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**MEMORANDUM FOR:** Mr. Frank M. Hand  
Office of the Assistant to the  
Secretary of Defense  
Department of Defense

**SUBJECT:** Soviet Civil Defense

**REFERENCE:** Memorandum on "Soviet Civil Defense," from  
dated 2 November 1961

1. In reply to your memorandum of 6 November, I am transmitting herewith studies of civil defense in the USSR of 1956 and 1958, together with an unpublished 1961 paper. The latter is not finished intelligence but a revised version of the civil defense contribution to NIE 11-3-61, Sino-Soviet Air Defense Capabilities Through Mid-1966, as prepared by the Office of Research and Reports.

2. Also enclosed are two congressional reports (of the House Committee on Government Operations, dated 1959 and 1961) which contain extensive sections on Soviet civil defense. These are unclassified, of course, and already publicly available.

3. You may not be aware that CIA has also published classified studies of Czechoslovakian, Hungarian, and Polish civil defense, which may be of interest:

CIA/IN Civil Defense in Czechoslovakia, 30 November 1956,  
Secret/1

CIA/IN Civil Defense and Shelter Construction in Hungary,  
January 1959. Secret/1

CIA/IN Civil Defense in Poland, September 1960,  
Secret/1

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4. These studies are undoubtedly available in the intelligence libraries in the Pentagon; we can, however, furnish copies if necessary.

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ROBERT ADEHY, JR.  
Deputy Director (Intelligence)

Enclosures: (5)

1. CIA, RR 84, 30 Nov 56, 8/
2. CIA, IP 608, 14 Mar 58, 8/
3. CIA, Soviet CP, 1961, 17 Nov 61, 8/
4. Civil Defense in W. Europe and the Soviet Union, GPO 1959
5. Civil Defense 1961, GPO, 1961

**SOVIET CIVIL DEFENSE**

1961

20 November 1961

**WARNING**

**THIS MATERIAL CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAWS, TITLE 18, USC, SECS. 793 AND 794, THE TRANSMISSION OR REVELATION OF WHICH IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.**

Prepared for: Mr. Frank M. Hand,  
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### Summary

The preparation of civil defense in the USSR represents a continuing program conducted for over ten years.

The organization of civil defense in the USSR encompasses the use of a professional corps of staff officers of the local antiair defense (MPVO) assigned at all levels of government for planning and direction; the maximum use of existing facilities, organizations and services for carrying out the program; and the use of large public organizations to accomplish training of the population in first-aid and civil defense. Formerly a component of the now dissolved Union-Republic Ministry of Internal Affairs, the Headquarters of Local Antiair Defense of the Country (Shtab MPVO strany) probably is subordinate to the Ministry of Defense.

At the city level, MPVO staffs have relied primarily on existing governmental agencies such as police, fire departments, construction organizations, and the like, in forming civil defense services and operative units for fire defense, shelter, rescue and repair, decontamination, and other functions. Although portions of these operating units may remain in cities during a tactical situation, it is believed that many will be evacuated from urban areas if warning time permits. Current Soviet literature indicates development of further aid to cities from military or militarized units and from operative civil defense units formed in small towns and rural areas.

Training the Soviet population for civil defense is primarily the responsibility of a paramilitary society known as DOSAAF (Voluntary Society for Assistance to the Army, Air Force, and Navy), which probably has more than 30,000,000 members. Since 1955, training has been designed to reach every citizen in a series of courses which have totaled over forty hours instruction to date. Although Soviet officials have expressed some satisfaction with the progress of training, the program has been hampered by poor instruction, a shortage of training aids, and public apathy. Best training has probably been accomplished among selected groups, such as Party and government employees, students, and factory workers with less success in rural areas. It is estimated that about 80,000,000 Soviet citizens have had some civil defense instruction. This figure could easily be increased to over 100,000,000 in the near future with some improvement in the quality of instruction. Some city air raid drills have been conducted, but public participation seems to have been limited to clearing the streets and complying with blackout regulations.

Soviet officials have displayed caution in publicizing large nuclear weapons effects, probably not wishing to alarm the population. However, at the present time, publicly available civil defense literature has apprised the public of the danger of large area fallout (extending for "hundreds of kilometers") and that in some cases people might have to stay in shelter for "many" days.

Shelter provided for the general public consists primarily of basements under masonry buildings which have six inches or more of concrete roof. Such

shelters may, at present, accommodate as many as 15 million people. The lighter basement shelters under masonry buildings will provide good protection from fallout when they are equipped with air filtration equipment; their location in urban centers and relatively light construction makes them susceptible to blast effects. There is little evidence that the general urban population will be provided with deep or heavy shelters capable of resisting high overpressures. Exceptions to this are the operating subways of Moscow, Leningrad, and Kiev, and subway construction in Tbilisi and Baku. Subways might presently shelter two and one-half million persons in an emergency. Detached underground bunkers and tunnel-type shelters; usually constructed for selected groups such as government, communications personnel, and workers in important industry; might accommodate another two and one-half million persons. Virtually no shelter has been reported for the rural population; instructions call for the construction of field-type, covered earth trenches or dugouts in a declared emergency.

The future of shelter construction in the USSR is in some doubt. Recent reporting suggests a reduction of basement shelter construction during the course of new building in larger cities. However, this has been accompanied by increased reporting of detached underground shelters and by the introduction of a strategic urban evacuation concept. Some improvement of existing basement shelters has been suggested. Thus, the trend may be toward improved shelter in cities plus a scheme to evacuate part of the urban population to smaller towns and the countryside in an emergency. The current discussion of widespread fallout dangers and need for long period shelters accents the need for shelter preparations in the Soviet countryside.

It is probable that protected locations for alternate government control points have been prepared outside major Soviet cities, together with the communications deemed necessary to insure dissemination of alert and to insure continuity of control under wartime conditions.

1. Characteristics of Soviet Civil Defense.

Since World War II the official view of the USSR has been that civil defense is a necessary measure. This position has been often emphasized since 1955 in statements of prominent military figures, in writings of military theoreticians that stress the importance of "rear area" defense, and by an expanded civil defense training program. Soviet civil defense literature stresses the possibility of nuclear attack directed against centers of population and industry.

