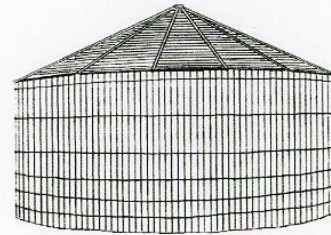


TIMBERTANKS AMERICA, LTD.

P.O. Box 91493
Austin, Texas 78709

10608 Hwy. 290 West
Austin, Texas 78736

1-800-463-1898
Fax 1-512-301-5634
www.timbertanks.com



September 17, 2001

Mr. Larry Engel
614 S. Washington St.
Kinmundy, IL 62854

Re: Kinmundy Wooden Water Tank Restoration

Dear Mr. Engel:

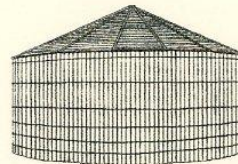
Now that the Illinois Central Railroad Wood Water Tank and Tower at Kinmundy have been restored to their original grandeur, we have assembled a booklet of photographs and text describing the stages of the restoration project.

Enclosed is a copy of the Restoration of the Wood Tank and Tower booklet for your files.

We have enjoyed working with the City of Kinmundy on this worthwhile historic project, and look forward to the possibility of working with you in the future.

Sincerely,

M. Jack Hall
Managing Partner



M. Jack Hall
Managing Partner
www.timbertanks.com

**TIMBERTANKS
AMERICA, LTD.**

WOOD STORAGE TANKS

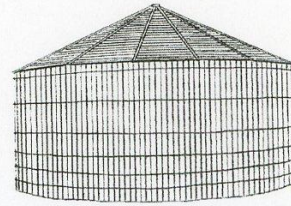
1-800-463-1898
FAX: 1-512-301-5634
P. O. Box 91493
Austin, TX 78709

TIMBERTANKS AMERICA, LTD.

P.O. Box 91493
Austin, TX 78709

10608 Hwy. 290 West
Austin, TX 78736

1-800-463-1898
FAX 1-512-301-5634
www.timbertanks.com



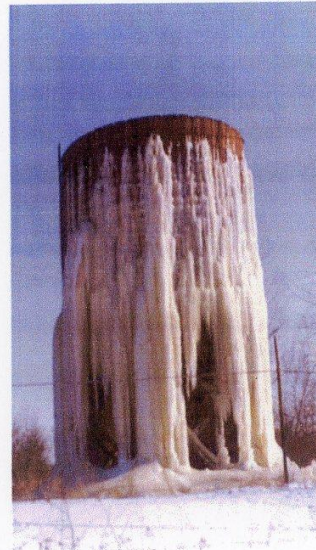
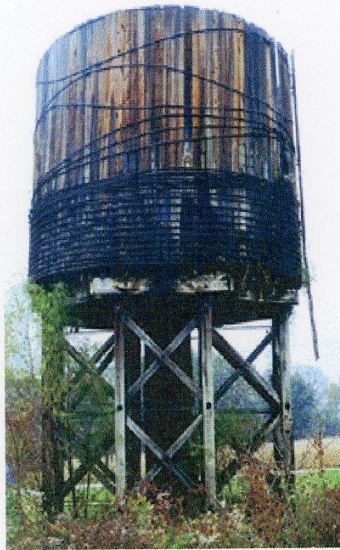
RESTORATION OF THE ILLINOIS CENTRAL RAILROAD
WOOD WATER TANK AND TOWER, CITY OF KINMUNDY, ILLINOIS

10/2000 TO 6/2001

**RESTORATION OF THE ILLINOIS CENTRAL
RAILROAD WATER TOWER OWNED BY
THE CITY OF KINMUNDY, ILLINOIS
June, 2001**

HISTORY

This tank was constructed for the Illinois Central Railroad in 1885. It is an excellent example of an American Railway Engineers Association standard tank design. This tank is the largest standard tank with a capacity of 100,000 gallons situated on a 20-foot tall wood straight-leg tower. At one time the tower supplied two locomotive fill spouts via underground piping. This tank is one of a very few remaining of the 320 water tanks that were lo-



RESTORATION PLANNING

The water tank was deeded to the City of Kinmundy for use in their public water system in 1967 from the Illinois Central Railroad. The tank functioned as part of the public raw water supply until restoration began in October of 2000. In 1997 the Mayor of Kinmundy, Mr. Elwyn Cheatum, applied to list the tank and tower with the National Register of Historic Places, and the tank was added to the National Register in 1998.

