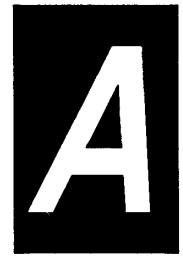
APPENDIX



FIXED OBSERVATION AND SURVEILLANCE SITES

An observation and surveillance site can be a prone soldier in a defensive position. The site might also be an elaborate underground complex constructed with polyvinyl chloride (PVC) pipe and canvas with connecting transmisson sites. The type, location, and operation of the site depend mainly on METT-T factors. If during mission planning, the SFOD determines that fixed site is required, then site selection, security, construction, and occupation must be planned in detail, and practiced. The variables associated with fixed SR sites are the geographic regions in which the operation will take place. This appendix addresses the process of selection, construction, and occupation of fixed observation and surveillance sites used in permissive and nonpermissive areas around the world. During this process, the SFOD should apply the acronym "BLUES" (Figure A-1).

URBAN SURVEILLANCE SITE

An urban or built-up area forms the economic and cultural focus for the surrounding area. It is characterized by a concentration of man-made structures, facilities, and a population. SFODs may conduct fixed and mobile surveillance in urban areas. Because of the generally limited fields of vision, urban operations normally require more sites than rural operations. See FM 90-10.

B lend in with the surrounding area. Does the site look natural? Does it attract unwanted attention?

L ow to the ground construction techniques must be used. Does the site provide protection against small arms and direct weapons fire?

U nexpected sites should be used. Will the threat forces expect you to look out the window or the small hole in the wall?

E vacuation routes must be planned during site selection. Where will you go to link up with the remaining SFOD members if you are discovered or overrun?

S ilhouetting the site is avoided by using the sides not the crests of hills. Can the sniper see you silhouetted against the skyline, wall, or other object?

Figure A-1. "BLUES" application.

Site Selection

METT-T dictate urban site selection as with other observation and surveillance sites. SFODs can construct fixed urban sites in occupied and abandoned buildings, water tanks, shrubbery, on factory chimneys, or in the attics of multistory buildings or other tall structures. If possible, SFODs should avoid wooden buildings and buildings in a significantly deteriorated condition because of the risk of injury from fire and/or structural failure.

Permissive and Semipermissive Environments. If operating in urban areas in a permissive or semipermissive environment, surveillance teams may be mobile, using indigenous transport such as taxicabs, military vehicles, trams, bicycles, and subways. Taxicabs often have the advantage of having two-way radios. In such environments, fixed and overt sites may be emplaced to serve as a deterrent by virtue of their mere presence. Where sites are overt, they must be mutually supporting and hardened enough to withstand threat attacks.

Nonpermissive Environments. If operating in a nonpermissive environment, fixed sites should not be in buildings that attract the threat's attention but should be in rubble, yards, and gardens. If the site is to be set up in an undamaged part of the urban area, the SFOD should select buildings of solid construction with serviceable stairs and basements that can be equipped for the rest and shelter of personnel during artillery bombardment.

Construction

Site construction may consist simply of taking a position by a suitable viewing port, or it can be much more elaborate. If the SFOD plans to use the site for an extended time, it must take steps to improve site survivability and its ability to fight fires. Windows, doors, and other openings (like bullet holes not used for observation) are filled with bricks, fragments of building materials, or sand bags if available. Flammable objects are removed from the premises. The SFOD performs all construction while keeping in mind operational security. Supplies of water and sand are assembled for fighting fires. If the threat has previously occupied the building, the SFOD takes precautions against booby traps and mines. Where the threat is near, several places in the building are prepared for observation and departure. Interbuilding monitoring and SFOD communications are hard wired if wire is available although fiber optic cables, if available, offer better security.

Vulnerabilities to Detection

The higher concentration of people, security forces, lighting, and movement in urban areas require SFOD members to take additional precautions to avoid detection during their surveillance activities. SFODs in such situations may comprise teams of as few as two people, working in civilian attire and employing safe houses. Intra-team communications may require very low-power radios and the use of specialized technical and nontechnical communications means as a last resort when other means are inadequate or impractical. If operating from an occupied dwelling in a denied or contested area, the SFOD must be careful not to consume more electric power or water than usual or more heating fuel or focal

than average for the normal occupants. Security forces have been alerted to the presence of SFODs by such minor indicators as sudden increases in milk deliveries. Electronic countermeasures (ECM) technology has also advanced to a point where mobile units operating from the street can electronically survey a building and detect and identify very small sources of energy. This type of ECM intensifies if the presence of an SFOD is suspected. Such capabilities are increasingly widespread and are often found in built-up areas of even marginally developed countries, especially in the "security states" of the Third World. As a result, urban operations require extremely detailed planning in electronic counter-countermeasures (ECCM).

MOUNTAINS

Mountainous areas are characterized by rugged, poorly trafficable terrain, steep slopes, and elevations above surrounding areas. The number of observers and sites required may be increased in mountainous terrain due to the relatively limited fields of vision compared to flat terrain. However, in areas above the tree line, or when lower elevations lack vegetation, the number of observers may be decreased. A careful study of the target area will give a good indication of the requirements. For a general discussion of operations in mountainous areas, see FM 90-6.

Site Selection

Mountain terrain provides many places for cover and concealment. Site selection is not guided by the height of a given mountain but by the irregular fields of observation, dead spaces, cover and concealment, and the limits of the observation equipment used by the SFOD. The SFOD may employ a circular, multitiered system of observers. To increase the daytime viewing capability, the SFOD situates sites not only laterally but also with vertical dispersion. This layering of sites also reduces the need for movement when changing from daytime to nighttime operations. Since movement is the main cause of compromise, layering sites also adds to the security effort of the deployed SFOD. (See Figure A-2).

