Update on Early Action funded projects to manage local flood risk

LANDF♦RM event: E11400

Report of a workshop organised by LANDF♦RM held at Environment Agency Offices, Sapphire East, 550 Streetsbrook Road, Solihull on 17th January 2011.

Speakers	Richard T. Caple	Daventry District Council
	Wayne Best	Gloucester City Council
	Laurence King	West Oxfordshire District Council
	Richard Bennett	
	Ben Holmes	
	Graham Hodgson & Brian Higgs	Dudley Metropolitan Borough Council
Chairman	Jonathan Hunter	Environment Agency

INTRODUCTION

Chairman Jonathon Hunter of the Environment Agency opened the LANDF♦RM event with an introductory presentation. These events have now been running successfully for four years and are supported by the Environment Agency. Their main purpose is to provide a network for Local Authorities and to ensure that they are kept up to date with the latest developments. The success of these events is brought, by their ability to provide a platform for sharing knowledge, the enabling of communication between key stakeholders, and by the provision of support in assisting with delivery of roles and responsibilities.

Jonathan has the role of managing the Early Action funding on behalf of Defra, and promotes the need for sharing good practice between different Local Authorities. This seminar provided an overview of a handful of Early Action funded projects that have been delivered and which have improved local flood risk management to communities.

THE ISSUES

The flooding that occurred in the summer of 2007 in the UK lead to the 'Pitt Review' of flooding and this became a driver for new legislation (Flood and Water Management Act 2010). In addition to these floods, the Environment Agency estimates that at least one flood event has occurred every month since 2007 within England and Wales. These events have even occurred at great distances from rivers and seas, and these are caused by surface water flooding.

Due to the number of bodies involved with flood risk, it is recognised that there is no single point of contact and this makes it more difficult to obtain/secure funding. The Agency has a strategic overview which has two key elements, one of which is to review how each form of flood risk is assessed and managed in order to report back to government, and the second is to provide support to Local Authorities in their delivery of local flood risk management as Lead Local Flood Authorities. Figure 1 provides a summary of the overview. The political driver is that Local Authorities are given the lead to manage risk with regards to surface water runoff, groundwater and ordinary watercourses.

The Flood and Water Management Act 2010 places lead local flood authorities at the heart of delivering improved local flood risk management, with clarified responsibilities for surface water management and ground water.

In 2009, DEFRA made £16 million available in funding. £5 million of this was designated for the Early Action scheme. Local Authorities had 2 months to apply for funding and by the end

of the period, applications had been received in excess of the £5m available. Applications were short listed considering a number of factors including the number of properties to be protected and value for money. The short list had to be decided based on the information presented in the application forms. The final decision was made in March 2010 following review by an independent panel and a Ministerial submission. 61 schemes and 15 Surface Water Management Plans were funded.

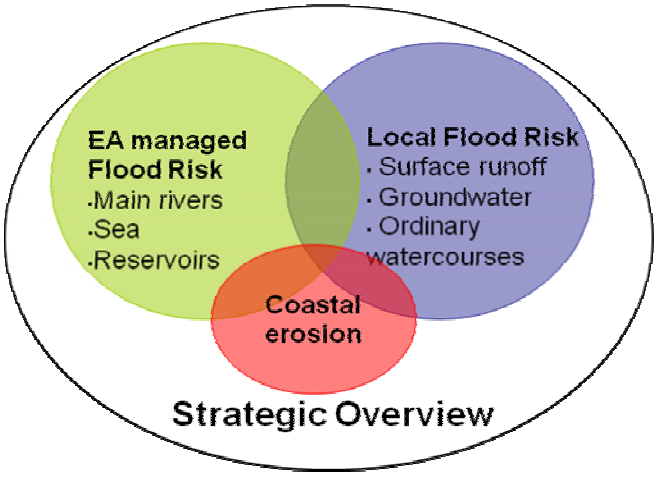

Figure 1 – Summary diagram of Strategic Overview

The progress of the programme is being monitored by the Environment Agency on a monthly basis. To date 25 projects have completed with the remaining to be completed by March 31st 2011. The main causes for delay has been attributed to landowner discussions/disputes, slow starts by Local Authorities and forced changes in design.

