

2017

# Proposal for the National Park Service Lower Mississippi River Delta Initiative



Friends of Mississippi River Basin Model

[www.friendsofmrbm.org](http://www.friendsofmrbm.org)

[friendsofmrbm.com](http://friendsofmrbm.com)

Twitter: @MSRiverMod

Facebook: @FriendsofMississippiRiverBasinModel

(601)376-9131

### Project Director

Sarah McEwen, President Friends of Mississippi River Basin Model

### Project Name

Mississippi River Basin Model –Buddy Butts Park Restoration

### Brief Description of the Proposed Project

Friends of the Mississippi River Basin Model is a non-profit organization helping to restore the Mississippi River Basin Model, renew Buddy Butts Park, and enhance educational opportunities for children in Mississippi. “Friends” is requesting funding in the amount of \$25,000 from the Lower Mississippi River Delta Initiative to help clear and increase access to the model.

The mission of this project would be to transform the Mississippi River Basin Model through preservation, restoration, and enhanced educational opportunities.

The model, large and sprawling, shows decades of neglect. None of the owners of the model have known quite what to do with it, so it has sat unused and uncared-for for years. In late 2016, a group of volunteers founded Friends of Mississippi River Basin Model (“Friends”) to restore the Mississippi River Basin Model, renew Buddy Butts Park, and enhance educational opportunities for children in Mississippi. As a non-profit, Friends is seeking to preserve, restore, and renew the model; improve the environmental and recreational opportunities of Buddy Butts Park, the model’s home in Jackson; and enhance STEM educational opportunities in the Jackson area. “Friends” wants to increase recreational access to the site through clearing the forest immediately surrounding the model and adding a multi-use trail to allow people to walk around the model. The multi-use trail will have educational interpretive stations that teach about the history of the site, history of various locations along the river and deltas, and the U.S. Army Corps of Engineer’s MR&T system.

The site master plan includes renovation of the historic water tower, watch tower, and buildings on site as well as the addition of park amenities like benches, picnic tables, restrooms, and eventually, the addition of an education and science center. The education and science center will house interactive displays teaching about the science, math, and engineering behind the model itself and the discoveries that have stemmed from the model, as well as further teaching about the history of the site, the MR&T system, and areas such as the Mississippi Delta, protected by the MR&T System. Eventually, Friends plans to reconstruct an interactive POW barrack on site where children and adults can learn more about Camp Clinton where the German POW’s were housed. Ideally, an application that could be downloaded on phones and tablets would be developed to help increase the interactive nature of the site and facilities, allowing the user to be superimposed onto a map showing their location in the real world or even walk through the restored Mississippi Delta region while following the Blues Trail.