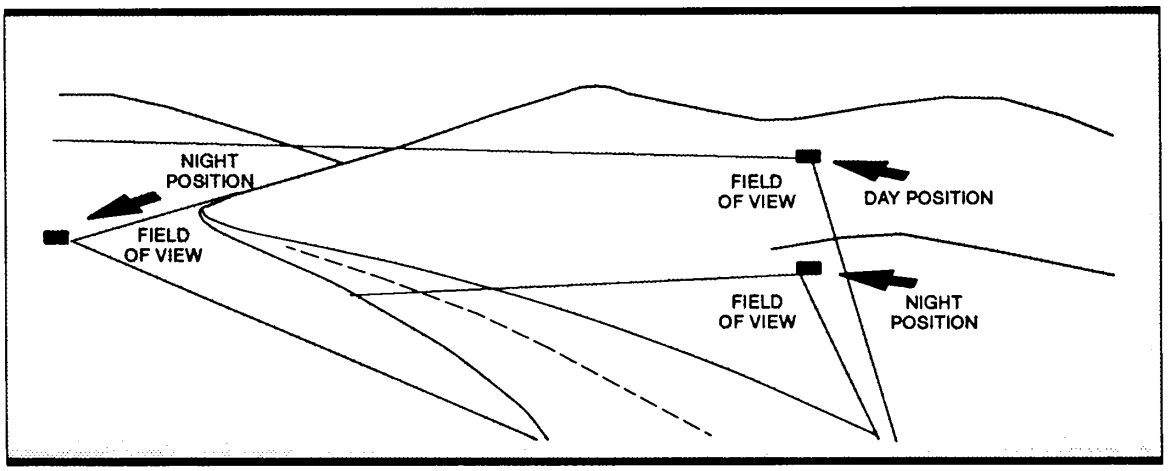


Figure A-2. Overlapping mountain observation sites.

Construction

Irregular terrain in mountains often affords natural hiding places for observers. In most mountainous areas, the rocky nature of the ground makes it difficult and often impossible to dig below-ground sites. In those cases, the SFOD may use boulders and loose rocks in above-ground construction of low-walled sites called "scrapes." When these sites are constructed, SFOD members use the same degree of care in camouflage as they use in the case of all other types of construction. The site must blend in with its surroundings and not be detectable from any angle. Fields of view can often be enhanced if the lower branches on the undergrowth are trimmed back with a wire saw, shears, or knife.

Night Observation

At night, the SFOD may enhance observation in mountainous areas by sending out additional observers into valleys and hollows. Observation from below upward against the background of the sky often gives better results. Moreover, the SFOD should supplement night observation by monitoring. Monitoring is more effective in mountainous areas than on flat terrain, since sounds are often funneled to the head of valleys and are perceptible at great distances. However, sounds in the mountains can be deceptive. Various obstructions can reduce their volume and change their direction.

Snow

In mountainous areas, where snow is expected or known to be on the ground, SFODs can use certain tactics to reduce the problems associated with operations in the snow. Some of those tactics are discussed in the following paragraphs.

Fixed Site Selection. While conducting a map reconnaissance of the AO in isolation, the SFOD chooses sites that are in shaded areas, on slopes facing away from the equator (north in the Northern Hemisphere, south in the Southern Hemisphere). This preliminary site works to the advantage of the SR mission as described below.

In moderate temperatures, the heat generated from the observer's bodies melts the snow on the cover of the site. The result is an unexplainable muddy area in snow. Such melting is, however, common around trees. The melting snow during the heat of the day often falls to the ground and, in turn, melts the snow on the ground. The melting snow falling off the trees often can be used as a water source. Unlike snow, this water source does not require melting over a heat source. The shadows found around rock outcropping and trees also aid in hiding the foot trails leading to the work area and site. The shade aids in an even melt. Even melting helps prevent compromise. Walking compresses snow under each footprint. The compressed snow melts at a slower rate than the surrounding snow. This effect is like comparing the difference between crushed ice and cubed ice in a drink. The loose, crushed ice melts faster than the dense cubes. In areas where the snow melts fast, such as a sunny side of a hill, the compressed snow will leave footprints or trails leading to the site.

The constant daytime melting and nighttime refreezing of snow on slopes often results in avalanches. Reducing the risk of avalanches can be done by using shadows and shaded slopes. Most danger areas are well known and are often plotted on military and civilian maps.

Mission planners consider the advantages and disadvantages of using the infiltration aircraft very close to the target area. In remote areas of hard packed snow, the rotor wash left from a low-hovering helicopter may be more desirable than long trails that can be easily tracked.

Information on Snow Conditions. Multiple sources are often available for obtaining information about the snow conditions in different areas of the world. One of the most often overlooked is area tourist information services. In many countries, these services are often free and available to everyone. Also, information on areas susceptible to avalanches is often available through maps, national or state forest services, or other government services. The SFOD may also get information on daily snow conditions from area ski resorts. Combining this information with that obtained from the regular weather services can provide the mission planners with a detailed picture of the area.

DESERT

Deserts have a low-average rainfall and a lot of sunshine. Plants and discernible terrain features are scarce in these regions. Deserts are characterized by sand storms, dust, fog, and haze. The temperature may change 100 degrees Fahrenheit (48 degrees Centigrade) between the hot days and the cold nights. These are but a few of the problems that an SFOD will face when employed in the desert.

Navigation

Determining the exact position of an SFOD or target on the ground is very difficult. Only distant terrain features, mirages, and the changing climatic situation hinder navigation. Recently, however, global positioning systems have been developed to locate positions through the use of satellites. All units employed in desert regions should obtain one or more of these invaluable tools.

Observation Techniques

Mirages will affect observation in desert country. Frequently checking the terrain against the map aids the observer. However, training and experience play a critical part in accurately reporting the activities of the target. The SFOD pays special attention in the still, early-morning hours when targets are not concealed by clouds of dust close to the ground. During the day, however, the wind may disrupt or destroy camouflage completed during the night and make identification of threat positions considerably easier. Routine “stand to” actions during sunrise may provide the best information of the day.

