

## MILITARY OPERATIONS ON URBANIZED TERRAIN (MOUT) UNDER RESTRICTIVE CONDITIONS

*Across the operational continuum, and especially during OOTW, commanders can expect to encounter restrictions on their use of firepower during MOUT. Basic doctrinal principles remain the same, but the tactics, techniques, and procedures may have to be modified to stay within established rules of engagement and to avoid unnecessary collateral damage.*

### **G-1. HIGH-INTENSITY, PRECISION, AND SURGICAL MOUT**

Infantrymen conduct MOUT under many varying conditions across the spectrum of conflict. These conditions range from large-scale, high-intensity combat, through isolated actions against armed belligerents mixed with noncombatants, to peace operations that may resemble dangerous police work more than traditional combat in built-up areas. Changes from high-intensity MOUT to precision or surgical MOUT are a result of significant alterations in the existing conditions of METT-T and of the imposition of overriding strategic political considerations. These alterations normally require that units modify the way they fight in urban areas. Unfortunately, there are no clear boundaries that delineate the change from high-intensity to precision to surgical MOUT. These terms are merely expressions used to describe the US force's degree of sensitivity to political considerations during the operation being conducted.

a. **High-Intensity MOUT.** Infantry units must be prepared at all times to conduct violent combat under conditions of high-intensity MOUT. These conditions are combat actions against a determined enemy occupying prepared positions or conducting planned attacks. High-intensity MOUT requires the coordinated application of the full combat power of the joint combined arms team. An infantry unit's mission is normally to seize, clear, or defend urban terrain, engaging and defeating the enemy by the use of whatever force is necessary. Although the changing world situation may have made high-intensity MOUT less likely, it represents the high end of the combat spectrum, and units must be trained for it. High-intensity MOUT is the most stressful of all operations in urban areas and can be casualty-intensive for both sides. Even though the full integrated firepower of the joint combined arms team is brought to bear on the enemy, commanders must still make attempts to limit unnecessary destruction and casualties among noncombatants.

b. **Precision MOUT.** Infantry units of all types must routinely expect to operate under conditions of precision MOUT, especially during OOTW. Under precision MOUT conditions, either the enemy is thoroughly mixed with the noncombatants or political considerations require that the ROE be significantly more restrictive than under high-intensity MOUT conditions.

Infantry operations under conditions of precision MOUT normally involve combat action. Some of this combat can be quite violent for short periods. It is marked, however, by conscious acceptance by US forces of the need to focus and restrain the combat power used. The commander may bring overwhelming force to bear, but only on specific portions of the urban area occupied by the enemy. He may choose different TTP in order to remain within the bounds of the more restrictive ROE. Tighter ROE demands strict accountability of individual and unit actions. When preparing for precision MOUT operations, the commander must realize that not only are the ROE changing but also the TTP. These changes require that soldiers be given time to train for the specific operation. For example, when clearing a room, units may modify the procedure of first throwing a grenade into the room before entering. This may be done to lessen the possible casualties among noncombatants interspersed with the enemy. Additional training on close quarters battle techniques may be necessary before the soldiers are prepared to execute the mission.

c. **Surgical MOUT.** Operations conducted under surgical MOUT conditions include special-purpose raids, small precision strikes, or small-scale personnel seizure or recovery operations in a MOUT environment. They may closely resemble US police operations by Special Weapons and Tactics (SWAT) teams and are usually conducted by special operations forces. They may even involve cooperation between US forces and host nation police. Though regular units may not be involved in the actual surgical operation, they may support it by isolating the area or providing security or crowd control.

## **G-2. RULES OF ENGAGEMENT**

The unified commander issues the rules of engagement for tactical forces. The ROE are based on the commander's analysis of his guidance from the National Command Authority, the mission that he has been given, the existing threat, the laws of land warfare, and any host nation or third-world country constraints on US forces.

a. The political concerns used while developing the ROE may appear to conflict with the physical security needs of the infantry force. Politically driven constraints must be weighed against the potential risks to mission accomplishment and to the force itself. ROE must be practical, realistic, understandable, and enforceable. Commanders at all levels can affect the ROE by suggesting changes or requesting clarification or modifications. Like the mission, ROE must be tailored to the day-to-day changes in the conditions and threats that face the US forces.

b. Whatever the situation that has called for restricted ROE, infantry forces will then be operating in a dangerous, yet highly constrained, environment. This demands the highest degree of patience, training, and dedication on the part of the military force. An example of ROE used during Operation Just Cause is shown in Figure G-1. It is *not* intended to be used as a sole source document for developing ROE, but as an example of how political considerations during an OOTW mission were translated by the commander into specific ROE.

**ALL ENEMY MILITARY PERSONNEL AND VEHICLES TRANSPORTING THE ENEMY OR THEIR SUPPLIES MAY BE ENGAGED SUBJECT TO THE FOLLOWING RESTRICTIONS:**

- a. Armed force is the last resort.
- b. When possible, the enemy will be warned first and allowed to surrender.
- c. Armed civilians will be engaged only in self-defense.
- d. Civilian aircraft will not be engaged without approval from above division level unless it is in self-defense.
- e. Avoid harming civilians unless necessary to save US lives. If possible, try to arrange for the evacuation of civilians prior to any US attack.
- f. If civilians are in the area, do not use artillery, mortars, armed helicopters, AC-130s, tube- or rocket-launched weapons, or M551 main guns against known or suspected targets without the permission of a ground maneuver commander, LTC or higher (for any of these weapons).
- g. If civilians are in the area, all air attacks must be controlled by a FAC or FO.
- h. If civilians are in the area, close air support (CAS), white phosphorus, and incendiary weapons are prohibited without approval from above division level.
- i. If civilians are in the area, do not shoot except at known enemy locations.
- j. If civilians are not in the area, you can shoot at suspected enemy locations.
- k. Public works such as power stations, water treatment plants, dams, or other utilities may not be engaged without approval from above division level.
- l. Hospitals, churches, shrines, schools, museums, and any other historical or cultural site will not be engaged except in self-defense.
- m. All indirect fire and air attacks must be observed.
- n. Pilots must be briefed for each mission on the location of civilians and friendly forces.
- o. No booby traps. No mines except as approved by division commander. No riot control agents except with approval from above division level.
- p. Avoid harming civilian property unless necessary to save US lives.

**Figure G-1. Example of Operation Just Cause ROE.**

<p>q. Treat all civilians and their property with respect and dignity. Before using privately owned property, check to see if any publicly owned property can substitute. No requisitioning of civilian property without permission of a company-level commander and without giving a receipt. If an ordering officer can contract for the property, then do not requisition it. No looting. Do not kick down doors unless necessary. Do not sleep in their houses. If you must sleep in privately owned buildings, have an ordering officer contract for it.</p> <p>r. Treat all prisoners humanely and with respect and dignity.</p> <p>s. Annex R to the OPLAN provides more detail. Conflicts between this card and the OPLAN should be resolved in favor of the OPLAN.</p> <p>DISTRIBUTION: 1 per trooper deployed to include all ranks.</p>
<p><b>SUPPLEMENTAL RULES OF ENGAGEMENT FOR SELECTED RECURRING OPERATIONS:</b></p>
<p>1. CONTROL OF CIVILIANS ENGAGED IN LOOTING.</p> <ul style="list-style-type: none"><li>a. Senior person in charge may order warning shots.</li><li>b. Use minimum force but not deadly force to detain looters.</li><li>c. Defend Panamanian (and other) lives with minimum force including deadly force when necessary.</li></ul> <p>2. ROADBLOCKS, CHECKPOINTS AND SECURE DEFENSIVE POSITIONS.</p> <ul style="list-style-type: none"><li>a. Mark all perimeter barriers, wires, and limits. Erect warning signs.</li><li>b. Establish second positions to hastily block those fleeing.</li><li>c. Senior person in charge may order warning shots to deter breach.</li><li>d. Control exfiltrating civilians with minimum force necessary.</li><li>e. Use force necessary to disarm exfiltrating military and paramilitary.</li><li>f. Attack to disable, not destroy, all vehicles attempting to breach or flee.</li><li>g. Vehicle that returns or initiates fire is hostile. Fire to destroy hostile force.</li><li>h. Vehicle that persists in breach attempt is presumed hostile. Fire to destroy hostile force.</li><li>i. Vehicle that persists in flight after a blocking attempt IAW instruction 2b is presumed hostile. Fire to destroy hostile force.</li></ul>

Figure G-1. Example of Operation Just Cause ROE (continued).



### 3. CLEARING BUILDINGS NOT KNOWN TO CONTAIN HOSTILE FORCE.

- a. Warn all occupants to exit.
- b. Senior person in charge may order warning shots to induce occupants to exit.
- c. Do not attack hospitals, churches, shrines, or schools, museums, and any historical or cultural sites except in self-defense.
- d. Respect and minimize damage to private property.
- e. Use minimum force necessary to control the situation and to ensure the area is free of hostile force.

Figure G-1. Example of Operation Just Cause ROE (continued).

### G-3. IMPACT OF CIVILIANS ON MOUT

The presence of large concentrations of civilian noncombatants constrains employment of combat power during tactical operations.

a. **Mobility.** Civilians attempting to escape over roads can block military movement. Commanders should plan routes to be used by civilians and should seek the assistance of the military and civil police in traffic control.

b. **Firepower.** The presence of civilians and the desire to limit collateral damage can restrict the use of fires and reduce the firepower available to a commander. Selected areas may be designated as "no fire" areas in order to prevent civilian casualties and damage to important urban structures, or for other reasons. Some areas may be limited to the use of small arms and grenades only, with prohibitions on air strikes, artillery, mortars, and flame. Target acquisition and the conduct of indirect-fire missions may be complicated by the requirement for positive target identification. Detailed guidance on the use of firepower in the presence of civilians will normally be published by the division G3. When no guidance is available, the general rules of the law of land warfare always apply.

c. **Logistical Support and Civil Order.** Commanders at all levels automatically assume the burden of ensuring the bare necessities of life to all civilian noncombatants that fall under their control during MOUT. Depending on the situation, protection, food, water, shelter, and medical care may be provided in special refuges established for that purpose, or they may be provided in place by some other organization. Whatever the final arrangement, US commanders should expect to exercise control and provide support until long-term arrangements can be made.

### G-4. CIVILIAN INFLUENCE ON ENEMY AND FRIENDLY OPERATIONS

Noncombatant civilians in an urban environment and the political setting influence both enemy and friendly operations.

a. **Enemy Operations.** These operations cover the spectrum from terrorism to well-organized military operations. The enemy may be special-purpose forces or insurgents that have the ability to operate freely throughout a city due to having the appearance of civilians. Conventional enemy forces may choose to occupy specific urban areas that civilians have not been able to evacuate. The swift occupation of a city may cause civilians to be trapped between opposing forces. This enhances the enemy's ability to defend.

b. **Friendly Operations.** A critical aspect of friendly operations is the ROE. Examples of different ROEs that US forces used during urban battles are Aachen during World War II in 1944 and Panama City "Just Cause" in 1990. Aachen typified ROE that permitted the free use of most munitions to eliminate the enemy. Panama City, on the other hand, showed US forces operating under very restrictive ROE.

(1) Offensive operations by friendly forces must consider the potential use of precision-guided munitions to achieve identified objectives while avoiding unnecessary collateral damage. Precision operations also include sniper and countersniper operations by both special forces personnel and conventional forces.

(2) When civilian personnel are present or are thought to be present in the objective area, the rules of engagement must be identified and known by all personnel before engaging targets or entering and clearing a room or building.

(3) Psychological operations or civil affairs teams can help remove civilians before a battle starts. Once the objective area has been isolated, PSYOP teams can also be used to induce enemy personnel to surrender.

#### **G-5. USE OF NONLETHAL WEAPONS DURING MOUT**

Nonlethal weapons are discriminate weapons that are explicitly designed and employed to incapacitate personnel or materiel while minimizing fatalities and undesired damage to property and the environment. Nonlethal weapons are not guaranteed to be totally nonlethal anymore than lethal weapons are totally lethal. Some fatalities may result from employment of nonlethal weapons. The use of the term nonlethal is not intended to be misleading but to convey the intention to be able to achieve military objectives while greatly reducing fatalities.

a. Unlike weapons that permanently destroy targets through blast fragmentation or penetration, nonlethal weapons have one, or both, of the following characteristics:

(1) They use means other than physical destruction to prevent the target from functioning.

(2) They have relatively reversible effects. Even if they injure humans, the injured will eventually recover.

b. The infantry has had some nonlethal weapons for years. Other weapons represent new developing technology. Examples of nonlethal weapons are as follows:

(1) Riot control gases such as CS and CN.

(2) Incapacitating sprays such as Mace and Pepper Spray.

(3) Kinetic stun projectiles such as rubber bullets, wooden baton rounds, and beanbag or ringfoil grenades.

(4) Rigid, sticky, or disorienting foams.

(5) Superlubricants.

(6) Flash and bang disruption devices.

(7) Acoustic disruption devices.

c. The Army's higher echelons are paying increased attention to nonlethal weapons for the following reasons:

(1) Growing conviction about their potential military utility.

(2) Political sensitivity.

(3) New constraints imposed by arms control.

(4) Increasing interest by US allies and outside organizations concerned with international security.

(5) Recent advances in enabling technologies related to nonlethal weapons.

(6) Emerging missions needing better nonlethal solutions such as crowd control and OOTW in urban areas.

d. Nonlethal weapons provide commanders with additional options between no use of military force at all and the use of lethal force. They may be more appropriate for some missions than lethal weapons. Nonlethal weapons can provide a more humane, discriminate, and reversible means of employing military force, with more precisely tailored and focused effects.

e. Unless constrained by orders from higher headquarters, US commanders are not obligated in any way to use only nonlethal weapons, or to try nonlethal weapons before resorting to more lethal means, in any military operation. Appropriate use of nonlethal weapons is normally authorized solely at the discretion of the commander on the scene. Although US forces may wish to avoid casualties, many situations require overwhelming lethal force as the most effective and efficient means to accomplish the mission. In the final result, a swift victory by overwhelming force may actually involve fewer casualties on both sides.

f. However the commander chooses to use nonlethal force, its use should be in such a way that it would minimize additional risk to friendly forces. The right to use lethal force for self-defense against a deadly threat is unaffected by any earlier choice of nonlethal weapons to achieve mission objectives.

