



## CASE STUDY **LEISURE MANAGEMENT**

# INFILTRATION ANALYSIS FOR AN EXPLANDING HOLIDAY PARK

A leisure industry business that owns a large caravan & holiday park in Wales that attracts more than 200,000 visitors and employs hundreds of people, contracted Detectronic to implement two flow surveys at the site.

The client is looking to invest up to £12.5 million to further enhance the park with a series of developments, and it was imperative that they gain an indepth understanding of the hydrology of the site to inform planned infrastructure works..

### INDUSTRY

Leisure

### PRODUCTS & SERVICES

Detectronic MSFM flow meter

Multi-Channel Data Logger

Flow Surveys

I&I studies

### OBJECTIVES

- To fully understand the hydrology of the caravan & holiday park site

### PLANNING & IMPLEMENTATION: SURVEY #1

“Following a number of discussions and site visits, we devised and implemented the first targeted flow survey in October 2017 over a two-week period,” explains Oliver Harrison, sales engineer for Detectronic.

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“The purpose of this initial survey was to deliver inflow and infiltration analysis and our team installed MSFM flow monitors and two rain-gauges at nine strategic locations across the site to gather data.

“Each of the monitors gave us very specific data relating to depth, velocity and rainfall impact at each location which, in turn, provided diurnal patterns and enabled our data centre analysts to provide a full report highlighting a number of issues that might affect the development.”



### RESULTS: SURVEY #1

The report recorded significant volume and percentage of inflow and infiltration into the foul sewer network at several of the monitored locations. It provided invaluable data to inform the development process including the effect of rainfall events on the site (with further flow measuring recommended at two locations) and potential blockages caused by fats, oils and greases (FOGs). It also led to the recommendation of regular cleansing in certain sections of the sewer, highlighted network infiltration close to railway lines as trains passing overhead had potentially loosened pipes and identified an issue originating from a pumping station downstream from the park.

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### PLANNING & IMPLEMENTATION: SURVEY #2

Continues Oliver: “In order to assess the efficacy and success of the consequent remediation work, we were asked to implement a second inflow and infiltration analysis survey commencing in June 2018 and running for an eight-week period. For this survey we recommended and installed ten MSFM flow monitors, two rain-gauges and a pump run monitor at different locations within the holiday park.

### RESULTS: SURVEY #2

The report recorded significant volume and percentage of inflow and infiltration into the foul sewer network at several of the monitored locations. It provided invaluable data to inform the development process including the effect of rainfall events on the site (with further flow measuring recommended at two locations) and potential blockages caused by fats, oils and greases (FOGs). It also led to the recommendation of regular cleansing in certain sections of the sewer, highlighted network infiltration close to railway lines as trains passing overhead had potentially loosened pipes and identified an issue originating from a pumping station downstream from the park.



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