Optical Aids

Optical aids play a big part in mission success in desert regions. These aids may range from binoculars to high-powered night vision telescopes. Standard binoculars prove effective, even during the hours of darkness. Optical aids must hold a special place in the unit’s METL and be used routinely during training.

Desert Vehicles

Vehicles are normally used for desert observation and surveillances due to the vast distances covered. However, fixed sites may be used as well. Where fixed

sites are used, the positions are normally buried or semiburied because of the lack of cover and concealment. Often these positions are as much as 15 degrees Fahrenheit (8 degrees Centigrade) coder than the surrounding terrain and permit the SFOD to operate for a longer time in the area.

Site Construction

Deserts often have rocky soil or "surface chalk" soil, which makes digging difficult. Disturbing this "chalk" is a major concern when digging subsurface sites. In most desert areas, rocks and boulders are often used in site construction. Underground sites are also difficult to construct in soft, sandy areas because of sidewall instability during construction, occupation, and use. Sidewall reinforcement is almost always required. Sandbags, plastic sheeting, and sand filled boxes may also be used for containing backsliding soil. For a general discussion of operations on desert terrain, see FM 90-3.

FOREST

Forested terrain is characterized by dense foliage, shrubs, and other vegetation, with limited fields of observation and fire. Because of the limited fields of vision, observation site selection is very important. During site selection, the SFOD considers all the options available. Surface or subsurface sites or observers in trees all have different advantages. A careful analysis of the terrain is important to the success of the mission. Old-growth and new-growth forests have different characteristics. The main difference is the height of the limbs and undergrowth. Such information is required for both site selection and planning movement times.

Ground Observation Sites

Sites on the ground are camouflaged to resemble stumps, fallen trees, bushes, and like features. For increased surveillance, the SFOD locates the site to overwatch the intersection of fire lanes, roads, and footpaths on the edge of sparsely wooded areas and natural clearings. When available, obstacles such as creeks, ditches, or steep slopes should be between the site and the probable route of security forces. At night, even a small creek causes a threat force to make noise, disrupt formations, and generally slows its progress. All of these actions are to the advantage of the SFOD.

Observation Sites In Trees

A variety of skills are required for observation from sites in trees. The equipment requirements and planning considerations are different from those of ground sites. Observers for tree sites choose trees that are situated well within the forest. They should never stand out in height, shape, or color. Observers are well camouflaged in the crown of a tree. The primary disadvantage is getting into and out of the site. Special skills and equipment are required for operations in trees. Further, the observer in the tree must be covered by fire that permits him to exit his location if detected or engaged by hostile forces. On the other hand, trees provide an advantage of a long-range view in open areas. In heavy-growth areas, the view may be nothing more than the tops of trees. This consideration can be addressed through area studies and debriefing assets during mission planning. Another advantage of tree observation sites is that most people don't look more than 2 to 3 feet above their heads when walking. When a traveler is carrying a load on

his back, he often bends forward at the waist. Both of these actions prevent him from doing little more than looking at the ground at his feet to maintain his footing. With one key exception, trees will provide good concealment for the observer even if the threat force is trying to look in the trees for him. The one key exception is when the observer is moving about in the site. Slight movements in trees can be seen and heard for vast distances. Employed SFODs consider providing the observer with a small piece of flat wood to stand or sit on. In a forest, an observer often sees less than he hears, especially at night. Monitoring the target area is critical to accomplishing the mission and providing the SFOD with operational security. The observer can monitor the target in several ways. He can sit quietly listening to sounds with his eyes closed, or he can record the sounds of the area on a tape recorder and play the sounds back at a louder volume into headphones. Remote sensors often play a key role in monitoring the target. Each SF group has sensors assigned to its MI detachment. These sensors normally are easy to use and provide outstanding results.

JUNGLE AND SWAMP

SFODs often conduct SR operations in humid, tropical areas with dense growths of trees and vegetation that reduce visibility to less than 30 meters. This thick growth provides the SFOD excellent concealment; however, movement through dense jungle terrain is impeded by a time multiplication factor of 2 or 3. For a general discussion of operations on jungle terrain, see FM 90-5.

Observation Site Construction

Most jungle sites used by SFODs are unimproved. The observers may do little more than lay on a poncho to keep dry and minimize disruption of their site. More developed jungle sites are quickly constructed using easily procurable items such as ponchos or natural materials. Planning considerations, such as high water tables, dense undergrowth, and tree roots often require above-ground construction. SFODs give primary consideration to drainage, waterproofing, and the avoidance of poisonous insects and reptiles. This technique not only prevents flooded positions but, in areas of standing water, will provide the observer the ability to listen and watch for movements in the target area.

Hammocks. Lightweight, compact nylon hammocks are invaluable in jungle regions. The hammocks can be used for sleeping or for storage of equipment. The primary advantage is that the soldier or equipment is elevated off the ground. Unlike the "swamp bed" the hammock does not require a lot of work to erect and is temporary in nature. For more information on swamp beds, read FM 21-76.

Floating Platform. The floating observation platform is a structure used in areas where ground water is high or where there is a low-pressure resistance soil. This platform provides a floating base or floor where wet or low-pressure resistance soil precludes standing or sitting. The platform is constructed of small branches or timber layered over cross-posts, thus distributing the floor load over a wider area (see FM 5-103).

NORTHERN AREAS

Observation in northern areas requires a number of special considerations. Observers must contend with extended light in summer and extended darkness in winter, along with the cold, snow, ice, fog, rain, and sleet. In most cases, operations

require at least six men to ensure continuous observation and security. Shelter is critical for protection of the men and their equipment from the elements. When using northern sites, observers must take advantage of wind breaks, such as densely wooded areas, downwind sides of terrain elevations, and depressions. Where these features are not present or their use is infeasible, observers use other expedients, such as snow caves. In general, the four basic construction materials available in cold region terrain are snow, ice, frozen soil, and timber. For a general discussion of operations on northern terrain, see FM 31-71. For a discussion of shelter construction in northern areas, see FMs 21-76 and 5-103.

