|  |
| --- |
| Scope |
| This procedure applies to all Company projects, offices, facilities, asset and concession companies and Joint Venture (JV) projects where the Company Management System has been adopted by the JV Board. Where the Company is required to operate another party’s Management System then the requirements of the Joint Venture/Alliance Business Management System (BMS) Assessment (MSC-PR-0002) must be followed in relation to assessing the validity of third party management systems. |

|  |
| --- |
| Purpose |
| The purpose of this procedure is to ensure the health and safety of people, prevent damage to existing utilities and the protection of the environment when working in the proximity to underground or overhead utilities.  This procedure does not include the risks and controls for working on utility assets as these are dealt with in the following procedures: -   * [HSF-PR-0042](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-5650) – Mechanical Safety * [HSF-PR-0068](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-1117) – Electrical Safety * Client specifications   The requirements in this procedure are considered to be our current standards and must be adopted as part of a safe system of work. However, Projects and Contracts are also encouraged to identify new methods of working as long as these are: developed through rigorous risk assessment, demonstrably improve on current standards, deliver legal compliance and are approved in accordance with the Control of HSES Derogation procedure ([HSES-PR-0004](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/BMS%20Documents/HSES/Health%20and%20Safety/Procedures/HSES-PR-0004%20Control%20of%20HSES%20Derogation.docx)). |

Procedural Requirements

|  |  |  |  |
| --- | --- | --- | --- |
|  | Appointments | | |
|  | For projects involving work near utilities, the Project Lead must ensure that the following roles are appointed and recorded in the Construction Phase Plan ([PRM-PR-0001):](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9010) | | |
|  | * Pre-Construction Lead | | |
|  | * Authorising Person (AWNES)\* | | |
|  | \* Each SBU must produce a specific documented process to establish the competence of the Authorising Person (AWNES) and the formal appointment to this role. | | |
|  | * [HSF-RM-0015g-MP](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9034) Major Projects Competency Requirements for Breaking Ground | | |
|  | * [HSF-RM-0015g-RC](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9033) Regional Construction Competency Requirements for Breaking Ground | | |
|  | For the purposes of this procedure an individual can undertake both of these roles as a ‘**Utility Coordinator**’ where they have the required competency and can undertake these roles without having any of their decisions affected/biased due to other responsibilities. This appointment must be recorded within the Construction Phase Plan. | | |
|  | Dual Responsibilities | | |
|  | Dual responsibilities are acceptable provided the individual clearly understand the requirements for each role and can undertake those roles without having any of their decisions affected/biased due to other responsibilities. | | |
|  | competencies | | |
|  | **Pre-Construction Lead** | * Knowledge of the dangers and control measures associated with underground and overhead utilities * Information and instruction on the requirements of this procedure. | |
|  | **Authorising Person (AWNES)** | * Each SBU must produce a specific documented process to establish the competence of the Authorising Person (AWNES) and the formal appointment to this role. However as a minimum these must include :   + experience of construction works that interface with underground and/or overhead utilities   + Knowledge of the Asset Owner’s systems and procedures   + Understanding utility drawings   + Current certified technical ability to use underground utility location equipment   + Knowledge of the dangers and control measures associated with underground and overhead utilities   + Understand how to manage the Authorisation process | |
|  | **Site Lead** | * SMSTS or other company accepted equivalent * Ability to interpret utility drawings in live locations * Current certified technical ability to use underground utility location equipment * Knowledge of the dangers and control measures associated with underground and overhead utilities * Information and instruction on the requirements of this procedure and how to utilise it in an operational environment | |
|  | **Works Supervisor** | * SSSTS or other company accepted equivalent * Ability to interpret utility drawings in live locations * Technical ability and practical experience to use underground utility location equipment provided * Training in the dangers and control measures associated with underground and overhead utilities relevant to the works | |
|  | **Operatives working near Utilities ‘Construction Team’** | * Training in the dangers and control measures associated with underground and overhead utilities relevant to the works * Information and instruction on this procedure and how to utilise it in an operational environment | |
|  | Design / Pre-Construction | | |
|  | Designers have a duty, through a record of correspondence and discussion with the Asset Owner to eliminate, minimise or mitigate the risks associated with utilities within their designs. Having reduced the risks to a level as low as reasonably practicable by design, information should be provided to the Site Lead about the risks that remain. Further information regarding duties of the Designer is detailed in [CDM](http://www.legislation.gov.uk/uksi/2015/51/contents/made), [HSG47](http://www.hse.gov.uk/pubns/priced/hsg47.pdf) and [GS6](http://www.hse.gov.uk/pubns/gs6.pdf). | | |
|  | The Designer must determine which utility detection surveys should be undertaken as part of the design process and ensure the information obtained is considered in the design. The types of detection survey available are detailed in Utility Detection Surveys ([HSF-RM-0015c](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8586)). | | |
|  | Early identification and planning are essential to include a sufficient period of notice prior to commencement of construction works. | | |
|  | Designers of pipelines should also be aware of the HSE guidance in [A guide to the Pipelines Safety Regulations](http://www.hse.gov.uk/pubns/priced/l82.pdf). | | |
|  | The Designer/Pre-Construction Lead must ensure : | | |
|  | * The Design/Pre-construction hierarchy Table 1 is followed for the avoidance of danger from existing utilities | | |
|  | * Pre-construction information, surveys and contact with asset owners are programmed to allow adequate time to complete the activities | | |
|  | * That options for redesign to avoid utilities is discussed with the Site Lead during the handover, and included in the Design Risk Assessment for the works | | |
