

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Name of Property _____

County and State _____

Section number _____ Page _____

Name of multiple property listing (if applicable) _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 100004044

Date Listed: 6/10/2019

Property Name: *Elizabeth Lea / Joseph Throckmorton* (Towboat)

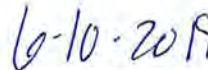
County: Dearborn

State: IN

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.



Signature of the Keeper



Date of Action

Section 1: Historic Name

Joseph Throckmorton is hereby added to the submitted historic name. The listed name will be: *Elizabeth Lea / Joseph Throckmorton* (Towboat)

The towboat served with the US Army Corps of Engineers as the *Joseph Throckmorton* and its name was not changed until it went out of government service. The significance of the boat lies mostly in its use by the Corps of Engineers, so adding the name it carried at that time is appropriate.

The Indiana State Historic Preservation Office was notified of this amendment.

DISTRIBUTION:

National Register property file

Nominating Authority (without nomination attachment)

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: *Towboat Elizabeth Lea*

Other names/site number: *Joseph Throckmorton*, # NO1179442

Name of related multiple property listing:

(Enter "N/A" if property is not part of a multiple property listing)

N/A

2. Location

Street & number: 11042 S.R. 56 Lighthouse Point Yacht Club

City or town: Aurora State: Indiana County: Dearborn

Not For Publication: ☐

Vicinity: ☒ x

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

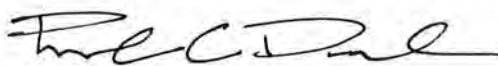
I hereby certify that this X nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property X meets does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

 national X statewide local

Applicable National Register Criteria:

X A B X C D



ASSISTANT DIRECTOR
OF
PRES. SERVICES

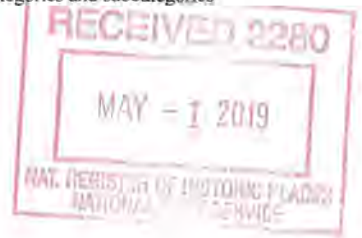
4.25.19

Signature of certifying official/Title:

Date

Indiana DNR-Division of Historic Preservation and Archaeology

State or Federal agency/bureau or Tribal Government



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In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official:

Date

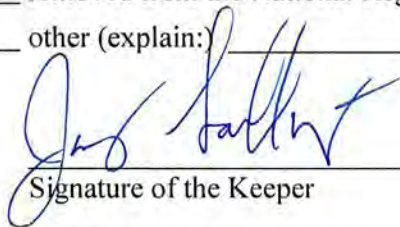
Title :

State or Federal agency/bureau
or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

- ☒ entered in the National Register
☐ determined eligible for the National Register
☐ determined not eligible for the National Register
☐ removed from the National Register
☐ other (explain):


Signature of the Keeper

6-10-2019
Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private:

☒

Public – Local

☐

Public – State

☐

Public – Federal

☐

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Category of Property

(Check only **one** box.)

Building(s)	<input type="checkbox"/>
District	<input type="checkbox"/>
Site	<input type="checkbox"/>
Structure	<input checked="" type="checkbox"/>
Object	<input type="checkbox"/>

Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>0</u>	<u>0</u>	buildings
<u>0</u>	<u>0</u>	sites
<u>1</u>	<u>0</u>	structures
<u>0</u>	<u>0</u>	objects
<u>1</u>	<u>0</u>	Total

Number of contributing resources previously listed in the National Register 0

6. Function or Use

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Historic Functions

(Enter categories from instructions.)

Transportation / Water-related

Current Functions

(Enter categories from instructions.)

Recreation and Culture/Museum

7. Description

Architectural Classification

(Enter categories from instructions.)

OTHER: welded steel tunnel hull

Materials: (enter categories from instructions.)

foundation: N/A

walls: METAL: steel

roof: N/A

other: N/A

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

Elizabeth Lea - Official Coast Guard assigned # NO1179442

Built in 1939, 42' long, 12' wide, 5' depth dredge tender towboat utilizing all welded steel construction and unique tunnel hull design with deck camber/sheer utilizing a single three blade propeller and Detroit Diesel 8V71 engine for propulsion.

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Today the towboat *Elizabeth Lea* retains the appearance she has since the 1950's with the exception of trading her Corps of Engineers paint scheme to different colors for her life as a museum boat. The areas of the hull above the water are painted flat black and are touched up as need. All the deck fittings are painted gloss black as are the tow knees and the handrails. The upper rub rail surrounding the boat is painted silver. The decks are of a light gray and are painted with two-part epoxy for durability. The cabin is painted with enamel gloss white with enamel hunter green trim along the lower edge and also across the awning over the pilothouse windows. The crew takes a great deal of pride in keeping the boat in tip-top condition. Careful consideration has been taken during any project to restore pieces of the boat and in most cases, we have tried to return things to the way they were early in the boats career. One example would be the oak timbers used on the front of the tow knees which replaced rubber ones the Corps had installed at some point.

Narrative Description

Superstructure

The superstructure of *Elizabeth Lea* consists of three decks: the main deck, which consists of the engine room, the mid deck which consists of the smoke stack, and the pilothouse above the mid deck.

Hull

The hull is made of steel plate that is welded at seams. The total length of the hull is 42', width varies with taper from 10' at the bow and stern to overall width of 12' at the centerline. The hull depth is 5' deep with an average draft of 36" at the waterline. The bow of the boat is called a scow bow, much like a barge hull, with a gentle upslope from the bottom of the hull to where it meets the main deck. The center of the bow is plated with a 6" wide extra heavy piece of 1/4" steel to add strength and prevent damage when the boat is beached. The bottom of the hull drops down 6" below the sides in a gentle V shape (drawings included with this nomination show portions of the hull not visible below waterline). The heavy center plate continues the length of the bottom of the hull again for strength and in case the boat should encounter any sunken obstacles. Along the bottom of the sides of the hull a piece of 2" heavy channel steel (called knuckles in river technology) are employed to close the seam between the hull sides and bottom as well as strengthening the edge of the hull bottom. Moving after on the port side the Fern strum keel cooler is mounted on the port side in a formed steel pocket in compartment #3. The keel cooler is made of heavy brass slats that river water can get between to cool the antifreeze flowing through the cooler. The keel cooler is attached to the hull with two large brass nuts and washers from the inside of compartment #3. Directly behind the area of compartment #2 the hull angles up and the tunnel shape is created. The tunnel is created by bending the hull plate to match the framing inside the hull. The tunnel design was utilized to improve the flow of water directly into the propeller for increased thrust. The tunnel design dates to the late 1800's on steam powered vessels but was not employed on all steel welded diesel powered towboats in the United States until 1931. (an example is the *M/V H.T. Potts*, which is on display at The St. Louis Museum of

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Transportation). Below the tunnel on a straight line with the bottom of the hull the heavy steel H beam, supported by solid steel bar stock, which holds the bottom end of the rudder in position. Often called the stump jumper on towboats is when an underwater obstacle such as a stump is encountered the beam will ride along the stump instead of the stump progressing up towards the propeller. Above the stump jumper is the steel propeller shaft which comes out of the very forward part of compartment #3 in the hull. The stern tube (propeller shaft tube) runs aft to its termination where it is supported by heavy steel bar stock, welded in a Y shape up to the hull and down to the stump jumper. At the end of the stern tube is a brass and hard rubber cutlass bearing that gives support and a water lubricated surface for the propeller shaft. Behind the cutlass bearing is the three blade Nibal propeller which is a 36" diameter by 25" pitch left handed rotating propeller. Aft of the propeller is the large (barn door) propeller which is steel with a steel bar stock center and light steel fins running horizontally along the length of the rudder. The bottom of the rudder fits into a piece of tubing welded to the end of the stump jumper and the upper end terminates inside compartment #4 at the tiller. Along the sides of the hull is a halved 4" piece of heavy pipe, welded to the hull sides and to the main deck. Called a rub rail, these pipes help to keep the hull sides from being damaged when the boat bumps into other equipment or is in the locks. A second rub rail (also 4" halved heavy pipe) is mounted about half way down the hull sides and stern to avoid damage in the same manner.