PLANNING

Surveillance planning is a vital part of the SR mission. Based on the analysis of the mission and target(s) during isolation, the SFOD intelligence NCO develops a tentative reconnaissance and surveillance plan for placing the target under observation. The plan addresses the location of observation sites, the duration of surveillance, the number of personnel to be employed, and the items of special equipment to be used. Planners consider the use of sensors to expand the sector of surveillance, provide security to observers, and cover dead space. When covering a point target, 360-degree coverage is ideal but not necessary if the critical node can be observed from one site. All-around coverage may require the use of multiple sites, which, in turn, may require the SFOD to be augmented with additional personnel. However, when more personnel are involved in surveillance, the chance of mission compromise is greater. Once surveillance is established, it should be continuous; however, continuous surveillance may not always be feasible.

CONFIRMATION OF THE SITUATION

Upon arriving at the target area, the SFOD must conduct a preliminary reconnaissance to confirm the situation. The goal is to confirm the targets' exact location, ensure the maps used during planning were correct, and be the basis for selecting the actual locations of the observation and surveillance sites. Other items of interest addressed at this time include indications of threat security patrols, population control measures, LZ and DZ locations, and the best routes for movement in the area. Major changes to the situation may require revamping of the plan. If major changes to the coordinated plan are required, the new information must be passed to all supporting agencies through the SFOD's higher headquarters.

SURVEILLANCE SITE SELECTION

Surveillance sites are used for observation and monitoring. They are a vantage point from which visual, audible, olfactory, and electronic data on a target is collected. Selection of the sites is based on METT-T factors, but several general planning considerations apply. The sites—

- Afford adequate visual and electronic line-of-sight target observation and security for the observers.
- Have as wide a field of view and as little dead space as possible.

- Are not near natural lines of drift or in terrain that would naturally draw the attention of threat forces, such as atop a flat rock face on a hill.
- Have covered and concealed exit and entry points.
- Are far enough downwind from the target and inhabited areas to minimize the olfactory detection of the site by dogs or people. Keep in mind that wind directions often change at various times of the day.
- In general, are as close or distant to the target as mission and security considerations dictate.
- Have good overhead and side cover and concealment.
- Are capable of enacting battle drills to break threat contact.
- Afford reliable communications between the observers and their main body, security element, and/or communications element.
- Are, above all, in a location that is not obvious to threat forces.

If all these features cannot be found in a single site (for example, daytime versus nighttime requirements), separate sites suited to the type of surveillance performed may be necessary. Multiple sites are mutually supporting if one site is compromised, members of the other site are able to continue the surveillance mission and/or warn the rest of the SFOD. Further, if the sites are not being used during the day, they should be kept under observation. If the sites can't be secured by observation, they should not be reused the following night. This practice prevents the SFOD from walking into an ambush while trying to reoccupy the position. The SFOD avoids establishing patterns and trails while moving to and from the different sites. In all cases, the SFOD selects alternate locations for its sites if the primary sites selected on the basis of map reconnaissance prove unsuitable.

SURVEILLANCE SITE CONSTRUCTION

Surveillance sites can be surface, underground, or elevated. The SFOD designs these sites for a specific purpose, mission, or target. The primary rule for building the site is that construction must be done during darkness and the site must be occupied before sunrise. Based on METT-T, occupation before sunrise may not be practical. An overt site in a permissive environment could very well be built in daylight, or a complex site may require more than one night to build. Other planning factors such as illumination and current weather conditions also play a major role in construction and occupation of a fixed site. When all factors are considered and the final location of the site is selected, then the priority of work is the external features of the site. After occupation of the site, the SFOD can improve internal features. While planning the construction of the site, the SFOD keeps in mind that everything used for the site must be removed or replaced so that the terrain is returned to its natural state. The SFOD keeps threat forces from gaining information about the extent of the operation, possible target location, and even the fact that it was in the area. Not enough can be said of the importance of site construction rehearsals under similar conditions to the target's. When possible, the same type soil, construction materials, and planned techniques are used. During rehearsals, fellow unit members try to compromise the SFOD that has occupied the site. Weaknesses in construction or occupation plans will quickly become apparent.

Types of Observation or Surveillance Sites

When fixed sites are required for mission execution, METT-T factors determine the extent of the construction. In all cases, camouflage and concealment, as well as light and noise discipline, are important considerations during the construction of observation or surveillance sites. The following paragraphs describe different types of site construction commonly used.

Above Ground Sites. Above ground sites are the most common type of fixed observation and surveillance sites. The advantages of selecting an above ground site are the ease and speed of which the site can be selected and occupied and the simplicity of construction. The primary disadvantages in these type sites are easy detection and little protection from small arms fire compared to below ground sites.

Spider hole. This type of site is similar to a fighting position with overhead cover. The dimensions are normally about 0.75 meters wide by 1.2 meters long and 1 to 1.5 meters deep. The observer can adjust the dimensions to meet his needs. This one-man site is normally established on a line or ring to provide support and enhance security (see Figure A-3).

Scrape. A scrape is the enlargement of a depression in the ground to allow for one man to take up a position. Scrapes are hasty in nature and require little preparation. Often used during darkness, scrapes provide the observer with a position where he can better use his optical devices. The observer removes as much of the signs of occupation as possible when he leaves. He obscures the area by brushing matted grasses, displaced dirt, and footprints. overhead cover such as a poncho provides limited protection from the elements. (See Figures A-4 and A-5.)

