

Best Practice in Avoiding Underground Services

|  |
| --- |
| Responsibilities Process Map |
|  | Action | Client(as defined by CDM) | Designer / Planner(as defined by CDM) | Contractor(as defined by CDM) | References |
|  | Eliminate, substitute or reduce risk in designDesigners demonstrably competent in underground services aspectsEncourage Supply Chain to sign up to USAG CharterTender submissions include management of underground servicesLocation of services included in scope and priceFollow change management processUnderstand responsibilities for co-ordination and management of underground services informationDefined change management processEnsure clear understanding of communication internally and with Clients, Designer, Planners and ContractorsDefined communication inc. Designers and Supply ChainDefine requirements for management of work near underground servicesEnsure clarity of known areas of service interactionClearly scope works |  |  |  | BPAUS 05 – Training Framework for Designers and Planners<http://www.hse.gov.uk/construction/cdm/designers.htm><http://www.hse.gov.uk/construction/cdm/designers.htm>BPAUS 04 – Client Designer and contractor opportunities, responsibilities & checklists<http://www.hse.gov.uk/construction/cdm/acop.htm>BPAUS 04 – Client Designer and contractor opportunities, responsibilities & checklists |

Isolation

Review or check

|  |
| --- |
| Responsibilities Process Map |
|  | Action | Client(as defined by CDM) | Designer / Planner(as defined by CDM) | Contractor(as defined by CDM) | References |
|  |  **HOLD POINT**Contact Asset Owner at concept stage to identify the possibility of diversion or isolation of servicesDesignated Service Information Co-ordinator identified and included in design reviewsService Information Co-ordinator appointed for each projectEffective information communication process (inc. BIM protocols) for right information to right people at the right timeObtain all relevant and available underground services information (in conjunction with Designers)Allow sufficient time and resources for positive service locationDo Not accept services information more than 3 months oldDefine minimum acceptable standards for service information provision inc. colour and cross sectionsEstablish a clear understanding of communication process with Asset OwnersEstablish clear communication with Asset Owners for contact, help and advice, inc. local knowledge |  |  |  | <http://www.nationalgrid.com><http://www.ukpowernetworks.co.uk><http://www.bimtaskgroup.org><http://www.energynetworks.org>  |

Isolation

Review or check

|  |
| --- |
| Responsibilities Process Map |
|  | Action | Client(as defined by CDM) | Designer / Planner(as defined by CDM) | Contractor(as defined by CDM) | References |
|  | Clearly defined communication routes to Designers, Planners, Clients and Asset Owners for communication information, advice and supportClearly defined and communicated roles and responsibilities for management of underground services risksClear and robust change management process is understoodEnsure the provided information is complete **HOLD POINT**Handover of information with opportunity for review and explanationClear communication processes in use to communicate appropriate and sufficient information to ContractorsBIM used to capture and share information, identify service clashes and potential diversionsDesign takes into account “Protection Zones” for working in proximity of services which cannot be avoidedDemonstrate that routings, diversions, pre start removal, isolations and sequencing have been consideredReview design to verify that all reasonable measures have been taken to avoid service locationsDocument and track all contacts with Asset Owners |  |  |  | BPAUS 04 – Client Designer and Contractor Opportunities, Responsibilities and Checklists<http://www.bimtaskgroup.org>BPAUS 07 – Proximity Zones for Mechanical EquipmentCIRIA Report 662 |

Isolation

Review or check

|  |
| --- |
| Responsibilities Process Map |
|  | Action | Client(as defined by CDM) | Designer / Planner(as defined by CDM) | Contractor(as defined by CDM) | References |
|  | Challenge the design where expectations of elimination, substitution or reduction of risk by design falls short of Contractor’s expectationChange management process understood and applied to changes in design, site conditions and sequencing etc.Communication and effective working relationship established with Underground Services Co-ordinatorAllow sufficient time and resources for positive service location throughout Supply ChainEncourage Supply Chain to sign up to USAG Charter and the elements subjected to monitoring and auditCompetence of Supply Chain in relation to management of risks associated with underground services including personal competence of workforceAdequate resources for management of risks associated with underground services is included in tenderIntegration with Designers to assist in risk elimination |  |  |  | <http://www.utilitystrikeavoidancegroup.org> |

Isolation

Review or check

|  |
| --- |
| Responsibilities Process Map |
|  | Action | Client(as defined by CDM) | Designer / Planner(as defined by CDM) | Contractor(as defined by CDM) | References |
|  | Confirmation that any agreed isolations have been carried outConfirmation that all services requiring diversion have been diverted and there are no residual risks (pot ends etc.)  **HOLD POINT**Issue and Brief Permit **HOLD POINT**Comply with any other working restrictions identified by the Asset OwnerChanges which may affect or could be mitigated by design to be referred to the DesignerWhere any service is encased / surrounded in concrete, work is to STOP until a safe system of work is identifiedFollow safe systems of work Workforce understand that if they are in any doubt that a service is live, or that safe working practices are not taking place they must STOP and obtain instructionPositive identification of all underground services which could potentially be disturbed **COMMENCE WORK AROUND UNDERGROUND SERVICE** |  |  |  | HSG47 – Avoiding Danger from Underground ServicesBPAUS 08/09 – Services Encased / Surrounded in Concrete<http://www.national-1-call.co.uk><http://www.linesearch.org>BPAUS 02 – Design and Planning Process to Avoid Underground ServicesBPAUS 06 – Permits Use and Content |

Isolation

Review or check