2014

Riverfront Development Report

STUDY RECOMMENDATIONS

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A B S T R A C T

Construction of Phase I (mass fill and piles) of the Riverfront Development Project at Schultz Park commenced in 2013 after nearly seven years of project planning, design, mitigation, and funding approvals. Unfortunately, time passage and other factors have resulted in construction costs that exceed the City's financial capacity to complete the project in accordance with present design. While such an occurrence is not unusual for capital projects of such complexity, it has nonetheless resulted in a project standstill that threatens the loss of Federal funding while at the same time necessitating additional local funding for the project to be completed as designed. In consultation with the Board of Commissioners, City Manager Jeff Pederson tasked the Paducah Riverfront Development Authority to review the project status and history for the purpose of developing a set of recommendations to complete the project. Specifically, the PRDA was asked to identify financial resources and design alternatives that would reflect the community's values and priorities for the project. Using that charge as the guiding principle, this Report identifies revisions to the Project Plan that are believed by the PRDA to constitute a sensible and workable solution. The Report is presented to the Board of City Commissioners for its consideration. The PRDA appreciates the opportunity to apply its focus and expertise to the effort to complete this important community asset.


MARINA PLAZA

THE PROCESS

The Paducah Riverfront Development Authority (PRDA) became involved with the planning and implementation process after the completion of Shultz Park Phase IA (mass fill and piles) and the boat launch at 6th and Burnett Streets of the riverfront development project. That part of the implementation became contentious after the bids were received and construction was initiated. Phase IA at Shultz park cost some $1.8 million more than anticipated. It was important to understand why the effort went so wide of the mark. In PRDA's "autopsy without blame" analysis, a number of factors were thought to contribute to the problem. In no particular order, they were:

1. Unforeseen delays with the environmental permitting created a six year delay in the project and the amount of capital available from Federal sources did not increase, but inflation took its toll.
2. The amount of fill needed for Phase IA was miscalculated.
3. The enormous weight of the rock, some 300,000 tons, sank the mass into the soft mud of the river bottom. While this was expected, it was not calculated into the fill needed.

Going forward, the City has at its disposal about $5.1 million in Federal Funds to complete Phase IB at Shultz Park. The PRDA examined the cumulative pieces that make up the balance of the construction needed to complete the park. This involved numerous meeting with the City Engineer, interviews with a marina operator and boaters, and a site visit to the riverfront park in Clarksville, TN.

THE MONEY

SOURCES OF FUNDS AVAILABLE

Source	Project	Grant Amount	Usable Amount	Required City Match	Total Available From Grant Sources	Additional City Funds Required	Actual Contract Amount
FHWA	Boat Launch	$ 2,276,900	$ 2,254,100	$ -	$ 2,254,100	$ 334,366	$ 2,588,466
HUD	Shultz Park Phase I -Fill and Piles	$ 3,000,000	$ 2,970,000	$ -	$ 2,970,000	$ 1,835,029	$ 4,805,029
FHWA	Shultz Phase I - 2nd Contract	$ 3,920,000	$ 3,881,000	$ -	$ 3,881,000		Not Bid
KYFWS BIG	Schulz Phase I - 2nd Contract	$ 910,000	$ 910,000	$ 320,000	$ 1,230,000		Not Bid
FHWA TE	Greenway Trail Phase III	$ 500,000	$ 500,000	$ 150,000	$ 650,000		Not Bid
	TOTALS	**$ 10,606,900**	**$ 10,515,100**	**$ 470,000**	**$ 10,985,100**	**$ 2,169,395**	**$ 7,393,495**

Glossary

FHWA: Federal Highway Administration
HUD: Housing and Urban Development
FWS BIG: Fish and Wildlife Service Boating Infrastructure Grant
TE: Transportation Enhancement (From Federal Highway)

