Table 1. Means of visualising and linking risks to BIM

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RBS** | | **Methods of linking risks to BIM** | | | |
| Level 1 | Level 2 | Tabular Form | Area Marking | Risk Marking | Existing Objects |
| External | Political | ✓ |  |  |  |
| Economic | ✓ |  |  |  |
| Social & cultural | ✓ |  |  |  |
| Global (Internal) | Time | ✓ |  |  |  |
| Organisational | ✓ | ✓ | ✓ | ✓ |
| Quality | ✓ | ✓ | ✓ | ✓ |
| Financial | ✓ | ✓ | ✓ |  |
| Contractual & legal | ✓ | ✓ | ✓ |  |
| Natural |  | ✓ | ✓ |  |
| Local (Internal) | Physical | ✓ | ✓ | ✓ | ✓ |
| Personnel health |  | ✓ | ✓ | ✓ |
| Personnel safety |  | ✓ | ✓ | ✓ |
| Material & equipment | ✓ | ✓ | ✓ | ✓ |
| Construction | ✓ | ✓ | ✓ | ✓ |
| Design | ✓ | ✓ | ✓ | ✓ |
| Structural |  | ✓ | ✓ | ✓ |

Table 2. Three identified risks in the on-site fabrication process

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **RBS** | **Risk description** | **Severity** | **Mitigation** | **Level of BIM** | **Visualisation method** |
| 1 | Time | Mechanical failure of the construction plant | High | Have standby plant ready to take over | Site | Tabular Form |
| 2 | Personnel Safety | Workers may be hit by the moving crane | Medium | Safety education before implementation | Site | Marking |
| 3 | Structural | Excessive deflection | Medium | Strengthen monitoring and control when implementation | Bridge | Objects |

Table 3. Background of interviewed experts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Expertise | Industry experience | Method | Duration |
| 1 | Structural Safety | 50 years | Face-to-face | 1.5 hours |
| 2 | Construction Safety | 25 years | Face-to-face | 1.5 hours |
| 3 | BIM and Architecture | 35 years | Face-to-face | 1 hour |
| 4 | BIM | 23 years | Video conference | 1 hour |
| 5 | BIM and Stadium Design | 20 years | Face-to-face | 1.5 hours |