Inner-German Border (IGB)

The inner-German border, after the work of the Grenzekommission was essentially completed in 1975 (see above), was identifiable from both the ground and the air for those familiar with its complex series of border area markings and structures. The actual border was marked with plain white granite border trace or survey stones. In addition, there were historic border marking stones of Saxony, Hesse, and Prussia that may or may not have marked the border accurately, depending upon the circumstances of each stone or subsequent agreements.

German Democratic Republic border marker.

Almost immediately on the border or right next to it, the Federal Government had erected signs that stated: "Halt! Hier Grenze." Interspersed between these signs were tall white poles with red tops or blue stripes that aided in determining the border in periods of high snow banks. In the 1960s the East Germans had erected, a few meters to the other side of the border, 1.5-meter tall poles painted with black, red, and gold stripes and a DDR emblem inserted near the top.

To ensure that US personnel did not inadvertently cross the border, US military authorities established two restricted zones next to the border:

- There was a 50-meter warning zone for all US forces personnel marked with a sign that stated: "Attention. 50 meters to the border."

- There was also a 1-kilometer restricted zone for all US forces personnel, other than those authorized to operate in the border area or who had received special permission to be in this sensitive area. These signs were placed next to all travelled roads and stated: "US Forces Personnel. HALT. 1 Kilometer to Czechoslovakia ["Soviet Zone" or after 1974 "German Democratic Republic," signs varied defending upon period or location]. Do not proceed without authority. (For examples, see FIGURES 5 and 6 in Chapter 5.)

(U) In addition to the official border markers, the inner German border was roughly marked by an extensive barrier system that had been erected to restrain illegal emigration to the West. The fences and other structures were normally located from two meters to two kilometers east of the true border.

Although the Soviets had begun building the first serious barrier system along the inner German border as early as 1952, it had always been militarily ineffective and was designed more to keep people in rather than invading armies out. NATO planners, as a point of interest, viewed the more sophisticated barrier system of modern times as militarily in their interest in that it would have to be breached by Warsaw Pact forces if they decided to invade the West and would slow down or funnel incoming forces as they crossed the border. Up until the late 1960s the most common type of barrier had been a triple-strand barbed wire fence on wooden posts, augmented with other security devices such as land mines. However, these barriers had proven ineffective and had not stopped determined escapees. The East Germans decided in 1967 to begin construction of a "modern" border barrier system, with construction on the new system beginning in September 1967 and initially programmed to be completed in 1970. This initial effort actually carried over into 1972, when the East Germans began to build an even more sophisticated system that was still being constructed in a few locations up into the 1980s.

The original plan called for replacing the barbed wire fencing with wire mesh or "cyclone" style fencing, paving the vehicle track to permit year-round motorized patrolling, constructing anti-vehicle ditches, and building new bunkers that would blend in with the terrain. The East Germans hoped to construct a system that would reduce the number of personnel required to guard the border while changing the look of the border to decrease its negative psychological impact on Western visitors. Primarily, they wanted to upgrade their capability to detect and apprehend would-be escapees further from the border. The new system was very successful in decreasing the number of escapees. In the latter part of the 1960s an average of more than 500 escapees made it safely across the border each year, but as the interim barrier system neared completion in the first half of 1970, only 25 illegal border crossers managed to get across safely.

The border barrier system, as it existed in the early 1970s, had elements of both the old fencing and the new, more complex barrier system (see FIGURE 7). Essentially, it was designed to control the five kilometers next to the border by a series of different kinds of barriers as well as defensive and detection devices. Right next to the border was the old 3-strand barbed wire fencing stretched on wooden posts approximately 2 meters high and 15 meters apart.

Starting in 1964, the East Germans had begun replacing the older fences with newer ones using concrete posts, often doubling them with a distance of between 2 to 10 meters separating the 2 rows. In some areas they had placed rolls of concertina wire between the fences. As they built these newer fences, they usually tore down the old ones. It was during this period they had begun the trend of building fences further from the border, in some instances up to 500 meters back.

