ROSE HALL FLOOD RESILIENCE

# Rose Hall Cottage, Flood Resilience project

## SYSTEM COMPONENTS

Internal Systems
- Delta System MS500 cavitydrainage membranes, tapes and fixings
- Delta Drainage Channels
- Delta System V3 sump and pump
- Delta System FM cavity drainage membrane

External Systems
- Delta Koster Façade cream

BS85500:2015 Flood Resistant and Resilient construction

## OVERVIEW

Rose Hall Cottage is a private dwelling located in Middleton Cheney, Banbury. The kitchen of the property is prone to water ingress along the base of the external wall periodically during heavy rainfall due to water bearing against the base of the external stone wall. The flood affected floored area inside the house is limited to the existing kitchen.

External road levels adjacent to the kitchen are around 300mm higher than the kitchen floor slab.
The road profile forms a natural low point outside the kitchen in which surface water is prone to pond. External surface water drainage gulley's frequently become partially blocked, the external surface water gulley drainage relying upon soakaways. Flooding is typically due to heavy rain and perches for generally a short duration against the kitchen wall with water ingress into the kitchen emanating from the wall and floor joint spreading out from there.

At Delta we are able to offer a complete

service from CSSW qualified specialists for design advice, a full range of high structural waterproofing quality products, and a network of Delta Registered Installers to install them correctly.

Work was been carried out by Barker Morris – a company that has a long association with Delta Membrane Systems, offering a high level of expertise and dedication to every project it undertakes.

## METHODOLOGY

The design produced an effective and continuous solution which could be potentially used by the homeowner to reclaim the true market value

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of her property, in the sense that a comprehensive and long-term solution has been introduced to solve this intermittent yet long term flooding problem.

Given the high external ground levels, ineffective soakaway drainage would, likely leave the sub soil saturated at times of flood, and the likely ineffectiveness of an external barrier solution, the solution was to tackle the problem form the inside.

This would be done in the form a Type C Drained Protection Solution which is common in structural waterproofing schemes where external ground levels are high and there is a likelihood of water in the ground. The main components of the system are the cavity drainage membranes. These are sheets manufactured from virgin HDPE which are extruded into studs which come in various depths, an 8mm membrane used in this project.

With the floor finishes and kitchen units removed a min. 50mm deep 100mm wide channel chase was cut at the wall & floor joint draining to a Delta Single V3 sump and pump unit. The chase was Bunded. The inner face of the existing wall was then lined using Delta MS500 cavity drainage membrane fixed using sealed Delta Plugs. The whole of the existing kitchen slab was lined over using 3mm profile Delta FM membrane (which is designed as an underlay for protecting oak floors) the two membranes joined by use of a wide profile DPC.

Externally, Delta Koster Façade cream was applied along the base of the wall to increase the water repellent properties of the wall.

## CASE STUDY RESULTS

Delta Membrane Systems has, for many years, been promoting the benefits of their products for flood protection & resilience, and for the refurbishment of flood-damaged properties whether they be adjacent to the sea or rivers, or inland in low-lying areas where severe weather has caused damage. The proposal put forward at Rose hall Cottage has produced an effective and continuous solution which can be used by the homeowner to reclaim the true market value of her property, in the sense that a comprehensive and long term solution has been introduced to sole this intermittent yet long term flooding problem.