



**ROMAN  
ELECTRIC  
CO., INC.**

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# CURRENT

Electrical Construction and Communication  
Network News for Business and Industry

# events



*The Clock Shadow Building was constructed based on impressive, practical recycling and sustainability concepts.*

all waste material – 99% – was recycled. Roman Electric recycled their own materials, reducing the recycling company’s burden.

The building features a green roof for human activity and food production. Storm water is captured to irrigate rooftop food production. Rainwater and building water discharge are re-circulated to feed internal water demand. A geothermal system provides heating and cooling.

Bryce Unger, C.G. Schmidt Project Manager, discussing the job’s challenges, said, “Roman’s value engineering was critical. Without Roman the job wouldn’t have moved forward. Getting the electrical component within budget was a real challenge. Roman VP Gabe Rose’s lighting revisions were a major help.

“These jobs are always tough when working within a tight budget perspective yet trying to maximize value. That was one

*Continued on page 4*

## New Building Constructed Based On Recycling And Sustainability

The new Clock Shadow Building is a unique \$7 million commercial structure at 130 W. Bruce St., in the shadow of the Allen Bradley clock, in Historic Walker’s Point.

The four-story building has offices on three floors and two unusual retailers on the first floor: A cheese factory and an ice cream producer.

A Fix Development project, the building was designed and constructed based on the Living Building Challenge, a philosophy and certification program that calls on designers, contractors and building owners to create a sustainable future in the fabric of their communities. Fix founder and President Juli Kaufmann is recognized for creating sustainable communities and green projects, and fostering entrepreneurial

business strategies.

The building was named a Top Ten Green Project by the American Institute of Architects. It also took top prize in the annual Wisconsin Green Building Alliance Sustainability Energy Efficiency competition.

C.G. Schmidt was the general contractor. Continuum Architects + Planners designed the building. Roman Electric Co., Inc. was the electrical contractor.

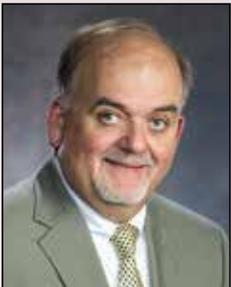
The building was constructed of many reclaimed materials from demolished buildings including brick, wood, doors, windows, toilets, sinks, bubblers, hardware. Flooring is mostly polished, stained concrete. Almost

*An unusual chandelier in the lobby mixes images of old fashioned lamps with visual effects that pick up the lobby’s artistic design.*



**“COMMENT”**

*“We installed 28 LED fixtures high above the altar at Holy Apostles to provide precise lighting. With proper positioning of the lamps we gave them optimum illumination on the altar and sanctuary with no glare.”*



**Barry Dickinson**  
Commercial/Industrial  
Service Manager

## Beautiful Lighting Renovation Highlights Church Grandeur



Holy Apostles Catholic Church, 16000 W. National Ave., working in stages as funds became available, replaced its aging lighting with unique new lighting combining energy efficiency, beauty and flexibility. The church, set amid farms and fields when it was founded in 1855, grew as housing subdivisions and the city of New Berlin developed around it.

Holy Apostles hired LMH Lighting to design the system and Roman Electric to install the lighting and controls. Inefficient, maintenance-demanding incandescent lamps were replaced with energy saving compact fluorescent and LED lamps.

A new easy to operate, customer-pleasing, sophisticated ETC control system lets the church light, turn off and dim lamps to illuminate church events as needed, create dramatic scenes and extend lamp life.

Three precisely adjusted theatrical lights with high intensity 150-watt metal halide lamps highlight the crucifix and statues of St. Peter and St. Paul in the sanctuary. Spread around the perimeter of the large dome skylight are 26 50-watt 2700K LED lamps illuminating the sanctuary. The church wanted

*New lighting fixtures include 18 large pendants – six are shown here – each containing 13 compact fluorescent lamps.*

LEDs for their energy efficiency, long life and low maintenance – significant benefits on such a high ceiling.

Eighteen large pendant fixtures each include 13 lamps. Three uplights, which the

pastor, said Roman Electric had done periodic maintenance at the church. “For our first significant project with Roman, I was very impressed,” he said, “but I only arrived here as pastor in June of 2012. Roman has been impressing the parish for some time.

“Their commercial service manager Barry Dickinson and foreman Ben Schiller were just outstanding in the design and

*The church replaced its aging lighting with a unique system combining beauty and efficiency. Compact fluorescent and LED lamps save substantial energy and reduce cost. Special theatrical lighting gives the sanctuary and altar a compelling new look.*

implementation, and very respectful. Their suggestions and ideas during the installation continued to add value to the project. Their service was outstanding.”

Lynn Howard, owner of



*The new lighting system now also illuminates the church's beautiful wood ceiling.*

church never had before, illuminate their beautiful wood ceiling. Eight central lamps generate a pleasing bright glow, and two downlights provide task lighting.

Fr. Don Thimm, Holy Apos-

LMH Lighting, said, “I worked with Roman’s Ben Schiller on the aiming and adjusting of the sanctuary and altar LED lamps. Ben’s good so the complex adjustments went pretty fast. He did an excellent job.”



*“If you’re like us, you’re always looking for new ideas, better methods and new business.”*

### CURRENT events

*is one way we can show you building developments, new power systems, information technologies, skilled techniques, useful ideas. We want you to remember Roman Electric when you’re ready to build or repair electrical systems, computer networks, and voice/data installations.”*



## Toshiba Rebuilds Generator Rotors in Their New Clean Rooms

Some of the huge, turn-of-the-Twentieth Century Allis Chalmers buildings live on. One serves Toshiba. In a small corner of its enormous facility at 66th and Washington, Toshiba has constructed four clean rooms to rebuild rotors for its power generating customers.

