



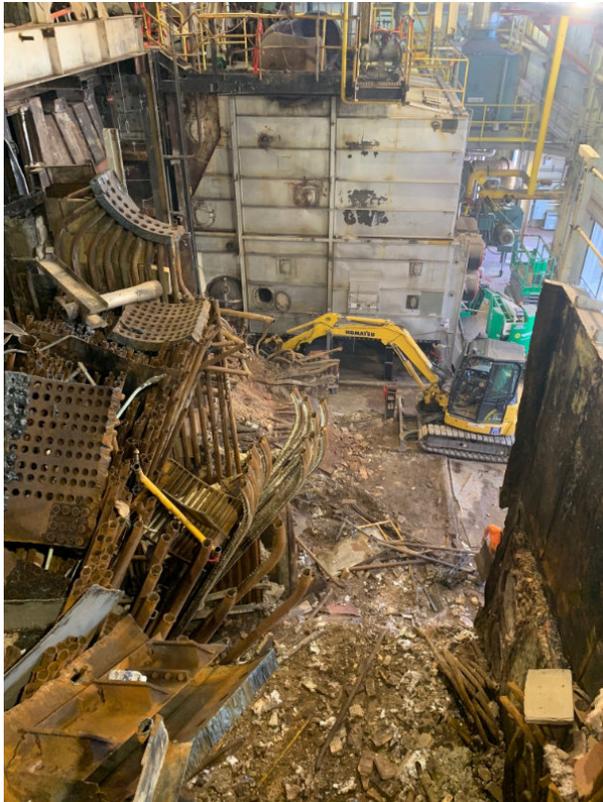
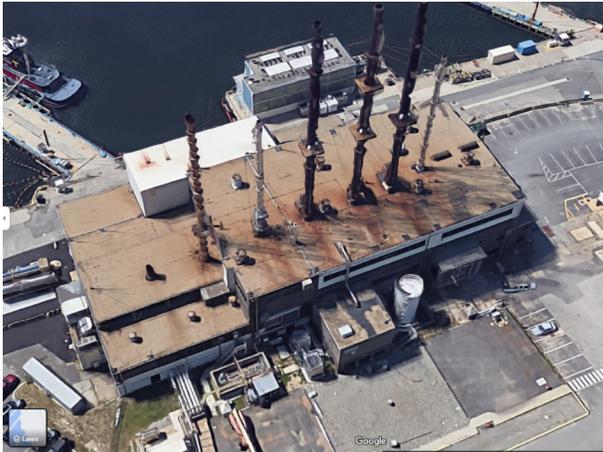
R. BAKER & Son

OUTRIGGER

Rigging, Dismantling & Demolition News from R. BAKER & SON

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Naval Submarine Base New London: Power Plant Demolition Project



R. Baker & Son recently completed a large demolition and abatement project at Naval Submarine Base New London in advance of the U.S. Navy's planned fuel cell and microgrid system upgrades at the base.

Naval Submarine Base New London was established in Groton, Connecticut in 1868 as a naval yard and storage depot for inactive ships. A coaling station was built at the yard in 1898 for refueling small naval ships traveling in New England, but by 1912, oil had largely replaced coal in warships and the yard was scheduled for closure. Salvation came in late 1915 when six submarines and their support ships arrived at the yard, giving it a new purpose, and the facility was named as the Navy's first submarine base.

The base was expanded during World War I and again during WWII, and survived a proposed closure in 2005. Today it serves as home port to 16 nuclear submarines and supports the Submarine Center of Excellence that trains sailors to take submarines to sea.

THE PROJECT

R. Baker & Son was tasked with dismantlement, rigging and removal of two steam turbines, three 1,200 hp boilers, a gas turbine, a heat recovery steam generator, and all ancillary piping, racks, stacks, tanks, platforms, and various other items and equipment. Prior to demolition activities, our environmental team safely performed asbestos and lead paint abatement, and all utilities were air-gapped and disconnected.

Much of the dismantling took place in a tight area, necessitating use of a shear-equipped mini-excavator to remove piping and cut steam drums into sections, then lower them into the boilers slated for removal.

The project, led by R. Baker & Son project supervisor TJ Inderwies, was safely and successfully completed ahead of schedule in just under six months.

View more photos on page 4...



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Also in this issue...

**Women in Construction • Helicopter Rigging
Hearing Protection • How Tower Cranes Grow**

R. Baker & Son Celebrates Women in Construction



*Pictured:
RB&S crane operator
Patty Joe Goodwin*

National Women in Construction Week took place from March 6-12, 2022 to celebrate, educate, and promote the role of women in the construction industry. This year's WIC Week theme was "Envision Equity", raising awareness of opportunities for women in a wide range of roles in the construction industry, from tradeswomen to project managers, to administrative positions and even business ownership.

R. Baker & Son, a certified M/WBE woman-owned business, proudly recognizes the women who form the backbone of our organization and are vital to our continuing success.