|  | * Where the risk of working in close proximity to existing utilities cannot be avoided, the residual risk is communicated to the Site Lead | | |
|  | Table 1 Design/Pre-construction hierarchy   |  |  |  | | --- | --- | --- | | **Level** | **Description** | **Risk Control Measures** | | **Eliminate** | Remove the risk of damage or harm | * Contact the relevant Asset Owner / operator for utility drawings showing (location and type of asset / utility) (Utility Information Request Letter is available for use [HSF-TF-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8583)) * Carry out a site survey in the work area using ground penetrating radar equipment to detect and locate underground services * Obtain diversion of the utility from the relevant Asset Owner / operator * Design out the risk by re-locating the works to an area free of utilities | | **Minimise** | Minimise the risk of damage or harm | * Contact the relevant Asset Owner / operator for utility drawings showing (location and type of asset/utility) (Utility Information request Letter is available for use [HSF-TF-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8583)) * Obtain temporary isolation of the utility from the relevant Asset Owner / operator * Carry out a full site survey to confirm location of all relevant assets and mark up * Use trial holes to positively locate the asset. * Use safe digging techniques (e.g. VacEx / Air Lance) | | **Mitigation** | Mitigate the risk of damage or harm(via a robust safe method of work) | * Contact the relevant Asset Owner / operator for utility drawings showing (location and type of asset/utility) (Utility Information request Letter is available for use [HSF-TF-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8583)) * Use trial holes to positively locate the asset. * Use safe digging techniques (e.g. VacEx / Air Lance * Agree a safe method of work with Asset Owner and Site Lead | | | |
|  | PLanning | | |
|  | Utility Detection Surveys | | |
|  | The Pre-Construction Lead must determine if any additional utility detection surveys must be undertaken and ensure the information obtained can be used to form part of the Pre-Construction Information. The types of detection survey available are detailed in Utility Detection Surveys ([HSF-RM-0015c);](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8586) however the minimum acceptable for the planning stage is a Desktop Survey. | | |
|  | Based upon the complexity of the works, the Site Lead must determine\* if a detailed composite drawing (s)/schedules of all charted utilities are provided and made available to the Authorising Person and Works Supervisor. Composite drawings must include the following information where applicable: | | |
|  | * The presence of known utilities including temporary supplies | | |
|  | * Known depths and heights of existing utilities | | |
|  | * Results of any previous Trial Holes | | |
|  | * Known position of emergency stop cocks/valves/isolation points | | |
|  | * Potential clashes with proposed design | | |
|  | * Last review date and who reviewed it | | |
|  | \* (This is a mandatory requirement for all UKCS and Major Projects sites.) | | |
|  | A desktop survey older than 90 days should be considered historical and must be refreshed before construction work commences, unless access to the area is strictly controlled such that there is no potential for additions/diversions or modifications carried out by others. | | |
|  | Pre-Construction Handover | | |
|  | Pre-Construction information must be formally handed over to the Site Lead as part of a pre-start meeting in accordance with the Setting People to Work Safely procedure ([HSES-PR-0011](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8591)). | | |
|  | Where the risk of working in close proximity with existing utilities cannot be eliminated, a risk assessment must be undertaken to identify suitable control measures. This must include: | | |
|  | * Selecting the most appropriate method of work | | |
|  | * Table 2 Hierarchy of working near underground utilities | | |
|  | * Table 3 Hierarchy of working near Overhead Utilities | | |
|  | * The requirement to establish an exclusion zone(s) | | |
|  | The Site Lead must ensure suitable and sufficient Risk Assessment, Method Statement/Work Package Plan and Briefing(s) are produced for the planned works in accordance with Setting People to Work Safely procedure ([HSES-PR-0011](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8591)). | | |
|  | There may be additional hazards created as part of working near utilities that are not covered by this procedure. Therefore, please refer to the associated procedures shown below for the relevant hazard (Note: this list is not exhaustive): - | | |
|  | |  |  | | --- | --- | | Excavations | [HSF-PR-0016](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8608) | | Confined Spaces | [HSF-PR-0020](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-6929) | | Work at Height | [HSF-PR-0063](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8232) | | People, Vehicle and Plant Interface | [HSF-PR-0047](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7815) | | Client Specific requirements | N/A | | | |
|  | Liaison with and the On Site Presence of the Asset Owner*(e.g. HV / High & Intermediate Pressure Gas / Oil Pipelines)* | | |
|  | Where work is to be carried out in proximity to live high voltage cables, high or intermediate pressure gas or oil/fuel pipelines and it must be isolated for safe digging; the Asset Owner(s) must be contacted to request an isolation to work using the Utility Isolation Request Letter ([HSF-TF-0015c](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8584)). Contact must be made as early as possible to allow them to isolate supplies. The Pre-Construction Lead must plan project schedules to allow sufficient time for this to happen. | | |
|  | If the utility cannot be isolated, an alternative safe way of doing the work will be required and must only be undertaken with consent of the Asset Owner. Risk Assessment must be undertaken by the Pre-Construction Lead or Site Lead (dependant upon project status) and documented in the Construction phase plan to support this decision. | | |
|  | On site presence of the Asset Owner may be required during excavation works involving high risk utilities (as described above). The Site Lead must ensure that this is arranged in advance of the excavation works. | | |
|  | If any work is to be undertaken in the proximity to overhead power lines the Asset Owner must be contacted and relevant information relating to the voltage, height, safety clearances requested. Where the information is not received confirmation must be obtained from the Asset Owner that they will authorise the Authorising Person to establish the safety clearance using either a calibrated height meter or by mathematical calculation using survey instruments. | | |
|  | Equipment Selection | | |
