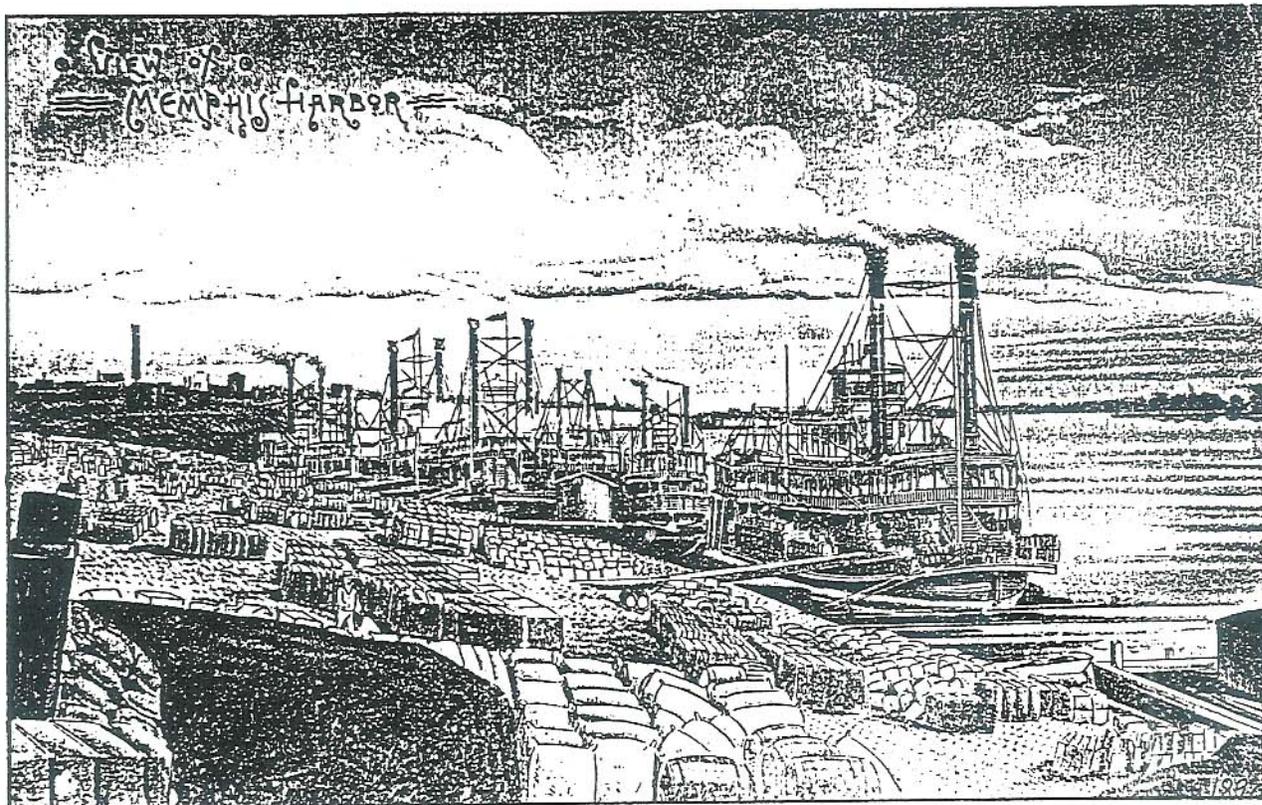


THE MEMPHIS LANDING
CULTURAL RESOURCE ASSESSMENT AND PRESERVATION PLAN,
CITY OF MEMPHIS, SHELBY COUNTY, TENNESSEE

PART 2: PRESERVATION PLAN

(DRAFT)



GARROW & ASSOCIATES, INC.

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PART 2: PRESERVATION PLAN
(DRAFT)

Submitted to:

City of Memphis
Division of Engineering
125 North Main Street
Memphis, Tennessee 38103

Submitted by:

GARROW & ASSOCIATES, INC.
510 South Main Street
Memphis, Tennessee 38103

Project No. 95-42-18-1834


Guy G. Weaver, Principal Investigator

Prepared by:

John L. Hopkins and Marsha R. Oates, Hopkins & Associates, Memphis
and Guy G. Weaver, Garrow & Associates, Inc., Memphis

With Contributions by:

Richard Houghton and Melissa Houghton, RHM Group, Washington, D.C.
John Robbins, National Center for Preservation Technology and Training,
National Park Service, Natchitoches, Louisiana
and Gary Patterson, Geological Consultants, Inc., Memphis

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I. INTRODUCTION

The Memphis Landing is a part of Memphis that could be easily overlooked, especially by the casual visitor to the city. However, if one place can be cited as the definitive reason for the establishment of Memphis, the Memphis Landing on the Mississippi River is that place. Most Memphis residents know the role of the Landing in the formation of their city's history, and they hold it in special esteem.

Though a first view of the Landing may give only the impression of a vast area paved with stones at the river's edge, a closer examination will reveal the complex nature of this apparently simple place. Precise engineering and skilled craftsmanship were required to build the Landing, a structure estimated to have contained nearly a million stones at the time of its greatest extent, around 1881.

For more than a hundred years, the Memphis Landing was the city's principal gateway to the world, until more advanced technologies took over a portion of its role. Thousands of riverboats and flatboats have docked here, bringing to Memphis the products, services, and people to build this region and populate the expanding nation. To the settlers of the nineteenth century who migrated westward, the Mississippi River was a major physical and psychological barrier separating them from the promise of the West. There were only two major places to cross that barrier. In the north, the gateway was the landing at St. Louis; in the south, the gateway was the Memphis Landing.

This document is intended as a five-year plan for the preservation of the Memphis Landing, a property listed on the National Register of Historic Places in August 1979 as a contributing part of the Cotton Row Historic District. This plan was necessitated by the proposed relocation of the Tom Lee Monument from its present site in Tom Lee Park to a new site on the southern end of the Memphis Landing. Because the proposed relocation site is almost entirely within the boundaries of a federal waterway, the City of Memphis was required to file for a permit for the proposed project under the Federal Water Pollution Control Act of 1977 ("Clean Water Act"). Because the proposed relocation affected part of the Memphis Landing, a National Register property, the City needed to seek compliance with Section 106 of the National Historic Preservation Act of 1966. The need for compliance under this act was compounded by the discovery of a large archaeological site (40SY352) beneath the paving of the relocation site. Site 40SY352 was determined potentially eligible for listing, in its own right, on the National Register of Historic Places (Weaver et al. 1994).

The City and the permitting agency, the U.S. Army Corps of Engineers, Memphis District, sought the comments of the Tennessee Historical Commission and the Advisory Council on Historic Preservation, as required by the National Historic Preservation Act. A Memorandum of Agreement among all the affected parties was signed June 21, 1995. Among the many conditions agreed by the parties was the need for the City to prepare an assessment of the Landing as a historic resource and to prepare a preservation plan as a guide for the continued viability of the site and the design and construction of future projects in the area of the Memphis Landing.

The assessment phase of this analysis is reported in the first volume of this study (Weaver et al. 1995). It includes an extensive cultural history of the Landing, a detailed assessment of its existing conditions, a thorough examination of the geological characteristics of its paving materials, and a predictive model identifying areas of potentially significant archaeological remains.

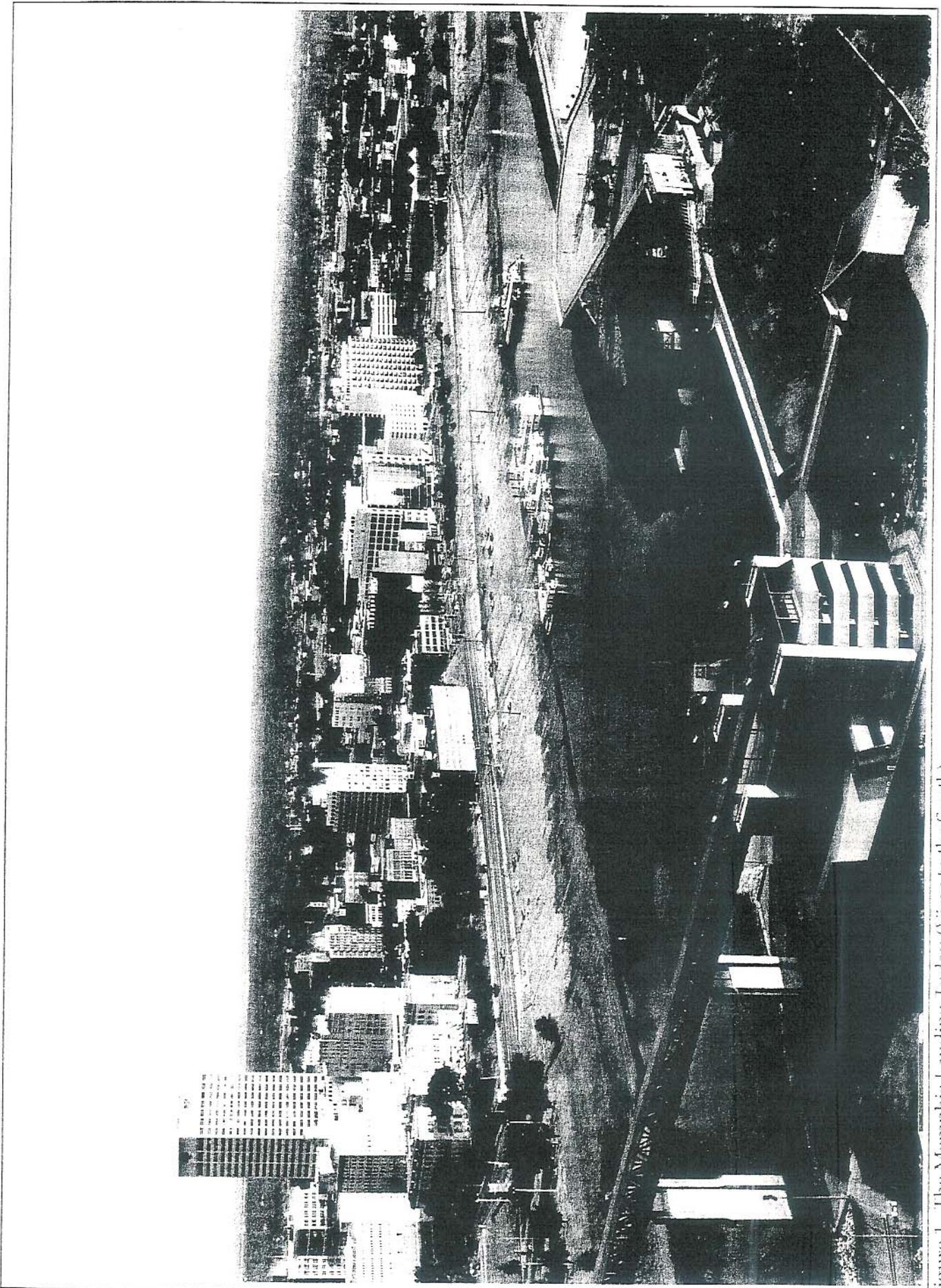


Figure 1. The Memphis Landing; Today (View to the South).

The second phase of this study, contained in this volume, presents the preservation plan for the Landing. The specific components of this plan, as called for in the Memorandum of Agreement, include but are not limited to:

- A plan for future potential economic development and long-term maintenance, including restaurants, boat docks, general accessibility, etc.;
- A plan for future renovation programs, including repair methods;
- A plan for interpretive booklets and exhibits.

PLANNING METHODOLOGY

As stated in the *Secretary of Interior's Standards for Preservation Planning*, published in 1983 and revised in October 1995 (pursuant to Section 110 of the National Historic Preservation Act of 1966, as amended), the purpose of a preservation plan is to organize the "identification, evaluation, registration and treatment of historic properties" in a logical sequence. Apart from the requirement that the plan identify and examine the significance of the resource (presented in the first volume of this report), the Standards state the following principle:

[I]mportant historic properties cannot be replaced if they are destroyed. Preservation planning provides for conservative use of these properties, preserving them in place and avoiding harm when possible and altering or destroying properties only when necessary.

This general principle has been adopted as the primary goal for the plan.

A crucial part of formulating this plan included soliciting views from the public, whether as users or stewards of the Mississippi River and the City of Memphis. The opinions and impressions of members of the traveling public were also solicited.

Members of the affected parties in the Memorandum of Agreement have participated in this process, including City government, the U.S. Army Corps of Engineers, and their agents. Every attempt has been made to discover the range of regulations that may affect the design of any project proposed on or around the Landing. Federal agencies contacted during this process include the U.S. Coast Guard, the U.S. Army Corps of Engineers, the Justice Department, the Environmental Protection Agency, the National Park Service, and the Advisory Council on Historic Preservation. Agencies in the State of Tennessee that have contributed to this plan include the Tennessee Department of Transportation, the Tennessee Department of Environment and Conservation, and the Tennessee Historical Commission. On the local level, input from the City of Memphis has been received from the Division of Engineering, the Office of Planning and Development, the Division of Housing and Community Development, the Memphis Park Commission, and the Memphis Fire Department. Each of these entities has provided valuable insights into the parameters of federal, state, and local policies that would have a bearing on proposed projects at or adjacent to the Landing.

The Preservation Plan does not attempt to design the Memphis Landing, but rather to recognize that significant adverse effects can be expected with any development and that parameters are needed to guide the design and implementation of any proposed development. All future projects for the Landing must consider "prudent and feasible alternatives" if they create an effect that is determined "adverse" for this historic resource. The findings of this plan should be referred to as early as possible in the contemplation of a project so that project design may accommodate pertinent preservation issues. The Preservation Plan proposes means that may

alleviate or minimize a potential source of adverse effect. These means are examples employed for the purpose of demonstration; they are not the only means available to resolve the issue or issues and should not be taken as such.

REGULATORY PARAMETERS ON THE PROJECT DESIGN PROCESS

The National Historic Preservation Act of 1966 was established as a planning tool for use in weighing the effects of "federally-licensed, permitted or assisted projects" on properties eligible for or listed on the National Register of Historic Places. Section 106 of the Act (16 USC § 470[f]) directs that:

the head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any state . . . shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license . . . take into account the effect of the undertaking on any district, site, building, structure, or object that is included in the National Register.

Furthermore, the Advisory Council on Historic Preservation must have the opportunity to comment on the project. When a project is determined to pose an adverse effect to the historic resource, the law requires the applicable agency to consider "whether there is a feasible and prudent alternative to avoid or satisfactorily mitigate any adverse effect" (36 CFR 800.5[c]).

In the case of the Memphis Landing, at least two federal laws will require the granting of permits for any proposed projects:

- A permit under Section 10 of the River and Harbors Act of 1899, which relates to construction within a navigable waterway below the average high water mark;
- A permit under Section 404 of the Federal Water Pollution Control Act of 1977, also known as the "Clean Water Act."

These permits require compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

The Memphis Landing is a historic property that lies largely within the boundaries of the Mississippi River, which is a navigable waterway and thus is regulated by federal authorities. The fact that the Landing extends into an area of local jurisdiction does not separate the area of local jurisdiction from compliance with applicable federal standards. As a result, the project must comply with Executive Order 11593, which was made part of public law in 1991. The order states:

The Federal Government shall provide leadership in preserving, restoring and maintaining the historic and cultural environment of the Nation . . .

Federal agencies are directed to:

- Administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations . . . ;
- Initiate measures necessary to direct their policies, plans and programs in such a way that Federally-owned sites, structures and objects of historical, architectural or archaeological significance are preserved, restored and maintained for the inspiration and benefit of the people . . . ;

- In consultation with the Advisory Council on Historic Preservation . . . institute procedures to assure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures and objects of historical, architectural or archaeological significance.

In the case of the Memphis Landing, responsibility for compliance with these standards falls to the U.S. Army Corps of Engineers.

Other federal laws and regulations will apply to the Memphis Landing. Compliance with federal navigation laws and regulations is required to avoid having structures become hazards to navigation in the Wolf River Harbor. This concern is especially important during periods of low water. Environmental protection laws concerning the treatment of wastewater may require the use of pumping stations on or near the Landing to connect with the sanitary sewer system of the City. Most challenging, however, will be design issues posed by the Americans with Disabilities Act of 1990 and the Architectural Barriers Act of 1968, due to the systematic association of that part of the Landing that is owned locally and that part that is under federal jurisdiction.

Potential funding sources may carry their own internal regulations. Although funding provided under the Community Development Block Grant program requires compliance only with Section 106 of the National Historic Preservation Act, funding derived from the Intermodal Surface Transportation Enhancement Act (ISTEA) requires compliance with Section 4(f) of the Department of Transportation Act, which states that the agency will refrain from approving any program or project:

which requires the use of . . . any land from an historic site of national, state or local significance as so determined by . . . (Federal, state or local officials having jurisdiction thereof) unless:

- There is no feasible and prudent alternative to the use of such land, and;
- Such program includes all possible planning to minimize harm to such . . . historic sites

Finally, there are local requirements that may affect the design process. In addition to being required to comply with the local building code, the Landing is a historic resource within part of the locally designated Cotton Row Historic District. Any changes to the Landing will require review and approval by the Memphis Landmarks Commission before receiving a permit for construction. The Landmark Commission's Design Review Guidelines for the Cotton Row Historic District have been considered in the development of this plan. These guidelines, however, are subject to independent interpretation by the staff and members of the Landmarks Commission.

II. HISTORICAL OVERVIEW

The following overview of the history of the Memphis Landing is drawn from a much more extensive summary in the first volume of this report (Weaver et al. 1995). The reader should consult that report for further information and bibliographic citations.

The present Memphis Landing is the surviving portion of a series of four river landings developed along Memphis' frontages with the Mississippi and Wolf rivers between 1819 and ca. 1881. Today's Landing includes portions of the South Memphis Landing, developed between Union Avenue and Beale Street beginning in 1838, and the southern portion of the great Memphis Landing, first developed in the 1840s between Jefferson and Union avenues.

Before 1859, the appearance of the great Memphis Landing and the South Memphis Landing were quite different from the existing vast but well-defined stone pavement. Printed images from the 1840s and 1850s show the Landing as an expanse of rough, exposed, eroded bluff terraces, divided by east-west road cuts through the terraces to reach a narrow strip of land at the water's edge. The river's edge, a much smoother plane of clay and silt, was subject to erosion by the currents of the Mississippi River and proved to be an unreliable place for river traffic to land. Falling water levels often revealed impassable sheer drops in the slope of the embankment, caused by erosion of the bank by river currents during high water levels. The vertical movement of the Mississippi River is astonishing, sometimes exceeding 50 feet between periods of high and low water and 30 feet between average annual high and low water. During periods of low water, river passengers and laborers were forced to traverse two hundred to three hundred feet of the unstable bank before reaching compacted ground. Newspaper descriptions from this period suggest that crossing this embankment of mud was usually difficult, and virtually impossible during rainy periods.