Pinnacle Construction was the general contractor on the job. Roman Electric Company Inc. handled the electrical installation.

Roman project manager on the job, VP Gabe Rose, said they reconfigured an existing space into four permanent clean rooms. That included a new service, new fluorescent lighting, over 200 receptacles, 400 amps for the clean rooms, and different power configurations so they can plug into 480 or 120/208 volt three phase services to easily check windings on varied voltages. Jeff Jacobi was Roman job leader on the project.

Toshiba Project Manager Tim Kieffer said the clean rooms are environmentally controlled to keep the rotor windings clean and dry for extensive electrical testing, and to prevent insulation from absorbing moisture.

*Toshiba recycled a huge, over 100 years old Allis Chalmers building into a modern service and manufacturing facility.*

“Roman did a good job,” Kieffer said. “We had them here through the whole clean room project. We also have a Roman electrician here most of the time to disconnect and remove old Allis Chalmers electrical systems, and reroute and relocate underground crane supply DC lines.

“We have a good working relationship with Roman, they had a flexible crew and worked well to fit our schedule. During clean room construction lulls they worked on other things in the plant. We are very satisfied with the outcome.”

Kieffer said the lighting in the clean rooms is very unusual. The fixtures are set at angles because overhead lighting would cast shadows into the deep slots in the rotors where the coils are wound. New coils and insulation must be clean, orderly and properly installed.

Paul Scott, Pinnacle Vice President of Business Development, said, “I’ve done a lot of work with Roman over the years. They’re very thorough. And they know that facility

*Toshiba rebuilds a rotor.*

better than anyone. So if anything goes wrong, they have the answer. Plus they’ve got some great guys. Their electrician Joe is almost there full time. He’s a smart guy and knows what he’s doing.”

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# CURRENT tips

## LEDs Offer Significant Efficiency, Control and Longevity Benefits

LED (light-emitting diode) lamps continue to develop in the array of benefits they provide compared to other lamps.

**Energy Efficiency.** LED lamps produce 100 lumens of light per watt of power consumed. That’s a savings of up to 40% over compact fluorescent lamps and 85% over incandescent lamps.

**Long Life.** Compact fluorescent lamps greatly outdistance other lamps with a life of 10,000 hours. LED lamps yield lives of 100,000 hours. Even if you’re burning your lamps 24/7, that’s over ten years. For most applications that’s 40 years of lamp life with no cost for fixture replacement.

Because the life of an LED lamp is not based on failure, but lumen depreciation, the industry decided that life ended when light output depreciated in lumen value by 30%. After over 100,000 hours of use, businesses and home owners may continue to use their LED lamps even at 50% lumen loss because they still get enough light for the cost of the energy used.

**Ease of Control.** LED lamps are easy to control and dim. No added, expensive fixtures are required. The rows of banks in the LED are separated into four pods. So it’s simple to dim, shed load and save even more energy in an application where 100% of available light is

not always needed.

**Robust Construction.** LED lamps are tough, not made with thin glass and filaments subject to stress, vibration and damage.

**Impressive Light.** LED lamps provide good, crisp, clean, quality white light with excellent color rendition.

**Environmentally Friendly.** LED lamps contain no mercury and hazardous waste, are recyclable, produce no light

*One of the LED lamps installed by Roman Electric in the Brewery Parking Garage lighting system that reduced energy use by 70%.*



pollution so they cause less light trespass and are dark sky compliant.

**Paybacks.** Your return on investment continues to improve. Initial cost is higher in many applications but paybacks now range from two to six years. And that doesn’t include rebates and business tax credits.



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## Energy Saving Lighting at Clock Shadow Building

*Continued from page 1*

of the things Roman helped the owners do, pick the most affordable and energy saving light fixtures. Roman did a good job.”

Roman's energy saving lighting design included use of day lighting as much as possible, task lighting, LED lamps and major reliance on energy efficient compact fluorescents. Roman Vice President - Design & Engineering Gabe Rose said the lighting design beat the Wisconsin Energy Code guidelines (ASHRAE 90.1-2001) by a margin of 30%.

Tom Pagel was C.G. Schmidt superintendent. Scott Schultz was Roman foreman. 

*The building features a green roof for human activity and food production.*



## Toshiba Uses Customized Power For Rotor Testing

*Continued from page 3*

Scott said Roman is a very experienced contractor when it comes to working in older facilities like this with DC

*Roman custom built diverse power capability to accommodate equipment and system redundancies fitting into Toshiba's improvement strategies. It allows Toshiba to test rotor windings without interruption.*

power, high voltage and non-typical machinery.

He said, “It's a really bizarre scenario where you have existing systems that you can't replace and can't modify so you have to work around them. Not many guys can do it but Roman is very familiar with doing that stuff. Roman's good. They've got some amazing talent.”

Toshiba engineers use Six Sigma process improvement strategies to maximize efficiency Scott said. If something breaks down or isn't working properly they have redundancies in all systems so they can quickly switch to alternate plan A, B, C, D or E as needed. If their customer says we need this back in one month, Toshiba delivers in one month.

Scott said Roman built and customized the electrical power to satisfy these diverse systems. Electrical stations include electrical panels, transformers, Hubbell switches, 110, 220 and 480 volt outlets, single phase and three phase, varied plug and play components, all mounted on huge H frame metal racks positioned inside and outside clean rooms to accommodate any Toshiba scenario. 