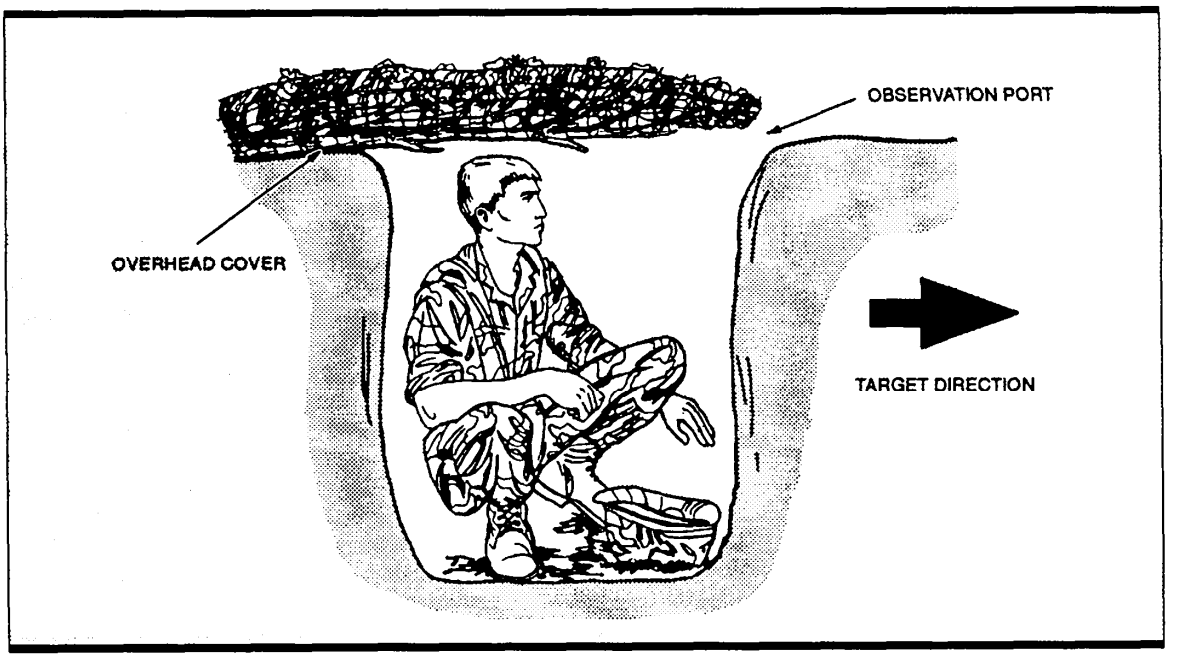


Figure A-3. Spider hole observation site.

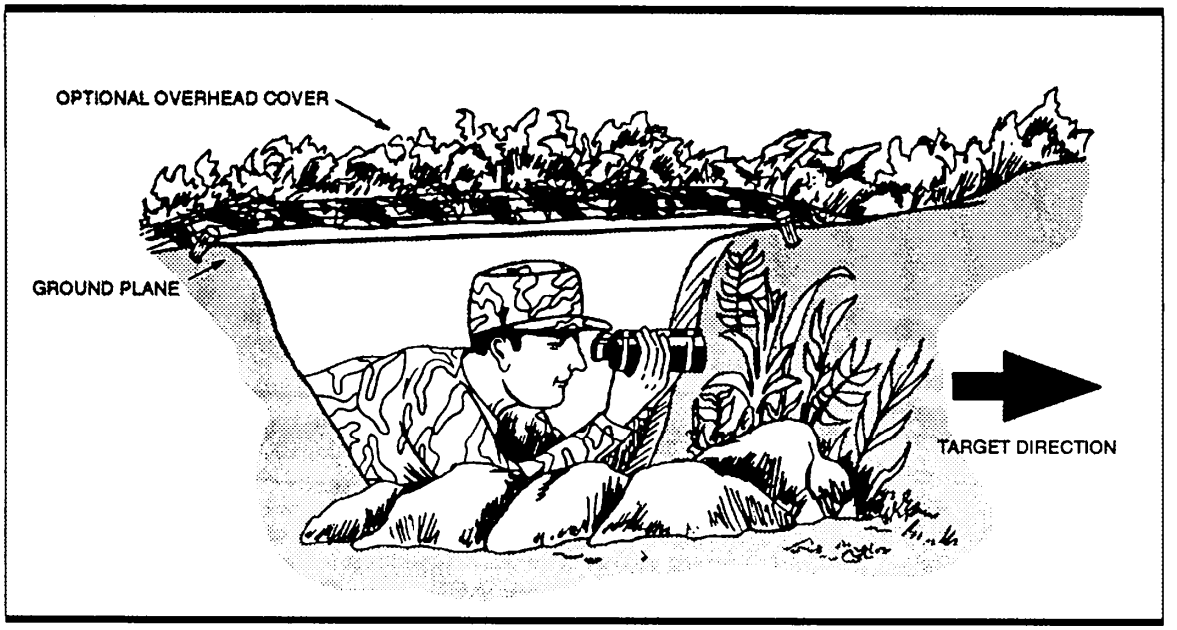


Figure A-4. Scrape-type observation site.