The City of Memphis recognized that the surface of the Landing should be improved. Center Landing, between Adams and Poplar avenues, was paved before 1859. However, paving the portion of the Landing that remains today was not considered until 1859, when the opening of the Memphis & Charleston Railroad fueled a boom in activity at the Landing to connect river with rail transport. At that time, the City hired paving contractor John Loudon to initiate "paving the wharf with limestone or granite" between Adams and Union avenues to cover a width of 100 feet and length of 3,300 feet. Amendments to Loudon's contract set the thickness of the paving at 12 inches and extended its length to Beale Street. The stone used in the project was quarried in Illinois; contrary to popular and longstanding myth, it did not originate as ballast stones in sailing ships.

Loudon began the work in 1859; by August 1860 the City Engineer reported that Loudon had completed 19,558.27 square yards of paved surface. The project was halted soon after the outbreak of the Civil War. Loudon resumed the project in July 1866. Subsequent contracts with Loudon's sons and other contractors brought the Landing to completion in 1881. Analysis of the remaining pavement fabric on the Landing strongly suggests that at least portions of each of these paving projects remains in place today.

By the early 1880s, the original Memphis Landing at the mouth of Bayou Gayoso near Auction Avenue had been rendered obsolete by accretions of the river bank to the west. Center Landing was in the process of eroding away and was landlocked by the late 1880s. The focal point of commerce on the Memphis waterfront permanently shifted to the great Memphis Landing and the South Memphis Landing, then recognized as a single place.

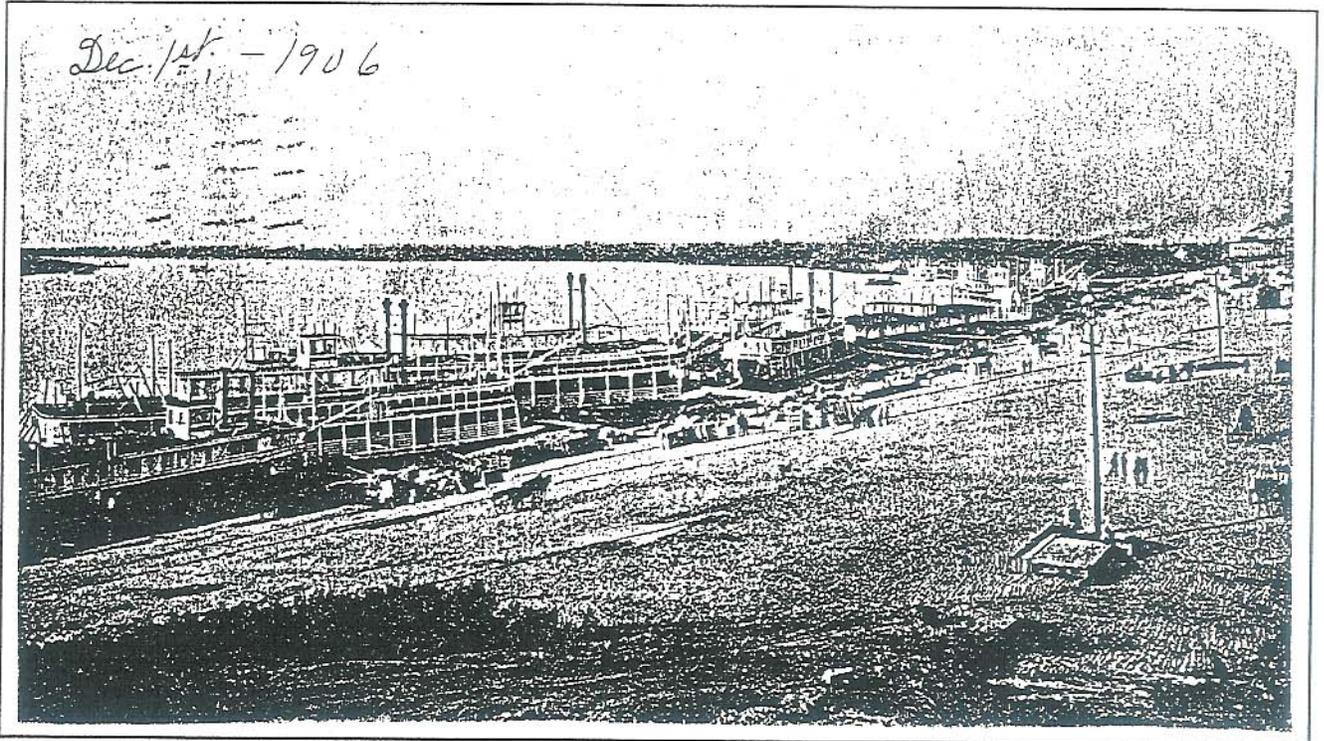


Figure 2. Memphis Landing ca. 1906 (View to the North from Beale Street).

The paving of the Memphis Landing between 1859 and 1881 was arguably the largest and most complex public works project undertaken by the City of Memphis in the nineteenth century, perhaps rivaled only by the construction of George Waring's revolutionary sanitary sewer system, which began in 1879. The completion of the Mississippi and Tennessee Railroad line across the brow of the Landing in 1882 established a direct connection between the river and rail terminal.

For the next fifty years, the Landing bustled with activity. The growth of the nation's railroads slowly diminished the importance of the Landing for passenger traffic, especially after the completion of the Frisco Railroad Bridge in 1892. Still, the river remained a necessary connection between the rich cotton plantations of the Mississippi and Arkansas deltas and the industrialized North. The poor quality of the road systems in the Mid-South region guaranteed that the river would remain an important transportation route for agricultural crops well into the twentieth century. Local steamship lines like the Lee Line and national carriers like the Anchor Line originated service from the Memphis Landing and continued to make Memphis a port of call on their routes, with daily trips until the 1930s. Individual steamships such as the Lee Line's *Kate Adams* attained such status in the city's collective consciousness that their names are still familiar to most Memphians.

It is difficult to pinpoint when the Memphis Landing began to slip in commercial importance and prestige. Some argue that the completion of the Frisco Bridge started the decline of the Landing's commercial role; others point to the region's escalating agricultural depression that began in the 1910s. An important factor was the isolation of the Landing from the main channel of the Mississippi River by the growth of Mud Island beginning in the 1910s. In all likelihood, a combination of these and other factors changed the role of the Landing in city life.

Harland Bartholomew proposed altering the Landing for a new purpose in the city's first comprehensive city plan, completed in 1924. Since then, urban planners, architects, and city leaders have occasionally proposed a solution to the question, "What shall we do with the Memphis Landing?" To date, the complex terrain of the river bluffs and the Landing itself have combined with the formidable and fickle Mississippi River to render many proposals impractical or impossible. Riverside Drive was constructed across the brow of the Landing in the 1930s; apart from that road project, the other proposals, including the massive parking lots proposed by Bartholomew, the 17-lane interstate highway, the heliport, and the megalithic apartment building included in other plans have all been considered briefly but discarded.

One probable reason for the survival of the Memphis Landing into the 1990s is its special place in the collective memory of Memphians. At its peak, the Memphis Landing played a role as important to the commercial and civic life of the city as the FedEx "Hub" and Memphis International Airport are in our own times. Perhaps its preservation has been accomplished in recognition of its valued service to the Memphis community, not just for its place in the City's economic development over a century and a quarter, but also in memory of the thousands of unknown people who built it and moved the commerce of the city across its surface.

For a much larger group, those who might be in Memphis for only a few days or even a few hours, the Memphis Landing provides a rare opportunity to approach the edge of the waters of the Mississippi, to touch the water if they wish to. Though this may seem insignificant to Memphis residents, the powerful place held by the Mississippi River in our national heritage, our literature, and our music is a magnet for visitors who feel attracted to this mighty waterway. Along its entire route, there are few places where the topography allows one actually to reach the river easily. Keeping the Memphis Landing as one of a very few urban places to experience the Mississippi River may be enough to justify its preservation.

LEVEL OF HISTORICAL SIGNIFICANCE

The Memphis Landing was recognized as a significant historic resource by its inclusion in the boundaries of the Cotton Row Historic District, listed on the National Register of Historic Places in August 1979. Although this form of recognition is adequate to afford it protection under the National Historic Preservation Act of 1966, the listing does not provide a comparative context to evaluate the Landing on a larger scale.

In conjunction with this study, an effort was made to contact each of the State Historic Preservation Offices (SHPO) in the 13 states that border the Mississippi and Ohio rivers to gather comparative information concerning the survival of historic landings in their states. Based on this informal survey, the Memphis Landing is likely the best preserved of all of the nineteenth century landings in the Mississippi River drainage basin. Unlike landings in other major cities (Pittsburgh, Cincinnati, St. Louis, New Orleans), the Memphis Landing remains largely intact in its historic dimensions and physical composition. Moreover, the construction of flood control measures, interstate highways, and other obstructions has not severed its contact with the city it served. On a national level, then, the Memphis Landing may best represent the significant national themes of river commerce in the nineteenth century, in addition to its significant role in westward migration. There are no resources listed as National Historic Landmarks that represent these themes. It is recommended that nomination of the Landing as a National Historic Landmark be pursued.

III. SUMMARY OF EXISTING CONDITIONS

The geologic and cultural analysis in the Cultural Resource Assessment phase of this document examines the existing conditions of the Memphis Landing in detail. A summary of these conditions follows. Those seeking further information should consult the assessment document (Weaver et al. 1995) as the comprehensive source.

The Memphis Landing is located on the western edge of the traditional downtown core of the City of Memphis, separated from the Mississippi River by Mud Island, a massive sandbar that is now a public park, and the Wolf River Harbor, a slackwater basin that was the outlet for the Wolf River before construction of a levee on the north end of Mud Island in the 1960s (Figures 3 and 4).

Historically, the Memphis Landing became a defined place with the initiation of paving projects in 1859. The pavement stretched from Adams Avenue on the north to Beale Street on the south. The pavement was laid as a massive carpet from the approximate level of the designated low water mark (0.0 feet on the Memphis gauge, or 183.91 feet NGVD) to the current eastern edge of the Illinois Central Gulf Railroad line adjacent to Riverside Drive. From there, similar paving materials were used for the grades of all east-west streets and avenues connecting the Landing with Front Street, the traditional location of businesses with interests related to river commerce.

The construction of Jefferson Davis Park in the mid-1930s covered more than a full block of the Landing, reestablishing its northern edge at the line of Court Avenue. Related to this project was the construction of Riverside Drive, a scenic roadway first planned in 1908 but built in the 1930s to stabilize the eroding edge of the river bluff south of Beale Street. The construction of Riverside Drive and relocation of the Illinois Central Railroad tracks parallel to it on the east entailed the building of an embankment on the eastern edge of the Landing to raise it above flood stage.

Riverside Drive imposed a physical barrier between the Landing and downtown approximately 8–12 feet above the level of the stone paving. A steep (30–35 degrees) embankment separates the road and the Landing. A guardrail on top of the embankment separates traffic from the steep drop to the Landing. There is no curb or sidewalk on the west side of Riverside Drive. The embankment is paved with granite pavers installed during the construction of the roadway. Four ramps were built off of the west side of Riverside Drive to connect the Landing and the roadway. These too are paved with stones installed in the 1930s.

Tom Lee Park, constructed ca. 1935 south of Beale Street, currently defines the Landing's southern edge. At least part of the Landing was covered during the construction of this park, which is also elevated well above the average annual flood level. There is no pedestrian connection between the Landing and Tom Lee Park. However, on the north, a modest walkway connects the surface of the Landing with the elevated surface of Jefferson Davis Park.

The Landing is a vast, unified surface of stone blocks, set with occasional mooring rings for watercraft. Its surface area is estimated to be 379,000 square feet. Of this surface area, approximately 70,000 square feet of the paving has been lost, mostly due to erosion on its western edge. The grade of the Landing across its east-west axis is fairly consistent over its entire length, averaging approximately 1:6 (1 foot in height for every 6 feet of length). The grade of the Landing across its north-south axis is less consistent. Elevations decrease from north to south. Consequently, the line of the water's edge at the 0.0 foot mark forms a shallow arc, and as the water rises the east-west width of the Landing south of Union Avenue decreases faster than the area north of Union Avenue.

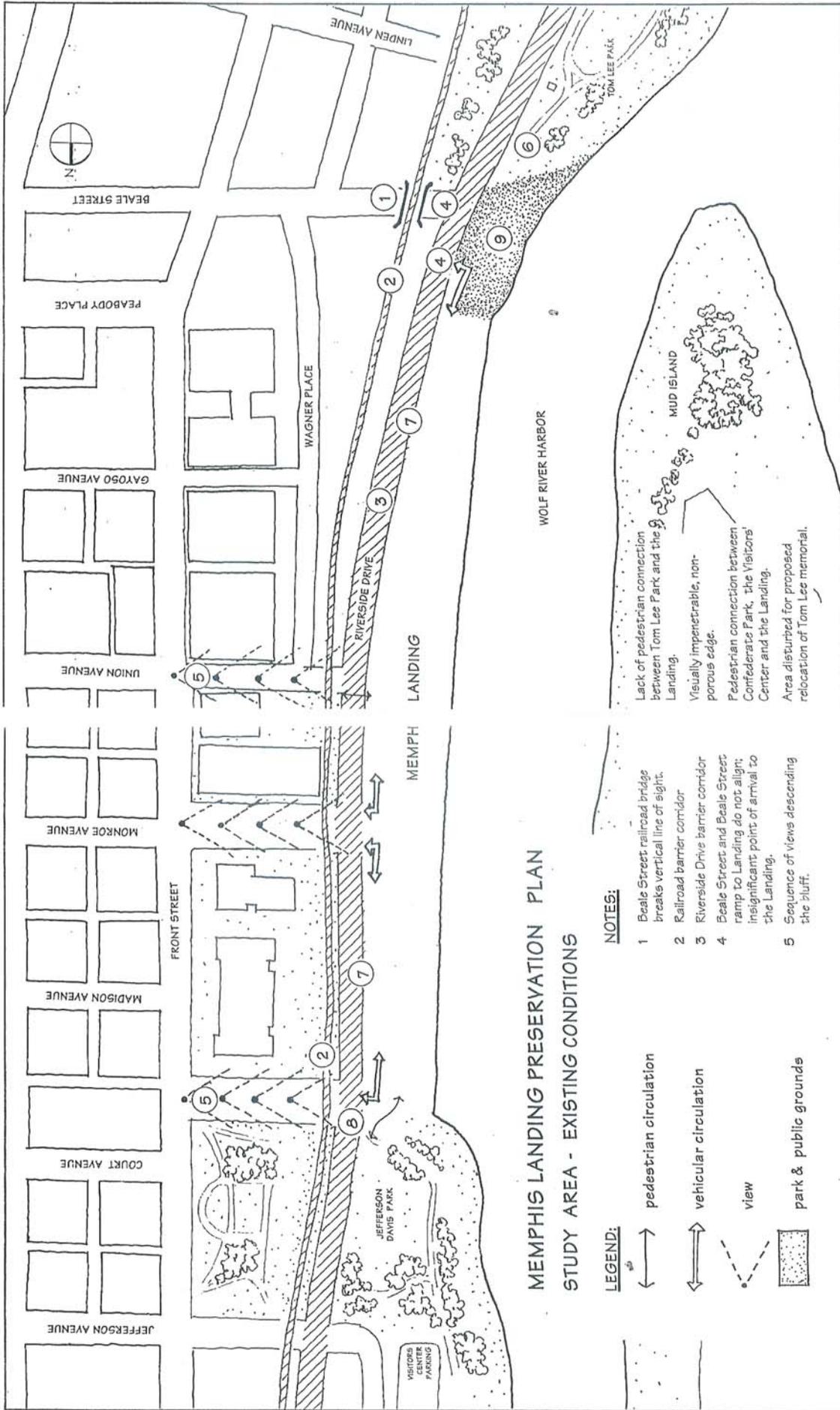


Figure 4. Plan of Existing Conditions and Context.

Examination of the Landing reveals evidence of its long history and periods of construction (Figure 5). Geological analysis indicates that nine types of stone have been used in original paving or repairs. Fossiliferous limestone was used to cover the largest area of the Landing north of Union Avenue. These stones are nondimensional and laid in a somewhat regular pattern. The area north of Union Avenue appears to represent the earliest paving projects, from 1859 to 1868. Later sections of the Landing south of Union Avenue (ca. 1879–1881) were first built using nondimensional fossiliferous limestone with a high percentage of low-quality friable limestone. This limestone breaks apart under heavy use, and large-scale repairs were apparently undertaken almost immediately, using a higher-quality, roughly dimensional oolitic limestone. Later repairs are associated with roughly dimensional sandstone. Construction of the service road at the base of Riverside Drive in the 1930s includes large areas of pink and white granites, suggesting these materials were not incorporated into the fabric of the Landing until the twentieth century. The granites are sometimes found as pure patches but usually occur in association with limestone blocks salvaged from the existing or disturbed areas of the pavement. The use of rhyolite and syenite also dates from the period of highway construction. Dimensional limestone appears to be the most recent raw material used, as similar stone was used in the construction of sidewalks at Confederate Park in 1983.

The surface of the Landing contains hundreds of significant cultural features, including mooring rings, stone drainage swales built into the surface of the pavement, and the Beale Street river gauge, used for measuring the daily change in water level on the Landing.

