Godmanchester Flood Alleviation Scheme

October 2017

Presenter: Mr Andrew E. Rouse B.Eng(Hons) C.Eng MICE, PRINCE2 (Practitioner)
Presentation

Background / History

The Problem

The Parties Involved

The Challenges

The Works (Sympathetic Features)

Community Involvement

Sharing Experiences

Successes and Outcome

Integrated Project Team
History

- Evidence of early settlers
- A Key Roman Town
- Grade II listed established properties, important environmental designations
- Long history of flooding
- 1947 most severe event
FLOOD WATER (1998)
Flood Alleviation Scheme - Timeline

2005 – Viability Study
2006 – Feasibility Study (PAR)
2007 – Project funding cut (January)
2007 – Project funding reinstated (December)
2009 – Delivered PAR and secured funding
2010 – Project funding cut (December)
2011 – Project funding reinstated (December)
2012 – Construction Start (April)
2013 – Construction Complete (October)
2017 – End of Defects and finalising legal aspects
2017/18 – Handover of pumping station to Anglian Water
The Problem

- 524 residential and 42 commercial properties are at risk of flooding from an event with a 1% chance of occurrence in any one year (a 100 yr event).
- Godmanchester had no formal flood defences.
- The informal flood defences only provide protection against a 5% chance of flooding in any one year (a 20 yr event).
- The informal defences are not inspected or maintained and therefore can not be relied upon.
### Team

**Area Manager:** Geoff Brighty

**Area Flood Risk Manager:** Peta Denham

**Senior User:** Tanya Breed

**Project Executive:** Andrew E. Rouse

**Project Managers:** Elisha Tafirenyika / Ian Dodson

**RFCC Chair:** Steve Wheatley

<table>
<thead>
<tr>
<th>Role</th>
<th>Company</th>
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<tr>
<td>Design and supervision</td>
<td>Atkins Consulting Engineers</td>
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<tr>
<td>Construction work</td>
<td>Jackson Civil Engineering</td>
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<tr>
<td>Community Liaison Engineer</td>
<td>John Hesp Associates</td>
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<tr>
<td>Arboricultural Specialist</td>
<td>David Brown</td>
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<tr>
<td>Landscaping and Heritage</td>
<td>Atkins Landscape / Richard Glen Associates</td>
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Team Working and Objectives

- Integrated team
- Team challenge (10 out of 10)
- Set team outcomes
- On time, to budget
- Excellent workmanship
- No SHE issues
- Enhance the local community
- Exemplar communications
- Future reference for good practice
- Recognition / award winning
Working Together

Large number of scheme constraints required close working relationships between the team and key partners and stakeholders

- Hunts District Council (multiple departments)
- Cambridgeshire County Council
- Anglian Water
- Godmanchester Town Council
- Internal EA functions
- Specialist statutory & non-statutory 3rd parties (NE, HE etc.)
- Other community groups

Working in partnership and building relationships can achieve the best outcomes for everyone
Working Together

- 31 private landowners presented a huge obstacle for the project team
- Real and direct impacts on people’s Lives

- Use of Public Liaison Engineer
- Building trust and being consistent
- Time required to allow landowners to make decisions, avoiding later changes
- Agreed access points influential on delivery of project
- Heads of Terms agreed in advance of the works
- S30 legal agreements

Listening to landowners and agreeing the detail up front
Challenges

Design considerations

- Conservation area
- Listed structures
- Tree Preservation Orders
- Landowner requirements
- Health and Safety
- Future maintenance
- Ground conditions
approximate alignment of new flood defence.

approximate limit of low lying area protected by new flood defences
Design Phase Challenges
Northern Section

The Challenges
Southern Section
Funding Challenges

- PAR FSoD value £11,017k  iPAR value £9,527k
- Scheme outturn value was £9,001k at Gateway 4.
- 3 main funding pots:
  - FDGiA – 46%, 54% 3rd party contributions (under current guidance)
  - Local Levy – 48%, 3rd parties (Private Landowners) – 6%

Where there is a will there is a way to make third party funding work
Scheme Challenges

- Working within private properties and public realm Areas (Access issues)
- Over 80 listed structures to considered
- Working to minimise loss of significant trees
- Landscape (particularly The Causeway and Mill Weir)
- Disturbance during construction
- Consideration of other sources of flooding – surface water etc
Innovations

3D survey viewing and interrogation software

Vinyl Pile Trial

Causeway Wall Assessment

Short Form Section 30 Agreements

Health, Safety & Environmental

The Challenges
Community Engagement

Drop in events
Local Schools
Godmanchester in Bloom
Fun Run
Clearing snow
Fire Brigade Training

A visible presence in the community creates trust and cooperation
Listening to the Public & “Localism”

- Opportunities to improve the public realm areas
- Designed to improve waterside access which received excellent feedback during our Public Exhibitions
- Large scale improvements to the neglected old Mill Site were proposed – unfortunately cancelled due to funding shortfall

Enhancements do not necessarily cost more if developed early in the scheme
The Works
Cooks Stream

- Significant silt build up
- Clearance of flood arches
- Provision for future maintenance
- Mitigation for increase in flood level
The Works

The Avenue & Post Street

- Large gardens
- Ground levels rise as you get nearer to properties
- Assessment of existing garden walls
- Passive design
The Works

The Avenue & Post Street

- Sheet pile frontage
- RC retaining wall and embankment
- Constrained by trees and river

Before

After

After

The Works
Sympathetic features
The Works
Construction Activities
The Works

before

after
The Works

before

after
The Works

before

after

The Works
Sympathetic features
The Works
Mill Stream & The Causeway
The Works
Construction Activities
The Works
Construction Activities
The Works
West Street