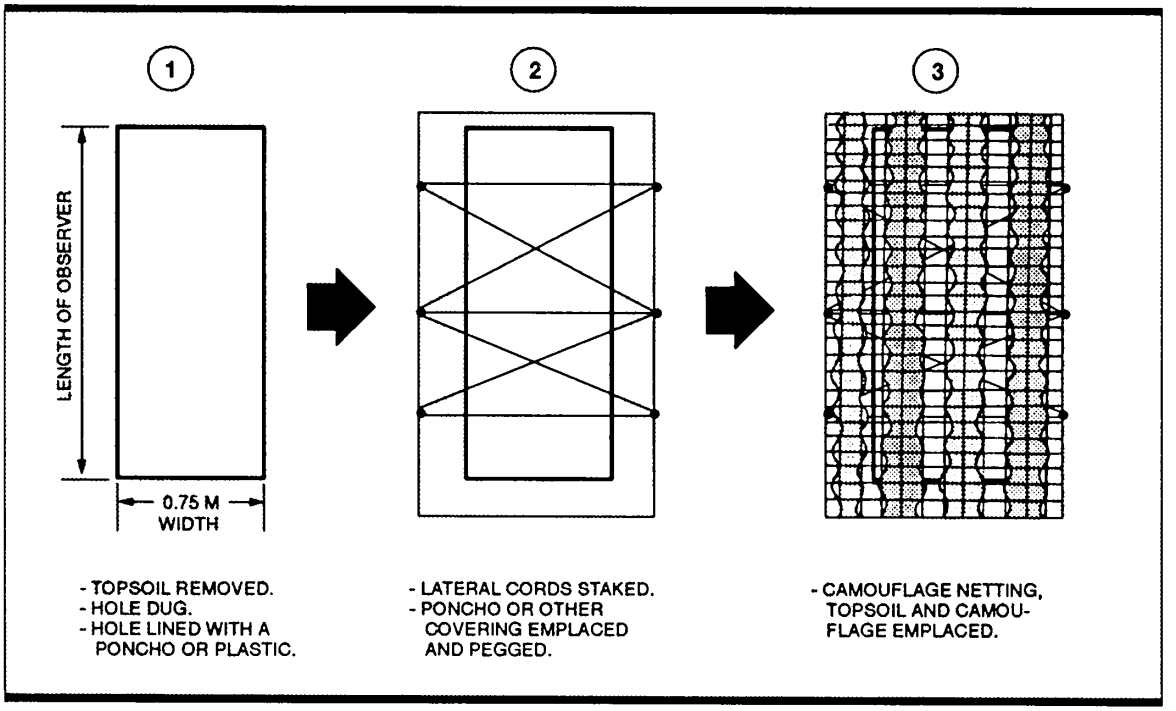


Figure A-5. Scrape plan example.

Tent-type site. Larger than a spider hole, this site is constructed for more than one observer. Supports for the overhead cover are made from a variety of material. Branches, aluminum conduit, parachute suspension line, or fiberglass rods all work well as a frame for the cover. A slight arch in the cover multiplies the available space on the inside of the site. The observer avoids grossly breaking the ground plane with the apex of the site. (See Figure A-6.)

Underground Site. The safest type of observation site for the observer to use is the underground site. The complexity of design and the effort required to construct the site are the primary detractors. When using light equipment such as shovels and entrenching tools, underground sites can only be constructed in loose soils. Soil type is a very important planning consideration that must not be overlooked during mission preparation.

Bunker-type site. This site requires extensive construction time and material to complete. The observer can construct the underground bunker-type site using a prefabricated kit. This kit includes the tools needed to excavate and cut local materials such as trees and logs. The kit also contains plastic sheeting for waterproofing the roof, walls, and floor. The sheeting can also be used to reinforce loose soil in the site. However, depending on the soil in the area, sandbags are often required to shore up the sides of the site. Also, sandbags lessen the accumulation of condensation produced when plastic sheeting is used. (See Figure A-7.)

Caves. Caves can provide the observer with a ready-made observation site. However, caves present special problems. First, caves attract attention. They are often shown on maps or are known to the local populace. Locals often use caves for shelter and sometimes for storage. Caves also attract animals. Bats, birds, snakes, and larger animals use caves for shelter. The presence of these animals presents medical risks to the SFOD members. Also, early warning devices may be activated and attract the attention of local threat forces. Using caves increases the chance of discovery and is avoided in all but emergency situations.

Construction Techniques

Several construction techniques are common to all observation and surveillance sites. These techniques are included in SOPs and practiced during normal training.

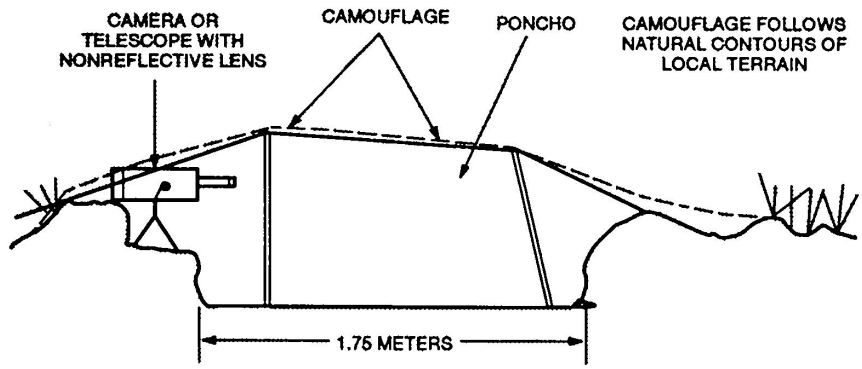


Figure A-6. Tent-type observation site.

Dirt Removal. The primary problem in constructing any site is the removal of excess dirt. Excavated soil expands in volume. In dry climates, the subsurface soil contains the most water. This water content causes the soil to be a different color. This soil must be camouflaged. The SFOD constructs underground sites before the early morning dew develops. Discarding excess soil before the dew sets in aids in the camouflage process. The SFOD also considers the effect of the sun drying out the excess soil. This dried soil may need to be recamouflaged. The main technique for camouflaging soil involves the use of plastic sheeting or a poncho. The steps are as follows:

- Lay out the sheeting alongside the site position.
- Place the topsoil to one side of the sheeting. Remember that the topsoil only extends a few centimeters below the surface. Save as much of the vegetation as possible. (See Vegetation, page A-14.)
- Dig out the remaining soil. Do not mix the topsoil with subsoil from hole.
- Fill sandbags with the (loose) soil dug from the hole and use them to reinforce the sides of the site.
- Fill surrounding depressions, ruts, or ditches with the remaining excess soil. If this procedure is not possible, spread the soil lightly on the surface in an area away from the site. Avoid putting the excess soil in creeks or streams that may wash the dirt down the waterway and attract unwanted attention.
- After the overhead cover is constructed and waterproofed, replace the topsoil. Place vegetation, leaves, deadfall, or other local materials about the area to complete the camouflage of the site.
- The final step in the process is to recover the sheeting used to contain the soil. Check the vegetation under the sheeting to ensure that it was not matted down under the weight of the soil. If matting has occurred, take the time to brush it with a branch to return it to its natural state.
- As time passes, continually check the vegetation and soil around the site to ensure that they appear natural. Loose soil often falls through small holes and results in a strange-looking, funnel-shaped hole. Check vegetation to ensure it blends with the surrounding area. Remove or replace dead vegetation.