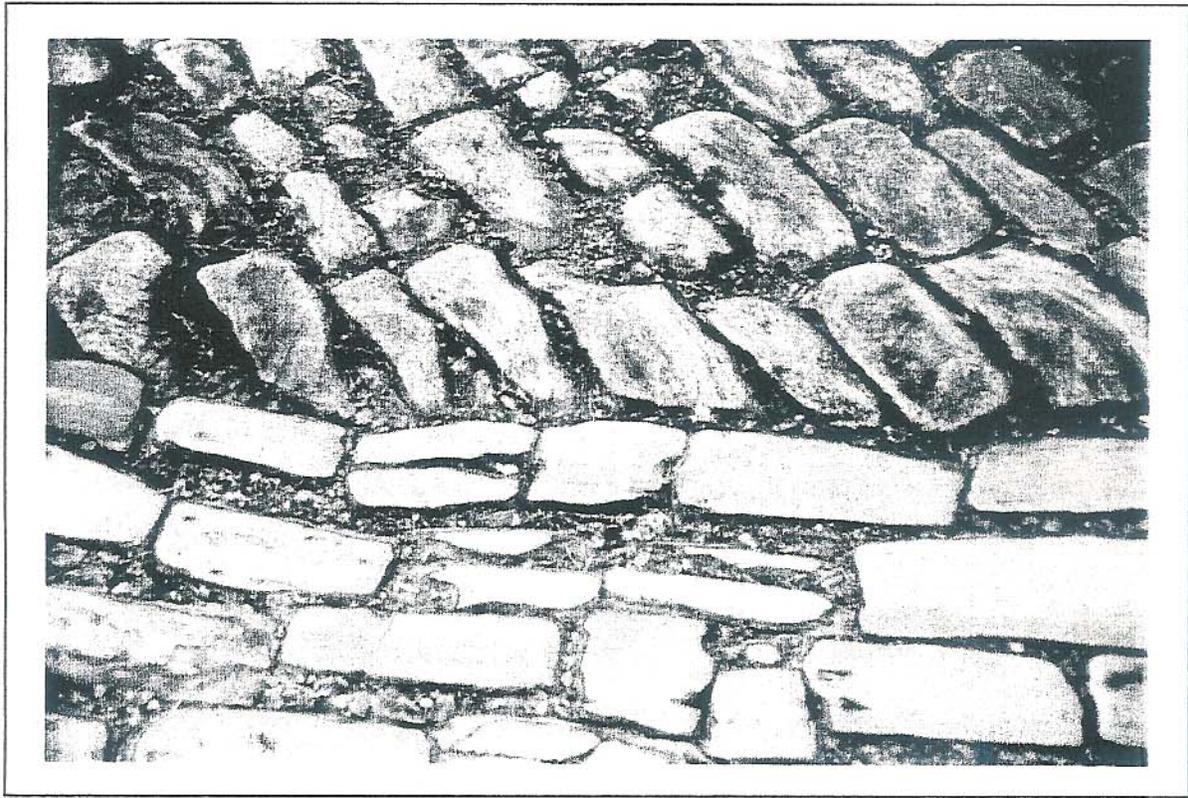


Figure 5. Differing Patterns and Materials of the Stone Paving on the Landing, Revealing Its History of Construction.

IV. FORMULATION OF THE PRESERVATION PLAN FOR THE MEMPHIS LANDING

DETERMINING THE PLANNING AREA

The Memphis Landing, as defined in the Cotton Row Historic District nomination, is bounded by Tom Lee Park on the south, the Mississippi River on the west, Jefferson Davis Park on the north, and Riverside Drive on the east. These boundaries define the immediate area of significance for the Landing as a historic resource, but the "Criteria of Adverse Effect" (36 CFR § 800.9[b]), used to evaluate the impact of federal undertakings on historic properties, include the need to assess the effects of off-site issues that may isolate the resource or harm its character of setting. Therefore, for planning purposes a larger area was used to properly evaluate the Landing within its urban context (see Figures 3 and 4).

To include the historical, contextual, and visual association, the study area was defined as including Jefferson Davis Park and Adams Avenue on the north, the eastern side of Front Street on the east, Tom Lee Park south to Linden Avenue on the south, and Mud Island on the west. Most of this area is associated with the Landing as part of the Public Promenade set aside by the Proprietors of Memphis in 1819, as well as the more modern urban context visible from the Landing itself.

THE CRITERIA OF ADVERSE EFFECT

The Criteria of Adverse Effect are regulatory standards for evaluating the consequences of a federal project, whether a project involves direct federal funding or is simply "licensed or assisted." As stated in 36 CFR § 800.9(b), the Criteria include but are not limited to:

1. Physical destruction, damage, or alteration of all or part of the property;
2. Isolation of the property from or alteration of the property's setting when that character contributes to the property's qualification for the National Register;
3. Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
4. Neglect of a property resulting in its deterioration or destruction;
5. Transfer, lease or sale of the property.

SIGNIFICANT CHARACTERISTICS OF THE MEMPHIS LANDING

The Criteria of Adverse Effect are applied to preserve the important aspects of integrity of the National Register resource. The defining elements of integrity for the Memphis Landing are:

Location. The location of the Memphis Landing reflects its purpose as the physical point of interaction between the commercial interests that plied the Mississippi River and the commercial interests of Memphis.

Design. The Memphis Landing possesses a character derived from two important aspects of nineteenth century design. First, its design represents prevalent standards in civil engineering for the construction of surfaces designed to withstand the erosional forces of river currents. Second, the Landing represents a rare example of a commercial and civic landscape designed not for monumental purposes but for utilitarian service.

Setting. The setting of the Landing retains the visible and physical connection between the river and the city that shaped the physical development of the city itself.

Materials. The materials used in the construction of the Landing retain integrity as a paved surface, and they reflect important trends in interstate commerce from the middle of the nineteenth century through the late twentieth century.

Workmanship. The shapes given the paving stones by the workmen who laid them represent different approaches and techniques in the use of stone masonry for paving purposes. The patterns of the paving also represent important engineering concepts and craft traditions.

Feeling. The Memphis Landing conveys an immediate sense of its place and meaning within local and regional history.

Association. The Memphis Landing possesses the quality of association between the Landing and the historic resources of the city's downtown, and between the Landing and the historical traditions of the Mississippi River.

THE PUBLIC'S PERSPECTIVE: TREATMENTS OF THE LANDING

In formulating the preservation standards and treatments for the Landing, the perspective of the public was given major consideration. It is clear that the public has strong feelings about the Landing as a historic place and wishes it to be treated with care and respect in the future. The principal concerns offered were as follows:

1. The use of the Landing for free public parking should end immediately and the amount of area used for parking should be reduced. A fee system should be developed to allow patrons of harbor users to be exempted from parking charges. All net proceeds from parking revenues should be placed in a dedicated fund for maintenance and repair of the Landing.
2. Riverside Drive poses a substantial obstacle to the enjoyment of the riverfront by pedestrians, bicyclists, and other nonvehicular traffic. Since it does not appear feasible to close Riverside Drive from Beale to Court Street, the speed of traffic should be slowed considerably to promote use by pedestrians. Additional traffic lights, lower posted speed limits, longer pedestrian crossing cycles, and other forms of traffic-calming devices should be installed and enforced.
3. The pavement of the Landing is deteriorating as a result of neglect and of damage from river craft. The City of Memphis should adopt appropriate measures to provide for the restoration of the Landing and for its regular maintenance needs. The City should also initiate steps to significantly reduce or eliminate the damage to the pavement of the Landing by river craft.
4. Increased use will lead to an increase in the number of large trucks, buses, and other service vehicles on the Landing, which will be unsightly and will damage the

Landing's pavement. The continued or increased placement of solid waste containers on the Landing is undesirable. Large vehicles should be banned from the Landing, and alternative means for the delivery of goods and the removal of solid waste should be developed.

5. Utility services needed to support the increased use of the Landing should be hidden from view as much as possible.

GENERAL PLANNING STANDARDS

The conclusions of the Cultural Resource Assessment, combined with the analysis of the Landing's level of historic significance and aspects of its historical integrity, have created a matrix of preservation concerns requiring conservative treatment in future projects. When these concerns are weighed in the perspective of the Criteria of Adverse Effect, the following general standards for the preservation of the Landing are derived:

1. Preservation, restoration, and maintenance of the paved area of the Landing should be a consistent priority for programmatic administration by the City. This priority should be a major consideration in the design and construction management of all project elements and phases.
2. Minimize ongoing sources of deterioration to the Landing. Programmatic and physical measures should be developed to halt the deterioration and ongoing disturbance of its historic character.
3. Disturbance of the paving and/or the subsurface of the Landing should be avoided because the Memphis Landing is a complex archaeological site, composed of potential subsurface deposits and the pavement of the Landing itself.
4. Disturbance of the subsurface or the paved surface of the Landing should be confined to areas previously disturbed by twentieth century construction or repair activities.
5. Repair of newly disturbed areas should result in reestablishing the plane of the existing paved surface; the previously existing or original paving material and its paving pattern should be reestablished to the greatest extent possible.
6. Any future projects on the Landing should result in a net loss of the existing paved area not to exceed 10 percent (30,000 square feet); this sum is an aggregate total of all projects, not a per-project figure. Loss of the paved surface is defined as covering of existing paving with permanent new materials, or the replacement of a paved area with new construction or new paving of a different material and character from the original.
7. Construction should not result in changes to the historic landscape of the Landing, whether permanent or temporary. Existing nonhistoric alterations to the historic landscape qualities of the Landing should be reversed as associated concerns of any project design and construction.
8. Facilities or services to support all future uses of the Landing should be built on sites adjacent to the historic paved area of the Landing. These facilities and services should not be visible from the Landing.
9. No elements of proposed projects should result in the further physical or visual isolation of the Landing from its surrounding urban setting. Every effort should be made to repair or reconstitute those connections with the surrounding setting that have been damaged by previous construction.

10. Commercial or public facilities to be developed on the riverfront should be designed to respect and reflect the unique historical character of the Memphis Landing, the Mississippi River, and Memphis itself.
11. Projects should seek every opportunity to introduce means to present and interpret the unique history and characteristics of the Memphis Landing, the Mississippi River, and Memphis.

V. TREATMENTS FOR THE LANDING

TREATMENTS OF THE EXISTING SITE

Based on the General Planning Standards discussed above, the following treatments are prescribed to minimize adverse effects that currently exist on the Landing or that may be imposed or proposed in the future:

1. Stabilization and repair of the western Landing edge;
2. Restoration of damaged paving and grades;
3. Implementation of cyclical maintenance;
4. Development of storm water drainage from Riverside Drive;
5. Repair of damage from parking;
6. Development of parking organization;
7. Minimization of damage from service and delivery vehicles;
8. Development of pedestrian systems;
9. Provision of utilities;
10. Provision of area lighting;
11. Restoration and stabilization of mooring rings and other cultural artifacts.

1. Stabilization and Repair of the Western Landing Edge

The stone paving of the Landing has always been subject to the effects of erosion at its western edge. Although the process of erosion has abated somewhat since the accretion of Mud Island in the 1910s, dredging and the wave action on the Wolf River Harbor have undermined the eastern bank of the harbor at the Landing, repeatedly causing large areas at the western edge to collapse.

The original western edge of the Landing was paved to a point "three feet above the low water mark" (0.0 feet on the Beale Street gauge), where a rubble stone revetment was installed to stabilize the edge. Today, the irregular western edge of the paving is lost entirely below the 10.0 foot mark. In addition, the grade of the Landing has changed from its relatively consistent 1:6 slope above the 5.0 foot mark to a grade closer to 1:3 or 1:4 below. This change in grade is most noticeable between Union and Monroe avenues.

Discussion. Restoration of the paving and grade along the western edge of the Landing is critically important for the survival of this historic resource. Failing to restore and maintain this area of the Landing will be considered an ongoing adverse effect for which the City of Memphis will be responsible. According to the observations of long-term harbor users, most of the deterioration of the western edge currently visible has taken place since 1983, when annual maintenance by the City was halted.

Conclusion. Repair of the river edge should be adopted as a priority of the first order. The work will require careful coordination with the U.S. Army Corps of Engineers, who have jurisdiction over the Wolf River Harbor as a navigable waterway. A retaining structure of some

form is needed to restore the grade of the Landing and to provide a permanent footing for the pavement laid above; however, this footing must be designed to avoid becoming a hazard to watercraft using the harbor. A stone revetment will probably be needed below the footing to better hold the bank in place.

Restoration of the stone paving should begin at the 0.0 foot mark on the river gauge and proceed up the slope, with the intent of meeting and blending in with the paving pattern evident at the existing edge. The historic method of laying the pavement over a bed of sand should be followed in this work. The new paving should be laid over a 12 inch bed of compacted sand without the use of mortar or cement. The joints should be filled with sand, again without mortar or cement as a binder. Laying the new stone pavers over a bed of concrete and filling the joints with a cement-like mortar will create an impervious barrier that will not allow proper percolation of moisture draining from the upper slope of the Landing. Blocking this drainage can cause erosion of the subsurface clays, resulting in subsidence of the paving over time.

Reestablishing the western edge of the Landing will also require extending the mouth of a large box storm sewer that crosses the Landing and drains into the Wolf River Harbor in the area of Gayoso Street. The top of the sewer becomes visible when the river level drops below approximately the 5.0 foot mark. Extending the outfall of the sewer will help to unify the western edge of the paving at the 0.0 foot mark. It would be best if the end of this sewer was extended far enough to keep it below the waterline during periods of extreme low water, perhaps to the level of -2.0 feet to -5.0 feet on the river gauge.

Standards for Design

Recommended

Install a retaining system to support restored paving above the 0.0 foot mark on the river gauge.

Restore the lower slope of the Landing grade to a gentler grade of 1:6.

Restore the paving on the western edge of the Landing using new rough-faced, rectangular pavers of syenite or white granite, measuring 5 inches wide by 10 inches long by 8 inches or more in depth.

Restore the paving in regular courses with a minimum exposure of the joint between individual pavers.

Not Recommended

Install a retaining system that becomes a hazard to navigation.

Restore the western edge of the Landing using pavers of cast stone, concrete, brick or an incompatible color or texture of stone.

Lay new pavers in a bed of concrete, or with joints filled filled with mortar-like material.

2. Restoration of Damaged Paving and Grades

The paving of the Landing needs substantial repairs to reverse the effects of alterations, damage, and neglect. These repairs to restore the pavement range in scale from the replacement of individual pavers to the complete reconstruction of the grade and repaving of a hundred square feet of surface area or more.

Discussion. The repairs needed on the Landing fall into six groups (see Geological Analysis in the Cultural Resource Assessment for further information):

1. Deterioration of Original Stone Pavers. A particular type of soft limestone used during paving work in the 1880s has failed entirely. Repair of these pavers can be done on an individual basis with new or salvaged pavers.
2. Erosion. Areas of the Landing have suffered damage from erosion, particularly along the east side of the pavement. Water exiting storm drains under Riverside Drive has undermined the bed of the paving and caused areas to sink. Repairs will require lifting an area as small as possible to fill the depressed area with compacted sand and re-laying the stones in their original configuration.
3. Damage from Watercraft. Some of the most deteriorated areas clearly result from damage by large river craft. These crater-like features are the result of propulsion devices called "bow thrusters" used for maneuvering large craft in the Wolf River Harbor. The force of the thruster literally blasts the stone pavement out of the ground. The damage is not usually visible until the next period of low water, long after the vessel has docked at or maneuvered around the Landing. Use of bow thrusters must be restricted to the main channel of the harbor, away from the stone pavement. Repair of damaged areas will require extensive filling of the cratered area with compacted sand and then re-laying the pavement in a material and pattern that restores the fabric of the paving. Monitoring of this work by a qualified archaeologist may be necessary to avoid damage to subsurface sites.
4. Repairs and Alterations with Incompatible Materials. Some repairs to the Landing have been made with materials incompatible with the original stone paving. These materials include but are not limited to asphalt and concrete fill. These incompatible materials should be removed and replaced with new or salvaged material, as needed.
5. Surface Alterations and Intrusions. Alterations to the surface of the pavement have been made with incompatible materials. These include but are not limited to the installation of concrete or asphalt surface paving for driveways, roads, and walks. To repair such areas, incompatible surface paving may be carefully skimmed off with hand tools to reveal the original paving beneath. Further repairs may be needed when the original paving is exposed (Figure 6). Surface intrusions should be evaluated individually to determine whether repair is feasible and warranted. There are features on the Landing, such as obsolete sewers, whose removal may cause more damage than is practical or advisable. In those cases, leaving the feature intact and undisturbed might be the wisest treatment.
6. Areas of Grade Subsidence. In some areas of the Landing, particularly in areas most often used for parking, the grade of the pavement has subsided under the weight of vehicles. The amount of subsidence is not more than two or three inches, and in most cases it is barely perceptible to the eye. In most instances, the best treatment is no repair at all, especially if the affected area will no longer be used for parking or traffic movement. However, when a repair is warranted, great care must be taken to document the paving pattern, to lift the paving stone and retain its pieces for reinstallation, to fill the area carefully with only as much material as needed to level the grade, and to reinstall the paving as closely to its original pattern as possible. Great care must be taken to avoid disturbing the subsurface soil of the base. The assistance of an archaeologist may be required to monitor the project to avoid disturbing potential sites in the subsurface level.

Conclusion. The city should develop a comprehensive plan for the repair and restoration of the surface of the Landing, identifying the exact areas to be affected and stating priorities and specifications for their treatment. The best program would schedule repairs for implementation over time, to include a program with annual funding of inspection and repair as needed.



Figure 6. Concrete Sidewalk.

Some alterations to the Landing's surface have been made with incompatible materials, such as this concrete sidewalk. The difference in expansion and contraction between the concrete overlay and the stones causes the overlaid material to deteriorate quickly. Alterations like these should be removed from the surface of the Landing.

Standards for Design

Recommended

Eliminate the cause of deterioration, including the use of bow thrusters, before effecting repair.

Effect repair to restore paving only when necessary, employing original pavers in original configuration to restore surface.

Avoid damage by heavy equipment in the areas to be repaired.

Disturb the smallest area possible when making repairs.

Employ salvaged pavers of a similar size, configuration, and stone type to replace lost or incompatible material previously installed.

Reestablish paving pattern of a repaired area based upon the original bond pattern, or reestablish paving pattern of repairs based on surrounding original paving pattern.

Not Recommended

Ignore sources of damage and deterioration of paving.

Effect numerous small repairs by combining them into one large-field repair project.

3. Cyclical Maintenance

The Landing has both weekly and seasonal maintenance needs. When river levels are high, the Mississippi River deposits a layer of silt and flotsam on the Landing that is visible when the water recedes. Vegetation quickly sprouts in the rich layer of silt. Litter accumulates daily on the Landing and usually is deposited in the late night hours.

Discussion. Apart from its unsightly appearance, the silt layer that accumulates on the Landing is acidic and quickly oxidizes metals when exposed to the air, damaging the historic mooring rings and other metal features. A similar reaction occurs on the limestone paving itself, though at a much slower rate. Silt should be washed from the pavement of the Landing on a weekly basis during periods of falling river levels (Figure 7).

High water also deposits seeds of grasses and weeds that quickly sprout. The vegetation is unsightly; the plants also trap litter and silt from surface runoff. It is recommended that once the Landing has been cleaned of silt, an EPA-approved pre-emergent herbicide be applied on the surface of the Landing to prevent weed growth.