|  | When planning operations in the proximity to utilities the Site Lead must first consider the suitability of the equipment for the task, especially any Exclusion Zones. For more information see: | | |
|  | * Minimum exclusion zones for underground utilities reference material | | |
|  | * + G&W, PT&D, LP and Rail ([HSF-RM-0015e](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8587)) | | |
|  | * + MP & RC ([HSF-RM-0015f](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8588)) | | |
|  | * Table 4 Exclusion zones for overhead lines | | |
|  | **NOTE:** The above minimum exclusion zones are mandatory with exceptions detailed in 5.4.9. | | |
|  | Minimum plant specifications (including Cable Avoidance Tools) and associated checklists are detailed in reference material for the Plant procedure ([HSF-PR-0046](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7786)). | | |
|  | When selecting items of plant used under overhead utilities or obstructions preference must be given to those that cannot reach the utility/obstruction. Where this cannot be achieved, physical restraints and warning devices must be used. Selecting plant/equipment and associated checklists must be in accordance with the Plant procedure ([HSF-PR-0046](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7786)). | | |
|  | Emergency Arrangements | | |
|  | All construction sites shall have suitable and sufficient arrangements for dealing with any foreseeable emergency in accordance with the Emergency Arrangements procedure ([HSF-PR-0029](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-5162)). These arrangements shall take into account the size of the site, location, access, type of work undertaken, equipment or materials being used and foreseeable emergencies. | | |
|  | Foreseeable emergencies include: | | |
|  | * Escape of gases from a utility | | |
|  | * Escape of water from a utility | | |
|  | * Escape of fuel/oil from a utility | | |
|  | * Contact with a live electrical system | | |
|  | * Fire or explosion | | |
|  | Additional foreseeable emergencies may exist associated with an excavation, confined space or work at height. Please refer to the appropriate procedure for further information. | | |
|  | The Emergency Plan must address the following aspects as a minimum: | | |
|  | * Evacuation (e.g. getting everyone to a place of safety) | | |
|  | * Assess danger caused by the emergency | | |
|  | * Rescue (e.g. anyone trapped or in need of medical assistance) | | |
|  | * Emergency contacts and first aid arrangements | | |
|  | * Secure the site | | |
|  | * Environmental response | | |
|  | * Notify the relevant third parties (e.g. Asset Owner(s)) | | |
|  | * Actions to take in an emergency situation involving electricity ([HSF-RM-0015d](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8580)) | | |
|  | construction | | |
|  | **Identifying Utilities** | | |
|  | The Site Lead must ensure that where a composite drawing(s)/schedule are produced, it must be displayed on site in a prominent position or available to view. If a composite drawing is not required then individual utility drawings must always be provided.  All drawings must be in colour and to a minimum scale of 1:500 | | |
|  | The Authorising Person must undertake a visual survey (in accordance with Utility Detection Surveys ([HSF-RM-0015c](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8586))) of the site and surrounding area to supplement the utility drawings i.e. street furniture, overhead lines and survey information obtained in the Design/Planning stages. | | |
|  | The Authorising Person must ensure that prior to breaking ground a Cable Avoidance Tool and Signal Generator (CAT and Genny) survey is undertaken by a person with the technical ability to use underground utility location equipment. The survey must extend outside of the proposed excavation limits so that nearby services that could unexpectedly deviate into the works are identified and the locations confirmed. The CAT and Genny must both be within calibration dates and have a pre-use check completed before the survey. | | |
|  | Once utilities have been located, the ground surface above the utility and beyond the outer edges of the proposed excavation must be highlighted/marked up to identify the positions and route of the utilities as a minimum. | | |
|  | Where practicable tape or spray paint must be used in accordance with the below extract from Specification for Underground Utility Detection, Verification and Location – PAS 128-2014: | | |
|  | | **Item** | **Colour** | | --- | --- | | Water | Blue | | Gas | Yellow | | Electric All Voltage | Red | | Data/Telecom | White | | Oil/Fuel Pipeline | Black | | Sewerage | Black | | Duct | Grey | | Exclusion Zone | Orange | | Other e.g. Heated District Network | White (potentially) | | | |
|  | The Works Supervisor must ensure the marking is regularly inspected and maintained for the duration of the immediate works. | | |
|  | Where there is a potential for additions/diversions or modifications carried out by others to utilities within the boundary of the project, the Site Lead must ensure contact with Asset Owner(s) has been made at least every 90 days to request updated utility drawings. Utility Information request Letter ([HSF-TF-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8583)) is available for use. | | |
|  | Confirmation of Isolation (if applicable) | | |
|  | All isolated or redundant utilities must be treated as live, unless proven otherwise by a competent person appointed by the Asset Owner. | | |
|  | Written confirmation in response to the submission of Utility Isolation Request Letter ([HSF-TF-0015c)](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8584) of an Asset Owner’s decision to isolate must be received prior to the commencement of works near to a utility. | | |
|  | All Asset Owner’s responses must be recorded and identified on the utility drawings and where possible on the apparatus at the location of the works. | | |
|  | Trial Holes | | |
|  | Trial holes (using vacuum excavation as the default option, or suitable hand tools where this is not reasonably practicable), must be completed as necessary, to confirm the position of any detected services. Hand digging must only be undertaken using safe excavation practices in accordance with Digging Techniques for Utilities Below Hard Surfaces ([HSF-RM-0015a).](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8578) | | |
|  | Trial holes must be completed under the control of an Authorisation to Work Near Existing Services (AWNES) ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) (See AWNES Section) and must be carried out prior to undertaking any work. | | |
|  | Authorisation to Work Near to Existing Services (AWNES) | | |
|  | Authorisation (known in some SBUs as a permit) must be given by an Authorising Person (AWNES) before any ground breaking activity or works in the proximity to an existing utility is undertaken, using the Authorisation to Work Near Existing Services form ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)). SBU variants of this form may be used where available on the BMS, however they must provide the following: | | |
