The technical requirements for infrastructure projects are derived from a blend of factors ranging from those that are pure engineering through to legal compliance. Individual areas of infrastructure inevitably have their own nuances in terms of these requirements too.

In this content paper, Ian Draycott BEng, CEng, FICE will begin to help the uninitiated better understand some of the technical aspects of these different areas. It is hoped that it goes some way towards demystifying what might appear to be opaque terminology.
Introduction

The technical requirements for infrastructure projects exist to define acceptable standards within the finished product. Such requirements are presented in different ways and will reflect the specific nature of the project. This section addresses the technical nuances of different types of infrastructure. However, there are also broad objectives that cover technical requirements in general and this introduction will present an overview of them.

This is a very broad subject area as almost every aspect of a single piece of infrastructure will be covered by a technical requirement in some respect – from the aviation envelopes for aircraft flight around a tall structure, down to the type of grass seed to be used for landscaping an embankment. Yet broadly the drivers for technical requirements ensure that infrastructure is:

- safe to build, use and operate;
- fit for purpose and built to defined standards of quality and durability; and
- built and managed to standards that allow its owners and operators to be legally compliant.

The technical requirements will be presented in the drawings and other design output as well as the specification for a project. They can also exist indirectly through the need to adhere to ‘current best practice’. (That is more tenuous though and explicit definition is generally the aim when producing documents). There are a myriad of legislation, codes and standards, advice notes, etc. that can become elements of the overarching requirements referred to in a specification. Then there are the project specific requirements that will be the focus of the documentation. The following sections consider broad areas of the technical requirements to give a feel for where they come from, what they are for and how they manifest themselves.

Continue reading...

You can continue demystifying the technical aspects of infrastructure projects in Ian Draycott’s section, Technical Requirements for Infrastructure Projects on the new isurv Infrastructure channel.

This commentary outlines:

- the drivers for technical requirements
- the design and construction phases
- relevant design codes and standards
- BIM
- the process of managing geotechnical risk
- operations and maintenance
- planning and the environment.

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