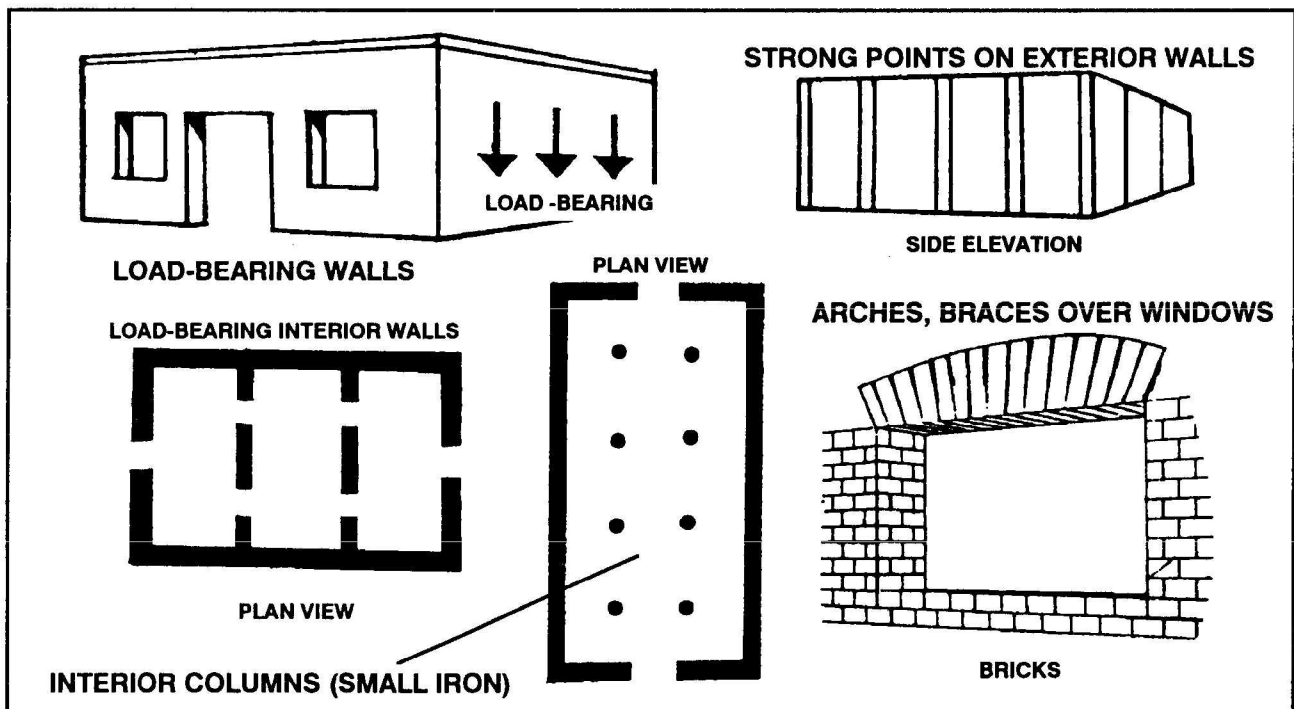
## URBAN BUILDING ANALYSIS

*As in other types of operations, success in urban combat depends largely on the ability to analyze the military aspects of soldiers' terrain. This appendix discusses in greater detail building analysis. Soldiers must be able to recognize certain terrain features when evaluating urban terrain. They must also be able to distinguish between mass-construction and framed buildings.*

### H-1. TYPES OF MASS-CONSTRUCTION BUILDINGS

Mass-construction buildings are those in which the outside walls support the weight of the building and its contents. Additional support, especially in wide buildings, comes from using load-bearing interior walls, strongpoints called pilasters) on the exterior walls, cast-iron interior columns, and arches or braces over the windows and doors (Figure H-1). Modern types of mass-construction buildings are wall and slab structures such as many modern apartments and hotels, and tilt-up structures commonly used for industry or storage. Mass-construction buildings are built in many ways:

- The walls can be built in place using brick, block, or poured-in-place concrete.
- The walls can be prefabricated and "tilt-up" or reinforced-concrete panels.
- The walls can be prefabricated and assembled like boxes.



**Figure H-1. Mass-construction buildings.**

a. Brick buildings are the most common and most important of the mass-construction buildings. In Europe, brick buildings are commonly covered with a stucco veneer so that bricks do not show (Figure H-2). One of the most common uses of brick buildings is the small store. These buildings are found in all built-up areas but are most common in the core periphery (Figure H-3).

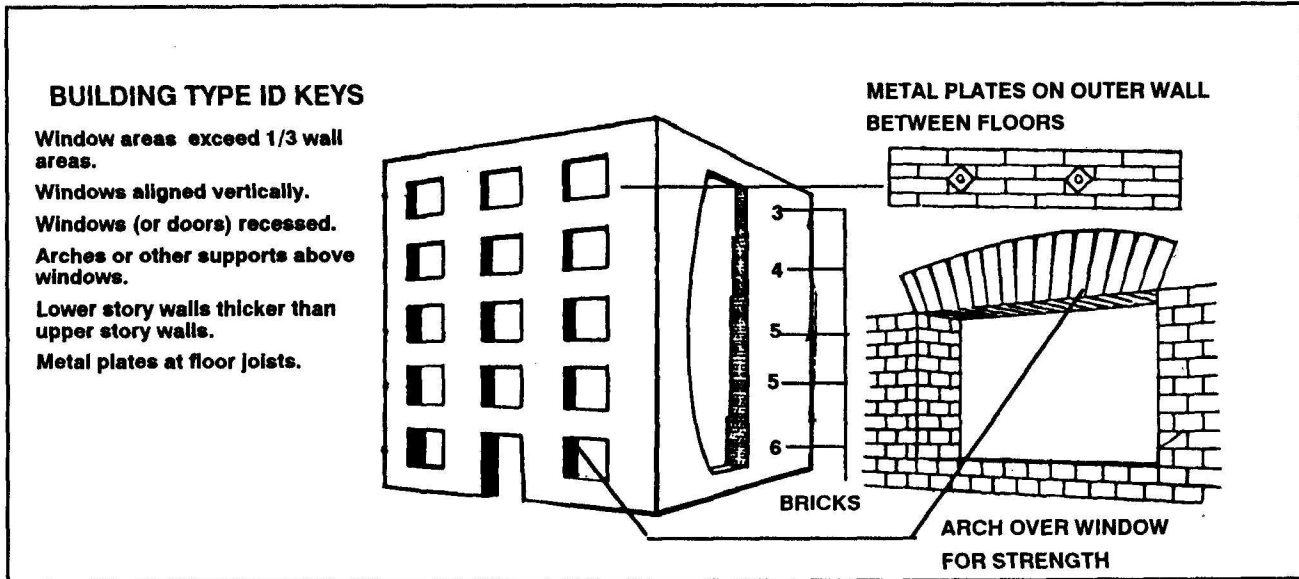


Figure H-2. Brick buildings.

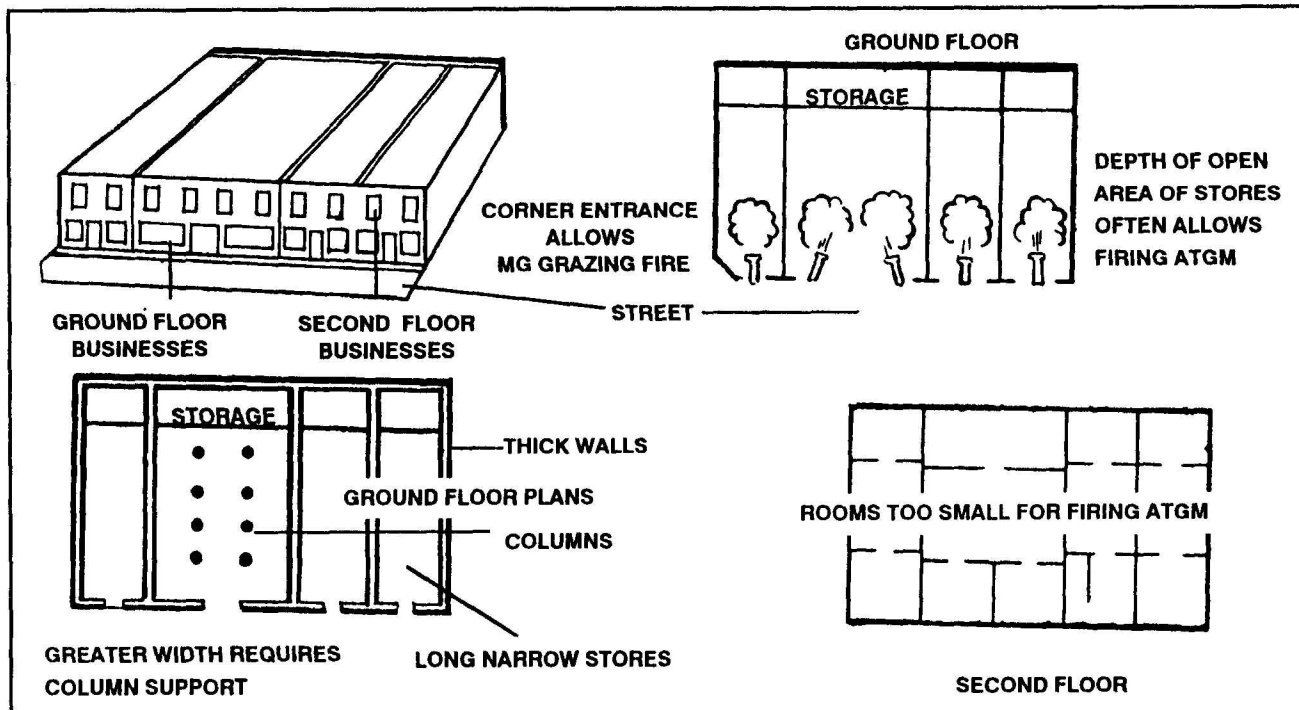
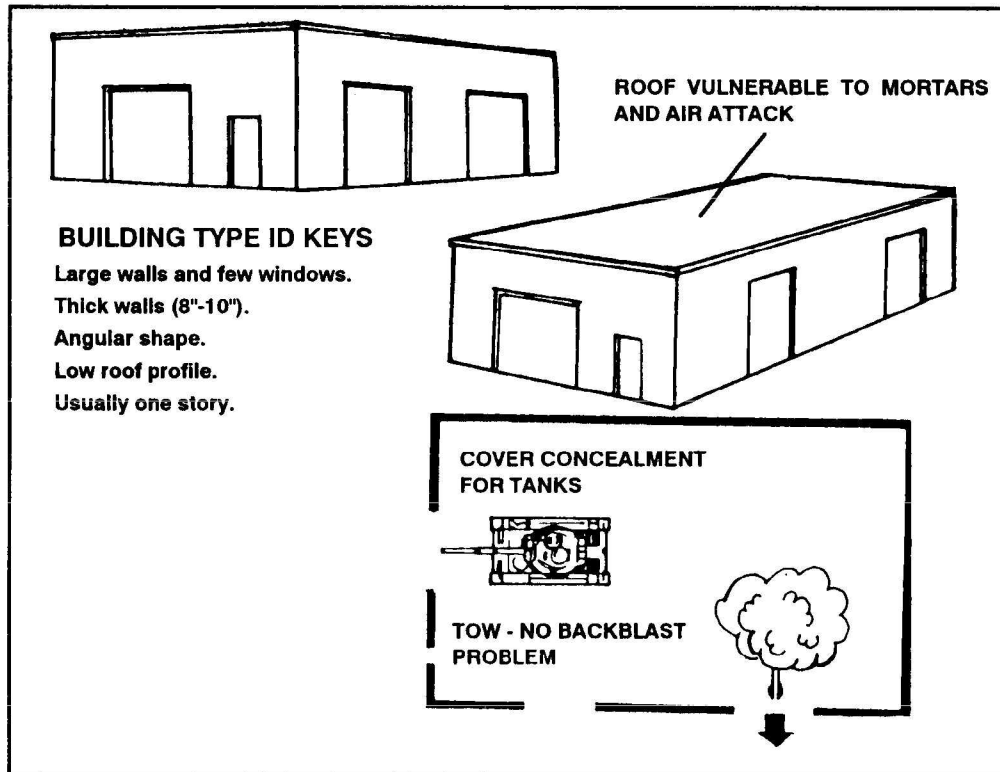


Figure H-3. Brick store.

b. Another common mass-construction building in industrial areas and along commercial ribbons is the warehouse. It is built of poured-in-place concrete reinforced with steel bars or of prefabricated walls that are "tilt-up." The walls of warehouses provide good cover, although the roof is vulnerable. The warehouses' large open bays permit firing of ATGMs and, because they are normally found in outlying areas, often afford adequate fields of fire for ATGMs. These buildings are built on slabs, which can normally support the weight of vehicles and can provide excellent cover and concealment for tanks (Figure H-4).



**Figure H-4. Warehouse.**

c. Another mass-construction building is the box-wall principle type. It is made from prefabricated concrete panels, which are made of 6- to 8-inch-thick reinforced concrete. The outside wall is often glass. The box-wall principle building provides good cover, except at the glass wall. The rooms are normally too small for ATGMs to be fired. A good circulation pattern exists from room to room and from floor to floor. These buildings are commonly used as hotels or apartments and are located in residential and outlying areas (Figure H-5, page H-4).

d. Public gathering places (churches, theaters) are mass-construction buildings with large, open interiors. The walls provide good cover, but the roof does not. The interior walls are not load-bearing and are normally easy to breach or remove. These buildings have adequate interior space for firing ATGMs. They are often located next to parks or other open areas and, therefore, have fields of fire long enough for ATGMs. Public gathering places are most common in core, core periphery, residential, and outlying high-rise areas (Figure H-6, page H-4).



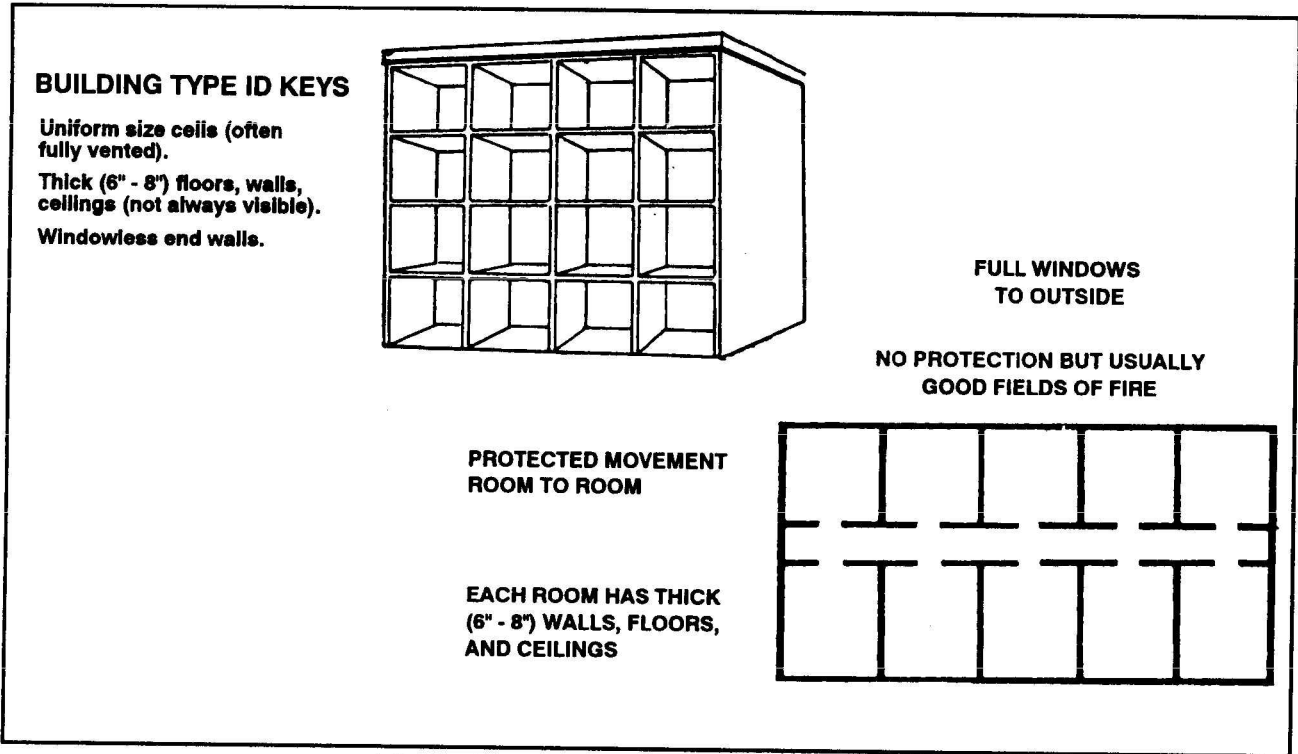


Figure H-5. Box-wall principle building.

