FEDERATION OF PILING SPECIALISTS

FPS Digital Progression Group Guidance Note 3

Digital Capability

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DIGITAL PROGRESSION GROUP   Guidance Note 3

Digital Capability

The days of trying to reach the Government's level 2 mandate are long gone, we no longer need to demonstrate that we can build our projects virtually first. Instead, a regular requirement from clients is certification to prove compliance with certain standards or provide detailed evidence of digital maturity.

The industry has the following series of documents that covers organization and digitization of information about buildings and civil engineering works, including building information modelling - Information management using building information modelling to manage information throughout the life cycle of a project:

- BS EN ISO 19650-1: Concepts and principles
- BS EN ISO 19650-2: Delivery phase of the assets.
- BS EN ISO 19650-3: 2020 Operational phase of the assets.
- BS EN ISO 19650-4: 2022 Information exchange
- BS EN ISO 19650-5: 2020: Security-minded approach to information management.

To help understand these standards, it's suggested that training is provided. There are many available, in person and on-line which will help you to implement these within your business. There are various levels of training available, ensure that you pick one that meets your needs.

The ISO 19650 suite gives a structured approach on how to produce, manage and share data/information across all stakeholders involved in a project. Most companies adopt these principles in some form, and to demonstrate they can deliver on them, a BSi Kitemark certification is available. Having this Kitemark certification means the company has been audited by the BSI against these principles, which are split into different categories:

- BSI Kitemark for BIM design and construction
- BSI Kitemark for BIM asset management
- BSI Kitemark for BIM objects
- BSI Kitemark for BIM asset lifecycle
- BSI Kitemark for BIM software

There are many advantages to having people trained and companies audited against these standards, the main one being it gives the client assurance that you understand what is required from an ISO 19650 driven project.

This also works from another perspective, to our supply chain. Although we're generally subcontractors on the project and go through a tender process which will assess our competency against others, we should be doing this for our suppliers. As we get 'BIM Questionnaires' to demonstrate our competencies – our supply chain should also be assessed in a similar manner. Then if there is a skills gap it can be quantified early, and a plan put in place to mitigate the issue.

Coding

A common theme across the ISO standards is coding data, documents and objects correctly. it provides a common language for people to attribute data to and search for. Although this isn't always asked for, it's best practice to be familiar with it.

The codes can be accessed through the NBS website: Uniclass, delivered by NBS (thenbs.com)

Below are the high-level codes that can be used when classifying foundations on a project:

Ss_20_05 Substructure systems – when grouping all elements together on the project, this will cover most piling techniques.

Ss_20_60 Retaining wall systems – this covers wall systems

At the start of the project, it is beneficial to discuss what codes are going to be used when coding the foundations, as a piling contractor may pick a different product code from what the client needs for his asset management.

Foundations as Assets

Asset management is crucial to any client. Even though foundations are generally non-maintainable assets, a certain level of asset information needs to be collected for future reference and potential pile re-use.   We should ensure that as a minimum our data contains the low-level detail requirements, which are listed on the FPS pile schedule.

Outlined below are the categories that could be required for foundations, you will need a mixture based on the type of foundation system you are providing.

Low Level	Medium Level	High Level
Pile Number	Low level +	Medium Level +
Pile Diameter/Size	Reinforcement Reference	Reinforcement volume
Pile Length	Concrete Type	Concrete Volume
Co-ordinates	Uniclass Code	Sequencing
		Status
		Carbon Volume
		Rig information
		Safety Information
		Safety/Risks
		Installation Information

Depending on what software you use, you may need to investigate how to add additional fields to hold the piling asset information. This is also dependant on your client's needs, they may have a bespoke asset management system that you will have to feed into, a discussion should always be held around asset information requirements to agree on the level needed.

Lessons Learnt

It is an important part of any project to review what went well and what didn't, often this revolves around design and construction processes, but it is now just as important to review digital and information management processes. To improve capability and improve future project it is good practice to collect lessons learnt and share the learning. This could involve:

- Bite size learning
- Guidance documents
- Business process updates
- Video summary – shared company wide