|  | * A formal recorded process to control work identified as potentially hazardous | | |
|  | * A means to communicate between managers, supervisors and operatives | | |
|  | * Ensure proper consideration is given to the risks of a particular job and sets out the precautions needed to complete the job safely | | |
|  | * Essential features include: | | |
|  | * + Identifies the permitted task, risks, duration and control measures | | |
|  | * + Identifies who is authorised to carry out the task and who is responsible for ensuring the control measures are applied | | |
|  | The following variants are available on the BMS and must be used by the relevant business. Note: Where an SBU specific variant (below) are used the UK AWNES ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) is not required: | | |
|  | * Regional Construction | | |
|  | * + Permit to Break Ground Outside Exclusion Zone (Blue) ([HSF-TF-0015a-RC](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9031)), or | | |
|  | * + Permit to Break Ground within Exclusion Zone (Red) ([HSF-TF-0015aa-RC](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9032)) | | |
|  | * Major Projects | | |
|  | * + Permit to Break Ground Outside Exclusion Zone (Blue) ([HSF-TF-0015a-MP](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9028)), or | | |
|  | * + Permit to Break Ground within Exclusion Zone (Red) ([HSF-TF-0015aa-MP](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9029)) | | |
|  | * Living Places | | |
|  | * + Authorisation to Work Near Existing Services ([HSF-TF-0015a-LP](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-10919)) | | |
|  | * Power T&D | | |
|  | * + Authorisation to Work Near Existing Services (AWNES) ([HSF-TF-0015a-PTD](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9030)) | | |
|  | The Authorisation will detail utilities identified by the surveys along with the exclusion zones within which the use of mechanical equipment is prohibited. For more information see: | | |
|  | * ‘Minimum exclusion zones for underground utilities’ reference material | | |
|  | * + G&W, PT&D, LP and Rail ([HSF-RM-0015e](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8587)) | | |
|  | * + UKCS & MP ([HSF-RM-0015f](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8588)) | | |
|  | * Table 4 Exclusion zones for overhead lines | | |
|  | **NOTE:** The above minimum exclusion zones are mandatory with exceptions detailed in 5.4.9. | | |
|  | If there is any uncertainty in the exact location of utilities, then the Authorising Person may extend the exclusion zones required and detail this in the AWNES ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)). | | |
|  | Authorisations must be issued and briefed at the location in which they apply by the Authorising Person (AWNES) and not in a site office or other location. | | |
|  | The Authorising Person must brief the works supervisor and all operatives involved in the work on the scope of the authorised work and the control measures The Supervisor and gang must confirm their understanding by signing the AWNES ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)). If the gang is changed through the shift, subsequent briefings can be delivered by the Works Supervisor. | | |
|  | Where the Authorising Person does not deem the Works Supervisor competent to follow the requirements of the AWNES then they must withhold issuing the authorisation and refer the matter to the Site Lead. | | |
|  | Equally the Works Supervisor must deem the Construction Team competent to follow instructions as required by the AWNES or halt works immediately. | | |
|  | A Works Supervisor must be in attendance at the site all times when work is carried out under an Authorisation to Work Near Existing Services (AWNES) ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)). | | |
|  | On large multi excavation sites, the Authorising Person must ensure an AWNES Register ([HSF-TF-0015d](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8585)) is maintained of all live permits. This may be updated by an administration support function however the Authorising Person retains full responsibility for its maintenance. | | |
|  | Where the minimum exclusion zones (detailed in [HSF-RM-0015e](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8587) & [HSF-RM-0015f](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8588)) are not achievable, for example in city centres, or the depth of the utility apparatus is such that non-mechanical methods of excavation are deemed impractical, then the exclusion zones may be reduced\* by the Authorising Person (AWNES) subject to a detailed highly supervised method of works which must be produced by the Site Lead.\* However, **Asset Owners exclusion zones may not be reduced** under any circumstances. | | |
|  | Authorisations must not be allowed to overrun past the specified date, and a new authorisation must be issued if an extension is required. | | |
|  | Where the activity or the scope changes beyond that described in the AWNES, the construction team must highlight this to the Works Supervisor and works must stop, the authorisation must be cancelled and a new authorisation must be issued. | | |
|  | The following must be readily available to the construction team prior to commencing and during the works in a readable format: | | |
|  | * Authorisation ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) and Asset Owners permits (as appropriate) | | |
|  | * Utility drawings or composite drawing(s) (See Utility Detection Surveys ([HSF-RM-0015c](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8586))) | | |
|  | Personal Protective Equipment | | |
|  | In addition to Company mandatory PPE requirements ([HSF-PR-0048](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8083)) all operatives working near to any utilities must wear: | | |
|  | * One/Two piece flame retardant coveralls, and | | |
|  | * Flame retardant hi-vis jacket or vest (if the coveralls are not hi-viz) | | |
|  | Any other member of the team at risk during inspection or supervising the work area must also wear flame retardant clothing. | | |
|  | working near to underground utilities | | |
|  | When working near underground utilities, the Site Lead must ensure: | | |
|  | * The hierarchy in Table 2 is followed for the avoidance of danger from utilities | | |
|  | * Activities are programmed to allow adequate time to follow the safe method of work | | |
|  | * Options for redesign to avoid utilities are discussed with the Pre-Construction Lead and recorded in the Construction Phase Plan | | |
|  | * Where the risk of working near utilities cannot be avoided, that the residual risk(s) are communicated to the Works Supervisor and the Construction Team | | |