Next to this initial fence or fences was a 10-meter wide death strip in which East Germans were not allowed unless they were working on the fences and accompanied by guards. Although the guards in the past had attempted to apprehend the escapees in this strip and fired only as a last resort, by the end of the 1960s there was a loosening of the rules of engagement, and they were beginning to shoot without warning anyone caught in this area. This area was allowed to deteriorate after the newer fences were built, especially as the older fencing was torn down.

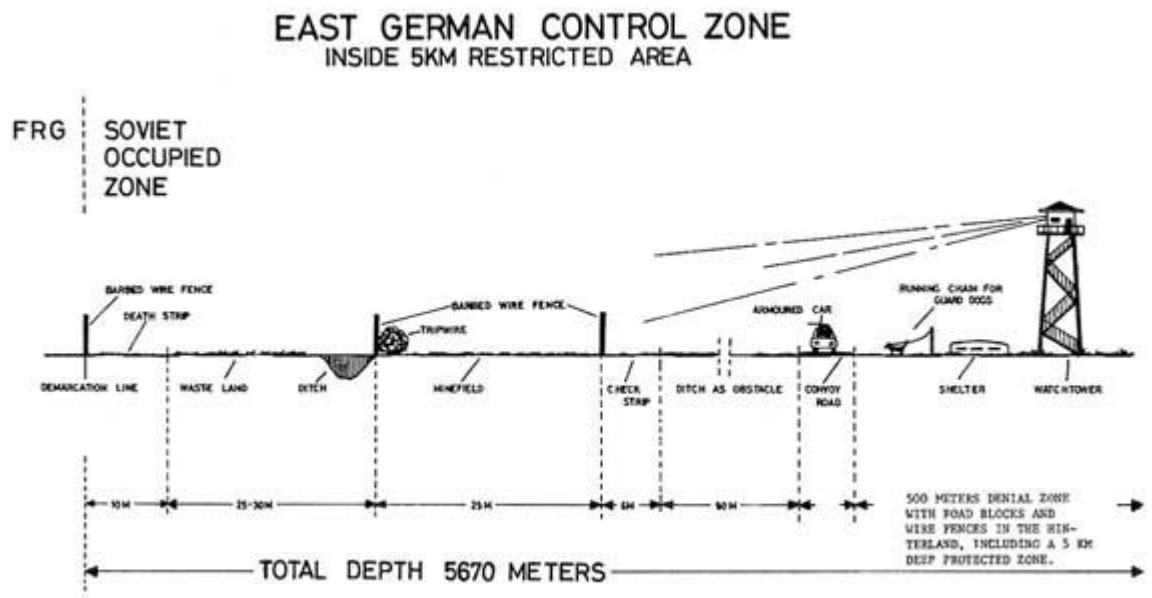


FIGURE 7

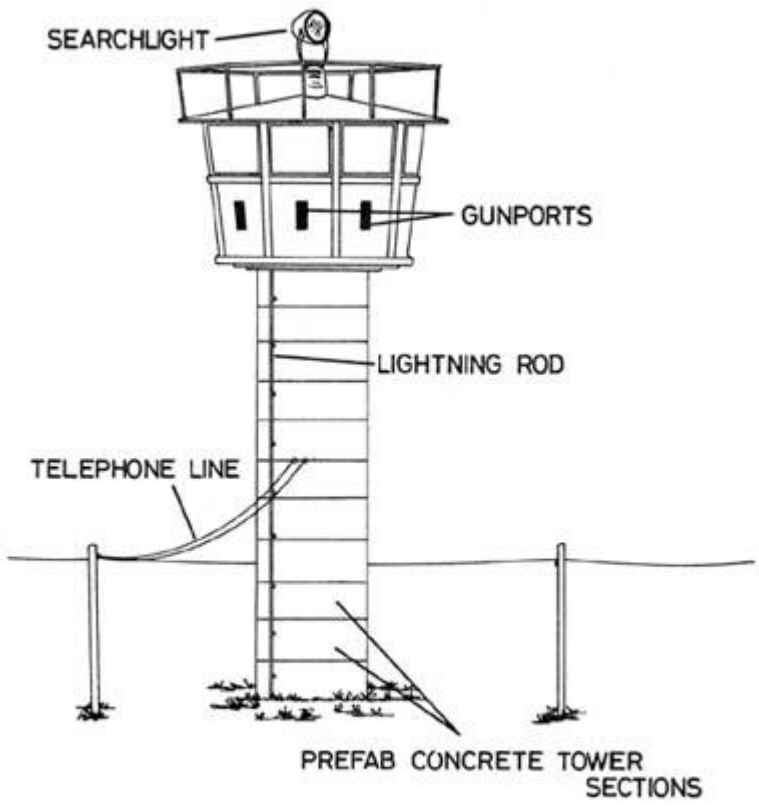
As the program progressed in the 1967 period, the East Germans began building double fences further from the border, -usually 20-30 meters back -- out of either barbed wire on concrete posts or with the newer metal mesh fencing. By this period, in addition to the above-mentioned fencing they were also building 3-meter high corrugated metal fences or concrete slab fences -- the latter two being built in high risk areas. In addition to placing rolls of concertina wire at the base of these fences, they usually placed mine fields between the double rows. The older mine fields had contained wood-encased PMD-6 anti-personnel mines, but they were being replaced inside the newer fencing by plastic-encased PMN-6 mines, which were more weather resistant.