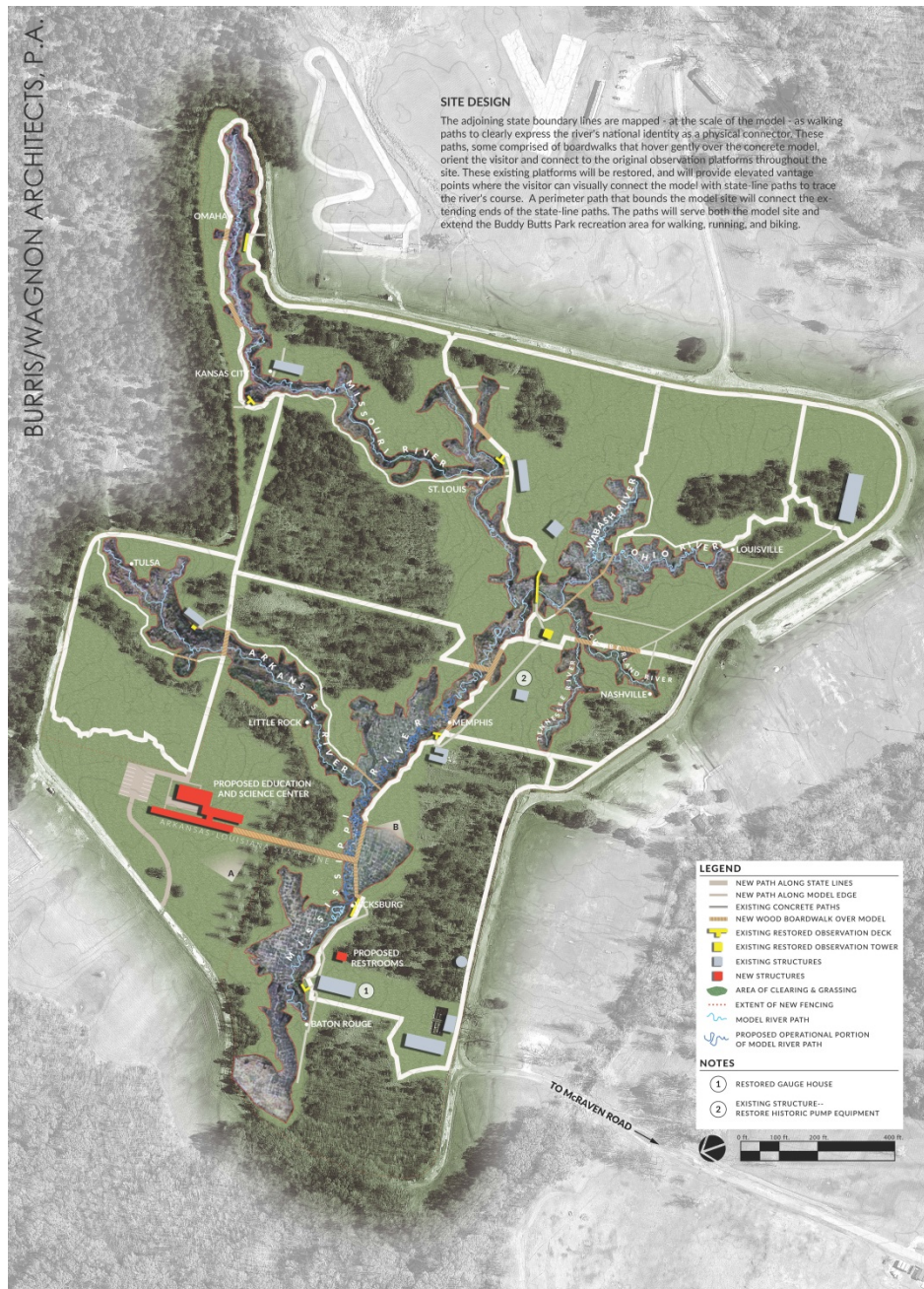


Figure 1- Masterplan for Mississippi River Basin Model and Education Center

The project was conceived by a group of civic minded engineers and community members that formed the non-profit. Local engineers, architects, higher education leaders, and community members were involved in the planning and design. This project addresses the need to save a historic landmark, tell the landmark's story, provide increased recreational access, and provide an educational outlet that can focus on geographic literacy and STEM outreach. It addresses the needs by restoring and preserving the landmark and support buildings, developing content and interpretive signs that tell the history, creating recreational walking and running trails, and finally creating an application as well as a Science and Education center with historical and educational



content for childhood development. The ultimate impact would be to increase tourism not only to the park but also to the locations found on the model such as Greenville, Indianola, and St Louis, support economic development to the State of Mississippi through the increased recreational and educational opportunities, and save a piece of history for future generations.

Due to its neglect, the site is extremely overgrown and in need of clearing before renovation and park amenities can be added. In the months since Friends was founded, the organization has hosted numerous cleanup days where volunteers have come out to remove trees and excess vegetation from the site. While much has been done, there is still plenty left to accomplish to clear and secure the site. “Friends” is seeking a grant of \$25,000 to for clearing and grubbing of the site. The next steps should additional funding be secured would be the removal and replacement of the fence around the site, funds to secure buildings and rehab safety issues such as grating open cisterns and securing the water tower, and complete engineering and design of the entire site – including surveying and plans and specifications for the site. Any funds remaining this year from the various grants we have applied will be used to start installing walking paths throughout the site, the installation of education features along the walking paths, and marketing and outreach activities.

