

This Green Team Report, submitted to Minnesota Power, generated a “Power Grant” rebate check of \$2,340 to First Lutheran Church for efforts in energy conservation included in the Time for Renewal Project. Thanks go to our SMSQ Architects, RJS Construction, and the task force members for utilizing green concepts where feasible.

Time for Renewal: Green Team Report, October, 2010

In the TFR project we have tried to pay attention to eco-friendly issues. In a broad sense this starts with the basic plan to remodel an existing facility, rather than tear down and build an entirely new sanctuary space. The “green” efforts included:

- recycling of as much material as possible
- an attempt to reduce energy use, especially electrical energy in order to reduce carbon emissions and achieve a carbon neutral outcome
- to achieve better air quality
- to conserve fresh water and improve water quality.
- to consider life-cycle benefits, such as use of stone in the sanctuary. Though they have a higher initial cost, they are high quality, are durable, are low maintenance, and have a lower cost over a 25-30 year horizon.

Some of the most evident recycling efforts include:

- the use of oak pew ends to create the thrust chancel platform
- salvage and reuse of the balcony face oak paneling,
- the recycling of almost 500 organ pipes from the old Moeller organ. The choice of a tracker pipe organ which is largely devoid of electronic components, also speaks to the expected longevity of the organ, which traditionally last centuries, rather than decades. The paint on the organ is a milk paint: a product which has roots at least 6000 years ago when it was used for painting images in caves. It is made from milk and crushed natural pigments, and is entirely biodegradable.
- salvage and reuse of existing doors and hardware where possible
- salvage and reuse of existing toilet fixtures and accessories
- reuse of existing cabinets in education room, and nursery
- salvage and reuse of existing floor tile to patch chancel steps
- salvage, cleaning, and reuse of brick from window and door cuts to patch walls in sanctuary. This has been particularly gratifying, as one cannot now identify where the previous doors were located.
- salvage and reuse of existing audio control desk in balcony.

We also:

- used wood panel products made with adhesives containing no urea formaldehyde
- used new doors with “forest certification”, meaning that they are made with not less than 70% wood products obtained from forests certified to comply with best procedures for forest stewardship
- used good quality aluminum windows that perform well in terms of thermal conductance and air filtration
- used low-E insulating glass at exterior windows to reduce solar heat gain in the summer, and conserve heat in the winter
- used acoustic ceiling panels treated with anti-microbial fungicide to inhibit growth of mold and mildew
- used adhesives for flooring products that minimize VOC (volatile organic compounds)
- used paint products that minimize VOC content
- added direct-digital controls for ventilation system, capable of reducing big swings in interior temperatures for more efficient energy use
- used condensing and air-handling equipment that meets MN State Energy Codes
- outside of the sanctuary, used almost exclusively fluorescent light fixtures for more efficient energy use
- and, will use appropriate envelope insulation in the new addition which will exceed the MN State energy code.

Additionally, FLC Pew Wood Products were created from unused cracked pew ends and mid pew braces...valuable oak, “bathed in the Word, and soaked in sacred music for 60 years.” So far, these products have included: jam spreaders, scrapers, pickle forks, horsedoeurve forks, toast tongs, salad tongs, lefse turners, coasters, step stools (with rosemaling), napkin rings, napkin holders, crosses, jewelry boxes, letter openers, bowls, and cutting boards. The proceeds from this effort all return to First Lutheran’s TFR project, and to date it has generated almost \$4,700, as well as provide a small, but identifiable link to the past.

Thus far, 50% of all of the waste material that has been taken away in dumpsters has avoided the landfill. These materials which include metal, wood, and sheetrock have been separated, photographed, recorded, and recycled. The LEED goal is 75%, but we feel positive about at least 50%, considering the many dumpsters removed during phase I of the project. We were also able to avoid the waste stream which is generally part of furniture packaging, as the 417 chairs delivered were transported in a way that did not require cardboard boxes. Incidentally, quality fabric was chosen for the chairs, which should withstand 200,000 rubs before showing wear.

We attempted to reduce electrical energy use by improving natural light, thereby reducing the need for artificial light: i.e., perhaps less carbon emissions from coal fired electrical generation plants. Probably the best benefit to the assembly, however, is the warmer feeling which results from natural light. The outside damper controls for the main air handling unit were repaired, rather than installing mechanical air conditioning. This allows for free cooling and fresh air control to both the fellowship hall and the sanctuary. This decision avoided the cost of purchase and installation of air conditioning equipment, and the associated operating costs as well as avoiding carbon emissions from electrical use. Simpler can be better.

Stone flooring was chosen, which does not enhance mold and mildew, which in turn reduces air quality. The stone floor is also easy to clean, and the sound, feeling, texture, appearance and beauty of the floor remind us that this is not an ordinary place.

Though only indirectly “green”, the many maintenance items which were addressed, serve to take care of and preserve what we have. There was approximately \$200,000 worth of repair and maintenance items which were dealt with thus far, including: cleaning the brick and sculpture, repairing the roof, shoring up corroded structural steel beams, replacing electrical panels, repairing the main air handling unit, abating asbestos, bringing fire safety to code, replacing corroded water pipes, and replacing the inadequate sound system.

Finally, in phase II, an effort has been made to continue those measures which were successful in phase I, and we will do what is feasible to conserve and protect water quality. The architects have worked hard with city officials to gain approval of parking lot and landscaping plans which meet the new standards for water runoff from properties adjoining Lake Superior. The parking lot has been regraded to allow slower run off of surface waters, creating a higher rate of water percolation into the soil and root system, and resulting in lower amounts of sediments that are harmful to aquatic life and drinking water. This is achieved by the judicious use of pavers, vegetated islands, new and more trees and plantings, essentially resulting in treatment of storm water as it leaves the site. This also enables us to comply with new city code limits for impervious surfaces on the site.

Ted Johnson, Chair, TFR