FIGURE 1: SOURCES OF FUNDS AVAILABLE TO PROJECT

PHASE I ANALYSIS OF PROJECT CONTRACTS AND EXPENSES (2006 thru October 2013)				
Shultz Park Riverfront Redevelopment (DT0015) AKA PHASE IA	**Design**	**Other Fees & Expenses**	**Construction**	**TOTAL**
Engineering Design - JJR (Now Smith Group JJR)	$ 919,740.00			
Construction Contract - MAC Construction & Excavating, Inc.			$ 4,805,028.82	
Engineering Consulting Services - RF & Boat Launch Florence & Hutcheson (Now ICA)	$ 161,525.49			
Ecological Consulting Services - Redwing Ecological Services	$ 157,331.80			
Electrical Engineering Consulting Services - Marcum Engineering, LLC	$ 14,065.00			
Attorney Fees For Mussel Lawsuit - Greenbaum Doll & McDonald		$ 15,920.04		
Attorney Fees For Mussel Lawsuit - Denton & Keuler		$ 5,946.00		
Attorney Fees For Property Ownership - Whitlow, Roberts, Houston & Straub		$ 1,642.52		
Travel Expenses - Rick Murphy		$ 2,262.35		
Advertising - Paducah Sun		$ 3,872.13		
Permit Fees - KY State Treasurer		$ 2,500.00		
Copy Services - Paducah Blueprint		$ 945.37		
Welding Inspections - Technical Welding Inspection, Inc.			$ 1,444.50	
	$ 1,252,662.29	$ 33,088.41	$ 4,806,473.32	
Shultz Park Sub-Total				**$ 6,092,224.02**
Ohio River Boat Launch (PF0039)				
Engineering Design Contract - JJR (Now Smith Group JJR)	$290,075.00			
Construction Contract -Jim Smith Contracting Co, LLC			$2,588,465.78	
Indiana Bat Conservation MOA with USFWS Kentucky Natural Lands Trust		$5,742.00		
Copy Services Paducah Blueprint		$547.84		
Recording Conservation Easement McCracken County Clerk		$46.00		
Advertisement Paducah Sun		$915.76		
Property Acquistion - Martha Yancy		$7,000.00		
	$290,075.00	$14,251.60	$2,588,465.78	
Boat Launch Sub-Total				**$2,892,792.38**
TOTALS	**$ 1,542,737.29**	**$ 47,340.01**	**$ 7,394,939.10**	**$ 8,985,016.40**