The following factors tend to facilitate the preparation and operation of civil defense in the USSR: (a) regimentation of the people should tend to insure discipline in an emergency; (b) central control of civil defense tends to assure consistent planned development; (c) there is a legal compulsion to serve in civil defense; (d) the characteristics of most new urban housing -- usually large masonry apartments -- have permitted the preparation of basement shelter areas with a good level of radiation attenuation and have reduced fire hazards; (e) although the USSR did not use civil defense extensively in World War II, some practical operational experience was acquired; and (f) in the event that chemical and biological agents become more accepted means of warfare, the USSR has the advantage of some preliminary preparations -- for example, the Soviet civil defense trainee has already been given instruction in defense against biological and chemical agents, including nerve gases.

Soviet civil defense operates under security restrictions. A great deal of information, on the level of what the individual citizen needs to know, is disseminated through pamphlets, a specialized periodical press, and in training courses, but plans, the level of civil defense supply, the amount of shelter prepared, and the status of civil defense organizations higher than the basic "self-defense" group are not publicized.

An effort has been made to avoid alarming the public concerning the effects of large nuclear weapons. It was not until recently that the USSR publicized data on the effects of megaton weapons to include radii of blast damage and the possible area and persistency of fallout contamination. The release of this information very nearly coincided with the publication of manuals and films on protection from the "radioactive cloud."

The public has been given detailed behavior instructions and has been assured that proper civil defense preparations will substantially reduce casualties even under conditions of nuclear warfare.

It is clear that the USSR uses a priority system in civil defense preparations. Training, supply, and heavy shelters are developed first for the most important cities and installations -- such as those for government, communications, and major factories.

Popular level civil defense training is aimed at the entire adult population and is being made increasingly compulsory.

Soviet civil defense preparations, which are long-term, have been carried on since at least 1949 with continuous, if sometimes uneven, development.

## 2. Organization

The organization of Soviet Local Anti-air Defense (MPVO) -- i.e. civil defense -- involves the use of a corps of specialized MPVO staff officers for planning and direction; the maximum use of existing governmental and economic facilities, organizations, and services for implementation; and the use of mass social organizations for the general training of the population in first aid and civil defense.

MPVO staff officers function at all levels of government. The central body responsible for civil defense preparations is the Staff of Local Anti-air Defense of the Country (Shtab MPVO strany), which probably is now subordinate to the Ministry of Defense. The senior civil defense official thus far identified is Lt. Gen. O.V. Falstikov.

Subordinate to the national headquarters are staffs at republic, oblast, and city levels. MPVO officers serving with these staffs are specially trained for civil defense, probably at the MPVO school in Leningrad.

At the city level the Soviet civil defense organization relies heavily on existing organizations to furnish the leadership and nuclei of operative civil defense services. Such organizations include local police and fire departments, medical installations, and communal repair services. These groups are organized into civil defense services and operating units that include those for fire defense, emergency engineering, medical aid, maintenance of order and security, warning and communications, transportation, food and trade, blackout and power supply, veterinary, and decontamination. Auxiliary personnel may be recruited to bring these units to the desired strength. Service is compulsory. If the city is divided into rayons, civil defense services may be organized at this level.

It must be noted that the head of a Soviet governmental or economic unit also is the nominal chief for civil defense. For example, the chairman of the city executive committee or the plant manager also is a civil defense commander. His chief of staff MPVO, however, undoubtedly is the official supervising both material preparations and training.

Principal economic enterprises are organized similarly to cities, with services for maintaining order, fire fighting, and medical aid, using as nuclei the plant guard, fire department, medical staff, and the like. Workers serve as auxiliary personnel.



In residential buildings, small factories, collective farms, and schools and institutions, "self-defense groups" are formed from among the residents, workers, or students. Within such groups (containing as many as several hundred persons), civil defense teams are formed with functions similar to those of the city services, and approximately 50 persons are assigned to operative civil defense roles.

### 3. Changes in Organization

The organizational structure described above is little changed from that which was used during World War II -- particularly at the city level. In addition to minor alterations in organization, however, there is evidence that supplementary civil defense units exist or are being planned and that schemes for tactical operations have been altered.

#### a. Staff

Formerly the various headquarters for Soviet civil defense higher than the city level were titled "offices" and "administrations" with a "main administration" at the national level. Since 1956 these offices have been referred to as staffs. Inasmuch as the city level headquarters (the operative level in emergencies) was designated as a staff before 1956, it is logical to assume that oblast and republic civil defense headquarters now have operative tasks instead of being only administrative headquarters. This change would be consistent with planning assumptions that take into account heavily damaged cities needing outside assistance.

As noted above, the MPVO staff structure probably is now subordinate to the Ministry of Defense. The civil defense staff was formerly under the Ministry of Internal Affairs (MVD), which was abolished at the national level early in 1960.

#### b. Troops of MPVO Strany

A new civil defense organization, not yet clearly identified, is the "Troops of the MPVO of the Country". The first press mention of this organization in September 1957 resulted from the "First Conference" of its outstanding servicemen, which was held in Moscow. There is good reason to believe that the USSR has developed military or paramilitary civil defense units trained for disaster relief. (Such units exist in several of the European Satellites.) A Soviet manual of 1958 listed one function of the city Transport Service (following evacuation of urban noneffectives) as planning for the transfer of "reserve forces and MPVO material" to damaged cities.

c. New City Units and Tactics

Two of the operative services of the city MPVO system were added (according to Soviet civil defense literature) during 1958 -- the Transport Service and the service entitled Food and Trade. (Services similar to these were listed in World War II literature but were not mentioned in Soviet civil defense manuals of 1951, 1952, and 1956.)

In connection with the appearance of the Transport Service, it should be noted that the first clear postwar reference to limited evacuation of the Soviet urban population was included in civil defense publications in 1958. For example, the Transport Service is specifically charged with the evacuation of school children and other nonworkers.

"Evacuation commissions" were mentioned in a civil defense manual of 1960. During urban evacuation, representatives of such commissions are to be located at assembly points, in buildings, and at militia stations.

Since 1956, Soviet publications have indicated that operative civil defense units, under the city services, will be dispersed in an emergency. At least part of a city's reconnaissance, fire-fighting, engineer, and medical units will leave the city (warning time permitting) to operate after an attack from or in the peripheral areas of the city.

d. Auxiliary Rural Units

Additional aid for the postattack relief of urban areas is apparently to be developed through mutual aid and by the formation of additional operative groups in rural areas. A publication of 1960 states that "citizen's units in rural areas may be called on to help in cities that have suffered a nuclear blast ... ." The publication specifically calls for reconnaissance units that "must" be established in settlements near large "industrial and administrative settlements"; technical units with functions of rescue, repair, and road clearance; and decontamination units, organized and equipped with spraying and dusting equipment from farms, which include orchards, truck gardens, and vineyards.

e. Participation by the General Public

Recent Soviet civil defense literature stresses that all adult citizens should be trained not only in "self defense" but in repair, rescue, and restoration work. Citizens may be assigned to work with formally organized civil defense units. It thus appears that in the final analysis every able-bodied citizen is to become a potential working participant in the Soviet civil defense forces.

h. Training

The Soviet authorities have entrusted civil defense training of the general population to the paramilitary society known as DOSAAF -- Voluntary Society for Cooperation with the Army, Air Force, and Navy.

