M I N I N G S U R V E Y S (U.K.) LTD

In accordance with Section 2 Health and Safety at Work Act and The Management of Health and Safety at Work Regulations 1992.

SAFE SYSTEM OF WORK FOR GENERAL LAND SURVEYING

Description of Work to be carried out.

Surveying is the practice of taking measurements of features on, and occasionally below, the earth's surface. The practise may be more precisely described as land surveying to distinguish it from quantity surveying, building surveying and other forms of surveying.
Land surveys may be required for geographical, agricultural, geological, mineral, ecological, construction, land ownership or other purposes. The end product is usually a plan on paper or in digital form.

Of the divisions within land surveying, engineering surveying and topographical surveying (representation of land features) are relevant to site surveys, while aspects of geodetic surveying (accounting for the earth's curvature) must be considered in surveys over large areas and for connection of surveys to National Grid.

Site Surveys are carried out for several reasons:-

1. To produce a plan of an area, often with contours.
2. To produce sections of the ground.
3. To determine land areas in plan.
4. To determine volumes of earth or water.
5. To set out construction works.
6. To monitor ground and structural movement.

Before visiting premises / sites.

When you receive instructions to inspect / survey a site or premises, make sure you get the relevant information about the property, identify the hazards and carry out a risk assessment.
If a risk assessment has been carried out by someone else you should have a copy to read. A risk assessment carried out by Mining Surveys UK Ltd will have assessed the following:-

- Travelling to and from site.
- Lone working.
- Condition of site.
- Occupation of the site.
- Site Activity.

- Site Rules and Welfare
- High Structures.
- Dangerous Substances.
- Diseases.
- Special access.
- Special risks.
- Special equipment.
- Environmental.
- Personal
- Structures.
- Timbers and glass.
- Roofs.
- Unsafe atmospheres.
- Danger from live and unsecured services.
- Hidden traps, ducts and openings.
- Intruders and others.
- Contamination.
- Rural Environments.
- Vermin and birds.
- Securing and leaving the site.

Personal Protection Equipment requirement.

The type of PPE is site specific and a minimum requirement will be included in the risk assessment. You should also make yourself aware of Clients and contractors additional PPE requirements. In certain circumstances any of the following equipment may be necessary.

- High Visibility Jacket.
- Safety Helmet
- Safety Boots
- Ear Defenders
- Eye Protection
- Gloves
- Respirator or face mask
- Disposable overalls
- Lifejacket / buoyancy aids
- Temporary lighting

Safety of yourself and others.

All employees of any organisation must, under the Health and Safety legislation, take reasonable care of their own health and safety and that of others who may be affected by their acts or omissions. As well as co-operating with their employer as necessary to help their employer to comply with their statutory duties.

It is equally a criminal offence for you to intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare. If you are a manager within an organisation, you are also personally liable if you do not carry out the health and safety responsibilities associated with your duties.

Safety of Yourself

- Make sure you are familiar with your organisation's health and safety policy and arrangements for implementing safe working procedures

- Comply with the office safety policy and ensure that any equipment you may use is in good and safe condition.

- Comply with your organisation's safe systems of work, or ensure one is put in place prior to carrying out work, particularly where a risk assessment shows that a hazard exists.

- Refuse to condone unsafe working practices by yourself or others and distribute information on hazards.

- Make sure your advice to clients will minimise the risk to the health and safety of others.

- Make sure you are aware of any hazards which may exist, together with any safe working instructions, which have been issued by clients prior to carrying out work at their premises.

- If you are working alone, make sure you follow your organisation's lone working procedures.

In other words, follow the dictates of **common sense.**

Safety of others

You are responsible for anyone under supervision, particularly those in training or who are inexperienced, and also towards anyone who may be affected by your or their work.

- Make sure anyone in your charge takes the right equipment with them on visits. Check that they know how to use it and that it is safe to use.

- Make sure a suitable and sufficient risk assessment has been carried out of the tasks to be performed, and a safe working method is in place that has been communicated to and understood before any field work taking place.

- Make sure everyone has suitable and sufficient information, training and instruction on health and safety matters for the task in hand.

- Check available records of hazards on particular sites and make sure that all relevant people are notified.

- Make sure, wherever necessary, that precautions are put in place to safeguard anyone who may be in the vicinity of works and unaware of the possible hazards.

- Make sure the right equipment is used. Helmets, safety shoes, ear defenders, face masks, overalls, torches and batteries. Do not use any equipment that is defective – report it to your employer.

Finally, the best way to ensure safe practice by people in your charge is to **set a good example.**

Sequence of Operation

Plan the location of the survey control stations considering the Health and Safety implications.

Fix control stations using road pins, note that no long pegs should be hammered into the ground within the boundary of electricity sub-stations.

If using GPS set the base receiver over the base station and begin the procedure for recording satellite data. If site security has been identified as problem then the equipment should be secured using a chain and padlock.

For detail work either set up GPS rover or set up Total Station over control stations and set up in accordance with manufacturer's instructions.

Carry out pre survey checks in accordance with good practice; make adjustments to collimation etc. if required. If working in robotic mode test the tracker. If using the GPS rover, set the tolerances to achieve the accuracy required in the specification.

Where GPS or laser scanner is attached to an ATV (Argocat) see SSW for operating the Argocat.

Live overhead cables have been identified as a hazard, therefore the detail poles used should not be extended beyond 2.5metres.

Begin taking measurements to features, as required by the specification, taking note of the hazards identified in the risk assessment.

On completion of the survey or at the end of the day, all equipment used will be removed from site.

If working alone, the site should be secured, as agreed with the Client. Once outside the site a call will be made to the Client or his representative to inform them that you have left the site.

John Halifax
Director and General Manager
1st December 2015