Deck Fittings

At the forward most point of the bow, two vertical steel U channels rise from the water line to above the deck (called tow knees, photo 0004). Mounted inside the channel are oak beams used to absorb shock when facing up (connecting) to the barge or barges being pushed. The oak beams are secured to the top of the channel with manila rope (typical mounting method of the late 1800's and early 1900's). Moving aft from the tow knees there are two Beebe Brothers 2-ton wire cable winches, one port, one starboard, utilized in securing the towboat to the barges (photo 0001; left and right foreground in photo 0004). The winches have 50' of 1/2" steel wire rope. Further back from the winches is the double bitt, a steel fixture with two cylindrical pipes with caps for securing the lines (ropes) when the winches are not employed (center foreground, photo 0004). Port and starboard from the double bitts are two timberheads (similar to the double bitt but a single vertical pipe with a cap, visible just left of bitts in photo 0003). The timberheads can be used in conjunction with the roller chocks, port and starboard directly behind the timberheads, to affix lines to a dock or barges outbound of the boat. The roller chocks also can be used with the winch cables to give greater leverage to hold wider barges or multiple barges being towed. Along the sides of the cabin (port and starboard forward corner of cabin, and port and starboard aft corner of cabin) are holes where the lifting rings would have attached. The Corps designed these threaded holes so that heavy weight lifting rings could be inserted and, utilizing a floating crane on the job site, the boat could be lifted onto a deck barge for any out of water repairs. Also down each guard (port and starboard side along the cabin) are 3 scuppers or drains which are integrated into the deck plate. These scuppers drain water off the deck.

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Engine Room Cabin

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The engine room and pilothouse are made of steel. The steel is formed at the front of the cabin into a gentle bend. On the port side, two removable windows are accessed from the engine room. On the starboard side, one of the two original window openings exist, while the forward most window opening has been converted into a steep staircase for access to the pilothouse (photo 0003). Another unique feature of the cabin is that the roof of the engine room is bolted on and could be unbolted to remove the engine or other heavy equipment. The boat's engine room is accessed from the stern of the cabin via a door with a sliding hatch at the top. Steep split steel stairs go down into the engine room which is in compartment #2 of the hull. Hull framing is covered by diamond plated steel bilge plate. The center focal point of the engine room is the large diesel engine mounted on heavy steel framing in the center of the room. The engine is a General Motors Detroit Diesel model 8V71 naturally aspirated engine. The engine is likely the fourth engine installed on the boat and is the largest and most powerful engine the boat has had. The engine produces 265 horsepower at a maximum RPM of 1550. Coupled to the aft end of the engine is a new Twin Disc 5095 shallow case marine gearbox with a 2.95 to 1 gear reduction ratio. Aft of the gearbox is the coupling for the propeller shaft and the shaft itself. As the propeller shaft goes through the watertight bulkhead at the end of compartment #2 it passes through a stuffing box, where river water is controlled at a slight drip to lubricate the propeller shaft. The control of water through the stuffing box is accomplished by two large lock nuts that can be tightened and loosened to adjust the amount of water coming in. On the port side forward of the engine there is a steel shelf where the boat's house and starting batteries are located. Also on this shelf are various parts, bins, and tools, used in the boat's operation. Forward on the shelf, under the bunkroom floor, is a new air compressor employed in generating air pressure for our two air horns which will be discussed in the pilothouse roof details. Ahead of the engine, attached to the first water tight bulkhead, is where the steering gear is located (photo 0011, center). The steering gear is composed of a chain on a small sprocket that runs to another sprocket in the pilothouse which is attached to the steering wheel. The chain transfers motion to a spool where wraps of small size steel cable transfer the motion out to the starboard side of the engine room. Pulleys turn the cable towards the stern of the boat and the cable runs through sections of pipe and eventually through compartments #2 and #3 to another set of pulleys in compartment #4 where they turn towards amidships again. On the starboard side of the engine room there is a large aluminum diesel fuel tank (day tank) that holds more than a day's operating fuel needs. This tank is fed by a hydraulic fuel line from a valve on the forward bulkhead that leads to the starboard side main tank in compartment #1. The day tank feeds fuel to the engine via another smaller hydraulic fuel line that goes under the bilge plates to the engine and includes a shut off valve as well as a check valve to keep fuel from returning to the tank. The remainder of the engine room features storage areas for oil and coolant as well as other tools used in the operation and repair of the boat. The engine is vented by a large smokestack positioned over the aft end of the engine.

Pilothouse

The pilothouse sits on top of the engine room cabin. Access is via a steep set of stairs on the starboard side where one of the engine room windows used to be. In the late 1940's and early

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1950's, the Corps recognized the need for these boats to have increased visibility over empty barges (which sit much higher in the water) so they decided to raise the pilothouses four feet on all three boats. The welding seams are still visible from this work on the boat (photos 0001, 0002, 0003, and 0004). Raising the height of the pilothouse made it necessary to move the sliding door access from the starboard side of the pilothouse to the back of the pilothouse. The framing for the original pilothouse sliding door still is in place and the door opening was closed off by adding a welded steel plate. Raising the height of the pilothouse also made it necessary to add the stairs up to the pilothouse as well as adding a landing behind the pilothouse. On this landing you will find a steel welded ladder that leads to the pilothouse roof. On the roof of the pilothouse you will find navigation lights, both port and starboard, as well as the masthead light on the very front center of the awning. An awning made of steel and formed into shape along with bent corners to mirror the forward cabin steel keeps rain and sun away from the pilothouse windows. Mounted port and starboard to the awning, just below the navigation lights, are steel name boards featuring the boat's name in white reflective letters. Forward starboard on the pilothouse roof is the 8" searchlight (One Mile Ray) made by the Portable Light Company. Control of the searchlight is from inside the pilothouse via two wooden handles, one for controlling height and the other for horizontal movement. Port side forward on the roof are the boat's new Buell two trumpet air horns. We retained the original electric horn but it was unfortunately not repairable for proper use. Atop the air horn mount is the all-around light. At center line aft on the pilothouse roof is the marine radio antenna which is on a hinged mount which can be lowered for passing low bridges. The only other item on the roof are two fuel tank vents that terminate on the roof in large pipe elbows with screen caps. These vent the main fuel tanks in compartment #1. Entering the pilothouse from the sliding door aft directly ahead is the 42" wooden steering wheel (photo 0005). The wheel is attached to the steering stand which a wooden engine gauge cluster is mounted to at the top. To the starboard side of the steering stand is the throttle stand where the Morse engine and transmission controls are located. The port side control is for engine speed while the starboard is for gearbox direction. Other features of the pilothouse include the engine shut down and emergency shut down controls near the floor next to the steering stand. The lower half of the pilothouse is wrapped in walnut wainscoting while the upper walls are finished in white paint with the ceiling being painted a light green. On the port side, aft there is a large wooden hatch that allows access via a large steel ladder to the bunkroom and then on down into the engine room. Forward of the steering wheel three large windows give an unobstructed view. Two windows port and starboard and two windows on either side of the sliding door aft complete the 360-degree view from the pilothouse. The sliding door also features a center window when the door is closed. In the overhead of the pilothouse you will find on the port side a brass valve used for blowing the air horns. In the starboard overhead is the VHF marine radio (Standard Horizon Explorer) and the controls for the searchlight (photo 0007). Starboard side, at the rear of the engine room, is the electrical control box featuring original brass ID tags that have been re-used on the new box as well as switches to control the different appliances and lights as well as a 12-volt charging port for modern electronics. Port side aft is a similar wooden box to the electrical box that houses charts and other important information. The pilothouse also has a fire extinguisher mounted near the throttle stand.