FIGURE 2: PHASE I ANALYSIS OF FUNDS COMMITTED

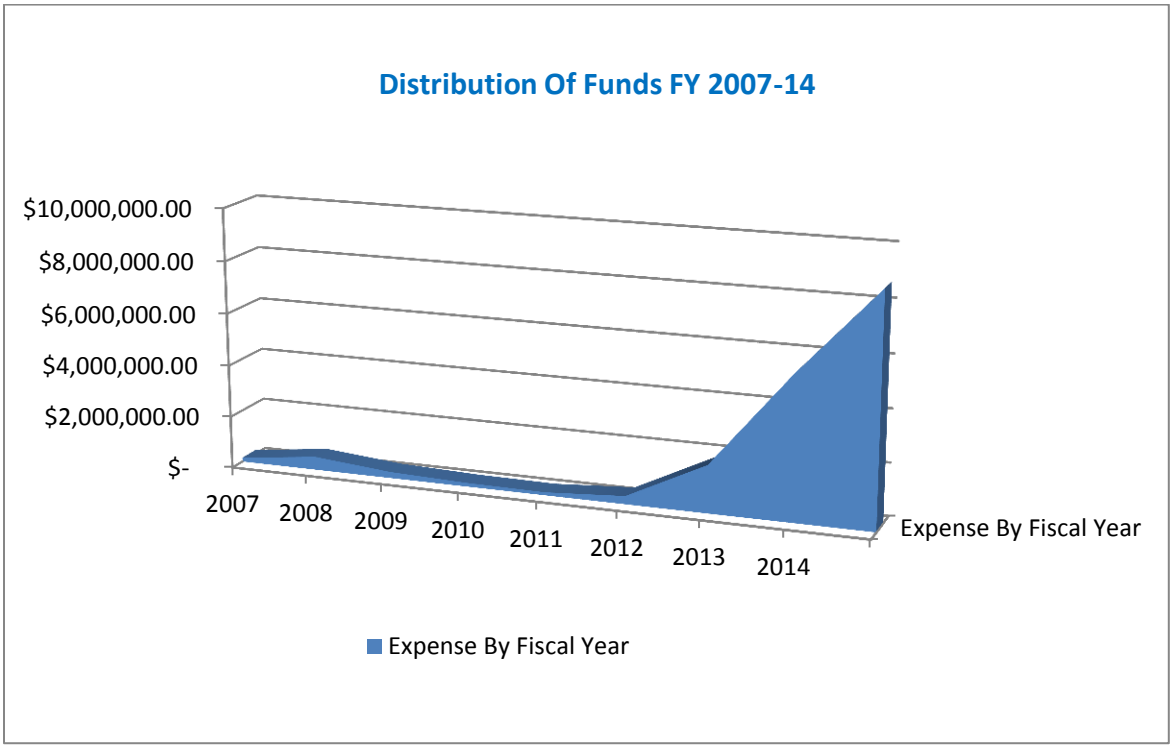

FIGURE 3: PROJECT EXPENSE BY YEAR

CITY FUNDS COMMITTED TO PROJECT	
Boat Launch	$ 334,365.78
Shultz Park Phase I - Initial Contract (Fill and Piles)	$ 1,835,028.82
Engineering & Design	$ 1,385,405.49
Enviromental Costs	$ 184,939.84
Misc Costs	$ 47,340.01
TOTAL	**$ 3,787,079.94**

FIGURE 4: LOCAL FUNDS ALLOCATED TO DATE

SOURCES OF FUNDS AVAILABLE GOING FORWARD							
Source	**Project**	**Usable Grant Amount**	**Required City Match**	**Total Available From Grant Sources**	**Additional City Funds Required**	**Actual Contract Amount**	**Status**
~~FHWA~~	~~Boat Launch~~	~~$ 2,254,100~~	~~$ -~~	~~$ 2,254,100~~	~~$ 334,356~~	~~$ 2,588,466~~	~~SPENT~~
~~HUD~~	~~Shultz Park Phase I - Fill and Piles~~	~~$ 2,970,000~~	~~$ -~~	~~$ 2,970,000~~	~~$ 1,835,029~~	~~$ 4,805,029~~	~~SPENT~~
FHWA	Shultz Phase I - 2nd Contract	$ 3,881,000	$ -	$ 3,881,000	?	Not Bid	Available
KYFWS BIG	Schulz Phase I - 2nd Contract	$ 910,000	$ 320,000	$ 1,230,000	?	Not Bid	Available
	Sub Total			**$ 5,111,000**	?		
TE	Greenway Trail Phase III*	$ 500,000	$ 150,000	$ 650,000	?	Not Designed	Potential
	TOTALS AVAILABLE	**$ 5,291,000**	**$ 470,000**	**$ 5,761,000**			
						Key Number	

