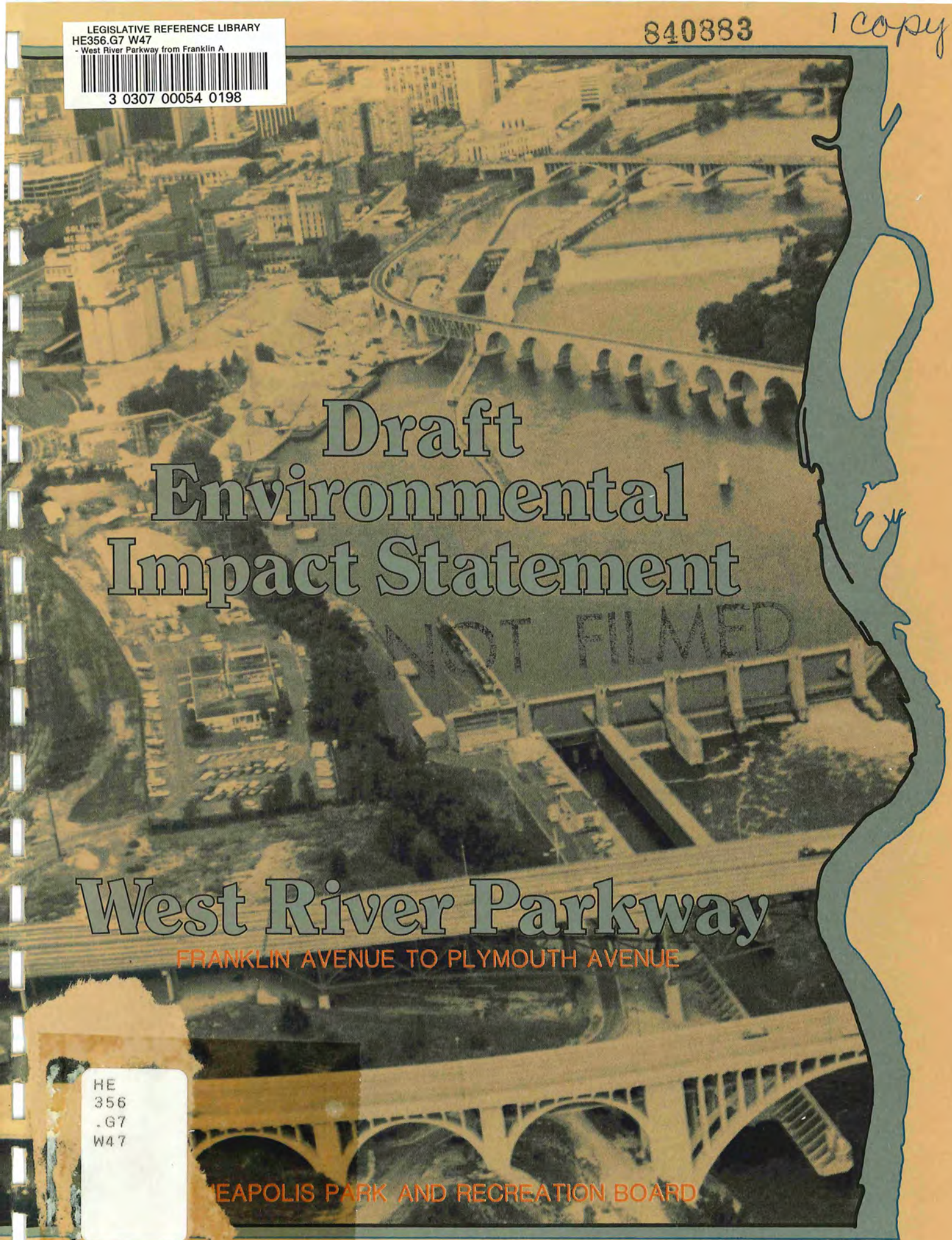
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EAPOLIS PARK AND RECREATION BOARD

FHWA-MN-EIS-83-02-D
Federal Highway Administration
Minnesota

WEST RIVER PARKWAY

From Franklin Avenue to Plymouth Avenue,
Minneapolis, Minnesota

State Project 141-080-02 Minnesota Project GR 5242(1)
141-080-04 GR 5242(3)
141-080-05 GR 5220(5)

DRAFT
ENVIRONMENTAL IMPACT STATEMENT
AND
DRAFT SECTION 4(f) EVALUATION

Submitted Pursuant to 42 U.S.C. 4332(2)(c)
49 U.S.C. 1653(f), and
36 C.F.R. Part 800
and Minnesota Statute 116 D.01 et reg.

by the

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
THE STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION
AND
THE MINNEAPOLIS PARK AND RECREATION BOARD

Cooperating Agency:
U.S. Army Corps of Engineers

1/14/83 — Date of Approval — For FHWA — Title

1/5/83 — Date of Approval — For Minnesota DOT — Title

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ABSTRACT

This DEIS documents the impacts associated with the implementation of West River Parkway, a segment of the Great River Road, through central Minneapolis. The proposed project is intended to provide a recreational motorway, bicyclist and pedestrian paths and new park areas along the Mississippi River. The environmental consequences of the project alternatives, including the No-Action Alternative, are documented and compared such that a preferred alternative may be chosen.

Comments on this DEIS are due within 45 days of the Public Availability Notice in the Federal Register and should be sent to:

Robert Mattson, Project Manager
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Minneapolis, Minnesota 55415

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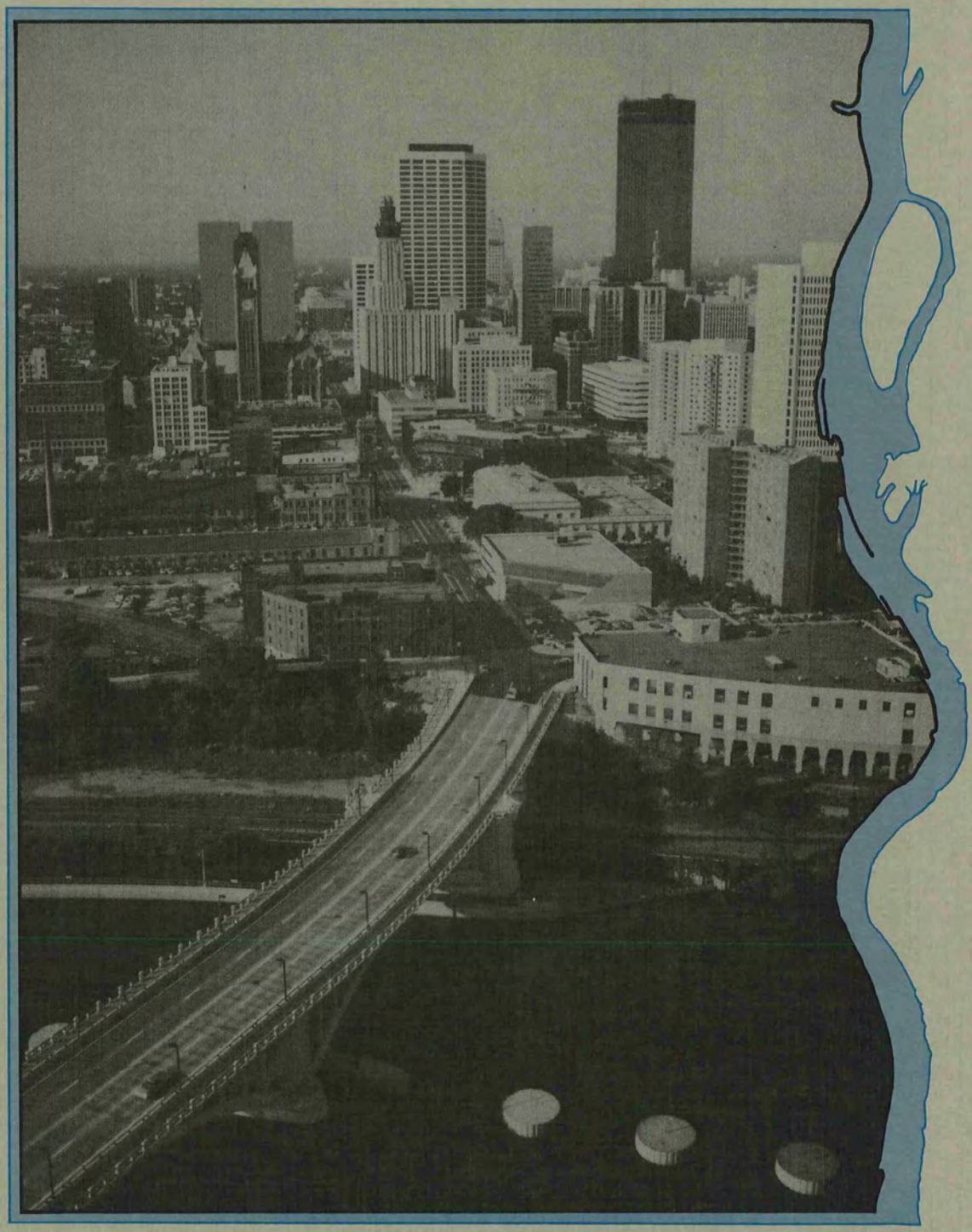
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1. Summary

West River Parkway

Minneapolis Central Riverfront

1. Summary

1.1 Project Description

The proposed project consists of the extension of West River Parkway from Franklin Avenue to Plymouth Avenue in the City of Minneapolis, Minnesota as part of the Great River Road. (Refer to Figure 2-1.) The Great River Road is intended to be a scenic, recreational, and historic roadway along the Mississippi River from the Gulf of Mexico to Lake Itasca in Minnesota. The project is part of the Federal Great River Road Program. Federal Highway Administration involvement is authorized by 23 U.S.C. 148 as implemented by 23 CFR Part 661. Three basic route alternatives plus the No-Action option are evaluated in this Draft Environmental Impact Statement (DEIS). With any of the Action Alternatives, about 44 acres of private land would be acquired for combination with publicly-owned properties to create a continuous riverfront park through the Project Area.

1.2 Major Alternatives Considered

The Project Area was divided into seven segments, and several route alternatives were identified in each segment during a scoping process. The route alternatives shown in Figure 3-1 were selected in the scoping process for more detailed study in the DEIS. At each of the linkage points identified in Figure 3-1, it is possible to switch from any route alternative in one segment to any route alternative in the adjacent segment. (For example, Segment C-Route 2 could eventually be linked with Segment D-Route 1 to form a single preferred route alternative.) The ability to combine different route alternatives in each segment resulted in seventy-two unique alignment alternatives for the Great River Road to be studied in detail in the DEIS. The No-Action Alternative is also evaluated in the DEIS.

In conjunction with the motorway there will be a continuous, ninety-one acre system of public open space along the riverfront. This park will include pedestrian trails, bicycle trails, parking, play areas, plazas, and landscaping.

1.3 Significant Environmental Impacts

Selection and construction of any one of the Action Alternatives would cause four types of significant environmental effects. The first significant effect would be beneficial and would involve the improvement of recreational opportunities in central Minneapolis by the completion of a continuous public riverfront park through the length of the Project Area.

A recreational motorway could run through all or portions of this riverfront park, and, at a minimum, there would be pedestrian paths, bicycle trails, river overlooks, parking areas, historic interpretive sites, and open play or picnic areas.

A second significant effect of any of the Action Alternatives would be the displacement and relocation of two businesses, the J.L. Shiely Company and the Minneapolis Gas Company office and shop.

The third significant effect would involve the expenditure of federal, state, and local funds. The total project cost would be about $22.9 million for Route 1, about $22.0 million for Route 2, or about $20.4 million for Route 3.

The final significant effect would be the possible removal or obliteration of certain historic structures or sites within the St. Anthony Falls Historic District. The historic impacts vary significantly depending on the route alternative considered.

There are other impacts associated with the Action Alternatives which would have only minor effects. These include the removal of some vegetation, bluff cuts in previously disturbed areas for the roadway, and road construction in a 100-year and in a 15-year floodplain in the Bassett Creek and Bohemian Flats Segments, respectively.

1.4 Areas of Controversy

The major areas of controversy associated with the Action Alternatives involve route location and business displacement. In the first instance, the Fuji-Ya Restaurant (Mill District) does not wish to have a roadway between its building and the river (Route 1) due to perceived adverse visual and noise effects on its customers. The J.L. Shiely Company is opposed to any road alignment or parkland acquisition which would cause eventual relocation. Second, the State Historic Preservation Officer has stated that Routes 7C and 2C through the Mill District Area will create an adverse effect.

1.5 4(f) and 6(f) Involvement

All route alternatives for West River Parkway would pass through the St. Anthony Falls Historic District due to the large area encompassed by the District in the central Minneapolis riverfront. Since the project objectives include improving physical and visual access to the Mississippi River, all Action Alternatives would use land from a Section 4(f) property under a strict interpretation of the regulations. Measures for mitigation of such impacts are proposed. The No-Action Alternative is the only one which would not violate the strict interpretation of the 4(f) regulations.

The project would not impact any land parcels protected by Section 6(f) regulations.