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Compartmentments

Compartment #1 is at the bow of the boat and is accessed through an 18" steel manhole amidships toward the aft end of the compartment. A steel ladder allows access down into the hull. Inside compartment #1 one can see the steel framing and the gentle up slope of the bow. Two galvanized steel fuel tanks, 28" in diameter by 60" long (75 gallons each), occupy space both port and starboard near the aft end of the compartment. Below the tanks, brass globe valves allow the tanks to be opened or closed. Piping connects the two tanks to allow them to equalize and carry the fuel through hull fittings into compartment #2.

Compartment #2 is the engine room compartment and has been described in the engine room part of this document.

Compartment #3 can be accessed by an 18" manhole hatch on the port side of the boat, aft of the engine room. Compartment #3 features the contours of the tunnel hull (photo 0015). One must crawl over the curved steel of the tunnel to get from the port side to the starboard side of #3. On the port side, you will find the raised steel box that houses the keel cooler along with its associated piping (one line in and one line out) which go through to compartment #2. Other details of compartment #3 are a grease fitting on top of the propeller shaft that enters forward which is used to add additional lubrication to the propeller shaft.

Compartment #4 is the farthest aft and can be accessed on the starboard stern quarter of the boat via an 18" manhole hatch. The continued upward slope of the hull as well as the tail end of the tunnel are evident in this compartment. The steering cable comes through near deck height in compartment #4 on the starboard side where it turns through pulleys at the stern. The cable is then connected to pulleys on either side of the fan shaped tiller which is made of steel. The tiller is attached to the rudder via 4 heavy bolts and a keyed shaft. The shaft goes down through the hull through a stuffing box/flax packing. The shaft becomes the rudder once it gets below the waterline outside the hull. Like compartment #3 in order to cross the compartment, one must cross the tunnel to the other side.

Design Components of Note:

Hull: The design and construction of the hull are noteworthy both in the fact that the hull is a good example of early all welded steel construction. The tunnel design was an advancement in engineering and improved efficiency of thrust for the propeller and paved the way for future advancements such as kart nozzles and "Z" drive propulsion. In addition to these hull design advancements the camber and taper in the hull design added to the boat's aesthetics.

Lifting Rings: The foresight to include a means of servicing/repairing these vessels while on a job site was fairly creative. Adding these threaded lifting rings and their housings on the boat allowed the Corps to make repairs quickly and at less expense of not having to leave the job site.

Rounded Corners: Time was taken during the construction of these boats to create very unique vessels. Today you will not find anything rounded because of the time it takes to do it. The

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rounded corners on the front of the cabin and the matching corners on the pilothouse awning are details that were put into the design of these boats for the sake of appearance.

Bolted Engine Room Roof: Foresight again in the design process was taken as the draftsman knew that likely at some point in the boat's career the engine or other equipment would need replaced. Instead of just having to cut a hole in the roof the design added the bolt on roof so that when the time came it would be easy to remove the roof for these types of repairs/replacements.

Interior Drains: To create a more pleasing look, the designers had the drains for the decks integrated into the inside areas of the cabin. This allowed them not to be seen from the outside of the boat. Building the scupper drains into the side of the hull hid those as well.

Pilothouse Raising: While we don't have drawings of the modifications to raise the pilothouse certainly there were draftsmen involved as thought was put into the new look. Incorporating the staircase, where a window had been, as well as moving the sliding door to the new location at the back of the pilothouse and the addition of the landing are all improvements that were well thought out. The raising of the pilothouse made for a more useful boat for the Corps. The added visibility to see over empty barges allowed the boats to do work that they had previously not been able to do to make them more versatile to the Corps fleet.

Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

☒

A. Property is associated with events that have made a significant contribution to the broad patterns of our history.

B. Property is associated with the lives of persons significant in our past.

☒

C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

☐

D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

☐

A. Owned by a religious institution or used for religious purposes

B. Removed from its original location

☐

C. A birthplace or grave

☐

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D. A cemetery

☐

E. A reconstructed building, object, or structure

☐

F. A commemorative property

☐

G. Less than 50 years old or achieving significance within the past 50 years

Areas of Significance

(Enter categories from instructions.)

MARTIME HISTORY

ENGINEERING

TRANSPORTATION

Period of Significance

1939 to 1969

Significant Dates

1940

Significant Person (last name, first name)

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder (last name, first name)

Vogel, Theo

St. Croix Shipbuilders

Period of Significance (justification)

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The boat served its role from 1939 to 1989. Since this extends beyond the 50 year mark, 1969 was selected as the end of the period of significance. All noted modifications made to the boat had occurred before this date.

Criteria Considerations (explanation, if necessary)

None.

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The *Elizabeth Lea*, formerly *Joseph Throckmorton*, meets Criterion A for its close association with the development of river transportation, and Criterion C as an example of innovative design and construction. The *Elizabeth Lea* is the last of two identical sister vessels (*David Bates*, *Daniel Harris*) built in 1938-1939 by St. Croix Shipbuilders of Bayport, Minnesota for U.S. Army Corps of Engineers, for service in association with the cutter head dredge *William A. Thompson*. The *Elizabeth Lea* is significant because of her design and construction methods as well as her contributions to the creation and maintenance of an important economic artery, the Upper Mississippi River. With her unique tunnel hull design and all welded construction, the ship is one of few remaining examples of this hull style and early welded steel construction that remain in the United States. The first vessel to employ this architectural style and construction is on display at The Museum of Transportation in St. Louis, Missouri and is named *HT Pott*. The boat and her sisters aided the dredge *Thompson* in maintenance of the upper Mississippi River from the headwaters downriver to around the Quad City area from 1939-1989. The creation and maintenance of the nine-foot channel allowed for increased commerce, through waterborne cargo transportation, benefitting the economy and further development of the middle-United States. In addition, the boat was instrumental in saving many lives during the Armistice Day Storm of 1940. The *Elizabeth Lea* underwent a ten year restoration from 2004 to 2014. Because its service was regional, a statewide level of significance best recognizes the ship and its role.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

