



Master Blasters

Working with Explosives in Demolition and Construction

By Ruth Owen

Get to Work
with
Science
and
Technology



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Working with Explosives in Demolition and Construction

by Ruth Owen

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Call in the Blasters

A hurricane-damaged 30-story building must be **demolished**. It is too difficult and dangerous to take apart the structure piece by piece. All around the **condemned** tower are shops, hotels, and people's homes that must not be harmed.

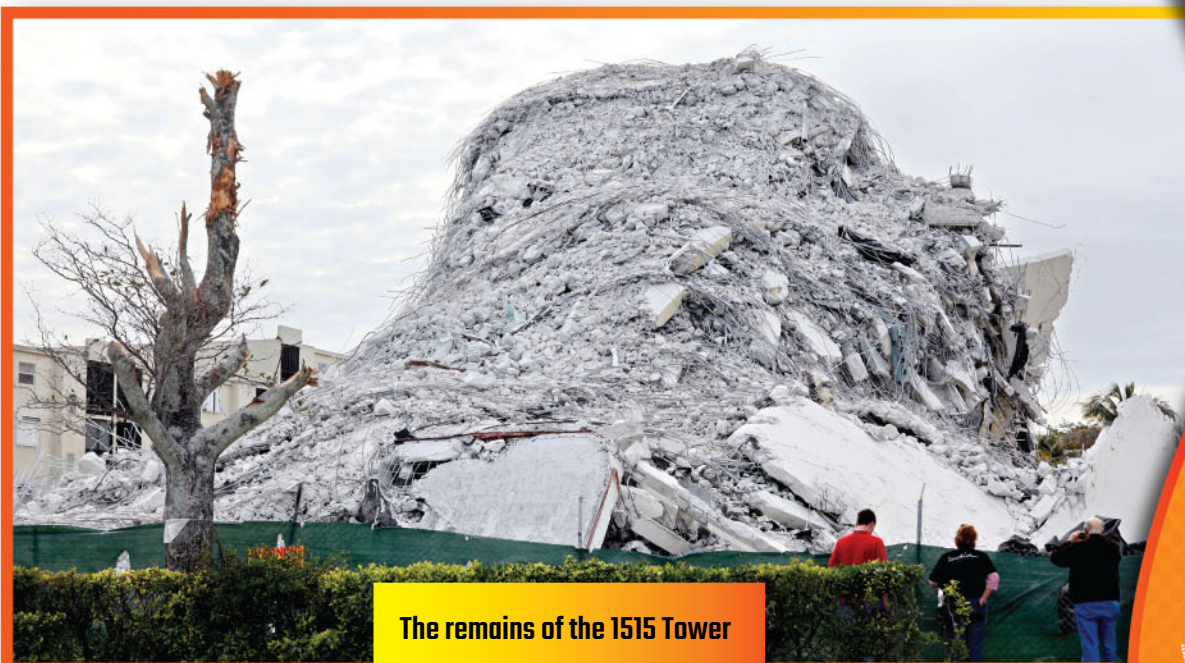
This is the challenge. So what's the solution? It's time to call in the demolition experts known as blasters.

The 1515 Tower in West Palm Beach, Florida, crumples as 2,000 pounds (907 kg) of dynamite does its work.



It can take a team of blasters months to prepare a building for demolition. It takes less than 10 seconds for the building to be reduced to rubble!

Blasters are highly skilled **engineers** who rig a building with **dynamite**. The explosive **charges** are placed with absolute precision to ensure that a building collapses within a specific area. When the explosives are **detonated**, the building's framework must shatter. Then **gravity** does the rest!

