

## CASE STUDY:

## > Innovation

Project:  
**A43 – Moulton Bypass  
(Phase 2)**

Client:  
**Northamptonshire  
County Council**

Design consultant:  
**WSP Kier**

Partner/Associate:  
**Balfour Beatty**

Contract Value: **£7.4M**

Length of Project:  
**58 wks**

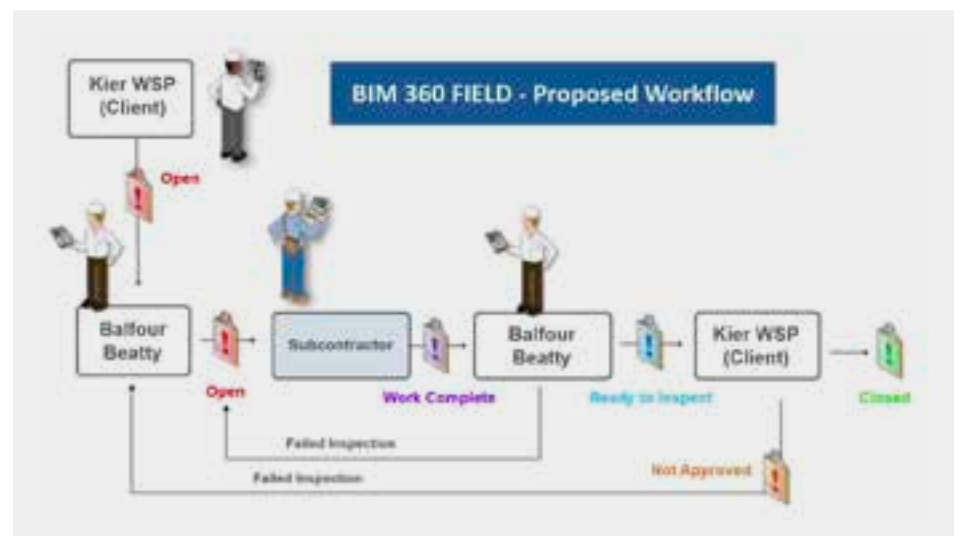
Completion date:  
**February 2018**

### > Background

In December 2015, the UKCS Leadership team endorsed the use of BIM 360 Field on new projects to manage the following processes:

1. Site Diary
2. Issue Management (Snags, Non Conformance Reports (NCRs) and Outstanding Works)
3. Quality Check List / Inspection
4. Management reporting of the above issues

As part of the introduction of Short Interval Control for UKCS, BIM 360 Plan was identified as the digital toolset to enable collaborative planning and drive high performance project delivery.



“The use of this BIM software has promoted a collaborative way of working and will support our goal of achieving zero defects at completion.”

John Weaver, Business Manager, Balfour Beatty

### Objectives

On this project, the team’s main objective was to implement BIM 360 Field for all of the processes listed above as well as a number of other administrative processes. The team introduced BIM 360 Field to both the client and number of subcontractors on site to help support and improve the issue management process and aid in the delivery of a defect free project.

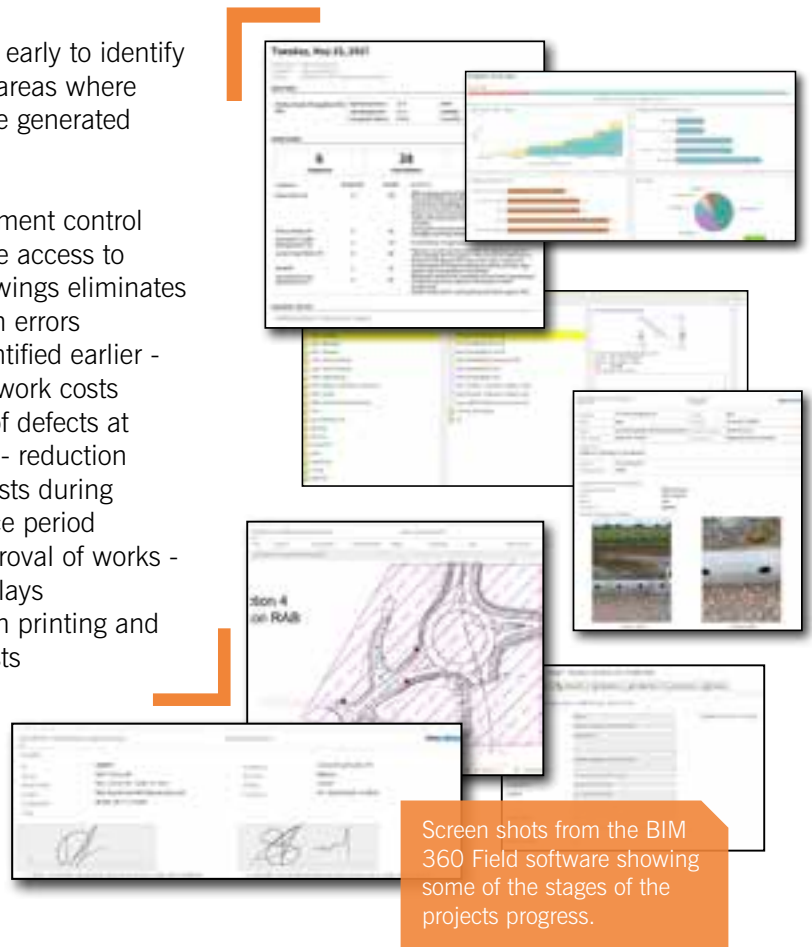
### Key achievements

Issues identified through the software (Snags, NCRs, Safety Observations, etc.) formed part of the daily and weekly meeting routine. New issues were discussed within the Daily Activity Briefings (DABs) and the closing out of issues formed part of the weekly site review.

The software provided engineers with better record keeping tools (including daily diaries and as-builts) as well as a reference guide for use in the field with offline access to all the drawings, specifications, standard details, etc. that had been uploaded for the project. Engineers were also able to arrange and carry out inspections with checklists produced to mirror the standard and template forms from our Building Management System (BMS). With this software Check-sheets could be signed upon completion and drawings and photos added as attachments at the touch of a button on their iPads. The dashboard and reporting function allowed management to quickly review the status of any operations taking place and produce a detailed summary for any issues raised.

While it is too early to identify cost savings, areas where savings will be generated include:

- Better document control – immediate access to current drawings eliminates construction errors
- Defects identified earlier - reducing rework costs
- Reduction of defects at completion - reduction in return costs during maintenance period
- Prompt approval of works - avoiding delays
- Reduction in printing and copying costs



Screen shots from the BIM 360 Field software showing some of the stages of the projects progress.

The software allows members of the site team to view and update the short term plan and report daily on the progress.



As well as the successful implementation of Field, the site team also adopted BIM 360 Plan as the preferred interface for the short term programmes (two-weekly look-ahead) on the project. The software allowed all members of the site team to view and update the short term plan and report daily on the progress (or lack of) of proposed activities. This collaborative input from all members meant

that the programme was a live document, providing a snapshot of progress and activity on site at any given point throughout the project.

The software was available both through a web-interface and iPad App and allowed the team to update activities as and when they were completed on site, which once synced, updated the view of those in the office using

the web version. This interaction meant that all parties took an active interest in the programme and as a result understood the necessity to report on completion / non-completion of activities and the reasons and root causes associated with the progress on site.

## Key lessons learned for the future:

- The more users the better, as this encourages everyone to report issues
- I pads and access to the software will be given to our clients' teams on all future schemes from day one
- The next phase will be to get our supply chain to fully embrace BIM

This is only the start. The benefits and uses are only limited by our own imagination!