- Defence follows existing driveway alignment
- High river levels during works
The Works

before

after
The Works
Final Product

- Defence alignment ‘threads’ through gardens
- Bespoke appearance throughout the scheme but based around a standardised design
- Heritage and conservation embedded in the solution
- Solution accepted by Client, Landowners and Planning Authority
The Works
Rectory Gardens Pumping Station

- 0.3 cumec capacity, 4m precast concrete chamber
- Connected into Surface Water System
- To be adopted by AW
- Thrust bore under A14
Sharing Experiences – Site Visits

Challenge yourselves and set high standards
Sharing Experiences

- Teamwork
- Stakeholder engagement – role of Public Liaison Engineer
- Engage planners early in the process
- Landscape design drives design from concept
- Good records to be resilient to stop/go
- Challenge decisions and compromise
- Freedom of Information requests
Sharing Experiences

Opening Event

Godmanchester Flood Risk Management Scheme

Jointly opened by:
Steve Wheatley (Chair of the Regional Flood and Coastal Committee),
Dr Geoff Brighty (Environment Agency, Central Area Manager) and
Sandra Ferrelly on behalf of the Godmanchester residents.

Friday 28 February 2014
Sharing Experiences
Being recognised for all of the hard work

The Outstanding Contribution Award is awarded to an individual or team which have gone beyond the norm to ensure a project was delivered in an exemplary manner, has provided extraordinary satisfaction to their client or performed in a way that sets a standard to follow.

BCIA Award - Outstanding Contribution Award
Job well done to make real difference for people’s lives

With the recent heavy rain, many of my constituents will have been closely monitoring the local river levels and flood alerts for their local area.

Living near the Alconbury Brook, I am very aware of how distressing flooding can be.

When I was first elected, properties were regularly at risk of flooding, including in St Ives and The Hemingfords, The Alconbury, The Peddocks in Eaton Ford and in Godmanchester, causing considerable distress and disruption.

However, during the last 12 years the Environment Agency has worked with local residents and councils to provide flood alleviation schemes in these areas and this is something I have championed.

These schemes, in addition to better forward notice, flood alert systems and flood event management, have made a real difference to people’s lives.

We have gone from a situation where homes were regularly flooded and roads were blocked to one where few, if any, homes are affected by flooding even when we have witnessed the weather we have (four major flood events) over the last few months. Well done to the Environment Agency for a job well done.

In his exclusive News & Crier column, MP Jonathan Djanogly looks at how Environment Agency schemes have eased the risk of distress and disruption caused by flooding.

The Government has recognised the devastation that flooding can cause and has acted. A new national framework – The National Flood and Coastal Erosion Risk Management Strategy for England – provides for local communities to develop local partnerships and solutions to the flood and coastal erosion risks they face. This also ensures that local decisions are consistent and take account of impacts on other areas.

Defra is now on course to spend £2.3 billion on alleviating flooding and coastal erosion over the current four-year spending period. This includes an extra £120 million for flood defences that was announced in the Autumn Statement and an additional £72 million of external partnership funding over the next two years.

During 2012, 200,000 properties were protected from flooding by flood defences and Defra now expects to exceed the Government’s stated aim to better protect 145,000 more homes from flooding and coastal erosion by March 2015. In addition, the extra £120 million of funding announced in the Autumn Statement will enable the Government to protect up to a further 60,000 properties.

Locally, further flood defences are now being put in place throughout Godmanchester to protect many more properties from the risk of flooding.

I take this opportunity to thank those Godmanchester residents who have helped their community by permitting their gardens to be used for defence walls – in many cases when they themselves are not at risk of flooding.

This Government is also committed to making sure people living in households which lie in flood-prone areas are still able to get insurance cover at a reasonable price.

Many constituents have complained to me about the cost of their insurance. Some are unable to buy insurance at all.

In order to make sure that insurance for homes at risk of flooding remains widely available and affordable work is under way to establish an arrangement with the insurance companies. The objective is to reach an agreement whereby insurance bills remain affordable without placing unsustainable costs on wider policyholders and the taxpayer.

This is a complex issue, as insurers and Government reached at a meeting I attended on the issue in Parliament.

Defra has undertaken to work with the Association of British Insurers (ABI) to look at ways of providing safeguards.

A number of proposals have come forward from the industry and the Government is continuing to consider a range of options.

Last week in Parliament I welcomed the new bill to make foreign HGVs pay a levy to use our roads.

With British HGVs paying charges and tolls to use European roads, this bill delivers fairness for British hauliers, and rights a wrong that they have faced until now.

In Huntingdonshire we see foreign lorries on our roads all the time, but they haven’t had to pay anything to use them.

The A14 has the highest volume of HGV traffic in the country and it is only fair that foreign lorries adding to the congestion on our local roads pay their fair share. From now on this will happen.

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Surgery dates
March 22 - St Neots
April 12 - Huntingdon
(Constituents are asked to make an appointment by contacting Mr Djanogly’s office)
Godmanchester Flood Risk Management Scheme

Key Facts and Summary:
• 556 properties at reduced risk of flooding
• Surface water flooding reduced through two pumping stations
• Protection of historical town and key infrastructure – A14 trunk road
• PAR £11.1M, Outturn £9.1M, Efficiencies £2M
• FDGiA – 46% 3rd Party – 54% (LL, Other Partners and Private)
• Great team with aligned objectives – Challenged to deliver a 9.5/10 scheme. At opening Project Sponsor stated we delivered a 10/10 scheme.