FUNDING

The City of Kinmundy realized the need to maintain the tank and tower for future generations. In 1999 the City of Kinmundy, with the help of State Representative Kurt Granberg, obtained an Illinois DCCA state grant for assistance in preserving the tank. The City of Kinmundy raised matching funds in order to hire an engineer and a contractor for the tank and tower restoration.

PLANNING AND ENGINEERING

Sedlacek Engineering, Inc., of Farina, Illinois, was engaged to develop a historic restoration plan, to write the reconstruction specifications, and to manage the reconstruction. The firm issued the Request for Proposals in July of 2000.



LAST TRAIN BEFORE START OF TEAR-DOWN

RESTORATION OVERVIEW

TimberTanks America, Ltd., was the low bidder to perform the restoration process. The restoration began with the complete dismantling of the tank and tower during November of 2000. The engineer, the city officials, and the contractor then developed the plan for reconstruction after reviewing the condition of the dismantled parts. During the first three months of 2001, the parts were repaired or duplicated. Reconstruction of the tower began in April of 2001, and the tank and tower were completed in June of 2001.

RESTORATION DETAILS

Deconstruction Stages

DRAINING TANK: The raw water feeding the tank was cut off, and the tank sat for two weeks to allow it to drain from its numerous leaks. When the crew began to dismantle the tank, it appeared to be empty because there was no water dripping from the tank. The crew immediately discovered that the tank was still half-full of water and holding tight. A chainsaw was then used to cut a hole in a stave to allow the water to drain.



STAVES AROUND BASE OF TOWER

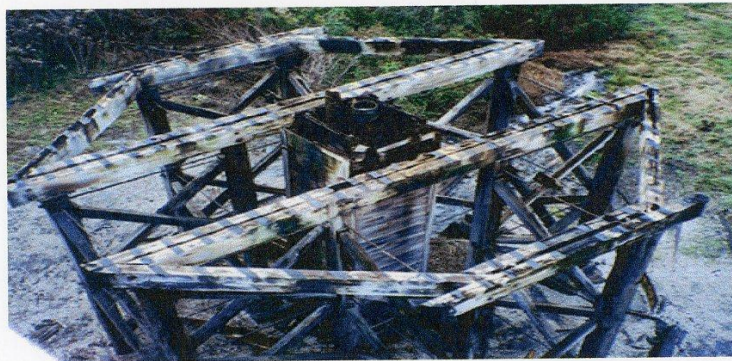
TANK DISASSEMBLY: The hoop nuts were too corroded to allow for removal with wrenches. A decision was made to cut the hoops behind the lugs in order to save the lugs. Each hoop consisted of five rods and lugs, each numbered from #1 at the bottom to #25 at the top. The hoops were then cut away, starting from the top #25 down to #11. Then the bottom hoop #1 up through #3 were removed in order to release the clamp on the bottom head (deck). Next, the #10 through #5 hoops were removed, leaving only the #4 hoop to hold the staves in place. When the #4 hoop was cut, the staves fell outward from their own weight to land radially around the base of the tower.

MUCK: The crew was left with 115 years' build-up of black Illinois muck and 10 gallons of small fish on the deck. With the help of the Kinmundy Volunteer Fire Department, the crew cleaned up and washed away the muck. The birds and the raccoons cleaned up all the fish.



DECK DISASSEMBLY: The 3' x 12' deck boards were in surprisingly good condition. We numbered the deck boards from #1 to #32 and separated them from each other for removal to the ground. Each deck board was doweled at approximately every four feet. There were only two 7-inch long wrought steel spikes used to pin one deck board in place. These spikes were embedded in tar to prevent decay, and they were hardly rusted. The deck boards were scraped and pressure washed on the ground and then stacked on sticks for drying.

JOISTS (DUNNAGE): The 4' x 14" floor joists appeared to be creosoted yellow pine. All 24 joists were in very poor condition. In many places the exterior shell of the timber was still intact, but the interior was simply a void or sawdust. The joists were laid out on the ground on beams for inspection.



BEAMS DISASSEMBLY: The 7" x 16" main beams appeared to be creosoted yellow pine. They were joined by 3/4" bolts with 3" square wedge blocks at angle joints. The main beams were rotted in many locations. They were stacked on the ground for inspection.

POST CAPS: All 12 of the cast iron post caps were in excellent condition with the IC casting number still visible on each.