Finally, the inner fence sometimes was an electrified signal fence that when triggered would activate a light in the watch towers indicating the location of the escape attempt. They also employed trip wires that would set off blank cartridges or flares in this area.

Various types of anti-vehicle ditches had been constructed along the border in previous years, but during the modernization period there was an extensive increase in these defences. In the new system they were built right behind the double-fence barrier and were designed to keep vehicles from crashing through the fences. Rather than being constructed to prevent vehicles from crossing the border from West to East, they served to prevent escapes from East to West by car or truck.

Immediately behind the anti-vehicle ditches or up against the inner fence, depending upon the circumstances, a 6-meter "control" strip was built. Like the old 10-meter death strip; this area was freshly ploughed and checked frequently for footprints. Beyond this was an area of approximately 90-100 meters that was stripped of all vegetation and served as a firelane. Next to the firelane was a continuous paved convoy or patrol road for all-weather motorized patrols. In certain high-risk areas, they would set up a 30- to 100-meter long guide line on which one to three guard dogs were attached.

There were two kinds of bunkers normally used along the inner German border: conventional wooden bunkers sunk partially into the ground and having one or more slits facing West Germany; and prefabricated concrete bunkers, generally painted green and brown in a camouflage design, and having observation slits on all four sides. There remained a collection of older bunkers made of cement or concrete, stone masonry, earth, red brick, and other unknown construction materials, but by the early 1970s the wooden and prefabricated concrete bunkers were the most predominant.



East German Concrete Border Tower

FIGURE 8

There were four basic kinds of observation towers along the border: 8-meter high wooden towers equipped with a green-roofed observation hut; observation platforms built into trees (rarely manned); wooden trigonometric towers with a boardwalk circling the tower; and the newer prefabricated concrete towers. (See FIGURE 8.) The 8-meter high wooden towers had been the most common in the past, but were being replaced or supplemented by the prefabricated concrete towers.

Prior to 1972, the East German border barrier modernization program had been viewed primarily as a strengthening and upgrading of weak areas of their old system. (See FIGURE 9.) Although elements of a new system had been going up since the program began in 1967, it was in the summer of 1972 that the East Germans seemed to shift gears and began incorporating improvements of the modernization program all along the inner German border. There were two notable improvements in the expanded program: they were replacing most of the barbed wire fences with the 3-meter high metal grid fences, which looked less brutal than the barbed wire, but actually were more effective; and they began installing the new SM-70 antipersonnel mines on the metal grid fences. The SM-70 mines were a particularly lethal deterrent to border crossers and eventually became the mainstay in the East German barrier system.