Before the institution of universal, compulsory civil defense training for the Soviet population in 1955, training was rudimentary and included no information on atomic weapons. Its goal (in 1946) was reported to be the training of 4 million to 5 million persons per year.

There was a sharp increase in civil defense training in 1955, and training since then, at the popular level, has included instruction in protection against atomic, biological, and chemical weapons. In 1958, in a tabulation of the principal objectives of MFWO, Soviet civil defense literature listed as of top priority the compulsory training of the entire population.

a. Courses

To attain the goals set during 1955-60, 60 million people per year would have had to take training courses in the USSR. The first course at the popular level started in 1955 and was entitled Antiatomic Defense (PAZ) -- a 10-hour course. This training program was to have been completed in 1956, but it was not until February 1958 that the USSR claimed 85 percent of the population had completed the course. This figure probably was inflated, especially as it applied to rural areas. A course entitled Antiair Defense (FVO), which was to have been given to the general public in 1957-58, added instruction in defense against biological and chemical attack and was a 22-hour program. No figures have been announced concerning the extent of participation. A third course, "Ready for Antiair Defense First Grade", was begun in 1959, and some factories and regions pledged its completion before the end of that year. It was a 14-hour program and emphasized testing and practical work. Although early pledges apparently indicated that the course was to be completed by the beginning of 1960, the training continued through 1960. Lt. Gen. Varennikov, chief of civil defense training for DOSAAF, reported in January 1961 that most DOSAAF units had coped "antifactorily" with the task of training the public in the third course.

At the same time, Varennikov stated that DOSAAF units were turning to the task of giving training in a fourth course entitled "Ready for Antiair Defense, Second Grade". No over-all target date has been announced for the completion of training in this program. One publication specified that certain new industrial plants should ensure the training of instructors and 25 percent of the workers by 1 July 1961. This course, which is designed to train citizens to assist the operative "special" civil defense units, requires performance of a number of practical exercises (such as decontamination, fire fighting, rescue, first aid, and transportation of casualties). Older people -- men over 60 and women over 55 -- are not required to do the practical exercises that include digging in debris, removing dummies from windows of upper floors, carrying simulated casualties, and other strenuous activities.

b. Self-Defense Groups

In a few instances, civil defense journals have described the training activities of specific self-defense groups, which could be a part of popular-level training or which could represent supplementary drills.

c. Operative Groups

Drills by operative civil defense units above the "self-defense" level are not extensively reported, probably because the activity of such units is obscured by security precautions. Some publicity has been given to the training of organizations for search and rescue, and reports have been received telling of unit exercises -- most of which have taken place in factories.

d. Schools

Compulsory courses in civil defense are given in the USSR in primary and secondary schools and in institutions of higher education. It was announced in 1958 that 8 million Soviet youths took part in civil defense competitive events emphasizing chemical, biological, and radiological defense.

e. City Drills

Since 1957, civil defense drills have been reported held in more than 80 Soviet cities. In general, these drills appear to have been limited to blackout and staff exercises.

f. Other Instruction

A variety of courses are being given for civil defense workers and instructors in a network of Soviet air defense schools and training centers.

5. Construction

Formal shelter construction in the USSR since World War II has included preparation of special basements under masonry buildings, construction of detached underground shelters, and improvement of subways for emergency shelter use.

Designs of ventilating intakes for air raid shelters now include blast traps and anti-dust filters for protection against atomic explosion and radioactive dust.

a. Basement Shelters

The USSR has been constructing air raid shelter basements or basements adaptable for shelter purposes under large masonry buildings for more than 10 years. Until 1954 (although gas tight) these were mostly of light construction. Ceilings of shelters (first floors of buildings) were reported generally to be concrete, 5 to 8 inches thick. Although the construction of this type of shelter is still reported, some heavier basements with ceilings a foot or more in thickness have been seen since 1955.

Two western travelers were told in 1959 and 1960 that construction of basement shelters under apartment houses had been halted in four large Soviet cities. In one instance a construction worker added that better shelters were being built "elsewhere." It is too early to determine whether this reported termination of basement shelter construction is general in the USSR and reflects a reduction in the civil defense effort or whether this and other actions such as planned evacuation and preparing separate shelters reflect a change in direction of civil defense effort.

b. Special Shelters

Designs for detached air raid shelter bunkers and tunnels were printed in 1956 Soviet civil defense manuals. (Before then, civil defense literature presented only schematics of basement shelters and field-type, wood-lined trenches covered with earth.) Increasing numbers of reports (from about a dozen cities) have been received of underground shelters in the USSR during the past 2 years. When their function is mentioned, detached shelters and tunnels are said to be for communications installations, government headquarters, or air defense headquarters, or they are located in major industrial plants. Some have been seen in urban park areas and at railroad installations.

c. Subways

Soviet civil defense publications and other reporting leave no doubt that subways in the USSR are prepared for use as air raid shelters. The installation of new blast doors in the Moscow subway probably was started about 1955. The Moscow subway is still being expanded, and the first section of a subway in Kiev was opened in 1960. In this section, blast doors have been reported by reliable observers. Another Soviet subway is located in Leningrad, and one has been started in Ybilisi. Unpublicized tunnel construction in Baku is for a subway that has not yet been completed.

d. Communication Hardening

There is good evidence of the hardening of communications facilities in the USSR. Several important telecommunications long lines are being laid underground with bunkered or underground repeater stations. Because this construction cannot be justified on the basis of cost or efficiency, it is believed to be an attempt to reduce vulnerability.

Some bunkered radiobroadcast facilities also are known to exist, but it cannot be demonstrated how far such a program has been carried.

6. Equipment

The actual level of civil defense supplies is unknown, but limited supplies apparently are at hand in some areas -- as indicated increasingly in publicity concerning training activities and in covert reports.

An isolated report states that filter ventilating canisters for air raid shelters were issued in one city in 1957. Published descriptions of some civil defense exercises in the USSR also refer to the practice operation of ventilation equipment in specific buildings.