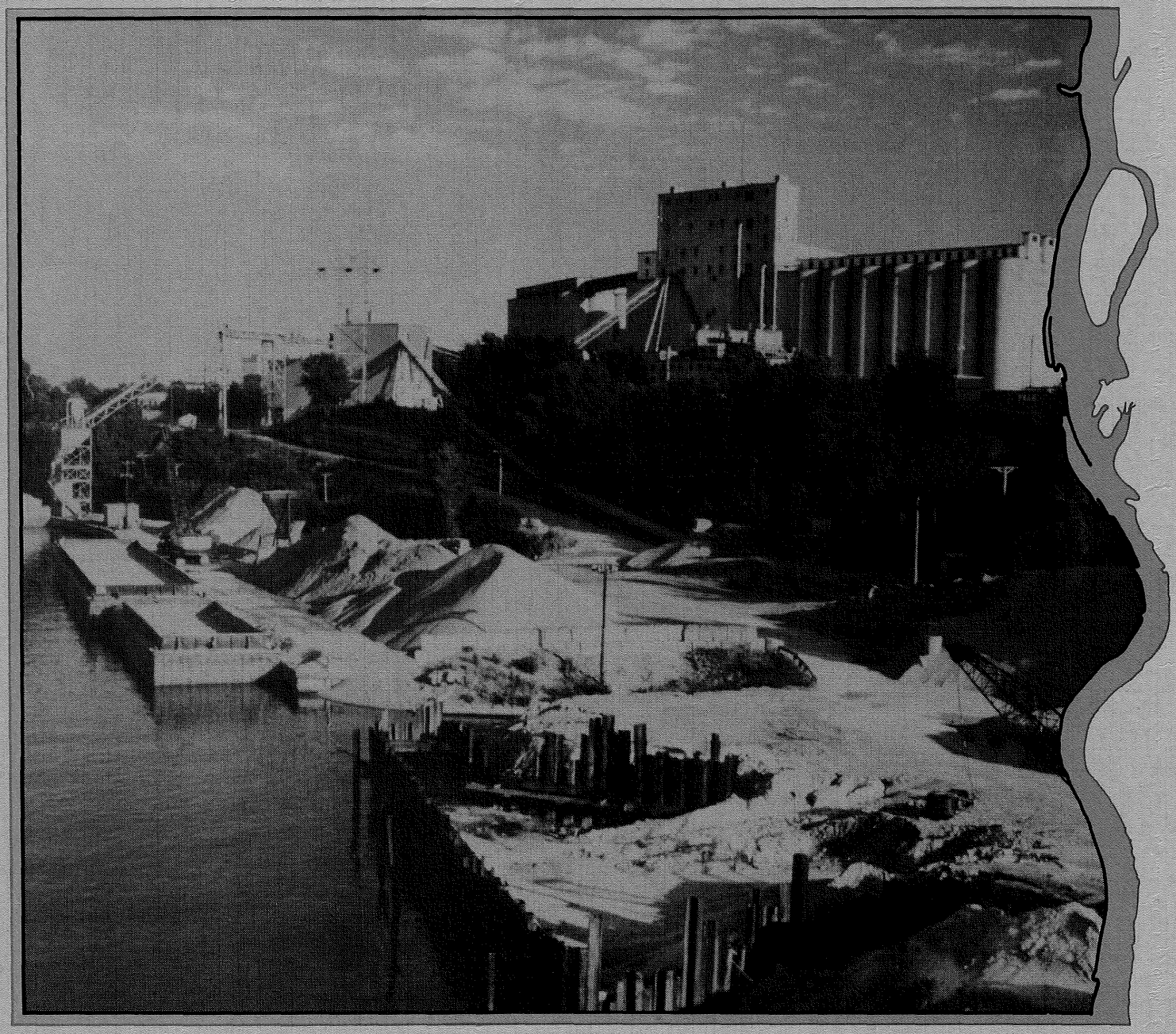
1.6 Impact on State Government on Any Federal Controls

If the City of Minneapolis receives funds for this project from the Federal Great River Road Program, those funds will be utilized in accordance with the program regulations as stated in the Federal-Aid Highway Program Manual, Volume 6, Chapter 9.

The project will also require shoreline improvements controlled by the U.S. Army Corps of Engineers. Fill material placed along the river shoreline would require a Section 404 permit.

1.7 Multi-State Responsibilities

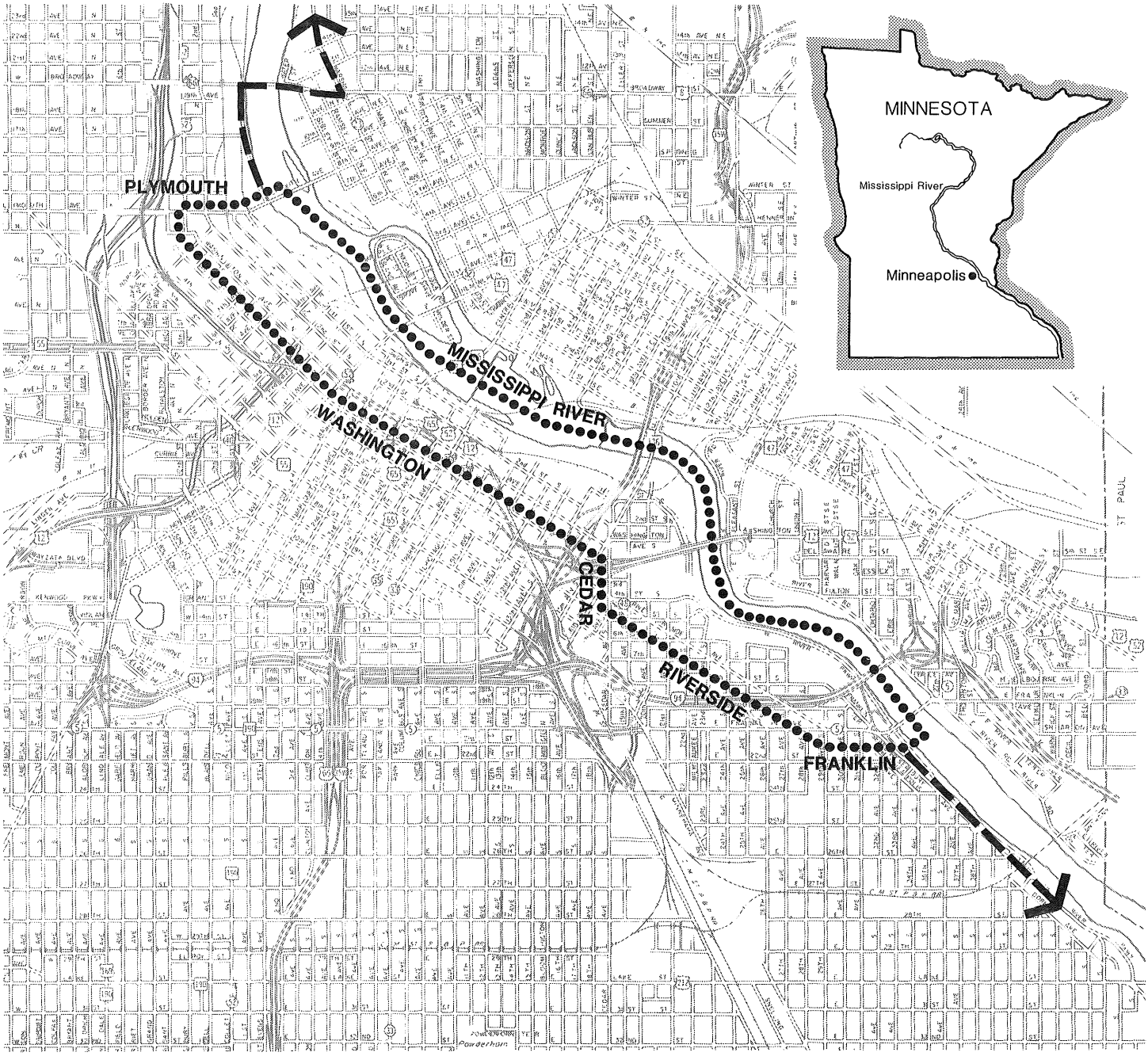
There will be no multi-state responsibilities since the entire project would take place in the State of Minnesota.



2. Purpose of and Need for Action

West River Parkway

Minneapolis Central Riverfront



●●●●● PROJECT AREA BOUNDARY

— — GREAT RIVER ROAD DESIGNATION

West River Parkway

Minneapolis Park and Recreation Board

FIGURE 2-1

PROJECT LOCATION

0 1500 3000 FT.

BRW

BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

2.2 Project Objectives

The first step in planning for West River Parkway was to develop a set of objectives to direct the identification, refinement, and selection of project alternatives. A set of project objectives, shown below, was based on previously stated goals for the riverfront, including: "Development Guide Policies for Development of the Central Riverfront Area" (Riverfront Development Coordination Board), "Urban Design Guidelines, Central Riverfront, Mississippi River Corridor Critical Area Plan" (City of Minneapolis, 1980), and "Great River Road Location Criteria" (Federal-Aid Highway Program Manual, Vol. 6, Ch. 9, Sec. 15, 1979). The following project objectives reflect the above-mentioned documents as well as other reports.

General

1. Provide a publicly-owned corridor through the Project Area (Franklin to Plymouth Avenues) that provides continuity to the open space along the river. The corridor should include circulation routes along the river's edge progressing inland from passive to active, i.e., pedestrian path, bicycle path, motorway, then recreational sites.

2. Develop the corridor so as to increase public awareness of the Minneapolis riverfront for purposes of recreational use, economic development and housing, while preserving the area's physical characteristics, cultural heritage and historic structures.

3. Facilitate public access to and use of the riverfront in the Project Area while maintaining river-oriented private industry, institutions and utilities that are compatible with recreational open space and/or the riverfront setting.

4. Stimulate the development of adjacent land uses which will take advantage of the riverfront environment if such land uses are compatible with public use and enjoyment of the riverfront.

Corridor Configuration

1. Prohibit development in floodplains or floodways which would obstruct water flow or decrease flood storage capacity.

2. Design and locate the corridor so as to emphasize the delineation of public space from private space, and provide reasonable public access to the public open spaces.

3. Locate the parkway, bicycle and pedestrian paths, and other recreational facilities so as to maximize dramatic views of the river, Saint Anthony Falls, the Stone Arch Bridge and similar features.

4. Locate the open space corridor so as to protect, enhance and restore natural features such as steep slopes, vegetation and drainage patterns.

5. Establish visual continuity with existing parkways by the use of similar design components such as roadway widths, lighting, graphics and site furniture.

Corridor Enhancement

1. Develop recreational sites along the open space corridor so as to provide a balanced complement of park facilities which allow expanded recreational use without damage to natural or historic resources.

2. Limit commuter use of the corridor parkway.

3. Plan appropriately-sized parking areas to serve planned uses along the river.

4. Provide for the safety and security of individuals through adequate lighting, signs, etc.

5. Preserve historic structures, and encourage and assist adaptive reuse of these structures.

6. Develop pedestrianways to the river that are clearly defined, convenient and separate from private housing and industry.

7. Provide appropriately designed and located interpretive facilities to portray the cultural, historical and natural heritage of the river.

Specific Developments

1. Provide for the development of a major recreation or scenic open space between the mouth of Bassett Creek and Plymouth Avenue.

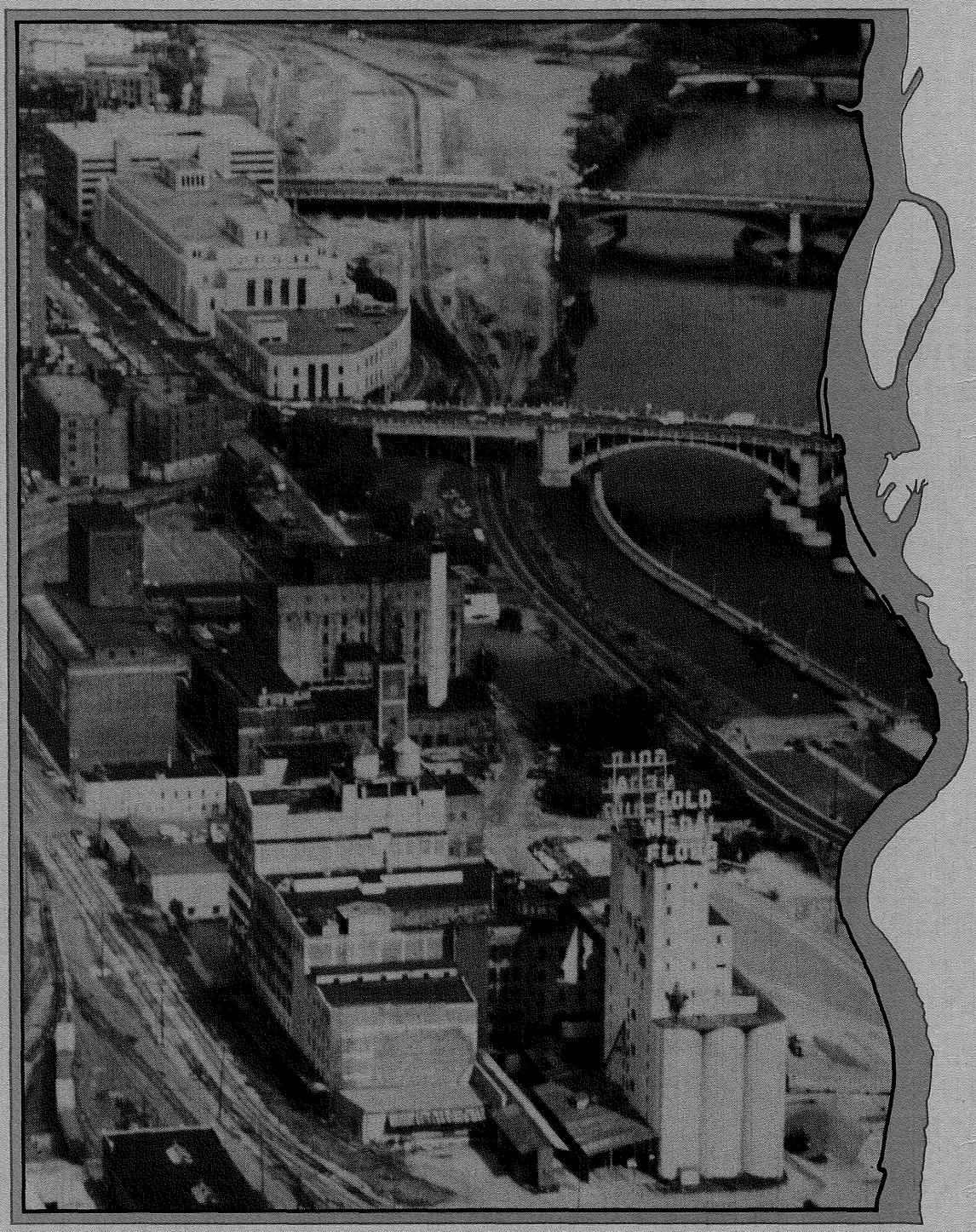
2. Provide maximum public usage of existing high interest areas, including the mouth of Bassett Creek, the Stone Arch Bridge and the Upper Saint Anthony Lock and Dam.

3. Provide for the development of a publicly-accessible plaza from Hennepin Avenue to the river's edge.

2.3 Project Schedule

The Location Study and DEIS process commenced in July 1981 with the Notice of Intent to Prepare an Environmental Impact Statement in the Federal Register. Following is a chronology of major events in West River Park planning process:

• March 1979	Project Development Report
• July 1981	Notice of Intent to Prepare EIS
• September 1981	Final Scoping Report
• January 1983	Notice of DEIS Availability
• February 1983	Location Public Hearing
• March 1983	Location Decision
• May 1983	Final EIS/Location Approval
• June 1983	Design Study Report
• July 1983	Design Public Hearing
• August 1983	Design Approval/Commence Plan Preparation and Right-of-Way Acquisition



3. Project Alternatives

West River Parkway

Minneapolis Central Riverfront

3. Project Alternatives

This section of the DEIS describes the alternatives related to West River Parkway, including the No-Action Alternative. The project history, prior planning studies, and proposed project facilities are described.

A detailed description of project alternatives is presented by segment for the Project Area. The segments are: (A) Bassett Creek, (B) Gateway, (C) Mill District, (D) Gasworks Bluff, (E) Bohemian Flats, (F) Brewery Flats, and (G) Existing West River Parkway. The alternative routes and project segments are shown in Figure 3-1.