|  | Table 2 Hierarchy of working near underground utilities   |  |  |  | | --- | --- | --- | | **Level** | **Description** | **Risk Control Measures** | | **Eliminate** | Remove the risk of damaging utilities | * Plan works away from existing utilities * Carry out works above ground * Arrange for live utilities to be diverted | | **Minimise** | Minimise the risk of damaging utilities or harm | * Arrange for live utilities to be isolated * Use safer methods of excavation such as vacuum excavation or air lances/picks * Use Trenchless techniques such as directional drilling or impact moling * Apply the relevant exclusion zone detailed within the AWNES ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) * Mechanically excavate outside of the exclusion zone (See [HSF-RM-0015e](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8587) or [HSF-RM-0015f](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8588)) | | **Mitigation** | Remaining risk must be mitigated through a robust safe method of work | * Apply the relevant exclusion zone detailed within the AWNES ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) * Utilise an Excavator Banksman for Mechanical Excavation (also see People, Plant and Vehicle Interface procedure ([HSF-PR-0046](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7786)) * Hand dig to the side of a utility with insulated tools * Use the Cable Avoidance Tool and Signal Generator (CAT and Genny) to scan the excavation every 300mm * Use flame retardant PPE | | | |
|  | Exclusion Zones For Underground Utilities | | |
|  | The minimum extent of exclusion zones vary according to the type of underground utility and the Asset Owner. The Asset Owner must be contacted to confirm safety clearances and any additional requirements.The reference material below provides guidance on the minimum distances around underground utilities which must not be encroached by any plant or equipment. | | |
|  | * G&W * PT&D * Living Places * Rail | | [HSF-RM-0015e](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8587) |
|  | * Major Projects * Regional Construction | | [HSF-RM-0015f](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8588) |
|  | Breaking Ground | | |
|  | All work requiring ground to be broken, must be authorised using the authorisation (AWNES) ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)). All operatives involved in breaking ground within exclusion zones, must use vacuum excavation or air picks (contactless methods) or if this is not reasonably practicable, then insulated hand tools must only be used. | | |
|  | For a road, pavement, or other hard surfaces, power tools such as a road saw and pneumatic drill must be used to break through the surface outside of the exclusion zone detailed on the Authorisation ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)). Having done so, the utility should then be positively located by careful hand digging under the hard surface. Gradually remove the hard surface until the utility is exposed. If the utility is not exposed, then assume it is embedded within the surface. | | |
|  | Excavating must be undertaken in accordance with the Digging Techniques for Utilities Below Hard Surfaces reference material ([HSF-RM-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8578)). | | |
|  | As the excavation proceeds, drawings must be rechecked and the ground re-scanned at a minimum of 300mm intervals using the Cable Avoidance Tool and Signal Generator (CAT and Genny) equipment by the Works Supervisor. | | |
|  | The location of utilities and associated equipment (such as junction box, branch or siphon valve) are likely to become more accurate as cover is removed. | | |
|  | When excavating around a known utility, work must progress with consideration given to the possible variations in the route, fittings and depth of the utility. [Volume 1 – NJUG Guidelines](http://www.njug.org.uk/wp-content/uploads/V1-Positioning-Colour-Coding-Issue-8.pdf) on the positioning and colour coding of underground utilities’ apparatus provides extra guidance. | | |
|  | The Works Supervisor must ensure the excavation team remain vigilant for indications of utilities that have not been mapped, surveyed or detected. | | |
|  | Physical markings used to identify the location of services must be maintained throughout the duration of the AWNES (Permit). | | |
|  | Utilities Encased in Concrete | | |
|  | Excavating close to utilities buried in or located beneath concrete is extremely hazardous.  Where utilities are buried in or located beneath concrete, work must not commence until a detailed safe system of work (including, wherever possible for high risk assets i.e. electricity cables or gas mains, isolation or finding alternative routes) has been agreed with the Asset Owner and approved by the HSE Lead and Project Lead. | | |
|  | The Use of Steel Pins, Spikes or Long Pegs | | |
|  | Steel pins, spikes or long pegs which could damage utilities laid at shallow depth must not be used where avoidable. However, where they are used, they must be treated as any other breaking ground activity and the controls detailed within this procedure applied, including the AWNES. The use of survey pegs (400mm long) as well as Survey equipment or other equipment that does not penetrate ground beyond topsoil or surface layer (approx. 300mm) should be risk assessed utilising the utility plans and the control measures recorded on an AWNES by the Authorising Person. | | |
|  | Protecting and Supporting Existing Utilities | | |
|  | An underground utility which has been exposed must be: | | |
|  | * appropriately supported | | |
|  | * protected from accidental damage | | |
|  | * not used as a means of access or egress in an excavation, and | | |
|  | * visually inspected periodically for signs of damage / deterioration or change | | |
|  | A Temporary Works Design must be obtained where damage to utilities is likely to occur due to incorrect support and its adequacy verified by the Asset Owner. See [ENG-PR-0101](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-12508) Management of Temporary Works. | | |
|  | Backfilling and Reinstatement | | |
|  | Backfilling must be effectively designed, planned and executed to ensure that utilities are not damaged during the backfilling process, or at a later date. | | |
|  | Where the backfill requirements are not clearly identified in the specification, the Asset Owner must be contacted to discuss and agree the backfill material and technique. | | |
|  | working near to overHead utilities | | |
|  | When working near overhead utilities, the Site Lead must ensure: | | |
|  | * The hierarchy (Table 3) is followed for the avoidance of danger from overhead utilities | | |
|  | * Activities are programmed to allow adequate time to follow the safe method of work | | |
|  | * Options for redesign to avoid utilities are discussed with the Pre-Construction Lead | | |
|  | * Where the risk of contact with overhead utilities cannot be avoided, that the residual risk(s) are communicated to the Working Supervisor | | |