Upon completion of the projects a report will be presented to parliament stating the results of the funding. In addition Defra have been working closely with the Environment Agency to develop tools and central data sources that can assist Lead Local Flood Authorities (LLFAs). All of this work is to be complete by March 2011, and new LIDAR information will become available from April as more data is processed.

LEARNING POINTS

1. When working with funding that have short timescales for delivery, such as the Early Action Schemes, it is imperative that the projects chosen by the Local Authorities are well planned and have stakeholder buy-in (internally and externally) from an early stage.
2. The Early Action funding application process, only allowed Local Authorities a very small amount of time in which to submit their applications. This made the process very challenging. Designs have had to adapt rather than pursue legal actions.
3. Local Authorities have to consider internal and external funding, particularly who will pay for maintenance costs in the future on third party land/assets.
4. Data management and particularly GIS have been shown in Local Authorities to have the potential to be very useful in flood risk management. It can target the areas for which are in most need of flood alleviation.
5. The Early Action scheme has aided Local Authorites in the delivery of flood management schemes. This has given them vital experience for their in house design teams.

6. The results and feedback of the early Action schemes is required to be shared between Local Authorities. This can be done through events like the ones held by Landform.

7. The Early Action schemes that have now been completed have been labelled a success in terms of the help they have given to people, properties and businesses that might otherwise been overlooked. Communicating and engaging with the public is important.

8. Innovative highway design can provide opportunities to manage surface water (eg raising kerbs).

RICHARD T CAPLE, DAVENTRY DISTRICT COUNCIL

Implementation of Defra Surface Water Early Action grant: Lilbourne (Daventry District)

- *Richard is a chartered engineer working within Daventry District Council. His job title is Engineer Project Manager and he leads many projects in addition to the Lilbourne project presented at this event.*

This scheme is relatively small in terms of cost which is in the region of £50,000 and is almost complete. For local residents who have been subjected to the consequences of poor drainage, it has been a project which has benefited them and the results will enable them to get their lives back to normal without fear of flooding during heaving precipitation events.

The issue of flooding and saturated ground started occurring in 2001, when Daventry Council began to receive complaints of standing water in a number of houses along Hilmortan Lane. In addition to this, an increased area of saturated ground was observed in the gardens of numerous other properties. This occurred at a similar time to the construction of a new residential development which was constructed in year 2000 to 2001. The development titled Stonehouse Court, was located over an historic farmers ditch which had been removed during the construction without consideration of consequences.

During the investigation which was undertaken by Daventry District Council, it was found that the building contractor had suffered financial difficulties and was no longer trading. This meant that recovery of costs through legal action was not a feasible option. So the problem was left unsolved until 2009 when the council decided that the problems in the village required remedial actions to be undertaken. The fact that the Council had no budget for land drainage works poised a significant problem but by way of good fortune this coincided with the issue of the Environment Agency's "Early Action" Scheme.

After a decision was made to apply for funding, a scheme plan was submitted in just three weeks. The timescale was therefore very limited and so a historic check had to be undertaken in less time than would usually be available. As part of this process a survey of the Hillmorton Lane residents was carried out which also pointed the cause of the problem as being down to the Stonehouse Court development in addition to the presence of soakaways in the formation geology, which was not suitable for this type of drainage system. Within the application to the Environment Agency, the remedial solution proposed was to reinstate the ditch at an approximate cost £45000 for the works.

In March 2010, the bid gained approval and so the project would commence. Daventry District Council held a public meeting in April 2010, and the outcome was that the design solution was likely to be blocked by the residents of Stonehouse Court, due to their lack of knowledge of the flooding problems. In addition to this, one of the residents who lived on Hillmorton Lane also blocked the scheme as she had already paid for a private drainage solution to be put in place and was concerned about the impact. If the project was to be completed within the one year timeframe (part of the conditions of funding) then legal action using the Land Drainage Act (1991) could not be used. This therefore required a redesign of the solution. This

highlights the need to engage, discuss and decide with partners (including the public) before committing to design of schemes if possible.

The redesign had to consider changing the position and direction of the outfall pipe. An investigation of the local infrastructure's current drainage system was paid for out of the funded money and an underground culverted ditch was found to run beneath Hillmorton Lane. The CCTV survey that was undertaken allowed for the assessment of the culverts condition and capacity, and the results showed that this provided a viable design solution for the new outfall pipe. The new scheme design which involved work in three of the back gardens located behind the Hillmorton Lane properties was allowed to commence after residents had given it a conditional 'yes', and the Environment Agency had approved the changes to the design. The redesign is shown in Figure 2.