3.1 Project History

The concept for a parkway along the Central Riverfront in Minneapolis is an idea almost as old as the city itself. In 1883, the Minneapolis Board of Park Commissioners undertook a study of a roadway along the river bluffs designed to provide views and access to the river. The landscape architect H.W.S. Cleveland studied the city and made recommendations for developing a "grand round" park system which would include the city's greatest natural assets -- the lakes, Minnehaha Creek, and the Mississippi River.

In 1917 the City of Minneapolis published the Plan of Minneapolis, again calling for open space and boulevards along the Central Riverfront. This concept was set forth at a time when the west bank of the river was heavily used for industry, including flour milling, railyards and energy production.

The City once again affirmed its support for a recreational road and open space along the Central Riverfront when the Riverfront Development Coordination Board adopted the Central Riverfront Open Space Master Plan in 1977. This plan set a proposed boundary for the riverfront park and also called for a motorway along the river. Principal park areas identified in the plan included the Bassett Creek area, the U.S. Army Corps of Engineers Lower Lock area, and the Mill District History Park near Portland Avenue in the Mill District. This document also served as the Master Plan for Nicollet Island and the east bank of the river. It has been adopted for acquisition purposes by the Twin Cities Metropolitan Council to guide funding for the regional park.

Further planning for the West River Parkway project took place from 1977 to 1979 with funding of the Federal Great River Road Program. The original concept for the Great River Road, a parkway along the Mississippi River from Lake Itasca in Minnesota to the Gulf of Mexico, dates back to 1938. A

number of route location studies were conducted during subsequent years, but funds for acquisition and construction were not allocated by Congress until 1976. During 1977, route designation efforts were begun by the Minnesota Department of Transportation (Mn/DOT) in cooperation with local governments and other agencies. The selection of the Great River Road route began with an inventory of possible alignments along both sides of the river. Alternative route designations were presented to the public, and a recommended route was chosen based on agency and public comment. Route designation for the Great River Road in the Twin Cities area was given by the Federal Highway Administration in April, 1978. The Great River Road Route Selection and Development Guide (I-694 in Brooklyn Center to Prescott, Wisconsin) was issued in 1979.

In central Minneapolis, the designated route for the Great River Road is the existing West River Parkway south of Franklin Avenue. To the north, West River Road, the Broadway Avenue bridge, and Marshall Avenue are designated. Between Franklin and Plymouth Avenues on the west bank of the river (the Project Area), it is necessary to evaluate route alternatives through an environmental impact statement process. The route designations and the selection of the Minneapolis Park and Recreation Board as the lead project agency were approved by the Minneapolis City Council in December, 1978.

Factors which influenced the selection of the west bank over the east bank included:

a) A continuous roadway along the river on the west bank has been an historical City objective.

b) The potential for utilizing park development to stimulate private economic development is greater on the west bank due to proximity to downtown and larger amounts of underutilized land.

c) The west bank has greater potential for recreational site development (Bassett Creek, Saint Anthony Falls, and the coal flats).

d) Major roadway connection problems, including traffic conflicts with University of Minnesota circulation, exist on the east bank.

The east bank of the River could be utilized as a State Alternate Great River Road route, with designation by the Commissioner of Transportation, and approval by the Mississippi River Parkway Commission. A State Alternate Great River Road route is intended to be a supplementary route to the main designated route, and is not intended to replace the main route.

3.2 Screening of Alternatives

The current route location study and environmental impact statement process began in February, 1981, with the first meeting of a Citizen Advisory Committee which was appointed by the Minneapolis Park and Recreation Board.

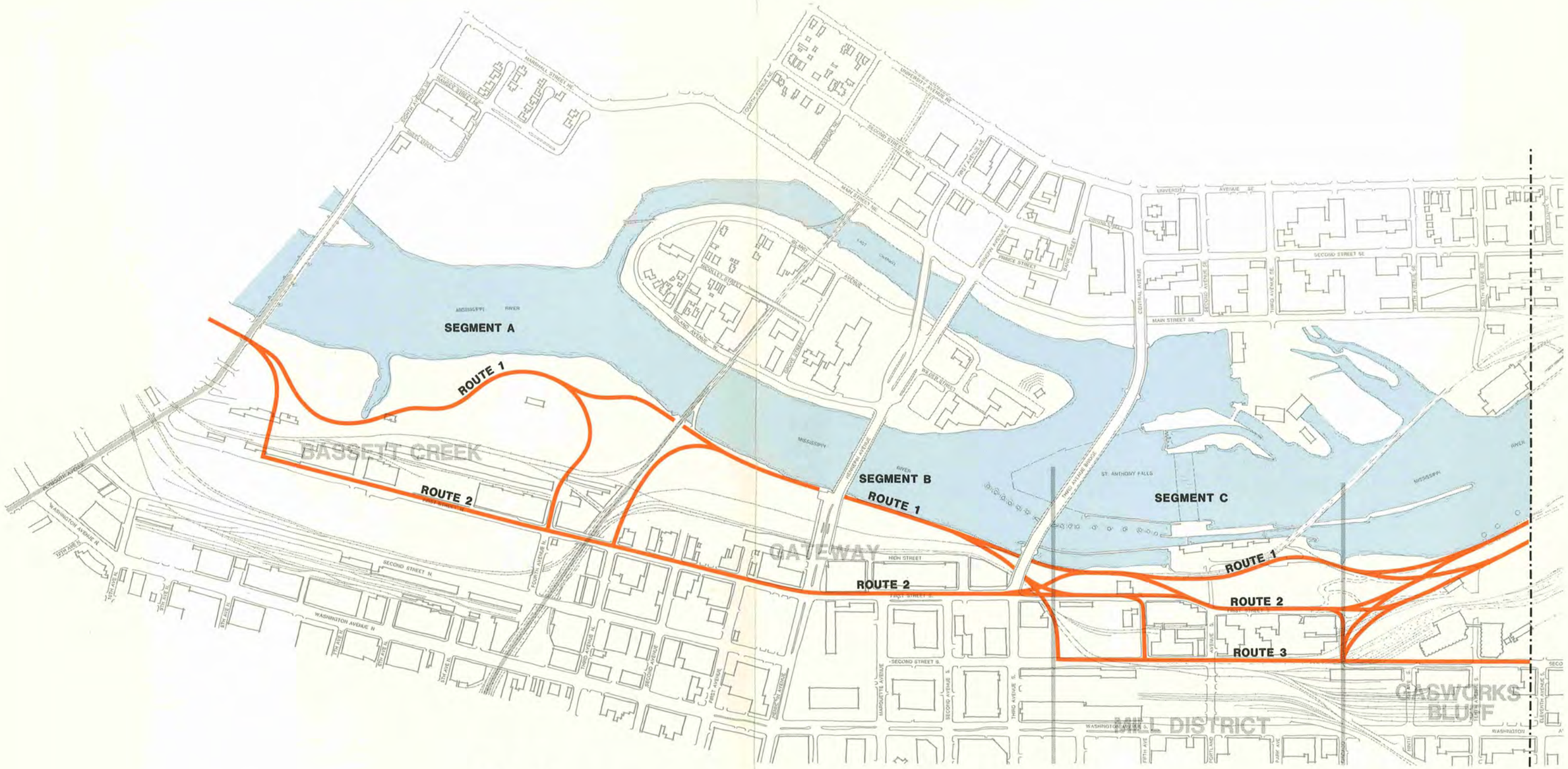


FIGURE 3-1

PROJECT ROUTE ALTERNATIVES

West River Parkway

Minneapolis Park and Recreation Board

BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

FIGURE 3-1

PROJECT ROUTE ALTERNATIVES

WEST SEGMENT

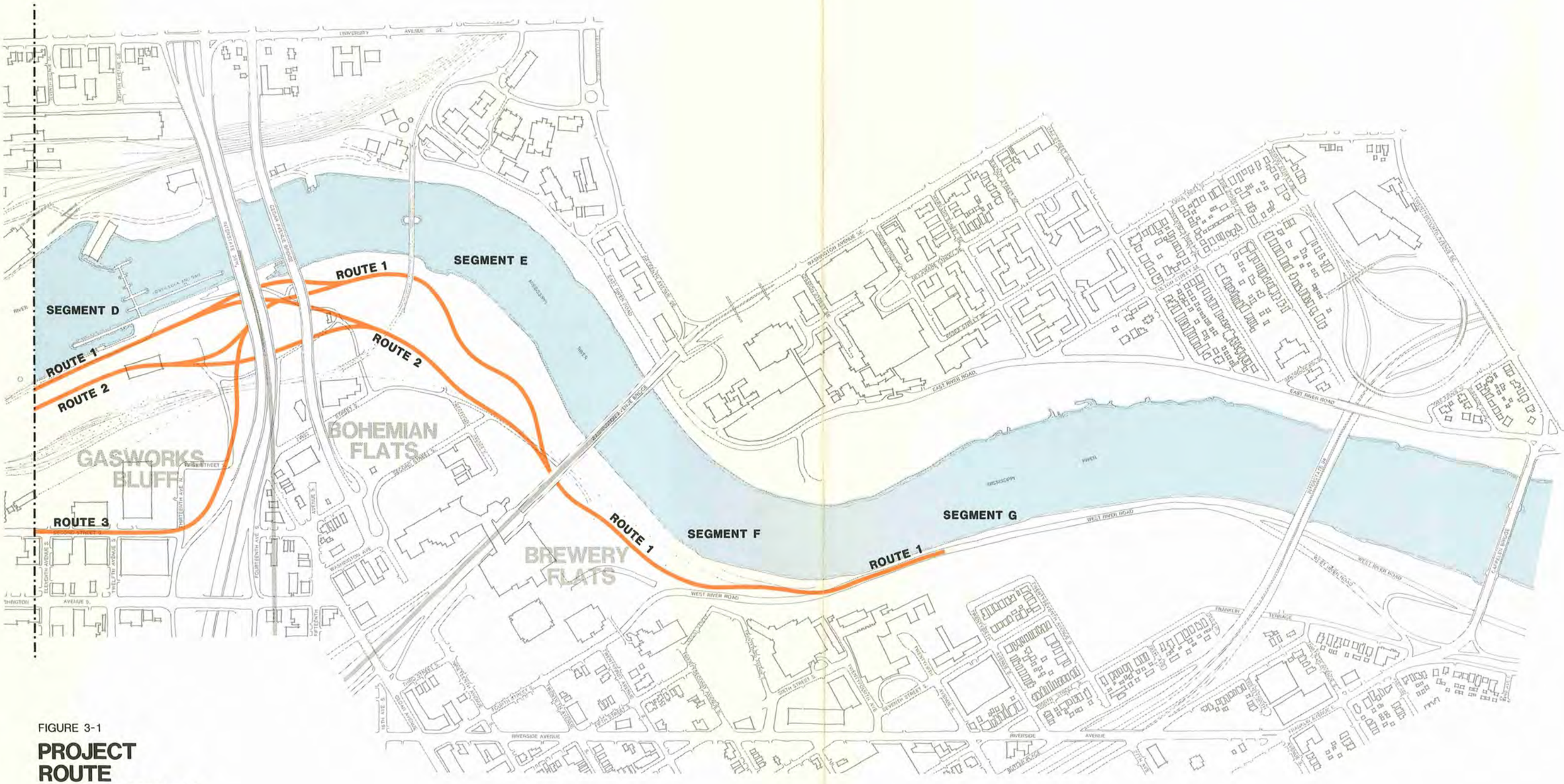


FIGURE 3-1

PROJECT ROUTE ALTERNATIVES

EAST SEGMENT

The initial work of the committee included the adoption of a set of project objectives and the identification of alternative routes for West River Parkway (Great River Road) from Plymouth Avenue to Franklin Avenue.

A number of alternative routes for West River Parkway were considered during an early evaluation process. The route alternatives were documented in the Preliminary Scoping Report (Minneapolis Park and Recreation Board, 1981). After review by a number of agencies, the route alternatives shown in Figure 3-1 plus the No-Action Alternative were selected for detailed study in the DEIS.

The most significant alternative route eliminated in the scoping process was Washington Avenue-Cedar Avenue-Riverside Avenue. This route was eliminated because it did not meet the location criteria set by the Great River Road Program Manual, and did not meet the Project Objectives established by the Citizen Advisory Committee. Distance from the river and heavy traffic volumes on this route are inconsistent with Great River Road objectives.

While the alternative routes vary in location, the associated park elements are similar regardless of the parkway route. The alternatives chosen for detailed study in the DEIS were selected based on consistency with the project objectives and a general evaluation of factors such as topography, vegetation, existing structures, recreation and historic use potential, traffic, land use, land ownership, and development plans. The project alternatives for further study were identified by the Citizen Advisory Committee, the Minneapolis Park and Recreation Board, the Minneapolis Community Development Agency, and the Minneapolis City Council.

3.3 Description of Alternative Actions

The following section provides a detailed description of the overall Master Plan, the route alternatives for each segment of the project, and the No-Action Alternative.

3.3.1 MASTER PLAN

The overall Master Plan for the Project Area calls for a continuous system of public open space along the riverfront including pedestrian paths, bicycle trails, parking, play areas, plazas, and landscaping. West River Parkway would be an auto access route through the Project Area.

Six major park areas would be joined by the parkway and trail system. The park areas include:

A. Bassett Creek Park, a 20-acre forested park for picnicking and walking;

B. Gateway Promenade, a 5-acre riverfront plaza;

C. Mill District History Park, a 15-acre urban history interpretive area;

D. Gasworks Bluff Overlook, a 20-acre river viewing area and bluff revegetation area;

E. Bohemian Flats Park, an 18-acre picnic and meadow area;

F. Brewery Flats Park, a 12-acre riverfront walk area.

In total, the six park areas will encompass ninety-one acres of the Central Riverfront, of which about one-half is currently publicly owned. The overall Master Plan elements are summarized in Table 3-1, and shown in Figure 3-2.

