



POSTCARD

Lenin Square - 1968



KHANLOU

Azadlig (Freedom) Square - 1993



GURBANOV

Azadlig (Freedom) Square - 2005

DEPARTMENT OF BUILDING & SAFETY

Every modern city needs a Department of Building and Safety (DBS), which oversees and regulates all construction works. This municipal body implements all Building Codes (regulations) as well as all Planning and Zoning Ordinances. It also studies and evaluates all projects in relationship to the impact they will have on the environment. Its primary goal is to ensure the safety of its citizens.

This department provides services such as Plan Checking to ensure the correct implementation of building regulations and various city ordinances. It issues Building Permits and evaluates whether architectural and engineering drawings have been interpreted correctly via a rigorous inspection system that takes place on location during every stage of the construction process.

And where does Baku fit into the picture? Baku Municipality has what they call a Building Department, but there are enormous shortcomings in the way it functions. Building Codes that exist are based on old, out-dated Soviet criteria and those are not even effectively implemented when it comes to new construction.

Baku Municipality does not require an Initial Plan Check process for architectural and engineering drawings (structural, geological, electrical, mechanical, fire). In other major cities in the world, the Plan Check process is a long procedure between the architects and engineers employed by the owner and those employed by the city. But in Baku, construction documents are submitted only for bureaucratic and formality purposes. There is no process to check every detail suggested by the design to see if it is in compliance with the relevant National Building Code and various City Ordinances in order to grant a Building Permit.

Structural calculations are still based on old Soviet standards, which have not been updated for about 20 years. The last update took place after the devastating Armenian earthquake in 1988. Nor do these standards reflect new building technology and materials. Therefore, every structural engineer is left to reach his own conclusion for his projects.

Soil and geological tests, which are absolutely essential in calculating the structural requirements for the buildings foundations and footings, are rarely conducted. The City might argue that they do carry out building inspections upon completion of construction. But evaluating a building at the conclusion of the process does not enable them to check the functions that are covered in walls, floors and ceilings. How can the City really judge whether all structural, electrical, mechanical and plumbing features meet Code requirements if they are not inspected when they can be visibly studied. Building inspection should take place frequently during each of the many stages of construction to ensure that all stipulations and the building codes have been strictly followed. Inspections should be carried out at each stage of construction; otherwise, the durability and safety of buildings is seriously under question.

Another difficulty arises because many of the contractors who carry out most of building projects in Baku do not have an adequate knowledge of high standard building technology. Often there is serious lack of proper supervision on construction jobs to ensure good workmanship, especially given that many of the workers are inexperienced and have not been properly trained. The consequence is sloppy construction. It becomes evident the moment one steps inside some of these apartments. Walls are crooked; floors are not level. Some people are even beginning to crack jokes about Italy's Leaning Tower of Pisa.

EARTHQUAKES

Earthquakes are one of the most serious threats to construction in Baku. The entire region is situated in an active seismic zone. This becomes extremely problematic,

given that many of Baku's high-rises have been erected with shoddy workmanship using substandard, low quality materials.

Baku's most recent earthquake occurred in November 2000.⁹ Two strong tremors followed one after another. According to the U.S. Geological Survey (USGS), the foreshock measured 5.9 on the Richter scale and was followed minutes later by a massive quake registering 6.3. Such a force is equivalent to an explosion of 30,000 tons of dynamite or a 30-kiloton nuclear bomb. The epicenter of the quake, fortunately, was not on land, but rather offshore in the Caspian Sea 100 km (62 miles) northeast of the capital.

As could be expected, deaths resulted—at least 35. The majority of victims lost their lives from falling masonry and rubble. Gas explosions killed some people. A few died of heart attacks.

In reality, Baku was rather fortunate, given that so much of the construction throughout the city is based upon masonry. However, one must keep in mind that in the year 2000 very few towers had been erected and the epicenter was a considerable distance from the capital, deep within the sea. Baku was lucky this time but who can be sure that nature won't be much more cruel the next time around?

It's not just Azerbaijan that is prone to earthquakes. The entire region is subject to seismic activity. In 1988, neighboring Armenia experienced a devastating 6.9 earthquake in Spitak, a city north of Yerevan. The entire population of the city—25,000 people—is said to have lost their lives. The scale of the destruction was blamed on substandard infrastructure, prompting Soviet authorities to forbid any future buildings to be constructed higher than five stories.

In August 1999, Istanbul was hit with an earthquake of 7.4 magnitude. The Turkish President deemed it the worst natural disaster in Turkish history. Official Turkish government statistics list 17,127 deaths, 43,953 injuries and an estimated 250,000 residents who lost their homes. Poor workmanship was faulted as well as lack of quality control in the use of structural materials—problems, which could have been avoided if the buildings had been carefully inspected during the construction process.

In December 2003, an earthquake of 6.6 magnitude flattened the city of Bam, Iran. An estimated 43,000 people were killed and 20,000 injured. More than 60,000 residents were left homeless. Essentially the city was wiped out. Mud brick was the primary building material—the most susceptible of all in earthquakes.

While this article was being written, yet an even more ruinous quake took place in the Kashmir region between Pakistan and India in October 2005, claiming at least 75,000 lives, and displacing an estimated 3 million people. Again, the devastation could be traced to masonry construction.

These examples, describing how fatal and devastating earthquakes have been in the region, illustrate how imperative it is for authorities to address these issues. To ignore these problems imperils the lives of those who make Baku their home.

CONCRETE IN CONSTRUCTION

The use of mud brick and masonry in construction is categorically the No. 1 Killer during earthquakes. However, faulty concrete construction follows close behind. Being relatively cheap, concrete is naturally very popular in areas that don't have access to forests, timber or other industrial building materials. It is the primary means of construction for high rises in Baku. During the preparation of concrete, there are several practices that must be carried out very carefully so as not to

Right page: Traffic jams are part of the chaos which occurs all day long in Baku, whether it is rush hour or not. Busy streets mean more dangerous situations for pedestrians, more dirt, higher levels of air pollution, as well as excessive noise that comes with frustrated drivers impatiently honking their horns. This photo shows typical chaotic traffic on Istiglaliyyat (Independence) Avenue in front of Baku Sovet (City Hall).