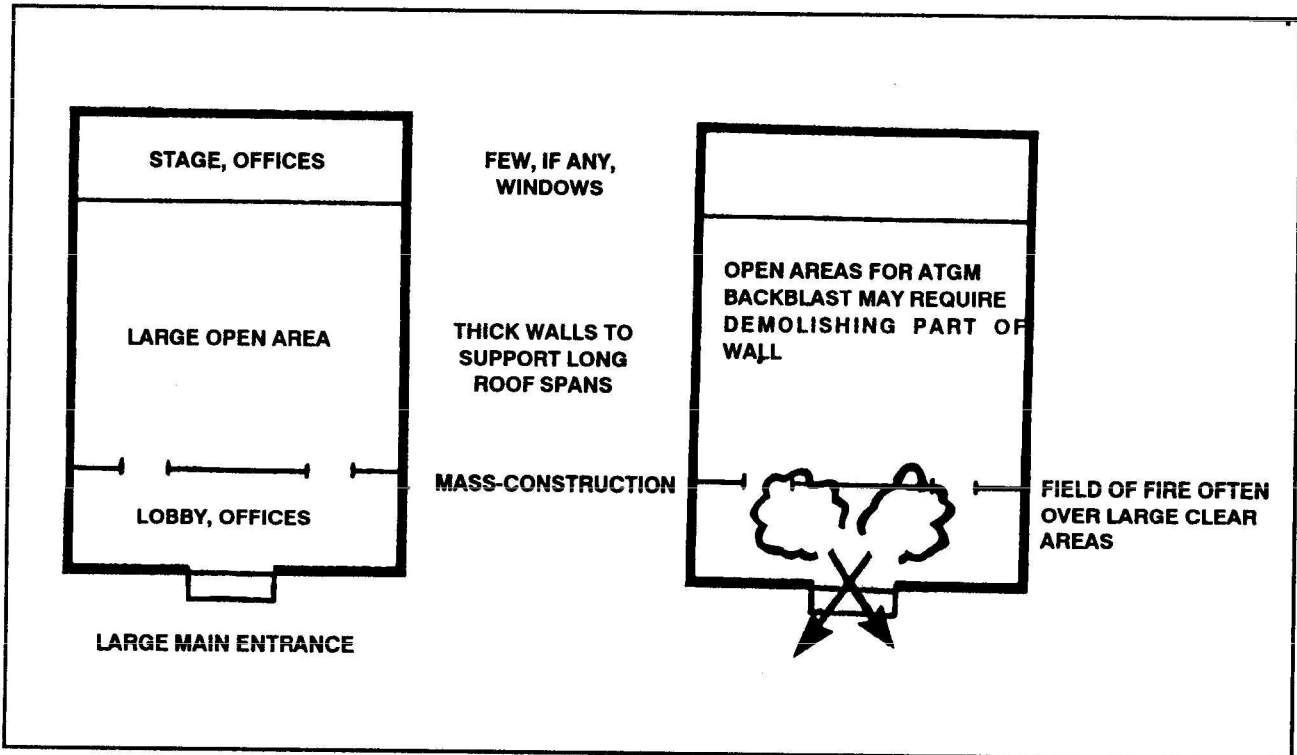
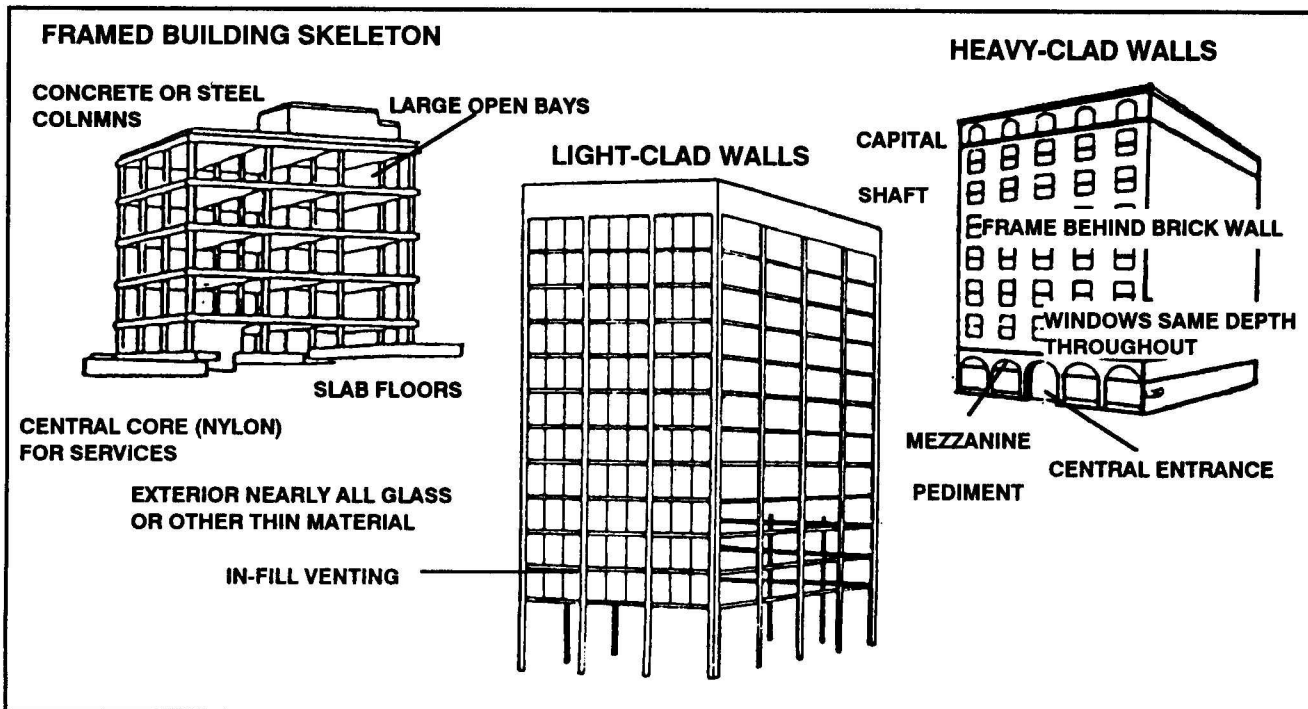


Figure H-6. Public gathering places.

## H-2. TYPES OF FRAMED BUILDINGS

Framed buildings are supported by a skeleton of columns and beams and are usually taller than frameless buildings (Figure H-7). The exterior walls are not load-bearing and are referred to as either heavy clad or light clad. Another type of framed building often found in cities is the garage, which has no cladding.



**Figure H-7. Framed buildings.**

a. Heavy-clad buildings were common when framed buildings were first introduced. Their walls are made of brick and block that are sometimes almost as thick as frameless brick walls, although not as protective. Heavy-clad framed buildings are found in core and core periphery areas. They can be recognized by a classic style or architecture in which each building is designed with three sections—the pediment, shaft, and capital. Unlike the brick building, the walls are the same thickness on all floors, and the windows are set at the same depth throughout. Often the frame members (the columns) can be seen, especially at the ground floor. The cladding, consisting of layers of terra cotta blocks, brick, and stone veneer, does not provide as good a cover as the walls of brick buildings. It protects against small-arms fire and light shrapnel but does not provide much cover against heavy weapons (Figure H-8, page H-6).

(1) The floor plans of these buildings depend upon their functions. Office buildings normally have small offices surrounding an interior hall. These offices have the same dimensions as the distance between columns (some large offices are as large as two times the distance between columns). These rooms are too small to permit firing of ATGMs but do provide some cover for snipers or machine gunners (Figures H-9 and H-10, page H-6).

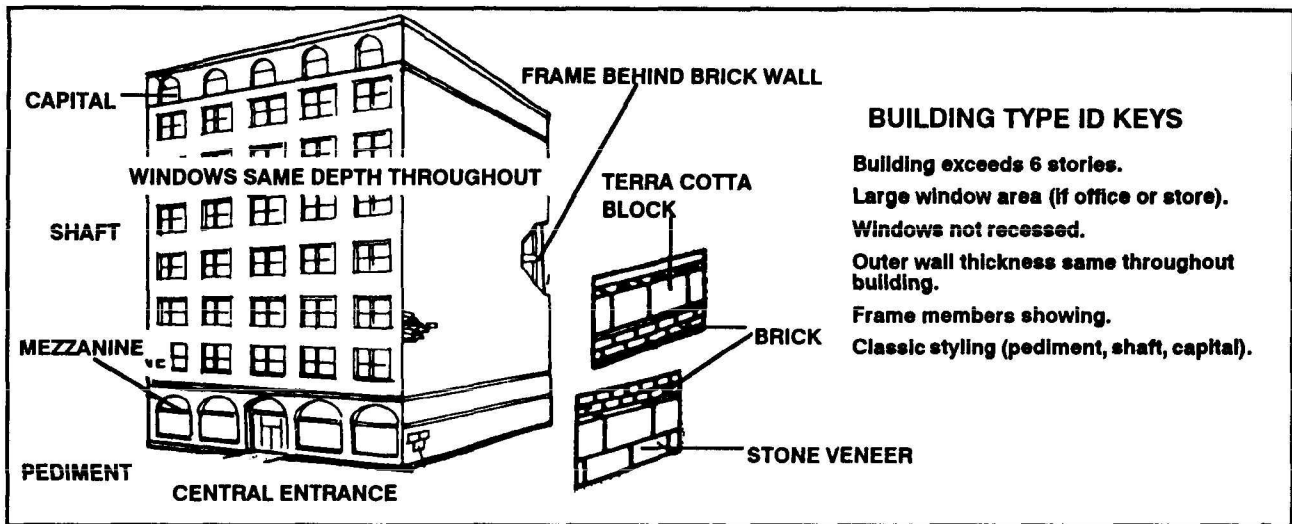


Figure H-8. Heavy-clad framed building.

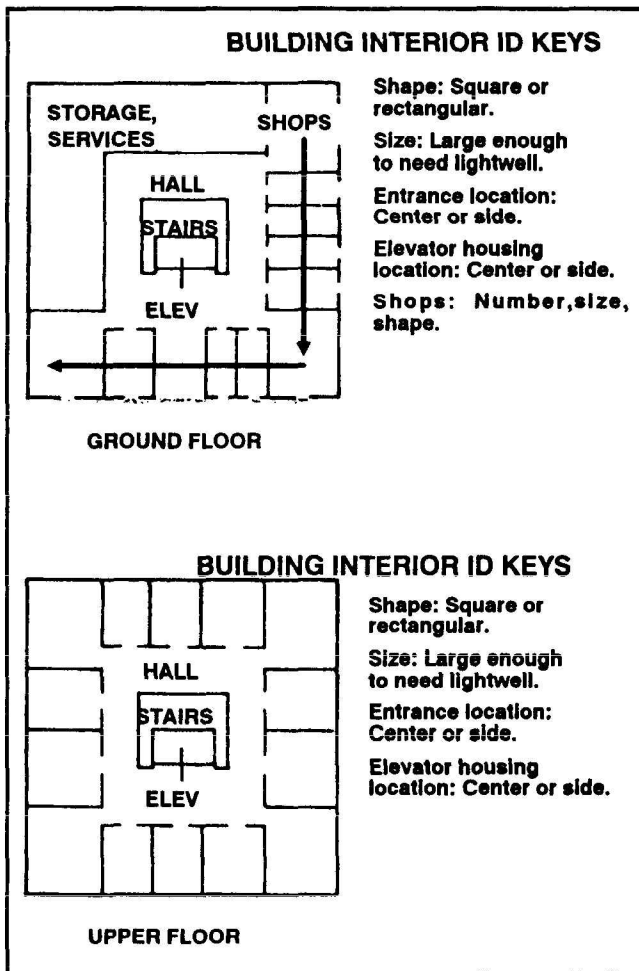


Figure H-9. Floor plan of heavy-clad framed office building.

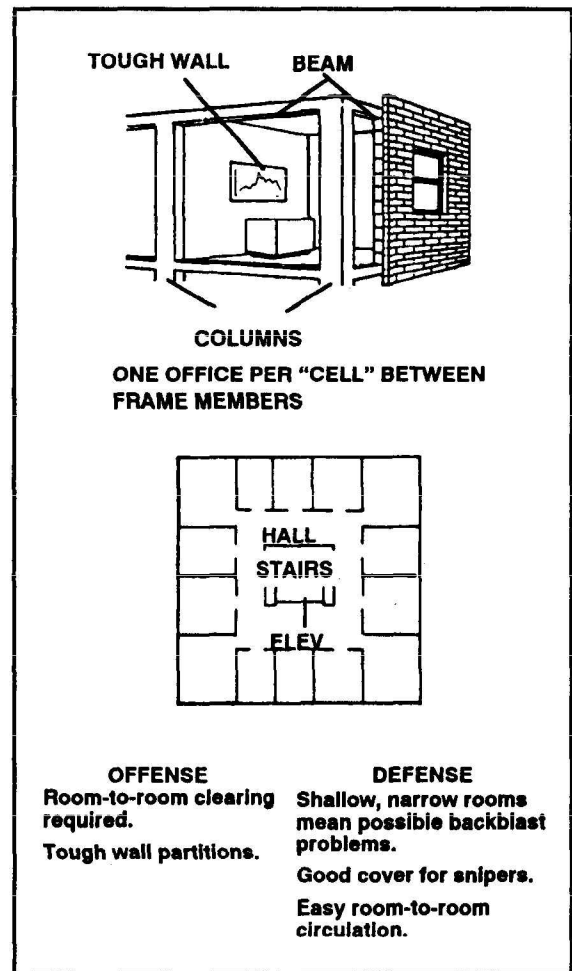
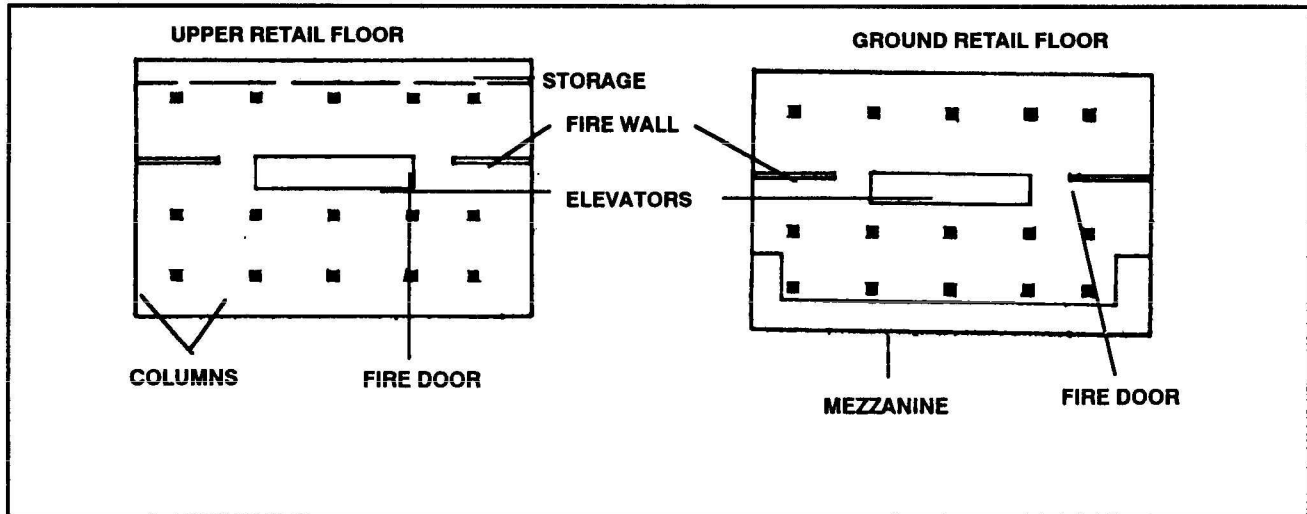
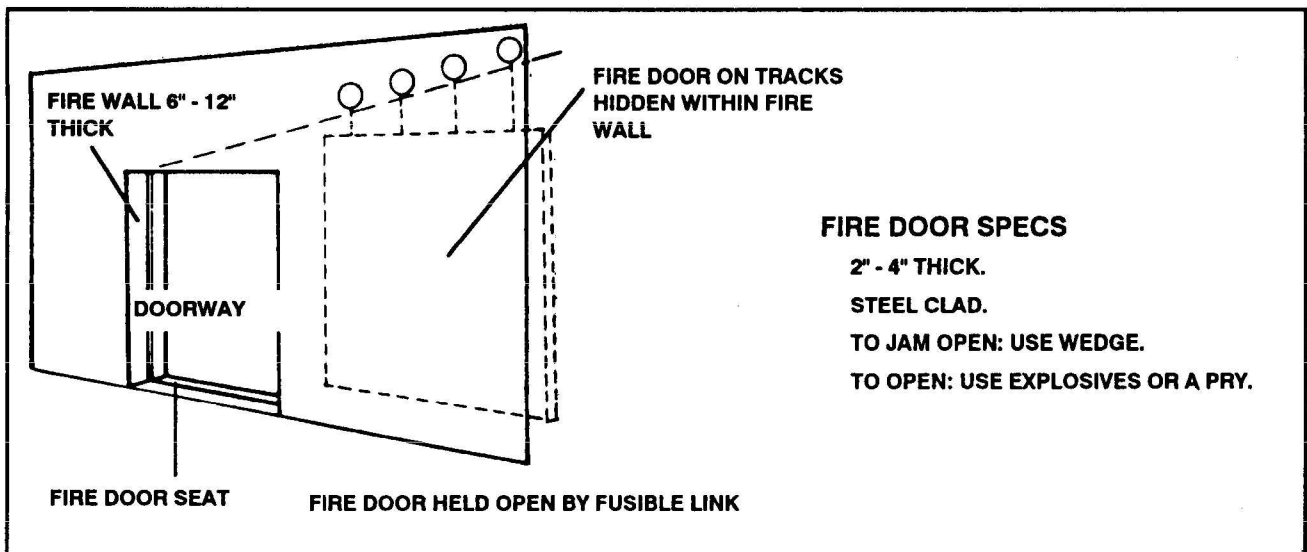