The *Elizabeth Lea* is the last remaining of three identical boats built in Bayport, Minnesota by St. Croix Shipbuilders under Government contract for services with the U.S. Army Corps of Engineers, St. Paul District for the purpose of assistance to the cutter head dredge *William A. Thompson*. *Elizabeth Lea* is an excellent example of an early all steel welded towboat with a tunnel hull (the earliest is the 1933 motor vessel *HT Pott*, St. Louis Transportation Museum). Tunnel hulls were built to maximize the thrust of the propeller(s). This design has since been replaced with modern methods (such as the kort nozzle, a ducted propeller design). In regard to her service on the upper Mississippi River the *Elizabeth Lea* aided the cutter head dredge *William A. Thompson* maintain a nine-foot navigation channel, allowing for increased commerce

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and expansion on the Mississippi River. The *Lea*'s primary duty was moving the discharge pontoon barges used by the dredge to send silt away from the dredging area to a holding area or another area of the river outside of the navigation channel. The boat worked with the Corps until 1989 at which time it was replaced by a newer vessel. The Corps held a public auction for the boat and it was sold into private ownership. The boat worked for a couple of years in private ownership until it was purchased by a gravel operation at Louisiana, Missouri. The owner of the gravel yard had planned to pull the engine and use it in one of his trucks but in researching the history of the boat decided that if someone would agree to restore it that he would donate the boat.

In the early 1930's, shipyards in the United States, including the St. Croix Shipbuilders at Bayport, Minnesota, began experimenting with construction of all welded steel hulled boats. The first of these new concept boats was built in 1931 in St. Louis, just eight years prior to the *Joseph Throckmorton* and her twin sister boats being built in 1939. In a short period after the introduction of the all welded concept it became the accepted norm in boat construction that remains to this day. In addition to being a good example of these early all welded boats, the *Throckmorton* featured a tunnel hull. The idea behind the tunnel hull had been experimented with since the late 1890's but did not become widely accepted until welding technology allowed for shaped steel to be welded as opposed to riveted. The concept of the tunnel hull was to allow water to be funneled by the hull directly into the propeller and then forced out behind the propeller increasing the thrust and efficiency of the propeller. Tunnel hulls would lead the way to the adaptation and use of the kort nozzle and eventually today's z-drive in a line of propulsion evolution starting with the tunnel hull.

While the design concepts of the *Throckmorton* are important to note, equally important in the boat's history are her contributions to navigation on the upper Mississippi River. Between the 1930's and 1940's, during the time the *Throckmorton*, her sisters, and the dredge *William A. Thompson* were built, the nine-foot channel project was implemented on the Upper Mississippi River. During this improvement project the guaranteed navigation channel was deepened from six feet to nine feet. The increased down the river, improving the gross tonnage moved on the Mississippi and impacting the local, regional, national and international commerce ability of the Mississippi River and its tributaries. The larger locks and dams that were built during this time helped control the river but dredging was still needed in areas to maintain the new nine-foot requirement. The St. Paul District Corps of Engineers improved its equipment and capabilities during this time period with the addition of the cutter head dredge *William A. Thompson* and its support equipment including the three dredge tenders, *Throckmorton*, *Bates*, and *Harris*. The three tender's jobs involved moving the long string of discharge pipe pontoon barges needed to move the silt dredged up by the *Thompson* and deposited along the shore line. Without the dredge *Thompson*, the tenders, and other support equipment, the upper river nine-foot channel could not be maintained thus impeding the flow of commerce on the major waterborne artery that is the Mississippi River. Just as her predecessors before her, eventually the *Throckmorton* was replaced by newer equipment and spent the later part of her career in the lock gate painting and sandblasting division, providing important preventative maintenance to the locks and dams of the St. Paul District. The *Throckmorton* (now *Elizabeth Lea*) is the last of the three identical tenders to survive. The other two tenders were retired from Corps service, sold into private

Elizabeth Lea

Name of Property

Dearborn, Indiana

County and State

hands, and eventually scrapped. The *Throckmorton* survived only because the third owner learned of the boat's history and could not bear to see the old boat cut up. Her unique design aspects, her roll in lifesaving during the 1940's Armistice Day Blizzard and long life of service with the Corps of Engineers maintaining the channel of the upper Mississippi River make the boat an important piece of American history that should be recognized as such.

The Armistice Day Storm of November 11, 1940

A blizzard of unexpected force and magnitude quickly struck the Great Lakes region on Armistice Day of 1940, causing deadly shipwrecks, train wrecks, mishaps, and loss of life due to exposure. Cattle losses numbered in the thousands. In the face of heavy waves and blizzard conditions, the crew of *Throckmorton* rose to the occasion and pulled off a dramatic rescue effort.

Weather conditions before the storm favored outdoor activities, with thermometers reading into the 50s. Businesses and schools were closed in observance of Armistice Day, which swelled the ranks of outdoorsmen who hurried, lightly dressed, to bird hunting sites along the Mississippi to take advantage of what appeared to be a great opportunity. Had they known that the weather system with its high winds had felled the famous Tacoma Narrows Bridge only days before, they might have stayed home. Distribution of, and the general nature of, weather information was such that few knew what would happen. During the day, temperatures rapidly dropped to freezing, 70-mph winds raked the region and two feet of snow blanketed the ground by the time the storm ended the following day. In 1940, the *William A. Thompson* had completed its fourth dredging season and was safely back in the Fountain City, Wisconsin boatyards when the deadly storm hit. The sudden high winds, six-foot waves on the river, blizzard conditions and freshly forming ice stranded hundreds of duck hunters, with their small skiffs and outboard motors, on islands up and down the river. Members of the *Thompson* crew, including Clarence Thompson, the first captain of the dredge (no relation to William A. Thompson), and Allen Fiedler, the pilot of the dredge, and other Corps employees stationed at the boatyards, instinctively knew what had to be done as they fired up the dredge tenders the next day and set out to find their friends, neighbors and possibly co-workers. Search planes circling overhead guided the dredge's steel support boats (*Joseph Throckmorton* now the *Elizabeth Lea*) and their operators to the hunters. Trip after trip, they brought stranded hunters to shore thus saving many lives. Many were not so fortunate. In all, over 150 deaths throughout the Midwest were related to the storm.

Developmental History/Additional historic context information

The Corps of Engineers on the Inland Rivers

The U.S. Army Corps of Engineers dates to an Act of Congress dated March 16, 1802. The Corps is an engineering and construction organization with both military and civil functions. The civil functions have included most of the major navigation and flood control improvements made on the waterways of the United States. Congress recognized the importance of the Inland Rivers as early as the 1820s when the Corps of Engineers was made responsible for planning and

Elizabeth Lea

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executing improvements on the Ohio and Mississippi rivers. The various regions on the shores of these rivers cried for help to control floods, assure water for irrigation, and to improve the transportation link between America's agricultural heartland, the Gulf, and inter-coastal waterways. Congress responded by funding a variety of projects and supporting the U.S. Army Corps of Engineers in their grand projects to provide water where it was wanted and exclude water from where it was not wanted. The Inland Rivers naturally meander about their floodplains, changing their beds constantly. Silt fills in areas of slower water such as the insides of bends and river currents excavate areas of fast water such as the outsides of bends. Occasionally bends meet, flowing through and cutting off an area of riverbed, there after known as snowflake. This dynamic process creates an ever-changing river path across the floodplain and results in periodic flooding. Deepening the main channel of the river is intended to create a channel deep and fast enough to keep itself from silting-up. Cutting off meanders has the same effect and makes navigation safer and faster. The Corps of Engineers was involved in some river improvement efforts from early in the 19th century and gradually was made responsible for most river improvement work. At first, Corps engineers were only in charge of survey and some map making. Later, the Corps planned improvements, and still later, performed the necessary work directly. Congress appropriated \$75,000 to support dredging six bars on the Ohio River and start snag removal in 1824. A large fleet of Corps vessels was built using the most modern designs available. Flood control was added to Corps responsibilities starting in the 1870's and the canalization of the Inland Rivers was begun around 1900. These new duties not only made navigation safer but also remade the face of America. Several important vessel types were developed by the Corps of Engineers to carry out the enormous projects that the Corps undertook. These included snag boats, inspection steamers, towboats, quarter boats, maneuver boats and needle boats.