The Soviet civil defense gas mask (GP-4u) has good capabilities against atomic, chemical, and biological agents. A civil defense manual of 1959 includes the description of a new prefilter developed for the GP-4u. This will consist of a prefilter in a cartridge attachable to the gas mask canister. Inside the cartridge is a special cardboard replaceable filter that is to be used once and then discarded upon leaving a radioactive contaminated area. The gas mask canister will thus not become a permanent source of radioactivity affecting the wearer.

## 7. Current Status of Civil Defense

### a. Blackout and Camouflage

It has been noted that drills, generally including blackout, have taken place in a number of Soviet cities. In view of this training (which also may have taken place in unreported areas), the widespread civil defense training of the public, and the enforced discipline inherent in the Soviet system, it is believed that effective blackout could be carried out in major areas of the USSR on short warning.

Although the Soviet civil defense units are familiar with concepts of camouflage, there has been practically no reporting on the subject of camouflage material or paint.

Smoke or fog screens have been generated in practice to cover strategic plants or industrial centers. It seems probable, therefore, that smoke or fog devices are available for use in important industrial areas.

### b. Dispersal

#### (1) Government

Any scheme to protect the government is obviously classified information in the USSR. It is well known that part of the government was evacuated from Moscow during World War II. Various low-level reports have been received of shelter prepared for higher officials in or near Moscow as well as in distant locations.

In view of the Soviet emphasis on control and the introduction of a dispersal concept in civil defense, it is almost certain that the USSR has prepared sheltered emergency government quarters in or near Moscow and at more remote emergency locations. Similar measures may have been prepared for lower echelons of government.

(2) Civil Defense Forces

The dispersal and peripheral sheltering of portions of operative city civil defense formations, specifically those for fire fighting, medical aid, and reconnaissance, have been indicated in Soviet civil defense publications since 1956. This evacuation and sheltering of operative units at a distance from cities would have several advantages -- in addition to the obvious one of preserving the units for post-attack operations. Leaders and technically skilled personnel assigned to the units would include elements of police, fire-fighting, medical, construction, communications, and other service establishments. Vehicles and equipment assigned for post-attack operation also would be preserved from heavy blast damage. This evacuation from urban centers would almost certainly take place if 2 or 3 hours were available for movement.

(3) Evacuation of the Population

The concept of evacuation for some part of the population was mentioned in publications in the USSR in 1958. Until that time, civil defense instructions had consistently advised the population to use locally available shelter. The type of evacuation contemplated is evidently limited to the removal from urban centers of children and the aged and other nonworkers. Rural areas have been advised to be prepared to receive evacuees.

Later publications have enlarged the coverage given to urban evacuation procedures. A manual of 1960 identifies the groups to be evacuated ("certain institutions" and "noncombatants" -- including children, old people, and invalids); the method of notification; reporting to assembly points with specified baggage and three days' supply of food; obedience to directions of train or motor convey commanders; family contacts; and the like. One manual, however, notes specifically that "a large portion" of the population will remain in the cities.

As yet, no drills or exercises have been credibly reported involving the evacuation of the population. At the present, it seems that strategic urban evacuation could be hampered by lack of detailed area plans and practice exercises. (Czechoslovakian civil defense officials are drawing up detailed urban evacuation plans at the present time, and the USSR may be doing the same.)

c. Shelter Program

The USSR has a mixed shelter program consisting of (1) relatively light (about 6 inches of concrete roof) basement shelters or adaptable basements built since 1949; (2) some heavier shelter basements built since 1953; (3) detached underground shelters; (4) bunkers or tunnel-type shelters for the protection of government, communications centers, and workers in important industry; (5) adapted subways; and (6) earth-covered, wood-lined trench shelters that are to be built when ordered in areas where more formal shelter is not available. Trench shelters or adapted roof cellars would be almost the only shelters presently possible in rural areas.

Excluding trench shelters, it is estimated that Soviet shelters have a capacity for about 20 million people, principally in urban areas. This estimate is divided as follows:

	<u>Million Persons</u>
Subways	2.5
Detached shelters and bunkers and tunnel-type shelters for industry and government	2.5
Basement shelters	15
	<hr/>
Total	20

The low strength of many basement shelters (around 5 to 10 pounds per square inch) could mean that about three-quarters of the estimated capacity would be more in the nature of "fallout" shelters, rather than shelters capable of protecting personnel against blast. Basements under masonry buildings\* would reduce residual radiation by a factor as high as 1,000.

Soviet citizens, not having masonry basements or more formal shelter available, are obliged (given sufficient warning\*\*) to build trench shelters, now designed with double wooden doors and covered with 80 centimeters (31.5 inches) of earth. The protection afforded would be low against blast effects, but residual radiation effects would be reduced by a factor of about 400, except near the entrances.

#### d. Training

It is estimated that the four courses of popular level training has resulted in some familiarity with civil defense concepts for about 80 million Soviet citizens. Fair knowledge of civil defense should be assumed in specialized groups such as students; workers in most important factories; Party, DOSAAF, and Red Cross\*\*\* members.

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\* Assuming a minimum of 2 1/2 inches of concrete used in four floors.

\*\* Soviet publications estimate that "on the average, a day" would be necessary to complete a covered trench.

\*\*\* Red Cross and DOSAAF membership estimated at about 30 million each with some duplication.



### 8. Expected Activity in Event of War

There is some doubt concerning what civil defense preparations the USSR would make before initiating a war. If surprise were the paramount consideration, the Soviet government might choose not to order final civil defense preparations until the military attack had been launched.

Nevertheless, at the present time, civil defense instructions call for a number of measures to be instituted upon the declaration of a "threatening situation" -- a preliminary stage of civil defense alert when air attack is considered possible. Included among the actions to be taken are (a) institution of blackout; (b) clearing shelters of storage and carrying out other measures to make them fully ready for use; (c) digging trench shelters in parks, open areas, and in the countryside when more formal shelter is not available; (d) alerting civil defense formations, issuing of equipment, and setting up permanent duty posts; (e) readying of civil defense communications (radio and wire); (f) taking final fire fighting precautions; (g) "readying" individual means of chemical defense (principally gas masks); and (h) turning on and leaving on all wired broadcast loud speakers.

Civil defense publications in the Soviet Bloc also indicate activity aimed at the evacuation of children from urban areas, the protection of art treasures, and government relocation.