Figure H-10. Heavy-clad framed office.

(2) Department stores normally have large, open interiors (Figure H-11). Such areas permit firing ATGMs (if there are adequate fields of fire). Often a mezzanine level with a large backblast area permits firing down onto tanks. Steel fire doors often exist between sections of the store. The steel fire doors are activated by heat. Once closed, they are difficult to breach or force open, but they effectively divide the store into sections (Figure H-12).

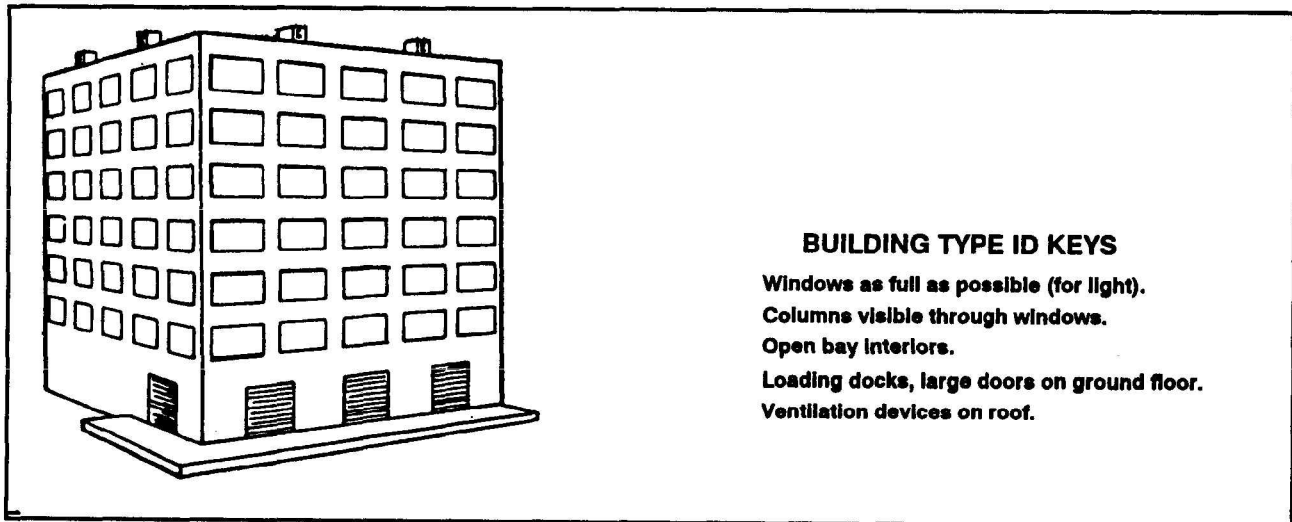


**Figure H-11. Heavy-clad framed department store.**



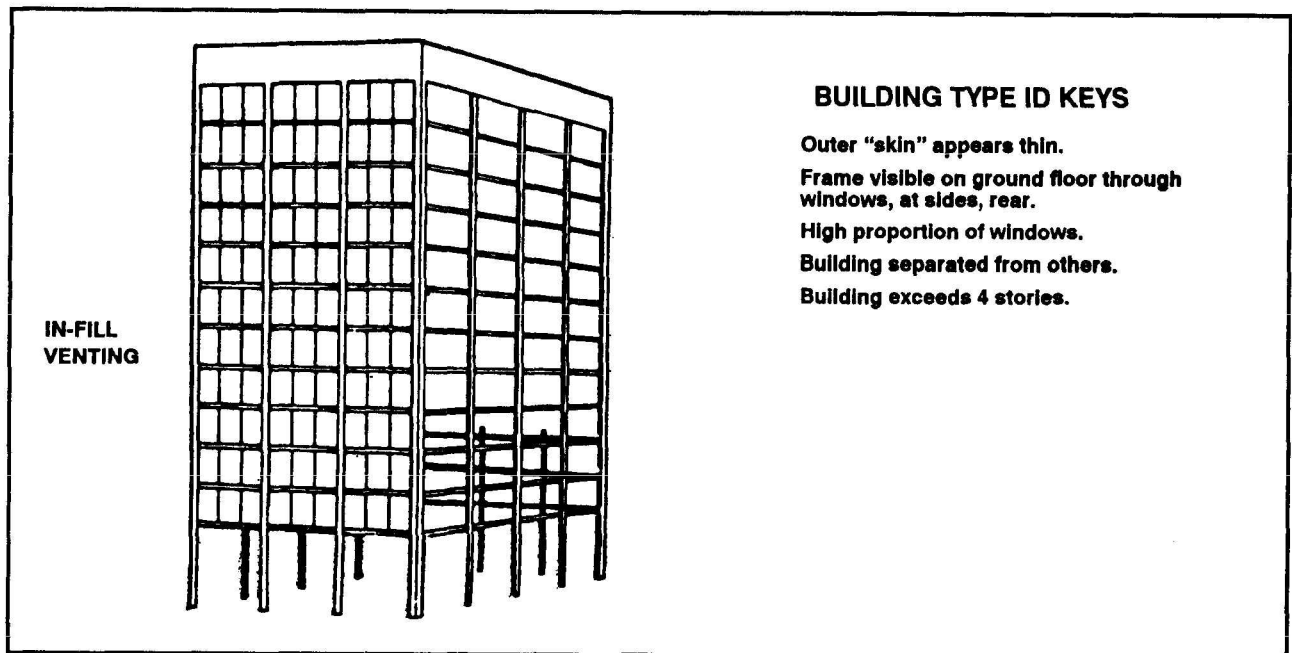
**Figure H-12. Fire wall and fire door.**

(3) Another type of heavy-clad framed building is used as a high-rise factory (Figure H-13, page H-8). Such buildings are normally easily recognized because the concrete beams and columns are visible from the outside. They are usually located in older industrial areas. The large windows and open interior favor the use of ATGMs. Because the floors are often made to support heavy machinery, this building provides good overhead cover.

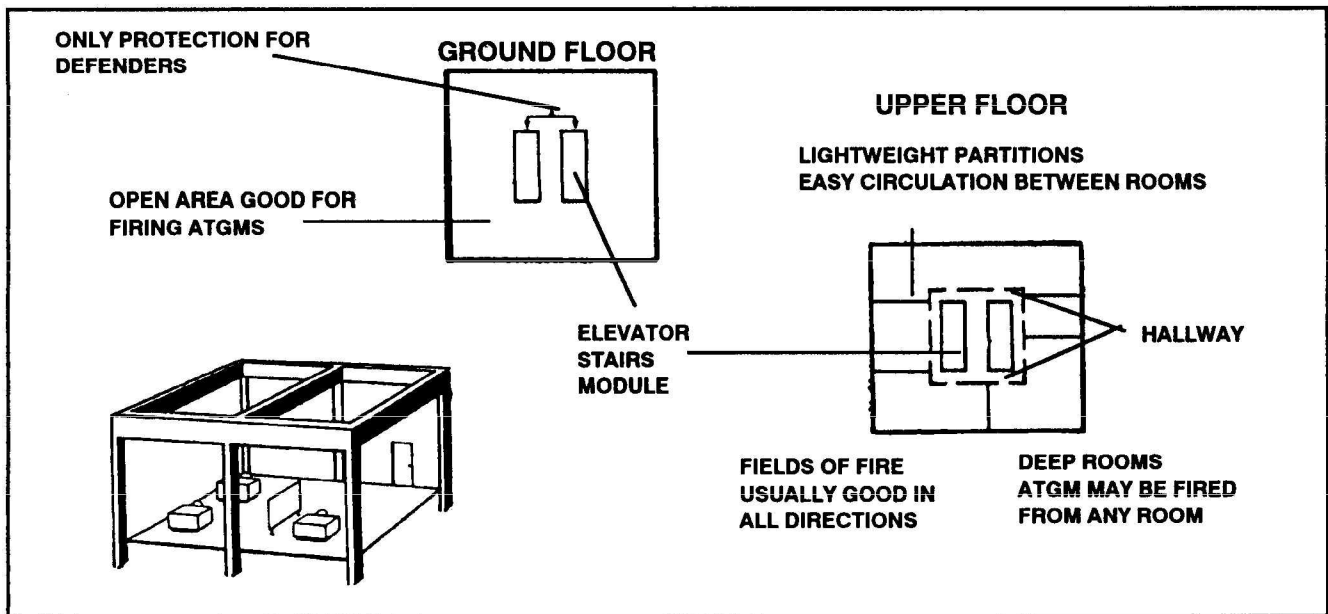


**Figure H-13. High-rise factory.**

b. Light-clad buildings are more modern and may be constructed mostly of glass (Figure H-7). Most framed buildings built since World War II are light-clad buildings. They are found in both core and outlying high-rise regions. Their walls consist of a thin layer of brick, lightweight concrete, or glass. Such materials provide minimal protection against any weapon. However, the floors of the buildings are much heavier and provide moderate overhead cover (Figure H-14). The rooms in light-clad buildings are much bigger than those in heavy-clad. This feature, along with the fact that the buildings usually stand detached from other buildings, favors the employment of ATGMs. The interior partitions are thin, light and easy to breach (Figure H-15).

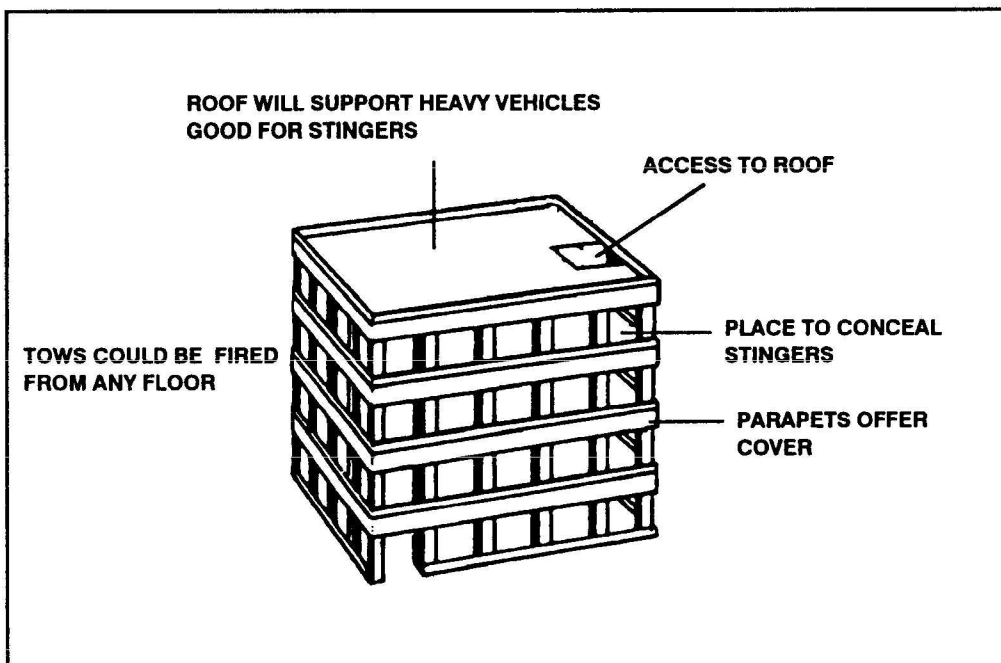


**Figure H-14. Light-clad framed building.**



**Figure H-15. Light-clad framed room.**

c. The garage is one of the few buildings in an urban area in which all floors support vehicles. It provides a means to elevate vehicle-mounted TOWs, and the open interiors permit firing of ATGMs. Garages are normally high enough to provide a 360-degree field of fire for anti-aircraft weapons. For example, a Stinger could hide under the top floor of the garage, come out to engage an aircraft, and then take cover again (Figure H-16).

