

## Project Data Sheet

### PROJECT

#### Selsey Flood Investigation

### CLIENT



- Sewerage
- Rivers
- Coastal
- SUDS
- Land Drainage
- Hydraulic Modelling
- Flood Risk Assessments
- Drainage Area Planning
- Asset Management
- Flood Alleviation
- Flooding Investigations
- Feasibility Study
- Drainage Design
- Environmental Aspects
- Inundation Modelling
- Surface Water Management

**This study was to build and verify a model to establish the mechanism which was the cause of winter flooding and restricted toilet use (RTU) at a number of properties, including a DG5 property, in the coastal village of Selsey. The affected properties are close to each other and drain to one of a series of pumping stations along the coast. After verification, a solution to resolve the DG5, RTU and various flooding problems was required. The study area is located on a relatively flat coastal plain and all flows are pumped.**

A 16 week flow survey was undertaken and during that time a number of storms occurred but it was also apparent that several sewers remained surcharged for a long time after rainfall had ceased. It was initially thought that maybe the pumping station was not functioning correctly and extensive tests were carried out which did not reveal any defects.

It was found during model verification that there was no evidence of any tidal response nor of any saline infiltration, but the primary cause of the flooding was the surcharging of the sewer network due to Rainfall Induced Infiltration (RII) which had a long recession that could last up to 48 hours. The combination of RII and either repeat storms or prolonged storms caused steady flows in excess of the capacity of the sewer, thus causing flooding. The RII was modelled by use of the Infiltration module within Infoworks.

The preferred solution was to install a new pumping station upstream of the flooding problems to deal with the flows from the top half of the catchment thus reducing the load on the downstream portions of the network.

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