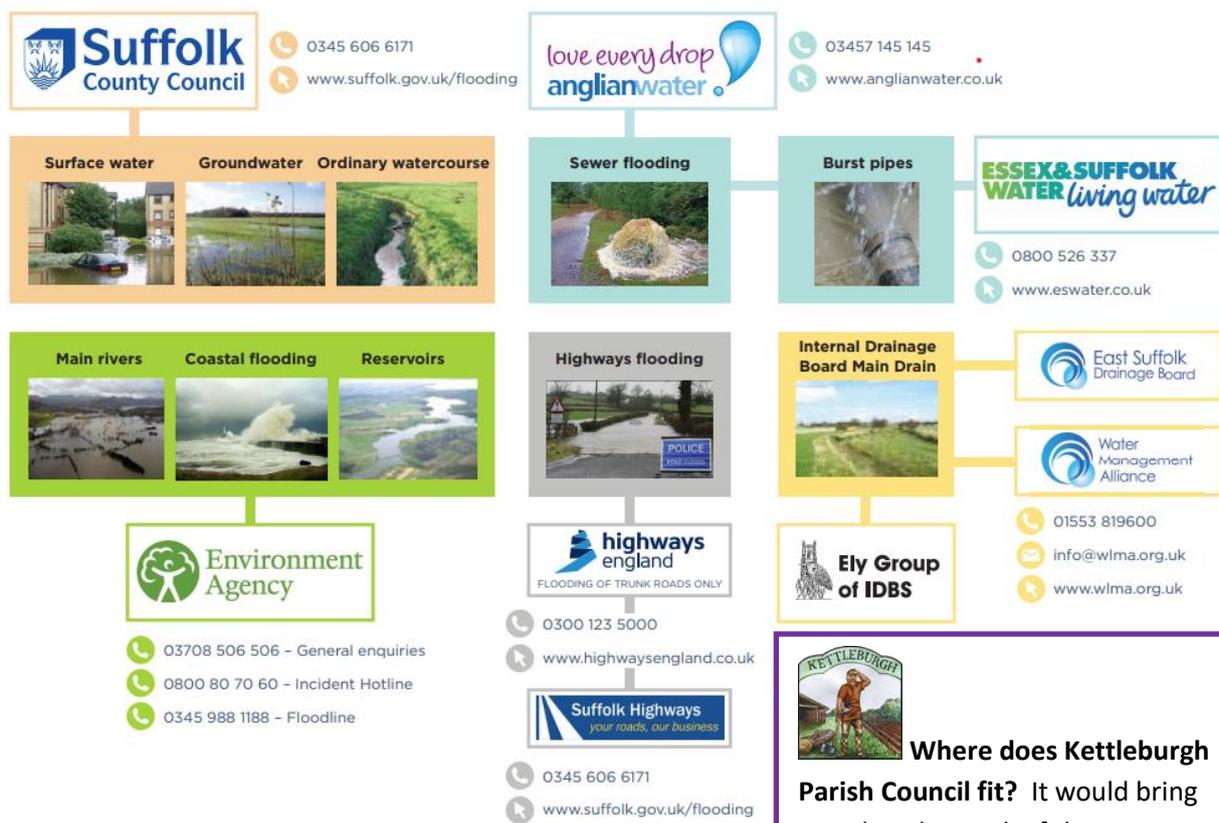
the FWG recommends a project to deliver a Community Flood Plan for Kettleburgh.

Approach

Leadership - the Plan could probably be delivered in 6 months with a dedicated qualified project manager. But if developed properly by volunteer resources it might take up to two years to fully deliver. Work could be arranged to deliver early benefits such as watercourse mapping; however, and there would be economies of scale available if it was delivered as part of delivering a wider Emergency Plan for the parish.

Collaborative working will be critical. The KPC project manager will need to work closely with other authorities during the project and forge close ties with them and our neighbouring councils. This will provide a sound foundation for the working approach of the likely future lead councillor for flooding.

Fit and context - the following diagram, courtesy of SCC, shows how we will fit with other organisations:



Where does Kettleburgh Parish Council fit? It would bring together the work of these organisations and work with surrounding Parish Councils to deliver integrated water management for the parish.

Our Plan would be very much a practical one, setting out how we would manage the risk of flooding. It would sit under higher level strategies - Suffolk County Council's Local Flood Management Strategy and the National Flood and Coastal Erosion Risk Management Strategy for England.

As the issues following the 2019 flooding event have already drawn the collaborative attention of IDB, SCC Highways and SCC Lead Local Flood Authority (LLFA) all parties have agreed that further work on that watercourse would be led by the SCC LLFA.

Flood Working Group Feasibility Study Report

Annexe – OS Geographic Information Systems (GIS)

The [Public Sector Geospatial Agreement \(PSGA\)](#) is a contract between the [Geospatial Commission](#), on behalf of the public sector in England, Wales, Scotland, and Ordnance Survey and it provides the route for public sector members to access, use and share the constantly evolving location data. Publication of mapping and technical information provided by the Ordnance Survey under the PSGA as a Public Government organisation is free quoting the Licence number of the Parish Council registration.

Case study: *Dauntsey in north Wiltshire had experienced serious flooding affecting as many as 44 homes. Using Geographic systems (GIS) and digital mapping, the Parish Council can produce accurate and professional looking maps to better track the impact of serious flooding. Initially they negotiated a sub-contractor from their principal authority, which provided access to OS Data...Following serious flooding with a population of 532 it concluded it needed to act. However it faced a number of challenges; the Parish was told the main risk concerns were in towns like Malmesbury and Chippenham. It needed to engage the Environment Agency and principal local authority to influence how they maintained the watercourses, culverts and drains in the area to mitigate this happening again. Using its Public Sector Mapping Agreement (PSMA) licence from Ordnance Survey (managed using open source QGIS software) the Parish Council was able to establish that more homes had been affected in the Dauntsey Parish than anywhere else in the county.*

The solution

Creating digital maps also helped to illustrate the extent of serious flooding and allowed all drains, culverts and minor water courses to be marked up online. The capacity of these waterways could also be input, allowing problems to be predicted. Plus, information showing which body was responsible for maintaining each waterway meant work could be prioritised. "The GIS made us a very strong player. It's bringing empowerment down to the parish level. There's no way we could have done this without the PSMA data." Andrew Chapman, Councillor, Dauntsey Parish Council.

The data driven benefits

- *The Parish Council's use of professional looking maps meant that its evidence on flooding was taken more seriously.*
 - *The GIS analysis has assisted affected households in pursuing their flooding compensation claims.*
 - *They could receive and share geographic data with the other statutory organisations.*
 - *They were able to analyse local water courses and flood impacts across its area.*
 - *As a result the Highways Agency has significantly altered its maintenance programme by bringing in annual inspections and improved maintenance contracts.*
 - *The Parish Council now works more closely with the Wiltshire Council maintenance team, which is saving both time and effort. Useful links <http://www.dauntsey.org/dauntseyparishcouncil.php>*
- The following OS Partners offer a simple GIS service