Regular trash collection from the surface of the Landing and at the water's edge needs to be part of any cyclical maintenance program for the Landing. Much of the litter is deposited by people who use the Landing in the late-night hours as a place to gather and consume alcoholic beverages. Aluminum cans are routinely retrieved by vagrants to exchange for money, but broken glass and paper waste are left behind. Closing the Landing at an appropriate evening hour probably would reduce the problem, especially if coupled with occasional police patrols. Regular trash collection will still be needed to keep the Landing free of litter.



Figure 7. Sedimentation on the Landing.

During seasonal periods of high water, a layer of silt and other debris is deposited on the paving of the Landing. Once this layer is exposed, grasses and weeds sprout and quickly grow in the rich material. This photograph shows a part of the Landing cleaned during the Cultural Resources Assessment (right side) and an uncleaned portion (left side). Regular maintenance of the Landing should include removal of this silt layer and other debris.

Conclusion. A program for routine maintenance is a necessary obligation of the City to maintain the dignity of the Landing as a public place and to make it a destination for tourists. Routine maintenance should be part of the larger program of annual repair of the Landing's paving, perhaps to be made a part-time responsibility of a single City employee to manage and oversee. Several city departments can contribute to this effort at little additional cost to the taxpayers—for example, by performing the silt removal as a routine training program for city firemen and trainees. Personnel for litter removal might be made available with the assistance of the local courts, who could assign Landing duty to the community service obligations of nonviolent offenders. These and other ideas can be used to keep the Landing an attractive place for residents and visitors alike, without incurring great expense.

4. Storm Water Drainage from Riverside Drive

Prior to the construction of Riverside Drive, shallow stone drains set into the paving of the Landing provided channels for storm water runoff from Front Street. The construction of Riverside Drive and later repairs to the pavement have disrupted portions of the drainage pattern. Storm water runoff from the street system above is now directed into pipes underneath the surface of the roadway and does not necessarily align with the historic gutter system. The placement of concrete T-shaped curbs near the eastern edge of the Landing slows runoff from the storm water sewers and the sheet drainage of the roadway.

Discussion. These drainage conditions constitute an ongoing adverse impact to the Landing by promoting erosion of the subsurface and the embankment of Riverside Drive. Numerous areas of the retaining embankment for Riverside are undermined by runoff; depressions on the upper areas of the Landing pavement are the result of erosion of the underlying base. The problem is aggravated in areas of high traffic, where the weight of vehicles increases the degree of settlement.

Conclusion. The cause of these forms of deterioration should be corrected, and the results of the deterioration should be reversed.

Standards for Design

Recommended

Construct a curb and gutter system for Riverside Drive that will "formalize" drainage along its western edge.

Remove drainage culverts and construct a new storm water sewer in the embankment of Riverside Drive to collect runoff and direct it to existing storm sewers beneath the Landing pavement.

Remove T-shaped curbing and other above-grade modern pavements from the Landing.

Repair areas damaged by erosion by filling beneath the pavement to reestablish the original grade.

Not Recommended

5. Damage from Parking

As long as there have been automobiles in Memphis, the Memphis Landing has served as a parking lot, although the practice was not common until the 1930s. The Landing was a public space then and parking was free; both conditions remain today.

Random sampling of the parking use on the Landing observed during August, September, and October 1995 revealed an average of 200 cars parked on the Landing at any time during daylight hours. Most of the parking is by downtown office workers. A larger number of short-term users park on the Landing while enjoying one of the daily Mississippi River excursions offered by the Memphis Queen Line.

Discussion. Parking automobiles on the Landing is visually unappealing and demeans the appearance and appreciation of the Landing as a historic resource. The condition poses a continuing adverse impact to the Landing.

The intensive examination of the paved fabric of the Landing, carried out in the Cultural Resources Assessment phase of this plan, has revealed very strong evidence that the paving and grade of the Landing are being harmed by traffic movement and long-term parking. The surface grades of the Landing in the areas of heaviest parking use are badly cupped and rolled between Monroe and Union avenues. The commonly used "driveways" servicing parking and traffic movement have "potholes" and swales caused by the combined effect of erosion and the impact of moving vehicles (Figure 8).

The development of new uses for the Landing will increase the demand for parking in the area, and it can be expected that there will be a corresponding increase in damage to the paving over time. There will also be competition for available parking space resulting from increases in the uses of the Landing. This competition will originate from two sources:

- Parking for employees of the commercial uses of the Landing;
- Removal of available parking space to accommodate a substantial increase in the number of chains and cables needed to moor the development to the Landing.

The growth in parking demand and the removal of available space for mooring probably will cause parking to spread across the entire length of the upper reaches of the Landing. This will not increase the quality of the Landing's appearance to the public but will lead to greater deterioration of its historic materials. The resulting damage will greatly increase annual maintenance costs for repairs.

Conclusion. Clearly, the physical and visual impact of parking and traffic circulation needs to be reduced to lessen the deterioration of the Landing. Therefore, the following treatments are recommended:

1. The Monroe Avenue vehicle ramps should be closed for general access and egress. The ramps should be adapted for use by emergency vehicles only. The upper approach at Riverside Drive should also be adapted as a pull-off and drop-off point for bus and car passengers.
2. Unrestricted use of the Landing for free parking should end immediately. If parking cannot be eliminated altogether, a competitive fee should be charged for the privilege. A system exempting visitors patronizing the Memphis Queen Line and other users of the harbor is encouraged. Net parking revenues should be placed in a dedicated fund to defray the cost of maintenance and repair of the pavement.

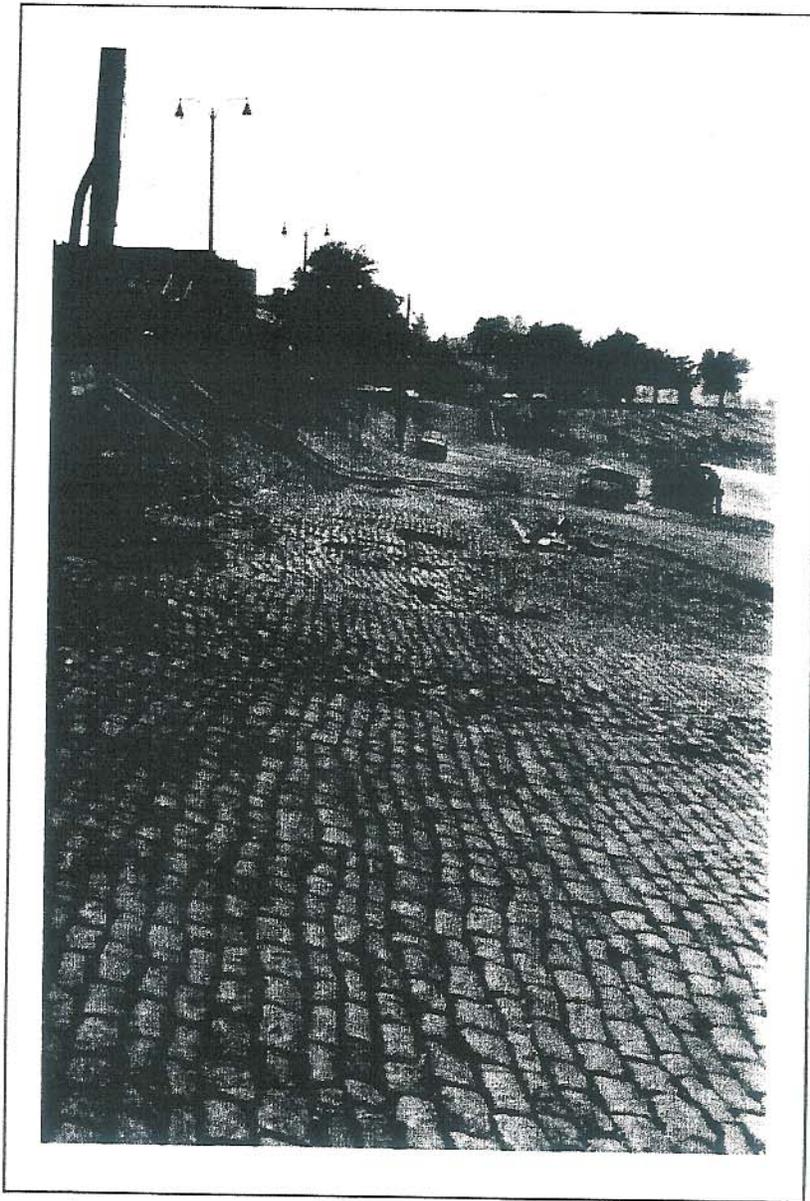


Figure 8. Stone Service Road at the Base of Riverside Drive.

The "driveway" at the upper (eastern) edge of the Landing shows signs of damage from vehicular traffic, including swales and potholes, some of which have been filled with asphalt to maintain a level surface.

3. Collection booths for parking fees should be established at the Court Avenue and Beale Street vehicle ramps. The booths should be designed to be minimal in scale and detailing; they will also need to be removable from the Landing during periods of high water.
4. An area of the Landing free of all parking and vehicle movement should be set aside to preserve a representative area of the original surface from eventual loss from parking damage. This prohibition does not include emergency vehicles, which may still be allowed to cross this area. This set-aside will also allow visitors an unobstructed view of a portion of the Landing between Riverside and the water's edge. It is recommended that the area in the center of the Landing between Monroe Avenue and Gayoso Avenue be designated for this purpose.
5. A shuttle system of small, lightweight vehicles should be developed to provide direct access to the Landing from the downtown area. The shuttle service should be available to the public at minimal charge, if not free of charge, and should be used to encourage employees of the Landing's users to park off-site. The shuttle system may also reduce the cost and difficulty of providing alternative compliance for handicapped access.
6. Roadway signage should direct automobiles to nearby parking garages instead of the Landing.
7. Access to the Landing after-hours should be closed to vehicles to reduce illegal activities and vandalism.
8. Access to the Landing for forms of lightweight transportation, such as bicycles or horse-drawn carriages, should not be discouraged or prohibited; indeed, these forms of transportation should be encouraged.

6. Parking Organization

In the past, the designation of parking lanes and driveway areas has been delineated informally. At one time, T-shaped curbs were installed to distinguish the upper "roadway" at the brow of the Landing from the area intended for parking; each T-curb was also intended to delineate two lanes of parking. Other driveways have been designated by paving over the stone surface of the Landing with asphalt or concrete, leaving the motorist to assume that parking was intended on the stone paving adjacent to the driveway.

The organization of parking has also been defined by the cables and chains needed to moor boats. Parking between the mooring cables has caused problems for employees of the Memphis Queen Line when they need to adjust the cable tension as the river rises and falls; cables actually have been detached by persons seeking parking space. Storm winds have caused substantial displacements of watercraft from their original place of mooring, damaging automobiles parked next to mooring lines. Such an incident occurred in 1993, when winds moved the *Mississippi Queen* more than 100 feet from its original mooring place, pulling a one-ton stone mooring block from the ground and dragging an automobile into the Wolf River Harbor.

Discussion. The use of raised curbing and intrusive pavements laid over the stone surface of the Landing poses an adverse effect by altering the surface plane of the landscape of the Landing. Apart from their inappropriate appearance, these forms of new intrusive paving clearly are not very durable. Other surface intrusions, such as the T-shaped curbs, slow drainage of the stone pavement, inviting subsurface erosion of the "driveway" along the brow of the Landing. The

curbs were apparently cast on-site and are anchored by reinforcing rods driven between the original stone pavers. They can be removed easily.

Installation of raised curbs and islands to organize parking will introduce a visual intrusion to the landscape character of the Landing and will constitute an added adverse effect, whether they are installed above the existing paving or built to replace it. For this reason alone, they are not recommended.

Conclusion. Areas of the Landing left available for parking should be organized for more efficient use and to prevent cars from parking too close to mooring cables. The means to organize parking should be flexible enough to be movable as water levels rise and fall, perhaps through a series of stanchions and chains or ropes, or similar devices.

Standards for Design

Recommended

Reduce the demand for parking by charging a parking fee, increasing mass-transit service, and directing motorists to nearby parking garages.

Devise a flexible system to organize parking that does not use permanent anchors installed in or through the pavement of the Landing.

Not Recommended

Install a permanent system for organizing parking that employs raised curbs, anchors, or other fasteners in or through the paved surface of the Landing.

7. Service and Delivery by Trucks and Buses

The use of the Landing by heavy trucks (over 20,000 pounds) and buses is currently unregulated. Large buses commonly deliver tour groups for river cruises on the Memphis Queen Line and passengers to the Delta Queen Line's boats. Heavy trucks are most often seen on the Landing for deliveries to the Memphis and Delta Queen lines and for emptying or removing solid waste containers. Officials with the Memphis Queen Line report that some delivery companies refuse to drive their vehicles down onto the Landing from Riverside Drive, apparently out of concern for the shifting of their loads on the steep grade of the pavement.

Discussion. The difference in effect between the deterioration of the Landing by automobiles and that of heavy trucks and buses cannot be determined without additional study. The use of the Landing by trucks or buses poses no less impact than the effect of the daily use of many cars. Intensifying the commercial uses of the harbor will require a significant increase in deliveries of goods and supplies by large trucks. So too will the impact of solid waste disposal trucks as well as bus traffic, whether from tour bus operators or buses used for the arrival and departure of passengers from the Delta Queen Line's boats.

Competition for space on the Landing will be more intensive and more difficult to manage if large vehicles are allowed on the Landing. In addition, increased use of the Landing by heavy vehicles can be expected to increase damage to the pavement itself, thus increasing cyclical maintenance costs even further.

Conclusion. Except for emergency vehicles, vehicles exceeding certain maximum weight limits and maximum lengths should not be permitted access to the Landing. A reasonable limit could be set at a length of 20 feet and a weight of 20,000 pounds.

One way to limit the impact of heavy vehicles without disrupting the business of harbor users would be to develop a centralized shipping, receiving, and solid waste collection area in a nearby building off-site from the Landing itself. Deliveries could be received at this facility and then transferred to the Landing in smaller delivery vans, thus reducing the causes of deterioration of the pavement while minimizing impact on parking and circulation areas. Waste collection could also be handled in a similar fashion by having smaller "roll-off" solid waste containers picked up by smaller trucks and moved off-site for compaction at a central location. Having these facilities available off-site would also reduce the areas needed for storage and waste collection on the facilities of the harbor users, thus reducing their overhead costs.

8. Pedestrian Systems

The accommodation of pedestrians has always been an objective for the use of the Memphis Landing. Indeed, one of the pervasive motives for first paving the Landing was "so that those who have business on the levee will never more have to wade ankle deep in slush" (*Memphis Public Ledger*, June 19, 1866). Paving of the Landing was such a vast improvement for its time that no one felt the least intimidated by its 1:6 slope and rocky surface.

Since the 1930s, a few systems have been installed to smooth the surface of the Landing for pedestrians. Most if not all of these walkways have taken the form of pavings laid over the existing surface of the original stone. As with driveway surfaces built in the same manner, these forms of paving have proven to be flimsy and unsightly. Today, whether moving across the Landing on foot from Riverside Drive or from a car parked on the Landing, a person is faced by the difficult challenge of negotiating an aggressive slope while dodging parked and moving automobiles and mooring cables. If the automobiles were removed from or reduced in the equation, pedestrians probably would feel more at ease.

Discussion. The installation of any pedestrian walkways will pose adverse effects to the Landing as a historic landscape. However, limiting the number of walkways and selecting a careful design can minimize the impact. Installing walkways on the Landing will organize and formalize pedestrian movement as never before. Designing the pedestrian system as a way to organize parking patterns and to divide lines of cars reduces the Landing to the appearance of a parking lot at a suburban shopping mall. Extending walkways simply to correspond with the street grid of the surrounding city only serves a contrived logic based on continuing a regular grid to a place it never existed; this approach does not respond to the needs of the pedestrians but assumes that the walkway will lead where the pedestrians wish to go. If a walkway is inconvenient, pedestrians will find a better way, no matter how difficult the terrain.

The design of walkways is another matter to consider. Permanent walkways raised above the surface of the Landing, such as a typical sidewalk edged with curbs, pose an adverse effect to the integrity of the surface of the Landing. The raised surface also introduces a barrier that may prevent movement across it. Permanent walkways installed at grade in the paving of the Landing avoid some of the undesirable visual effects of raised walkways and pose no barrier to lateral movement by vehicles. However, at-grade walkways do present an adverse effect by disrupting a narrow area of the paved surface and may disturb archaeological features. A key advantage of an at-grade walkway not provided by other types is that utilities may be run beneath or beside the walkway and cause little additional archaeological disturbance than that of the walkway itself.

Temporary walkways laid on the surface of the Landing, like boardwalks or similar treatments, remove the adverse effect of permanent construction but still pose obstacles to various forms of nonpedestrian movement. These types of walkways also introduce ongoing maintenance obligations because they need to be removed or re-laid as the water level rises and falls.

Nontraditional materials, like steel-reinforced conveyer belt fabric, could provide a useful alternative by creating an inexpensive, nonskid surface that could remain in place during changes in water levels and pose no barrier to movement. However, materials like these may prove unsteady underfoot when laid over an uneven surface and may prove more expensive to maintain over time.

Conclusion. The location of walkways should be determined not by a site that looks good in plan, but rather by determining those locations that will best serve the pedestrians who will use them. A minimum number of walkways should be built to minimize the appearance of excessive organization and to minimize the adverse effects of their construction.

The most desirable option for the design of pedestrian ways is one paved in rough-faced stone masonry laid at grade with the plane of the surrounding stone pavement of the Landing. This option appears to pose the least adverse effect while providing the best and most durable surface. The location of utility service connections for harbor users should be developed in the same area of disturbance needed to construct the walkway.

Standards for Design

Recommended

As a first priority, build walkways in areas where original paving and subsurface areas have been disturbed by previous construction.

As a second priority, build walkways at the north and south edges of the Landing on park embankments.

Minimize impact to the historic paved surface and potential archaeological resources by constructing not more than five walkways.

Construct walkways at grade with the surrounding paving no more than five feet in width.

Pave walkways with a rough-finished limestone or light gray granite paver.

Locate utility connections for harbor users within a covered trough next to walkways to minimize disturbance of the Landing and its archaeological character.

Not Recommended

Construct walkways that project above the grade of the original stone paving.

Pave walkways with a material incompatible with the stone paving of the Landing, such as brick, concrete masonry, cast stone, etc.

Locate subsurface utility lines in areas of the Landing not disturbed by other contemporary construction.

9. Utilities

Services have been delivered to the Landing and the craft using the harbor by a variety of means; these are identified in the Cultural Resources Assessment. Apart from those currently in service, there are numerous obsolete service lines in place on the Landing, according to visual observation and City utility maps.

