

Transformation

This project entails the **adaptive reuse** of an existing 150, 633 gsf manufacturing plant into a **corporate headquarters** for Alberici, one of St. Louis' oldest and largest construction companies. In addition to an open office environment, structured parking, training rooms, exercise facilities and dining facilities are provided.

Although this 85 year old construction company stayed close to its roots for the last 55 years, company growth led to the decision to move. "The old space was "closed-off" and kept employees isolated from one another, said the company CEO. "We wanted to be in a **place that fosters teamwork and creativity**. We were looking for a **non-traditional office environment** in a campus-like setting."

After intensive investigation of 45 different sites, a **13.59 acre brownfield site** became available with a 50-year-old three-story brick office building and a **1950's-era warehouse**, the former home of a metal manufacturing facility. With three repeating, 70' x 505' clear-span bays and a 90' x 495' bay added later, "It was literally a **"cathedral of steel"**, said the architect," with great freedom and potential to adapt the space to their needs.

At the outset, the client wanted to **lead by example, transform the design and construction market place** and set a goal of **Platinum level LEED certification**, reminding the design team to take into consideration **"the future generations who will someday work in this building."**

The **office building and garage** evolved from the old manufacturing shed which was sliced lengthwise into three sections. By removing the middle bay roof deck, the design effectively created **two parallel buildings**. The center bay became an outdoor **courtyard** with a portion of the existing roof forming a protected walkway between the office building and the covered garage. To one side, the building was converted to a **two-story 108,586 sf mezzanine-style office space**. The building's southwest side received a **28,070 sf "saw-tooth" brick and glass addition**, in effect reorienting the building to a true southern exposure and mitigating the low western sunset. This design concept is like the **sunflower** which rotates to follow the movement of the sun. Across the courtyard, the remaining two bays were converted to a **two-level 323-car parking structure**, immediately decreasing the heat-island effect.

The **interiors** are organized around **three large atriums** and receive **abundant light, fresh air, and views to the outdoors**. The open plan environment **fosters teamwork and collaboration**.

The **site** is being **restored with native, drought-resistant plantings** and retention **ponds** and constructed **wetlands** which help **retain 100% of the storm water runoff**. The wetlands form a **filtration process** in the forebay pool. The site had been 50% impervious surface but is now its own watershed.

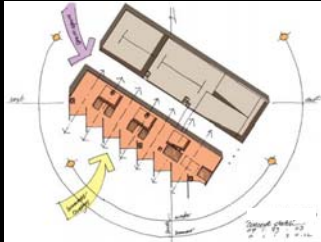
The team achieved the client's goal of **Platinum level certification from the USGBC**. With 60 of 69 points, the highest total ever, this project, the design team and client has demonstrated an **exceptional commitment to environmental design and conservation** and **set new standards** nationally. Through an **integrated, collaborative design approach**, the company's staff now benefits from a **healthy, comfortable, beautiful environment** which fosters **teamwork, creativity and collaboration**, a 50 year old **adaptively reused structure** has new life, and the **market place** has begun the **transformation process** toward a more sustainable approach to design and construction.

Other features include:

- Existing structural steel frame of the manufacturing plant is reused. A new steel frame was inserted within the 28' clear height to form a mezzanine level. A new "saw tooth addition" is also framed in steel.
- Pre-cast concrete tees parking deck supported on **repositioned steel crane rails**.
- HVAC system uses under-floor air distribution and natural ventilation through operable windows and includes off-the-shelf high-efficiency boiler and chiller models, pumps, appliances and fans. **Energy conservation exceeds minimum efficiency by 60%**.
- Individual occupant control** of thermal, ventilation, and lighting systems support occupant health, productivity, and comfort.
- 75% of spaces are day lit**.
- 90% of building occupants have direct views to the outdoors**.
- Building reorientation**, three shades of glass and sunscreens control sunlight.
- A **recycled 65-kilowatt wind turbine** from a California wind-farm will generate 92,000 kWh and 20 % of the facility's electrical needs annually.
- Solar panels** pre-heat water for use in the building's kitchen.
- 17% of energy is from on-site renewable sources**.
- Rainwater** from 60% of the garage roof area is collected and stored in a 30,900-gallon cistern, treated and used for sewage conveyance. This, along with water efficient fixtures, results in a **70% water use reduction** and savings of 500,000 gallons of water annually.
- Building envelope** is well insulated with an R-28 roof and R-21 walls.
- 90% reflective, highly emissive roof** of white, Energy Star rated polymer made of natural soybean oil.
- 93% of all construction and demolition waste was diverted from landfills**. The existing office building was deconstructed and used for structural fill under the new entry road bed.
- 31% recycled content** in all new materials.
- Local and regional materials were extensively used with **57% locally manufactured**.
- Rapidly renewable resources** (Plyboo, cork flooring, and woodstark board) utilized.
- Low emitting materials**, adhesives, and sealants specified.
- Indoor air quality** is monitored with an integrated carbon dioxide monitoring system.
- The entire campus and building is **smoke-free**.
- The Missouri Botanical Gardens and Shaw Nature Preserve consulted on the approach to ecologically sensitive **site restoration** and to set new standards for corporate campus design.



existing industrial site



building transformation concept



existing warehouse



lobby



north facade



south "saw-tooth" addition



aerial view prior to indigenous plantings



site restoration concept



courtyard



office atrium



main street

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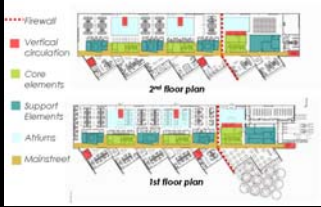
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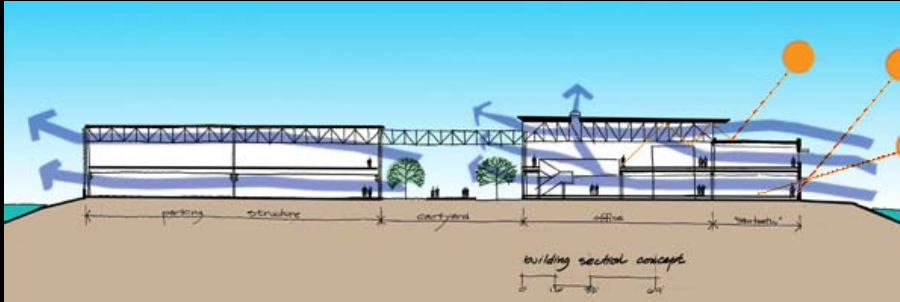
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