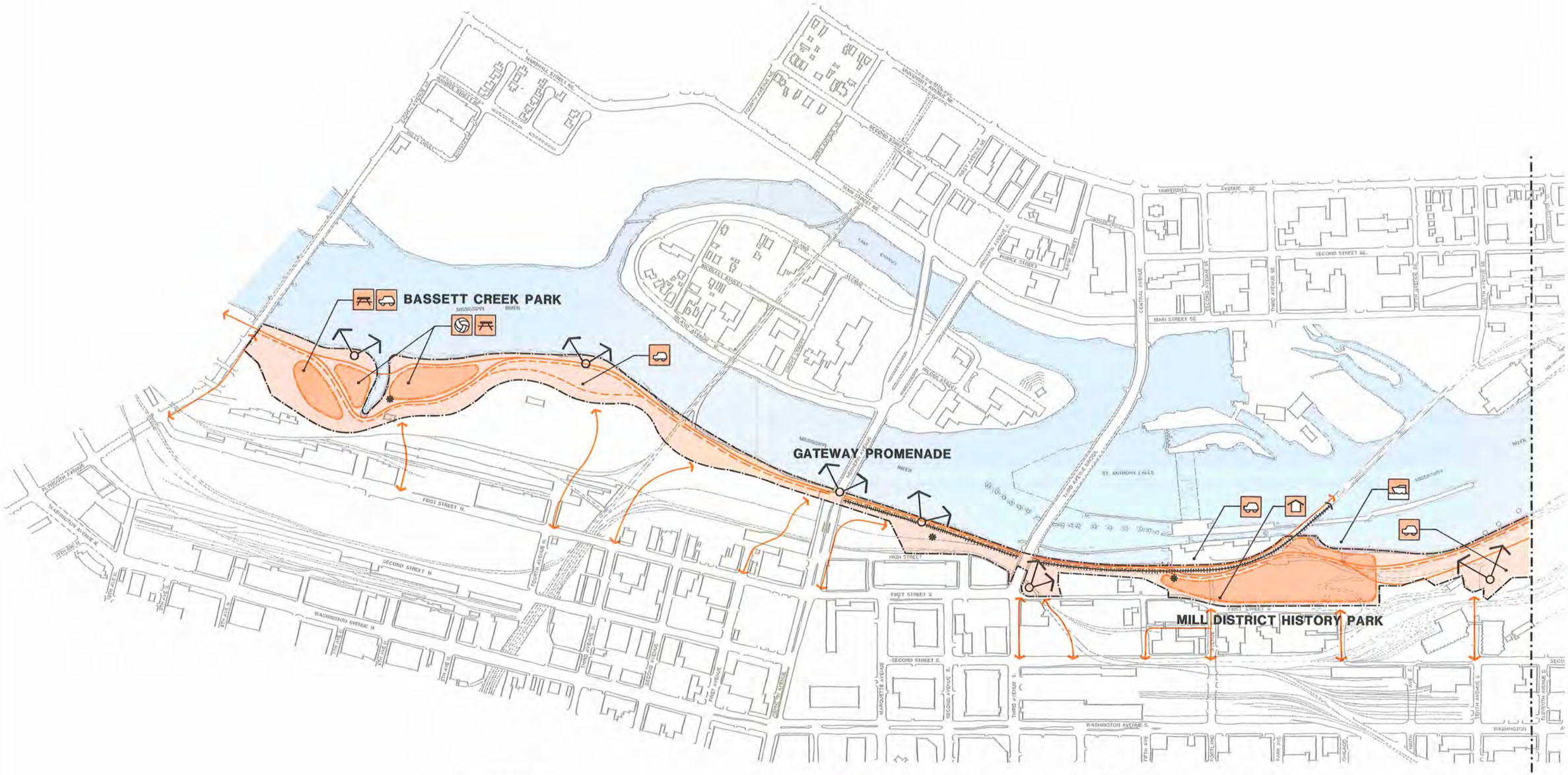
The route alternatives for Great River Road are shown by Figures 3-3 through 3-14. Each segment of the Project Area has from one to three alternative routes. These segments can be combined to form a number of continuous routes by using the links also illustrated in the figures. For example, the route farthest from the river would be designated 2A-2B-3C-3D-2E-1F. In all, there are seventy-two unique route alternatives between Plymouth Avenue and Franklin Avenue. Additionally, the No-Action Alternative is being compared to these Action Alternatives.

Segment	Park Area (Acres)	Pedestrian Trail (miles)	Bicycle Trail (miles)	Parking (spaces)	Picnic Tables	Special Features
A. Bassett Creek	19.9	1.1	0.6	75	35	Bassett Creek ravine trail, meadow area, picnic shelter.
B. Gateway	5.2	0.5	0.5	5*	0	Hennepin Bridge stairway, trolley line, river promenade.
C. Mill District	15.6	0.4	0.4	35**	0	Mill District History Park, canal, visitor center, trolley line, boat tie-up.
D. Gasworks Bluff	20.0	1.4	0.3	50	0	St. Anthony Falls overlooks.
E. Bohemian Flats	18.5	1.1	0.7	25	40	Meadow area, picnic shelter.
F. Brewery Flats	11.8	0.3	0.3	50	0	River boardwalk, boat tie-up.
TOTAL	91.0	4.8	2.8	240	75	

* Parking bays; other parking will be available in public or private ramps.

**U.S. Army Corps of Engineers visitor parking; other parking will be available in public or private ramps.

TABLE 3-1
WEST RIVER PARKWAY
MASTER PLAN FACILITIES



West River Parkway

Minneapolis Park and Recreation Board

FIGURE 3-2

PARK MASTER PLAN

0 200 400 600 800 FT.

BRW

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- PICNIC
- PARKING
- PLAYFIELD
- INTERPRETIVE CENTER
- BOAT TIE UP
- * INFORMATION KIOSK
- OVERLOOK
- PEDESTRIAN TRAIL
- BICYCLE TRAIL
- PEDESTRIAN LINK
- TROLLEY LINE
- ACTIVITY AREA
- PARK BOUNDARY

FIGURE 3-2

PARK MASTER PLAN

WEST SEGMENT

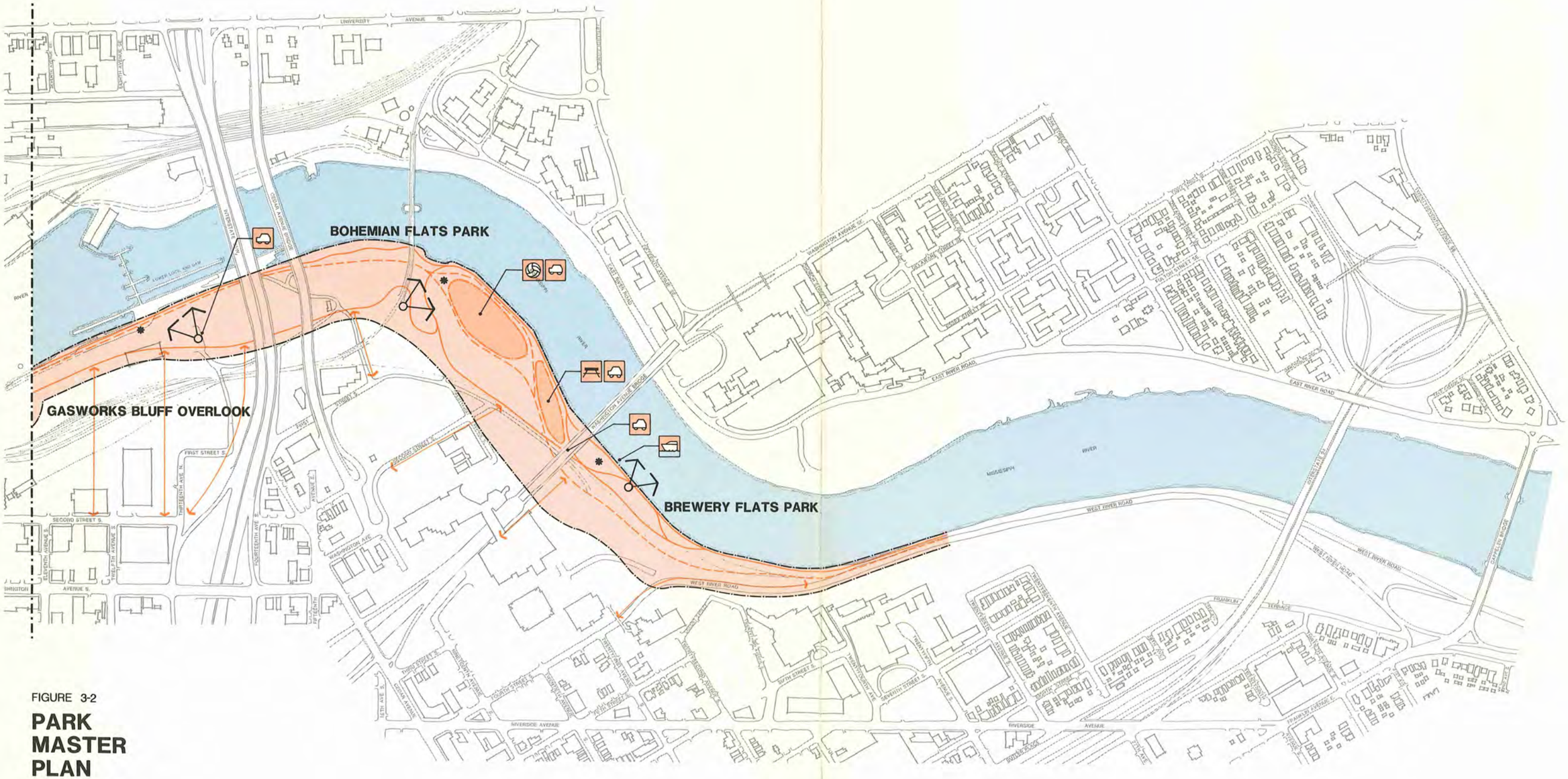


FIGURE 3-2

PARK MASTER PLAN

EAST SEGMENT

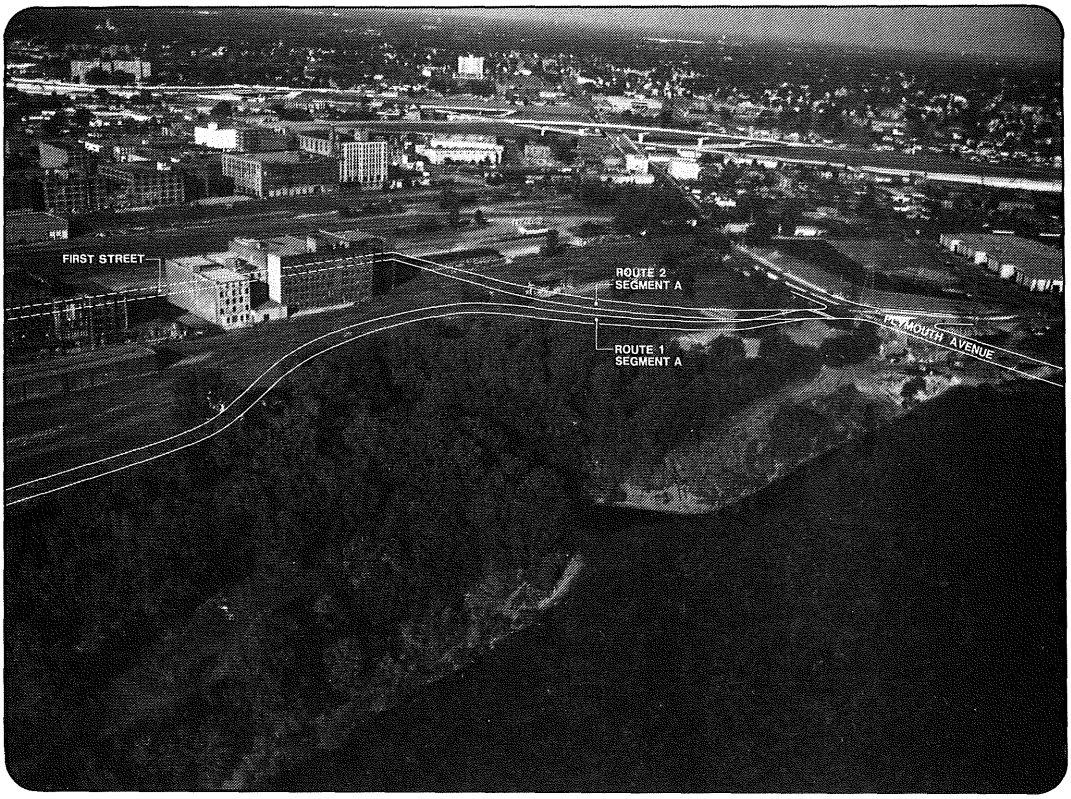


FIGURE 3-3
BASSETT CREEK
OBLIQUE AERIAL



FIGURE 3-4
BASSETT CREEK
OBLIQUE AERIAL

West River Parkway

Minneapolis Park and Recreation Board

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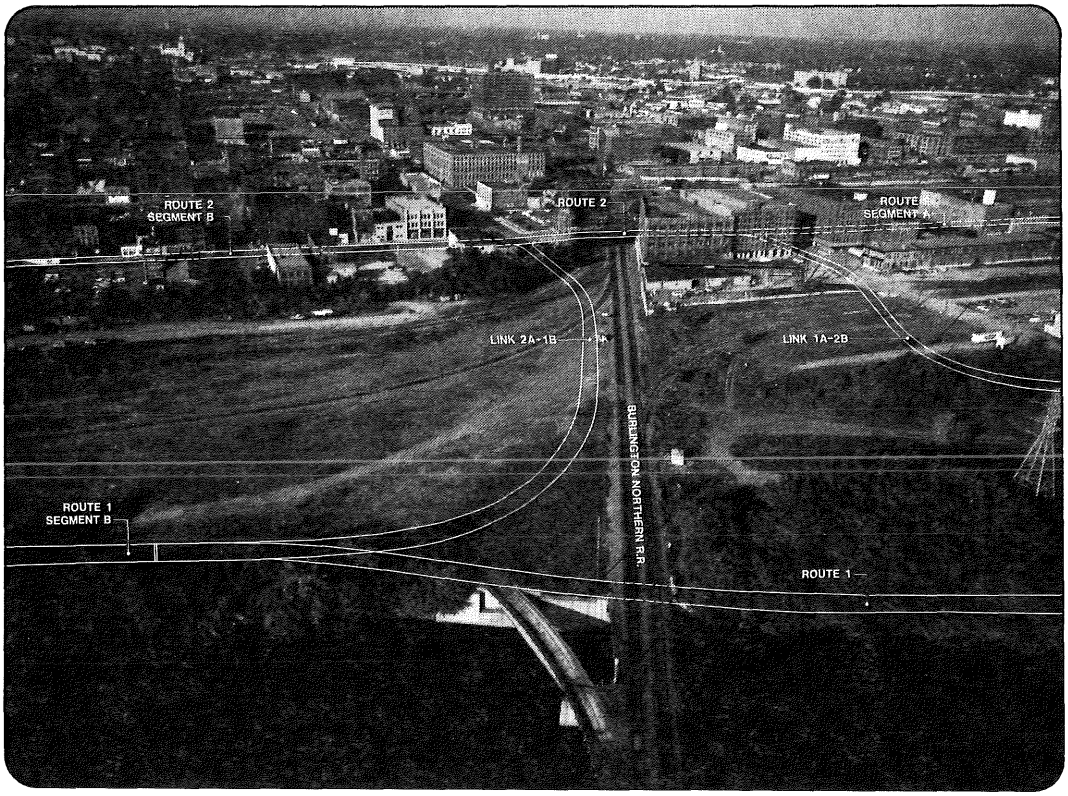


FIGURE 3-5
GATEWAY
OBLIQUE AERIAL



FIGURE 3-6
GATEWAY
OBLIQUE AERIAL

West River Parkway

Minneapolis Park and Recreation Board

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FIGURE 3-7
MILL DISTRICT
OBLIQUE AERIAL