Electrical and telephone services are delivered over the Landing by wires strung on wooden poles set through the pavement of the Landing. Temporary services to the Delta Queen Steamship Line are provided by running exposed wires across the surface of the pavement. Water service typically has been via buried pipes with flexible hoses connected to watercraft. Connections with the sanitary sewer system of Memphis have never been provided on the Landing; watercraft have traditionally relied on their own means for treatment and disposal of wastewater.

Discussion. Harbor users need more efficient services. Installation of new services should be designed to remove the unsightly poles, wires, and pipes and replace them with a system generally hidden from view. Intensifying the use of the Landing will require that more utilities be delivered, including sanitary sewers. Natural gas lines may also be needed to replace onboard propane for some potential users.

Conclusion. Development of a comprehensive plan for the delivery of utility services should be accepted as a priority for action by the City. Services should be provided below grade to the water's edge, with minimum disruption of the paved surface of the Landing. This may be accomplished by combining the location of service lines into "bundles" occupying the same narrow trench with other improvements such as pedestrian walkways. It should be possible to develop a system not unlike that used on the boat ramps at Mud Island, where utilities are fed through a covered channel.

Standards for Design

Recommended

Remove all above-grade services and replace with systems below grade.

Locate utility lines in areas of the Landing previously disturbed by modern construction.

Unify groups of utility lines in single trenches where possible; locate utility lines in covered channels at edge of pedestrian walkways.

When utilities cannot be located below grade, locate services out of view, to the extent possible.

Not Recommended

Excavate and remove obsolete below-grade service lines when removal is unnecessary.

Continue to use or install new pole-mounted service lines.

10. Area Lighting

The Landing at night is lit by two sources: scattered, bracket-mounted incandescent fixtures on wooden poles, and spill-over highway lighting along Riverside Drive.

Discussion. The quality of lighting should be increased for the entire Landing to enhance the safety of people and facilities. However, new light standards installed on the Landing will be a hazard to navigation during high water, as well as create an adverse effect by creating an undesirable visual appearance. The lighting system for the Landing should be designed to light the area adequately without creating the appearance of a parking lot.

Conclusion. Area lighting should be provided from the perimeter of the Landing by standards placed in Jefferson Davis Park, along Riverside Drive, and in Tom Lee Park. Fixtures for area lighting should not be provided from harbor craft on the river side of the Landing.

11. Mooring Rings and Other Existing Cultural Artifacts

More than a hundred historic cultural features on the Landing were installed to enhance its use (for further information see the Cultural Resources Assessment). The vast majority of these features are mooring rings, installed at various times. Another of these extremely valuable items is the so-called Beale Street river gauge, set into the pavement of the Landing north of the foot of the Beale Street vehicle ramp.

The mooring rings, the river gauge, and other cultural artifacts existing on the surface of the Landing should be treated with respect equal to that of the paving of the Landing itself. These features should be repaired and restored in place for continued service, not removed.

Standards for Design

Recommended

Repair and restore existing mooring rings and other cultural features for continued service.

Not Recommended

Remove, replace, alter, or fail to maintain existing cultural features.

TREATMENTS FOR HANDICAPPED ACCESSIBILITY

Introduction

Access for the handicapped poses substantive issues for the historic resource and any development project proposed. The grade of the Landing is not universally accessible, given its approximate slope of 1:6. Its surface is uneven at best. The surrounding urban context of Riverside Drive, Tom Lee Park, and Jefferson Davis Park has aggravated the access problem by establishing substantial grade separations that further isolate the Landing.

Treatments

Discussion. The difficulty of achieving accessibility appears to be compounded by four significant factors:

1. Most of the project area is in a public waterway and is therefore a property under federal jurisdiction. As such, the Landing is covered by the Architectural Barriers Act of 1968;
2. Regulatory guidelines in the Architectural Barriers Act of 1968 suggest that if a new construction affects access to a property under federal jurisdiction, the barrier provided by the off-site improvements from the federal property must be modified to meet the federal standard of "barrier-free access";
3. Historic properties may be exempted from some of the "barrier-free" requirements; however,

4. New construction outside the boundaries of a "Qualified Historic Property" may not be granted an exemption based upon the qualities of the historic property.

Communications with the U.S. Access Board (U.S. Architectural and Transportation Barriers Compliance Board) and the U.S. Department of Justice have suggested that the issues involved in the Landing—issues of new construction or alteration, historic preservation and alternative compliance, overlapping federal vs. local jurisdictions, federal permits, and differing standards under different federal laws (e.g., Architectural Barriers Act vs. Title II of the Americans with Disabilities Act)—are so complex that direct contact with the Technical Assistance branches of the Access Board and the Department of Justice should be considered at the earliest stage possible in the planning of any and all projects associated with the Memphis Landing. Doing so will help to guarantee that all parties and all issues may be resolved systematically without expensive redesign of a project or projects, or mandated modification of a completed project.

The surface of the Landing itself can be exempted from alterations necessary to achieve barrier-free access; these alterations would irrevocably alter the historic character of the Landing and result in significant and irreversible changes to its integrities of materials, setting, design, and workmanship. However, some form of access will be needed to cross the Landing to reach the users of the Wolf River Harbor.

Compliance in crossing the Landing itself may be provided by a number of means. One possibility is an accessible shuttle bus route originating at the foot of the Landing, crossing the pavement to the level of Riverside Drive, and continuing on to connect with the City's mass transit systems. This form of compliance may be acceptable for "systematic" compliance applying to one or many projects that might be developed at the Landing, and perhaps alleviate "barrier-free" requirements. Another possible form of compliance that would pose no adverse effect to the Landing as a historic resource would be handicapped-accessible ramps built into the embankments of Tom Lee Park and Jefferson Davis Park. This system might pose a difficult design problem in connecting the ramps and the users of the harbor.

Conclusion. There is every reason to believe that compliance with "Title II," or barrier-free, access requirements may be achieved by reasonable means. However, accessibility issues related to the Memphis Landing are so complex that it may be wise to link groups of new construction and alteration projects together as one, and to address access issues with the proper federal authorities with a **systematic** treatment. In this way, each proposed project will not have to "stand alone" to prove accessibility when a systematic solution may suffice.

CONTEXTUAL ISSUES

Contextual issues concern elements off-site from the historic resource that nevertheless play a key role in its use and interpretation and have the potential to affect its integrity. Included here are the following:

1. Pedestrian access;
2. Signage;
3. Utility service structures in the vicinity of the Landing;
4. Viewsheds.

1. Pedestrian Access

The construction of Riverside Drive between the Landing and the rest of the Downtown area introduced a substantial barrier to pedestrians. This roadway and the modifications to it over time have been designed to increase the speed and volume of traffic, to the detriment of pedestrian access to the Landing (Figure 9). The current design of the roadway ignores the needs of pedestrians, whether they wish to move parallel to the road or across it. The completion of the western trolley loop along the east side of Riverside Drive will increase the need for safe pedestrian access, as will the proposed Riverbluff Walkway along the east side of Riverside Drive running south from Union Avenue.

Discussion. The current design of Riverside Drive presents a direct adverse effect to the Landing by isolating it from pedestrian access to and from the surrounding urban environment. The trolley loop and Riverbluff Walkway will improve this condition only minimally.

Conclusion. Developing systems to improve pedestrian access to the Landing should be a high priority for the City. Reducing the pedestrian barrier on Riverside Drive will require substantial modifications to significantly slow traffic down to facilitate east-west pedestrian movement.

Standards for Design

Recommended

Reduce the speed limit along Riverside Drive and increase enforcement of the reduced limit.

Install traffic lights equipped with on-demand crosswalk signals that "lock out" turning movements during cycles.

Install textured crosswalks at all intersections.

Not Recommended

2. Signage

There are currently no signs marking the automobile entrances to the Landing. Furthermore, no signs indicate its historical importance or commercial use.

Discussion. The development of signs to aid motorists in locating the Landing and its entrances should be a priority. Parking areas near the Landing should also be marked to encourage off-site parking and pedestrian approaches to the Landing.

Conclusion. A plan for the design of distinctive signs should be developed for installation on Riverside Drive and surrounding Downtown core streets.

3. Utility Service Structures in the Vicinity of the Landing

The current use of the Landing requires few structures associated with the delivery of city services. Those structures (electrical vaults, for example) are small and relatively unobtrusive.

Discussion. Increased use of the Landing will require a substantial increase in city services. The nature of the Mississippi River requires that most of the structures related to the delivery of services be located above the historic high water mark—essentially off-site from the Landing.



Figure 9. Monroe Avenue Access Ramp (View to the North).

The lack of controlled intersections creates a substantial barrier between the Landing and the rest of the Downtown street grid, isolating pedestrian and vehicular movement between the two. Although pedestrian crossings are marked at Monroe and Court avenues, the speed of traffic makes crossing Riverside Drive an unnerving and dangerous experience.

Conclusion. Structures associated with the delivery of utilities should be completely out of view from the Landing, preferably underground.

4. Viewsheds

There is an important historical relationship among the Mississippi River, the Memphis Landing, and the businesses of Front Street. Before the construction of Riverside Drive, the paving of the Landing extended seamlessly up the east-west avenues of Downtown to the level of Front Street, and the businessmen and pedestrians on Front Street were able to view clearly the arrival and departure of river traffic. The construction of Riverside Drive in the 1930s disrupted this physical and visual relationship.

Discussion. Further impairment of the visual link between the city and the Landing will have an adverse effect on the Landing's integrity of setting, design, feeling, and association. Unless the Landing retains visual links to the Downtown area, the challenge of developing commercial or civic projects on the Landing will be tougher. Potential visitors to the Landing will not brave crossing Riverside Drive unless they know there is a reason to make the journey. It is unwise in an urban planning sense to reinforce the image of the Landing as a marginal space by reducing one's ability to see what is offered.

Conclusion. Concern for the preservation of viewsheds to the Landing would be lessened if the obstructions at the level of Riverside Drive were: 1) eliminated altogether; 2) kept to a minimum; or, 3) placed below the brow of Riverside Drive.

Standards for Design

Recommended

Alter the current automobile guardrail to a more attractive, visually permeable system of separation.

Not Recommended

Introduce a solid wall or "Jersey barrier" system to separate traffic from pedestrians.

INTERPRETIVE PLAN

Interpreting the history of the Memphis Landing is an important way to increase the constructive use of the Landing by residents and its appreciation by visitors. Regrettably, the Memphis Landing is usually presented as only a footnote in Memphis history, whether in the classroom or in local museums.

The important story of the Memphis Landing should be told through a variety of means. Interpretive signs can be built at appropriate places on the edges of the Landing to present its history through photographs and text. A walking tour guide booklet or a descriptive brochure could be produced for distribution at the nearby Tennessee Welcome Center and at other points throughout Memphis and the surrounding area. Most effective, though, would be audiovisual, photographic, or static displays on the facilities in the harbor, where the public would be able to view the Landing from the river side; this would give the viewers a better understanding of the daunting task of the Landing's construction and its historic use. Promotional materials, video presentations and advertisements might also incorporate the rich heritage of the Memphis Landing and the aura of the Mississippi River.

VI. CONCLUSIONS

The Memphis Landing is a historic resource of fundamental value to the heritage of this city, and of the nation. Although it has been in continuous use for 136 years, since the first paving stones were laid on its surface in 1859, the Landing has stood up well in service to the City and has endured in spite of the ravaging waters of the Mississippi River.

Stewardship of the Memphis Landing is the responsibility of the City of Memphis and, to an almost equal degree, the U.S. Army Corps of Engineers. Although this Preservation Plan for this resource recommends some changes in the way this historic place is treated, the opportunities offered by adherence to the plan far exceed the minimal difficulties posed in the immediate future.

If there is to be an intensified use of the Memphis Landing, the success of any such project will rely on the project's qualities and attention to detail, particularly the attention given to the appearance of the historic resource and its setting. If residents and repeat visitors are expected to be the mainstay of the Landing in its future form, the project and its setting must present qualities that are appealing and unique. Ignoring the issues of maintenance, visual appeal, and the commercial value that the historical interpretation of the Landing can contribute to the success of a proposed project would be a substantial shortcoming in the project's conceptual design and programmatic administration. Given the risks inherent in locating on the Landing, such a project may not survive long enough to correct its errors.

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APPENDIX I: TREATMENTS OF
PROPOSED CONCEPTUAL PROJECTS

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APPENDIX I: TREATMENTS OF PROPOSED CONCEPTUAL PROJECTS

The City of Memphis has proposed a series of development projects for the Memphis Landing or its immediate vicinity. The most important of these are the Tom Lee Monument Relocation Project and the proposed Memphis Riverfront Development Plan. These projects and related issues are discussed below.

THE TOM LEE MONUMENT RELOCATION PROJECT

The Tom Lee Monument was dedicated in the late 1920s to honor the heroism of Tom Lee, an African-American, who was personally responsible for saving the lives of 32 passengers from the sinking of the U.S. steamer *Norman*. Tom Lee Park, which extends south from Beale Street, was also named in Lee's honor after its creation in the 1930s.

A plan for the improvement of Tom Lee Park was completed in 1992. The plan called for relocating the Tom Lee Monument from its original site near the end of Linden Avenue to a new plaza aligned with the terminus of Beale Street, a distance of approximately one city block. The new plaza is to be built on fill as an addition to the northern end of Tom Lee Park outside of its 1930s boundaries. The plaza is to be raised on the southern end of the Memphis Landing to the level of Riverside Drive with the aid of a retaining structure and a fill of 11,000 cubic yards of sand overlaid with 12,350 cubic yards of riprap and filter rock. The footprint of the completed project would cover an estimated 1.6 acres, or 69,696 square feet.

Construction of the monument base began in 1994 and halted several days later, but not before construction crews had removed an estimated 90,000 square feet of the historic paving of the Landing (Figure A1). The project was halted by the U.S. Army Corps of Engineers, Memphis District, because the City did not have an approved permit under Section 404 of the Federal Water Pollution Control Act of 1977, also known as the Clean Water Act. The Tennessee Historical Commission was consulted on the effect of the project on a National Register-listed property, which included an archaeological site (40SY352) previously identified on the project site. After later archaeological examination, the site was recommended as eligible for National Register listing (Weaver et al. 1994). This Preservation Plan for the Memphis Landing was prepared as a stipulation of the Memorandum of Agreement for the Tom Lee Monument Relocation Project. This agreement was entered into by the U.S. Army Corps of Engineers, Memphis District; the Tennessee Historical Commission; the Advisory Council on Historic Preservation; and the City of Memphis on June 21, 1995.

Discussion. The construction of the foundation base for the Tom Lee Monument has already caused an adverse effect on the Memphis Landing: the removal of an estimated 90,000 square feet of its historic paving materials. As stated in the General Preservation Planning Standards for this plan, the loss of historic paving surface area caused by this one project exceeds the recommended maximum by 300 percent. The same work has also disrupted part of a National Register-eligible archaeological site. Completion of the project will result in several additional adverse effects:

1. The relocation will substantially alter the physical boundaries of the Landing, further reducing the Landing area;

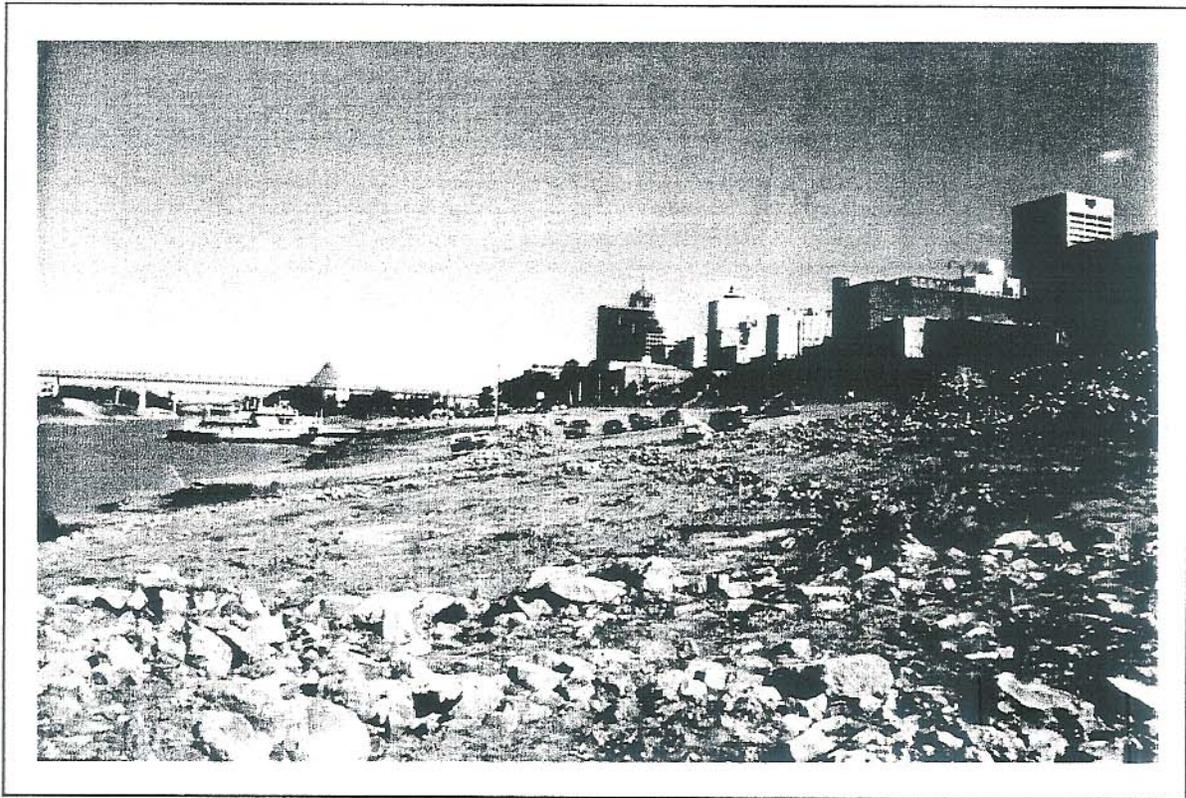


Figure A1. Proposed Site of the Tom Lee Monument Relocation.

Before the project was halted, construction at this site, at the southern end of the Landing, damaged more than 1.6 acres of the paved surface.