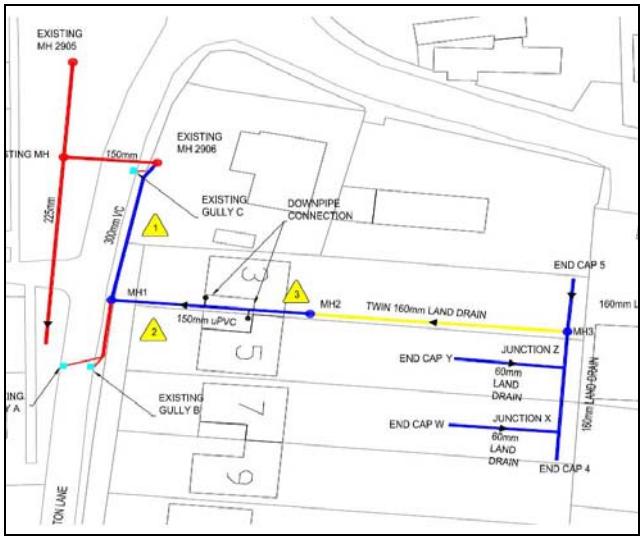

Figure 2 - Design layout showing use of existing culvert (courtesy of Daventry District Council)

This delay meant that the scheme had to be delivered in just a 5 month window. To aid this WSP (Birmingham) were procured to undertake some of the design, which included a review of the Daventry District Council survey data. Their conclusion confirmed that Groundwater seepage was the main contributor to the problem. The WSP design was finalised and the outfall of the new drainage system was to be located beneath the garage of House No. 3. The solution and it would be designed to a 1:100 year rainfall event. In addition, the houses to the south were to be protected by the installation of a French drain which would be located in the position of the former farm ditch. A French drain was the only solution despite the cost implications, because the farm owner refused to allow any land take caused by a new ditch.

At this stage the residents agreed to sign up to future maintenance and the associated cost of the drainage system. The contractor commenced with works in September 2010 and was procured at £33000. The site had to be kept tidy and was heavily restricted by space restraints. Upon completion total costs rose to a total of £51000, (including contractor, site investigation, Solution design and legal) which was £6000 higher than the original cost estimated. The forced changes to a more complex design solution, was attributed as the main reasons for this.

However, despite the problems the project was completed to time, with only some small scale garden reinstatement and agreed the Deed of Mutual consent to be completed. The project has shown good use of money and residents have already noticed improvements.

DISCUSSION

Q? If Daventry District Council had had a longer timeframe would they have done anything differently?

A Potentially it would have been good to pursue the original option of "reinstating the existing drain". The problem with that in this situation, was that the legal aspects take too long.

Q? Was there any internal flooding recorded inside the houses?

A The flooding was only ever recorded within the garden areas. It did on occasions creep, in severe weather, up to the edge of the houses but never into them.

Q? As the new development (Stonehouse Court) was under ten years old, was it not possible to claim money back off the developer responsible, especially as the soakaways at the development did not work.

A Ordinarily this would have been the case, but in this occasion the developer was no longer trading due to financial difficulties and so this option could not be considered.

Q? Why the driveway at the property (number 3) reinstated with tarmac and not with a permeable surface?

A This was because the flooding issue was solely limited to the back gardens and posed no significant risk at the front. However, with more time to plan and design a permeable surface would possibly have been used to conform to current planning requirements.

WAYNE BEST (GLOUCESTER CITY COUNCIL)

Working with the community on flood risk

- *Wayne has been employed with Gloucester City Council since the 2007 floods and after graduating from university has been overseeing their flood alleviation schemes. His role is of Environmental Heath Officer in Flood Resilience and Land Drainage. His talk today was related to his experience in dealing with a range of flood solutions in the community including, the raising of kerbs and rainwater harvesting.*

Wayne commenced with a brief insight into what Gloucester City Council had to contend with during the 2007 flooding event. During the floods, 1000 residential properties and 100 businesses were affected and mains water supply was disrupted for two weeks. The shear volume of water courses located throughout Gloucester City is one reason for the flood risk. These water courses include, the River Severn and the canal system. After the flood water subsided, the council undertook much work in order to reduce the future risk. This included the clearance of drainage systems, the construction of earth bunds and of a dry balancing pond. In total Gloucester City Council has completed 56 food alleviation schemes and a further 12 are currently ongoing.

