

the **OUTRIGGER**

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R. Baker & Son Magazine
Service-Disabled Veteran-Owned Business

R. Baker & Son Team Completes Process Plant Relocation

R. Baker & Son recently completed an equipment relocation project for Firmenich, the world's largest flavor and fragrances company. The project entailed relocating large process equipment from the company's Newark, New Jersey manufacturing plant to a newly-expanded facility in New Ulm, Minnesota. Relocated equipment included large spray dryer modules, solution prep modules, desiccant dryers, compressed air systems, supersack units, dryer pack-out, and miscellaneous associated equipment and instrumentation.

As equipment slated for relocation was meticulously identified, logged, disassembled, match-marked, crated, and readied for shipment by a team of R. Baker & Son millwrights, other crew members worked to open sections of trusses and I-beams for removal of the equipment through the four-story facility's roof. Combo lulls, scissor lifts and forklifts were used to remove some of the machinery through existing openings. A 600-ton crane was utilized to hoist larger equipment through the roof opening directly onto waiting trucks, assisted by a 120-ton trailing crane used to move upright vessels into a horizontal position. Custom bracing was constructed for many of the vessels and equipment, some measuring as large as 60 ft., to prevent damage during transport. At the completion of the project, temporary roof supports were removed and I-beams and trusses were put back in place.

R. Baker & Son has performed hundreds of plant relocations of all sizes and levels of complexity to locations across the globe and can help you plan and successfully execute your project. For more information, contact us at 732-222-3553.



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Firmenich Project

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Left: Removal of the solution prep module utilizing a 350 ton crane. **Above:** We had to remove portions of the roof and decking to create the openings where the equipment could be removed for relocation.



Above: We utilized yellow hydraulic gantry jacks to boost these processing units so that they could be lifted with a 350 ton crane. **Left:** You can see the units being lifted and put onto a lowboy for transport to their new locations.

Brownfield Site Redevelopment



A brownfield site is classified by the Environmental Protection Agency (EPA) as land previously used for commercial or industrial purposes, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. The EPA estimates there are more than 450,000 brownfields in the U.S.

Cleanup and reinvestment in brownfield properties increase local tax bases, provide job opportunities, improve and protects the environment, and reduce development pressures on green space in other areas. EPA's Brownfields Program provides

various grants and tools to local governments for the assessment, cleanup, and revitalization of brownfields, and other federal and state programs provide funding, technical help, and tax incentives.

Brownfield sites can be redeveloped in numerous ways, though usually with restrictions to minimize exposure from possible leftover contaminants. They can be reused for housing, new commercial or industrial development, or green spaces for recreational use. Many brownfields are used for the development of renewable energy sources such as wind farms, solar arrays, and geothermal plants. Most already have existing electrical and transmission capacity and are zoned for industrial use, making them ideal for energy generation.

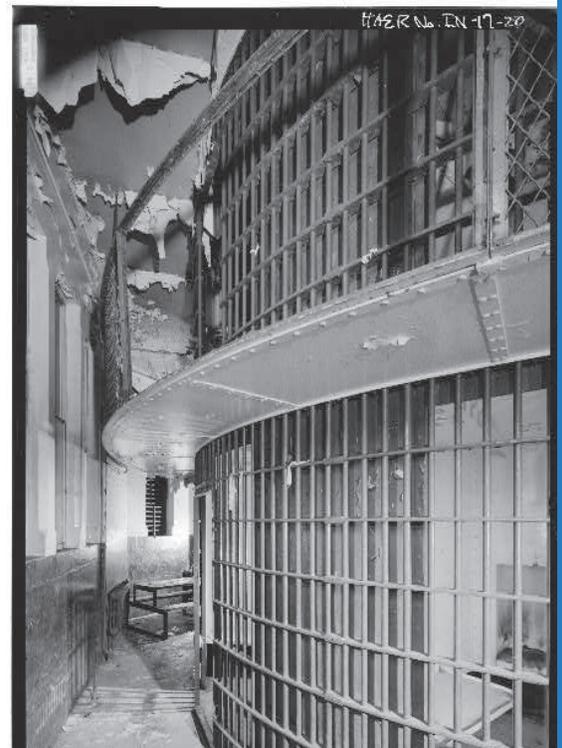
R. Baker & Son All Industrial Services are expert providers of decommissioning, demolition, hazardous material abatement, asset recovery, and environmental remediation services that can aid in brownfield recovery and redevelopment.