FIGURE 5: BALANCE OF GRANT FUNDS AVAILABLE

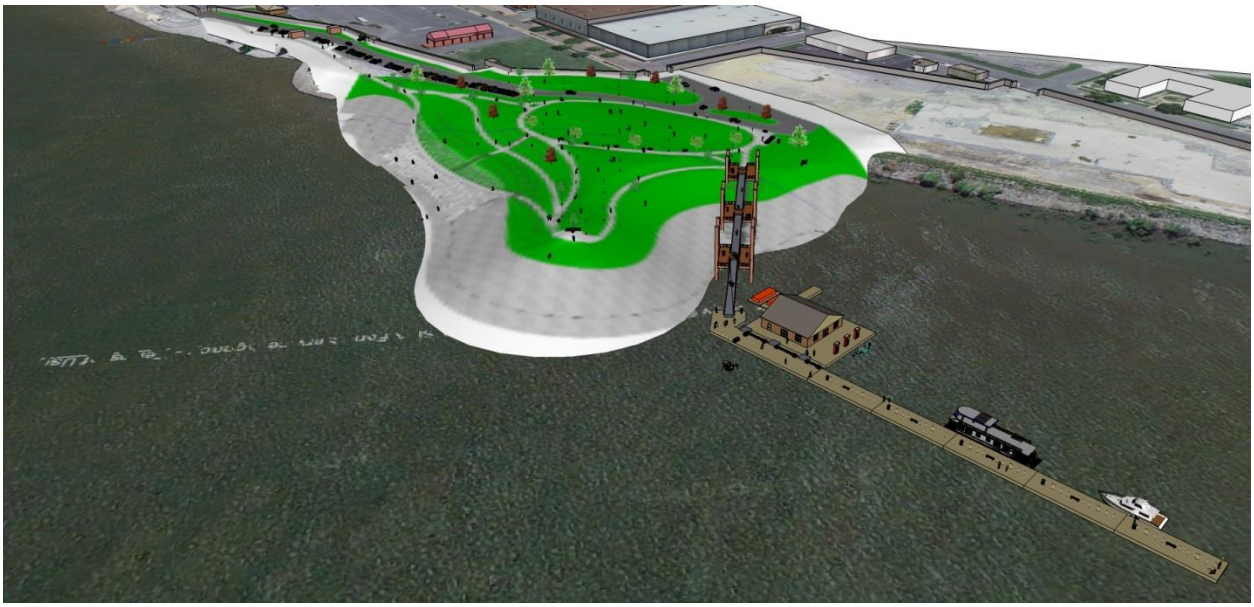

FIGURE 6: OVERVIEW OF PHASE IB SHULTZ PARK

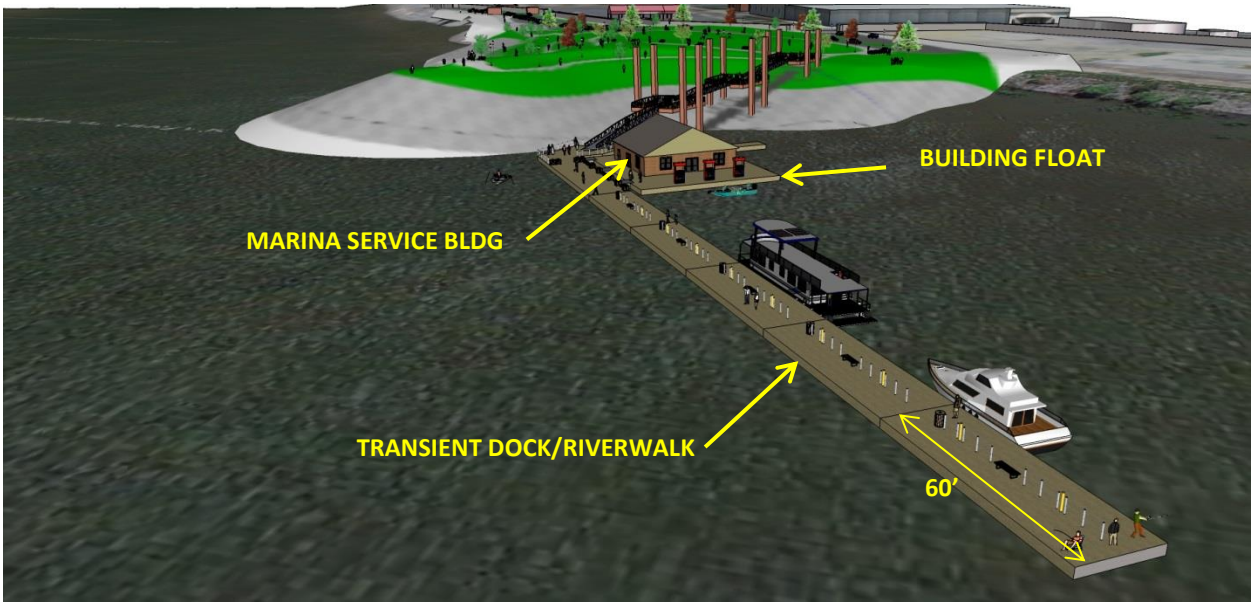

FIGURE 7: OVERVIEW OF WATER FEATURES

FIGURE 8: LAND FEATURES

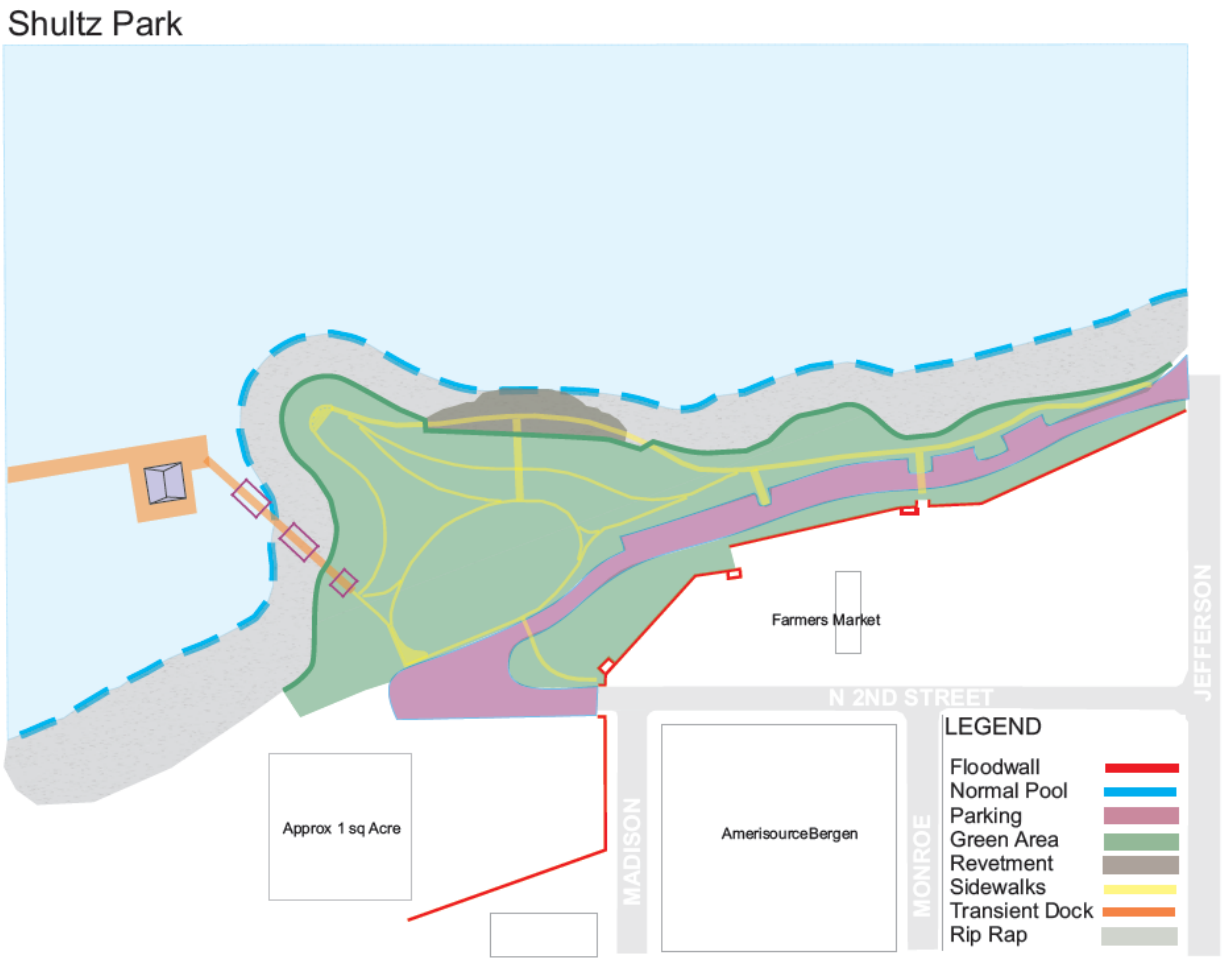

FIGURE 9: COLOR CODED DRAWING

SCHULTZ PARK EXPANSION—PHASE 1B

The riverfront development project at Schultz Park is not a single mass project with single use programing. Rather, it should be seen as a collection of programmatic elements, each with their own function and merit. The park project consists of both water based elements (See Fig. 7) and land side elements (See Fig. 8). Phase IA was the placement of rock fill and piles for the transient dock. Phase IB is the completion of the park (See Fig. 6)

Values

Promotion of Regional Tourism

Recreational Opportunities for Residents

Connecting People to the River

Create Opportunities for Private Development

WATER BASED ELEMENTS

The planned water side elements break down into two major sub-groups. They are:

1. Transient dock, and;
2. Marina with slips

While both elements in the plan are shown as described as water based features, they are somewhat mutually exclusive. That is, we can plan a dock for transient boaters, without the need of constructing a marina with rental slips. There is no funding and no plan to construct a marina at this juncture.

In our plan, the incompletely named *"Transient Dock"* breaks down into two major and equal sub-functions. They are:

1. ***Public Use Trail*/Riverwalk–** The transient dock is designed to be 20 feet wide, which is wider than a dock that is needed only for transient boats. Given the distance the self-adjusting gangway structure and dock are away from the shore, there will be an adventurous element to the experience to draw visitors. The strategy is consistent with both bolstering Paducah's quality of life initiatives for residents and adding to Paducah status as a regional tourism base. The design detail provides for installation of a center rail and benches that will promote the dock as a way for people without boats to connect to the Ohio River. PRDA recommends altering the plan from a center rail, to an enclosed "corral" design, for safety reasons.

2. ***Transient Boat Dock --*** The transient dock will be attractive to a prospective market of 2,800 boat owners that have boats in slips and are located reasonably close to Paducah. These boat owners are seeking entertainment and activities that are found in Paducah. There is also a smaller market of transient boaters that are on the longer north-south river migrations or other excursions. They too are seeking activities and services offered by transient docks. The minimum list of services needed to attract transient boaters is: 1) the ability to receive visiting boats for short stays; 2) shore power and potable water should be available in service pedestals; and 3) gas and diesel fuel should also be available. Offering these services to transient boaters will contribute to the array of downtown Paducah's cultural offerings, shops, and restaurants.