For this year the phase and goals include:

Clearing and grubbing of the site - the clearing and grubbing is currently being achieved by our grassroots cleanup days and partnership with local Boy Scout troops. We would use the grant to pay a contractor to clear and remove debris from the site. Specific activities include removal of brush, and small trees, improving sightlines by removing lower branches of established trees, and general grading and earthwork where applicable.

Once clearing is complete we would like to partner with a local drone company that would then fly the site and deliver survey grade terrain models and aerial photography to be used in the construction planning and design process. Clearing of the land not only progresses our phased design but also increases security in the park as a whole by improving sight lines. We have heard from several of our volunteers that walk the road around the model that because of the thick forested area they feel unsafe at times. Clearing the underbrush of small trees will immediately impact the safety of our volunteers and members of the public that visit the park. It would also immediately improve access to the model itself increasing our ability to share the story and promote our cause.

### [Background Information](#)

The Mississippi River Basin model, located in Jackson, Mississippi, is a scale replica of the Mississippi River Basin. The site, which sprawls over 200 acres, was originally built by German prisoners-of-war who were housed in a camp located in nearby Clinton, Mississippi. The model was an imperative scientific experiment that, in the time before computer models could efficiently perform complicated numerical analyses, would determine how the mighty Mississippi River could be contained to protect citizens and assets such as those in the Mississippi Delta.

The site in Jackson is the largest and most encompassing physical model in the world. It has been called one of the most successful experiments in hydraulic engineering ever constructed. The model required one million cubic yards of soil and utilized ten foot square concrete panels with the topography maliciously hand shaped into the concrete. The project encompassed (to scale) 41% of the land area of the United States and 15,000 miles of river.

Construction on the model began in 1942 under the supervision of the original owner, the U.S. Army Corps of Engineers (Corps). The model was built in stages to allow for simulations on segments of the river and was fully completed in 1959. The model was officially retired from use in 1973 after a simulation to determine if opening the Morganza Spillway in Louisiana would endanger Baton Rouge and New Orleans in the Flood of 1973. The Corps deeded the model to the Department of Interior in the 1970's who, in turn, deeded the model to the City of Jackson in 1993. The Corps maintained a lease on the property until 1993. In the late 1980's and early 1990's, the model was returned to use to run simulations to determine the effect raising the levees along the Birds Point New Madrid (BPNM) Floodway in Missouri would have on the Mississippi River and Tributaries (MR&T) system. The BPNM Floodway was operated for the first time in 2011, potentially saving millions of lives and billions of dollars in damage along the Mississippi River south of New Madrid, Missouri including the entire Mississippi Delta that was previously decimated in the flood of 1928. The site is currently listed as a Mississippi Landmark. Friends is recently achieved the acceptance of the site as an American Society of Civil Engineers Historic Landmark and is currently seeking registration on the National Register of Historic Places.

### Demographics

Our mission supports and aligns with the NPS by our focus on preservation and celebration of cultural heritage, our goals to increase STEM education and engagement of children in Mississippi, to save this Mississippi Landmark while increasing the recreational and historical engagement at the Mississippi River Basin Model, and finally to provide an interactive platform to tell the story of the Mississippi Delta as well as the greater Mississippi River Valley.