Elizabeth Lea
Name of Property
State

Dearborn, Indiana
County and

Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form.)

Baldwin, William. *The U.S. Army Corps of Engineers: A History*. Washington, D.C.: U.S. Government Printing Office, 2007.

"History of the Dredge William A. Thompson, the dredge, the river, the people," Unpublished mimeograph manuscript, 1987.

Krumholz, Dan and Chris Lennon. "A Tale of Two Holidays: Experiences on the Dredge Thompson," *International Dredging Review*, (web site), January 15, 2005, <https://www.dredgemag.com/2005/01/15/a-tale-of-two-holidays-experiences-on-the-dredge-thompson/>, accessed February 8, 2019.

Merritt, Raymond. *The Corps, the Environment, and the Upper Mississippi River Basin*. Washington, D.C.: U.S. Government Printing Office, 1981.

"St. Paul Engineers To Build Three Boats," *Waterways Journal*, March 5, 1938, p. 6.

Simmons, Theresa, and Sara Schultz. "Armistice Day Blizzard of 1940 Remembered," web site of the National Weather Service, https://www.weather.gov/dvn/armistice_day_blizzard, accessed February 8, 2019.

Vogel, Theo. Drawings for *Joseph Throckmorton*, U.S Engineers Hull #205.

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____
- ☐ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

- ☐ State Historic Preservation Office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Elizabeth Lea
Name of Property
State

Dearborn, Indiana
County and

Name of repository: _____

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreeage of Property Less than one acre.

Use the UTM system

UTM References

Datum (indicated on USGS map):

☐ NAD 1927 or ☒ NAD 1983

1. Zone: 16	Easting: 683254	Northing: 4322060
2. Zone:	Easting:	Northing:
3. Zone:	Easting:	Northing:
4. Zone:	Easting :	Northing:

Verbal Boundary Description (Describe the boundaries of the property.)

The boundary is vessel # NO1179442, its hull, deck, pilot house, fittings, engine, and all permanently attached items.

Boundary Justification (Explain why the boundaries were selected.)

The boundary includes the eligible vessel.

Elizabeth Lea
Name of Property
State

Dearborn, Indiana
County and

11. Form Prepared By

name/title: Paul Richardson
organization: NA
street & number: 11042 State Route 56
city or town: Aurora, Indiana 47001 Slip# E22
e-mail: prichardson32@gmail.com
telephone: 513-373-0750
date: _____

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.

SITE MAP



Elizabeth Lea
Name of Property
State

Dearborn, Indiana
County and

LEVELS OF THE VESSEL



- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Photographs

Submit clear and descriptive photographs. The size of each image must be 3000x2000 at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: Elizabeth Lea

City or Vicinity: Aurora

County: Dearborn

State: Indiana

Photographer: Paul Richardson

Date Photographed: 08/2017

Elizabeth Lea

Name of Property
State

Dearborn, Indiana

County and

Description of Photograph(s) and number, include description of view indicating direction of camera:

IN_Dearborn County_Elizabeth Lea_0001

Looking toward pilothouse and starboard side of the Elizabeth Lea
Lighthouse Point Yacht Club
11042 State Route 56, Aurora, Indiana 47001
-CAMERA FACING WEST-

IN_Dearborn County_Elizabeth Lea_0002

PORT side of the Elizabeth Lea
Lighthouse Point Yacht Club
11042 State Route 56, Aurora, Indiana 47001
-CAMERA FACING SOUTH EAST-

IN_Dearborn County_Elizabeth Lea_0003

STARBOARD side of the Elizabeth Lea
Lighthouse Point Yacht Club
11042 State Route 56 Aurora, Indiana 47001
-CAMERA FACING NORTH-

IN_Dearborn County_Elizabeth Lea_0004

View of front of pilothouse of the Elizabeth Lea
Lighthouse Point Yacht Club
11042 State Route 56, Aurora, Indiana 47001
-CAMERA FACING SOUTH-

IN_Dearborn County_Elizabeth Lea_0005

View in pilothouse of the Elizabeth Lea showing wheel and engine controls.
Lighthouse Point Yacht Club
11042 State Route 56, Aurora, Indiana 47001
-CAMERA FACING EAST-

IN_Dearborn County_Elizabeth Lea_0006

View in the Elizabeth Lea pilothouse showing wheel, gauges and Coast Guard
Certification
Lighthouse Point Yacht Club
11042 State Route 56, Aurora, Indiana 47001
-CAMERA FACING EAST-

IN_Dearborn County_Elizabeth Lea_0007

Elizabeth Lea pilothouse – (Left to Right) horn control, camera, marine radio and search
light control.
Lighthouse Point Yacht Club

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11042 State Route 56, Aurora, Indiana 47001

-CAMERA FACING EAST-

IN_Dearborn County_Elizabeth Lea_0008

Elizabeth Lea pilothouse light switch box to the left and map storage box to the right.

Lighthouse Point Yacht Club

11042 State Route 56, Aurora, Indiana 47001

-CAMERA FACING WEST-

IN_Dearborn County_Elizabeth Lea_0009

Elizabeth Lea pilothouse roof showing the original 1939 "One Mile Ray" search light made by the Portable Light Company - Kearny, New Jersey.

Lighthouse Point Yacht Club

11042 State Route 56, Aurora, Indiana 47001

- CAMERA FACING EAST-

IN_Dearborn County_Elizabeth Lea_0010

Elizabeth Lea engine room showing the Detroit Diesel 8V71. The current engine dates from the late 1950's

Lighthouse Point Yacht Club

11042 State Route 56, Aurora, Indiana 47001

-CAMERA FACING WEST-

IN_Dearborn County_Elizabeth Lea_0011

Elizabeth Lea engine room (looking forward towards bow) showing the original steel plate flooring.

At the back wall is the original manual cable steering mechanism for the rudder.

Also shown is the Coast Guard assigned # NO1179442

Lighthouse Point Yacht Club

11042 State Route 56, Aurora, Indiana 47001

-CAMERA FACING EAST-

IN_Dearborn County_Elizabeth Lea_0012

Elizabeth Lea engine room (looking toward stern) showing the Detroit Diesel 8V71. The current engine dates from the late 1950's. Engine room door is shown in the upper right rear of the photograph.

Lighthouse Point Yacht Club

11042 State Route 56, Aurora, Indiana 47001

-CAMERA FACING WEST-

IN_Dearborn County_Elizabeth Lea_0013

View of smokestack with its reproduction Perko brand stern light.

Also showing the door to the pilothouse and ladder to the roof.

