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Virtual Site Visits - a necessity borne of COVID-19.

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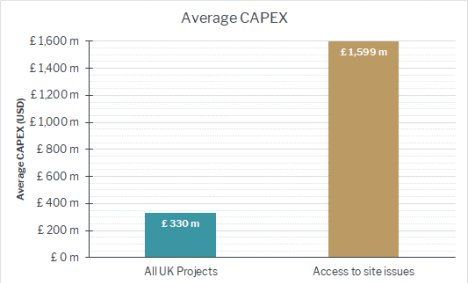
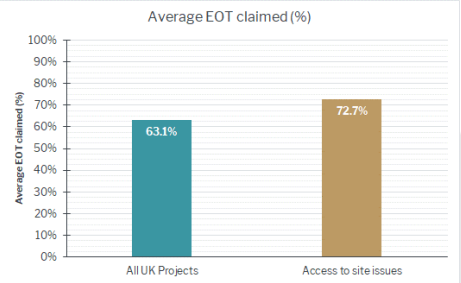
https://www.ribaj.com/intelligence/site-inspection-virtual-tools-lockdown

Architects are routinely required on site to address design matters. This enables them to get to the heart of the matter, either to undertake general reviews during construction, to establish existing conditions where refurbishment or alteration is being considered or to establish physical evidence when disputes arise, and the opinion of an expert witness is required. According to HKA's 2020 CRUX Insight Report into the causes of Construction Project Delays, projects where site access issues arise tend to be significantly larger than the average project size, based on the 194 strong sample of UK projects assessed. In part this is borne of the design and construction complexity of larger projects requiring regular site access, by the architect, to clarify issues as they arise. Notably, our research indicates that 'access to site' issues are involved in more than 70% of Extension of Time claims arising in construction projects, some 9% ahead of other factors.





Given the criticality of site visits, what happens when everyone is required either to stay at home or to restrict their movements in order to avoid catching or spreading a potentially life-threatening virus? For example, how will decisions requiring inspection of a part of construction that will quickly be covered up by subsequent works, be made, if site visits cannot be conducted for some time?

Where existing buildings are involved, either as the subject of refurbishment or of expert witness analysis, much information can be gleaned about a design from the architect's design drawings and much about the construction from a good set of as built drawings. What is drawn, however, is not always what is built. Moreover, if the reality on site is critical to the understanding of issues that are central to either correct construction or to an understanding of issues in dispute, then an inspection of that reality may be necessary to underpin the credibility of the architect's report, especially if a follow up inspection is being made of an area previously visited physically.

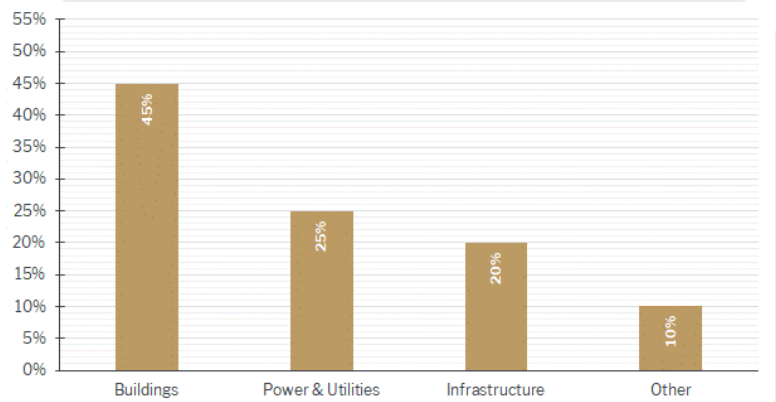
In addition, it is not uncommon for site inspections to require the input of more than one attendee. Such visits are made doubly difficult in current times where social distancing precludes easy collaboration on site. These problems are compounded by travel restrictions which make the time taken to get to site greater than the time spent on site, by some margin.

Where the issue involves the construction rather than the layout of a building, for example, the fabric will need to be opened up to expose the components installed and the method and quality of the construction. The

areas to be opened up are often difficult to access; on roofs or high up on external walls. Inspections in such areas will need scaffold towers to be installed or access machinery, such as a cherry picker or a Mobile Elevating Work Platform (MEWP), to be deployed. These require installation and operation by skilled and experienced operatives who will need to be on site at the same time as, and often at close quarters to, the inspecting architect.

Once access has been arranged, opening up and dismantling of construction can take place. Again this will require skilled and experienced operatives and, because the architect will usually need to see the progress of the opening up rather than just the result, operative and architect will need to work closely to make the inspection effective.

Physical site inspections were inevitably prevented when social contact was prohibited and current restrictions on social contact continue to present severe difficulties. For example, where scaffolding or wall climbers are not available, and a MEWP platform of at least 2m wide is not available, physical inspections on site may be impracticable. Bearing in mind how widespread the impact of site inspections is across a range of UK construction sectors, as shown below, the need to establish alternative means of conducting site inspections in recent times has become increasingly critical.



Source: 2020 CRUX Insight Report

When working remotely from home became an unavoidable necessity, video-calling and conferencing quickly became commonplace. As this type of communication proliferated, most people mastered the software required, and adapted quite easily to the more stilted environment of the virtual meeting room. Once prohibition of social contact eased into restriction, therefore, the question naturally arose of how to use or adapt this by now familiar technology to carry out virtual site inspections.

Some professional film production companies began to develop and market interactive platforms using YouTube alongside other messaging software. Whilst many of these offer good quality visuals, they require preparation and the use of multiple software applications; themselves not always user friendly. Also, if those operating the interactive platform have no experience of site investigations, as is likely, detailed and time-consuming directions may need to be provided.

Alternatively, established applications designed for video conferencing, such as Teams, Zoom, Blue Jean and others, offer acceptable visuals alongside easy and effective real time communications. This ease of communication, using everyday smartphones or tablets, is of real benefit where an inspecting architect needs to direct the work of the operative in response to what the opening up work reveals as it progresses.

Virtual site visits using these applications can be very effective in providing the architect with the information needed to make a decision or to form an opinion. In addition to providing a vivid visual and oral record of the whole process of the opening up and the final exposed result such software can allow other colleagues to join from multiple separate locations concurrently. Thus, the need for other participants on site can be reduced or eliminated.

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As restrictions ease further, and physical inspections on site become a possibility, the consideration of safety with respect to the virus will continue to be paramount. Key elements to be incorporated into the risk assessments and protocols prepared by the architect or expert include: the age and underlying health conditions of staff; the availability and quality of Personal Protective Equipment, (PPE); training in the effective use of PPE; and whether the site can be reached without using public transport. Also, the preparation of an effective Risk Assessment and Method Statement by the contractor, to ensure appropriate conditions on the work site, will be an essential pre-condition for any physical site inspection.

Nevertheless, the virtual site inspection has proved to be a valuable child of necessity. Its practical effectiveness, combined with its cost-effectiveness in eliminating the need to travel to and from far flung sites, is likely to earn this new sibling of the physical site inspection a permanent place in the architect's family of assessment techniques.

If you require any further information, please contact Bart Kavanagh at bartkavanagh@hka.com.

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