An observer who came upon a deer killed by an SM-70 reported that "an approximately 5 meter area appeared as if it had been worked over by a rake." The SM-70 was a self-firing device that consisted of a small, funnel-shaped barrel resembling a shaped charge, a trigger mechanism with trip wire, electrical connections, a detonator, and a mounting bracket holding two quick or guide wires. Each pair of guide or "bird" wires protected a trip wire, which was electrified by a distributor box on the ground (see FIGURE 10). Subsequently, a plastic housing was added to protect the SM-70 from the elements and attempts to disarm it by illegal border crossers. When detonated, a charge of 110 grams of TNT propelled approximately 80 steel pellets from the barrel, which had a killing radius of approximately 25 meters. They were installed at three levels on the fence poles, aimed parallel to the fence at the top, middle, arid bottom of every other pole. Each line of devices had two guide wires and a trip wire, for a total of nine wires along the fence. Normally, 120 mines were installed on each kilometer of fence.

(U) An important change to the East German border barrier system occurred in 1973 when the restricted zone was reduced from five kilometers to 500 meters. However, they still patrolled the 5-kilometer zone, which was referred to as a restricted access zone. The new 500 meter restricted zone was marked by a "hinterland" fence, which was a 2-meter high metal grid fence that had electrical signalling devices installed in order to detect attempts at circumvention.