Elizabeth Lea
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Lighthouse Point Yacht Club
11042 State Route 56, Aurora, Indiana 47001
-CAMERA FACING EAST-

IN_Dearborn County_Elizabeth Lea_0014

Looking at the stern of the Elizabeth Lea in her slip at dock # E-22
Lighthouse Point Yacht Club
11042 State Route 56, Aurora, Indiana 47001
-CAMERA FACING EAST-

IN_Dearborn County_Elizabeth Lea_0015

View in compartment # 3 showing unique tunnel design
Lighthouse Point Yacht Club
11042 State Route 56, Aurora, Indiana 47001
-NA-

IN_Dearborn County_Elizabeth Lea_0016

Photo (Starboard View) of the Elizabeth Lea on the Ohio River passing under the
Historic 1856 John A. Roebling Suspension Bridge at Cincinnati Ohio - 06/17/2017
11:45 a.m.
-CAMERA FACING NORTH WEST-

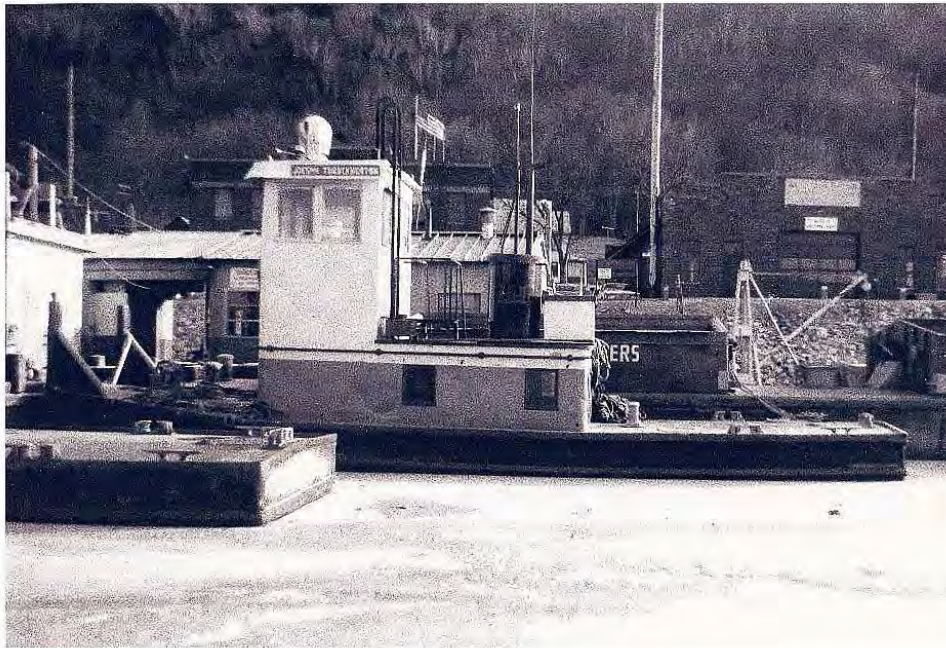
IN_Dearborn County_Elizabeth Lea_0017

Photo (Stern View) of Elizabeth Lea BACK IN THE WATER
Leaving the harbor at Rivertowne Marina onto the Ohio River after a ten year
restoration.
Cincinnati, Ohio 08/15/2014 11:30 a.m.
-SOUTH EAST-

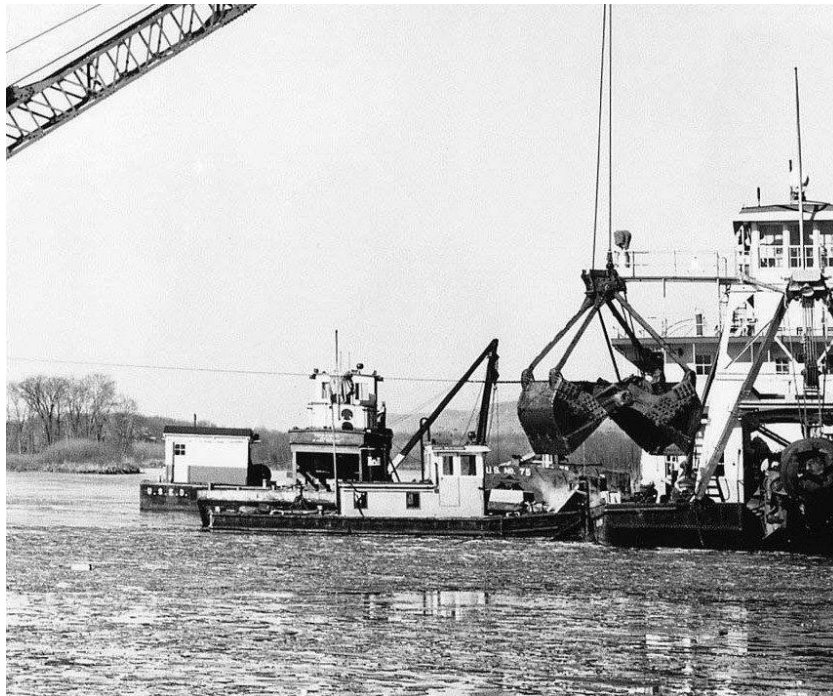
Historic and Restoration Photos of *Elizabeth Lea*, Dearborn County, Indiana



Three tenders were used to assist the William A. Thompson in dredging the Upper Mississippi River. Shown next to the crane is the tender Daniel Bates. In the far left below the building and the boat with the smoke stack is the Joseph Throckmorton - now the *Elizabeth Lea*. The third tender not shown was the David Smith Harris. Date unknown (Courtesy of the Army Corps of Engineers)



The Joseph Throckmorton iced in at Fountain City, Wisconsin
Date Unknown
(Courtesy of the Boat Photo Museum)



The fleet including the Dredge Thompson, Tenders Bates, Harris and Throckmorton
Date Unknown
(Courtesy of the Boat Photo Museum)



The fleet including the Dredge Thompson, Tenders Bates, Harris and Throckmorton tied up on the upper Mississippi.

Date Unknown

(Courtesy of the Army Corps of Engineers)



TENDER THROCKMORTON
U. S. Army Engineer District, St. Paul

Date: 1939

Size: 42'-0" x 12'-4" x 5'-3"

Constructed by:
St. Croix Shipbuilding Co. Inc.
Bayport, Minnesota

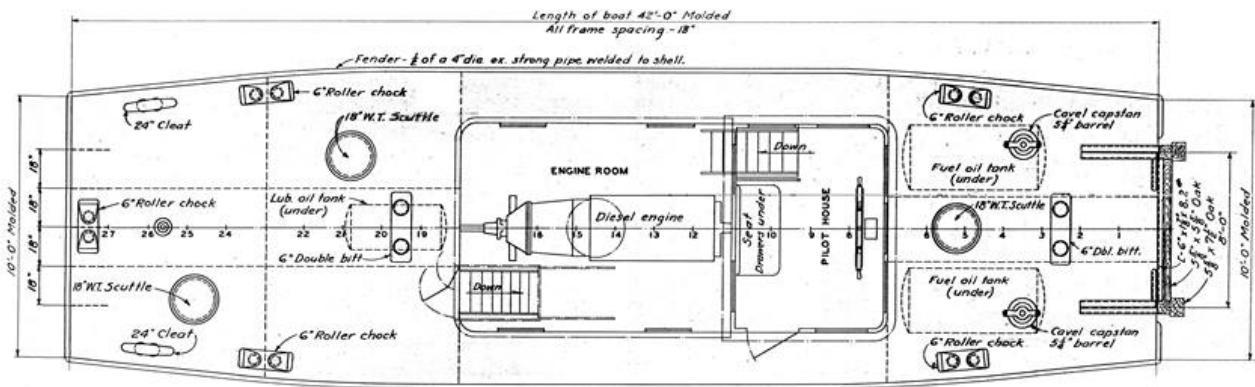
Early photo of the Joseph Throckmorton working on the upper Mississippi River