The preliminary stage of alert, "threatening situation" probably would not be announced on air broadcast radio in the USSR, but would be revealed by using wall posters, wired speakers, telephone, and word-of-mouth.

### 9. Future of Civil Defense in the USSR

An estimate of future civil defense developments in the USSR would be inconclusive. Conflicting reporting has been a characteristic of Soviet civil defense intelligence in the past, and continues to be at the present time. Two Soviet leaders have deprecated the value of civil defense and air raid shelters, although statements to this effect have been made only to foreigners. The public training program of 1955-60 has not been completely successful and is possibly a year behind schedule. Nevertheless, a new fourth course is under way to prepare the public to assist in post-attack operations. There are reports from about four cities that basement air raid shelters are no longer being built. More shelters were found by Western observers in 1960, however, and detached shelters are being reported in increasing numbers.

Although the negative aspects of the foregoing could be interpreted as reflecting a reduction in civil defense efforts, there is another plausible explanation. Published Soviet statements indicate increasing concern with civil defense against nuclear, chemical, and biological weapons. Discussion of precautionary urban evacuation and possible long stays in air raid shelters

due to fallout have recently appeared. A shift from the civil defense concept that calls for urban operative service units to remain in cities to the concept that units are to be mobile (and evacuated when possible) has been indicated in recent years. Support of urban areas by units from the countryside or by militarized units appears now to be intended. A recent Soviet annual mentions mutual aid between cities. These changes plus Soviet statements emphasizing the need for continued defense measures, acknowledging the probability of nuclear attack on cities, and commenting on the importance of air defense and the defense of rear areas support the view that civil defense in the USSR is being adjusted rather than downgraded.

Evidence can, therefore, be assembled either to indicate Soviet civil defense effort is being reduced or to indicate that it is being redirected. At the present time, it is safer to assume that Soviet civil defense is being continued at a relatively constant level but being adjusted.

If civil defense in the USSR continues without substantial change in the degree of effort, a number of developments could result. The staff of MPVO probably will be stabilized and establish closer connections with the military authorities.

In view of current trends in Soviet civil defense publications, it may be expected that the civil defense operative formations in cities will be made increasingly mobile emergency dispersal and for mutual aid. It also can be expected that operative civil defense formations will be organized in rural areas, not only for rural civil defense but also for the aid of cities which may be subjected to heavy attack. Active duty or reserve-type militarized civil defense units can be expected to appear in a similar role -- to be dispatched as relief columns to damaged urban centers. The use of such rural and militarized units would increase civil defense staff work and command functions at levels higher than the city (either in oblast or republic MPVO staffs or at military district headquarters).

In public training, it is difficult to foresee more advanced courses for the average citizen than the course presently being given (Ready for Air Defense, Second Grade). It is expected, therefore, that after nominal completion of this course that the program will level off. Periodic refresher courses may, however, be expected (perhaps every 2 years) and some efforts will probably be made to reach those citizens who have not been trained or to improve the preparation of those who have been poorly trained. The USSR claims to have given nearly 100 million persons civil defense training during World War II, and an achievement of this magnitude is not unrealistic at some time during the next few years.

Significant training for city mobile units and for relief column units, where organized, will probably take place. City (and perhaps area) civil defense drills should increase, and evacuation exercises could take place. The latter may be restricted to the assembly and movement of transport without actually embarking evacuees.

In training and drills, increased emphasis probably will be placed on defense against biological and chemical weapons, since increasing propaganda and information on the danger from these weapons is being directed to the Soviet public.

Increased publicity on fallout, shorter warning time, the appearance of long escape tunnels from Soviet basement shelters, and references in Soviet publications to the need for constant readiness of shelters for use "in peacetime," lead to the conclusion that an effort is being made to bring prepared or adaptable shelter space in the USSR to a higher state of readiness for use. This effort may include increased installation of filter-ventilating apparatus; provisions for water and waste; and placing hand tools, emergency lighting, and first aid supplies in more shelters.

It also follows from the increasing coverage being given to urban evacuation and to the duration of radioactive "fallout" in Soviet civil defense literature that provisions for shelters in rural and suburban areas will be a logical next step. Some formal (banker or tunnel-type) shelters may be prepared in peripheral urban areas for selected groups. (Some shelters or shelter-like objects have already been reported outside a few Soviet cities. The real purpose of these structures is, of course, difficult to determine.) Further capacity may be built up in dual-purpose structures such as food warehouses, mines, railway tunnels, and large underground wine cellars or caves.

Certainly the designation of farm root cellars as shelter area may be expected, and their improvement for shelter purposes recommended or enforced.

For those remaining in cities after any contemplated evacuation, fewer but better shelters should be the trend. Lighter basement shelters may be remodeled and strengthened, and new shelters may be built increasingly in the form of separate underground structures.

An unfolding scheme for evacuating part of the urban population should lead to the development of specific area plans for evacuation and for the resettling of potential evacuees in small towns and rural areas.

It has already been noted that practices are anticipated -- but these may not go beyond exercises for the staff and transportation units.

It may be expected that efforts will be continued to reduce communications vulnerability through the hardening of telecommunications long lines, and by bunkering and dispersal of wire terminal or radio broadcasting installations.

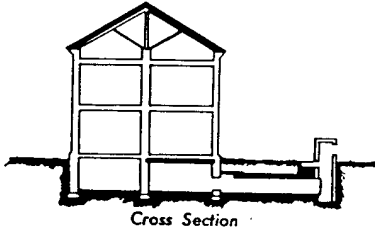
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SOVIET PROTECTIVE CONSTRUCTION

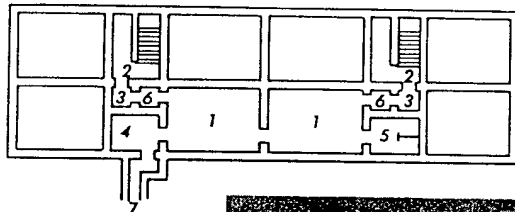
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### BASEMENT SHELTERS