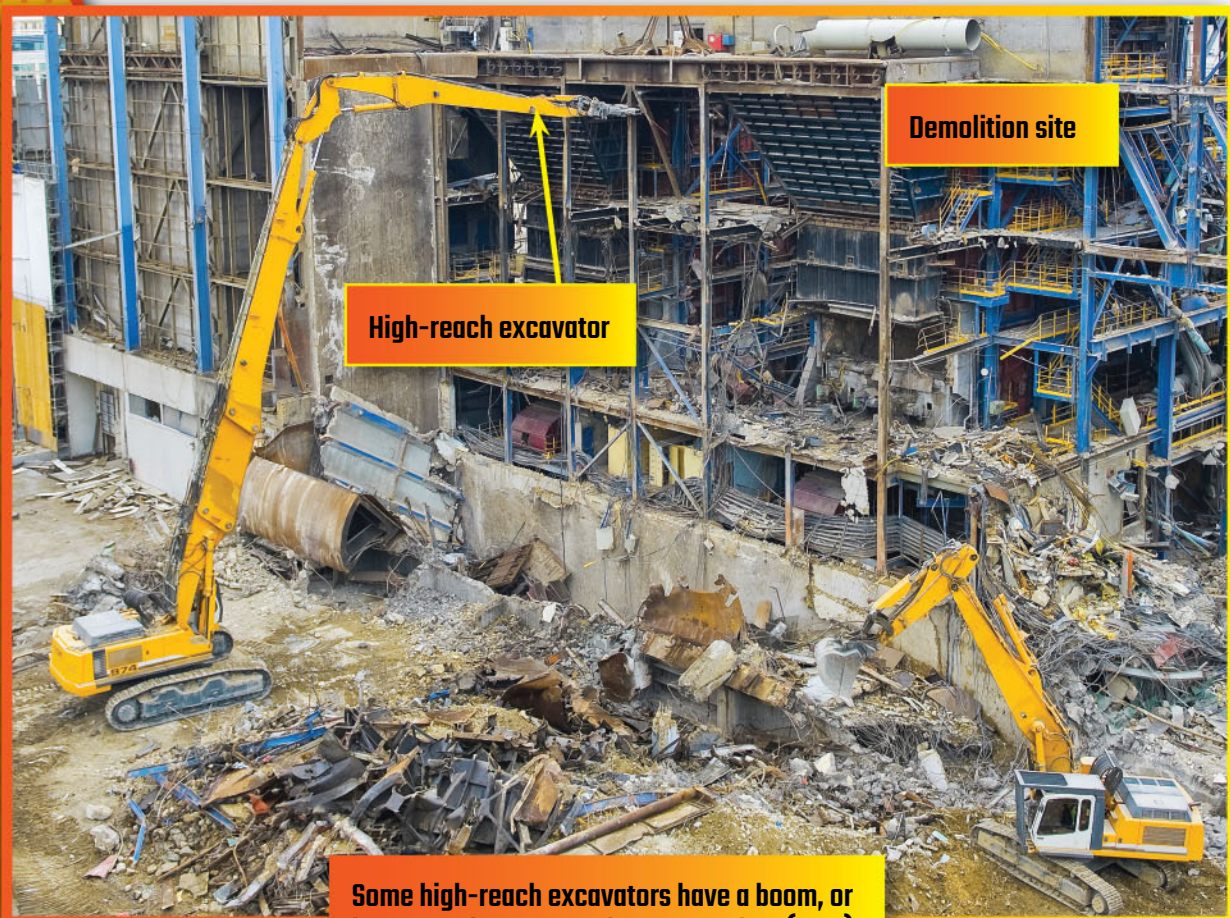


The remains of the 1515 Tower

The World of Demolition

There are many reasons why a building is demolished. It might be unsafe because it's been damaged by fire or extreme weather. The ground where it stands may be needed for a new construction project. Sometimes old factory buildings are demolished when companies go out of business.

Most demolition is carried out by expert workers using excavators and other machines. Even tall buildings can be pulled apart by high-reach excavators.



Some high-reach excavators have a boom, or long arm, that can reach up to 200 feet (61 m).



Jaw-like tools are attached to an excavator's boom, or arm. These powerful tools can tear down walls, crush concrete, and cut through steel.

Sometimes, however, a building is too tall or too massive to be demolished by people and machines. In these cases, an explosive demolition is the only answer.

Demolition experts try to recycle metal, bricks, and other materials. Excavators scoop chunks of concrete and other debris into a rubble crusher. This material is crushed and can be used as part of the **foundation** for a new building.



Rubble crusher

Excavator

Crushed rubble

Debris from demolition