Dated: N/A

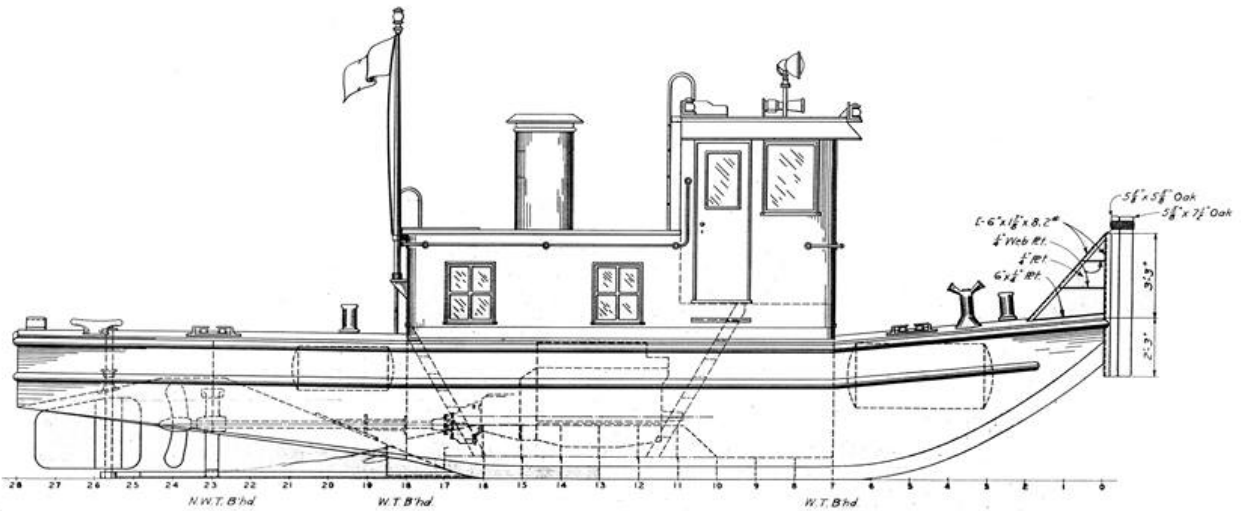
(Courtesy of the Army Corps of Engineers)



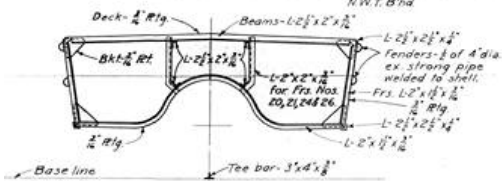
The Joseph Throckmorton working on the upper Mississippi River
Dated: N/A
(Courtesy of the Army Corps of Engineers)



DECK PLAN



OUTBOARD PROFILE

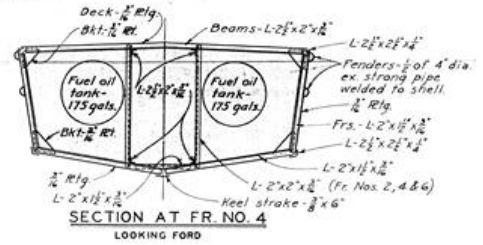


SECTION AT FR. NO. 24

Revised from original

PRINCIPAL DIMENSIONS

LENGTH, MOLDED	42'-0"
LENGTH, OVERALL	42'-1 1/2"
BREADTH, MOLDED	12'-0"
BREADTH, OVERALL	12'-4 1/2"
DEPTH, MOLDED AT SIDE	5'-3"
CAMBER	3" STRAIGHT TAPER

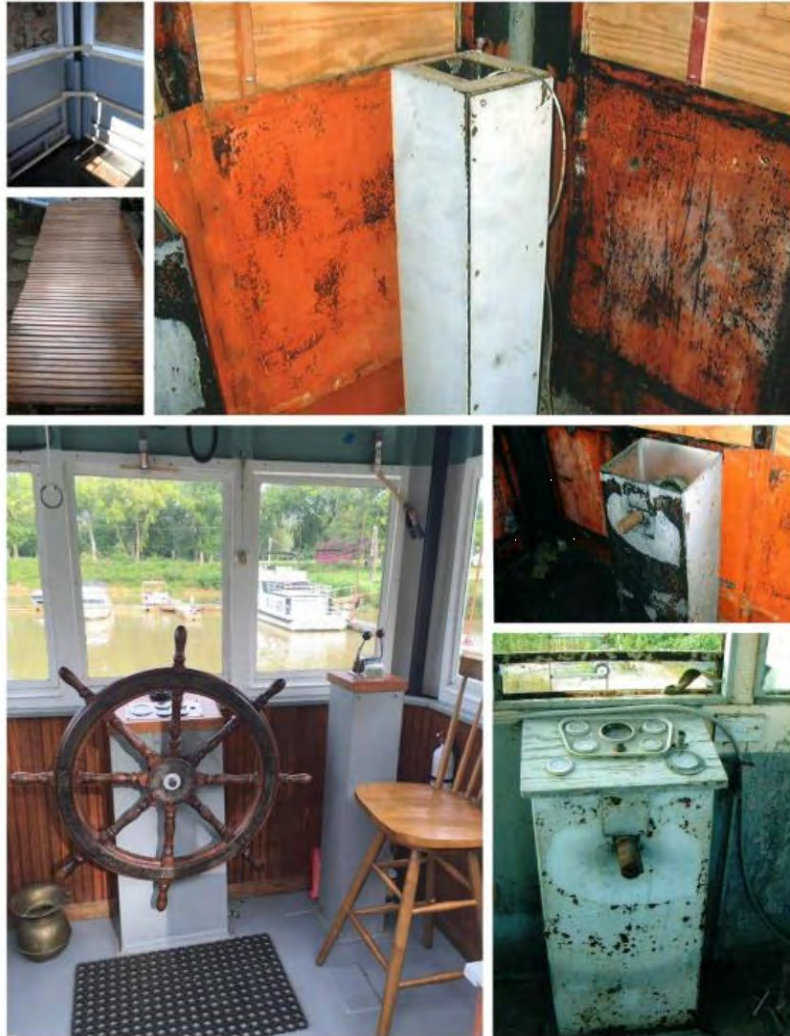


A copy of one of the original drawings of the Joseph Throckmorton - U.S. Engineers Hull# 205

Dated: 01/12/1939

(Courtesy of the Army Corps of Engineers - Theo Vogel Designer)