One of these schemes is discussed in detail and was at a site in Gloucester which is located close to the River Severn. The site was flooded in 2007 when water overtopped its banks and ran across an industrial car park site before flooding 10 gardens and properties. Prior to the flooding, the area was not classified by the Environment Agency as "at risk", but they have since been updated on the issue and flood maps will be altered. The residents are the people that have to deal with damage and they would like to see the flood wall extended in the future to add protection.

In addition to the fluvial flooding issue, there had been complaints received about the poor surface water drainage at the Industrial estate, which has been leading to ponding and flooding of water in the residents gardens. Due to the nature of the problem, the complaints were fragmented and sent into different departments of the Council and there was no integrating reporting of the flooding. Consequently, it took a long time for the actual problem

to be identified. By this time the relationship between the land owner of the industrial estate and the residents had become strained.

However, when the right department was informed, a site investigation was undertaken which looked specifically at the drainage problems. It was concluded that gullies were blocked and so was the site, soakaway which was also found to be under designed for the size of the site. In addition, the appearance of tea bags and coffee grounds provided evidence that a sink waste pipe had been wrongly connected in construction and had added to the blockage. There was also evidence of poor construction enhancing the problem. After the site survey was completed, the residents and the Gloucestershire City Council Highway department were contacted to obtain further information. Door knocking and questionnaires were used to gather information.

With the problems identified, a drainage contractor was brought in to undertake remedial actions. The contractor used high pressure jetting to clear the drainage systems on site, in addition to the undertaking of improvement works to the drainage construction. The kerb was also raised adjacent to the residential to form an extra line of defence. A new 2000m² soakaway was also installed.

Funding for the works was from a number of sources. Firstly the investigation was carried out using funds from the council's drainage budget which was sourced from central Government. The investigation was found to be useful in identifying the problem and working out the likely cost of remediation. It was estimated that the scheme would require £20,000 worth of funding and this was put on the application for the Defra Early Action funding. The application process itself was found to take staff resource for the undertaking of the investigation, and for putting the bid together despite the application not being onerous itself. This was mainly attributed to it being a new process and that other bids were being done at the same time. Additional funding was also negotiated from the site owner as he would be benefiting from the scheme.

Delivery of the scheme and its success required liaison with the schemes stakeholders which included the residents of the properties affected, and the owner of the industrial estate. In addition the scheme enabled the Flood Protection Grant to be used which is from Central Government and allows each resident who was flooded in 2007 to be eligible for £500 towards flood alleviation works. As part of the success the scheme came in under budget and the remaining money was used to implement rainwater harvesting after agreement with the Environment Agency. The extra water storage will add an addition 10,000 litres of capacity to the overall scheme.

The scheme showed Gloucester City Council that for this type of work to be undertaken and to be successful, the support and effort of many is required. If this can be achieved on other schemes then similar benefits will be felt. These benefits include a reduced flood risk in the future when heavy rain occurs, and this will allow the residents piece of mind. The funding also lead to improvements being made to an area of Gloucester, which may otherwise not have benefited from a flood prevention scheme. This in itself has strengthened the relationship between the local residents, the site owner and the council. The scheme also provided environmental benefits, such as water conservation.

In review of the project, there can be some key learning points taken. The approval and cooperation of all stakeholders is very important if these schemes are to be delivered to budget and in such a short timescale. The pooling of information between agencies was also highlighted as significant in preventing the duplication of works, and this helps to show the public that different sections of the local authority do work and talk together. Procedures are also required to be put in place to ensure staff is well trained so that they can deliver the projects that they are asked to do.

Finally it is important that after this type of work is undertaken on third party land, that agreements are made with the land owner(s) as to who will pay for the maintenance. The

local authority does not have the funds to carry out future maintenance and so the benefits of the scheme need to be sold to the people/organisations through negotiation and persuasion.