FIGURE 3-8
MILL DISTRICT
OBLIQUE AERIAL

West River Parkway

Minneapolis Park and Recreation Board

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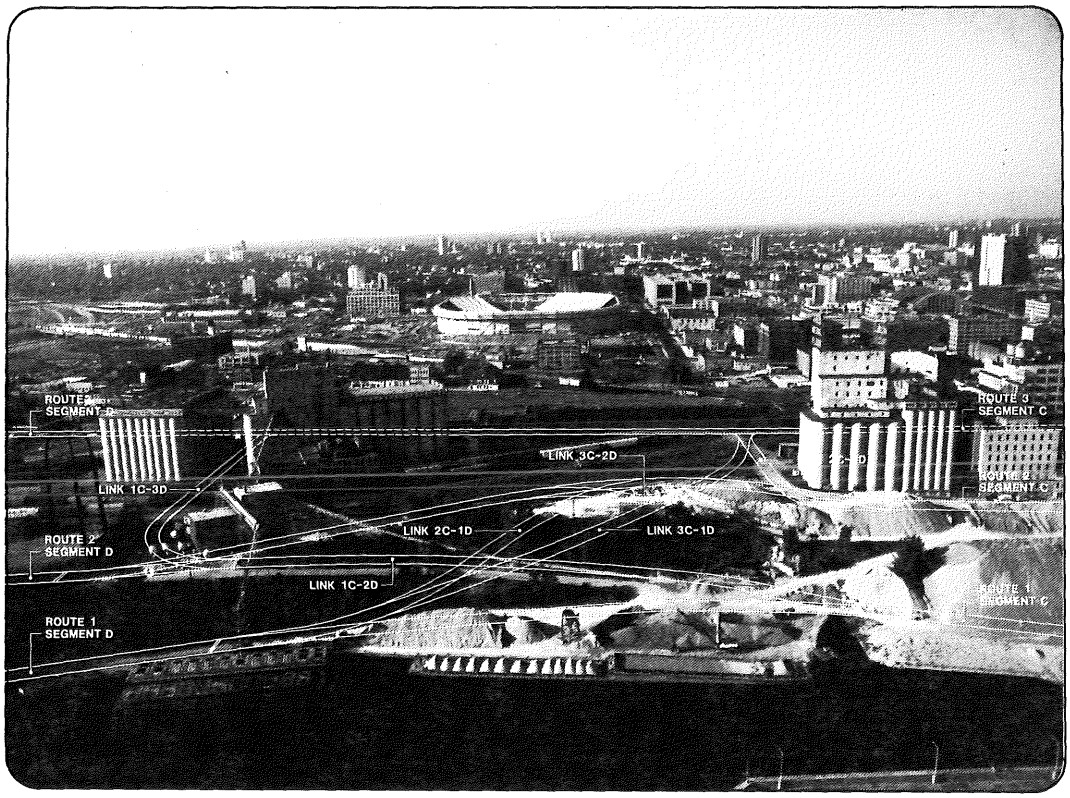


FIGURE 3-9
MILL DISTRICT
OBLIQUE AERIAL

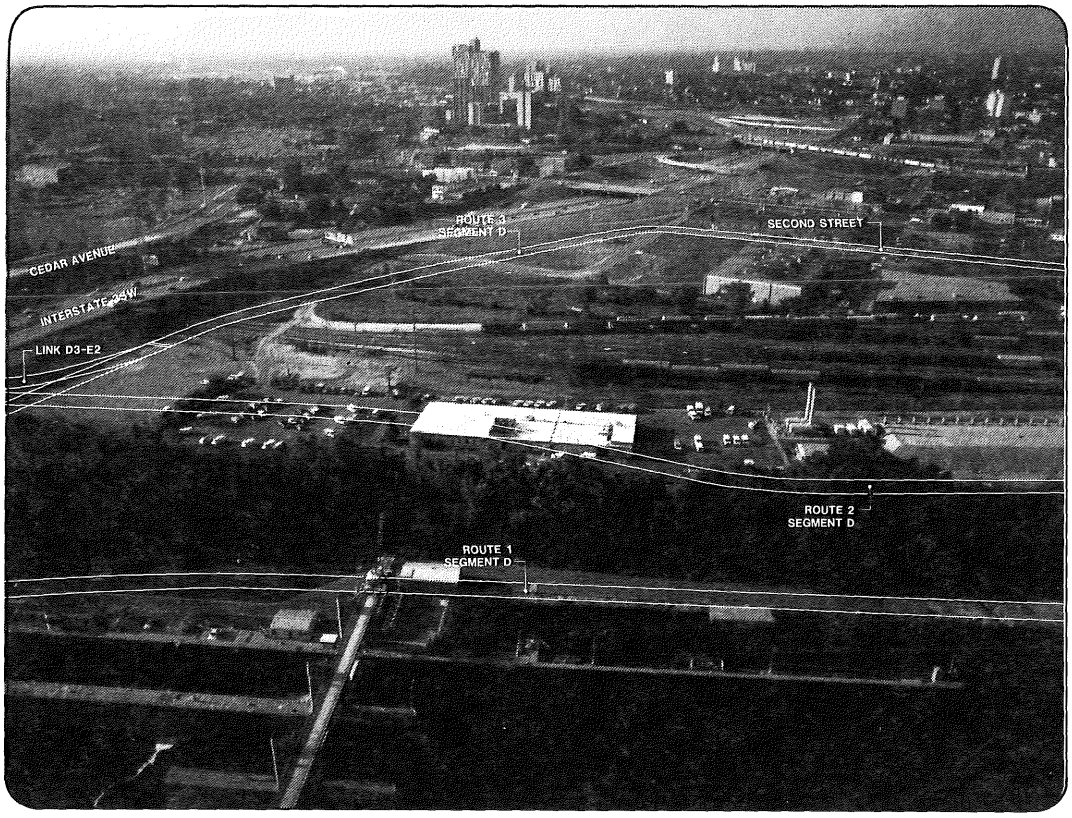


FIGURE 3-10
GASWORKS BLUFF
OBLIQUE AERIAL

West River Parkway

Minneapolis Park and Recreation Board

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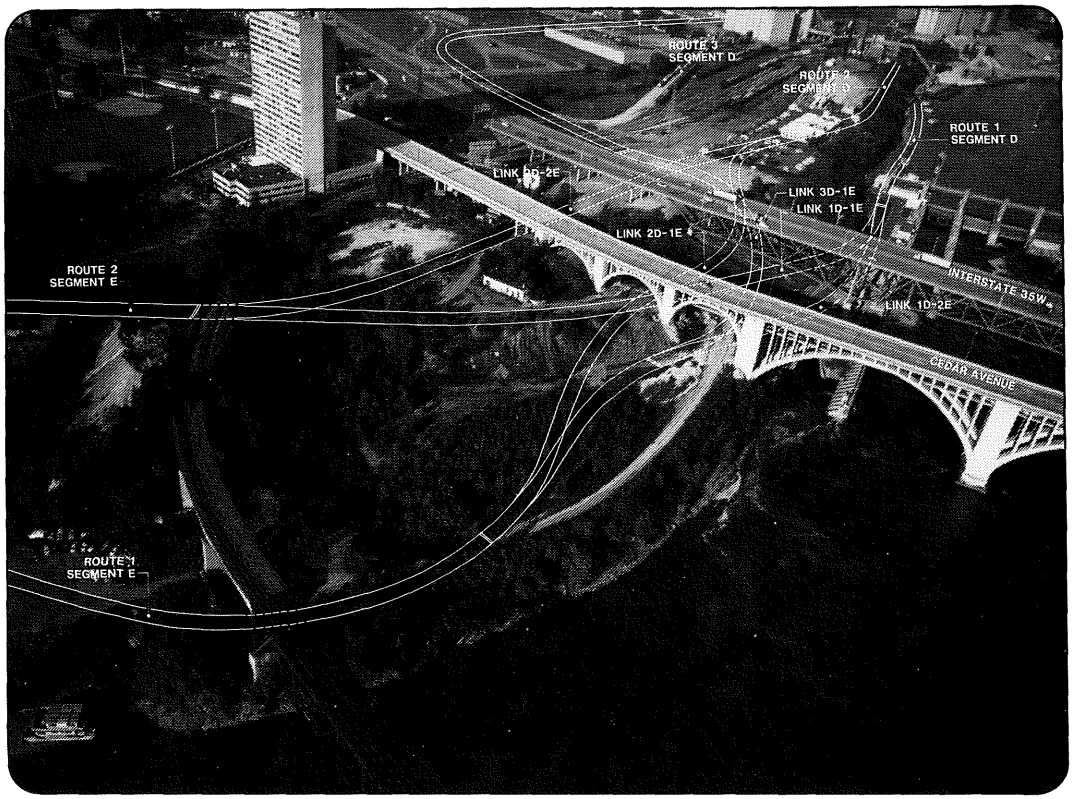


FIGURE 3-11
BOHEMIAN FLATS
OBLIQUE AERIAL



FIGURE 3-12
BOHEMIAN FLATS
OBLIQUE AERIAL

West River Parkway

Minneapolis Park and Recreation Board

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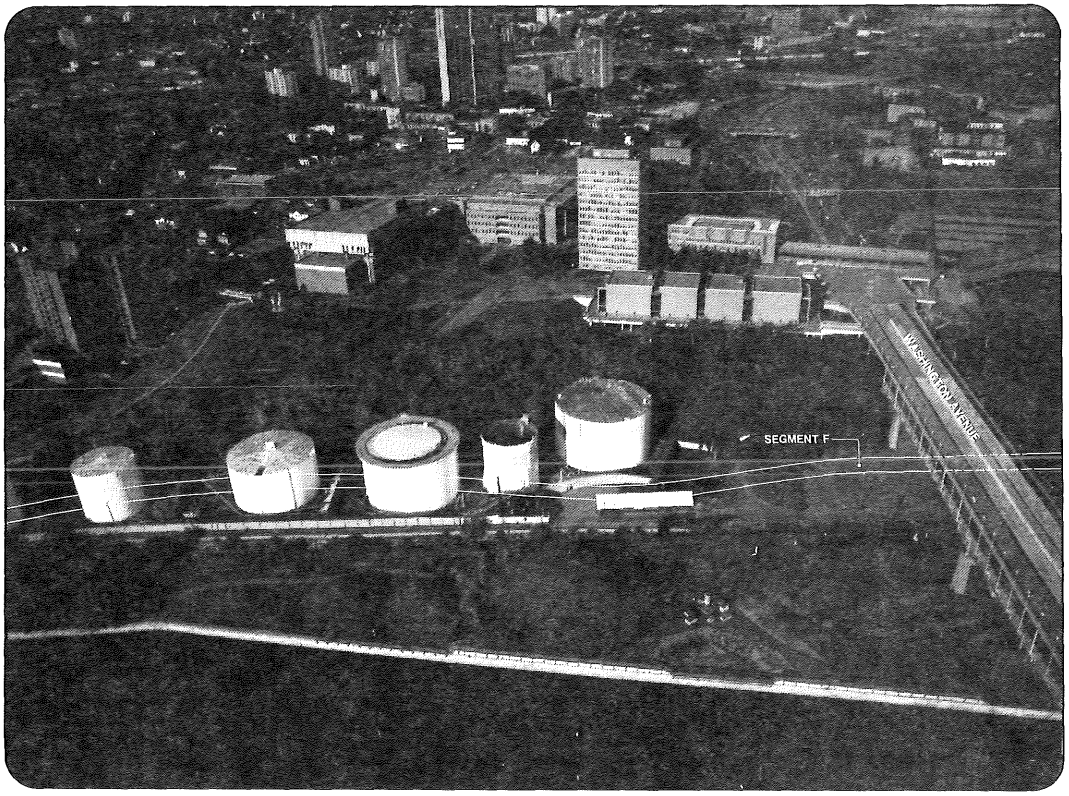


FIGURE 3-13
BREWERY FLATS
OBLIQUE AERIAL

*Note: Oil storage tanks have been removed.



FIGURE 3-14
BREWERY FLATS
OBLIQUE AERIAL

West River Parkway

Minneapolis Park and Recreation Board

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

For most of the alternatives, West River Parkway would be constructed as a two-lane, twenty-four-foot roadway with a twenty-five mile-per-hour speed limit. No commercial trucks or buses would be allowed. Direct driveway access would be limited. Some of the route segments, however, would also have to function as city streets, providing access to adjacent businesses. These segments (2A, 2B, 3C and 3D) would be designed as typical four- or six-lane city streets. The subsequent paragraphs describe individual Project Area segments and are followed by detailed graphic representations of the segments (Figures 3-15 through 3-27).

3.3.2 SEGMENT A - BASSETT CREEK

Park development in the Bassett Creek area would complement the natural, secluded setting which exists around the mouth of the creek. The forest vegetation in the area would be incorporated into picnic sites on both sides of the creek. Hiking trails would descend the valley slopes and a small pedestrian bridge would cross the creek. The entire Bassett Creek Park area would be about twenty acres in size and would provide thirty-five picnic table sites, a picnic shelter with sanitary facilities, and parking lots for seventy-five cars. A small information display would be located near Bassett Creek depicting the former railroad and sawmilling history of the area.

Route 1 would be a two-lane parkway connecting to existing West River Road at Plymouth Avenue. Route 1 would follow the tree line around Bassett Creek and then sweep closer to the river. Route 1 would pass beneath the Burlington Northern Railroad mainline tracks with the construction of a new grade separation. Connections to the city street system would occur at Plymouth Avenue, Tenth Avenue N., and Fourth Avenue N. The proposed park facilities and potential adjacent urban development related to Route 1 are illustrated in Figure 3-15.

Route 2 along First Street N. would be a two- or four-lane city street with the capability of carrying commercial traffic. A new connection between existing West River Road and existing First Street N. would be developed, and the remainder of First Street N. would be upgraded with new paving, sidewalks, landscaping and street furniture. The existing bridge which carries First Street N. over the Burlington Northern Railroad tracks would be removed and a new bridge constructed. Park facilities and adjacent urban development for the Route 2 alternatives are shown in Figure 3-16.

3.3.3 SEGMENT B - GATEWAY

Park development in the Gateway segment would be largely limited to a seventy-five to one-hundred foot wide promenade containing a pedestrian path, bicycle trail, and landscaping. A space would be provided parallel to the trails for a trolley line or other vehicle along the river south of Hennepin Avenue. A major stairway and viewing platform would connect the park level to street level. A small, landscaped park with paths and sitting areas would be developed in the triangular space near Third Avenue. An information display would illustrate the former use of the area as an early residential site and railroad depot. An important aspect of the

Gateway Promenade design would be the need for private implementation of a major plaza and stairway between the Hennepin Avenue street level and the park level.

Parking lots would not be provided along the riverfront in this area, so private cooperation would also be needed to construct parking near the area.