|  | Table 3 Hierarchy of working near Overhead Utilities   |  |  |  | | --- | --- | --- | | **Level** | **Description** | **Risk Control Measures** | | **Eliminate** | Remove the risk of damaging utilities | * Plan works away from utilities * Arrange for live utilities to be diverted | | **Minimise** | Minimise the risk of damaging utilities or harm | * Apply the relevant exclusion zone detailed within the AWNES ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) * Arrange isolation of live utilities * Set up goal posts for crossing points * Select plant & equipment that cannot encroach on the exclusion zone | | **Mitigation** | Remaining risk must be mitigated through a robust safe method of work | * Apply the relevant exclusion zone detailed within the AWNES ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) * Establish the ‘safety clearance’ distance with the Asset Owner * Apply physical restrictions to plant capable of encroaching safety clearance * Wear flame retardent PPE | | | |
|  | Exclusion Zones for Overhead Lines | | |
|  | The minimum extent of exclusion zones vary according to the voltage of the line and the Asset Owner. The table below (Table 4) provides guidance on the minimum distances around overhead lines which must not be encroached by any plant, equipment or person. The Asset Owner must be contacted to confirm these and any additional requirements. | | |
|  | The below table is an extract from Energy Networks Association [‘Guide to the Safe Use of Mechanical Plant in the vicinity of Electrical Overhead Lines’.](http://www.energynetworks.org/assets/files/electricity/she/public_safety/leaflets/LookoutLookup_070918.pdf) | | |
|  | **Table 4 Exclusion zones for overhead lines**   |  |  | | --- | --- | | **Description** | **Exclusion Zone** | | Telecom Lines | 1 metre | | Low-Voltage Line | 1 metre | | 25kV Network Rail Traction Supply | 2.75 metres | | 11 kV and 33 kV Lines | 3 metres | | 132 kV Line | 6 metres | | 275 kV and 400 kV Lines | 7 metres | | | |
|  |  | | |
|  | Under no circumstances must any part of plant or equipment such as ladders, poles and hand tools be able to encroach within these zones. Allow for uncertainty in measuring the distances and for the possibility of unexpected movement of the equipment due, for example, ice or wind conditions. | | |
|  | Where there will be no work or passage of plant underneath overhead lines, the risk of accidental contact can be reduced by erecting ground level barriers to keep people and plant away from the wires. Discharging or off loading deliveries and the storage of plant and materials must be undertaken outside of the Exclusion Zone. | | |
|  | Barriers (coloured red and white for example) (Figure 1 Example of Rigid Goalposts and Barriers) can be run parallel to overhead utilities which would restrict access near to or under them. The exclusion zone should extend a minimum of 6m horizontally from the nearest wire on either side of the overhead line. | | |
|  | If it is necessary for any plant or equipment capable of breaching the exclusion zone to pass underneath the overhead line a passageway using rigid non-conductive goal posts (See Figure 1) through barriers must be installed. In this situation: | | |
|  | * Keep the number of passageways on site to a minimum | | |
|  | * The route of the passageway must be defined using non-conducting materials | | |
|  | * Be clearly visible, for example by highlighting with red and white stripes and illuminating at night | | |
|  | * Warning notices must be displayed at either side of the passageway, on or near goalposts and on approaches to the crossing giving the crossbar clearance height and instructing operators to lower jibs, booms, tipper bodies etc. | | |
|  | **Figure 1 Example of Rigid Goalposts and Barriers (abstracted from** [**GS6**](http://www.hse.gov.uk/pubns/gs6.pdf)**)** | | |
|  | Working Within the Exclusion Zone of Overhead Power Lines | | |
|  | It may be possible to work within the exclusion zone however this must be risk assessed by the Site Lead, and result in there being no possibility of encroachment into the safe clearance distances detailed in the risk assessment. | | |
|  | Where works are planned to be undertaken within the exclusion zone of overhead line utilities the Authorising Person must detail the control measure in the AWNES ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) to ensure the safety clearance is not breached. | | |
|  | The safety clearance must be established in advance of the works with the Asset Owner. | | |
|  | The height of the lowest conductor must be obtained from the Asset Owner and information on the relevant clearances required to comply with HSE Guidance Document [GS6](http://www.hse.gov.uk/pubns/gs6.pdf) (Avoiding Danger from Overhead Power Lines). Noting that the lowest conductor position can change due to temperature and electrical loading, therefore it is critical to obtain Asset Owner approval of any encroachment within the [GS6](http://www.hse.gov.uk/pubns/gs6.pdf) stipulated distances. | | |
|  | A request must be made to the Asset Owner to attend site to discuss the proposed work and provide line profile drawings. | | |
|  | The Asset Owner has the authority to authorise the Authorising Person to establish the safety clearance using either a calibrated height meter or by mathematical calculation using survey instruments. | | |
|  | The clearances should be referenced against those in Energy Networks Association, Technical Specification Document for Overhead Line Clearances ([ENATS 43-8](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR040005/TR040005-000757-130402_TR040005_WPD_Addendum_Appendix_9.PDF)) and confirm with the Asset Owner that they are sufficient for the planned work. | | |
|  | When establishing minimum clearances required for an object underneath an OHL, refer to the highest minimum clearance identified in [ENATS 43-8](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR040005/TR040005-000757-130402_TR040005_WPD_Addendum_Appendix_9.PDF) table 6.2 (e.g. for a 400kV line maintain a clearance of 5.3m between the line and the maximum possible height of the object) | | |
|  | Once the safety clearance has been established a Safety Clearance Check Sheet ([HSF-SF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8581)) must be completed. | | |
|  | All requests for information with the Asset Owners should be recorded and auditable. | | |
|  | The Works Supervisor is responsible to ensure that signage and barriers remain in place during the works, and they are maintained. | | |
|  | Delivery Drivers, particularly tipper trucks, are required to receive a briefing on the OHL risks, at arrival on site using the Driver Site Rules ([HSF-TF-0047a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7812)) or the Flash Card (when working in Highway Lane Closures) ([HSF-TF-0047b)](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7813) | | |
|  | General | | |
|  | Updating Inaccurate Asset Drawings | | |