DISCUSSION

Q? Within this scheme, did the properties that were at risk and subject to flooding have issues with obtaining insurance?

A Yes, there were problems with the insurance companies before. This was despite the houses not being shown at risk on the Environment Agencies Flood Maps. However, since the works, Gloucester City Council has tried to help the residents by giving a letter which can be forwarded to the insurance companies. The letter states what work has been undertaken, and what the project has aimed to achieve.

Q? Who will maintain the soakaway, that was constructed as part of the scheme, in the future and who will enforce that this maintenance is being done?

A It was agreed that the landowner of the industrial estate site would take up the responsibility of its maintenance. The Local Authority will have a responsibility to make sure that this is happening. However, it is noted that this type of soakaway would be difficult to maintain, but things can be done to prevent any blockages.

Q? Have you published your works with the planning officers?

A The planning bodies have not yet been advised but, despite the works only being of a minor nature the point is taken that the changes to the sites infrastructure should be passed on to the planning office.

LAURENCE KING, RICHARD BENNETT & BEN HOLMES, WEST OXFORDSHIRE DISTRICT COUNCIL

Delivering multiple parish flood risk management schemes after the 2007 floods

- *Laurence is the Principal Engineer and is in charge of the team. His roles include making the decision on which projects should be progressed, and he undertakes the responsibility of liaising with land owners, stakeholders and residents, in addition to making key decisions on site.*
- *Richard is a Senior Engineer with a background in design and consultancy, within his role he takes the lead on day to day site supervision, produces CAD designs and prepares tender documentation.*
- *Ben is a trainee Engineer who is part of the nationally Flood Foundation Degree training scheme. He is developing skills on the job and under the supervision of other team members.*

West Oxfordshire District Council has a team in place that has a responsibility of delivering the early action schemes. The team of three have varying experience and have set roles which ensure the schemes can be delivered on time and to budget. The team is lead by Laurence and after making the decision to take an idea forward, he sets the programme, approves tender documentation and approves final design. It is also his responsibility to complete the Environment Agency paperwork to claim grants and return audits.

After a decision is made to commence with an idea, a design is drafted for discussion by Richard. He also assists with the paper work and programming. He also is responsible for some site supervision. Finally, Ben is learning the role by being involved with the general correspondence between the council and stakeholders, as well as undertaking the majority of the site inspections.

The district council covers a mainly rural area with its largest town being Witney. Currently the team is delivering £620,000 worth of schemes in the 2010/2011 period. £170,000 of this is from a grant received from the Early Action Scheme, which covers five sites. The schemes are individually relatively small, but do take considerable time and resource, particularly in consultations. The decision to submit a scheme for funding is based on a number of factors including data from Parish flood reports that were provided after the July 2007 flooding event. These reports were summarised and recommendations for improvement were made and recommendations for improvement were made. Schemes had to be locally supported. It is also important to engage elected Members and keep up their interest as they can provide support locally. The idea being that it is more effective economically and on timescales if persuasion methods are used rather than legislation when negotiating with landowners. Gaining local input from residents has been found to work well at getting them on board with the schemes.

However, one issue which increased delays in the district is that a high percentage of residents in the area were difficult to contact due to the fact that they work away from the area during the week. With this in mind it is important to set realistic delivery targets which involve scrutinising each stage of a scheme to highlight any potential risks and delays at an early stage. The capabilities of the team should also be known, so that the work can be completed to a high technical standard. Good regular communication with all parties involved with the schemes was also key in ensuring unexpected delays do not arise.

The five Early Action Schemes which have been delivered by West Oxfordshire District Council were summarised in the presentation and are described below. They were all completed before the March 2011 deadline.

Cassington was completed in September 2010 and the surface water flooding was reduced by the regrading of the existing ditch system and the improvement of an existing attenuation pond. As part of the latter a weir was constructed and an earth bund, which was designed to keep the water in. The scheme cost was £20,000.

A site at *Fordwells* required the creation of a new attenuation area, and improvements to the highway drainage system. This was improved by enlarging the system on the road and also letting water drain into the adjacent private land which would then be taken up by rural drainage. The works cost £30,000.

A swale was created at *Leafield,* with a fitted drain and bund in private land which was connected to the highway drainage via a new carrier drain with an interceptor (£30,000 total).