Figure 1

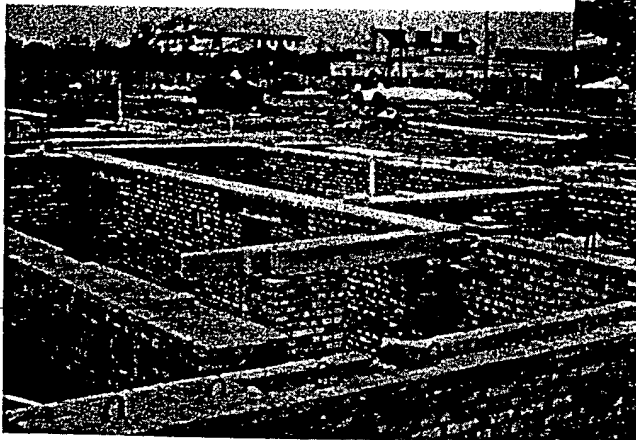
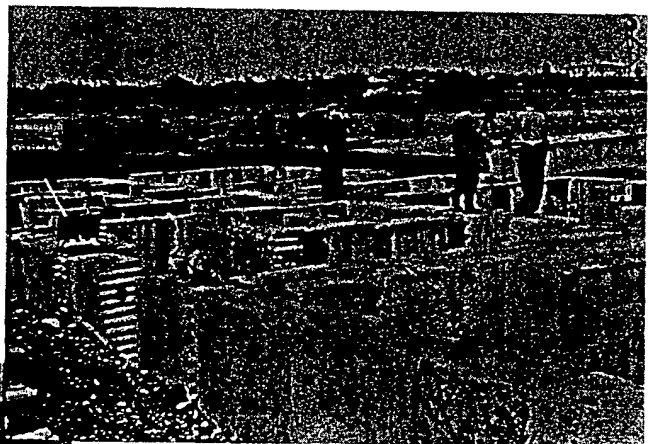


- 1. Shelter rooms
- 2. Entrances
- 3. Anteroom
- 4. Filter Ventilation chamber
- 5. Toilets
- 6. Air lock
- 7. Emergency exit



Basement Shelter  
(Soviet Civil Defense Manual, 1957)

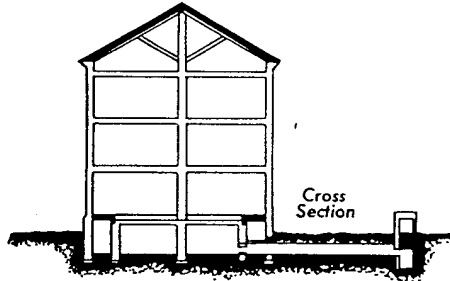
Construction Consistent with Above Sketch  
(Stalino, 1956)



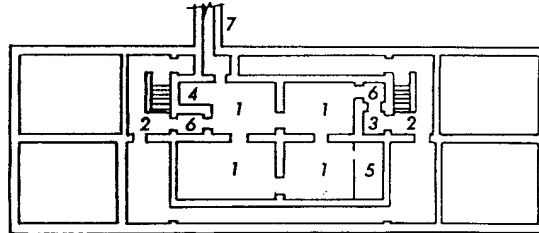
Construction of Shelters in the Basement  
of an Apartment Building  
(Kiev, 1956)

### CENTRAL BASEMENT SHELTERS

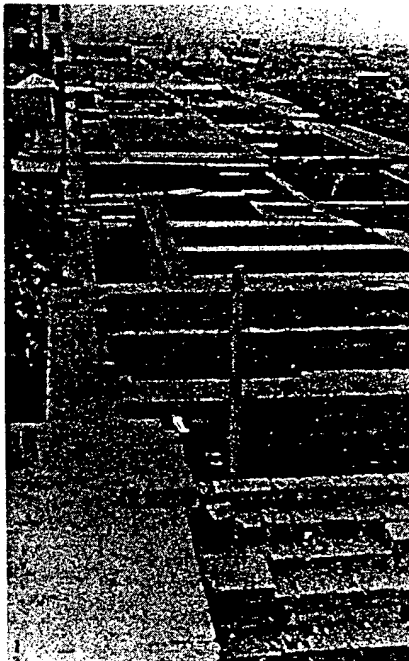
Figure 2



- 1. Shelter rooms
- 2. Entrances
- 3. Anteroom
- 4. Filter Ventilation chamber
- 5. Toilets
- 6. Air lock
- 7. Emergency exit



Central Basement Shelter  
(Soviet Civil Defense Manual, 1957)

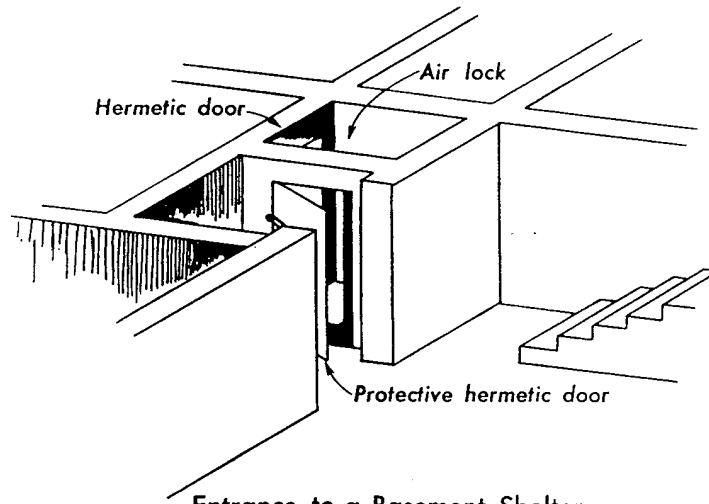


Construction Consistent with Above Sketch  
(USSR, 1956)

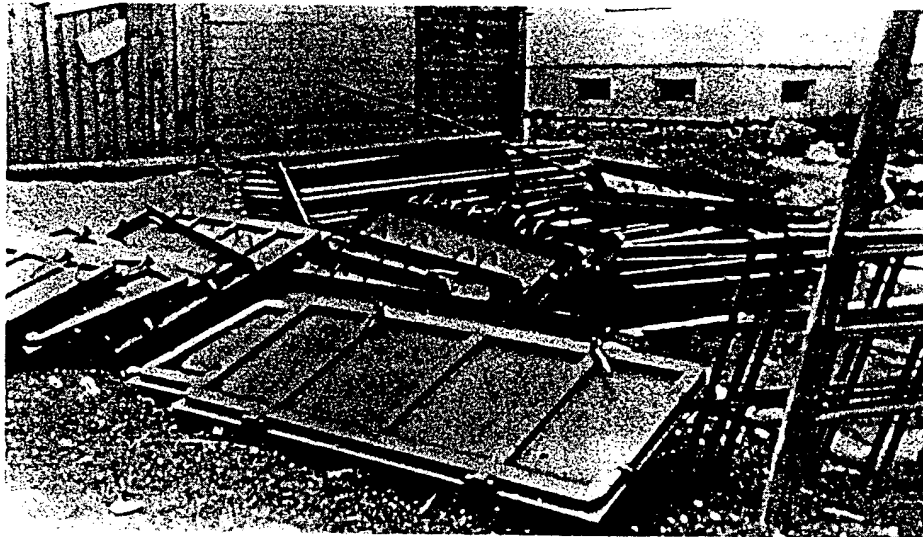
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### SHELTER DOORS

