

How Water Works

ILLUSTRATED PROCESSES, EQUIPMENT, AND TECHNOLOGY

Physical Improvements Tighten Utility Security

Water utilities have always prepared for emergencies and disasters, such as the natural threats of earthquakes, hurricanes, and floods. In recent years utilities have upgraded their emergency preparedness plans to guard against intentional acts of destruction. This illustration depicts a few physical improvements that may mitigate the risks of deliberate threats to water utilities. The key components of an effective security system will deter, detect, delay, or stop an intruder from causing harm. For a comprehensive look at measures a water utility can take to minimize threats of intention, see AWWA's *Water System Security: A Field Guide*, available from the AWWA Bookstore (www.awwa.org/bookstore).

1. Physical barriers, such as fences, walls, concrete barriers, and berms, prevent intrusion and restrict public access. Fence lines are free of dense foliage that could provide an intruder with a hiding place or a way to scale the fence.
2. Heavy-duty gates control access points at all facility perimeters, deterring and delaying potential intruders. Access to all critical buildings and interior work areas is controlled by keycard or touchpad access.
3. A guardhouse with a security officer allows for screening of visitors and delivery people, as well as for immediate response to an on-site incident.
4. Surveillance equipment includes alarms, lighting (4a), and video cameras (4b), exterior and interior. Motion sensors often activate such equipment.
5. Fire hydrants, sampling stations, and valve boxes have tamperproof caps, portals, and lids, respectively.

Some illustration elements exaggerated for emphasis.

6. Personal protective equipment is readily available in case of hazardous materials spills and other accidents.
7. Elevated tanks are secured by fences, and folding ladders are locked to prevent unauthorized access. Roof-top hatches are secured with locks and checked regularly.
8. Raw water quality monitoring detects intentional contamination before treatment, allowing for treatment process adjustments.

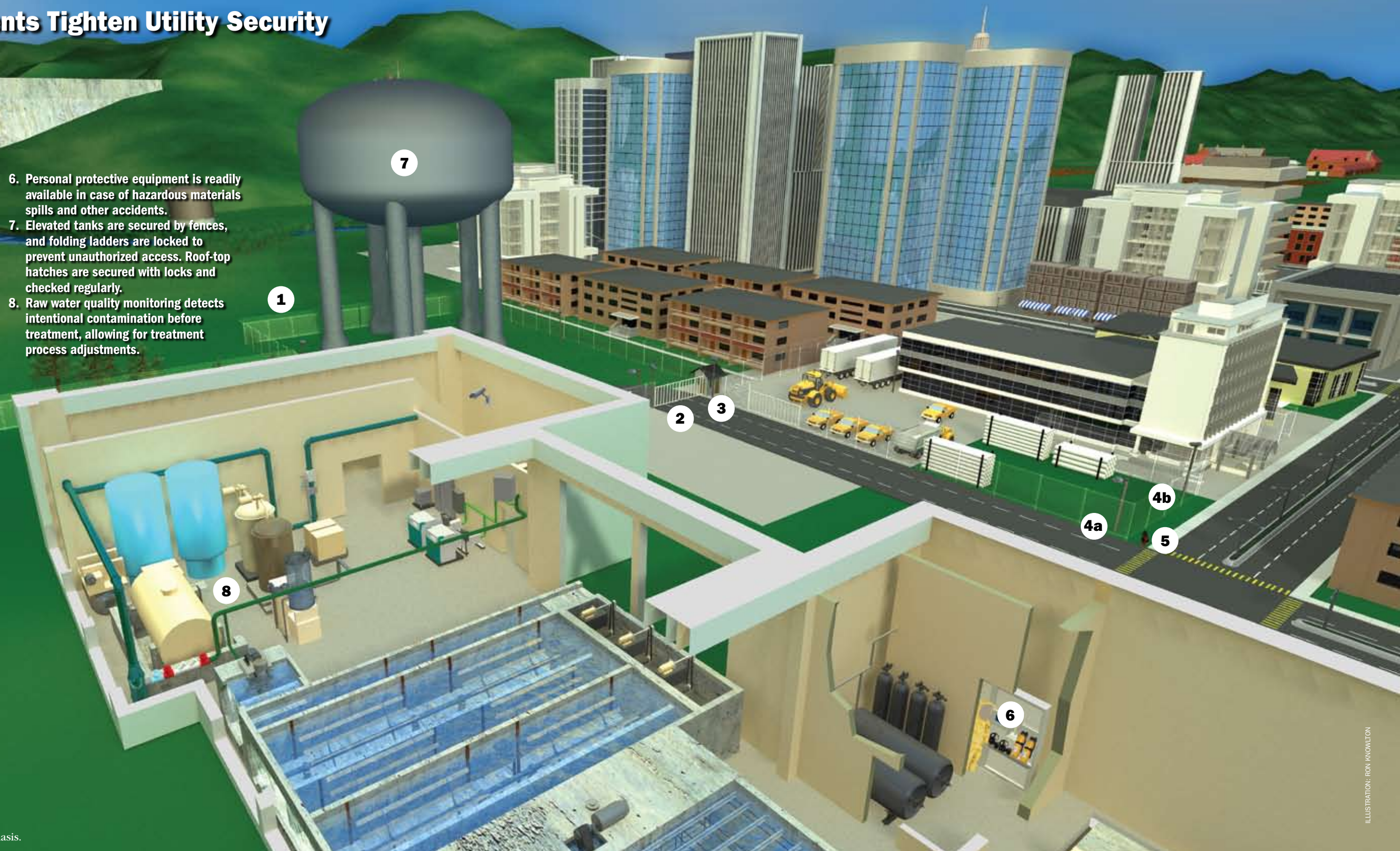


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