The design documents include elements of construction that are above the minimum necessary to operate a successful *Public Use Trail* and *Transient Boat Dock*. They may be desirable, but are not essential for service these two purposes. Accordingly, it may be appropriate to either delete them from future bid documents, or bid them as alternates. They are: 1) Marina Services Building 2) Sanitary System, and 3) A Minimal Fuel System

LAND BASED ELEMENTS

The land side elements are all of those things that go on top of the rock fill that was constructed in Phase IA. It breaks down into five major sub-groups. They are:

1. Land mass
2. Stone Revetment
3. Access, Circulation, and Parking
4. Passive Green Areas
5. Sidewalks and Stairs

Unlike the water based features, much of the land based elements are not mutually exclusive. That is, their functions are dependent upon each other.

1. ***Land Mass*** – The land mass, as designed, has a variety of planned elevations for the stone fill. The top elevations undulate across the top of the fill area between 330' and 338' NAVD 88. This creates a pleasing roll, but has other functionality as well. On top of that fill is another soil and rip rap blanket. This cap will raise those elevations approximately three feet and is needed for a finished appearance to support grass, trees and other plant life. The elevations as designed were not arbitrarily chosen. They correspond to a history of recorded high flood elevations. If built to the design elevation, flood water is less likely to cover the land mass with any regularity. There are two primary reasons why this is important. First, the

damage caused by flood water erosion to the landscaping, concrete pathways and other amenities will be minimized. The other practical purpose is to protect the piles, gangway, transient dock and other elements downstream. At these elevations, it becomes much less likely a runaway barge or large pieces of debris could get over the peak of the land mass and create damage. It is *estimated* that the remaining rock necessary to build to design elevation is approximately 65,500 tons. The cost to place this rock will be a minimum of $12/ton or $780,000 (this is based on the original unit price bid of Phase IA). However, it may not be reasonable to expect that price again. PRDA requested the City Engineer to monitor the land mass to see if additional settlement is occurring. To date, it looks stable.

FIGURE 10: MONITORING FOR SETTLEMENT

Furthermore, there is a diminishing return to redesigning the land mass. While the change in quantities and labor for installation would be negligible, the current engineering represents a sunk cost. Modifying the elevations down, ostensibly to save the cost of additional rock, will generate the need for redesign costs. This would absolutely be needed to determine new horizontal and vertical positioning of the built amenities, which among other things. are the grading, stairs, sidewalks, and inlets for drainage. These new design costs would eat up the savings.

2. **Stone Revetment** – Along the southerly edge of land is proposed a stone block revetment. All of the park's newly created green areas are surrounded by limestone rip-rap. The rip-rap is placed to prevent erosion. The relentless flow of the Ohio River would destroy the land mass if it were not placed. It is, however, not friendly as a walking or sitting surface. It is just too rough for that purpose. The placing of the stone blocks will allow people to


FIGURE 11: STONE BLOCK REVETMENT, CLARKSVILLE

traverse their way down to the water's edge. This strategy preserves the overall value of letting people connect to the water's edge. The placed stone block has other functions. It will be a good gathering place for people during large events, like fireworks. The stone block also has an esthetic quality that is much more attractive than rip-rap. The blocks will be an attractive-looking feature as people circulate into the park from the Jefferson Street floodwall opening.

3. **Access, Circulation and Parking** – We tend to explain and think of the park in terms of the expanded portions only. However, the existing Shultz Park gets an overhaul roughly from Jefferson Street floodwall opening all the way to the 2nd Street floodwall opening. A significant expense in addressing those areas outside of the land mass is the reconstruction of the access roadway and the parking areas.

4. **Green Areas** – The expanded part of the park, as well as the rehabilitated areas of Shultz Park, comprise about seven (7) acres of green area. In its design, the areas are largely passive space. That is, they are not designed for specific recreational activities. A generous amount of landscaping will complement the landform with a mixture of deciduous and evergreen trees and shrubs. The esthetic qualities of the landscape not only contribute to the experience, but certain parts of the plan are critical for erosion control.

FIGURE 12: SHULTZ PARK

5. **Sidewalks and Stairways** -- A significant network of sidewalks and stairways are present in the design (See Figs. 8, 9) to assist people moving about the park. Notably, the sidewalk that traverses the entire length of the proposed improvements will become a section of Paducah's Greenway Trail with a trailhead for parking and unloading.