Figure 3



Entrance to a Basement Shelter  
(Soviet Civil Defense Manual, 1957)

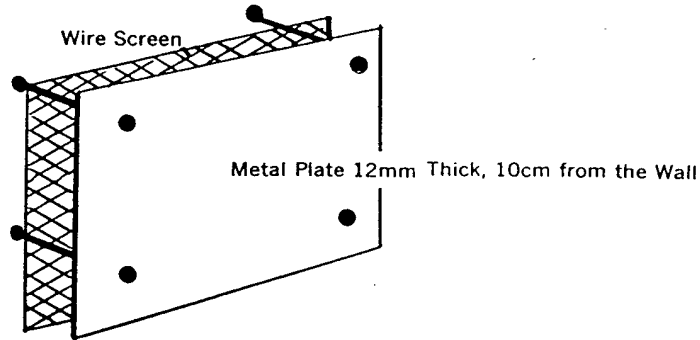


Shelter Doors  
(Czechoslovakia, 1956)

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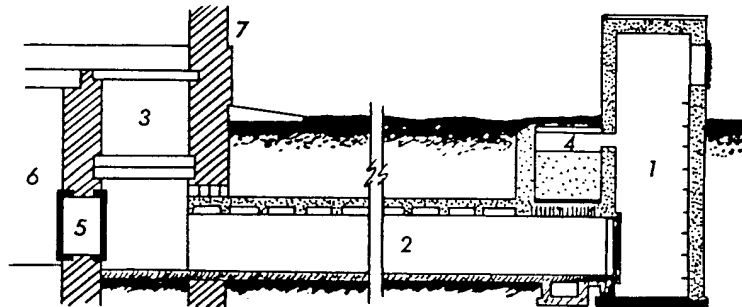
### VENTILATOR OPENINGS AND ESCAPE TUNNELS

Figure 4



Ventilator Opening  
(Polish Sketch)

- 1. Shaft
- 2. Tunnel
- 3. Communicating corridor
- 4. Layer of gravel (serving as shock absorber)
- 5. Shelter exit
- 6. Shelter area
- 7. Building wall



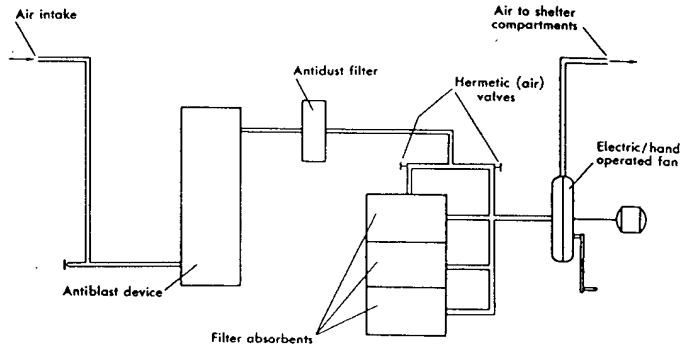
Escape Tunnel  
(Soviet Civil Defense Manual, 1957)

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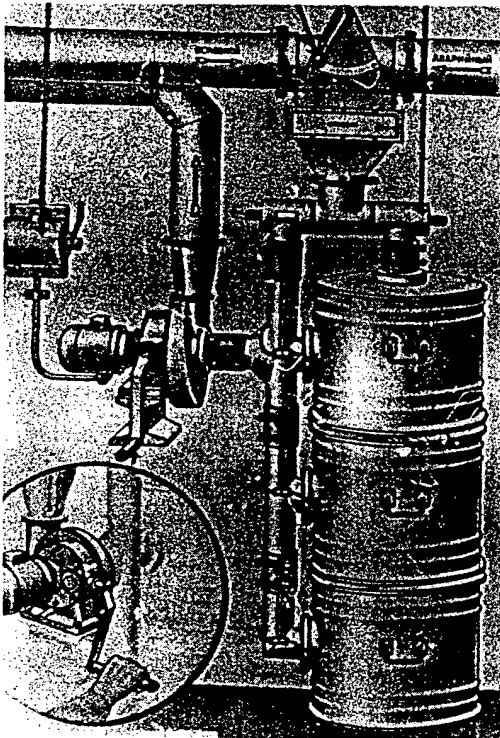


FILTER VENTILATING SYSTEMS

Figure 5



Filter Ventilating System  
(Soviet Civil Defense Manual, 1957)

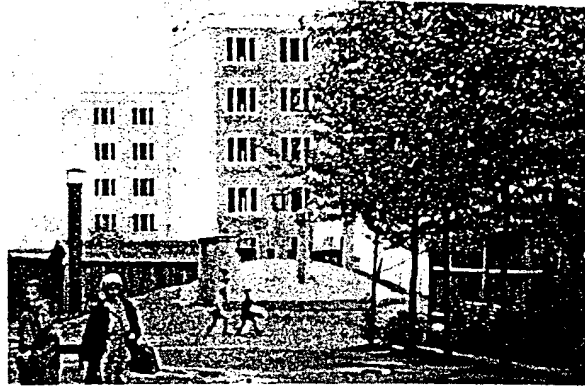
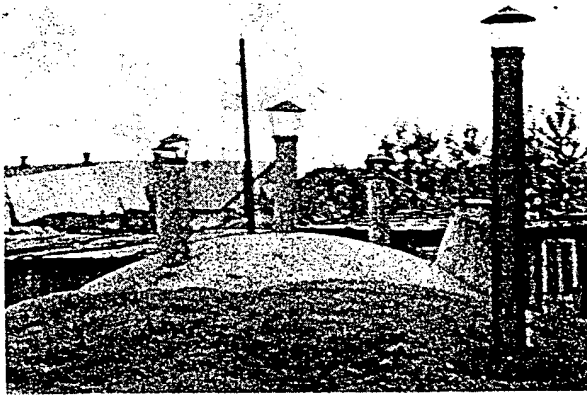


Filter Ventilating System  
(Soviet Civil Defense Poster, 1959)