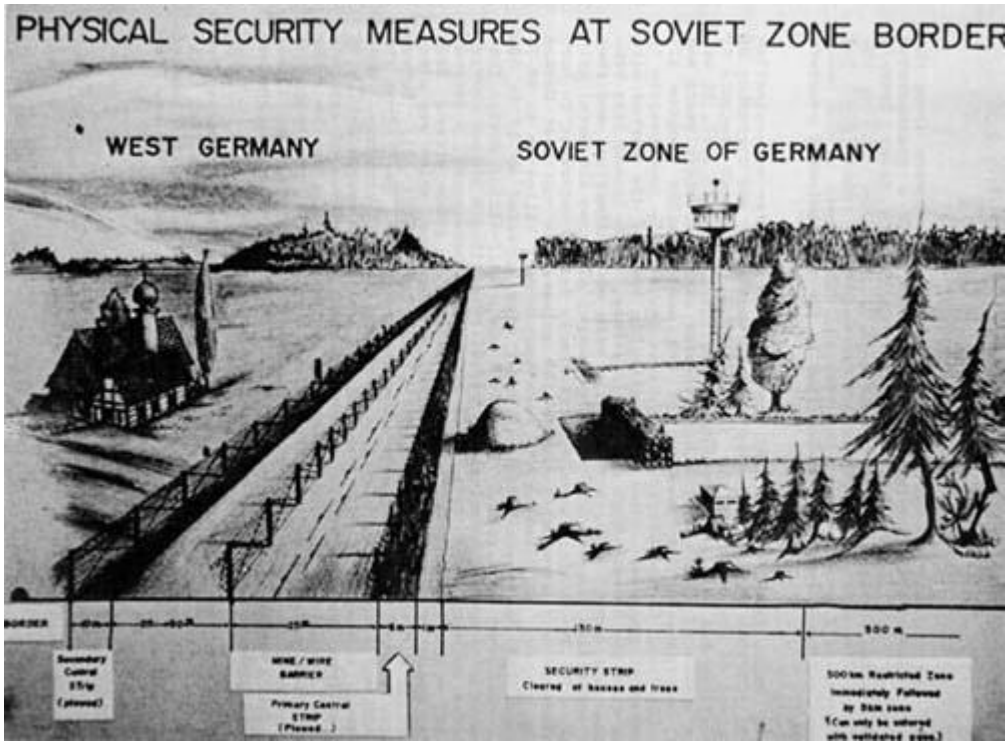


FIGURE 9

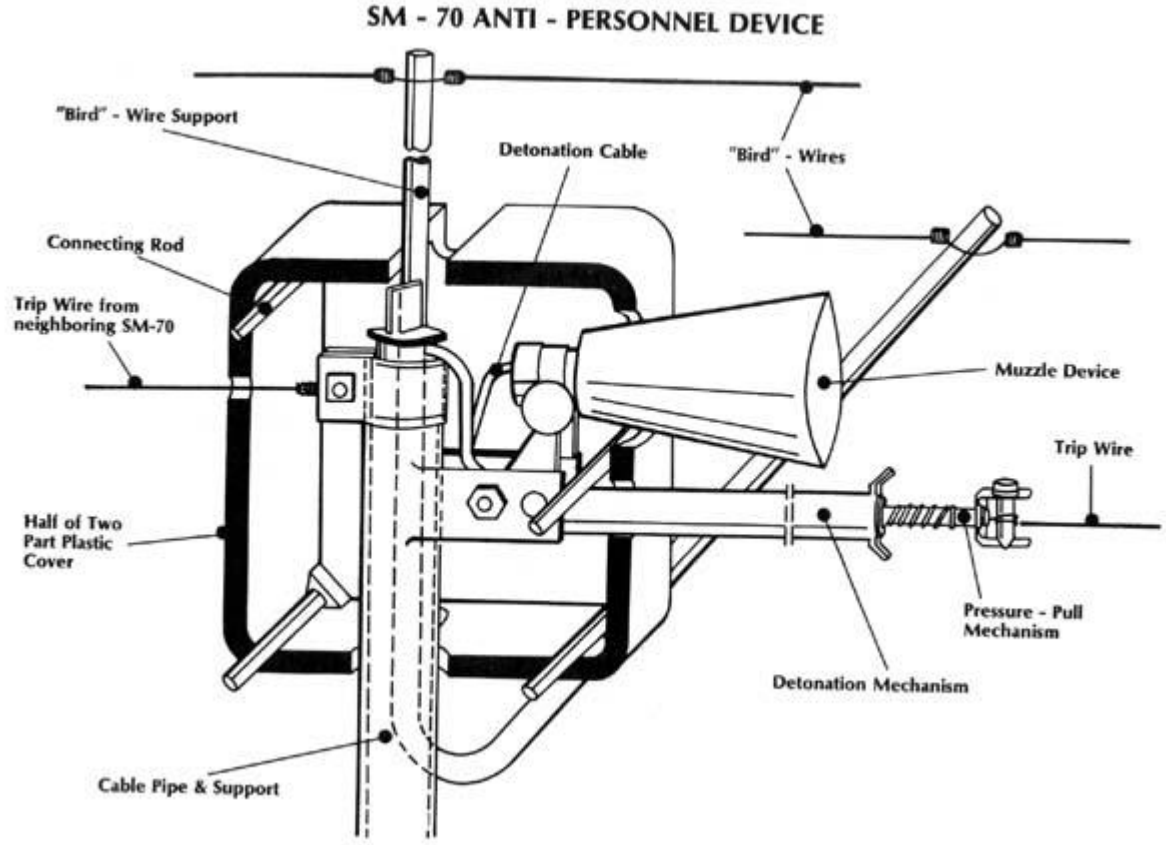

SM - 70 ANTI - PERSONNEL DEVICE
"Bird" - Wire Support
Detonation Cable
"Bird" - Wires
Connecting Rod
Trip Wire from neighboring SM-70
Muzzle Device
Trip Wire
Half of Two Part Plastic Cover
Pressure - Pull Mechanism
Detonation Mechanism
Cable Pipe & Support

FIGURE 10

In the early 1970s, the barbed wire fences along the inner-German boundary were replaced by wire mesh fences.

This meant that an illegal border crosser now had to cross the hinterland fence and 500-meter restricted zone undetected and then attempt to cross the double border fences and their mines unharmed -- not a very likely happening for those unfamiliar with the system. Another improvement in 1973 was the start of the installation of a border-length communications network, which consisted of a land-line utilizing telephone poles along the paved strip. By the end of 1973, approximately 80 kilometers of the modernized barrier system had been completed on the inner German border adjacent to the US area of responsibility, and the entire system was expected to be completed by 1975. 'However, by the end of 1974, only 200 kilometers had been completed in the US section -- even less had the SM-70s installed -- and by 1975 it was clear that the upgrading of the barrier system would be ongoing for some time.