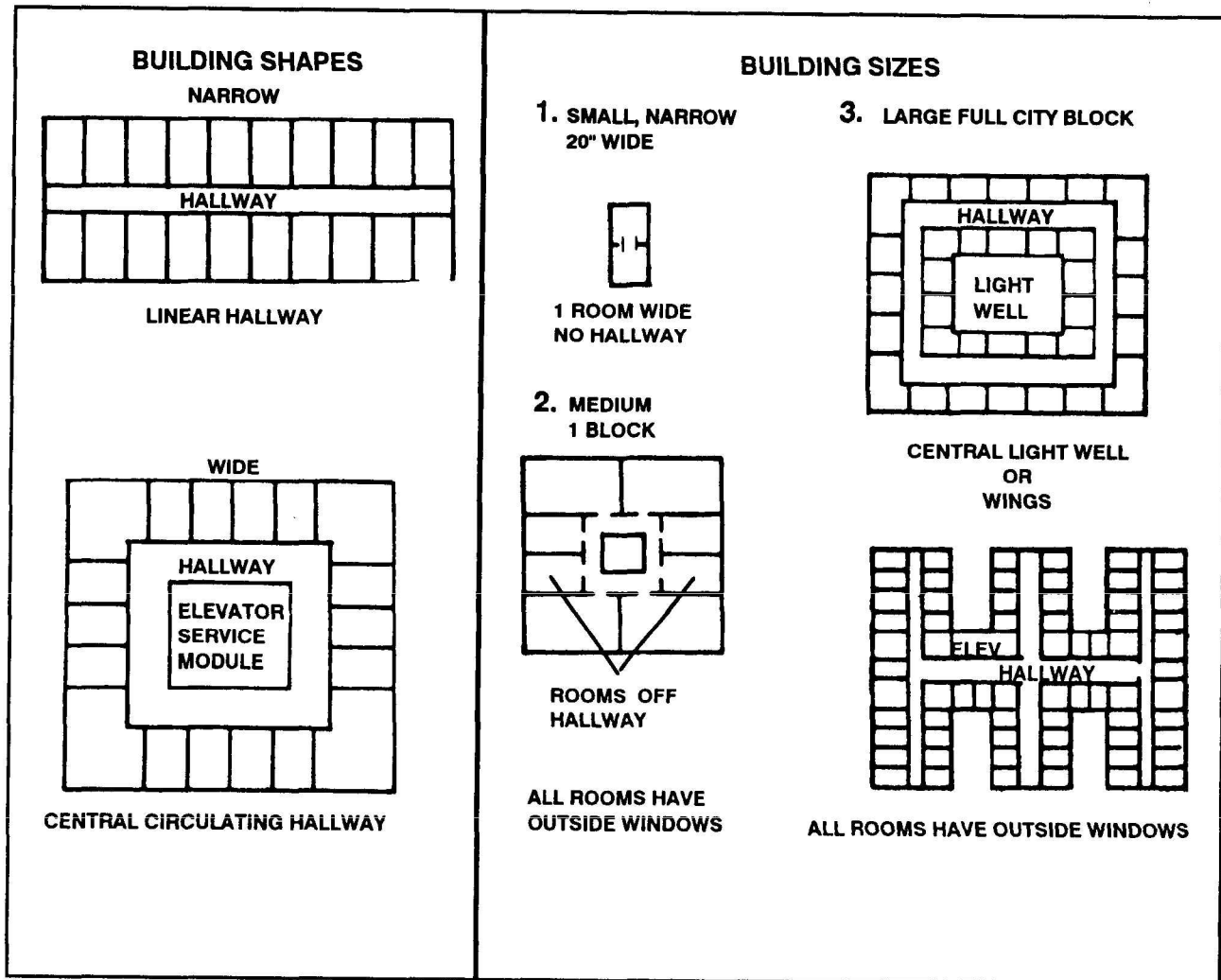


**Figure H-16. Garage.**



**H-3. FLOOR PLANS**

Floor plans in buildings follow predictable patterns. One of the factors that determines floor plans is building shape (Figure H-17). The basic principle governing building shape is that rooms normally have access to outside light. This principle helps to analyze and determine the floor plans of large buildings.



**Figure H-17. Building shapes and sizes.**

**H-4. RESIDENTIAL AREAS**

The two basic types of houses in the western world are located in and around cities and in rural areas. City houses are normally mass-construction brick buildings. Rural buildings in the continental US, South America, and Southeast Asia are commonly made of wood. In continental Europe, Southwest Asia, and sub-Saharan Africa, where wood is extremely scarce, rural buildings are normally constructed of concrete blocks (Figure H-18).

a. Another common type of building structure in cities with European influences is called the Hof-style apartment building (Figure H-19).

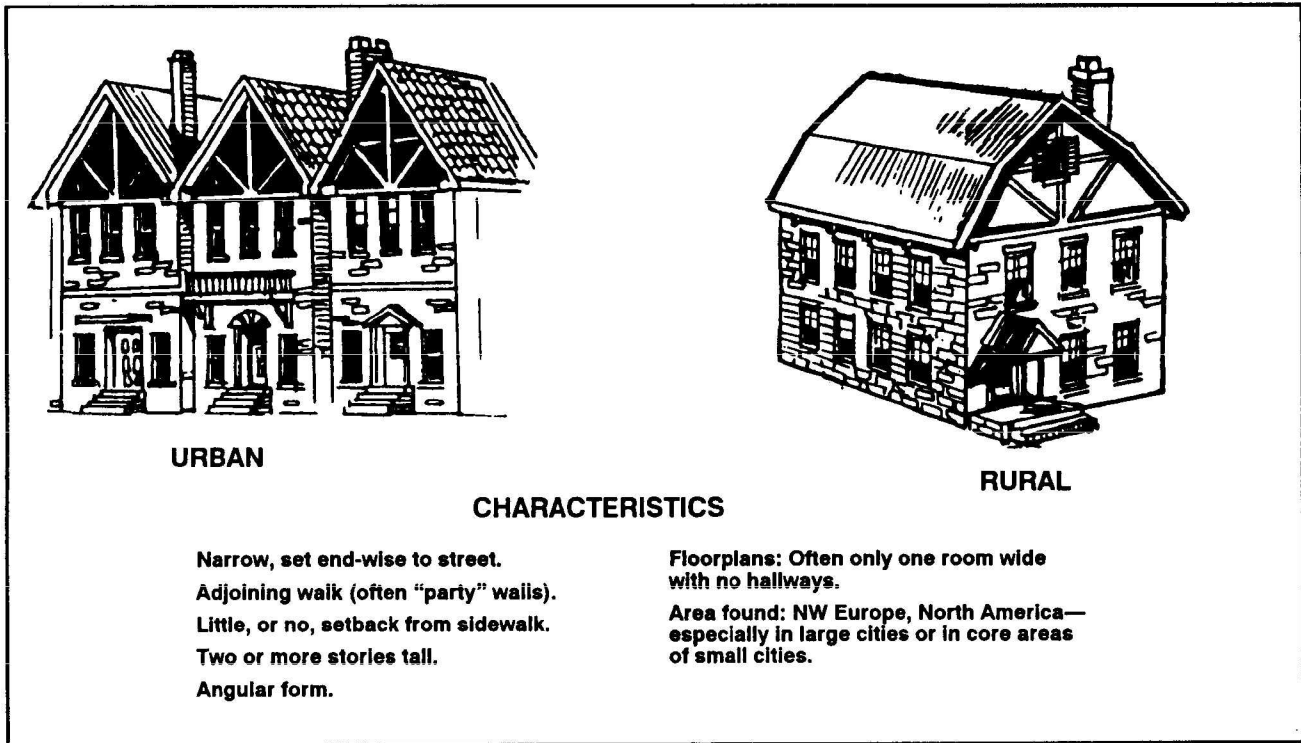


Figure H-18. Types of housing.

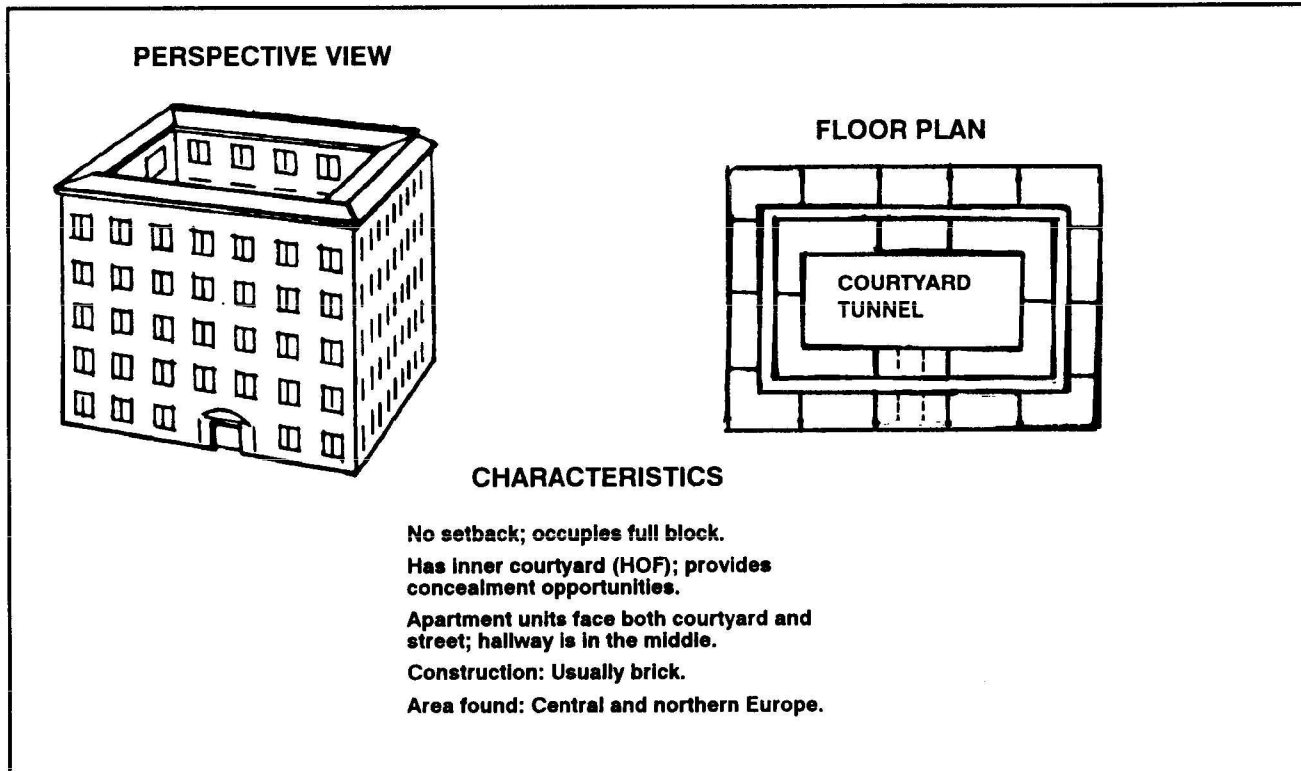
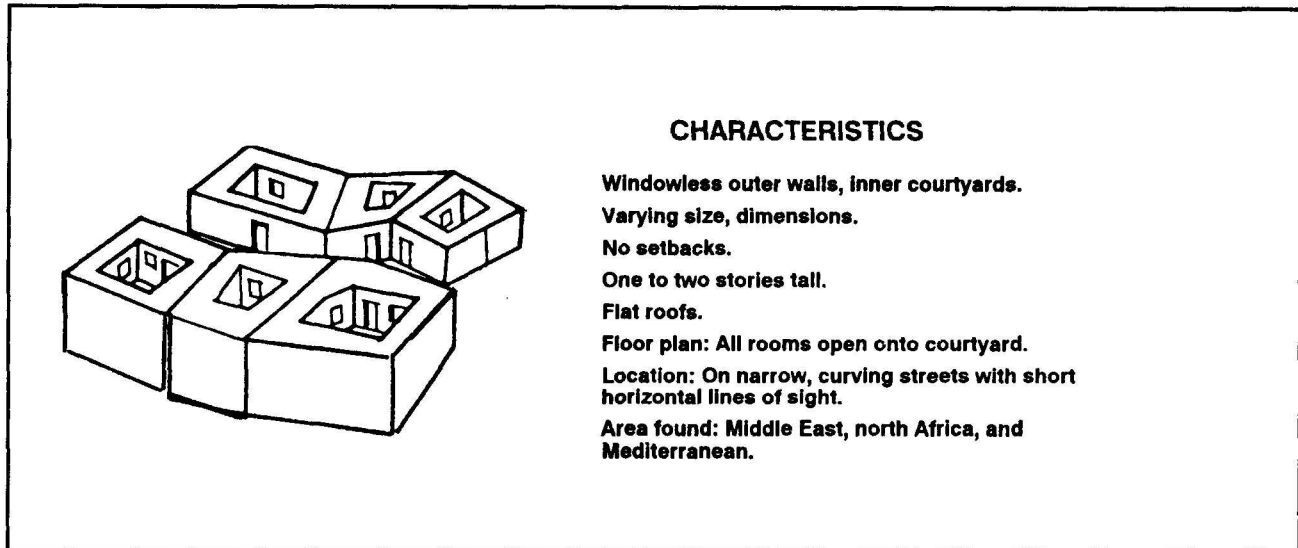


Figure H-19. Hof-style apartment building.

b. In the Mideast and tropical regions, the most common housing is the enclosed courtyard. Houses are added one to another with little regard to the street pattern. The result is a crooked, narrow maze, which is harder to move through or fire in than dense European areas (Figure H-20).



**Figure H-20. Enclosed courtyard.**

**H-5. CHARACTERISTICS OF BUILDINGS**

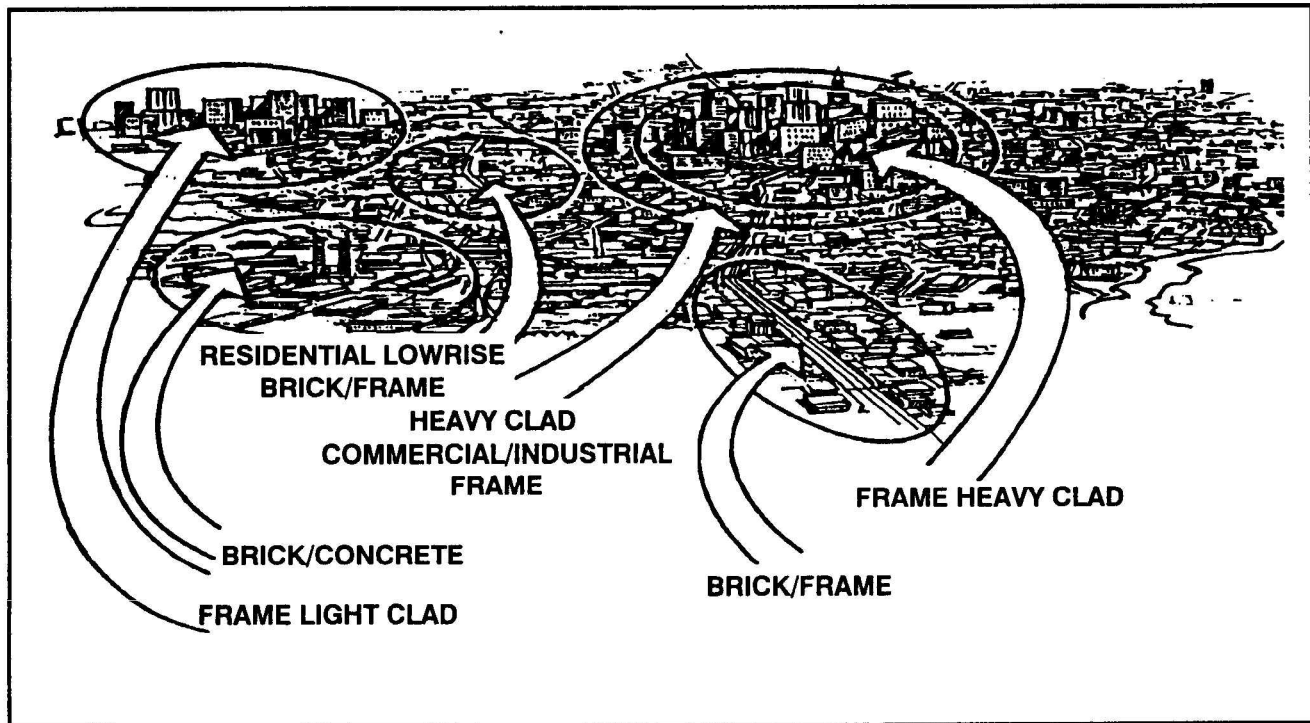
Certain characteristics of both mass-construction and framed buildings can be helpful in analyzing a built-up area. Leaders can use Table H-1 to determine how to defend or attack a certain building given the unit's available weapon systems.