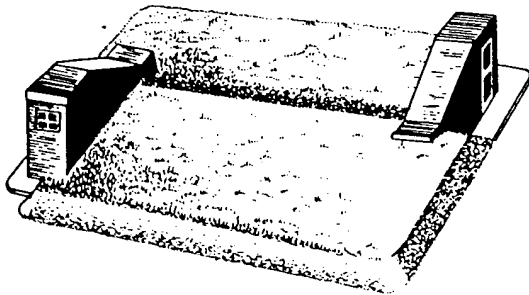
Filter Ventilating Equipment  
(Soviet Photograph, 1955)

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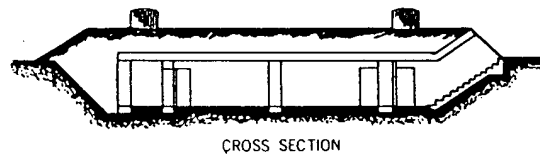


Underground Structure (Moscow 1960)

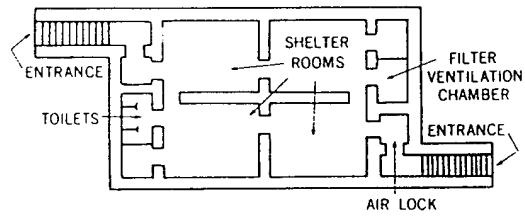
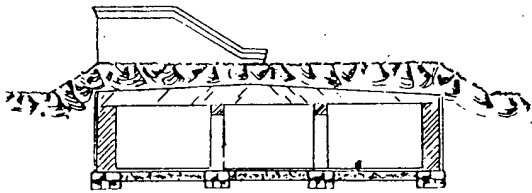
**DETACHED SHELTER**  
(SOVIET MANUAL 1956)



**AIR-RAID SHELTER**  
(SOVIET MANUAL 1957)



CROSS SECTION

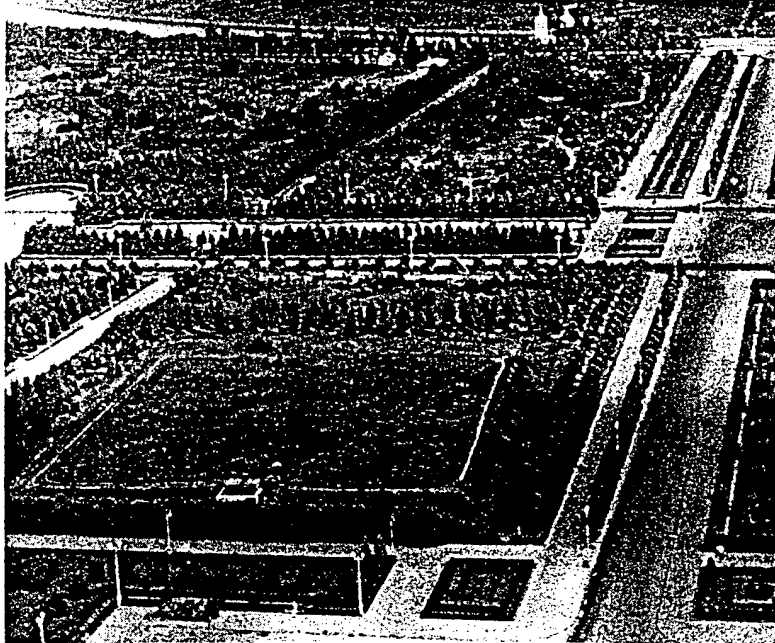


Air Raid Shelter, Zhirnovsk, USSR  
(Apartment Yard 1960)

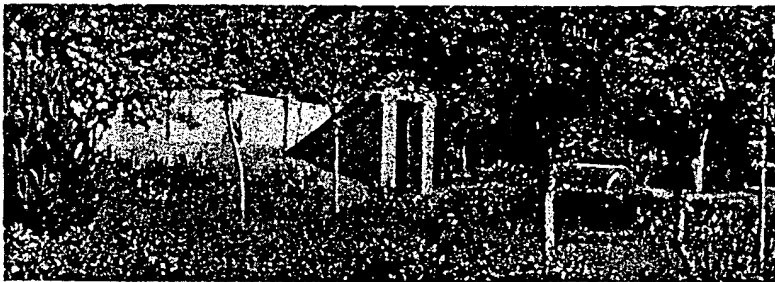


Civil defense shelter under construction at  
intersection of Audeju Iela and Kaleju Iela.  
November 1959.

Figure 7



Underground Structure (Moscow 1960)

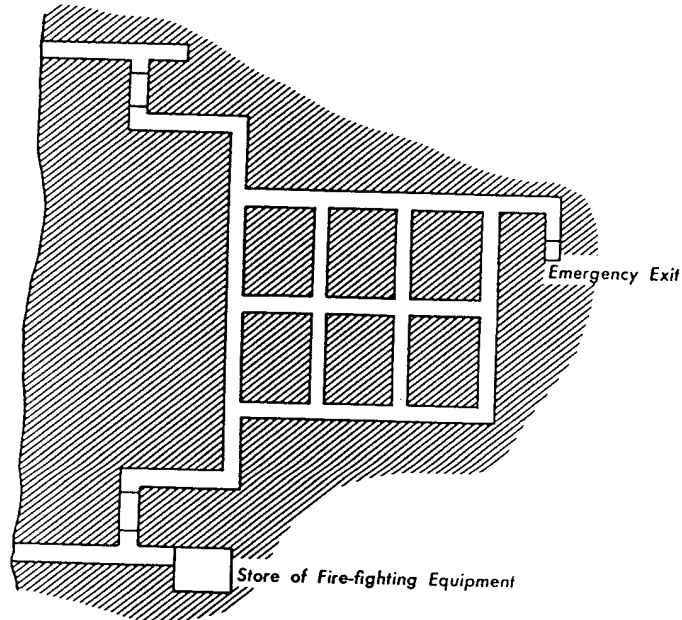
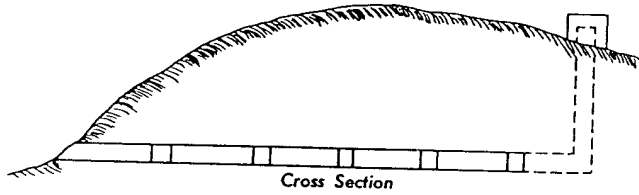


Underground Entrance (Baku 1960)

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### TUNNEL SHELTERS

Figure 8



Tunnel Shelter  
(Hungarian Civil Defense Manual)



Underground Installation in a Soviet Hillside  
(Note entrance and ventilation tower)

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