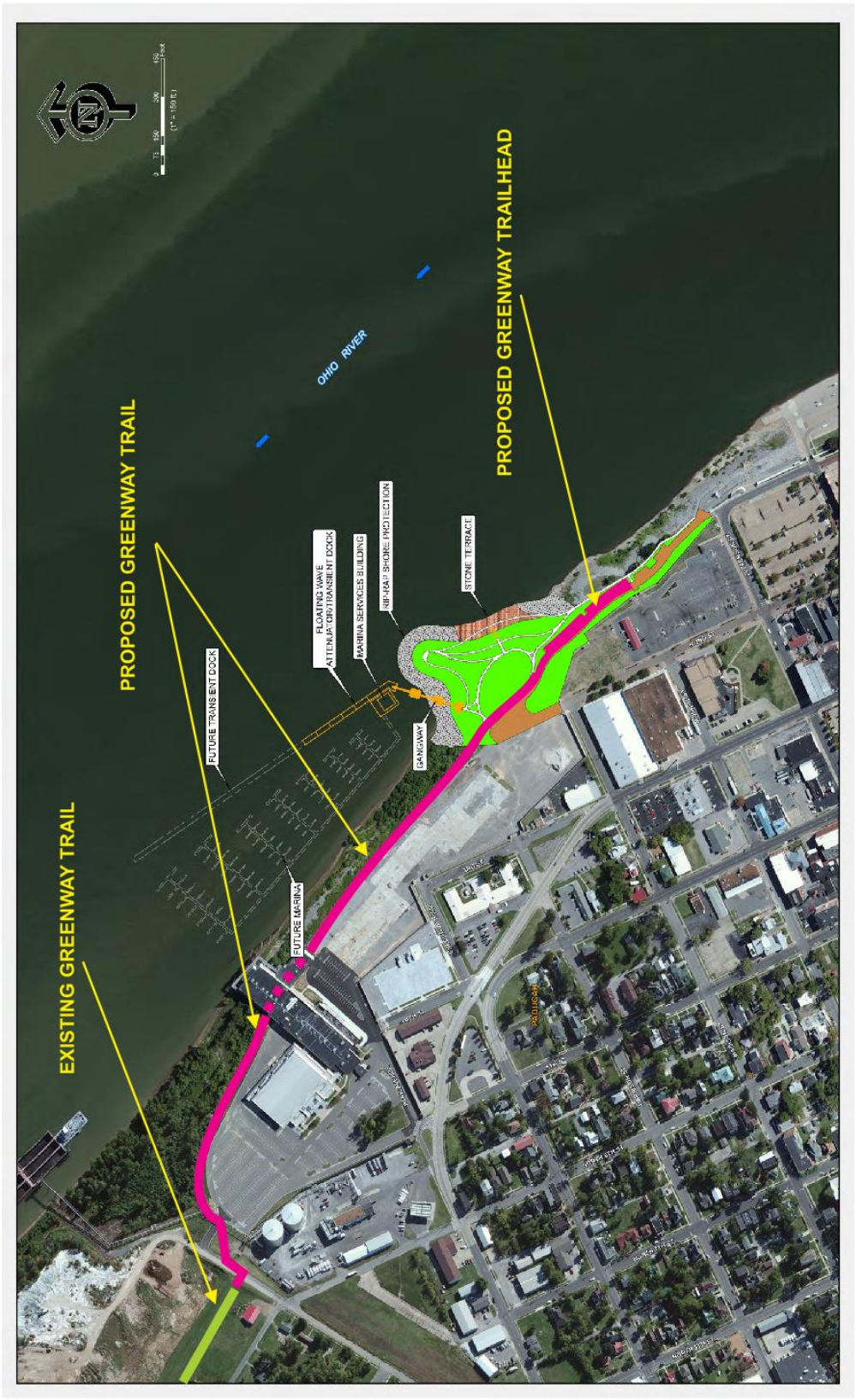

FIGURE 13: EXTENDING GREEWAY TRAIL TO RIVERFRONT

- Phase IB should be finished. This can be accomplished be cutting some unnecessary items from the scope of the project, reducing the scope, delaying others for a multi-year implementation, and shifting some expenses to the Trails project. $6.0 million has already been expended toward the mass fill and piles in Phase IA.