TYPE OF CONSTRUCTION	BUILDING MATERIAL	HEIGHT (STORIES)	AVERAGE WALL THICKNESS (CM)
Mass	Stone	1 to 10	75
Mass	Brick	1 to 3	22
Mass	Brick	3 to 6	38
Mass	Concrete block	1 to 5	20
Mass	Concrete wall and slab	1 to 10	22 to 38
Mass	Concrete "tilt-ups"	1 to 3	18
Framed	Wood	1 to 5	3
Framed	Steel (heavy cladding)	3 to 50	30
Framed	Concrete/steel (light cladding)	3 to 100	2 to 8

**Table H-1. Characteristics of buildings.**

## H-6. DISTRIBUTION OF BUILDING TYPES

Certain types of buildings dominate certain parts of a city, which establishes patterns within a city. Analysis of the distribution and nature of these patterns has a direct bearing on military planning and weapon selection (Figure H-21).



**Figure H-21. Distribution of building types.**

a. Mass-construction buildings are the most common structures in built-up areas, forming about two-thirds of all building types. Brick structures account for nearly 60 percent of all buildings, especially in Europe.

b. Steel and concrete framed multistory buildings have an importance far beyond their one-third contribution to total ground floor area. They occupy core areas—a city's most valuable land—where, as centers of economic and political power, they have a high potential military significance.

c. Open space accounts for about 15 percent of an average city's area. Many open spaces are grass-covered and are used for parks, athletic fields, and golf courses; some are broad, paved areas. The largest open spaces are associated with suburban housing developments where large tracts of land are recreation areas.

d. Streets serving areas consisting of mostly one type of building normally have a common pattern. In downtown areas, for example, high land values result in narrow streets. Street widths are grouped into three major classes: 7 to 15 meters, located in medieval sections of European cities; 15 to 25 meters, located in newer planned sections of most cities; and 25 to 50 meters, located along broad boulevards or set far apart on large parcels of land. When a street is narrow, observing or firing into windows of a building across the street can be difficult because an observer is forced to look along

the building rather than into windows. When the street is wider, the observer has a better chance to look and fire into the window openings (Figure H-22).

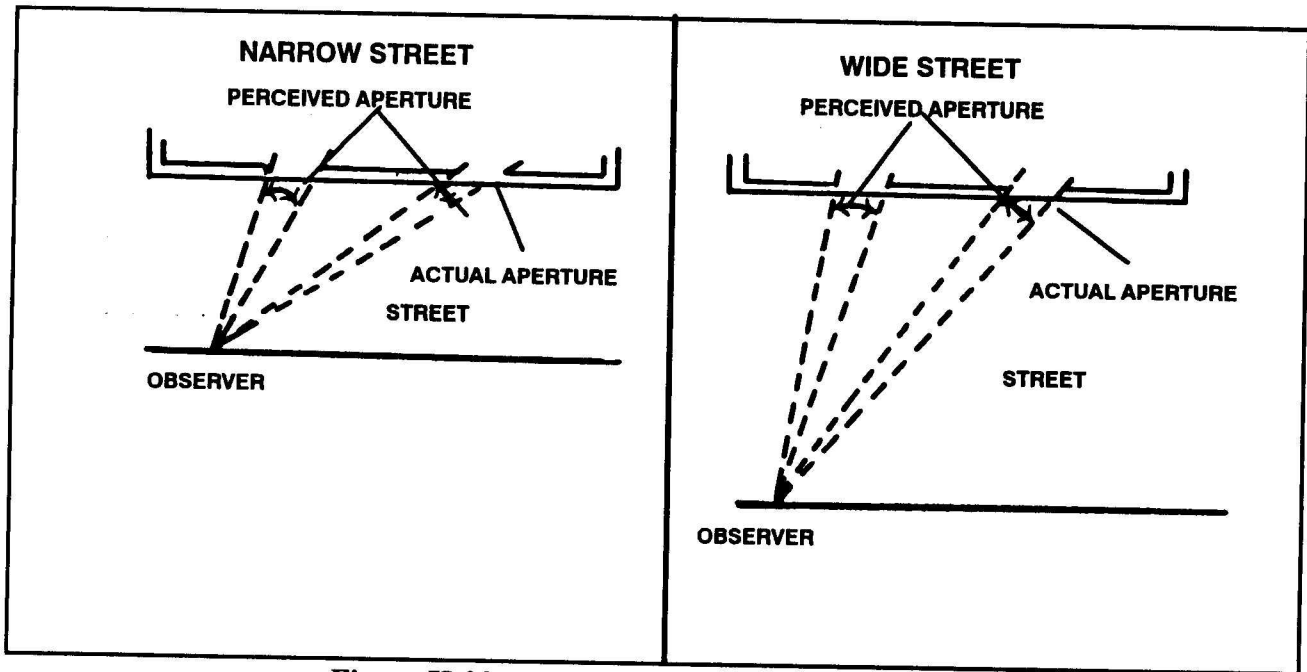


Figure H-22. Line-of-sight distances and angles of obliquity.

## APPENDIX I

### LIMITED VISIBILITY OPERATIONS UNDER MOU T CONDITIONS

*With the rapid development of night vision devices throughout the world and AirLand operations doctrine that mandates continuous operations, US forces will continue to fight in built-up areas regardless of the weather or visibility conditions. To be successful, leaders must anticipate the effects of limited visibility conditions on operations and soldiers.*

#### I-1. ADVANTAGES

When fighting in built-up areas during periods of limited visibility, attacking or defending forces have several advantages.

a. In most cases, US forces have a technological advantage in thermal imagery and light intensification over their opponents. This enables US forces to identify, engage, and destroy enemy targets before detection by the enemy.

b. AirLand operations stress continuous operations, day and night. This allows the attacking forces to conclude the battle decisively in a shorter period of time. It also allows the attacker to retain the initiative.

c. Direct-fire target ranges in the MOU T environment are greatly reduced. During periods of limited visibility, effective target acquisition ranges are even further reduced. This enables attacking forces to close to shorter ranges, thus increasing the lethality and accuracy of weapons. Attacking forces can also take advantage of the enemy's reduced visibility and can engage before being detected with thermal imagery or light intensification devices.

d. Air assault operations are best conducted during periods of limited visibility, since the enemy's air defenses are degraded.

e. Attacking during periods of limited visibility gives the attacker a greater chance of surprise.

#### I-2. DISADVANTAGES

When fighting in built-up areas during limited visibility, attacking and defending forces also face some disadvantages.

a. Command and control is difficult in any operation in a built-up area, and periods of limited visibility increase this difficulty.

b. Soldiers have an instinctive tendency to form groups during limited visibility. Constant attention must be given to prevent the soldiers from "bunching up."

c. Due to the low visibility and the characteristics of built-up areas, soldiers become disoriented easily.

d. Target identification becomes difficult in limited visibility conditions. Depending on the individual, the soldier may fire at anything he sees, or he may hesitate too long before firing. This is one of the leading causes of fratricide, so leaders must pay close attention to soldiers' target engagement.



### **I-3. FRATRICIDE AVOIDANCE**

The risk of fratricide is much greater during periods of limited visibility. The key to avoiding fratricide is situational awareness by leaders and individuals coupled with training. Other considerations include:

- a. Graphic control measures should be clearly defined and obvious. Examples include distinct buildings, large boulevards, rivers, and so forth.
- b. Leaders must exercise firm control when engaging targets. Movements should also be tightly controlled.
- c. Cleared rooms and buildings should be distinctly marked to identify cleared areas and friendly troops to any base of fire supporting the maneuver.
- d. Visible markers (for example, glint tape or thermal strips) should be attached to individual soldiers.
- e. Far and near recognition symbols should be used properly.
- f. Units using close air support must exercise firm control and direct their firing. Failure to do so may lead to the pilot becoming disoriented and engaging friend and foe alike.

### **I-4. URBAN ENVIRONMENTAL EFFECTS ON NIGHT VISION DEVICES**

The characteristics of built-up areas affect standard US NVDs and sights differently than do open areas. This may cause some confusion for soldiers operating during limited visibility, since the images they receive through their NVDs are unusual.

- a. Since most built-up areas have electric power, street lights and or building lights "white out" any light intensification devices unless the power is disrupted.
- b. The chance that fires will be burning in the area of operations is high. This causes problems not only for light intensification devices, but possibly for thermal devices as well.
- c. Subterranean areas and the interiors of buildings will not have ambient light if the power is off. Passive NVDs must have an artificial light source, such as infrared, to provide enough ambient light for the devices to work.
- d. The many reflective surfaces found in built-up areas may cause false images, especially for laser range finders and laser target designators.
- e. Large amounts of dust particles suspended in the air prevent thermal imaging devices from seeing through the dust cloud.
- f. Smoke also affects NVDs similar to the way dust does.
- g. Fog degrades long-range target acquisition from thermal sights, which may cause problems for any overmatching or supporting elements.
- h. Weapons flashes within enclosed areas appear to be much brighter. This causes soldiers to lose their night vision and washes out light intensification devices.

### **I-5. CONSIDERATIONS**

The environment of built-up areas presents special challenges and considerations during periods of limited visibility.

- a. The use of glint tape, thermal tape, budd lites, or chemlites is an important consideration. These can be used to mark the forward line of troops, casualties, cleared buildings and rooms, weapons positions, and

individual soldiers. Their use must be clearly addressed in the unit's TAC SOP. When markers are used for extended periods, their meanings should change since the enemy may be able to capture or manufacture and use these marking devices.

b. The use of tracer and incendiary ammunition may be restricted to prevent fires. Also, the light of the fires "whites out" light intensification night vision devices and may interfere with thermal devices.

c. The control of power stations may be essential to operations during limited visibility. This enables friendly forces to control, to a degree, background illumination. Shutting off the power to the street lights is preferable to shooting the lights out. Commanders must balance the trade-off between force protection and maintaining law and order after the battle is over. During cold weather, the control of power stations may be critical for the welfare of the civilian population.

d. The identification between friendly soldiers, noncombatant civilians, and enemy troops becomes more difficult during limited visibility operations.

e. The location of the source of sounds becomes more difficult due to the natural echoing in built-up areas and the tendency of sounds to carry farther at night.

f. The location of booby traps and obstacles also becomes more difficult at night. Movement rates are slower than during normal visibility.

## I-6. SPECIAL EQUIPMENT

Fighting during periods of limited visibility requires some specialized equipment to maximize maneuver and target engagement.

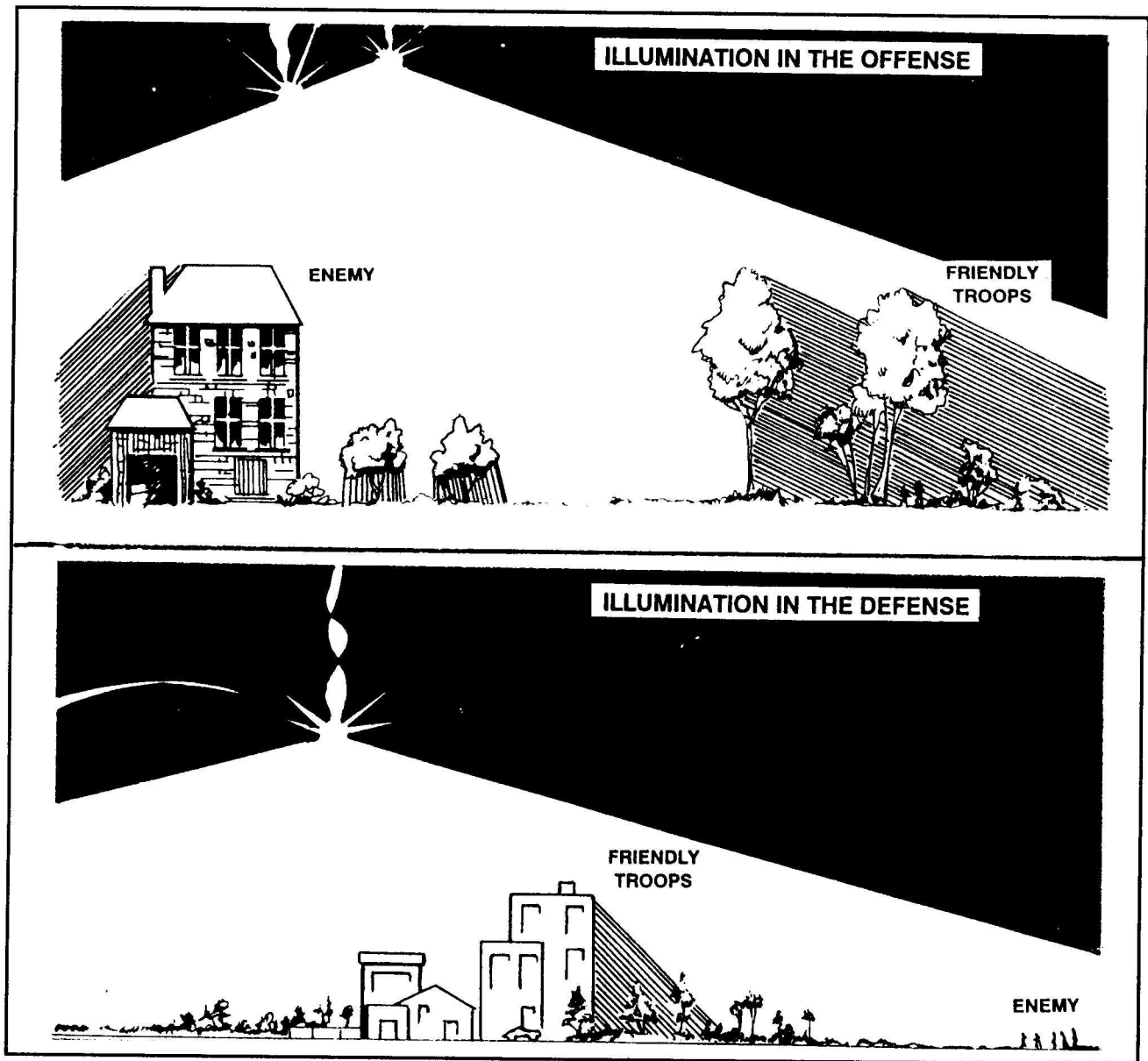
a. As a rule, thermal imaging devices, such as the AN/PAS-7 IR viewer (LIN Y03104) and the Dragon IR sight AN/TAS-5 (LIN N23721), are better for limited visibility operations than light intensification devices such as the AN/PVS-7 (LIN N05482). Light intensification devices are easily washed out from background light, weapons flashes in enclosed areas, and fires. Thermal devices, while also affected by fires, are not as easily washed out.

b. The AN/PAQ-4 infrared aiming device (LIN A34938) is similar to its civilian laser aiming sight counterparts except it is not visible to the naked eye. Pen lights can also be attached to weapons to provide a quick sight picture, illuminate rooms and hallways, identify obstacles and booby traps, and identify friendly forces.

c. Other night sights for weapons include the AN/TVS-5 (LIN N04596) crew-served weapon night vision sight, the AN/PVS-4 (LIN N04734) individual weapons night vision sight, and the AN/UAS-11 (LIN N05050) night vision set. The AN/UAS-11, while not easily man-portable, has the advantage of an integral laser range finder. It is also a thermal sight similar to the TOW 2 AN/TAS-4 night sight.

d. Trip flares, flares, illumination from mortars and artillery, and spotlights (visible light or infrared) can be used to blind enemy NVDs or to artificially illuminate the battlefield (Figure I-1). (See FM 7-90 for more information on illumination from mortars and artillery.)

e. Spare batteries for the NVDs should be carried to keep the devices operational. Soft, clean rags should be used to clean the lenses.



**Figure I-1. Use of indirect fire illumination during MOUT.**

**I-7. COMBAT SUPPORT**

Loss of synchronization is one of the major concerns to commanders and leaders during limited visibility operations under MOUT conditions. The concentration of forces and fires at the point of decision is facilitated by US forces' technological edge and by clear orders.

a. Any degradation of artillery fire will be due to the limited target acquisition assets. While the field artillery FOs and combat observation and lasing teams (COLTs) have thermal sights and laser range finders, most soldiers on the battlefield do not have devices that will enable them to accurately call for fire. The following are some devices and techniques to acquire targets for indirect fires.

