

Cool Beans

New office space enhances company collaboration

By Pam Braun

A winding driveway leads off of Bush Brothers Drive in Augusta, Wisconsin, to a new window-clad office addition at Bush Brothers & Company. Nestled among the bean manufacturer's production plant and warehouses, the building is designed with employees' needs foremost in mind.

When Bush Brothers contacted Ayres Associates to design the building, employee interaction was key in Bush Brothers leaders' vision for the project.

"We wanted employees to be able to collaborate as much in the hallways as in their offices," said Todd Peterson, project manager with Bush Brothers.

Thus, the front section of office space is dotted with conversation areas – low, square tables flanked by three navy-tan-print chairs and several large plants – that are intended to allow employees to sit down and have face-to-face conversations, rather than frequently relying on email. Wide counters cover attractive filing cabinets arranged in a "U" shape that juts out into spacious walkways, providing work spaces where employees can gather and solve problems.

Bush Brothers manufactures 10 varieties of Bush's Baked Beans and numerous other bean products. Its Augusta facility has been operating and growing since 1962. Headquarters are in Knoxville, Tennessee, and a second production facility is in Dandridge, Tennessee.

Peterson vividly remembers Bush Brothers' previous meager office space, with some partitioned offices within the production plant and a few in nearby mobile trailers. This setup made employee communication difficult until the new building was completed in June 2006.

"Our business is made up of basically two areas – production and packaging. Issues with the production side of the business will have a big impact on the packaging side of the business," Peterson said. "When issues do arise, it is much easier to walk 30 feet to discuss an issue than to walk through the plant, outside to an office that is not attached to the production facility, like in the past."

Meeting rooms equipped with overhead projectors and network connections make it

Tucked among the company's production and warehouse facilities in the rural outskirts of Augusta, Wisconsin, the new Bush Brothers & Company office addition is conducive to the easy and open interaction the company was seeking among both office and production employees.





easier to present spreadsheets, graphs, drawings, and pictures for discussion and decision-making. A videoconference room aids communication with headquarters.

The Augusta facility's 130 office and production employees also have the chance to interact with one other in the break room just beyond the front office section. Employees can take advantage of improved amenities like storage areas for lunch boxes, a larger refrigerator, a pleasant outside view, and an outdoor patio area with tables and chairs.

Peterson said employees have appreciated the cleaner, roomier break room, as well as larger full-height lockers in the women's and men's locker rooms near the rear of the building to accommodate uniforms, winter jackets, and boots.

Bush Brothers leaders also wanted ample windows and lighting in all parts of the building to create a bright, cheerful atmosphere.

The design, which uses no incandescent lighting, exceeds Wisconsin energy conservation requirements. Offices and training rooms lie on the perimeter, all with outdoor views and visibility from inside, allowing employees to see whether someone is in an office.

Maximum use of natural lighting is among many features Ayres Associates architects use as they apply sustainable design strategies outlined in LEED.

LEED – Leadership in Energy and Environmental Design – is a voluntary national standard for developing high-performance, sustainable buildings. It is administered by the U.S. Green Building Council. Even if a project isn't formally LEED-certified, Ayres Associates architects seek to apply LEED guidelines whenever possible. Although it is not LEED-certified, the Bush Brothers building design incorporates a heat recovery system and use of recycled and natural materials, both of which fit into LEED guidelines.

The 25,300-square-foot building's heat recovery system, designed by APEX Engineering, has attracted attention. Excess heat from production of Bush Brothers' baked beans in the adjacent plant is recovered and used to heat the building. This system earned the project the 2006 Sustainability and Energy Efficiency

Natural and fluorescent lighting provide a bright, inviting atmosphere and energy savings throughout the Bush Brothers office.



(SE2) Leadership Award Special Citation for Innovative Heat Recovery.

“Bush Brothers mentioned that it had excess heat generated from the production process and asked Ayres Associates to incorporate that into the building’s design,” said Michael Berg, PE, vice president and project manager at Ayres Associates in Eau Claire.

Bush Brothers also wanted employees to be proud to work at the Augusta facility. “Ayres Associates was very collaborative in trying to achieve those principles,” said Joe Breid, Bush Brothers’ director of operations in Augusta. He noted that the Ayres Associates architect visited Bush Brothers’ headquarters so its color schemes could be incorporated into the Augusta building.

“We wanted people to say, ‘That’s a Bush Brothers building,’ ” Breid said.

Navy-blue arches top visitor and employee entrances. Further inside, navy-blue and tan décor lends an eye-pleasing, comfortable, yet crisp look under 9-foot ceilings. Corridors are a generous 8 to 10 feet wide, adding to the open atmosphere. Security is improved through separate employee and visitor entrances, and the design allows for expansion should Bush Brothers add another production line. Bush Brothers also desired a professional-looking building that fit its type of business – food production – and the area, a small farming community in west central Wisconsin.

Once the preliminary design and budget were approved in May 2005, Ayres Associates, Bush Brothers, contractor Market & Johnson, APEX Engineering, and other subcontractors worked together to complete the final design and construction in about 12 months.

“The project team really enjoyed working on the building. Personal friendships were developed, and we were very happy with the results,” Berg said.

Peterson remembers that the project went very smoothly, and he said Bush Brothers has experienced the desired results.

“We do believe that we are making better, more informed, and timely decisions because of employees’ closeness and proximity to one another,” he said. ■

Open spaces and wide hallways offer places for spontaneous and comfortable meetings among employees.



Bean Production Powers heat recovery system

By Pam Braun

The innovative heat recovery system used to heat Bush Brothers’ new office building in Augusta retrieves heat from hot wastewater during production of its baked beans.

Beans are cooked in the can in large pressurized cookers above a canal of cool water. When cooking is complete, the cans are dropped into the canal to stop the cooking process, heating the canal water. Hot used canal water is expelled, and cool well water is added to the canal to limit canal temperatures.

The reclaimed hot water is directed to a heat exchanger and then circulates in a non-toxic antifreeze solution mixture through a loop of large pipes to the new office building and sidewalk system. A water-to-air heat pump system then removes heat from the circulated water loop as needed to heat offices or locker room spaces. The heat also is directed to sidewalks and patios surrounding the building to melt snow. The heat pump system also can divert excess room heat to the circulating loop when air conditioning is needed, allowing the reclaimed heat to be used in other areas of the building where needed.

The system saves Bush Brothers about \$5,000 annually in energy costs. In addition to energy savings, wastewater is reduced from the previous 500,000 gallons to approximately 250,000 gallons, and production is increased because the cans can be cooled faster.

When bean production ceases on Saturday and part of Sunday, the building retains sufficient heat until production resumes Sunday night.

The system has been so effective that plans are for APEX Engineering, the system designer, to enhance it to allow for heat rejection in the summer. APEX President Rick Anderson, PE, estimates energy savings to rise to about \$9,000 annually when the system is in full operation; substantial additional savings in water treatment chemicals and an increase in baked bean production volume are also expected. ■



A heat recovery system uses heat captured in the bean-cooling process in Bush Brothers’ canning facilities to heat the company’s new office space, saving \$5,000 annually in energy costs while increasing the speed of production and reducing the generation of wastewater.