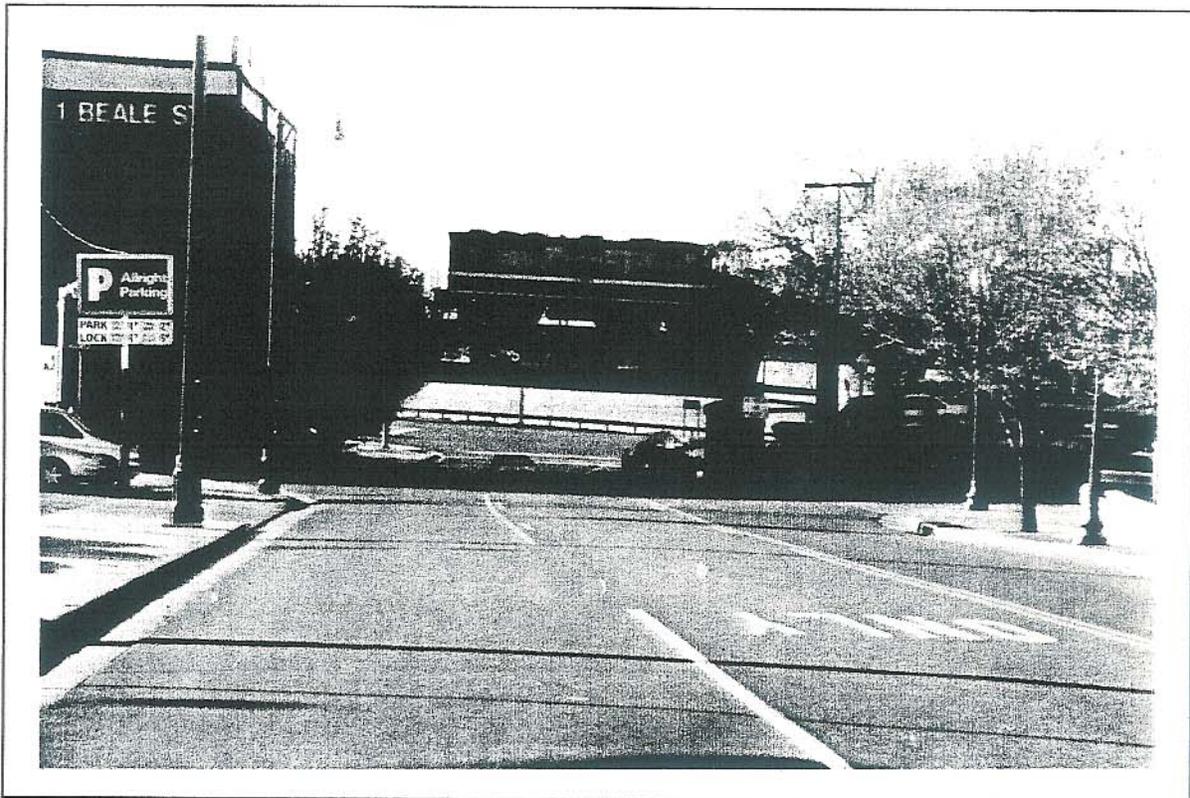


Figure A2. View to the West from Intersection of Beale and Front Streets.

The relocation of the Tom Lee Monument was intended to align the obelisk with the foot of Beale Street. This treatment appears noteworthy in plan. However, the view of the monument from Front Street will be blocked completely by the railroad overpass. The extension of the plane of Riverside Drive for the monument's plaza will also block the view of the Mississippi River, compounding the problem. Views of the relocated monument from Tom Lee Park and Riverside Drive would also be compromised by trees when approaching the proposed site from the south.

2. The project will inject a feature that is a substantial intrusion on the character of the Landing's landscape and history of use;
3. The project will partly destroy a National Register-eligible archaeological site;
4. The project will necessitate the relocation of the Beale Street vehicle ramp, according to the City, thus introducing yet another adverse impact to the Landing. This condition was not proposed in the original project review for Section 106 clearance or in the Memorandum of Agreement.

The effect on the archaeological site may be mitigated by preserving the site *in situ* or by a thorough excavation of the site by a qualified professional archaeologist. However, there appear to be no means to mitigate the other impacts posed by this project.

Public Comment. Public comments regarding the Tom Lee Monument Relocation Project were received as part of this plan process. The consensus was that the Tom Lee Monument Relocation Project does not benefit the riverfront and the citizens of Memphis enough to justify its costs and the further impact on the City's cultural resources. The project should be discontinued and its budget reassigned to the repair of the Landing.

Conclusion. The proposed project design precludes a prudent or feasible alternative to the adverse effects to the Memphis Landing. The damage to the Landing's integrity from the relocation would outweigh any enhancement of the view of Memphis. The relocation of the Beale Street vehicle ramp would magnify the adverse effects of the project. Therefore, the following treatments are recommended:

1. The construction of the base and plaza for the relocation of the Tom Lee Monument should not be completed.
2. Adverse effects to the archaeological site disturbed by this project should be mitigated by Phase III excavation to recover the significant information in the site.
3. The grade and the paved surface of the disrupted area of original paving should be restored to its original dimensions.
4. The Beale Street vehicle ramp should remain in service, with appropriate alterations to its alignment and slope to improve access and egress without expanding its footprint.

Design Standards

Recommended

Repair the disrupted area of original paving with a new bed of concrete carpet revetment or similar permanent surface, allowing for drains beneath the new base.

Lay a new granite paved surface over the new base made of tightly spaced pavers in a shallow grout bed to reestablish the grade of the original paved surface.

Use granite pavers approximately 5 inches wide and 10 inches long with a rough-finished texture, set in a uniform bed to provide a uniform surface.

Not Recommended

Install a surface of pavers with minimum exposure of the joint between the pavers.

Use original pavers or new pavers of limestone to recreate the original surface, or use brick, concrete, or other composition materials.

Design Standards (continued)

Recommended

Brush in a dark gray-brown, dry sand grout mixture between the pavers to a joint depth of 1/4 inch.

Not Recommended

Finish the pavers with a mortar joint in white or light gray Portland cement, with the joints struck at the surface of the paver.

THE PROPOSED MEMPHIS RIVERFRONT REDEVELOPMENT PROJECT

In June 1995, Mayor W. W. Herenton formally announced a comprehensive plan by the City of Memphis to redevelop its waterfront resources. The Memphis Riverfront Redevelopment Plan was developed over over the previous three and one-half years of Mayor Herenton's first term in office. The plan called for a systematic series of projects to connect existing resources on the Memphis riverfront with new development projects supported by private and public investment. At the plan's center is the Memphis Landing, the city's traditional river port, a resource listed on the National Register of Historic Places (Figure A3).

The Mayor linked four major projects and several smaller elements under one development plan to be implemented by the City in four coordinated phases over approximately four years. Phase I of the proposed plan is the construction of a plaza honoring Mr. Ron Terry, Chairman of First Tennessee Bank. The plaza is to be built at the level of Riverside Drive, and its construction is to be paid by First Tennessee National Bank. Phase II is the construction of a Riverfront Walkway along the brow of the Memphis Landing, connecting Tom Lee Park on the south with Jefferson Davis Park on the north and passing through the Terry Plaza. It too would be built at the level of Riverside Drive and constructed, in part, with federal funds. Phase III is the development of a restaurant and retail complex designed to float on the Wolf River Harbor but moored on the Memphis Landing. The state is expected to fund this project. Phase IV is the restoration of the Memphis Landing; funds are expected from state or federal sources, as yet uncommitted.

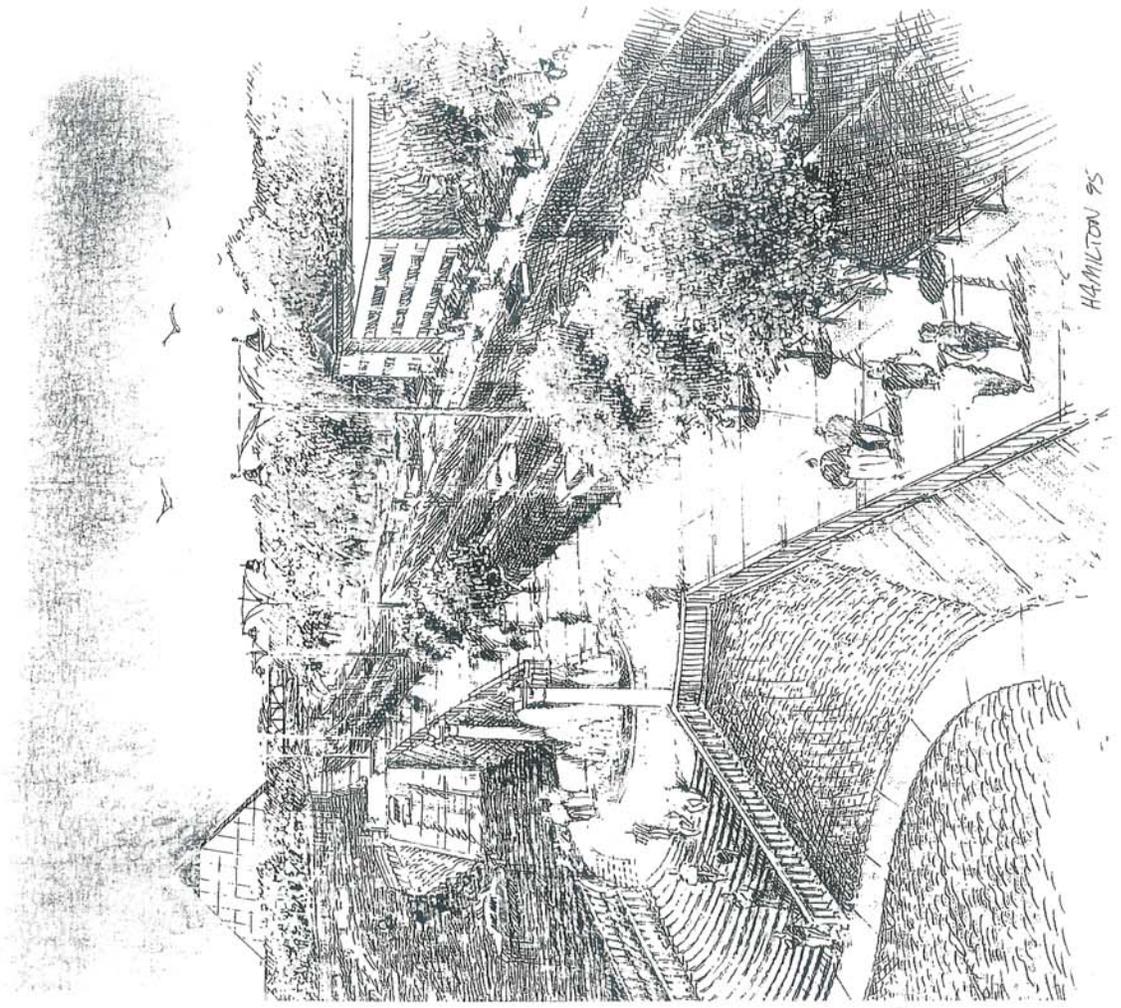
Phase I: Proposed Terry Plaza

A new plaza has been proposed at the center of the eastern edge of the Landing, aligned with the terminus of Union Avenue. The plaza would be semi-elliptical in plan, projecting at grade from the western edge of Riverside Drive. The plaza would be supported above the grade of the paved Landing by an embankment with an approximate slope of 30 degrees. The footprint of the plaza would extend 60 feet west of Riverside Drive; approximately 40 feet of this radius would extend over the existing paving of the Landing. The plaza embankment is proposed to include three wide stairways, separated by strips paved with stones salvaged from the existing embankment. The surface of the plaza is designed with a circular fountain at its center, Neo-Classical balustrades at the edges of the embankment, and a pair of Empire-style obelisks on raised bases flanking the western stairway. The plaza is designed to connect with the proposed Landing walkway; proposed tree plantings flanking the walkway focus the view on the plaza.

Discussion. The proposed Terry Plaza as a new feature of the Landing is an appealing idea, both in concept and in plan. The plaza would be built at the end of a busy avenue in the Downtown area. The plaza is intended to be a gathering place and a grand pedestrian entrance for the Landing, as well as a significant focal point for views of the Landing throughout the Downtown area.



Figure A3. Artist's Rendering of the Proposed Riverfront Redevelopment Project (Courtesy Ritchie Smith Associates).



of River Harbor Development
 rth from Tribute Overlook at Union Avenue
 · D1 · W. W. Herenton, Mayor

The proposed plaza does present some cause for concern. The plaza would block the historical view of the Landing and the Wolf River Harbor from Union Avenue, and it would cover approximately 8,000 square feet of the Landing's paved surface. The footprint of the plaza would force vehicles moving north-south across the Landing to travel across little-disturbed areas of the pavement, thus extending the area of impact by 25-30 feet in radius, unless this area of the Landing is closed to traffic, as recommended in the Preservation Plan. During annual periods of high water, the plaza would effectively cut off all vehicular movement north-south across the Landing. Finally, from the design standpoint, the plaza would introduce landscape and architectural elements incompatible with the utilitarian qualities of the Landing's landscape.

Public Comment. Review of the concept proposal for the Terry Plaza in public forums concluded that the Terry Plaza is a worthwhile addition to the Landing that will promote pedestrian use of the Landing and the riverfront.

Conclusion. The potential adverse effects of any architectural or landscape element should be viewed in the perspective of the entire scope of all adverse effects posed by the components of the Riverfront Redevelopment Project. If the proposed walkway is built at the same grade as Riverside Drive, the extension of this plane for the plaza will not substantially disrupt the historic viewsheds further, considering that the plaza is narrow compared to the width of the entire Landing (and the River Landing Walkway, discussed below). The footprint of this landscape feature adversely impacts a relatively small net area of the Landing, only a fraction of the standard set earlier in this report. Mitigation of the adverse impact of traffic movement around the plaza can be accomplished by changing the traffic and parking patterns on the Landing, also recommended previously in this plan. The incompatibility of certain design elements can also be alleviated with appropriate design development.

Design Standards

Recommended

Further reduce the footprint of the plaza.

Pave areas of the plaza embankment with stones salvaged from the existing Landing embankment.

Design architectural features to lessen formal stylistic allusions in favor of a more utilitarian design.

Identify ways to lessen or eliminate traffic around the plaza over areas of undisturbed paving.

Excavation of any area to be affected by this project should be tested and monitored by a professional archaeologist.

Significant archaeological sites should be fully recovered.

Not Recommended

Increase the slope of the embankment to reduce the footprint.

Introduce incompatible paving material for the plaza's embankments.

Use trees or other forms of vegetation in design of the plaza or the walkway.

Phase II: Proposed River Landing Walkway

Also proposed is a new walkway 10–15 feet wide, adjacent to the western edge of Riverside Drive, to connect Jefferson Davis Park on the north with Tom Lee Park on the south. The new walkway would be constructed using one of these two design scenarios, currently under consideration:

1. Support the walkway by reestablishing the sloped embankment of Riverside Drive an equivalent distance to the west, thus covering a strip of the paving of the Landing at its eastern brow;
2. Raise the existing embankment of Riverside Drive to a more nearly vertical plane, thus accommodating the walkway without disturbing the existing pavement of the Landing.

A walkway surface along the upper brow of the Landing pavement has not been proposed, reportedly due to the potential for occasional flooding.

Discussion. Both proposals for a walkway at the level of Riverside Drive present possible adverse impacts to the Landing by further blocking the historical view of the Mississippi River from the bluff top at Front Street. There are other adverse effects of both options. Option 1 would create an additional impact by covering a significant portion of the paved surface of the Landing along its entire eastern edge. Option 2 would create an additional impact by altering the sloped embankment of Riverside Drive to more of a vertical wall, increasing the sense of isolation of the Landing from the surrounding urban environment. Both proposals will also require new stairways extending over the Landing to connect the walkway with the Landing, thus further impacting the existing paved area of the Landing. Stairways running parallel to the proposed walkway would be less of an adverse effect than stairways running perpendicular to the walkway.

Analysis of the paved surface of the Landing (see the Cultural Resource Assessment) has shown that a strip of paving approximately 20 feet in average width extends across the entire eastern edge of the Landing. This strip of paving was lifted and re-laid when Riverside Drive was built in the 1930s and since then has been used as a "roadway" for vehicles moving north-south across the Landing. The surface of the "roadway" is now badly rutted from erosional runoff of the earthen base of the paving, compacted and compounded by the weight of moving vehicles. Both walkway proposals would either completely cover the roadway strip or obstruct portions of it, forcing vehicles to move to the west across relatively undisturbed paved areas of the Landing.

Public Comment. Public comments on the proposed walkway revealed that the proposed Landing Walkway is supported as a worthwhile way to connect parks and other civic improvements along the riverfront. However, concerns were also expressed for appropriate accommodation of the handicapped and for limiting the extent to which the walkway would block views of the riverfront from the city.

Conclusion. There is a compelling need for a walkway along the western edge of Riverside Drive, especially since it will mitigate some of the isolation of the Landing from the surrounding city environment. However, adverse impacts should be minimized when developing the design. The impact of the footprint should be reduced to a minimum without increasing the slope above the current incline of 30–35 degrees. Stairways should not protrude west of this footprint unless through-traffic is eliminated, as recommended previously in this report.

Standards for Design

Recommended

Explore the feasibility of lowering portions of the walkway below the grade of Riverside Drive to lessen the effect on viewsheds.

If built at grade with Riverside Drive, the width of the walkway should not exceed 12 feet.

Limit the footprint of all walkway improvements to within 10 feet of the existing base of the Riverside Drive embankment on the eastern edge of the Landing.

Limit the slope of the walkway embankment to less than 35 degrees; greater slopes may be considered in small areas supporting stairways or handicapped ramps.

Pave the walkway embankment with paving stones salvaged from the existing embankment and roadway.

The excavation of any area affected by this project should be tested and monitored by a professional archaeologist.

Not Recommended

Construct stairways or handicapped ramps that protrude outside the walkway footprint.

Construct the walkway embankment with a slope of more than 35 degrees across its entire length.

Pave the embankment with materials inconsistent with the resource, including brick, concrete, rough-faced or dressed-face stone blocks, etc.

Related Issue: Vehicle Ramps

In the 1930s, four access ramps were built for vehicles moving from the raised level of Riverside Drive to the pavement of the Landing. From north to south, there are a single ramp at Court Avenue, a double ramp at Monroe Avenue, and another single ramp north of Beale Street. The Court and Monroe ramps are not controlled by a traffic light; the Beale Street ramp enters Riverside Drive short of the actual intersection with Beale Street and thus is not directly controlled by a traffic light. The ramps have a slope of approximately 1:6 and are paved with stones apparently installed as new material in the 1930s. The western sides of the ramps are retained by an embankment of approximately 30-35 degrees slope.