Early in 1881, a most unique patent was filed for an innovative jail with revolving cells. The design showed a two-tiered cylinder of wedge-shaped jail cells surrounding a central support column that also housed plumbing for the individual cells. With only a single access point in the surrounding structure, guards could rotate the cell block by turning a hand crank, locking prisoners away without access to a door. Jailers were intrigued, and by 1882 the Montgomery County Rotary Jail had opened in Crawfordsville, Indiana, quickly followed by a three-tiered jail in Pottawattamie County, Iowa, which became known as the Squirrel Cage.

It wasn't long after rotary jails became popular that it became apparent there were problems with the design. They were dogged by mechanical problems, and prisoners unlucky enough to have had their hands or arms through the bars suffered gruesome amputation and crush injuries when the rotary mechanism was unexpectedly engaged. Lighting and ventilation were poor, and most prisoners would be unlikely to escape with their lives if a fire were to occur. As a result, most were immobilized and refitted with individual cell access, with the last of them, a single-story jail in Gallatin, Missouri, closing in 1975. The three that remain, Squirrel Cage, Gallatin, and Montgomery County Jail (the only one that can still rotate) all now operate as museums.

Photo: [Library of Congress, Prints & Photographs Division](#)

Carousel of Criminals: Rotary Jails



The Importance of Concrete Recycling

Second only to water, concrete is the most widely-used material on earth. In the construction realm, twice as much concrete is used worldwide than all other building materials combined. Concrete accounts for hundreds of millions of tons of construction and demolition (C&D) waste each year, and with greater environmental awareness and stricter landfill regulations, concrete recycling is increasingly important.

Why recycle concrete? There are two main environmental and financial benefits to recycling concrete: 1) landfill waste is significantly reduced; 2) use of recycled concrete aggregate reduces the need for natural materials and the associated mining and transportation costs. Recycling of C&D debris, including concrete, is worth 1-2 LEED points.

How is demolition concrete recycled? Concrete should be sorted on-site and separated from other C&D materials, then either processed on-site using mobile equipment or transported to an off-site facility for processing. (Contaminated concrete, as determined through pre- or post-demolition sampling, is segregated and handled as hazardous waste.) While offsite processing can often produce a higher-quality aggregate, crushing concrete onsite is less expensive.

Concrete pieces are first broken up to a manageable size, then run through a crusher and screened to remove dirt and separate larger aggregate from small. Magnets are used to extract rebar and other metals for recycling, and additional processes such as water flotation, air separators, hand picking and other mechanical means can be used to remove remaining dirt, metal, and other foreign materials.

What are some of the uses for recycled concrete? Most recycled concrete is used as aggregate base and sub-base for roadways. Not only does it have equal or superior compaction properties as compared to primary aggregates, it is generally less expensive. Recycled concrete aggregate can also be used as a soil stabilizer on construction projects to increase the load-bearing capacity of the subgrade, and can replace natural aggregate as bedding for pipes and other underground utilities. Other uses are as landscaping material, in retaining walls, to control erosion, in artificial reefs, and in underpass abutment structures.



National Safety Month 2020

National Safety Month is observed annually during the month of June to reduce injury and death at work, on the road, and in our homes and communities. Led by the National Safety Council (NSC), the program educates and raises awareness of safety practices that must be practiced 24/7, whether at work or at home.

National Safety Month 2020 shone a spotlight on pressing topics that included mental health, ergonomics, building a safety culture, and driving. The topic of mental health drew was particularly apt this year, drawing increased focus as the global COVID-19 pandemic emphasized the need for mental health support in the workplace. The NSC also continues to provide “real-time, relevant resources on a variety of topics for keeping workers safe in our new normal” to help us navigate during the pandemic.

About the NSC - Founded in 1913 as a clearinghouse for safety information, the National Safety Council is a nonprofit organization whose mission has been to prevent injuries and save lives through leadership, research, education and advocacy. NSC focuses on areas where the most preventable accidents occur – cell phone use while driving, teen driving, safety in the community, prescription painkiller use, and workplace safety – and disseminates best-practice solutions throughout the U.S. Visit the NSC website to learn about safety at work, home and on the road, to download free posters, fact sheets, and other valuable safety information, and to purchase training supplies, equipment, and safety products.