TIE RODS: The 1 1/4" round post tie rods appeared to be in good condition with the exception of some rods near the top of the tank. We were able to remove a few of the tie rod nuts by unthreading but discovered that the rust had bloomed in the holes where the rods passed through the posts. Some of the rods had rusted apart inside the post and none were reusable.

CROSS BRACES: The 6" x 8" cross braces appeared to be creosoted yellow pine. Most of the 48 cross braces were in fair condition. All but three of these were rotted at the lower end where the cross brace nested into the cast iron angle brace wedge shoes.



WEDGE SHOES: Of the original 96 cast-iron angle brace wedge shoes, 86 were recovered. They were all in good condition for reuse.

SUPPORT POSTS: The 12" x 12" main support posts also appeared to be creosoted yellow pine. Seven of the twelve posts were in good condition. Several posts were splayed at the bottom and five had rot from the bottom up a few feet. The support posts were numbered and laid out on ground beams.



Reconstruction Planning

GOAL: The actual condition of the tank and tower was not known until both had been completely disassembled. TimberTanks America, Ltd., provided a report on the condition. The contractor, the project engineer, and the city council reviewed the condition of the materials and jointly decided on the reconstruction plan. Their goal was to reuse as much of the original material as possible to provide a close replica of the original tank and tower. The tank would not be designed to hold water, and component sections could be changed in order to utilize the original wood.

The cast iron post caps, angle brace wedge shoes, tank lugs, and seal washers could be sand blasted, painted, and reused. The round hoops, tie rods, nuts, and beam bolts were not structurally safe to reuse.

FOUNDATION: The original concrete piers were in very good condition except for surface spalling. City of Kinmundy personnel compacted some crushed limestone around the piers to ensure their continued stability and to drain water away from the foundation. Remarkably, all 12 piers were within 1/2' of being level.



Reconstruction Stages

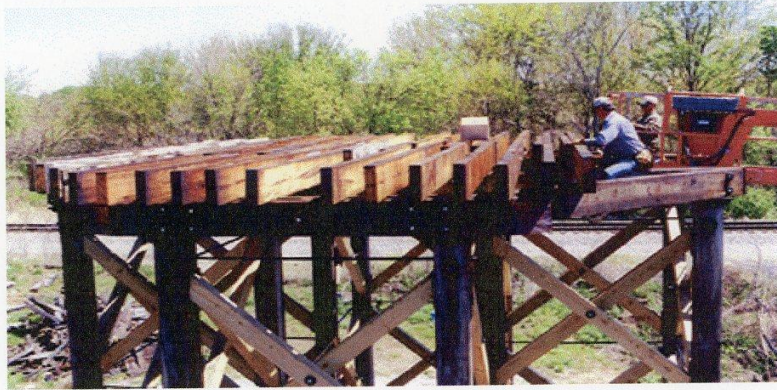
POSTS: Six inches were trimmed off all 12 posts to eliminate the splayed ends. Five of the support posts were placed on a portable band saw in order to cut out the sections of rot. A replacement block was glued and doweled into each cutout and the post was again placed on the band saw for finish shaping of the patch block. The posts were erected with temporary cross bracing while the new tie rods were installed.

CROSS BRACES: Due to the structural importance of the cross braces, all 48 cross braces were cut from new, CCA-treated yellow pine. The cross braces were installed between the posts with the wedge shoes. The tie rods were then adjusted to clamp the cross braces and level the posts. The temporary cross braces were removed and the post caps were placed without any anchors over the posts.



BEAMS: The main beams were set onto the post caps and bolted together without any bolt connection to the post caps.

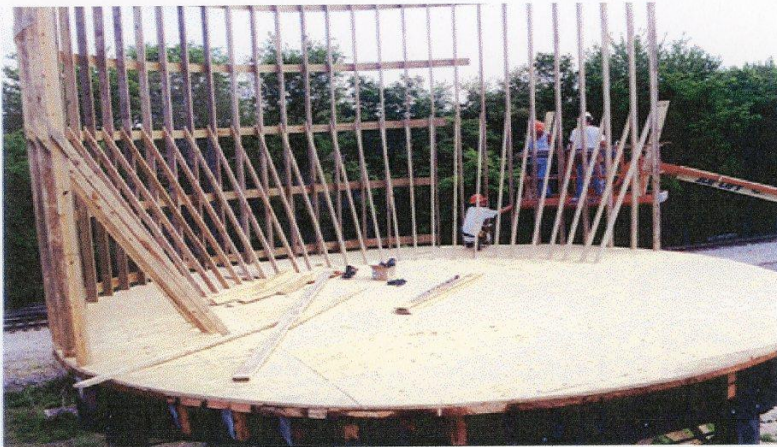
JOISTS (DUNNAGE): Most of the joists were unusable in their original positions. We cut bad long joists to make shorter joists. We resawed replacement joists from bad beams and from used railroad bridge beams. The joists were placed and secured with galvanized common nails used sparingly to prevent future rot sites. The joists were placed to allow for trimming to the required diameter.