Discussion. The proposed River Landing Walkway and the Tom Lee Monument Relocation Project will substantially affect the vehicle ramps. First, the Landing Walkway project will require that the vehicle ramps be shifted farther west to accommodate the width of the walkway itself. Either the ramps' footprints must extend farther west, or their embankments must be nearly vertical in slope. Extending the footprint of the ramps would impact the paving of the Landing in areas not previously disturbed and would force north-south traffic onto areas of the Landing less affected by traffic in the past. Second, the design of the Tom Lee Monument Relocation Project has been altered and now calls for the relocation of the Beale Street ramp to the north, approximately on axis with Gayoso Street. No design for this plan has been presented to indicate the size of the footprint for the new ramp. No traffic light to control the intersection of the new ramp with Riverside Drive is proposed.

Public Comment. Public comments were received on the potential relocation of the Beale Street vehicle ramp for the Tom Lee Monument Relocation Project. The public does not think the ramp relocation is necessary; improved access to and egress from the Landing can be accomplished with minor changes in the existing Beale Street ramp and with improved traffic signals.

Conclusion. Modifications to the Court and Monroe ramps should be designed to cause minimal impact to the existing paved surface of the Landing. Alteration of the western embankments to a nearly vertical slope should provide most, if not all, of the needed space. The vertical plane of the face of the ramps would adversely affect the Landing's appearance much less than extending them along the entire face of the embankment, as proposed for the River Landing Walkway. On the other hand, removing the Beale Street ramp to Gayoso Street will cause a major adverse effect on the Landing by introducing another feature to disrupt and cover a substantial area of the resource. The most prudent and feasible alternative is to lengthen the Beale Street ramp south to align it with Beale Street and to reconfigure the traffic signal at Beale to achieve better access and egress. This alternative would require that the Tom Lee Monument Relocation Project not be built.

Standards for Design

Recommended

Accommodate the width of the proposed walkway by increasing the western slope of the existing vehicle ramps.

Pave the altered western slopes of the vehicle ramps with stone pavers salvaged from the existing embankments.

Alter the existing vehicle ramp at Beale Street for improved service, including improvements to traffic lights.

Not Recommended

Enlarge the footprint of the existing ramps to accommodate the proposed walkway and other new construction.

Pave the new western embankments with inappropriate materials such as concrete, brick, rough-faced or dress-faced stone blocks, etc.

Relocate the Beale Street ramp or alter the existing ramp to increase its footprint over paved areas.

Related Issue: Adverse Effect on Viewsheds

Discussion. There is an important historical relationship among the Mississippi River, the Memphis Landing, and the businesses of Front Street, as discussed previously in this plan. The proposed Walkway project will impair, if not entirely block, the view of the Landing and the water's edge from Front Street. This impairment will be caused by the project plan's proposal to extend the plane of Riverside Drive by a distance of 10-15 feet. Combined with the slope of the Landing, the addition to this plane will block some, if not most, of the view of riverboats or other facilities at the water's edge. The construction of the Tom Lee Monument Relocation Project, a new Beale Street vehicle ramp, and the Terry Plaza will increase this adverse impact.

Apart from the effect of these improvements on the historical viewshed, the same improvements will also hamper visibility of commercial users on the waterfront from both Front Street and Riverside Drive, making it much more difficult for visitors to see the Landing and find its commercial or public facilities. Removing much of the proposed riverfront development from view from Riverside Drive will add to the risks inherent in making the development economically successful.

Public Comment. Several comments from the public concerned the negative effect of the proposed walkway on the visibility of the Mississippi River and the Wolf River Harbor from

downtown Memphis. Respondents desired that the project be designed with the preservation of viewsheds in mind in order to minimize or eliminate the effect.

Conclusion. Concern for the preservation of viewsheds of the Landing would be lessened if the obstructions at the level of Riverside Drive were reduced, eliminated, or placed below the brow of Riverside Drive.

Standards for Design

Recommended

Construct portions of the proposed Landing walkway below the level of Riverside Drive.

Construct a simple, visually permeable railing on the west side of elevated pedestrian walkways.

Not Recommended

Construct a solid wall or heavily proportioned railing on the west side of the elevated walkways.

Related Issue: Transverse Walkways

A series of transverse pedestrian walkways has been proposed to provide a pedestrian connection between the Landing Walkway and the users of the Wolf River Harbor. As proposed in concept, the walkways would cross the Landing from east to west on alignment with the east-west street grid. Stairs would connect the Landing Walkway with the pedestrian ways crossing the Landing. No plan for the design, details, materials, or construction method of these features has been presented.

Discussion. The contract and construction schedule for the proposed Riverfront Redevelopment Project calls for the design and construction of the stair connections and transverse pedestrian walkways before the design of the proposed harbor improvements with which they will ultimately connect. This appears to be extremely risky; the design of the harbor complex exists only in concept. The final design of the harbor complex may change drastically in concept and configuration. This may leave the transverse walkways in locations that do not serve the needs of the harbor complex. Not only would public monies have been spent on a feature that might not work with the completed design, but, more important, the historic character of the Landing and any archaeological resources encountered during construction would have suffered an unnecessary impact.

Public Comment. Time limitations on the completion of the Preservation Plan precluded the discussion of this issue with the public.

Conclusion. The Riverfront Redevelopment Project should consider placing the design and location of stairways and transverse pedestrian walkways "on hold" until the design contract for the harbor complex is finished. The design of these two critical project elements could then be coordinated to insure that all project elements are designed to function with one another. Apart from this issue, treatments for the design of the transverse walkways should consider the recommendations of the Preservation Plan concerning the construction and location of pedestrian walkways on the Landing, presented previously in this document.

Phase III: Proposed Riverfront Commercial Complex

A concept has been proposed for developing a restaurant and retail complex to float on the Wolf River Harbor and be moored to the Memphis Landing (Figure A4). At the southern end,

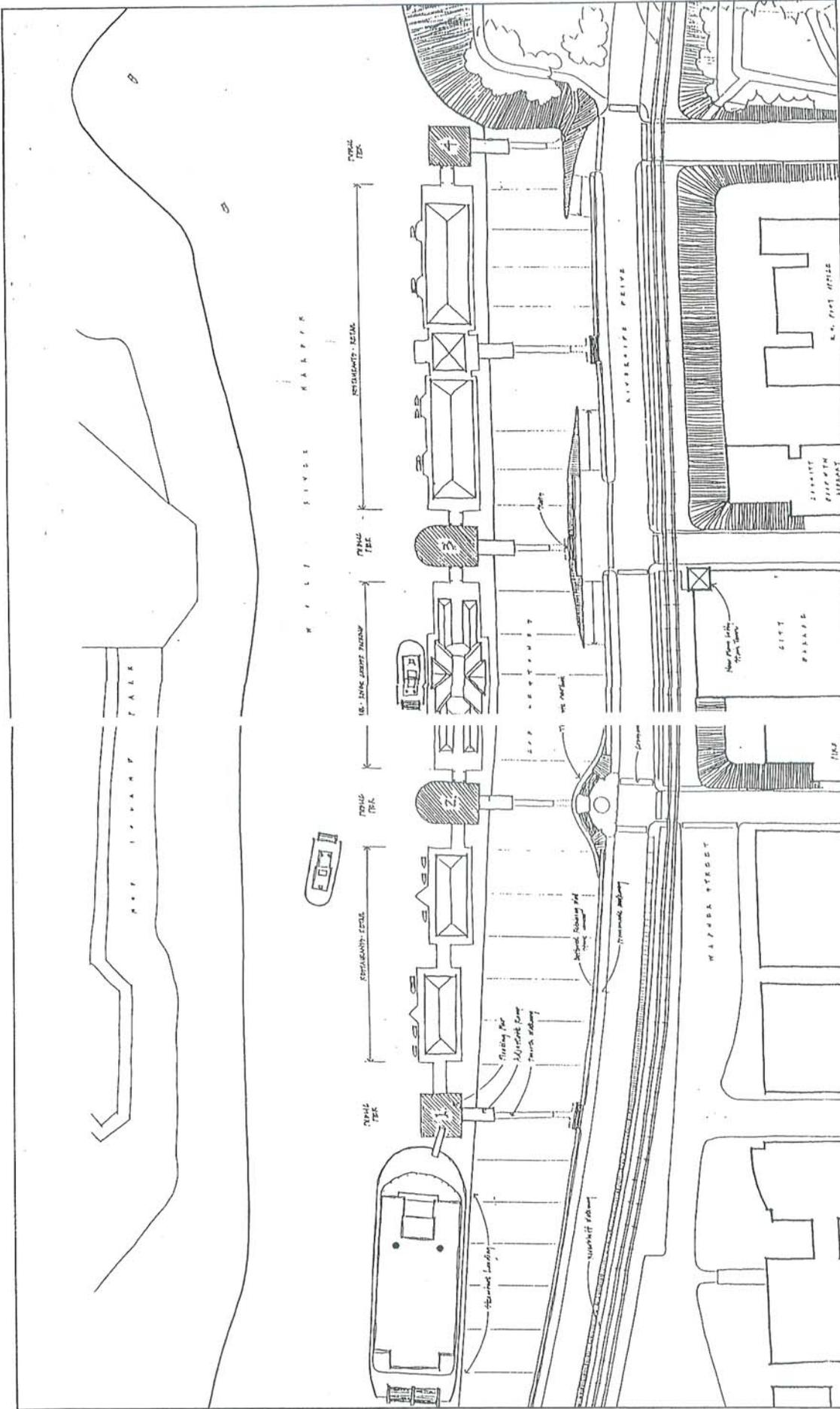


Figure A4. Concept Plan for the Commercial Floating Complex (Courtesy Ritchie Smith Associates).

the complex would provide a mooring and docking facility for the boats of the Delta Queen Steamship Line. A facility associated with the complex would also serve as the mooring for the Memphis Queen Line.

In its current proposed conceptual form, the complex consists of five structures on four platforms supported by barges, ranging from approximately 150 feet to nearly 500 feet in length. The total length of the proposed complex is 1,500 feet, or approximately three-quarters of the total length of the Landing at the water's edge. It will contain an aggregate leasable space of approximately 80,000 square feet; some additional public space would allow pedestrian circulation around the restaurant and retail structures. The complex of barges would be irregularly divided by open places or public piers. Gangways would lead from the public piers to the water's edge on the Landing, aligning with walkways across the surface of the Landing.

Discussion. The concept for the redevelopment of the Landing could provide a renewed purpose for the Memphis Landing and may generate needed revenues to assist in the Landing's continuing restoration and maintenance. It has become clear during the course of this study that a vast array of technical issues must be resolved if any development project is to proceed. Some of these issues have been introduced in other portions of this plan.

From the point of view of the Preservation Plan, the proposed concept, while worthy in its intent, nevertheless poses a substantial adverse effect to the historic integrity of the Memphis Landing. The current design concept may achieve the stated goal of new retail space, but its proposed design results in dramatic, long-lasting impacts to the character of setting that is of principal importance to the Landing and its historical basis.

The proposed concept of structures on floating platforms does not sufficiently regard the river setting of the Landing and the Wolf River Harbor. The conceptual design creates the appearance of a regional shopping center or strip mall that happens to be floating on the Mississippi River. Use of the Landing as a parking lot demeans its heritage and does nothing to enhance or contribute to the setting of the complex. Instead of reflecting the Landing's heritage as a place of commercial interface with the Mississippi, the design creates a monumental barrier that physically and visually blocks the understanding of the Landing's relationship of river and land. The conceptual design of the structures themselves appears totally foreign to their place and the setting.

The character of Mississippi River watercraft and structures on the Memphis Landing has remained relatively unchanged from the origins of the city in the early nineteenth century through the end of World War II (Figure A5). Over this period, flatboats, steamboats, and other river craft have been the common feature of the Landing, and the image of the riverboat moored at the Memphis Landing is so closely associated with our heritage that it has gained icon status. One only needs to look at the watercraft and structures of the Memphis Queen Line to confirm the power of these icons, as well as to find a design form that holds great appeal with the public even today.

Less significant in the history of the Memphis Landing were barges mounted with structures, called wharfboats. It can be argued that the vessels intended for the project are being designed to reflect these harbor structures. The wharfboat served as a combination dock and warehouse; some were developed by individual steamship lines for their exclusive use; others were public resources to be used by any steamboat for a fee. It was not until the twentieth century, however, that the wharfboat evolved into a large structure moored on the wharf. Even then, there were rarely more than two of the larger wharfboats ever moored to the Landing at one time, and each may have contained little more than 2,500–3,000 square feet.

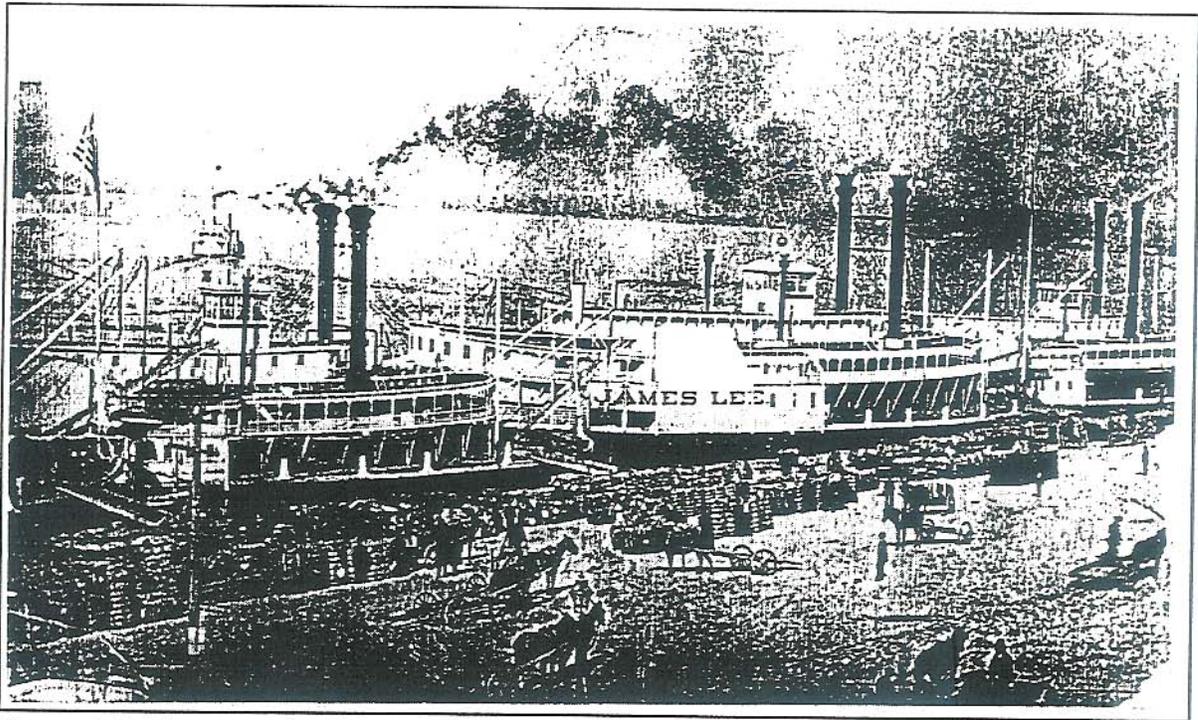


Figure A5. Photograph of the Memphis Landing, ca. 1905.

The visitor to the Memphis Landing expects to see the icon of the Mississippi River - the classic packet boat with its tall stacks. The design for the commercial complex should draw from this heritage, with far more reliance on river boats to house restaurants and retail shops.

Although the wharfboat was important to Memphis' river heritage, it can never be seen as a principal element of the Landing—it was a service feature, much like a loading dock. The purpose of the wharfboat was to provide a service to only a select few of the riverboats, and only a few of the steamboats landing at Memphis ever tied up to the wharfboat.

From a marketing standpoint, the proposed river complex is being seen as a version of the urban "festival marketplace" to take advantage of Memphis' river setting and river heritage. A critically important goal, one that may determine the success of this project, will be to create a unique commercial environment that speaks of a unique place: Memphis, especially the Memphis Landing. Photographs and other images of the Memphis Landing over time show that it was a complex and somewhat chaotic commercial wharf even through the 1940s. The character of the Landing during these years was defined by the presence of many riverboats on the foot of the Landing, lined up shoulder to shoulder. The orientation of the riverboats to the Landing and to one another was apparently ever-changing and unpredictable.

Public Comment. Public comments received during preparation of this plan generally supported the proposed harbor commercial complex as an opportunity to affect positively the restoration of the Landing and the image that the city presents to both residents and visitors. However, this enthusiasm was tempered by the strong sentiment that the development should be designed as a unique attraction reflecting the character of Memphis by taking maximum advantage of its site and its river heritage. The approach to this design should employ many river craft instead of conventional buildings on barges to house restaurant and retail activities.

Conclusion. The design of the commercial harbor development should be reconsidered to focus on capturing the appearance and flavor of the unique river heritage of the Memphis Landing. Far more emphasis should be given to creating a setting that uses river craft to house the tenants in the development. The formal organization and massive scale of the elements of the proposed project are the antithesis of what is needed to effect an exciting, memorable, unique experience—all hallmarks of successful festival marketplaces.

The infrastructure of the proposed Riverfront Commercial Complex should encourage a complex mixture of boats and a few small structures, tied together with walkways that effect the appearance of docks and floating piers, an effect not unlike the appearance of a bustling, active wharf. Another design goal should be to organize the pattern of boats and structures into small groups rather than one continuous complex, thus allowing views of the harbor, traffic on the Wolf River, and Mud Island. Bridge-like gangways could connect the separate groups of elements to permit the views while allowing pedestrian circulation from one group to the next.

Standards for Design

Recommended

Create a mixed-use commercial complex housed in a variety of river craft and structures, large and small, that reflect the rich character of the Memphis Landing as a wharf.

Create a diversified commercial environment mixing restaurant, retail, lodging, and public spaces that impart a distinctly local flavor.

Impart the sense of a river landing by housing a minimum of 50 percent of the total tenant spaces in riverboats or other watercraft.

Not Recommended

Create a formalized, monolithic complex of structures that impart the impression of a suburban shopping complex.

Create a commercial environment of a narrow scope of uses and users (such as national chains) that offer no local character or flavor.

Create a complex with a suburban feel by housing more than 50 percent of the tenant spaces in structures.

Design Standards (continued)

Recommended

Design one-story structures in a variety of sizes to house tenants; the maximum square footage of individual structures should not exceed 2,500 square feet.

Use a variety of traditional materials for the exterior of structures, including metal roofs and different types of wood siding.