(1) The AN/UAS-11 determines accurate coordinates with its thermal imaging sight coupled with a laser range finder. For the AN/UAS-11 to obtain accurate coordinates, the crew must first have an accurate location. The same technique can be used by any attached armor unit. The BFV can be used as well if it is equipped with a laser range finder.

(2) Preregistered TRPs are effective only if the TRPs can be observed and the observer has clear communications to the firing unit.

(3) Reflective surfaces found in built-up areas may affect laser designators.

(4) Counterfire radar should be employed to cover likely areas of enemy mortar, cannon, and rocket use. Because of the masking effect of built-up areas, counterfire radars are not normally emplaced within the built-up area.

b. Fixed-wing aviation assets face a lower ADA threat during periods of limited visibility. However, the need for command and control is greater to prevent fratricide. The best fixed-wing aircraft available for fire support is the AC-130 because of its target acquisition capabilities, deadly and accurate fire, and long loiter time.

c. Army aviation operates on similar limitations and considerations as fixed-wing aircraft. Most US Army attack helicopters have a forward-looking infrared (FLIR) night sight. Coupled with the slower speed and hover capability of the helicopter, Army aviation assets can deliver highly accurate and responsive fire on enemy targets. However, helicopters are more susceptible to enemy air defense artillery assets and, therefore, should only be employed where the enemy air defense threat is light. Commanders must identify clear land marks for the pilots to navigate to and from the objective.

d. ADA is significantly degraded during periods of limited visibility. Visual detection, identification, and range estimation are all difficult, if not impossible. Radar guidance systems have difficulty determining the target from ground clutter.

e. The lack of thermal imaging devices may hamper engineer units. Locating and clearing mines and booby traps also become more dangerous and difficult. The method of marking cleared lanes should be determined and coordinated in advance to avoid confusion with other limited visibility markers (glint tape, infrared strobe lights [budd lites], chemlites, and so forth).

f. Military intelligence relies primarily on human intelligence assets to gain information about the enemy in urban environments.

(1) GSR and REMs have limited use in the center of built-up areas. They are best employed on the outskirts to monitor traffic into and out of the built-up area. If necessary, GSR can be used to cover large open areas such as parks and public squares. REMs can be used in subterranean areas such as sewers and utility tunnels.

(2) Military intelligence units equipped with the AN/UAS-11 can use it in a variety of target acquisition and surveillance roles.

(3) Based on the time available before the operation or the urgency of need, satellite photographs of the built-up area may be available.

(4) Military intelligence officers at brigade level and below should obtain city maps of the area of operations. The normal 1:50,000 map scale is virtually useless to soldiers fighting in a built-up area. The Defense Mapping Agency maintains various city maps with either a 1:10,000 or 1:12,500 scale. These maps are created based on the need for contingency operations and

noncombatant evacuation operations (NEO). If no maps are available for the area, the S2 at battalion level can request that the division topographic section produce some products based on Terrabase and satellite imagery. If the division topographic section cannot produce the map, the request should be forwarded through channels to corps.

### **I-8. COMBAT SERVICE SUPPORT**

Maneuver unit commanders and their soldiers are not the only individuals that must adjust to combat under limited visibility conditions in MOUT operations. Logisticians at every level must anticipate requirements for this unique environment.

a. Units conducting resupply operations during periods of limited visibility should remember the following:

(1) Drivers and vehicle commanders should be issued night vision devices so the vehicles going to and from logistic release points do not need any illumination. This also prevents the enemy from acquiring resupply locations by following vehicles with blackout lights on.

(2) Strict noise and light discipline should be maintained.

(3) Vehicles should follow a clearly marked route to avoid any obstacles and prevent the resupply vehicle(s) from becoming disoriented.

(4) Radios should be redistributed to resupply vehicles whenever possible, in case of further instructions.

(5) Each vehicle should have a map of the area of operations (preferably a city map with the street names).

b. Combat units operating for extended periods during limited visibility should have enough batteries to keep the NVDs functioning at optimum power and sensitivity.

c. A large operational readiness float of night vision devices, especially thermal sights such as the AN/TAS-4 or AN/UAS-11, should be maintained.

d. Casualty collection during periods of limited visibility is much more difficult. Clear methods for marking any casualties must be established before the operation begins.

e. CSS operations in existing structures at night must not be visible from along distance. This includes limiting vehicle traffic to an absolute minimum, sealing doors and windows to prevent light leakage, and dispersing assets as much as possible.

### **I-9. OFFENSIVE CONSIDERATIONS**

US forces conduct attacks during periods of limited visibility to gain or sustain the momentum of the attack. Before conducting a limited visibility attack, the commander must balance the risks and ensure that every soldier understands the intent and control measures. Rehearsals and strict command and control reduce casualties and greatly enhance the chances for mission accomplishment.

a. Soldiers should clear buildings and rooms using the same techniques they use during periods of unlimited visibility to reduce confusion. The soldiers are well rehearsed in these techniques and, therefore, more confident. The only major difference is in equipment used. (See the paragraph on special equipment in this appendix.)

b. Movement rates are slower. Each soldier must be alert for mines, booby traps, and enemy positions. Although thermal imaging devices can

detect the difference in the temperature of the soil, light intensification devices are usually better for detecting recently disturbed dirt. Thermal imaging devices are better for identifying personnel; however, light intensifiers can identify friendly soldiers, noncombatants, and enemy troops better than the thermals.

c. Squads and fire teams should be equipped with a mixture of both thermal imaging and light intensifying devices whenever possible. This enables the squads and fire teams to obtain a better picture of the night environment and enables the soldiers to balance the strengths and weaknesses of each type of night vision device.

d. When moving through buildings, the assault teams must mark cleared rooms and buildings, and communicate with the support team(s). This communication is critical if more than one assault team is in the same building.

e. Soldiers should maximize the use of ambient light whenever possible for two reasons: to conserve the batteries of the night vision devices, and to make detection of attacking US forces harder for the enemy.

f. If flashlights or chemlights are used, they should be held away from the head or chest area. This will make it harder for enemy soldiers firing at the light to kill the soldier holding the flashlight or chemlite.

g. The assault team must have clear communications with all supporting elements, whether they are organic, in DS, under OPCON, or attached. Supporting units should not fire unless they have good communications with the assaulting elements and are sure the targets they are engaging or suppressing are the enemy.

h. Units must know where everyone is during offensive operations. Not only does this reduce the risk of fratricide, but it also increases the time of identifying, locating, and treating casualties. Also, it greatly reduces the chance of soldiers becoming disoriented and separated from the unit.

i. Assault teams should be aware of adjacent fires that diminish the effectiveness of night vision devices. Weapons flashes within small rooms cause soldiers to lose their night vision and wash out light intensification devices. Also, enemy soldiers may use flares inside and outside of buildings to render night vision devices ineffective.

j. Leaders must ensure that all soldiers follow the rules of engagement and the laws of land warfare. This is critical if the enemy is intermixed with the local civilian population. Also, soldiers and leaders must follow all control measures, especially graphic control measures.

## **I-10. DEFENSIVE CONSIDERATIONS**

Enemy forces can be expected to use periods of limited visibility for the same reasons US forces do. (See the paragraph on advantages in this appendix.) Enemy forces may have access to sophisticated night vision devices manufactured in Europe, the United States, Japan, Korea, and the former Soviet Union. (See Chapter 4 for more information on defensive techniques.)



## COUNTERING URBAN SNIPERS

*Whether specially trained and equipped expert shots or merely individual riflemen of mediocre marksmanship, snipers have always played a large role in combat in built-up areas. They have been used to disrupt US operations, inflict casualties, and to tie down large numbers of troops searching for them. The lethality and accuracy of modern weapons, the three-dimensional aspect of urban battlefield, and the many alleyways, corridors, and rear exits available for a sniper's use make him a threat that cannot be ignored. Commanders and leaders at all levels must be aware of the threat posed by the urban sniper, the effects he can have on friendly unit operations, and the steps by which he can be countered and his threat minimized. For the purpose of this appendix, the term sniper is used to describe any single rifleman firing carefully aimed shots from medium to long range.*

### **J-1. TYPES OF SNIPERS AND THEIR CAPABILITIES**

The three general types of snipers are the specially trained and equipped individual, the trained marksman, and the civilian irregular. Each has different characteristics of operation and may be used to accomplish different purposes. Countermeasures that are effective against one type may be less effective against another.

a. The most dangerous sniper is the individual who has been specially selected, trained, and equipped with a modern scope-mounted sniper rifle. These individuals are expert shots and are trained to select key individuals as their targets. They can hit at great range (sometimes out to 1,000 meters) and are skilled in avoiding detection. They are normally members of an organized armed force and wear a standard uniform that may be modified to provide better camouflage. Their actions are carefully integrated into the enemy's overall plan of operation. This sniper is the most difficult to counter effectively. Until recently, there were not many potential adversaries of the US that could produce significant numbers of such individuals. However, many armies in the world have a renewed interest in snipers. More and more sniper training is taking place, and excellent 7.62-mm sniper rifles are available at a reasonable cost on the world arms market. US forces can expect to see more and more trained snipers during urban combat operations of the future. Some of these may be equipped with rifles and night observation equipment that are among the best in the world. The US Army and its Western allies already have a relatively large number of this type of sniper, as do several of the states of the former Soviet Union.

b. The trained marksman is a common sniper often found in urban combat. This sniper is a trained soldier, equipped with a standard issue weapon, who is

an above-average shot. He normally has fair to good fieldcraft skills and is difficult to detect in the urban environment. He may be employed singly or in pairs to create confusion among friendly forces, cause casualties, or harass and disrupt the tempo of operations. He is often used by the enemy in an economy-of-force role or as a rear guard or covering force while the main enemy force withdraws. He may also be placed on the perimeter of a defended urban area to provide early warning of the approach of friendly forces and to disrupt and cause them to deploy early. The trained marksman is a dangerous foe. He can be found in fairly large numbers in the armies of many potential adversaries. He is normally a member of an organized armed force and wears a standard uniform. He may, however, be a guerrilla fighter, in which case he may not wear a recognizable uniform but will normally carry his arms openly.

c. The third general type of sniper is the armed irregular. He may have little or no formal military training but may have much experience in urban combat. He may or may not wear any distinguishing uniform and may even strive to appear to be merely another of the thousands of noncombatants found in a large urban area. He may or may not carry his weapon openly and may go to great lengths to avoid identification as a sniper. His fires are normally not accurate, and he seldom deliberately targets specific individuals. His actions are not normally integrated into an overall enemy plan, although his attacks may be loosely coordinated with others in his general area. Although this type of sniper has the least ability to cause heavy losses among US forces, he has high value as an element of harassment and in some OOTW situations he may achieve results far out of proportion to his actual ability to cause casualties.

d. The typical range for a sniper attack is 300 to 600 meters with medium-caliber rifles. Shots from 800 to 1,000 meters are the exception. However, heavy sniper rifles (.50-caliber, 12.7-mm, 14.5-mm, and 15-mm) with ranges of 1,200 to 1,500 meters are now proliferating around the world. These heavy sniper rifles were originally intended as anti materiel weapons for stand-off attack against high-value targets, such as radar control vans, missiles, parked aircraft, and bulk fuel and ammunition storage sites. Because of this, they are only marginally accurate enough for long-range shots against individual personnel. It is their ability to shoot through all but the heaviest shielding material, and their devastating effects, that make them valuable psychological weapons. The ability to shoot through common urban building materials makes these large weapons valuable as countersniper tools.

e. Several other equipment trends will result in a greater threat to US forces from urban snipers in the future.

(1) The quality and quantity of night observation devices sold on the world market is increasing daily. In the near future, even trained marksmen may be equipped with devices to allow accurate fires at night.

(2) The use of simple, direct-view optical sights on military rifles is increasing. Although not in the accuracy class of true sniper weapons, these sights make the trained marksman a much more dangerous foe. This is especially true within the shorter ranges (less than 200 meters) normally associated with combat in built-up areas.

(3) Many armies are now buying simple, but effective, devices to either completely silence or greatly suppress the muzzle blast of sniper weapons. These devices inhibit the task of determining the location of a sniper. Although many of these devices significantly reduce the maximum effective range of the weapon, they can be very effective at less than 200 meters.

## J-2. LAW OF LAND WARFARE APPLIED TO SNIPERS

Historically, units that have suffered heavy and continual casualties from urban sniper fire and that have been frustrated by their inability to strike back effectively often have become enraged. Such units may overreact and violate the laws of land warfare concerning the treatment of captured belligerents. This tendency is magnified if the unit has been under the intense stress of urban combat for an extended time. It is vital that commanders and leaders at all levels understand the law of land warfare and also understand the psychological pressures that come with urban warfare. It requires strong leadership and great moral strength to prevent soldiers from releasing their anger and frustration on captured snipers or civilians suspected of sniping at them.

a. The law of land warfare is not restricted solely to declared wars. It applies in all cases of armed conflict, such as many situations in OOTW. All US soldiers are bound by these laws and the legal orders of their superiors. Under the law, it is forbidden to kill, wound, or harm an enemy who, having laid down his arms or having no means of defense, has surrendered. A sniper who has been captured, or who has surrendered, must not be harmed. It does not matter how many friendly casualties he has caused or how long he waits before he surrenders.

b. Any sniper who wears a uniform of a belligerent, carries his arms openly, and conducts himself in accordance with the law and customs of warfare is automatically entitled to be treated as a prisoner of war, not a criminal. Even an armed irregular who is part of an organized resistance movement, obeys the orders of a designated commander, carries his weapon openly, and obeys the laws and customs of war is accorded such treatment. A civilian who snipes at US forces without meeting these criteria can be detained by the military and tried by the appropriate court. Under no circumstances should a captured person be mistreated or killed in retaliation for sniping, regardless of how many casualties he may have caused.

c. In some OOTW situations, the rules of engagement and the mandate under which the US forces are operating may severely restrict how much lethal counterforce can be used against snipers. Three principles govern the legal use of lethal force. The commander must—

- (1) Make every effort to avoid causing unnecessary suffering.
- (2) Use the minimum force necessary to accomplish the task at hand.
- (3) Apply the type and degree of force in accordance with the rule of general proportionality.

d. Rules of engagement result from the law of war stretched over the situational template of a particular mission. It would violate the law of war, as

well as most ROE, to respond to sniper fire with massive, indiscriminant return fire into an urban area if another less destructive tactic or weapon could be employed without greatly increasing the risk to US forces. Whatever the situation, commanders and leaders must understand the rules of engagement and ensure their soldiers follow them.

### **J-3. SNIPER AWARENESS**

The first step toward countering the successful use of snipers against US forces is for commanders, leaders, and staff officers at all levels to be aware of the sniper threat. Although snipers may be more prevalent in some situations than in others, depending on the adversary, a sniper threat always exists in urban areas to some degree. Plans to counter the sniper threat and to protect the friendly force from snipers must be integrated into the operation from the beginning. Tactics and techniques must be taught to soldiers before they are actually faced with sniper fire.

a. A careful METT-T analysis and consultation with personnel familiar with the area may reveal the existence and degree of the sniper threat to US forces. This is especially important during OOTW. Information on the local sniper threat may be obtained from the following sources:

- Host nation military, government, or police officials.
- US Embassy personnel.
- Allied special operations forces (SOF) or other allied forces operating in the area.
- US special operations forces or other US forces in the area.
- UN officials or other UN forces in the area.
- Nongovernment agency officials.
- Local militia members.
- Local civilians, including children.

b. Coordination with expert US snipers can identify specific areas and situations where enemy snipers may be effective and will help the commander decide on the countermeasures to be employed. In addition to the school-trained snipers assigned to the infantry battalion, there are several other sources of sniper expertise, some of which may be available only during domestic OOTW situations. Some examples of expert US snipers are:

- US SOF snipers such as special forces (SF), rangers, or sea-air-land teams (SEALs).
- US law enforcement officials such as police Special Weapons and Tactics (SWAT) teams, the Drug Enforcement Agency (DEA), the Federal Bureau of Investigation (FBI), or the Secret Service.