Route 1 would be a two-lane parkway following the outside edge of the park facilities along the riverfront. There would be no connection to the city street system in this area, although some access could be provided to adjacent development. Route 1 facilities are illustrated in Figure 3-17.

Route 2 would be a four-lane city street capable of carrying commercial traffic. North of Hennepin Avenue, First Street would be upgraded with new paving, sidewalks, landscaping and street furniture. South of Hennepin, the project would be limited to sidewalk improvements. Facilities related to Route 2 are illustrated in Figure 3-18.

3.3.4 SEGMENT C - MILL DISTRICT

In the Mill District, the major emphasis would be on the creation of a multiple-level interpretive park through the reuse of historic building fragments of the water-powered milling industry. The central element of Mill District History Park would be a canal which would channel water from the Mississippi River above St. Anthony Falls through the park. Water from the canal would be directed down through the foundation walls of former mill buildings, recreating the falling water which once powered the old mills via a much larger canal. Water would be collected at the base of the park using the pattern of the old tailraces which crossed the area. Walking and viewing areas would be constructed throughout the area of the old mill walls, and steps and ramps would connect the Canal Street level to the tailrace level fifty feet below. Provisions would be made for an enclosed interpretive center at the corner of Canal Street and Portland Avenue and for a leased restaurant site near Canal Street and Eighth Avenue. A small information display would be located near the canal intake to provide orientation to the area.

Mill District History Park would also include separate trails for pedestrians and bicycles near the river, and a provision would be made for a future vehicle path along the river and across the Stone Arch Bridge. Below the Stone Arch Bridge, a dock and stairway would be installed for pleasure boat tie-up. The total Mill District History Park would be about fifteen acres in size. Limited new parking would be provided, complementing the adjacent U.S. Army Corps of Engineers Upper Lock visitor lot which has parking for about thirty-five cars. Other parking would be provided through joint use lots or ramps near the area.

Route 1 would be a two-lane parkway through the proposed park along the river's edge. The parkway would pass under the Third Avenue bridge, connect to Portland Avenue, and then descend along the face of the Stone Arch Bridge. A connection to the city street system would ascend the bluff to Tenth Avenue South. Facilities related to Route 1 are illustrated in Figure 3-19.

Route 2 would be a two-lane parkway following the edge of the park on Canal Street and First Street. The parkway would connect to city streets at Fifth, Eighth and Tenth Avenues, and special roadway surfaces and stop signs would be used to slow traffic through this area to be consistent with historic preservation objectives and pedestrian needs. Route 2 is illustrated in Figure 3-20.

Route 3 would be a four-lane city street along Second Street capable of handling commercial traffic. The route would be enhanced through the use of sidewalk improvements, landscaping and street furniture. Route 3 is illustrated in Figure 3-21.

3.3.5 SEGMENT D - GASWORKS BLUFF

In the area surrounding the Lower Locks, the primary objectives of the public parkland would be to protect the bluff and to provide overlook points toward St. Anthony Falls and the lower rapids. Two major overlooks would be established: (1) a site above Tenth Avenue with excellent views of St. Anthony Falls, and (2) a site near I-35W with views of the Lower Locks. Stairways and trails would connect both sites to the river's edge below the bluff. An information display would be located at the overlook near I-35W to provide an orientation to the history of the area and a description of park facilities. A bicycle and pedestrian trail would be developed along the river's edge at the base of the bluff, and a pedestrian trail would be developed at the bluff top. The total Gasworks Bluff park area would be about twenty acres in size with parking lots for about fifty cars.

Route 1 would be a two-lane parkway along the base of the bluff with a connection to the city street system at the existing U.S. Army Corps of Engineers Lower Locks access road. Between the Upper and Lower Locks, the parkway would also provide access to existing navigation facilities for the Corps of Engineers. This route would pass beneath the bridges at I-35W, Cedar Avenue, and the Burlington Northern Railroad spur line. Route 1 is illustrated in Figure 3-22.

Route 2 would be a two-lane parkway following the top of the bluff through this area. Route 2 would also pass beneath the bridges mentioned above. The Corps of Engineers may continue to maintain a separate connecting path at the base of the bluff between the Upper and Lower Locks for this alternative. Facilities related to Route 2 are illustrated in Figure 3-23.

Route 3 would be designed as a four-lane city street capable of carrying commercial traffic. This route would follow the existing right-of-way of Second Street, and the corridor would be enhanced with sidewalk improvements, landscaping, and street furniture. Route 3 is illustrated in Figure 3-24.

3.3.6 SEGMENT E - BOHEMIAN FLATS

The Bohemian Flats Segment would be developed into a major recreational space with a large open area and picnic area. A pedestrian and bicycle trail would be developed along the river's edge, and a railing would be constructed along the existing river wall. A second pedestrian trail would

ascend the bluff near the Burlington Northern Railroad spur line bridge. The park space would cover approximately eighteen acres, and would provide forty picnic table sites, a picnic shelter with sanitary facilities, and parking lots for twenty-five cars. An information display would provide orientation to the area, and a stairway would descend to a small dock for pleasure boat tie-up at the river level.

Route 1 would be a two-lane parkway following the base of the bluff at the edge of the park area. This route would connect to the existing city street system at First Street. Route 1 is illustrated in Figure 3-25.

Route 2 would also be a two-lane parkway. This route would pass under the Burlington Northern Railroad bridge, follow the edge of the bluff to First Street, then descend the bluff along First Street. Route 2 is illustrated in Figure 3-26.

3.3.7 SEGMENT F - BREWERY FLATS

The park development in this segment would be integrated with the existing boardwalk, landscaping, lighting, and informational signage provided by an earlier project. Pedestrian and bicycle trails would be developed through the area to connect with the existing trails to the south. Brewery Flats Park would be about twelve acres in size and would provide parking for about fifty cars.

The proposed route (Route 1) would be a two-lane parkway along the base of the bluff through the former site of the now-removed oil storage tanks. The new parkway would connect to the existing section of West River Parkway at Fourth Street. A connection to Fourth Street would be maintained. Route 1 is shown in Figure 3-27.

3.3.8 SEGMENT G - EXISTING WEST RIVER PARKWAY

This segment of existing West River Parkway, from Fourth Street to Franklin Avenue, would remain unchanged. This section of parkway was upgraded by a previous project.

3.3.9 NO-ACTION ALTERNATIVE

If the No-Action Alternative were selected, there would be no new construction of West River Parkway or related park elements under the Great River Road program. The Great River Road designation would be placed on existing West River Parkway, Franklin Avenue, Riverside Avenue, I-94 around downtown Minneapolis to West Broadway Avenue, and then north on Marshall Avenue.



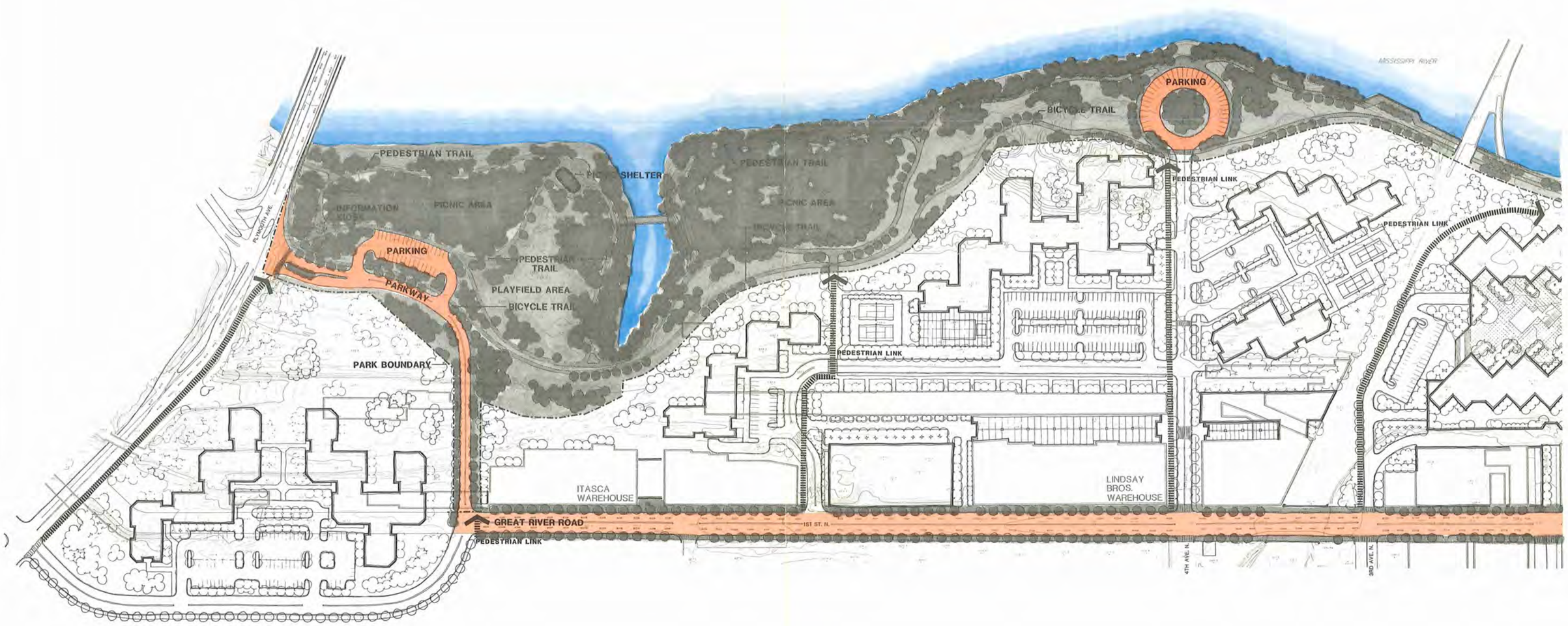
FIGURE 3-15
BASSETT CREEK
ROUTE 1

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



West River Parkway

Minneapolis Park and Recreation Board

FIGURE 3-16
BASSETT CREEK
ROUTE 2

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



FIGURE 3-17
GATEWAY
ROUTE 1

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



FIGURE 3-18
GATEWAY
ROUTE 2

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

BRW

BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

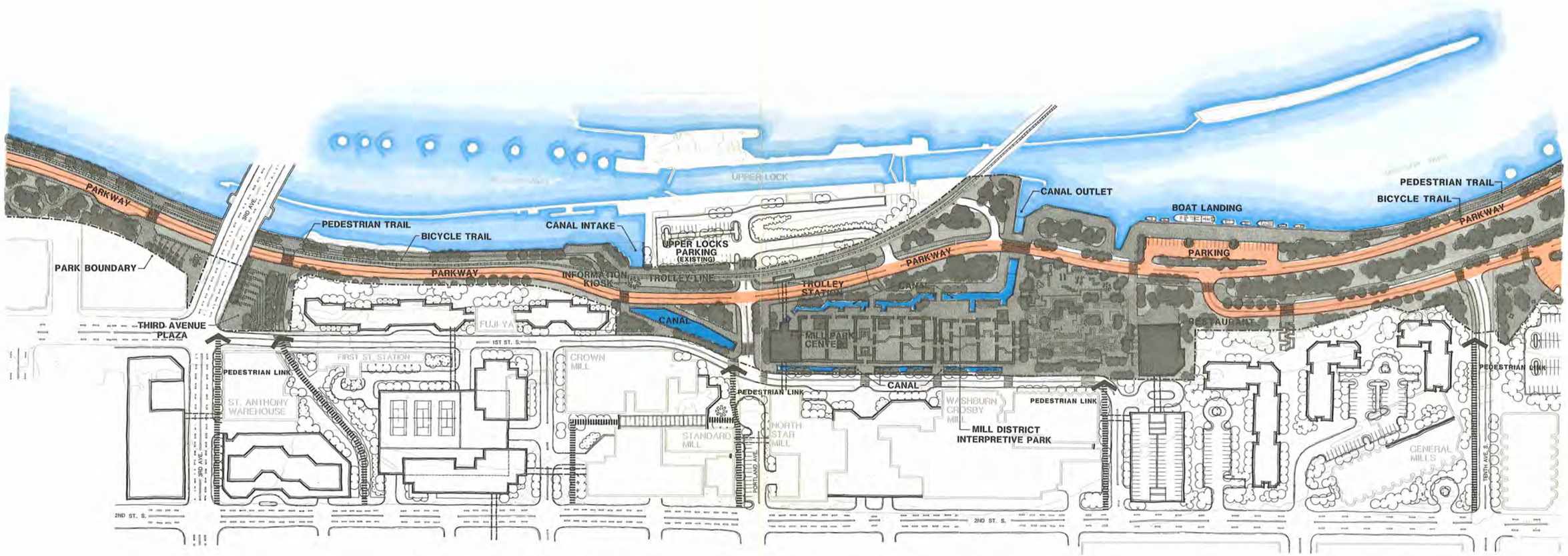


FIGURE 3-19
MILL DISTRICT
ROUTE 1

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

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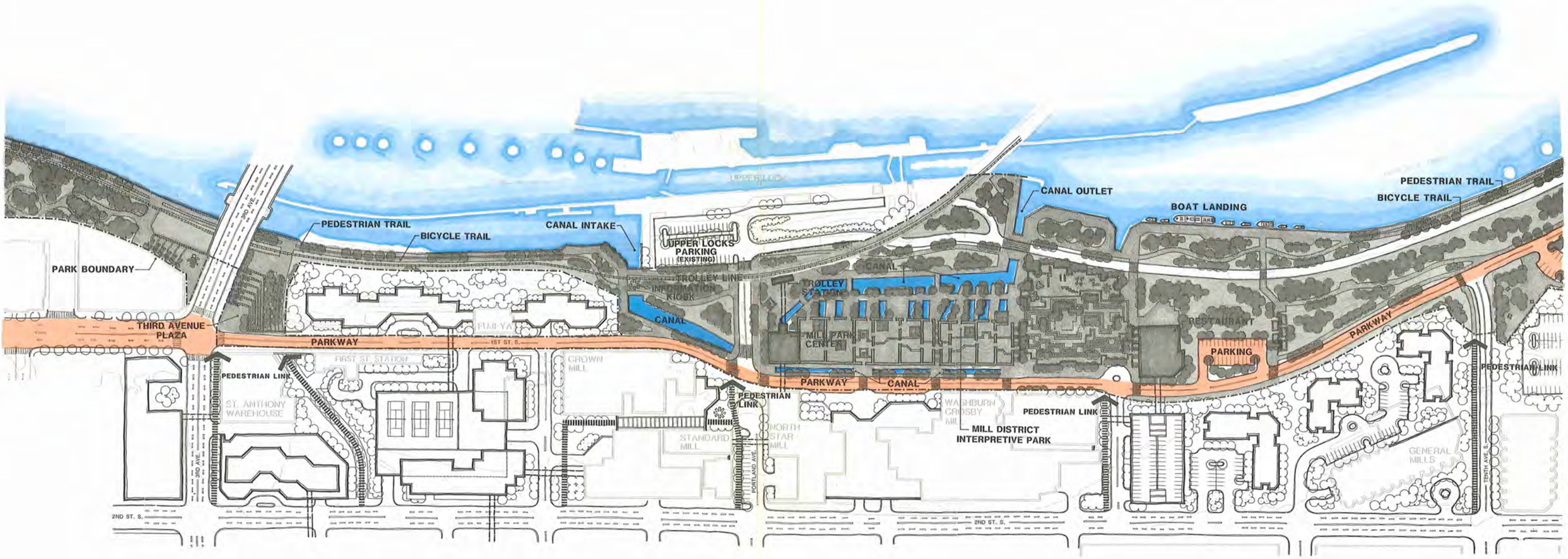