A £50,000 project on *Weald Street in Bampton* was completed. A series of new land drains were constructed which connected into a new attenuation area which was constructed in private land. This scheme is to be adopted by the LLFA in 2011.

The fifth project was at Ramsden and cost £40,000. The solution was to reinstate the lost field drainage ditches and to add new highway drainage and kerbing. This project had problems that required the design to be changed during the programme.

Landowner negotiations and discussions over land take issues, future maintenance costs and avoiding compensation were the main challenging issues. The lack of available funds added a further challenge, and it was imperative that the schemes could make a difference whilst not going over budget. The short timescale involved on these projects also affected the day to day commitments of the West Oxfordshire District Council team. Thus causing strain to other projects.

In the future, this team would be more adventurous with what could be achieved, as confidence and skill sets have grown. This is based work which removed (at least) 15 properties from flood risk and two community amenity fields have now got adequate drainage which mitigates the risk to their neighbours. This justifies the added confidence.

DISCUSSION

Q? How did you calculate the compensation for land, where flooding was placed onto private land through attenuation?

A The land owners were very cooperating and compromised with the works which took place. In this sense we were very lucky, and the good liaison between all parties involved paid dividends.

Q? As the projects were located in different parishes, how much engagement did you get from the Parish Councils?

A The Parish Councils involved had formed a forum for discussing flooding, which has been active since 2007. In this sense they were/are very cooperative, active and supportive.

Q? What were the legal discussions that took place for the future management and maintenance requirements?

A Again the landowners have been very accommodating and have accepted responsibility for the future maintenance requirements. This is with the exception of one, which was where the weir has been constructed at Cassington.

Q? How have you managed to keep hold of/create a design base for your council?

A In Oxfordshire, the councils have made the decision to keep hold of their engineering capacity, and so at a district level they have managed to retain their engineers.

One final point made highlighted just how important the cooperation between the in house engineers and the landowners is. It enables sensible conservations and agreements to be made without using legal channels which are expensive and add delay.

GRAHAM HODGSON AND BRIAN HIGGS, DUDLEY METROPOLITAN BOROUGH COUNCIL

Early Action Surface Water Management Plan – Geographical Information System tools and data

- *Brian is the corporate GIS Unit Manager and has a background in the land survey profession*
- *Graham is a chartered Civil Engineer with a background of design and construction of sewerage schemes.*

This presentation presents three Early Action projects and one surface water management plan and aims to show how the use of Geographical Information System (GIS) can benefit early delivery of projects. Dudley Borough covers an area of 98 Km² with a population of 310,000 people. It is considered a low flood risk borough but this maybe changing based on findings. This low risk status is not an excuse for neglecting to have robust processes in place.

The GIS used within Dudley Council has been created in house by Brian and has now got 350 people who enter their day to day working data into it. Figure 3 gives an indication of the level of data that is feeding the system which is called “GIS-MO”. It is used by the majority of the 4,500 plus staff, and it is installed on 92% of council computers. The system is now very important for the day to day running of the council. The data for GIS-MO is sourced from almost all of the council’s key business applications.