By 1976 the East Germans were so confident of their modernized barrier system that as they completed construction of the new double border fences and installation of the pew SM-70 mines, they began clearing the mine fields between the double border fence. However, they began having weather-related difficulties with the electrical circuits of the SM-70s and they began re-emplacing antipersonnel mines between the double fences. The new mines were designated as the PMP-71 and emplaced in three separate rows. They were constructed of plastic, were trip detonated, and were almost impossible to detect with mine detectors. Apparently, these new mines were never widely used, as subsequent intelligence descriptions of the border do not refer to them and list the PMD-6s and PMN-6s instead.

During the same year a special US project, TORCH EYE, determined that the East Bloc guards were using electro-optical devices for night surveillance. This included the following equipment:

- Infrared searchlights were installed on guard towers.

- Helicopters appeared to have infrared night beacons for ease of identification during night operations.

- It was thought the helicopter pilots wore night vision goggles during multi-helicopter operations to avoid collisions.

- Infrared searchlights were mounted on border patrol vehicles and were routinely used for surveillance. By 1980 it was confirmed the patrols were equipped with field glasses which could identify infrared sources.

1. Antenna for R-109 ,c transceiver. (2m high; one at top of platoon CP towers; three or four on Regt main CP tower)

2. Searchlight (1m diameter, 3000 watts, controllable from inside and outside of tower)

3. Railing (1.2m high, constructed of metal pipe)

4. Gutters

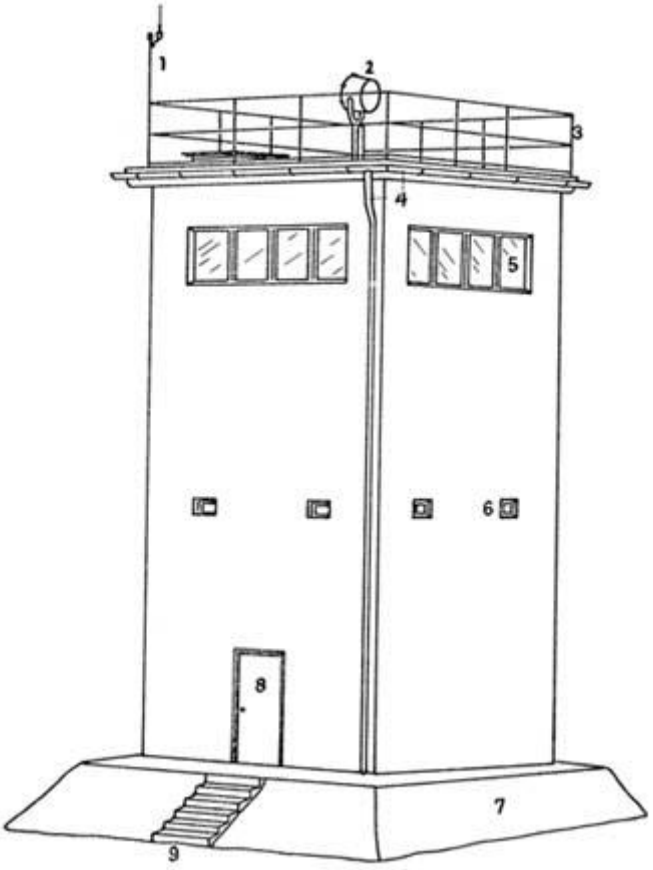
5. Embrasures (50cm X 80cm, 4 on each side)

6. Air vents (10cm2, 2 on each side)

7. Earthen mound

8. Door (1m X 2m, opens from inside only, always faces away from border)

9. Stairway (prefabricated concrete, 1m wide., 25 cm deep, 20em high, no railing)



Memory sketch of new command post tower.
(not to scale)

By the mid-1970s there were reports that some of the round prefabricated concrete watchtowers were collapsing and the East Germans began building new square prefabricated concrete watchtowers (see FIGURE 11).