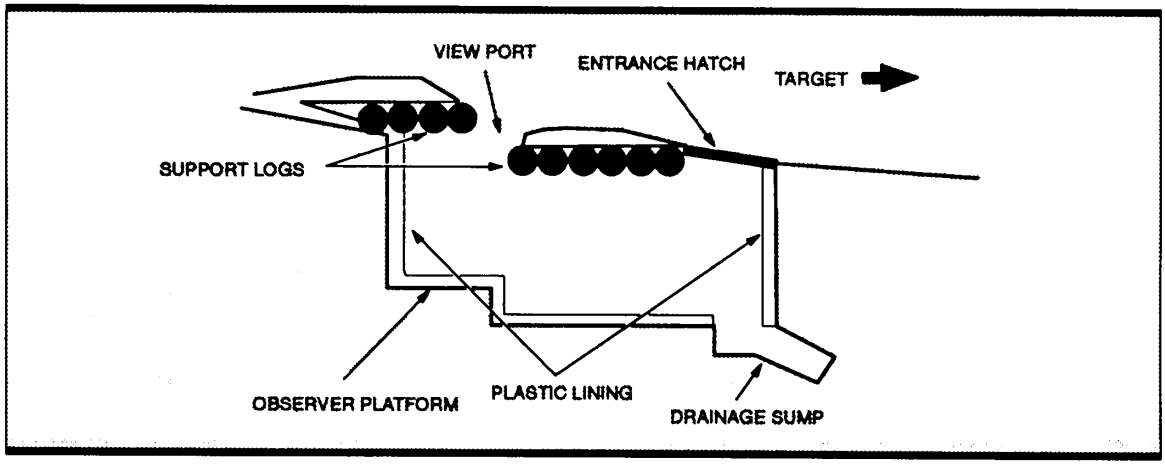


Figure A-7. Underground observation site plan.

Vegetation. When applying the B in the BLUES acronym to the SR site, remember vegetation is critical. Replanting and watering vegetation during initial site construction can eliminate the need to continually replace wilted plants.

Grasses. When removing topsoil, save the grass. Remove the grass in clumps by cutting a circle about 5 to 15 centimeters around the section to be saved with an entrenching tool or shovel, then pry the roots and soil up from the bottom. When replacing the grass around the site, pattern the placement after the natural design. Shake the grass slightly to loosen the roots, then replace at ground level. If water is available, a small amount placed on the grass will lessen the shock of replanting and extend the life of the camouflage.

Plants and bushes. Medium-sized plants or bushes will aid the security of the site. Not only will the plants add to the camouflage of the site, but they will also discourage vehicle and foot movements over the top of the site. The main disadvantage to using plants on top of the site is that the plants may die or fall over due to the shallow depth of the overhead cover. Also, if close quarters battle develops between a member of the SFOD moving outside the site and a threat element, the threat may take cover behind the plant and thus discover the actual location of the site.

Deadfall. Deadfall can restrict movement in much the same way as the plants and bushes discussed above. However, the use of deadfall as part of the overall camouflage effort presents several disadvantages. The main disadvantage is that in most regions of the world, deadfall is used for home heating, cooking, and construction. If the site has this fuel near it, the risk of discovery is increased. The SFOD members have limited options available to them if discovered by a — nonhostile civilian: emergency exfiltration or activation of the E&E plan. Either course of action will result in the mission being terminated. Cover from small arms fire is very limited when using deadfall. Most trees rot quickly when on the ground. Modern small arms fire will easily pass through these rotten trees. For this reason, the SFOD avoids using deadfall for cover. If it must be used, it is reinforced with dirt.

Sidewall Support. Depending on the soil condition in the AO, the sidewall of the site may require some type of shoring or support to prevent cave-ins. The SFOD can use a variety of material for support of the walls. Local timber, branches, deadfall, plastic sheeting, and ponchos ail work well. However, the primary means for supporting the sides is by using sandbags. These lightweight bags serve a variety of uses and conform to almost any shape required. The exact number of bags required depends on the size and overall design of the site. The SFOD determines this variable by practicing the construction of the proposed site. After the SFOD has tested the design and determined the number of required bags, it figures a 10 percent overage into the packing list. The few extra bags add flexibility for unforeseen factors such as replacements for damaged bags. The bags can also be used for transportation purposes. When cross bracing sandbagged wails, the SFOD must use freshly cut green timber or something prefabricated, such as PVC pipe, conduit, or other like items. Examples of cross bracing and revetments can be found in FM 5-34.

Observation Site Kits. When possible, the SFOD assembles prefabricated kits to aid in the construction of the required site. These kits need not be taken into the

operational area but are assembled as a stockpile. This stockpile can then be drawn upon for mission-specific equipment during isolation. Some of the items in these kits are—

- Schedule 80 PVC pipe, elbows, straight connectors, 3- and 4-way connectors, and PVC cement. This strong, lightweight material can be formed into a multitude of shapes and designs. It can be used to form the frame of the overhead cover or to form cross bracing.
- Parachute suspension line. This material serves many uses. It can also be interwoven to produce a frame for overhead cover.
- Sandbags.
- Assorted tapes, cords, and ropes.
- Plastic Zip-Lot bags. These items can be used for general storage.
- 0.5-meter x 0.5-meter squares of 1-centimeter plywood. This lightweight material is excellent for constructing overhead cover, platforms for use in trees, and insulation when operating on ice and snow. The squares are painted to match the terrain in which they are used.
- Plastic sheeting. Heavy-gauge plastic sheeting fills many roles. If plastic sheeting is not available, the heavy-duty plastic bags used to cover pallets work well.
- Hand tools. (D-handle shovels, hack saws, hammers, small bow saws, and like items.)
- Plastic or aluminum tent stakes. These items save time during construction of the site.
- Canvas and camouflage netting.
- Plastic buckets with formaldehyde.
- Mirrors or periscopes.

