

Best Practise in Avoiding Underground Services









Responsibilities Process Map

Action	Client	Designer / Principal Designer	Contractor	References
Clearly scope works				
Ensure clarity of known areas of service interaction				
Define requirement for management of work near underground services				BPAUS 04 – Client, Principal Designer, Designer and Contractor Opportunities, Responsibilities and Checklists
Define communication channels inc Principal Designers, Designers and supply chain				
Ensure clear understanding of communication internally and with Clients, Principal Designer, Designer, Planners and Contractors				 http://www.hse.gov.uk/pUbn/priced/1153.pdf
Define change management process				
Understand responsibilities for coordination and management of underground services information.				BPAUS 04 – Client, Principal Designer, Designer and Contractor Opportunities, Responsibilities and Checklists
Follow change management process				http://www.hse.gov.uk/construction/cdm/2015/designers.htm
Location of services included in scope and price				
Tender submissions include management of underground services				
Encourage supply chain to sign up to USAG charter				
Principal Designer and Designers demonstrably competent in underground services aspects.				BPAUS 05 – Training Framework for Principal Designers and Designers.
Eliminate, substitute or reduce risk in design.				 http://www.hse.gov.uk/construction/cdm/2015/designers.htm

Responsibility
 Review or Check
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Establish clear communication with Asset Owners for contact, help and advice, inc local knowledge	▼			 http://www.energynetworks.org/info/faqs/gas-distribution-map.html  http://www.energynetworks.org/info/faqs/electricity-distribution-map.html
Establish a clear understanding of communication process with Asset Owners		▼		
Define minimal acceptable standards for provision of service information inc. colour and cross sections	▼			
Do not accept services information more than 3 years old	▼	▼	▼	
Allow sufficient time and resources for positive service location	▼	▼	▼	
Obtain all relevant and available underground service information (in conjunction with Designers)	▼	▼		
Effective information communication process (Inc. BIM protocols) In conjunction with Designers	▼	▼		 https://www.cdbb.cam.ac.uk/BIMLevels
Appoint responsible person to Co-ordinate service information	▼	▼		
Responsible person identified and included in design reviews		▼		
Hold Point				
Contact Asset Owner at concept stage to identify the possibility of diversion or isolation of services		▼		 http://www.energynetworks.org/info/faqs/gas-distribution-map.html  http://www.energynetworks.org/info/faqs/electricity-distribution-map.html  https://www.nationalgrid.com/



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Document and track all contacts with Asset Owners	▼	▼		
Review design to verify that all reasonable measures have been taken to avoid service locations		▼		
Demonstrate that routings, diversions, pre-start removal, isolations and sequencing have been considered.	▼	▼		
Design takes into account "protection zones" for working in proximity of services which cannot be avoided		▼	▼	BPAUS 07 – Proximity Zones for Mechanical Equipment
BIM & drawings used to capture and share information, identify service clashes and potential diversions		▼	▼	 https://www.cdbb.cam.ac.uk/BIMLevels
Clear communication processes are in use to communicate relevant, appropriate and proportionate information (RAP) to contractors.		▼	▼	
Handover of information with opportunity for review for explanation		▼	▼	
Ensure the provided information is complete.			▼	
Hold Point				
Clear and robust change management process is understood		▼	▼	
Roles and responsibilities for risk management of underground services have been clearly communicated.			▼	BPAUS 04 – Principal Designer, Designer and Contractor opportunities, responsibilities and checklists.
Clear communication routes to Designers, Clients and Asset Owners for information, advice and support			▼	



Responsibility



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Adequate resources for management of risks associated with underground services is included in the tender.				
Competence of supply chain in relation to management of risks associated with underground services including personal competence of workforce.				http://www.utilitystrikeavoidancegroup.org/
Encourage supply chain to sign up to USAG charter and the elements subjected to monitoring and audit.				http://www.utilitystrikeavoidancegroup.org/
Allow sufficient time and resource for positive service location throughout supply chain				
Communication and effective working relationship established with asset owner responsible person				
Change management process understood and applied changes in design, site conditions, sequencing etc.				
Integration with designers to assist in risk elimination.				
Challenge the design where expectations of elimination substitution or reduction of risk by design, fall short of contractors expectations.				



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Hold Point				
Confirmation that all services requiring diversions have been diverted and there are no residual risks (pot ends etc.)			▼	
Confirmation that any agreed isolations have been undertaken.			▼ ▼	
Comply with any other working restrictions identified by the Asset Owner.			▼	
Hold Point				
Issue and brief permit			▼	BPAUS 06 – Permits and use of content
Commence Work Around Underground Service				
Positive identification of all underground services which could be potentially disturbed.			▼	 https://www.national-one-call.co.uk/  https://www.linesearchbeforeudig.co.uk/
Workforce understand that if they are in any doubt that a service is live, or that safe working practises are not taking place, they must STOP and obtain instruction.			▼	
Follow Safe Systems of Work			▼	HSG 47 – Avoiding Danger from Underground Services.
Where any service is encased / surrounded in concrete, work is to stop until a Safe System of Work is identified.			▼ ▼	BPAUS 08/09 – Services Encased / Surrounded in concrete.
Changes which may affect or could be mitigated by design to be referred to Principal Designer / Designer			▼	BPAUS 08/09 – Services Encased / Surrounded in concrete.