FIGURE 3-20
MILL DISTRICT
ROUTE 2

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

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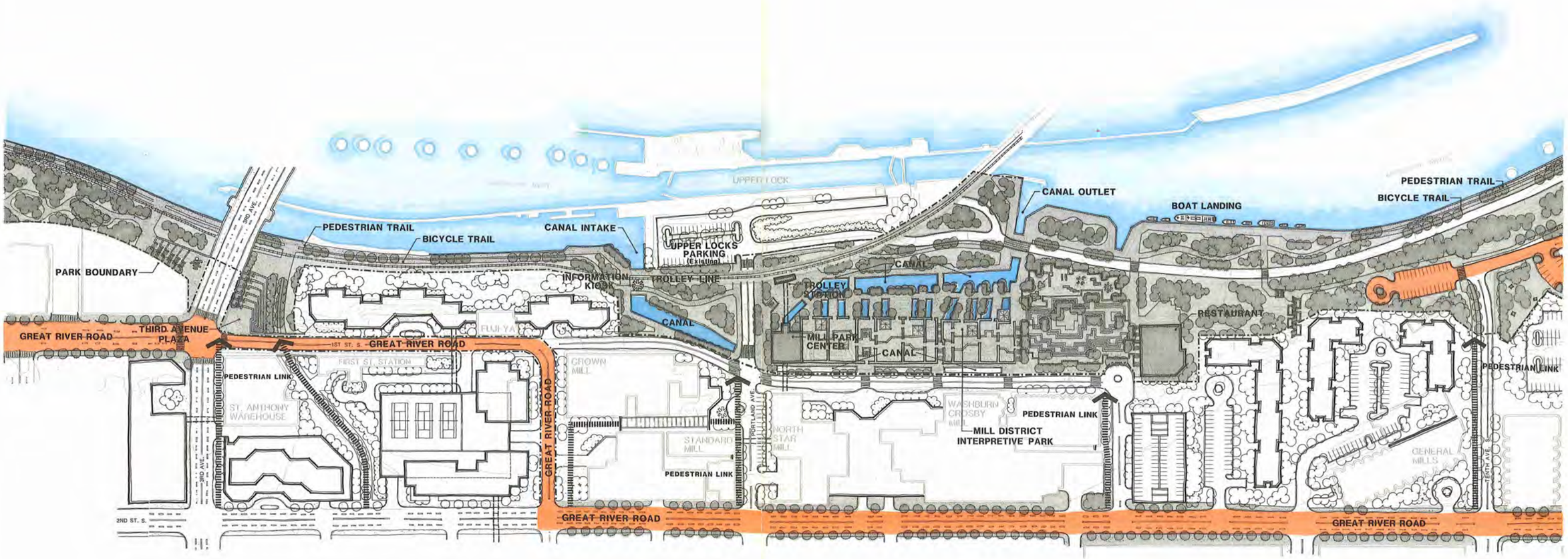


FIGURE 3-21
MILL DISTRICT
ROUTE 3

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

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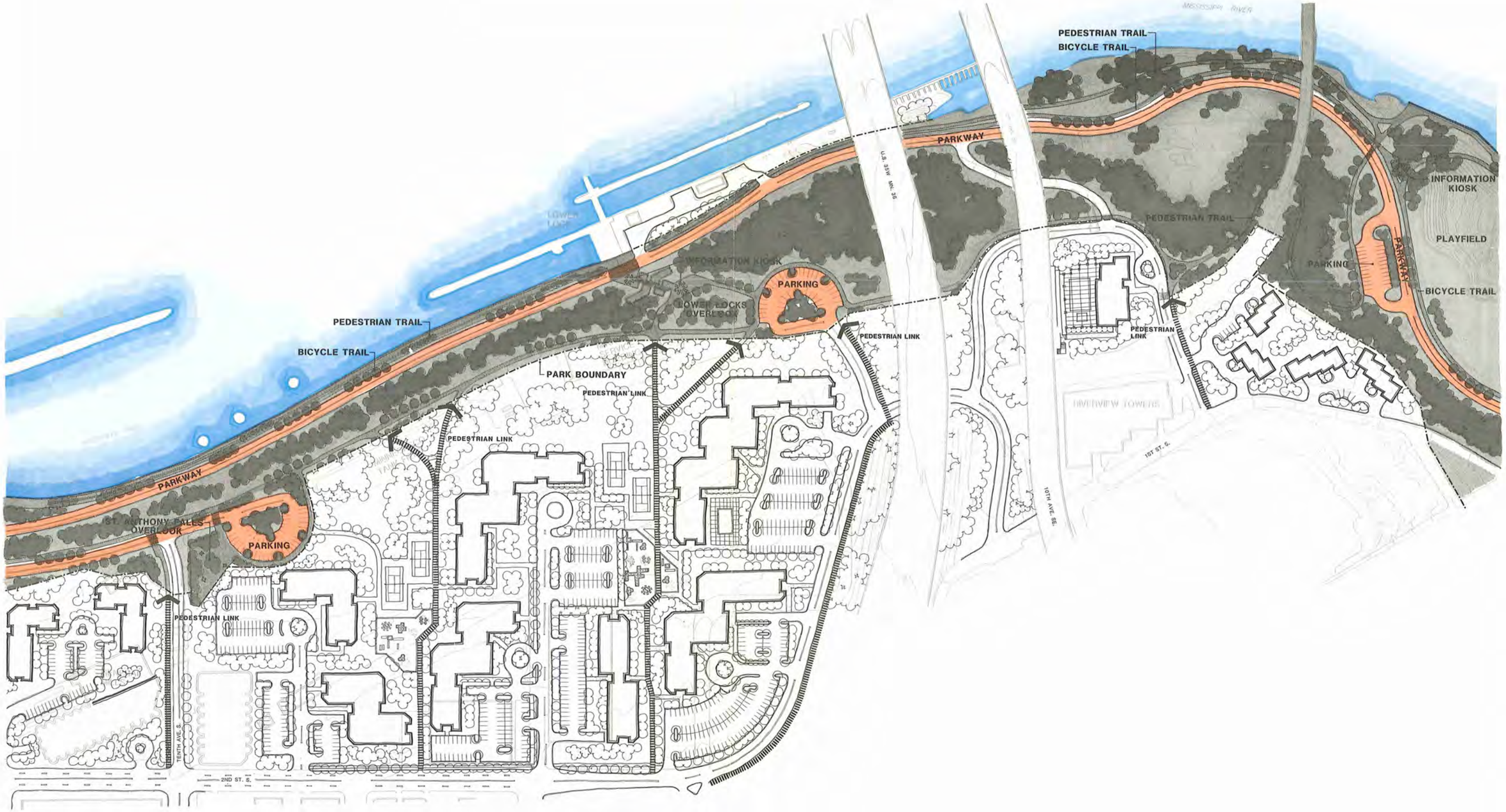


FIGURE 3-22
GASWORKS BLUFF
ROUTE 1

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



FIGURE 3-23
GASWORKS BLUFF
ROUTE 2

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



FIGURE 3-24
GASWORKS BLUFF
ROUTE 3

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



FIGURE 3-25
BOHEMIAN FLATS
ROUTE 1

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



West River Parkway

Minneapolis Park and Recreation Board

FIGURE 3-26
BOHEMIAN FLATS
ROUTE 2

FT. 0 50 100 150 250 350

BRW
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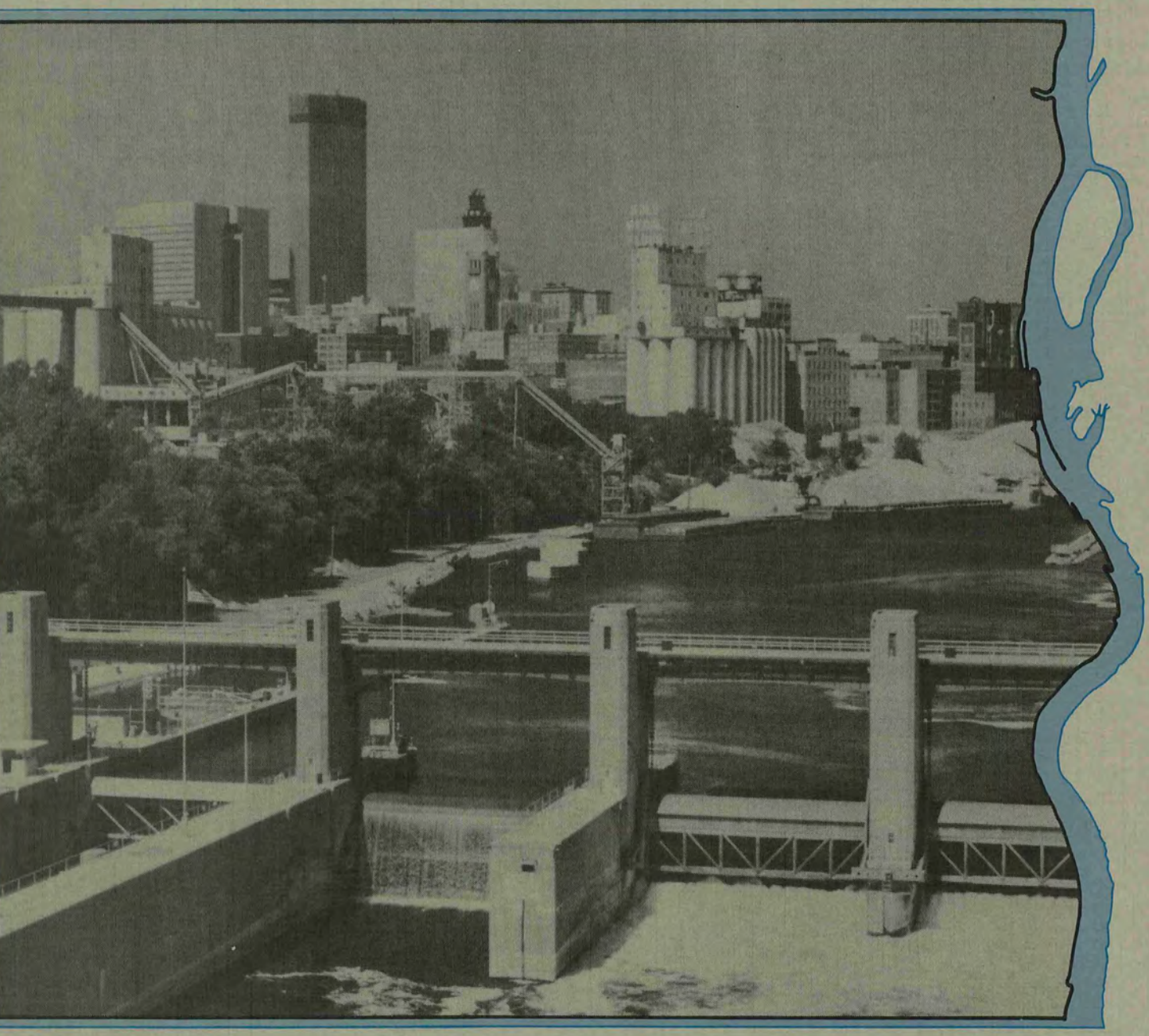
West River Parkway

Minneapolis Park and Recreation Board

FIGURE 3-27
BREWERY FLATS
ROUTE 1

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



4. Affected Environment

West River Parkway

Minneapolis Central Riverfront

4. Affected Environment

This chapter describes the history, natural environment, existing land use and development, and urban planning context of the West River Parkway Project Area. The purpose of this chapter is to provide a general description of the area in which West River Parkway and associated park facilities would be constructed.

4.1 Project Area History

The West River Parkway Project Area is exceedingly rich in its historical associations and significance. The first recorded description of the area dates back to 1680, when Father Louis Hennepin explored the Upper Mississippi Valley for the French and named St. Anthony Falls for his patron saint. Hennepin's published account of the "terrible" and "astonishing" power of the waterfall made the cataract a lengendary landmark of the mid-American continent. Although Hennepin, as well as later explorers, noted that the falls region was inhabited by Dakota and Ojibway Indians, modern archaeological investigations have not as yet identified any significant aboriginal sites in the Project Area; nor is there any recorded evidence of early European occupation.

The Project Area first came under jurisdiction of the United States as part of the Louisiana Purchase of 1803, and shortly afterwards it was included in the Fort Snelling Military Reservation. In the early 1820s, soldiers from the fort constructed a gristmill and sawmill on the west bank of the falls to provide the garrison with flour and lumber. These installations remained in government hands until the mid-1850s, when the Military Reservation was opened up to general settlement as the newly platted "Town of Minneapolis." By this time, St. Anthony Falls was recognized as one of the nation's most important waterpower sites, and it quickly became, in the words of an early settler, "the nucleus around which everything clustered."

The west bank of the falls was immediately improved by an extensive power canal that helped to eventually establish Minneapolis as the leading flour milling center of the United States. Benefiting from its proximity to the milling district, Hennepin Avenue became the city's first major business center, playing host to retail establishments, banking houses, and City Hall. By the 1880s, riverfront development extended north and south of the milling district for at least a mile in either direction. The region to

the north, between Hennepin Avenue and Bassett Creek, was controlled by warehousing and railroading interests that specialized in the distribution of agricultural implements. The region to the south, between the milling district and the general location of the Washington Avenue Bridge, was given over to brewery operations and a large gasworks.

As industrialization of the riverfront intensified, civic leaders began to urge that at least some portions of the shore be preserved for public use. As a result of these pleas, the Minneapolis Park Board in the late 1880s began to acquire the shoreline south of the Washington Avenue Bridge to Minnehaha Falls. Between 1900 and 1940, this stretch of property was incorporated into the public park system as the West River Parkway.