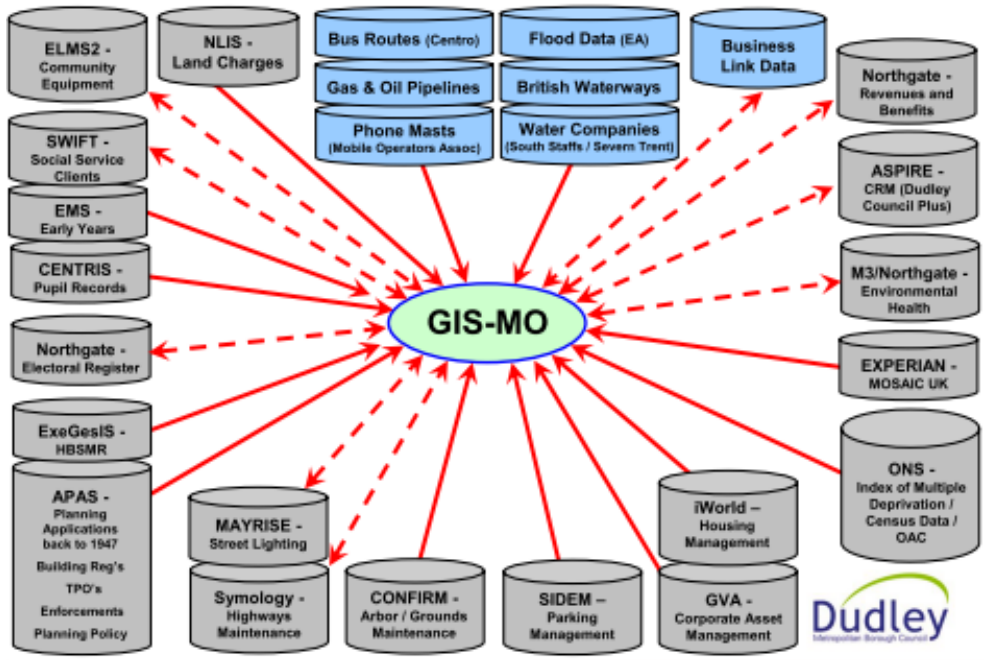

Figure 3 - Provides an indication of how many data sources input into GIS-MO (Dudley Metropolitan Council)

The role of geographical information handling technologies offers an effective contributory role to many processes including looking at flood risk. The Dudley system started by assessing asset capture data such as, OS MasterMap and capturing the water courses and Culvert (water feature) data. Each of which were annotated on the map with an unique reference. At this stage 7,837 objects were identified. Where culvert details were not confirmed, an assumed line was used and a note, "to be confirmed", was added. In addition to culverts, storm water outfalls and watercourse grills were also annotated after surveys were undertaken.

These surveys obtained photographs and condition reports for the water features in addition to data on the location of invasive species. All this was loaded onto the GIS-MO database.

After the basic data was in place, flood records were reviewed for a number of years. There were some compatibility issues with Symology flood records, such as difficulties in property reference's and that flooding was not recognised as a monitored response. Also there were duplications that occurred. However, after these were reviewed and the duplicates were taken out, all the available information was used to create clusters. The clusters were then investigated further and the expected flood risk level was reinforced. In addition, further survey information, DMBC flood damage claim data and the risk was marked on the GIS. The more information added, increased the confidence in the risk.

After all of the information was incorporated into the GIS-MO software, and a review of the potential impact to; people, property (internal), Highway, Sensitive land use, it was possible to identify HOTSPOTS. These were areas that had had two or more events. The next stage was to define "Consideration Zones". These will be used to aid development control of the area. This will assess development or land use change which could have a negative impact on any hot spot area. In addition to the flood risk assessment the information can be used for other services such as Emergency Planning.

Furthermore the GIS-MO data can be used to assess flood risk in consideration of human heath including social deprivation and vulnerability, economic activity and the environment. The information added on social economic groups that live in the area can also be used to help the council gauge which ways are best to engage and contact the residents.

The example used for Dudley demonstrated that GIS-MO can easily be used to consider different extents of flooding and, it shows real time data on who are the likely casualties and if any people require more urgent consideration, such as young children and the elderly. The rescue teams can be briefed on this information prior to the implementation of a rescue operation. Whilst considering rescue plans, the software can also identify areas that are marooned by floods and hence these can be factored into the evacuation planning. In addition key transport routes and structures such as electrical substations and gas cabinets also can marked on and be factored into any flood response procedure.

Once a GIS infrastructure is in place it is important that the data used is kept current and is correct. Once established it can be used within planning applications and be a useful tool to many council disciplines. From a Dudley Metropolitan Council Point of view, their experience of GIS has been very good and they aim to raise awareness of its use so that it can be used more widely.

From an engineering perspective, the GIS-MO system has shown a world of benefits to many different bodies within the council who can input data from their own sector. As all of the data is recorded in a map view and in one place, it will be readily available to help determining flood processes and risks. It confidently identifies where surface water flooding will occur and helps estimate the probability and consequences of flooding. This in turn will identify opportunities where SuDS can play a more significant role in mitigating the flood risk. In addition it will allow third party access and help target public engagement to raise flood awareness.

DISCUSSION

Q? With the amount of information that you have stored on your system, how much time and resource does it take to keep regularly it updated?

A The input of data into GIS-MO does not act as an overhead now it is up and running. Only useful data should be selected and data that is kept up to date by the general working business.

