

# Boscastle Flood Defences

## three organisations work together on £multi million scheme

by  
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**O**n the 16th August 2004 the picturesque Cornish village of Boscastle was left devastated by a one in 400 years flood when an exceptional amount of local rainfall, in the space of about five hours, caused the River Valency to rise by two metres. This resulted in water flowing through the streets and cars being washed through the village and becoming trapped under the main bridge. About 50 businesses and homes were flooded and five were destroyed. Nobody can forget the pictures of helicopters rescuing people from the roofs of their properties shown on the national news. Three years on - and the improvements are well under way - with construction starting at the end of 2006 with an anticipated completion date of 2008.



Aerial picture of flooded Boscastle village - helicopter lifting people to safety

*courtesy EC Harris*

### Unique challenges

The project brought its unique challenges, the biggest being working in a small village dependant on tourism, so disturbance had to be kept to a minimum. There was also the complexities of having three different organisations all working together to provide the solution; -

- \* the Environment Agency's £4 million Flood Defence scheme, which included channel widening and deepening;
- \* South West Water's £1.5 million new sewerage scheme (to install two new pumping stations and remove a pipe that crossed the river which would have obstructed the widened & deepened channel);
- \* North Cornwall District Council's £580,000 new car park to be raised outside of the flood zone.

*Carillion* were appointed as the Environment Agency's main contractor, with *Halcrow* working as the Designer and *EC Harris* as the Cost Consultant. During the development stages it became clear that there would be an overlap of the works due to the funding

constraints, this, and working in constricted spaces led to an agreement by the three organisations that by using one contractor to deliver all three parts of the works it could deliver considerable programme and cost savings, and a reduction in risk caused by having three separate contractors working at the same time.

*EC Harris* were approached by South West Water under its Framework Agreement and by North Cornwall District Council to assist in the setting up of the contracts and developing a strategy to effectively ensure cost allocation and certainty of outturn costs could be achieved for all three clients in respect of their individual contracts.

The Environment Agency under the National Framework use the ECC Option C (Cost Reimbursable with Activity Schedule), and it was discussed and agreed that North Cornwall District Council contract would be a mirrored version of this with amendments to reflect the Council's specific requirements. South West Water used IChemE Green Book (Cost Reimbursable) contract with a target cost.



Photograph shows the channel after widening & deepening, part of the Environment Agency's £4million Flood Defence Scheme

*courtesy EC Harris*

#### Agreement & procedures

**EC Harris was tasked with creating an agreement and set of procedures for allocating the costs across the three clients to ensure the correct allocation of costs.**

Due to the timing of the funding awards, three separate stand-alone target costs were required to allow work to commence on the Environment Agency project which had the longest duration. It was agreed that these would be reviewed under the agreement post-contract award to reflect the savings and efficiencies that could be made by running the three projects in parallel. This included shared site set offices, compounds, supervision staff and general plant.

In conjunction with the contractor, cost allocation codes were set up for each project and sub -headings created to allow allocations to the activity schedule headings. This ensured minimal reallocation of costs during the construction period were required.

Post contract, the costs were allocated by the Contractor's QS team to each of the contract codes, with EC Harris carrying out monthly reviews to ensure compliance. It became apparent that even with the separate codes there was often an overlap in the labour and plant on site between the various contacts where teams were moved between the contracts to help maximise utilisation. These items were identified and a cost transfer system implemented on a monthly basis

between the contracts agreed by EC Harris on behalf of the three clients.

As part of the cost control measures, bi-weekly financial meetings are set up where a core team meet to review the costs allocations. Early Warnings, Project Manager Instructions, Compensation Events, the programme and forecasts and issues to completion. The meetings are chaired by EC Harris and include the Contract Project Manager from Halcrow and the Contractor's QS. This allows the team to keep on top of the issues on site and ensure accurate cost forecasting to all three clients. From this monthly, cost reports are prepared and submitted to each of the clients.

EC Harris ran a number of risk workshops pre-contract where the teams were brought together to ensure all possible risks were identified, reviewed and mitigated with specific actions where possible. The resulting risks were then reviewed using the Monte Carlo Risk simulation programme. The risk schedule is reviewed monthly as part of the financial meeting and updated and re-run to ensure both the mitigating actions and financial consequences are reported back to the wider team for their implementation. ■

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