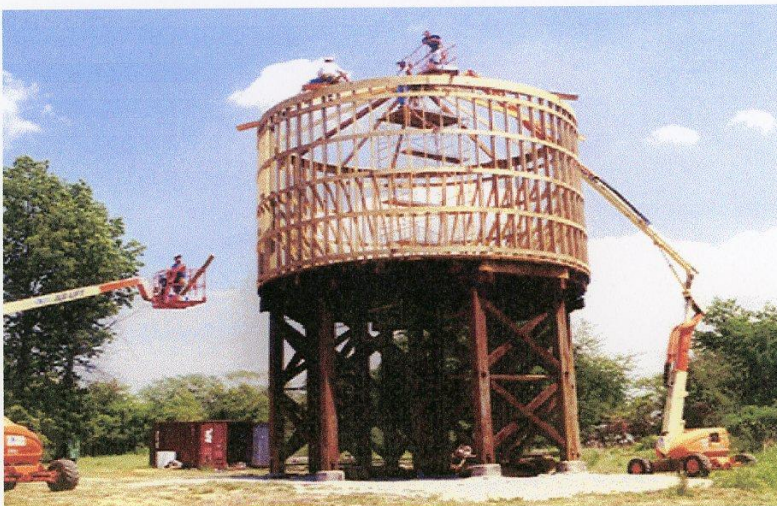
DECK: All but 5 of the 32 deck boards were in very good condition. The croze bevel on the majority of the boards was rotten or damaged from 2" to 6" on each end. The deck boards were placed onto the joists and aligned with 1" wood dowels. Galvanized nails were used to secure the deck boards in place because it would not be necessary to squeeze the bottom head as in a conventional tank. The deck was marked and cut. Two layers of 3/4" CCA-treated plywood were then placed over the deck boards and fastened with stainless steel screws.



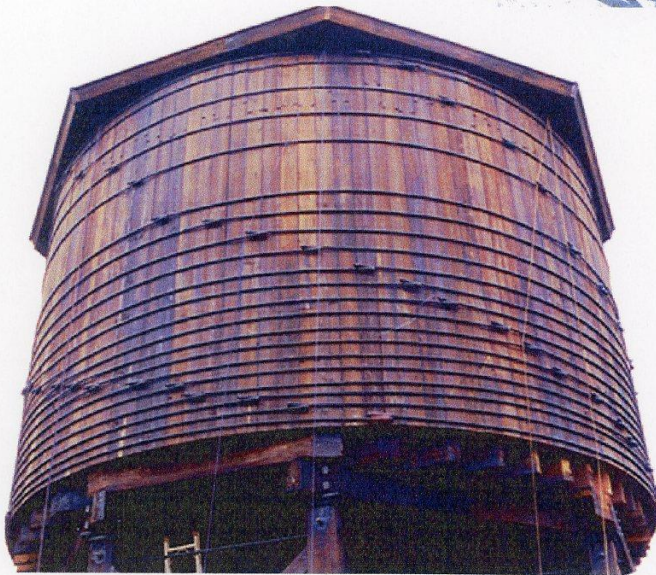
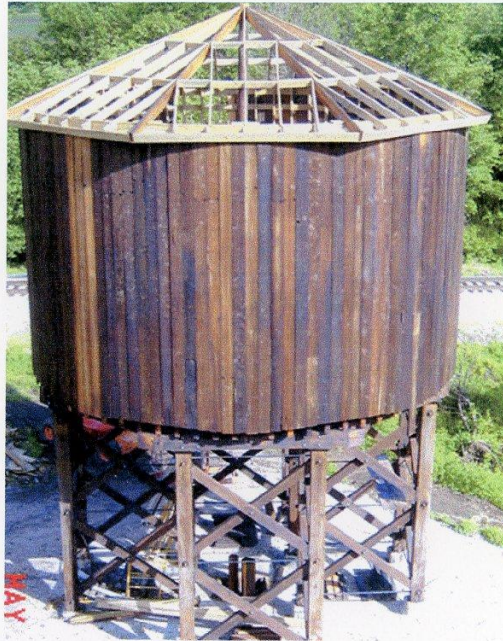
STAVES: The original staves were 3" x 8" heart red cypress. In order to have enough of the original staves to create the tank walls, we utilized a band saw to split the staves into 1 3/8" x 8" slabs. A circular stud wall was constructed inside the tank using CCA-treated boards. The stud wall was wrapped with treated plywood to provide a method of holding the staves in place. Staves were fastened to the plywood strips with stainless steel screws. Some staves were pieced in order to have enough stave material to wrap the tank. After all the staves were placed, the bottom of the barrel was marked and the staves were cut to a uniform length.