|  | Where there is a potential for additions/diversions or modifications carried out by others to utilities within the boundary of the project, the Site Lead must ensure the Asset Owner(s) are contacted at least every 3 months to request updated utility drawings. | | |
|  | On completion of positive identification of the location of utilities the Works Supervisor must verify the information gained against the information provided. Major inaccuracies (e.g. the utility being found well away from its recorded position on the utility drawings) should be recorded on the As-built records and the Asset Owner provided with this information as soon as practical by requesting they attend and take updated measurements. | | |
|  | Discovery of Damaged Utilities or Utilities in a Poor Condition | | |
|  | Where a cable is damaged during the location operation or is discovered in a poor condition the Asset Owner must be informed immediately. | | |
|  | The Site Emergency Plan (see Emergency Arrangements section) must be followed and where there is a risk of harm to people resulting from the damage/poor condition and arrangements must be made to keep them clear of the area. | | |
|  | In the event of an oil leak from a utility the Environment Agency must be contacted in accordance with Spill Management and Response ([ENV-RM-0018a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-6998)). | | |
|  | Installation & Removal of Utilities | | |
|  | All works on utility assets must be in accordance with: | | |
|  | * [HSF-PR-0042](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-5650) – Mechanical Safety | | |
|  | * [HSF-PR-0068](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-1117) – Electrical Safety | | |
|  | * Client specifications | | |
|  | Where the scope of the work involves removing or permanent disconnection of existing utilities, the following controls must be implemented: | | |
|  | The Asset Owner must be contacted and a site meeting\* organised to record: | | |
|  | * The extent of the utility to be removed | | |
|  | * The timescale of the activity | | |
|  | * Responsibility for the removal. The Asset Owner must be requested to conduct the removal of the utility. If this is agreed then it must be recorded in the Authorisation ([HSF-TF-0015a)](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582) | | |
|  | * The means of verifying isolation | | |
|  | * The method of removal | | |
|  | * Request to witness removal of the utility | | |
|  | \* Unless the scope of works is on behalf of the relevant Asset Owner. | | |
|  | Once the utility has been removed or disconnected, the Authorising Person will confirm this on the Authorisation ([HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582)) which will be maintained on file. Confirmation of the removal/disconnection must be provided to the Asset Owner. | | |
|  | Any new utility installations must be accurately recorded and as-built drawings must be provided to relevant parties as the work progresses and immediately on completion of the works. | | |
|  | Any unidentifiable underground utility (e.g. clay sewers, MDPE pipe, plastic ducting) installed must be fitted with a tracer tape installed at the correct height above utility and a survey conducted to verify its integrity. | | |
|  | Where a site is noted to have unexploded ordnance potential, then a specialist survey should be undertaken and Risk Assessment produced. | | |
|  | If necessary ordnance experts should be employed to help develop a suitable and sufficient Method Statement/WPP and be present during the works. | | |

| Abbreviations / Definitions | |
| --- | --- |
| **EXCLUSION ZONE** | A defined area around a utility or structure within which equipment and plant must be excluded. |
| **AWNES** | Authorisation to Work Near Existing Services |
| **PROJECT LEAD** | The person in overall charge of the project |
| **SITE LEAD** | The person directly responsible for the Health and Safety of all employees, subcontractors and third parties, and for the care of the environment, affected by our works. Note for contracts that are based at one fixed location, the Site Lead can also be the Project Lead. |
| **PRE-CONSTRUCTION LEAD** | The person responsible for ensuring the pre-construction information is obtained and issued accordingly. |
| **WORKS SUPERVISOR** | Takes a leadership role on site, supervising and directing operations to make sure it is completed safely. |
| **BREAKING GROUND** - | Where work activities which involve ground penetration by (this list is not exhaustive):   * excavation (mechanical and non-mechanical) * drilling/boring/cutting * driving pins or posts (including setting out) * road surface cutting or planing operations * road surface laying operations (which has the potential to damage surface valves and valve housings) * piling * de-vegetation * planting vegetation/tree * any other work which involves breaking the surface of the ground at, or below, surface level |
| **UNDERGROUND** | Below ground level whether the level has been reduced below original ground surface level or built up above original ground level, both within and outside structures. |
| **ASSET OWNER** | The owner or operator / manager of an underground or overhead utility. |
| **OVERHEAD UTILITIES** | Telephone/data lines, power lines, gas mains, pipelines, utilities connected to buildings and their supporting structures. |
| **STRUCTURES – ABOVE GROUND** | E.g. Gantries, bridges, walkways, pylons, soffit, temporary works, signage, street lighting columns, walls, buildings, embankments. |
| **STRUCTURES –BELOW GROUND** | E.g. Culverts, tunnels, chambers, storage tanks. |
| **EXCAVATOR BANKSMAN** | Responsible for assisting plant operators and vehicle drivers to safely operate on site to prevent injury to people, damage to property or materials, and to stop operations if necessary, during any work mode. |
| **REASONABLY PRACTICABLE** | Balancing the level of risk against the measures needed to control the real risk in terms of money, time or trouble. However, you do not need to take action if it would be grossly disproportionate to the level of risk. |
| **BMS** | Business Management System |
| **SBU** | Strategic Business Unit |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| INPUTS | | | | | |
| **Reference** | | **Type** | **Title** | | |
|  | | Legislation | [Electricity at Work Regulations](http://www.legislation.gov.uk/uksi/1989/635/made/data.pdf) | | |
| [HSG47](http://www.hse.gov.uk/pubns/priced/hsg47.pdf) | | Legislation | Avoiding Dangers from Underground Services | | |
| [L82](http://www.hse.gov.uk/pubns/priced/l82.pdf) | | Legislation | A Guide to Pipeline Safety Regulations 1996 | | |
| [GS6](http://www.hse.gov.uk/pubns/gs6.pdf) | | HSE Guidance | Avoidance of Danger from Overhead Electrical Power Lines 4th Edition | | |
| [HSR25](http://www.hse.gov.uk/pubns/priced/hsr25.pdf) | | HSE Guidance | Memorandum of Guidance on the Electricity at Work Regulations | | |