- Ashley Baker-DeGorter*
- Karen Baker-Morford*
- Danielle DeMary*
- Kinga Goodwin*
- Patty Joe Goodwin*
- Claudia Graf*
- Joanna McFadden-Simoes*
- Ava Miicke*
- Ginny Otley*
- Carol Schimenek*
- Danielle Stafford*
- Pearl Tiven*

Heavy-Lift Helicopters

When use of perimeter cranes is not feasible due to inaccessibility or economic concerns, aerial rigging by helicopter can be an effective alternative. These lifts require highly-trained and experienced personnel, thorough rigging and flights plans, and extremely careful preparation. Risk assessments must be performed to identify hazards such as power lines, structures and cranes, and loose materials and structures in the landing or staging area, and flight permissions must be obtained from the FAA and other authorities.



Different helicopters are designed for different payload sizes, but the famed workhorse in helicopter rigging is the Erickson S-64 Air Crane. First introduced by Sikorsky in 1962, the S-64 has a rated capacity of up to 25,000 lbs. Its unique design features an aft-facing pilot station that provides an unobstructed view and allows load placement to within millimeter tolerances, and a patented anti-rotation rigging system that prevents external loads from twisting or swinging. The Erickson S-64 is used in HVAC and specialty construction, aerial firefighting, power line construction, timber harvesting, and oil and gas operations.

Preventing Hearing Loss in Construction & Demolition



Noise exposure is a common hazard in the construction industry, with many workers suffering hearing damage each year. Pneumatic drills, heavy equipment, and power tools are among numerous sources that can cause significant hearing loss, and about 51% of all construction workers having been exposed to hazardous noise. Fortunately, noise exposure and hearing loss can be prevented with use of hearing protection devices and job site controls.

Workers who resist or neglect to use hearing protection must understand that hearing loss due to prolonged exposure to excessive noise is irreversible, and neither

surgery nor hearing aids can cure or reverse the damage. Hearing loss can affect one's quality of life in numerous ways and has been associated with elevated stress, irritability, loss of concentration, and social isolation. Studies have shown that workers persistently exposed to excessive noise are more than twice as likely to suffer from serious heart disease as those who aren't.

Hearing damage can occur in just 15 minutes of unprotected exposure to 100dB (e.g., various saws, bulldozers with no cab). At levels above 110 dB (chainsaws, pneumatic hammers), repeated exposure to noise lasting just one minute can significantly increase the risk of permanent hearing loss.

OSHA requires use of hearing protection devices when workers are exposed to noise levels above a time-weighted average of 90 dB over an 8-hour period. Types include earplugs, earmuffs, canal caps, semi-aural bands, and devices that electronically block out noise. HPDs must carry a noise reduction rating (NRR) sufficient for workplace dB levels, and should be worn for the duration of exposure. Other preventive measures include use of low-noise tools and machinery, erecting noise barriers, and limiting exposure.

How Do Tower Cranes Grow?

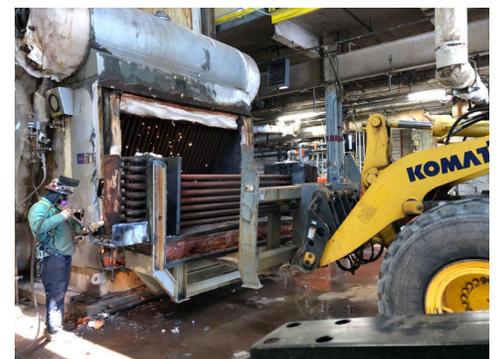
Tower cranes are familiar fixtures on the New York City skyline, and many observers have wondered just how they reach their soaring heights. While it's only logical (and correct) to presume that tower cranes are initially built from the ground up using smaller mobile cranes, how does it continue to grow as the building gets taller? By means of its own built-in lift system using one of two basic methods.

In the **external climbing** method, a crane is erected on a concrete pad alongside the building. A special climbing frame that scales the outside of the tower sits between the slewing unit (gear and motor) and the top of the mast. When the building reaches about 15 stories, the crane is fastened to the building and crew members detach the slewing unit from top of the mast. The climbing frame then raises the jib section using hydraulic rams and temporarily supports it while the crane operator lifts a new tower segment into the gap. The new segment is secured in place, and the process is repeated.

Tower cranes that use the **internal climbing** method are erected in the center of the structure's interior, and the building is constructed around it. Every 100 feet or so, a built-in hydraulic system at the crane's base is used to lift the mast from the bottom. When the desired level is reached, crew members support the crane with steel beams and construction continues until more height is needed.



Naval Submarine Base Demolition Project Gallery



Quality Award Winner

Congratulations to Danielle DeMary, this quarter's recipient of the R. Baker & Son Quality Award. The Quality Award program was established to recognize individuals for their outstanding achievements in safety, project execution, and customer satisfaction, and for their continuing dedication to R. Baker & Son's growth and success. Thank you, Danielle, for a job well done!