RAFTERS: The eight main rafters were resawn staves. The sub-main rafters and jack rafters were new CCA-treated yellow pine.



ROOF: TimberTank CCA-treated, beveled, ship-lap weatherboard shingles were applied to the roof rafters with an under-beveled ridge closure. The rough fascia was new CCA-treated yellow pine. The finished fascia was 1" x 10" resawn from the original staves.



HOOPS & LUGS: The original cast iron tank lugs were installed with new A-36 round steel threaded hoops. Due to the thin staves and the stud wall construction, the hoops cannot be overly tightened without imploding the walls.

FINISHES: All resawn surfaces were coated with a 9% copper naphthenate solution to prevent fungus and insect intrusion. The entire roof, tank, and tower structure was coated with a stain and wood preservative mixture to duplicate the appearance of a creosoted wood tank and tower.

FINAL USE: The restored Kinmundy ICRR Water Tank is now only a dry tank intended to preserve a rapidly disappearing part of railroad history. With minor structural changes and the installation of an interior liner, it could once again be used for the storage of water.

KUDOS AND CREDITS

This restoration project was the work of hundreds of people. It was nurtured and pushed forward by a few key people who were determined to preserve a part of the 19th century for the people born in the 21st century to enjoy. Contributors to the project include the following.

From the Original Construction Era

The Illinois Central Railroad,
Unnamed 19th Century Railroad Engineers,
Loggers, Sawyers, Laborers, Carpenters,
20th Century ICRR Water Service Personnel

From the City of Kinmundy, Illinois

Mayor Elwyn Cheatum
Mayor Larry Engel
State Representative Kurt Granberg
City Council Members: James Mulvany,
Gary Cooper, Ollie Eutsler, Matthew Gura,
Berle Potter, Jeff Mulvaney

Engineer

Sedlacek Engineering, Inc.: Mark Sedlecek,
Ann Blomberg

General Contractor

TimberTanks America, Ltd.: Jack Hall,
Omar Guillen, Ruben Ponce

Subcontractors

Lane Builders, Inc.: Larry Lane
Peach Ridge Saw Mill: David Hacker
Sand Blasting & Painting: Bobby Hassebrock,
Ron Merritt
Designer: Ivan Ulrich

Construction Workers

Fred Briggs
Mark Fortman
Robert Johnston
Curtis Owen
Dale Wagoner
Jesse Wagoner

Suppliers & Supporters

Farina Lumber Company, Farina
ESI – Steel & Fabrication, Salem
Alma-Kinmundy Volunteer Fire Dept.
Russell Diss Towing, Kinmundy
Diss Grain, Alma
Roy Bruce Trucking, Mt. Vernon
Bluford Grain Company, Inc., Bluford
The Curve Restaurant, Kinmundy
The Kinmundy Express, Kinmundy
Kinmundy IGA, Kinmundy
Rural King, Salem
Salem Rentals, Salem
United Rentals, Evansville
Wiese Equipment, Mt. Vernon
Praxair, Mt. Vernon
T. Ham Sign Company, Mt. Vernon
Henkels & McCoy, Inc., Mt. Vernon
Spherion Staffing, Centralia
Mark Gill, Kinmundy
Albert Gray, Kinmundy
Tom Swift, Alma
Jim Lane, Kinmundy
Judi Slane, City Clerk of Kinmundy
Jerry Craig, Water Supt., City of Kinmundy
Doyne Reynolds, Water Dept., City of Kinmundy
Rick Jamison, Water Dept., City of Kinmundy
Jack Williams, Illinois Agent, Springfield

Historical Research Supporters

Charles F. Werner, Illinois Central Railroad
Historical Society
Paxton Depot, Paxton
Ron Goldfeder, Museum of Transportation,
St. Louis
Illinois Central Railroad