COMMUNICATIONS SITE

Like the observation and surveillance site, the communications site can be a fixed position or part of a patrol. If the communications site is to be a fixed position, the SFOD may select and construct it in the same basic fashion as it does an observation and surveillance site. This site provides HP, satellite, and other types of communications between the SFOD and its SFOB. Conducting SR communications between the SFOD and its supporting SFOB is critical. SFODs are required to pass timely information to the SFOB and to receive instructions and information. Communications between the communications site and outlying sites may be by buried wire, low-power FM radios with directional antennas, or messenger. Based on METT-T factors, a communications site is routinely separate for technical and security reasons. The advantages of a separate communications site are the reduced risk of detection of direction and location through radio direction finding (DF) and reduced number of personnel at any one location. The disadvantage of a separate communications site is the increased risk of detecting messengers moving between sites (Figure A-8, page A-16).

SURVEILLANCE SITE OCCUPATION

Occupation of the surveillance site is basically the same as an occupation of a patrol base (see TC 31-29 for information on patrol bases). The main difference is that the main body of the SFOD may not occupy the site. Part of the element may remain in the ORP and establish communications, cover the route taken into the ORP, or gather the local material needed to construct the site. The primary or first shift of observers moves to the selected site only after the SFOD leader has established security. After an appropriate listening halt has detected no activity in the area, SFOD members may begin work on the site. After the construction is completed, all SFOD members should know the exact location of the site, routes to and from the site, and time of shift changes. Before the SFOD leader returns to the ORP, he reviews the completed site from the threat side to ensure the site is completely camouflaged. He then obscures all signs of occupation as he and the security element return to the ORP.

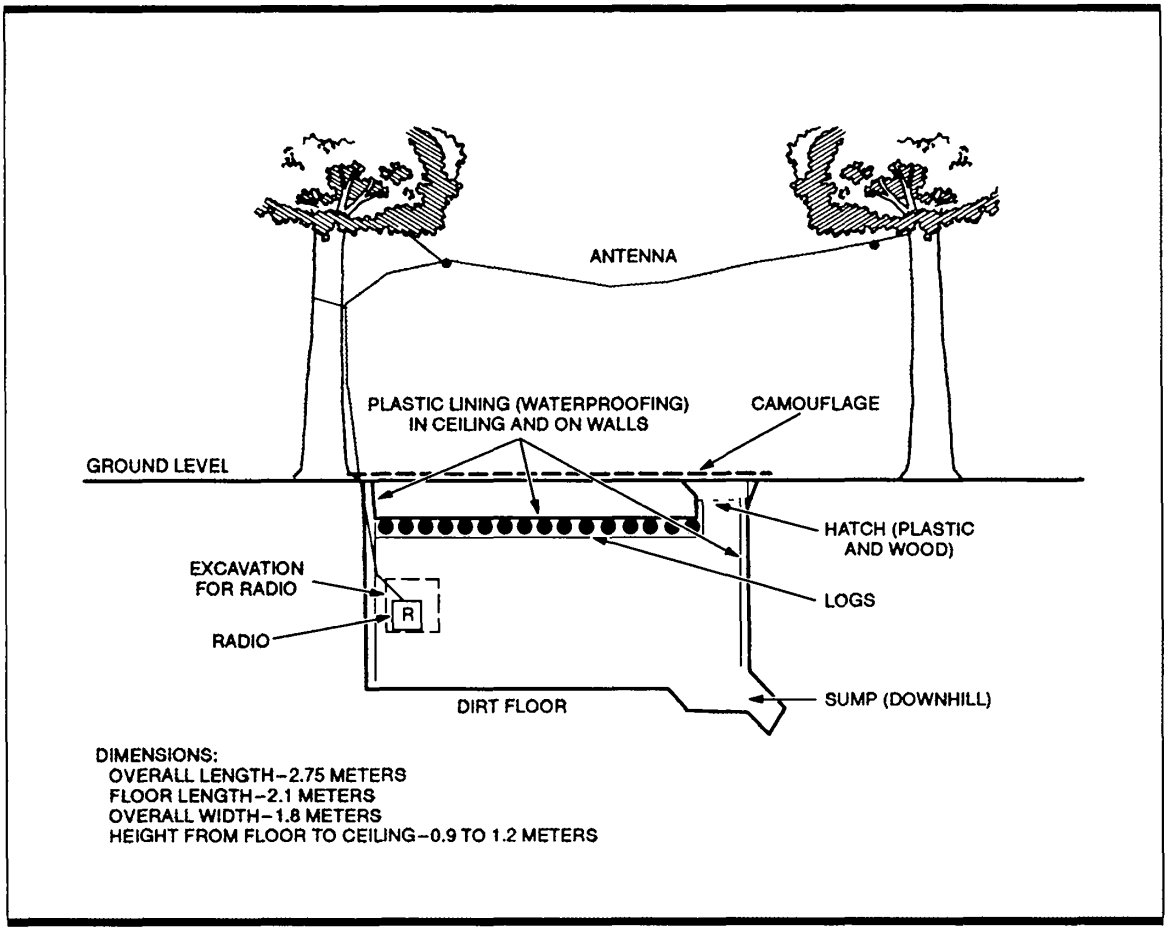


Figure A-8. Communications site.