We project that this site would impact more than just the immediate communities but would fill a necessary gap in current childhood development museum offerings. We would enable teachers, school groups, parents, and tourists to come tour the model gain tactile understanding of basic engineering principals in a fun outdoor atmosphere. This site would be a tourist destination, and could increase recreational access and standards of living for the local community and the state. The educational components and cross programming partnerships are limitless. We hope that it would enable an otherwise stationary park to come alive at the fingertips of children and cultivate a questioning attitude towards cultural heritage and engineering. The interlinking history of our site and Camp Clinton really tell the story of Mississippi during WWII as well as what the USACE was able to accomplish to save and protect the citizens along the Mississippi River. Locally we hope to serve as a tour and school group destination to impact counties such as Hinds, Yazoo, Warren, Madison, Rankin, Copiah, Sharkey and Issaquena. On a broader scale, the cross programming and ability to digitally tag tourism sites in the Mississippi Delta and beyond would expand our reach to every corner of the 10 states that the Mississippi River and its

major tributaries touch. The community that the park sits in is a historically underserved area in the Jackson Metro and would enable children that otherwise would not have the resources or exposure to this type of work to learn about professions such as engineering and other technical fields.

### Organizational Background

Friends of Mississippi River Basin Model is a non-profit organization that works to fulfill its mission to renew Buddy Butts Park, restore the Mississippi River Basin Model, and educate children of Mississippi about STEM opportunities. Established in 2016, Friends of Mississippi River Basin programs include the monthly clean up days, our annual Tour and Restoration Event, and numerous private tours.

The board and committees primarily consist of engineers, planners, member of institutes of higher education, and local civic leaders. We have the background, experience, and passion for this site. Our experiences in construction as well as grant writing will enable us the best opportunity to follow through on this very large scope. Specifically, Sarah McEwen the President has experience in project development, site plans, grading plans, cost analysis and project management with her background in Civil Engineering. The treasurer, Zach Adams, currently works as a project manager and economist. His background ensure that the cost and scope are evaluated for optimal results as well as life cycle considerations that would affect operation and maintenance. Don Hendon serves as a project engineer and has experience in project management but also extensively works with the Boy Scouts and leads our public outreach for service. Jeff Bolton is retired from the Navy and lives just down the road from the park. His military and technical background as well as hobbies enable him to oversee clean up days, maintain the areas currently cleared of debris, and serve as site security. His focus is primarily on coordination with the City of Jackson and overseeing the clean up days. Josh Bower works for the Mississippi Community College Board as Director of Workforce Education and previously for Mississippi Development Authority. His network and experience with government officials as well as local, state, and federal agencies, helps best position our group to raise awareness, seek alternative funding sources, and focus on the improvement to economic development of our site. Jeri Lyn Triolo, has previous associations with the Greater Jackson Chamber of Commerce and currently works as an educator. Her experience with kids and experience with grants and nonprofits ensure the educational program with meet the needs of area children. Additional support and committee members include Dr. Jennifer Sloan Ziegler, who has a PhD in coastal engineering. Her work experience with both U.S. Congress and USACE provides key networking connections and a fundamental understanding of the operations of grants at the federal level. Her work with the Department of Interior directly led to funding for MDNHA. Many of our members have seen various federally funded and state funded projects from conceptual design to completion and close out.

Our organization is committed to the long-term completion of not only the restoration effort but also future funding and securing of operation and maintenance cost to ensure minimal impact to the owner of the property. Our memorandum of understanding with the City of Jackson enables us to oversee, maintain, and run the park. We would continually develop and enact education

programming to keep children and adults engaged in our historic site as well as promote STEM awareness and professions. The work would continue to be managed by the non-profit. Once we got to the point of viability there would be a full time executive director, up to two grant writers to continue to seek grants for supporting educational programming, a full time maintenance staff member, part time educational computer lab instructor, and part time desk assistants and tour guides through partnerships with local universities.

Since the incorporation of Friends, the nonprofit has established a memorandum of understanding with the City of Jackson to allow for restoration and beautification of the site. An amended MOU is being presented to the City of Jackson, which would allow Friends to enter into contracts with third-party vendors to allow for enhanced restoration and beautification efforts. Friends works diligently with numerous non-profit, education, and for-profit entities to seek funding to bring our vision to life.