By 1983 the East Germans had worked out many of the technical problems of their modernized border barrier system and seemed to be settling in once again to a gradual strengthening of the system rather than making any radical changes. The addition of the plastic case to the SM-70 apparently solved the electrical circuit problems and they had begun once again to clear the mines in the strip between the double fences. It would be useful to summarize the status of the modernization program along the 1,381-kilometer inner-German border. Approximately 1,289 kilometers of the border had the new metal grid or mesh fence, or in some instances a 3-meter high concrete wall. The latter was used to screen villages, towns, or military installations and was similar to the Berlin Wall. Some 67 kilometers, or 5 percent of the border, still had the old double row of barbed wire fences. The SM-70s had been deployed along 412 kilometers or 30 percent of the border since their introduction in 1972, and if they were installed at the current rate would cover the entire border by the year 2000. However, it was unlikely they would be installed all along the border due to their high cost. There were still 212 kilometers of minefields utilizing the older

mines. To complement these obstacles, they had 836 shelters of various types, 670 concrete watchtowers, 112 observation platforms, and 84 kilometers of cable runs for some 1,105 border watch dogs. In addition, the border communications network had been strung along the entire border; most of it was underground. Border patrol leaders carried a telephone receiver with plug-in jacks which allowed them to connect into communications terminals erected at short intervals along the entire network. Rivers and lakes were watched by an estimated 24 patrol boats. (See FIGURE 12 for a pictorial description of the current border barrier system.

(U) It is interesting to note that there were at least three "official" descriptions of the length of the inner-German border; the US military forces described it as being 1,345.9 kilometers long, the British forces as 1,393 kilometers, and the Federal Republic as 1,381. For no better reason than that Germans ought to know the distance of their own inner-German border, the 1,381 kilometer distance was used.

FIGURE 12

GERMAN DEMOCRATIC REPUBLIC (GDR) BORDER BARRIER SYSTEM

1. Border Trace w/border stones
2. Border Stones
3. Border Column
4. Control Strip, clear up to 100m wide
5. Double-Row Barbed Wire Fence (w/anti-personnel mines between rows)
6. Double-Row Metal Grid Fence (ca 2.5m high w/antipersonnel mines between rows)
7. Single-Row Metal Grid Fence (ca 3m high, may have SM-70 AP mines)
8. Anti-Vehicle Ditch (reinforced w/concrete slabs)
9. Six-Meter Control Strip (freshly graded)
10. Vehicle Patrol Strip (concrete or asphalt)
11: Wooden Observation Tower
12. Round or Square Concrete Observation Tower
13. Concrete Bunker
14. Arc Lamp Zone
15. Border Communications Network
16. Dog Run, w/shelter
17. Traffic Control Point
18. Concrete Wall/Blind (ca 3m high)
19. Hinterland Fence, or Electrical Warning Fence (visual and acoustical warning devices)