Q? What happens with regards to data protection, especially with the amount of information on local residents and businesses by the council?

A All property numbers are removed from the system.

Q? In a power cut, could you still get access to the emergency action plans that are on the GIS-MO system?

A The latest information is always carried on one lap top in case of emergencies and this can be run out of a car.

Q? Can the local residents of Dudley see the information and get access to the GIS-MO software?

A Yes, they can but only certain aspects are made available. In theory the system could be made live to the public in the future.

GROUP DISCUSSION

Q? How successful would the GIS system be at attracting external contribution for funding?

A It has happened previously in Dudley, however it depends on the problems/issues encountered.

- If developers would invest in the GIS systems too it would help keep the systems updated and relevant.
- The GIS system used is Dudley, has created a good tool which shows a person from outside of the industry the seriousness of the surface water flooding problem. This is good for educating people; including politicians.
- It is observed that through the GIS system, there is much work that could be done with the insurance companies in estimating risk from flooding.
- A GIS is currently being developed in Staffordshire council, and it is noted that getting hold of external data (such as water board information), is very difficult. These providers of data get frustrated at repeatedly being asked for the data. A single site for all to visit would be good if it could be developed in the future.
    - Discussions are ongoing and two things are happening. One is that the Environment Agency is collecting data but it is not complete because some organisations do not want to share. The second is that the Environment Agency would like to progress consultation with the water boards to share information in one place instead of repeatedly being asked.
- GIS software will need to be and should be certified eventually. They should be developed to a certain rational/methodology and accredited.

Q? What height data has been used with regards to the Dudley GIS-MO model?

A LIDAR data has helped in finding out where there are low spots, and the markers showing the flow direction has helped to a certain extent. Dudley has now reached a point where it needs to look at height. It has looked into the known data of past flooding and now needs to work on prediction.

- From observations and past experience LIDAR works well with river flooding but not so much with surface water.
- There is funding to improve LIDAR data.

- A lot of work has already been done for prediction models, and these tools are currently being further defined using LIDAR data. Further information can be obtained from Halcrow and the Environment Agency who are currently working together on it.
- With regards to Early Actions schemes, and the short time scale that they had to adhere to, it is noted that it is very importing to get land owner buy in to the project at an early stage. This will lead to co-operation during the consultation and construction periods.
- In these types of schemes, landowners have been found to refuse to contribute more often than not. It should be noted that if a majority of owners on a street agree to project then it can be pushed through and there is a potential for putting the fee on the sale of the house/building.

- It is suggested that the Dudley work should really be fed into a guidance document, and Early Action works should be made into case studies for future reference.

- With these types of schemes which utilise the reprofiling of footpaths and kerbs. Flood risk management and highway departments of local authorities can work together.

- One problem highlighted with the Early Action Funding application is that the bids were rushed due to the short timescales. This meant they were perhaps not as well informed as they could have been.

    - The reason for this was that when the money became available, it was with the caveat of 'use it or lose it'. The selection process was therefore not as rigorous but was restricted because of the funding allocation.
    - From the Daventry District Council point of few, another few months would have been nice, but the project was still a success.

- It was mentioned that two other applications were due to be handed in, in and around the same time as the Early Action bid, and so this restricted time that could spent on the application even further.

    - The more that could be done to spread out the consultations, the better it would be for the resource planning within the Local Authorities.

- Future funding policy is a government policy. The Environment Agency are likely to play a role in the distribution of the money, although outside contribution would be required. This could come from a range of sources including Local Authorities, land owners and developers.

    - The Environment Agency and Halcrow are currently working together to produce a good practice guide on how known funding schemes are run.

- For information – FLOWNET - is a forum that is available for everyone to use <http://www.communities.idea.gov.uk/comm/landing-home.do?id=2050378> .

CONCLUDING REMARKS

Jonathon Hunter of the Environment Agency closed the discussion by thanking all the speakers for the information and experience that they have shared, and emphasised the importance of forums such as LANDF♦RM in helping the Local Authorities, by sharing good and bad experiences. It also highlights the importance of interaction with the stakeholders for these surface water flood alleviation schemes, in reducing the time it takes in planning, design and construction. This was the first seminar on the Early Action Projects, but there will be more to come, with the deadline for all the schemes awarded a grant, due in March 2011.