### Collaboration, Partnerships, and Networking

Friends of Mississippi River Basin Model works closely with the City of Jackson to coordinate clean-up days and providing progress updates to the members of the City Council. We have the support of local engineering professional organizations including both the Jackson Branch and the MS Section of the American Society of Civil Engineers. We have support of Mississippi Department of Archives and History (MDAH) and have worked closely with them to start the planning process for future restoration. Barry White with MDAH has provided support in the form of research and serves as a contact for us with the history and preservation group. We have the support and research from Jane Vaughan a former technician at the model. She is helping host our walking tour event of April 28, 2017. Her roles include extensive background information on the buildings, working knowledge of how the model performed, as well as coming to our clean up days to assist with the clearing debris. We have several Boy Scout Troops from the metro area and Vicksburg who not only attend our clean-up days but also have made this landmark their Eagle Scout project.

There is a working discussion with members of Entergy about the best opportunities for progress from that entity. Raborn Media has taken on our non-profit as part of an investment marketing strategy. They are developing content, themes, website, leave behinds, video, and other marketing based promotional material to best assist us in our efforts to apply for funding. Burris Wagnon Architect was instrumental in the conceptual master plan development. They conceived and designed the conceptual renderings of the end product which can be seen as an attachment. Besides partnerships, individual partners that play key roles in development, design, and implementation include the previously mentioned member of the board.

Friends of Mississippi River Basin Model will oversee the design and implementation. The development and concept have already been completed and were created from a Friends board level. Input into the conceptual master plan came from the general public at several clean-up days, the City of Jackson Parks Department, as well as over social media. The long term continued educational programming will be in tandem with a partnership with the Mississippi Children's Museum who expressed interest once the capital goals of the project were completed. We have a network of about 75-100 volunteers who attend clean-up days and will be providing

labor at these events to handle larger tree clearing as well as sediment and trash removal from the model itself. Several of the board members have committed to engineering design and oversight with invoices for time spent as in-kind donations when working on this project. Each clean-up day, with approximately fifty people, has been and will be recorded to be used as in-kind donations. The time spent by Burris Wagon architects is in-kind donation; the marketing outreach is a financial contribution. Each of these groups and members is coordinated directly from the Friends of Mississippi River Basin Model boards and committees through the Board of the President. We have already and will continue to work collaboratively with bi-weekly meetings and agenda updates as well as a shared google drive for documents.

#### Proposed Completion Date

We would work with a contractor to have all clearing and grubbing within the scope of this project completed by the end of the calendar year or December 31, 2017.

#### Amount Requested

\$25,000

#### Reasonableness of Budget and Budget Narrative

The funds would go toward a portion of clearing and grubbing of the site. Additional funding is being sought this year for the other line items including fence removal, fence construction, and overall funds permitting the design and development of construction drawings. Please see the approximate opinion of capital cost for these line items below:

Phase 1- Secure Site and Buildings				
Item	Unit	Average Price	Quantity	Raw Cost
Clearing and Grubbing	ACRE	\$4,500.00	80	\$360,000
Removal of Fence, All Types	LF	\$2.00	9000	\$18,000
Secure Buildings (locks, grates)	LS	\$50,000.00	1	\$50,000
Fence	EA	\$73.60	1500	\$110,400
Gate	EA	\$1,200.00	4	\$4,800
Crushed Limestone Path 12' Wide	LF	\$10.00	12250	\$122,500
Crushed Limestone Path 6' Wide	LF	\$5.00	2250	\$11,250
Marketing and Outreach	LS	\$20,000.00	1	\$20,000

The \$ 25,000 would go towards starting an initial phase of clearing and grubbing that hopefully coincides with additional grants or donations. We hope to use this funding to clear about 6 acres of land surrounding the model.





Figure 2- 2015 Aerial Photography of Vegetation