- Abandoning the project appears to be counterproductive to Paducah's tourism strategy and desire to expand quality recreational opportunities. Abandoning the project and not completing it could jeopardize the use of Federal funds expended in Phase IA. Not completing the construction could also void the city's construction permit with the Corp of Engineers. And obviously, if not completed, the $.9 million Boating Infrastructure Grant (BIG) would be forfeited. It is unlikely the $3.9 FHWA grant could be converted to some other unknown use.

- 67,500 tons of rock should be added to the existing fill and build to the designed elevation not completed in Phase IA. There would be a diminishing return to accepting a lower elevation. Design costs would be incurred to accomplish this and the frequency of flood inundations would erode expensive surfaces and increase maintenance costs.

- A fueling system is elemental to the success of the transient dock. PRDA believes it may be possible to find a fuel vendor to put up the capital necessary for the right to fuel transient watercraft. If that happens before bid documents are released, another $251,000 can be further stricken from the estimate.

- The Transient Dock design, as a safety consideration, should be modified to include more pedestrian railings to create an enclosed area.

- No funds should be expended at this time in the pursuit of a marina. There are no funds available for it, and the market for slips are unclear. At some point in the future, the city may opt to seek private investment along with an operator to construct slips and manage a marina.

- If possible, the remaining scope should be bid as a single project. Economy of scale should produce the best prices.

- And lastly, PRDA strongly recommends to the commission that the balance of the unused portion of the former Executive Inn site be master planned by PRDA at this time. With the impending construction of the hotel and riverfront, the "scar" from the former development cannot be left unattended. A modest budget appropriation should be made to accomplish this task.

- PRDA recommends the following, Figure 13 lists the project deletes, modifications, deferrals to the bidding process. If the recommended strategy reduces and defers about $1.75 million worth of construction, the project gets within striking distance of the Federal sources available

ELEMENTS	ACTION	ESTIMATE$	DEFER TO INVESTMENT FUND	TE FUNDED	ADD ALTERNATE
Marina Services Building	Remove From Base Bid and Eliminate	$ (685,000)			
Building Float	Remove From Base Bid and Eliminate	$ (50,000)			
Sanitary Sewer System	Remove From Base Bid and Eliminate	$ (97,175)			
Substitute Soils For Rock At Specified Elevations	Revise Plan - Base Bid	$ (93,000)			
Minimize Fueling System	Revise Plan - Base Bid	$ (87,500)			
Circulation and Parking	Remove From Base Bid and Defer	$ (300,000)	$ 50,000	$ 250,000	
Landscaping (except Bio-engineering items)	Remove From Base Bid and Defer	$ (190,000)	$ 190,000		
Railings on Transient Dock	Modify design and add	$ 65,000			$ 65,000
Alt 1 Substitute Concrete Tile For Ipe	Bid Alternate -- Install concrete tiles	$ (100,000)			
Alt 2 Reduce Transient Dock by one 60' section	Bid Alternate -- Eliminate One Section	$ (200,000)			
Alt 3 Reduce Block Revetment by 20%	Bid Alternate --	$ (84,000)			
	Potential Reduction From Base Bid	$ (1,821,675)			
	Amount Deferred To Investment Fund		$ 240,000		
	Expense Shifted to TE Trail Grant			$ 250,000	
	Add Alternates				$ 65,000
Eningeering -- Prepare New Bid Documents	Add	$ 75,000	$ 75,000		
	TOTALS	$ (1,746,675)	$ 315,000	$ 250,000	$ 65,000

FIGURE 14: RECOMMENDED BIDDING PLAN

Note: These are called estimates for a reason. We cannot project future bid prices with any certitude for large quantities of a complex civil construction project. When you attempt to deduct estimated prices from estimated prices, the error rate can compound itself. There are too many variables in constant flux, which include availability/scarcity of resources, quarry schedules, fuel prices, number of bidders, methods and means to accomplish the task, number of construction days allowed, etc.

ITEM	ESTIMATE$
Rock -- 67,500 Tons Needed For Design Elevation	$ 1,147,500
Phase IB As Designed*	$ 5,876,757
Projected Construcion Total (As Designed)	$ 7,024,257
Value of Deletes, Modifications and Alternates	$ (1,746,675)
Estimated Phase IB Cost	$ 5,277,582
Amount of Grant Dollars Available	$ (5,111,000)
Expected Delta Needed To Minimally Implement IB	$ 166,582
Amount Defered From Proposed IB	$ 315,000
Total Expected Local Dollars Needed to Complete	$ 481,582
*Includes $587,000 Contingency Amount	

FIGURE 15: PROJECT SCENARIO