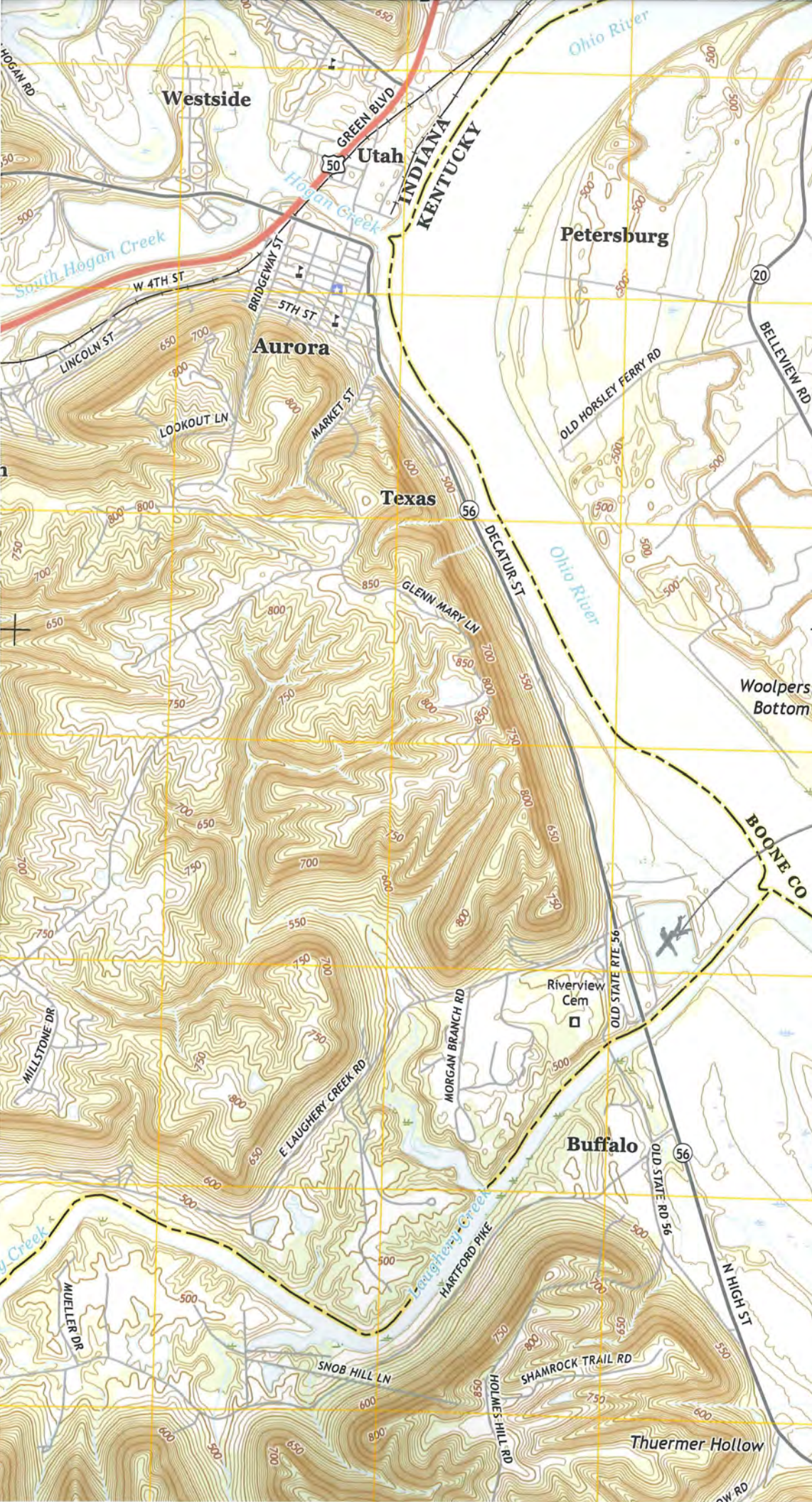
A collage of the Elizabeth Lea pilothouse restoration. Notice the Orange Oxide paint on the walls. Lower left photo shows completed restoration - 08/24/2016.



FRIENDS OF L'IL LIZ - July 2014 -

Each month we will showcase our special friends who helped in the restoration of the Elizabeth Lea. This month we salute Robert who has been with us from the beginning of our journey when we found our little 1939 towboat in Louisiana, Missouri. Robert is a master welder and great friend.





4326

4325

4324

4323

4322

4321

550000
FEET (KY N)

TOWNSHIP
ELIZABETH LEA
#NO 117944Z
DEERBORN CO., IN
NAD 83 UTM;
16 683254
4322060









DANGER
ARE YOU WEARING
YOUR LIFE VEST ?













NO1179442





GM
GENERAL MOTORS
DIESEL
POWER

MENARD
*Dedicated to
service and quality*





ELIZABETH LEA
PORT OF CINCINNATI

TENDER Lily
PORT OF CINCINNATI

No







UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Requested Action: Nomination

Property Name: ELIZABETH LEA (Towboat)

Multiple Name:

State & County: INDIANA, Dearborn

Date Received: 5/1/2019 Date of Pending List: 5/16/2019 Date of 16th Day: 5/31/2019 Date of 45th Day: 6/17/2019 Date of Weekly List:

Reference number: SG100004044

Nominator: SHPO

Reason For Review:

<input type="checkbox"/> Appeal	<input type="checkbox"/> PDIL	<input type="checkbox"/> Text/Data Issue
<input type="checkbox"/> SHPO Request	<input type="checkbox"/> Landscape	<input type="checkbox"/> Photo
<input type="checkbox"/> Waiver	<input type="checkbox"/> National	<input type="checkbox"/> Map/Boundary
<input type="checkbox"/> Resubmission	<input type="checkbox"/> Mobile Resource	<input type="checkbox"/> Period
<input type="checkbox"/> Other	<input type="checkbox"/> TCP	<input type="checkbox"/> Less than 50 years
	<input type="checkbox"/> CLG	

☒ X Accept ☐ Return ☐ Reject 6/10/2019 Date

Abstract/Summary Comments: This little dredge tender served an important function in maintaining navigation channels in the Upper Mississippi River. It is an early example of an all-welded hull, and one of the last examples of this pre-war technology still on the river system.

Recommendation/ Criteria: Accept / A & C

Reviewer Jim Gabbert Discipline Historian

Telephone (202)354-2275 Date

DOCUMENTATION: see attached comments : No see attached SLR : **Yes**

If a nomination is returned to the nomination authority, the nomination is no longer under consideration by the National Park Service.



Indiana Department
of Natural Resources

Eric Holcomb, Governor
Cameron F. Clark, Director

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2739
Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.IN.gov • www.IN.gov/dnr/historic



April 25, 2019

Ms. Joy Beasley
Keeper of the National Register
National Register of Historic Places
Mail Stop 7228
1849 C St, NW
Washington, D.C. 20240



Re: Towboat *Elizabeth Lea*, Dearborn County, Indiana

Dear Ms. Beasley,

Enclosed is a National Register of Historic Places nomination for the Towboat *Elizabeth Lea*, Dearborn County, Indiana. The Indiana Historic Preservation Review Board reviewed the application and voted to recommend its approval to the National Register of Historic Places.

The enclosed disk contains the true and correct copy of the nomination for the Towboat *Elizabeth Lea*, Dearborn County, Indiana to the National Register of Historic Places.

Please address any questions you or your staff may have about this nomination to my National Register staff members, Paul Diebold or Holly Tate.

Sincerely,

Cameron F. Clark
State Historic Preservation Officer

CFC:PCD:pcd

enclosure: nomination package