Use traditional painted sign panels.

Not Recommended

Use back-lit or neon signs or illuminated awnings that will be visible from the Landing.

Related Issue: Mooring of the Harbor Complex

Discussion. The concept design for the project does not propose a system for mooring the complex to the Landing. Two types of mooring systems are traditionally applied in harbor settings for "permanently" moored vessels. The first is a piling-based system, where the vessels are attached to tall pilings driven into the river bottom. The vessel can move vertically with the rise and fall of the water level, but not horizontally. Due to its lack of horizontal movement, this system is best when the waterway has a vertical or steeply sloped edge.

The second system is the one traditionally used on the Landing since its inception. This system uses cables or chains attached to mooring to hold the craft to land. There are 112 mooring rings, dating from 1859 to ca. 1980, on the paved face of the Landing. The vessels are also held in tension with spars that keep the vessel from grounding on the shore. The spars can be steel poles or gangways.

The Mississippi River at the Memphis Landing experiences a seasonal average rise and fall of approximately 30 vertical feet. The distance between the currently established historic high and historic low is approximately 60 vertical feet. The slope of the Memphis Landing also causes the water's edge to move horizontally. Using the western edge of Riverside Drive as a base mark, the distance to the water's edge from Riverside Drive at the average high water stage is about 30 feet; at the average low water stage, it is approximately 250 feet (Figure A6).

A piling-based mooring system would not be feasible for application on the Landing. Apart from the extensive length of the gangways that would be needed to connect the floating development with the shore during high water, the appearance of the piling system would cause an adverse effect to the Landing. The massive vertical pilings above the water would introduce a visual element to the Landing that would harm its character of setting. The pilings would also cause difficulties for dredging equipment during the U.S. Army Corps of Engineer's annual work on the Wolf River Harbor.

The traditional cable and spar system is the most flexible of the available types, but it requires adjustments to the lengths of the cables when the river level changes. Mooring a large vessel, such as the proposed harbor complex, would require many cables spread to many mooring rings on the Landing; each will require nearly daily adjustment. The effects of resistance from northerly or southerly winds will also have to be accommodated. Insufficiently moored vessels have been known to result in mooring rings being out of their place, as was experienced by the

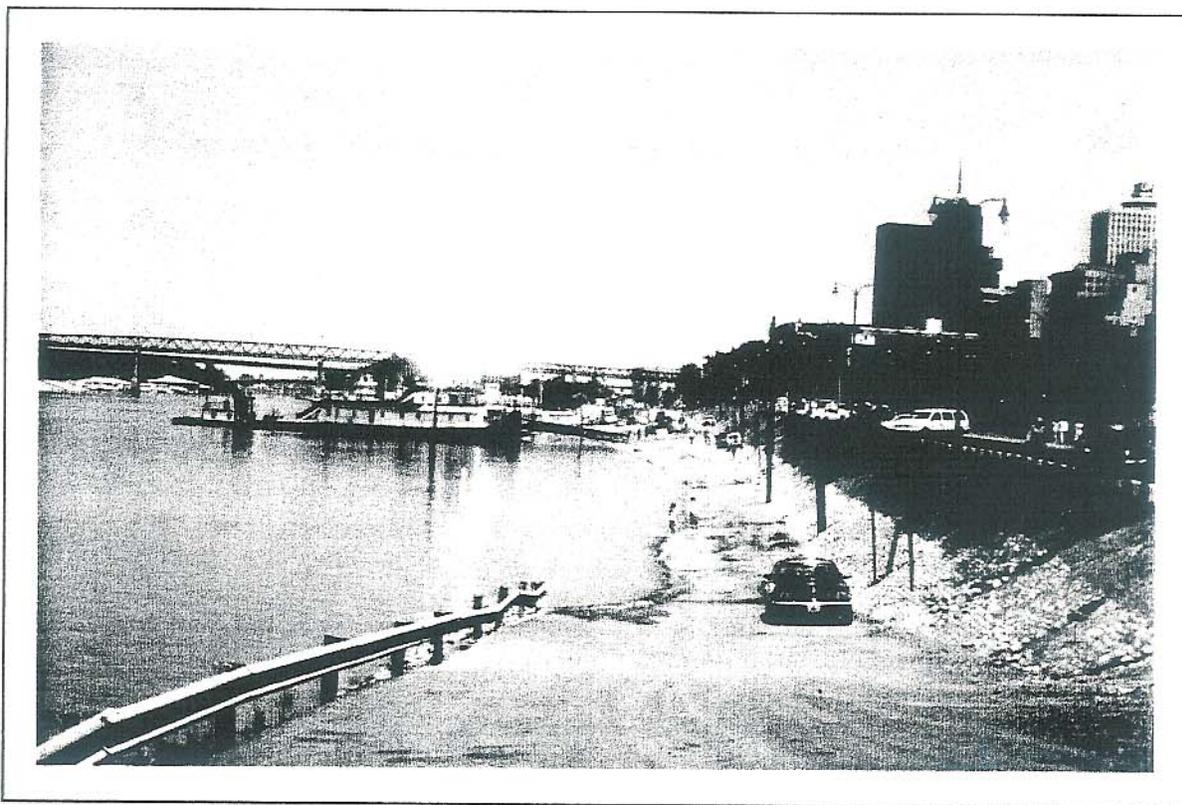


Figure A6. High Water on the Memphis Landing, 1995.

The vast vertical fluctuations of the Mississippi River will require a flexible mooring system for the commercial complex; this system must permit horizontal movement to remain close to the river's edge. The traditional spar, anchor, and cable system is likely still the best way to accomplish this task. However, additional stabilization is needed to prevent the north-south drift of vessels in heavy winds.

Mississippi Queen in recent years. The stresses on the mooring rings may be reduced by spreading the cable connections with the vessels to a larger number of mooring points. Proper stabilization of the complex from north-south movement may require new moorings, perhaps even extending onto the embankment of Jefferson Davis Park and Tom Lee Park.

Public Comment. Comments received from the public were opposed to a piling-based mooring system in favor of the more traditional cable and spar method. These sentiments were based on the impression that a piling based system would be both unattractive and disruptive to navigation on the Wolf River Harbor.

Conclusion. The methods for mooring the new harbor complex should be explored, and a solution should be designed that creates the least visual or physical impact to the Landing. The traditional cable and spar system appears to be the best solution for this purpose. However, great care should be taken to calculate the maximum load that the mooring rings can accept and to spread the wind loads and other stresses posed by the harbor complex to an adequately large number of mooring points.

Related Issue: Damage to the Landing from Watercraft

The proposed harbor complex is designed in part as a port for the riverboats of the Delta Queen Steamship Line. The passengers of the Delta Queen Line are anticipated to be a major source of revenue for the proposed complex.

Discussion. Each riverboat of the Delta Queen Line is outfitted with a maneuvering propulsion system called a "bow thruster." The bow thruster maneuvers the riverboats by using a strong jet of water to push the boat sideways. The thrusters generally are needed to maneuver in a narrow channel, such as the Wolf River Harbor, or to offset the force of winds or currents to keep the vessel from grounding.

There is clear evidence that the bow thrusters of the Delta Queen Line have caused substantial damage to the pavement of the Landing (Figure A7). Even when the captains of the Delta Queen's riverboats use caution, damage can occur that will not be visible until the river stage drops. Providing the Delta Queen Line a consistent place to dock may localize the damage caused by the bow thrusters, but it will not prevent it.

Public Comment. Comments from the public expressed concern over the bow thruster damage on the Landing and the inherent maintenance and repair costs that will result. The public urged that means be developed to minimize this condition in the future, whether by providing the assistance of tugboats to maneuver large vessels or by whatever other means may be necessary. The public also urged the City of Memphis to contact officials with the Delta Queen Line to inform them of the problem and to adopt appropriate measures to help preserve the historic fabric of the Memphis Landing.

Conclusion. This Preservation Plan has recommended that the Tom Lee Monument Relocation Project not be completed, due to its adverse effects on the Landing. If the monument is not relocated to the intended site, the replacement paving in this area can be constructed with a system strong enough to withstand the force of the bow thrusters. This area of the Landing should then be designated for the use of the Delta Queen Line's riverboats in order to minimize the potential damage from the thrusters. An additional measure could include having the Delta Queen's riverboats moor at a floating dock structure set back from the water's edge. The thrusters would then push against the dock structure during arrivals and departures instead of the pavement of the Landing. If these steps prove inadequate, additional actions should be taken to minimize the damage to the historic paving of the Landing.

**Related Issue: Installation of a New Elevator Core
in the City Garage (Shoppers' Parking Garage)**

The Shoppers' Parking Garage was built ca. 1950 on a portion of the Public Promenade in the northern half of the block bound by Front Street, Riverside Drive, and Monroe Avenue. Its entrance is on Front Street. A former entrance is located on Monroe Avenue.

Discussion. The project proposal calls for the construction of an elevator core at the corner of Monroe Avenue and Riverside Drive. The elevator core is intended to increase the use of the garage by patrons of the Landing or other city amenities.

Public Comment. The time constraints for the preparation of this Preservation Plan did not permit the discussion of this issue with the public.

Conclusion. The proposed elevator core should be designed to be compatible with the existing design of the garage. Signage for the entrance should be small and preferably front-lit at night.

CONCLUSION

The proposed Memphis Riverfront Redevelopment Plan and its related projects hold great promise for the renewed use of the Wolf River Harbor and the Memphis Landing. The proposed development project is an opportunity to renew appreciation for the significance of the Memphis Landing as a historic resource, as well as to provide a potential source of revenue for restoration and maintenance of the Landing. However, aspects of the development would have formidable adverse effects on the integrity of the cobblestone landing by reducing its physical size, increasing its visual isolation from the surrounding urban context, and imposing an inappropriate development design that alters the qualities of its setting. Clearly, however, there are effective ways to mitigate these effects and increase the overall quality and success of the development.

The project elements proposed by the City are intrinsically interrelated by function, location, and purpose. It would be to the advantage of the City of Memphis if the entire riverfront development were combined in a single, comprehensive Section 404 Clean Water Act permit and presented to the Tennessee Historical Commission for Section 106 review. This approach should achieve savings by greatly reducing both administrative costs and the time required for the review process. It is also possible that greater flexibility might be granted the review of the whole. The "umbrella" review of the entire package of projects would allow the comments of the Commission and the Advisory Council on Historic Preservation to be included early in project planning, before individual elements are taken to the final design stage. As each element reaches the point of a final design, the time needed for its review will be much diminished, assuming that the concerns of the Commission and the Council have been addressed.

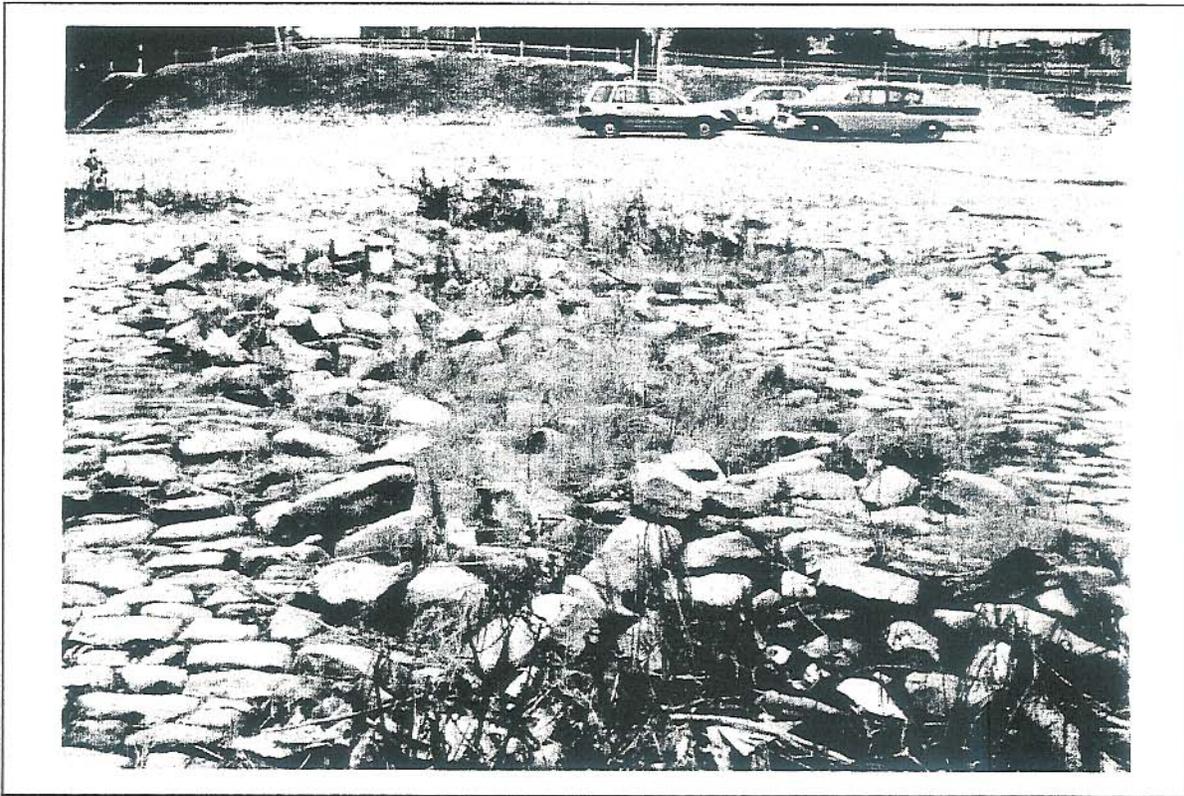
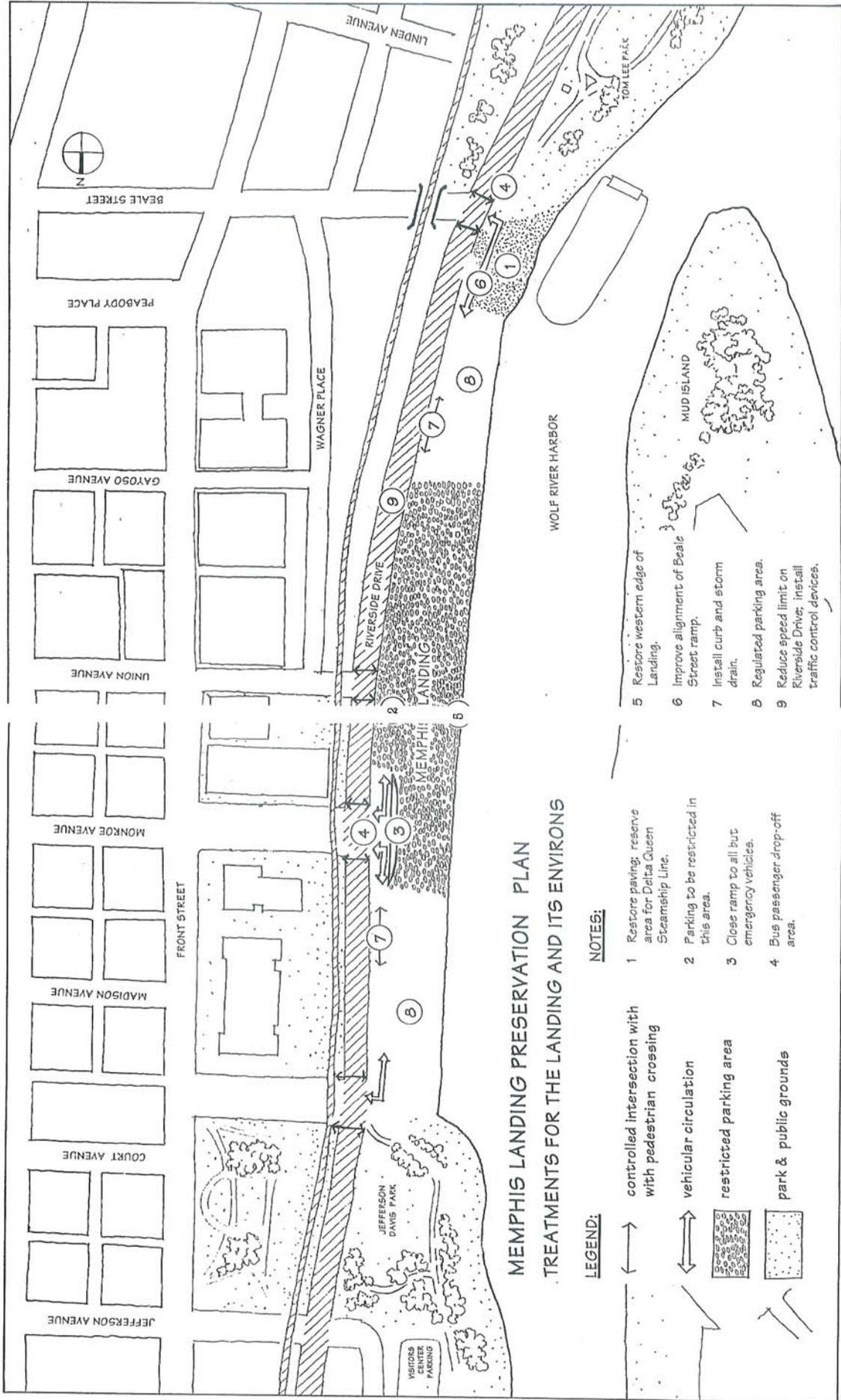


Figure A7. Bow Thruster Damage on the Landing.

Craters like this one in the pavement of the Landing are the result of "bow thrusters," used by river craft like the *Delta Queen* to maneuver in narrow channels. The adverse effects of the bow thrusters on the Landing can be lessened by designating a specific area for the docking of the large riverboats over a reinforced paved area. The extreme southern end of the Landing would be most appropriate for this purpose, in the area disturbed during the construction of the Tom Lee Monument Relocation Project.



**MEMPHIS LANDING PRESERVATION PLAN
TREATMENTS FOR THE LANDING AND ITS ENVIRONS**

LEGEND:

- ← controlled intersection with pedestrian crossing
- ↔ vehicular circulation
- ▨ restricted parking area
- ▤ park & public grounds

NOTES:

- 1 Restore paving, reserve area for Delta Queen Steamship Line.
- 2 Parking to be restricted in this area.
- 3 Close ramp to all but emergency vehicles.
- 4 Bus passenger drop-off area.

- 5 Restore western edge of Landing.
- 6 Improve alignment of Beale Street ramp.
- 7 Install curb and storm drain.
- 8 Regulated parking area.
- 9 Reduce speed limit on Riverside Drive; install traffic control devices.

Figure A8. Recommended Preservation Treatments for the Memphis Landing.