NOT SHOWN: Earth Bunkers, Listening Posts, and Road Barriers

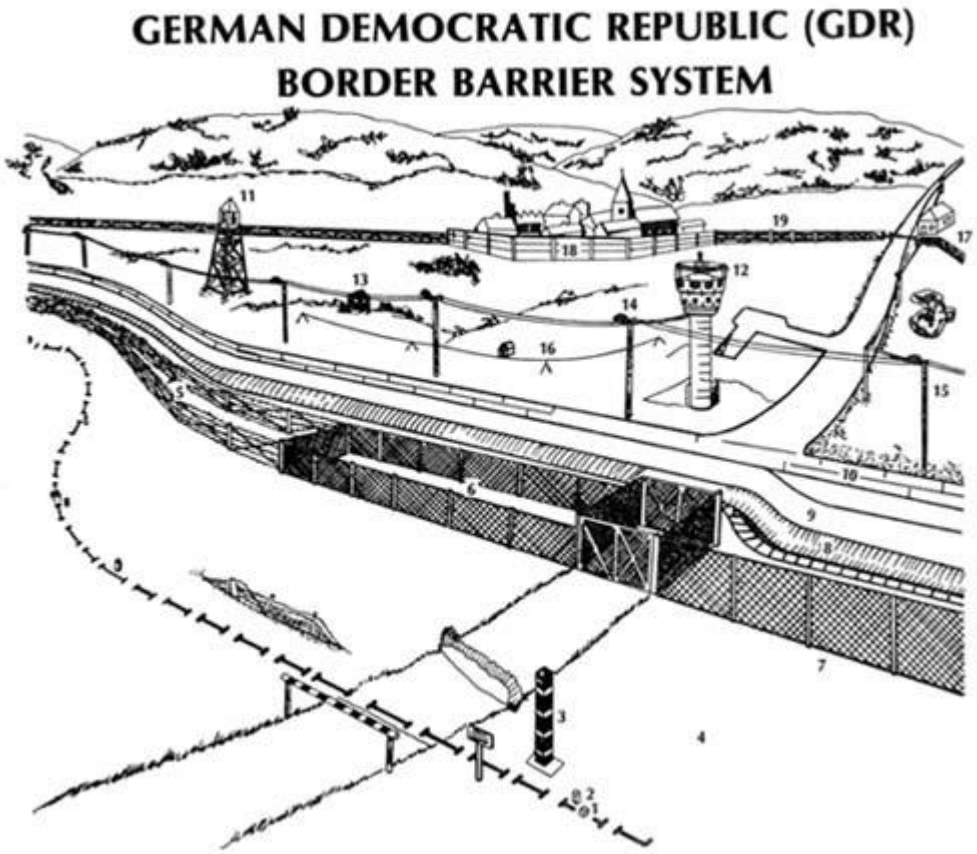


FIGURE 12

One other interesting feature of the border barrier system was reported in the Western press in 1983. The East Germans had built at least four tunnels under the barrier system that emerged on their side of the border, which allowed them to surreptitiously insert reconnaissance patrols and agents into West Germany. The West German Interior Ministry reported that at least eight East German border patrols had been identified on the West German side of the border during 1983. The patrols, composed of officers known for their reliability and loyalty to the East German regime, observed troop movements on the West German side and tried to overhear conversations between the various elements of the border patrol forces.

The SM-70 mines had always been particularly loathsome in the West German public's mind because of their impersonal manner of maiming and killing would-be escapees. There had been several incidents in the past of West Germans setting off the mines with rocks and other missiles as a form of protesting their brutality. An interesting incident occurred in August 1983 when three men set off one of the SM-70s and then through the hole in the fence created by the detonation managed to steal the mine and escape before the East or West German border patrols could arrive at the scene.

The interest both Germanys had in maintaining stabilized relations during the period of increased East-West tensions in the early 1980s (see above) had a direct impact on the East German border barrier system.

When the West Germans granted one billion Deutsche Marks in economic loans to the East Germans in the summer of 19$3, apparently one of the conditions was the dismantlement of the SM-70s along the border. This was particularly significant in that many of the areas that were still protected by double fences with mine fields buried in between had recently been replaced by single higher metal grid fences protected by the SM-70s. In effect, the SM-70 had become the predominant defence in the vast majority of the areas deemed susceptible to illegal border crossings.

When the announcement was first made in September 1983 that the SM-70s would be removed, it was not immediately clear how fast or how -many of the estimated 60,000 SM-70s would be dismantled. West German border agencies were sceptical, and reminded the press that there had been initial euphoria when the East Germans started removing the mine fields between the double fences in the early 1970s only to discover later that they were being replaced by the SM-70s. Subsequent events would validate these early reservations. Although the East German communist leader, Erich Honecker, declared in October 1983 that all of the SM-70s on the border fences would be dismantled (while declining to comment on the possibility of their being replaced in a new modernization program), there were indications early on that they were being replaced by newer model anti-personnel mines (SM-701) on the hinterland fence -- thus removing them 500 meters from the border but making them no less effective. Actually, this change in location would probably discourage would-be West German vandals from setting mines off, since they would have to penetrate the border by more than 500 meters, greatly increasing their chances of being apprehended or shot by the East German border guards. Regardless of whether this was simply another step in the "modernization" of the border barrier system or a real decrease in border defences, the fact remained that the East Germans were removing the SM-70s at a very slow pace, and it was still a hazardous business to attempt to cross the inner-German border illegally.