|  | | External Guidance | [Volume 1 – NJUG Guidelines on the positioning and colour coding of underground utilities’ apparatus](http://www.njug.org.uk/wp-content/uploads/V1-Positioning-Colour-Coding-Issue-8.pdf) | | |
|  | | External Guidance | [Energy Networks Association (ENA) - Look Out Look Up](http://www.energynetworks.org/assets/files/electricity/she/public_safety/leaflets/LookoutLookup_070918.pdf). | | |
| [GHO/HSEN/SF/016-A01](https://home360.balfourbeatty.com/ghoreferencecentre/GHO%20BMS%20Library/Standard%20004%20-%20Avoiding%20Risk%20from%20Underground%20Utilities.pdf) | | Group Standard | Standard 004 - Avoiding Risk from Underground Utilities | | |
| MSC-PR-0002 | | Procedure | Joint Venture/Alliance Business Management System (BMS) Assessment | | |
| [HSF-PR-0016](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8608) | | Procedure | Excavations | | |
| [HSF-PR-0020](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-6929) | | Procedure | Confined Spaces | | |
| [HSF-PR-0029](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-5162) | | Procedure | Emergency Arrangements | | |
| [HSF-PR-0063](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8232) | | Procedure | Work at Height | | |
| [HSF-PR-0042](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-5650) | | Procedure | Mechanical Safety | | |
| [HSF-PR-0046](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7786) | | Procedure | Plant | | |
| [HSF-PR-0048](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8083) | | Procedure | PPE | | |
| [HSF-PR-0068](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-1117) | | Procedure | Electrical Safety | | |
| [HSES-PR-0004](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/BMS%20Documents/HSES/Health%20and%20Safety/Procedures/HSES-PR-0004%20Control%20of%20HSES%20Derogation.docx) | | Procedure | Control of HSES Derogation | | |
| [HSES-PR-0011](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8591) | | Procedure | Setting People to Work Safely | | |
| [PRM-PR-0001](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9010) | | Procedure | Project Management Plan (incorporating Health, Safety, Quality and Sustainability Management Plans) | | |
| [HSF-RM-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8578) | | Reference Material | Digging Techniques for Utilities Below Hard Surfaces | | |
| [HSF-RM-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8579) | | Reference Material | Ground Penetrating Radar | | |
| [HSF-RM-0015c](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8586) | | Reference Material | Utility Detection Surveys | | |
| [HSF-RM-0015d](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8580) | | Reference Material | Emergency Situations Involving Electricity | | |
| [HSF-RM-0015e](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8587) | | Reference Material | Minimum exclusion zones-underground utilities (GW, PTD, LP and Rail) | | |
| [HSF-RM-0015f](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8588) | | Reference Material | Minimum exclusion zones-underground utilities  (MP and RC) | | |
| [HSF-RM-0015g-MP](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9034) | | Reference Material | Major Projects Competency Requirements for Breaking Ground | | |
| [HSF-RM-0015g-RC](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9033) | | Reference Material | Regional Construction Competency Requirements for Breaking Ground | | |
| [HSF-RM-0015-PTD](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-10108) | | Reference Material | AWNES | | |
| [ENV-RM-0018a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-6998) | | Reference Material | Spill Management and Response | | |
| [HSF-TB-0015a-PTD](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-10283) | | Toolbox Talk | AWNES | | |
| [HSF-TB-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-11309) | | Toolbox Talk | Overhead Lines | | |
| [ENG-PR-0101](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-12508) | | Procedure | Management of Temporary Works | | |
|  | |  |  | | |
| OuTPUTS | | | | | |
| **Reference No.** | **Document Title** | | | **Responsibility** | **Retention Period** |
| [HSF-SF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8581) | Safety Clearance Check Sheet | | | Authorising person | Duration of the Project |
| [HSF-TF-0015a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8582) | Authorisation to Work Near Existing Services | | | Authorising Person | Duration of the Project |
| [HSF-TF-0015a-RC](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9031) | Regional Construction - Permit to Break Ground Outside Exclusion Zone (Blue) | | | Authorising Person | Duration of the Project |
| [HSF-TF-0015aa-RC](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9032) | Regional Construction - Permit to Break Ground within Exclusion Zone (Red) | | | Authorising Person | Duration of the Project |
| [HSF-TF-0015a-MP](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9028) | Major Projects - Permit to Break Ground Outside Exclusion Zone (Blue) | | | Authorising Person | Duration of the Project |
| [HSF-TF-0015aa-MP](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9029) | Major Projects - Permit to Break Ground within Exclusion Zone (Red) | | | Authorising Person | Duration of the Project |
| [HSF-TF-0015a-PTD](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-9030) | Power T&D - Authorisation to Work Near Existing Services (AWNES) | | | Authorising Person | Duration of the Project |
| [HSF-TF-0015a-LP](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-10919) | Living Places - Authorisation to Work Near Existing Services | | | Authorising Person | Duration of the Project |
| [HSF-TF-0015b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8583) | Utility Information Request Letter | | | Pre-Construction Lead | Duration of the Project |
| [HSF-TF-0015c](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8584) | Utility Isolation Request Letter | | | Pre-Construction Lead | Duration of the Project |
| [HSF-TF-0015d](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-8585) | AWNES Register | | | Authorising Person | Duration of the Project |
| [HSF-TF-0015f-PTD](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-10105) | Review of Authorising Person (AWNES) | | | Site Lead | Duration of the Project |
| [HSF-TF-0015g-PTD](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-10106) | Assessment of Authorising Person (AWNES) | | | Site Lead | Duration of the Project |
| [HSF-TF-0015h-PTD](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-10107) | Concession for Non-Compliant Panel Member Nomination (AWNES) | | | Site Lead | Duration of the Project |
| [HSF-TF-0047a](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7812) | Driver Site Rules | | | Site Lead | Duration of Project |
| [HSF-TF-0047b](https://home360.balfourbeatty.com/ghoreferencecentre/Group%20BMS/_layouts/DocIdRedir.aspx?ID=2KHUWT73P6SE-1572-7813) | Driver Flash Card for Highways Lane Closures | | | Site Lead | Duration of Project |