Our Mother of Sorrows Grotto

on the campus of Mount Mercy University
Cedar Rapids, Iowa
build by visionary artist and builder
William H. Lightner
between 1929 and 1941
William Lightner’s
Our Mother of Sorrows Grotto Preservation and Restoration 2010-2014

Conservators:
Don Howlett & Lisa Stone, Preservation Services, Inc.

This Project was partially funded by an ARTWORKS Grant from the National Endowment for the Arts 2012-2014 and a 2011 Iowa Arts Council Major Organizations Grant. Matching funds were provided by Mount Mercy University, The MMU Art Club, The Linn County Rock and Mineral Society, The Friends of the Grotto, Rinderknecht, Inc., and many many donations from alums, neighbors and local businesses. Please see our web site and brochures for a more complete listing: www.mtmercy.edu/grotto
The restored Our Mother of Sorrows Grotto
May 2014
Lightner was a respected architect, artist, and builder responsible for many outstanding buildings in Eastern Iowa including Warde Hall on the Mount Mercy Campus. A professional boxer and skilled carpenter early in life, Lightner went on to become a partner in his family’s contracting business, Lightner Brothers’ Construction and later president of the Master Builders of Iowa and a Presidential appointee to The National Building Standardization Committee during the 1950s. For Lightner, however, the multi-structure Our Mother of Sorrows Grotto became his life’s work and his artistic masterpiece.
William H. Lightner traveled more than forty thousand miles throughout the United States and Mexico looking for building materials. He contacted suppliers around the world in search of more than three hundred unusual varieties of stones and mosaic glass used in creating the structures. Over twelve hundred tons of stones were used, and his personal cost exceeded forty thousand dollars (in 1930s). The four structures remaining reveal Lightner’s visionary sense of design, as well as providing a multitude of geological specimens, including coral from Hawaii, petrified wood, lapidolite, white quartz, blue azurite, and rose quartz from Colorado and the Black Hills of South Dakota.
Existing Conditions

• Efflorescence (lime, calcium, rust build up)
• Organic growth and pollution damage
• Deteriorating mortar
• Cold Joint delamination
• Footings and foundations (mostly solid)
• Mosaic tile and stone inlay de-lamination
• Landscaping issues
• Above left note rust stains on mosaic as well as poor condition of temporary replacement globe. To the right see calcification efflorescence and missing mortar and stone on roof.
- Note deteriorating mosaic on lower arch above water and missing Italian mosaic tiles on railings.
Staff

Project Director: Jane Gilmor, Professor of Art

Curator/Preservation-Restoration Professionals
  Don Howlett, Lisa Stone of Preservation Services,
  Neshkoro, Wisconsin and The School of the Art Institute of Chicago

Technically skilled labor:
  Technical Specialties/Structure Savers of Cedar Rapids

Trained assistants: David Van Allen, Jonathan Berger

Untrained volunteers to organize materials
Conservator: Don Howlett, Preservation Services Inc.
The Process:
Completed in Five 2 -5 week long work session
between Fall 2012 and Spring 2014

Creating a Preservation Plan, mapping the grounds and structures, grant applications

In summer 2010 Conservationists Don Howlett and Lisa Stone of Preservation Services, Inc. were hired to spend a week on campus surveying the physical condition of the Grotto, speaking with administration, faculty and students, presenting a lecture and final oral report to the campus community. Within 30 days they sent their final recommendations in a 38-page illustrated Preservation Plan (downloadable at www.mtmercy/grotto )

Jane Gilmor began applying for grants to help fund the project in Fall 2010 and received major grants from the Iowa Arts Council for 2011 and The National Endowment for the Arts ARTWORKS Program, 2012-2014
The 2010 Preservation Plan by Lisa Stone and Don Howlett of Preservation Services, Inc. in Wisconsin served as the guide for grant applications and the next three years of work to preserve and restore the Grotto.
The Preservation Plan provided detailed images and discussions of existing damage and proper procedures for repair and restoration.
The Preservation Plan called for the creation of a detailed site map of Our Mother of Sorrows Grotto. Above note the existing structures and non-extant lagoon and large wall shrine (removed in early 1970’s)
The Process:

Cleaning of all structures including
Remove organic matter
Remove efflorescence, rust, lime
Remove deteriorated mortar and loose materials (stones and glass tiles) and *Rockite* a sub standard material used in previous repairs
THE PROCESS: RESTORATION

Repair cold joint delamination
Drill relief holes at calcification points
Tuck point where needed, replace old mortar
Metal Pins inserted to repair supporting structure where needed
Repair and replace stone inlay and Italian mosaic glass squares
Repair and replace stone inlay text phrases on arches
Apply migratory corrosion and rust inhibitors where needed
Apply final Sealant
FOLLOW THE PROGRESS ON EACH STRUCTURE:
BEFORE DURING AND AFTER PHOTOS
The BRIDGE: before

Note the serious deterioration of mortar and stone on the bridge deck floor and the cracking and loss of tiles on the arch under the deck (both sides). Many of the original stones are missing from the Bridge railings as well.
The BRIDGE: before
The BRIDGE: During restoration

A thorough cleaning was the first step. In most cases this used a gentle hand brushing method, but the bridge railing called for a jet spray to wash away loose mortar and old repairs.
The BRIDGE: During restoration

The materials used for cleaning and sealing the Grotto come from a specific company in Germany where the most recent research on proper preservation techniques have been done. Above see glass tiles recovered from loose surfaces.
Technical Specialties Systems, Cedar Rapids assist in beginning the project, Summer 2011 Certified in restoration of historical structures
The BRIDGE: During restoration

Conservator Don Howlett and trained Assistant David Van Allen inspect damage to mosaics on lower arch of bridge
The BRIDGE: during restoration

Gently grinding down old mortar
The BRIDGE: during restoration
David Van Allen restoring Italian Mosaic tiles on Grotto Bridge railings
The BRIDGE restored
The BRIDGE restored
The Ten Commandments: before restoration
The Ten Commandments: removing the old globe globe

Brian Halstead of Technical Specialties help Don Howlett remove the old temporary globe (not made by Lightner)
The Ten Commandments
Scaffolding up
The Ten Commandments: the new globe

Conserver Don Howlett, of Preservation Services, Inc. creating the new globe using Original and replacement Italian Mosaic glass tiles. Winter 2013
The Ten Commandments
installing the restored globe, Spring 2013
The Ten Commandments
installing the restored globe
The Ten Commandments
installing the restored globe
The Ten Commandments: more restoration
The Ten Commandments during restoration

Deteriorated mortar and loose stone inlay removed. Metal screening used for support as new mortar is applied and new stones inlaid.
The Ten Commandments during restoration
The Ten Commandments during
The Ten Commandments: after corner and stone inlay repair
The Ten Commandments:
After stone inlay and column capital restorations
The Ten Commandments
restoring Italian mosaic tiles
The Ten Commandments glass mosaic tile restoration
The Ten Commandments:
Italian mosaics restored

THOU SHALT NOT Go

ALT NOT STEAL

ALSE WITNESS AGAIN
The Ten Commandments
Restored May 2014
WARDE ARCH
before restoration
WARDE ARCH: scaffolding during restoration
Warde ARCH: during restoration
Warde ARCH: during restoration
WARDE ARCH: initial cleaning
WARDE ARCH: during restoration
WARDE ARCH
after restoration Fall 2012
WARDE ARCH: after restoration details
McAULEY ARCH
Before restoration
McAULEY ARCH: restoration of letters using stones them Keim pigments
McAULEY ARCH:
Trained assistant Jonathan Berger cleaning, restoring Jardinaire tiles work, and sealing
McAULEY ARCH
after restoration May 2014
The restored Our Mother of Sorrows Grotto
completed May 2014
For more information on William Lightner’s Our Mother of Sorrows Grotto restoration process visit the Preservation Services, Inc., website: http://www.preservationservicesinc.com/wordpress/?p=11

the Mount Mercy University Grotto web page:
www.mtmercy.edu/grotto

or

call the Mount Mercy University Busse Library Archives 319-363-8213

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