### **J-4. PLANNING SNIPER COUNTERMEASURES**

When planning sniper countermeasures, the commander and staff must answer three basic questions. The answers to these questions suggest the set of countersniper tactics, techniques, and procedures that will best fit the METT-T

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condition under which the unit is operating. Consideration of these questions assists the commander and staff in eliminating the TTP that are inappropriate to the situation.

a. The first question is, "What does the US commander want to accomplish, and what rules of engagement govern his operations?" If the commander's intent is to conduct combat operations, and if the rules of engagement allow him to do this with the full force of his available firepower, he can either suppress and bypass the sniper or use the fundamental principle of fix and maneuver. He can use firepower to suppress and fix the sniper in position while maneuvering forces either to avoid the sniper and continue the mission or to close with and eliminate him. However, if the rules of engagement limit the application of force, or the use of such force would create a large number of civilian casualties, he may be limited in his initial response to a sniper attack. In many OOTW situations, the key to success is perseverance, restraint, and the use of minimum or appropriate force. The unlimited use of firepower in an urban area may undermine the legitimacy of the US force and work against the commander's ultimate intent. The right to self-defense is never denied US forces, but it may be limited. This is a difficult concept for soldiers to grasp, especially if they are taking fire from snipers. The time to explain it to a unit is *before* enemy contact, not during. Leaders must keep the commander's ultimate intent in mind when they plan and execute sniper countermeasures.

b. The second question is, "What does the enemy want to accomplish with his snipers, and what capabilities does he have to accomplish it? There are several goals enemy snipers may be striving for. Among them are—

(1) Defeating US forces. At the small-unit tactical level, this is possible for the specially trained sniper and possibly for the marksman.

(2) Forcing US forces to deploy, delaying them, breaking up their tactical tempo, and allowing the enemy to seize the initiative. Unless US forces react aggressively and counter the sniper's effects quickly, this goal is possible for all snipers.

(3) Harassing US forces, exhausting them, and lowering morale. All snipers can do this, but most often the marksman and the irregular are used for this purpose.

(4) Killing a specific individual. This task is almost always assigned to a specially trained sniper. His target may be specific individuals by their function such as military officers, RATELOs, or armored vehicle commanders. In an OOTW situation, his target may be specific individuals, such as political or community leaders, or it may be classes of individuals such as members of the media, international aide workers, policemen, or civilians living in a contested area.

(5) Causing US casualties for political effect. As the information age progresses, potential adversaries will become more and more adept at manipulating the attitudes of the American public to turn them against US efforts in an OOTW situation. This has already occurred and will again. One of the proven ways to do this has been to cause US military casualties,

regardless of their tactical effect, knowing that the world media will transmit images that will discourage Americans and lessen their support.

To answer the second part of this question, the commander must determine the level of sniper to be countered. He must also determine the type of weapons, ammunition, tactics, and night vision equipment available to the enemy. This information can be used to assess the expected range and lethality of enemy snipers, and will aid in identifying patterns to counter. It will also be useful to assess passive protective measures such as the likely effectiveness of body armor, light vehicle armor kits, screens, shields, and so forth.

c. The third important question is, "What are the rules of engagement?" There are three basic levels of ROE against snipers, with many variations of each.

(1) US troops can be held to the use of minimum force. This is common in an OOTW situation, especially during—

- Aid to domestic authorities.
- Peacekeeping.
- Noncombatant evacuations.
- Humanitarian relief.

(2) US troops can be allowed equal or reasonable response to force used against them. This may be the situation in the more violent peace enforcement operations.

(3) US troops can be allowed to use overwhelming force. This is the normal situation during combat in built-up areas when the enemy poses a significant threat to US forces.

## **J-5. COUNTERSNIPER TACTICS, TECHNIQUES, AND PROCEDURES**

Countersniper TTP by US forces involve two types of actions: active countermeasures and passive countermeasures. Each has its place, depending on the METT-T conditions under which the unit is operating. Most sniper countermeasures are not new TTP for well-trained combat troops. They are simply common sense actions taken routinely while in a combat area to limit exposure to fire, conceal positions, move tactically, and respond to enemy contact. Some countermeasures are not routine, however, and require additional training emphasis. No matter which TTT are employed, successful countersniper measures present leaders at all levels with a challenge to maintain unit discipline. The sniper has the initiative. Units must not implement countermeasures halfheartedly. To do so invites casualties from snipers who can wait hours for the moment a unit's guard is down.

a. Active countermeasures either detect and destroy the sniper before he can fire, or engage and neutralize him after he fires. Active countermeasures include the use of the following:

(1) *Observation posts and aerial observers.* Observers can maintain a constant surveillance over potential sniper positions and detect snipers as they



attempt to move into a position for a shot. Once detected, snipers are vulnerable to all sorts of fires and can be easily neutralized or forced to withdraw. Observation posts should have access to powerful spotting telescopes, medium-power binoculars, and night observation devices, thermal if possible. Constantly scanning an area for the minute movements made by a well-trained sniper is exhausting. Therefore, personnel on OP duty should rotate often. However, a person who is intimately familiar with the area being scanned is most likely to notice a subtle change. Aerial observers can operate from any of several platforms. The modernized OH-58, with its sophisticated night vision capability, and the AC 130 have excellent capability to detect individual snipers around US positions. Any of several unmanned aerial vehicles (UAVs), with their extended loiter time and video/night vision capability, can also be used effectively. As military and commercial lasers become more and more common, these devices may be used against US forces manning observation posts. Observers should be equipped with laser protective glasses, especially when using direct-view optical devices. Laser protective glasses, binoculars with laser filters, and indirect-view optics protect observers from most laser systems available now around the world.

(2) **Patrols.** Constant reconnaissance and security patrols around a unit's position hinder a sniper's getting into a firing position undetected. Small patrols are the most effective.

(a) Like US sniper teams, enemy sniper teams are small and depend on stealth to approach a target along covered and concealed routes. Normally, they move to a hide or "shoot" position and remain there for long periods. These sniper teams are most effective when they have good fields of fire from 300 to 600 meters. At ranges of less than 300 meters, the sniper's movements and firing signature are easily detected. A moving sniper who has been discovered by a small security patrol is at a great disadvantage. He lacks the firepower to fight a long engagement, and he is normally far from any support or assistance.

(b) Small security patrols at night using night vision devices can be very effective. Reconnaissance patrols should move by covered and concealed routes to good observation points, stop, observe, then move to another position. The patrol routes must vary, and a reaction force or supporting weapons must be ready if the patrol makes contact. If military working dogs and trained handlers are available, they can be useful in detecting enemy snipers. Dogs can quickly search large buildings for hidden enemy and can detect personnel at long range if downwind.

(c) In addition to reconnaissance patrols, small combat patrols are also effective. A variation of the ambush patrol is the stay-behind ambush. A small ambush element moves as part of a larger patrol and occupies its position without being observed. It then observes its kill zone, which may be very large if the element has a sniper team with it, and engages enemy snipers as they attempt to move into position.

(3) **US snipers.** US snipers can be most effective as a counter to enemy snipers. Not only do they have an expert knowledge of sniping and likely enemy hiding places, they can normally engage enemy marksmen and



irregulars at a greater range than the enemy sniper can engage US forces. Their precision fires are also much less likely to cause civilian casualties than fires from other weapons. The commander must carefully consider whether the use of these scarce resources in such a purely defensive, reactive role is the best way to employ them. Often, especially in OOTW, it may be. In other cases, they may be more valuable inflicting casualties on enemy forces. In some OOTW situations, SOF sniper teams may be available. These highly trained teams are often equipped with special, long-range sniper weapons that can be used to dominate large areas around US forces.

(4) *Unit weapons.* If a unit is engaged by an enemy sniper, it may be authorized to respond with fire from all its light weapons. In an urban area, the direction of enemy fire, especially of a single rifle shot, is often difficult to determine. If a unit can determine the general location of a sniper, it should return suppressive fire while maneuvering a subunit to engage the sniper from close range. This is not always successful, because a well-trained sniper often has a route of withdrawal already chosen. Massive return of fire and immediate maneuver can be an effective response to short-range sniper fires if the rules of engagement allow it. In mid- to high-intensity urban combat, they are often the best immediate responses. Exploding fragmentation rounds, such as from the M203 grenade launcher, are the most effective suppressors.

(5) *Overmatching fire from selected weapons.* The use of overmatching return fires against snipers can be very effective in high-intensity urban combat. Even in some OOTW situations this can work. The 25-mm cannon on the BFV is a powerful and accurate weapon that can penetrate deep into buildings with its APDS rounds. Fires from .50-caliber machine guns were effective against snipers during combat in Panama in 1989. Units reported that the snipers seemed to be intimidated into inaction by the immediate return of heavy machine gun fire. In Somalia, immediate heavy fires from MK 19 automatic grenade launchers were often effective at stopping sniper fires from armed irregulars. Light or medium antitank weapons are also effective. Because of their accuracy, guided munitions such as the TOW, Hellfire, Dragon, or Javelin have the added advantage of limiting collateral damage somewhat. Tank cannon can also be used to respond to sniper fire, although the danger of collateral damage is greater because of the extreme penetration of the round. Immediate mortar or artillery fires can be effective in suppressing a sniper and forcing him to move, but they will seldom be effective by themselves.

(6) *Lasers.* The use of lasers to detect and counter enemy snipers is a new application for this technology. The Stingray system mounted on the BFV is effective against snipers who employ telescopes or night vision devices to observe US forces. In the semiautomatic mode, the Stingray can be used to detect possible snipers and alert the gunner to take action. In the automatic mode, it can be set to scan a specific sector and then engage and neutralize all telescopes and night vision devices it detects. The laser countermeasure system (LCMS) is a simpler, handheld version of the Stingray. It is aimed by the gunner and can also detect and neutralize a sniper's optics. To a lesser degree than these two systems, which are designed to engage targets, powerful

laser range finders and target designators can be used to suppress and temporarily disable enemy snipers. Laser range finders and target designators are effective against all who look in their general direction, regardless of whether a telescope is being employed. An enemy sniper looking through a telescope or binoculars, or one scanning a US position at night, is more vulnerable to laser injury. Although laser devices do not damage buildings or penetrate rooms, care must be taken at close ranges to avoid unnecessary civilian casualties from their use in built-up areas.

(7) *Preemptive fires.* In mid- to high-intensity urban combat, preemptive fires can often be used against likely sniper positions. This technique is more often used during offensive operations. It uses large amounts of ammunition but can be very effective for short attacks. Fragmentation fires from artillery, mortars, and grenade launchers are best for suppressing snipers whose position has not yet been detected.

(8) *Projected smoke or riot control agents.* Projected smoke that builds quickly is a good response to protect a unit from further casualties if engaged by an enemy sniper. It greatly limits his ability to acquire targets. The closer the smoke is placed to the sniper's location, the more effective it is. If the location of the sniper is unknown or cannot be reached by projected smoke, a smoke cloud established near the unit is still effective in reducing the sniper's chances of hitting another target. If the rules of engagement permit, and permission has been granted for the use of riot control agents, they can be used effectively to reduce the sniper threat. Projected agents are the only really useful ones due to the tendency of winds in urban areas to swirl and change direction often. Few snipers can deliver long-range, accurate fires while wearing protective masks.

(9) *Helicopter-carried countersniper teams.* Not only can helicopters provide aerial observation and fires or insert additional combat patrols and reaction forces, they can also carry countersniper teams that can engage identified enemy snipers from the air. US snipers can effectively fire from helicopters using low-power optical sights or infrared laser aiming devices and night vision goggles. When a target is detected, the helicopter begins a pylon turn, orbiting the target. The US sniper, firing out of the left side of the aircraft, can easily acquire and hit his target, while the flight path offers the enemy a more difficult deflection shot. Care must be taken, however, to guard against enemy using decoy snipers to lure helicopters into aerial ambushes.

b. Passive countermeasures prevent the sniper from detecting a clear target or prevent his fires from causing casualties. Many of the passive countermeasures are not unique to countering enemy snipers. They are common sense actions taken by all well-trained infantry units in a combat area to limit exposure and minimize casualties. However, passive countersniper measures are rarely successful by themselves. They may be politically and psychologically effective in terms of reducing US casualties and the level of violence, but they are often ultimately counterproductive to the commander's main mission. They tend to isolate US forces, especially during OOTW, when a visible presence is often required. They tend to create a siege mentality, and they pass the initiative over to the sniper. Especially during OOTW, along

with the initiative comes the certainty of at least an occasional success in casting doubt on the legitimacy and competency of the US effort. Among the most common passive countermeasures are the following:

(1) *Limit exposure.* Use covered and concealed routes. Avoid open plazas and intersections. Stay away from doorways and windows. Move along the side of the street, not down the center. Move in the shadows. Move dispersed, using traveling or bounding overwatch. Avoid lighted areas at night. Avoid being silhouetted against lights or the skyline. Move quickly across open areas that cannot be avoided. Remain crouched or prone behind cover or concealment whenever possible. If troops are riding in the cargo area of trucks, keep the canvas cargo cover mounted to screen them. (This countermeasure may not be appropriate if there is threat of ambush by enemy forces in addition to snipers.) Avoid gathering together in large groups in the open. Remain dispersed. Avoid wearing obvious badges of rank. Avoid exaggerated saluting or standing at attention for officers while in the open.

(2) *Wear protective equipment.* The kevlar helmet and the protective vest will not always stop a sniper bullet, but in many cases they will significantly reduce the severity of wounds. Wear them at any time soldiers are exposed to potential sniper fire. In situations where dismounted movement across country is not required, request and issue soldiers special, heavy protective vests that are actually bullet-proof. All members of units assigned to static positions, such as roadblocks and observation posts, should wear this additional protection.

(3) *Use armored vehicles.* Whenever possible, move around the urban area in a protected vehicle with as little exposure as possible. Avoid open-sided cargo vehicles. Requisition or improvise vehicular armor against small-arms fire for all administrative and logistical vehicles.

(4) *Erect screens and shields.* Use simple canvas or plastic screens to make a dangerous alleyway or street crossing much safer for foot traffic. Adapt screens on windows to allow vision out while hiding personnel inside. Use moveable concrete barriers to provide protection for personnel at static positions. Use common items, such as rubble-filled 55-gallon drums and sandbags, to provide cover where none exists naturally.

(5) *Deny the enemy use of overmatching terrain.* Either occupy such terrain with friendly forces or modify it to make it less useful to an enemy sniper. Pull down likely hiding places (ensure all actions are in accordance with the laws and customs of war). Clear bushes and rubble. Board or brick up windows. Pile up earth and rubble in front of buildings to block lines of sight for snipers.

(6) *Use smoke hazes or smoke screens to obscure the sniper's field of view and limit the effectiveness of his fires.* A clear atmosphere is required for accurate long-range sniping. Smoke hazes can be maintained over broad areas for long periods without significantly hindering friendly operations. Smoke screens can be created quickly and sustained for short periods, often long enough for US forces to accomplish a short-term objective free of sniper fires.