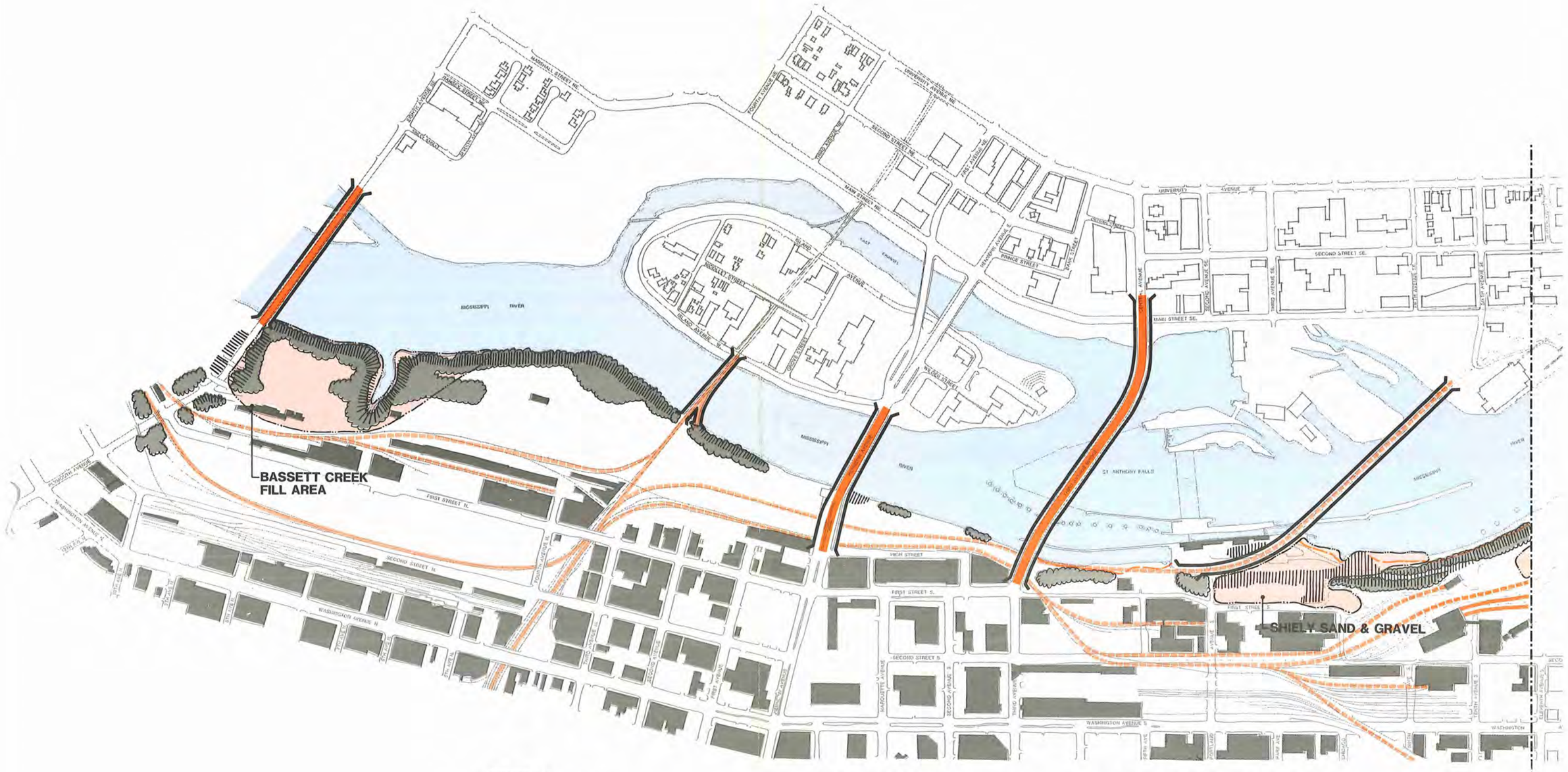
Increased public use of the southern portion of the riverfront was accompanied by decreased industrial utilization of the central and northern portions. The once-thriving milling and warehousing operations went into serious decline during the Great Depression of the 1930s, and failed to recover in the post-war period. When the last flour mill shut down in 1965, the milling and warehouse districts were abandoned and blighted areas.

Recognizing that successful riverfront redevelopment was essential for the future vitality of downtown Minneapolis, the City Council in 1968 authorized an in-depth planning study of the riverfront to establish a "creative framework" for park development, commercial renewal, and residential construction. During the 1970s, these initial planning efforts led to the creation of the St. Anthony Falls Historic District, the development of architectural guidelines for rehabilitation, and the formulation of a comprehensive land use plan for the area. Encouraged by the city's firm commitment to riverfront revitalization, private developers have begun rehabilitating the area's historic buildings, spearheading what promises to be a major rejuvenation of the city's birthplace.

4.2 Natural Environment

4.2.1 TOPOGRAPHY

The Project Area is composed of a terrace following the western shoreline of the Mississippi River. Above St. Anthony Falls, the terrace is ten to twenty feet above river level, with a steep bank separating the terrace from the water's surface. Below St. Anthony Falls, the recession of the Falls has carved a deep gorge fifty to eighty feet deep. The Project Area is largely composed of the bluff top above gorge, but there is also a terrace ranging from 50 to 400 feet in width at the base of the bluff. The elevation of the Project Area ranges from 830 feet above sea level at the north end (near Plymouth Avenue) to 735 feet above sea level at the south end (at existing West River Parkway). The bluff line running through the area is shown in Figure 4-1.



West River Parkway

Minneapolis Park and Recreation Board

FIGURE 4-1

PHYSICAL SITING FACTORS

0 200 400 600 800 FT.

BRW

BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

- STEEP SLOPE
- TREE MASSES
- RAILROAD TRACKS (EXISTING)
- RAILROAD TRACKS (POSSIBLE REMOVAL)
- MAJOR ROADWAY STRUCTURE
- MAJOR ROADWAY CUT
- RAILROAD BRIDGE
- BUILDING
- FLOOD PLAIN
- SPECIAL CONSIDERATION

FIGURE 4-1

PHYSICAL SITING FACTORS

WEST SEGMENT

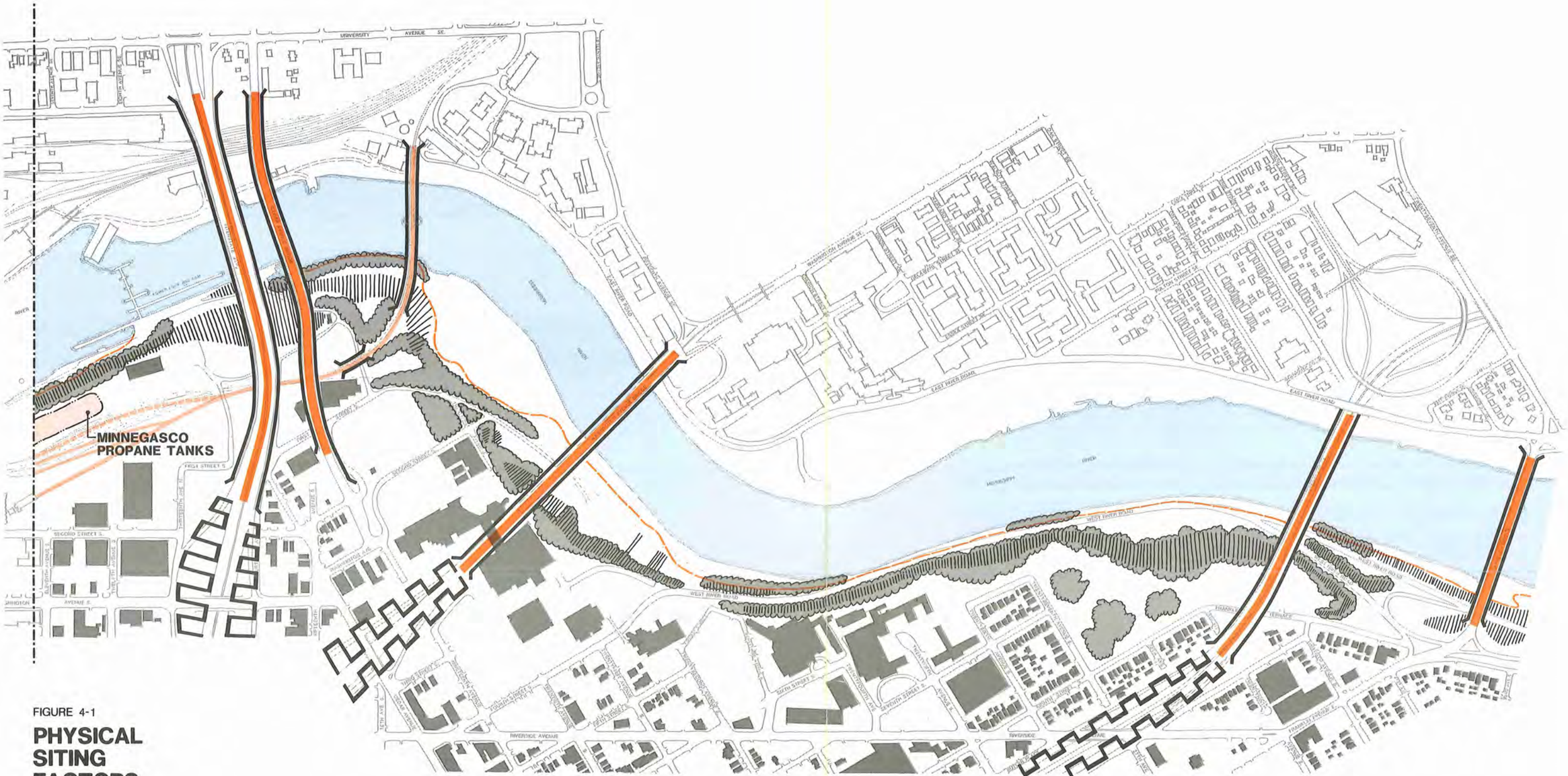


FIGURE 4-1

PHYSICAL SITING FACTORS

EAST SEGMENT

4.2.2 SOILS AND GEOLOGY

The Project Area is characterized by a relatively thin layer of soil material underlaid by layers of bedrock. The upper layer of the subsurface consists of a combination of glacial fill deposited by ice and water action and assorted fill materials deposited over the last one hundred years of city development.

Platteville Limestone is the first bedrock layer encountered in the Project Area. Immediately below the Platteville Limestone is a layer of shale approximately five feet thick. Below the shale is Saint Peter Sandstone, which is the general underlying formation within the Project Area.

In several areas along the riverfront, the limestone and shale formations have been eroded by the action of the Mississippi River and the recession of St. Anthony Falls. In these areas, the underlying St. Peter Sandstone is exposed and there is a variety of limestone and soil rubble along the river gorge which appeared as St. Anthony Falls undermined the limestone. The limestone collapsed, then the falls receded upriver through the downtown area. In addition, there is a substantial amount of debris and rubble fill which has been placed within the corridor area, mostly in the northern portion near Plymouth Avenue and Bassett Creek.

It is also significant that the limestone formation is non-existent in the Bassett Creek area and north. This area is buried bedrock river valley which underwent substantial filling in the late 1800s. Fill depths in excess of one-hundred feet have been detected in this area. The fills are generally a soil and rubble mix which is consolidated to a degree which would provide adequate support for the proposed roadway construction with a minimal amount of corrective effort. The road subgrade would be subcut in these areas and the material recompacted to provide a uniform roadbed for the parkway. The construction of any sizeable structures or buildings would require additional detailed site analysis, and it is expected that special foundations would be required.

4.2.3 SURFACE WATER

The only streams in the Project Area are the Mississippi River and Bassett Creek. At this point in its route the Mississippi is a major river, having a width of about 600 feet. Its volume and velocity are great enough to have been used to power numerous industrial and hydroelectric turbines in the past, and St. Anthony Falls is still a hydroelectric site. The quality of the water in the river has been slowly improving as various point sources of pollution have been eliminated or their toxic discharge reduced. Through the Project Area and upstream, the Mississippi functions as an important transportation artery for agricultural and some industrial goods. Two sets of locks in the Project Area help move barges beyond St. Anthony Falls, which was once the limit of upstream travel. The navigation terminus of the Mississippi River is now several miles north of the Project Area.

Bassett Creek empties into the Mississippi River at about Eighth Avenue N. This creek drains a sizeable watershed which extends beyond Medicine Lake in the City of Plymouth. Bassett Creek is hidden in underground storm sewers part of its way through Minneapolis and emerges only 250 feet from the Mississippi River, creating a wooded ravine thirty feet in depth.

Surface water runoff from the Project Area is collected in most locations by streets and the storm sewer system which empties into the river. In other areas runoff is generally unconsolidated and drains directly to the river.

Along most of the Mississippi River through the Project Area, the one hundred-year floodplain includes only the immediate riverbank area. However, in Bohemian Flats the floodplain extends up to 400 feet from the normal riverbank. Approximately fifteen acres would be inundated by a one hundred-year flood in Bohemian Flats and about 3.5 acres would be flooded in Brewery Flats.

4.2.4 VEGETATION AND WILDLIFE

The vegetation of the Project Area is best characterized as the product of an intensively disturbed area. Early successional-stage trees such as boxelder and cottonwood predominate. Some scattered elms and willows are present. The overall age of the various stands is generally less than fifty years; however, some scattered individual, older trees are present. Most of the Project Area is devoid of any vegetation as a result of past land use activities.

Significant concentrations of trees are found in three locations. These are indicated by Figure 4-1. One wooded area is in and around the Bassett Creek ravine. This stand is characterized by a number of scattered mature trees which form an overstory to a fairly dense stand of younger growth. The species present here are primarily cottonwood and boxelder. This woodland is growing over unconsolidated rubble fill and is very typical of the type of vegetation that invades disturbed sites.

A second major wooded area extends from the lower end of the J.L. Shiely Company site near Tenth Avenue to the I-35W river crossing. The steep river bluff in this area is fairly heavily wooded and also consists of cottonwood, boxelder and elm.

A third wooded area stands on the steep slopes of the river bluff in the Bohemian Flats and Brewery Flats segments. Species present on these slopes include boxelder, ash, locust, elm, cottonwood and hackberry. The wooded slopes have generally been left undisturbed except for the occasional removal of trees in the past for lumber or firewood and, more recently, for the removal of diseased and dying elms.

Wildlife species commonly found in the Project Area are those which readily adapt to the presence of man's activities. Species of birds frequenting this area include the mourning dove, common flicker, robin, common grackle, ringed-necked pheasant, rock dove or pigeon, cardinal and blue jay.

Species of mammals include cottontail rabbit, beaver, squirrels and various species of small mammals including voles and shrews. The larger mammals are primarily confined to the Bassett Creek area.

The Project Area contains no wetlands. However, waterfowl utilize pools of the river as migration habitat.

The Mississippi River in the vicinity of the Project Area has a variety of fish species including game fish as well as rough fish. The most common species in terms of numbers is the carp, closely followed by the smallmouth bass. However, on the basis of weight, the carp is the dominant species. Other species present include the silver red horse, the shorthead red horse, gizzard shad, channel catfish, white sucker, walleye, northern pike and black crappie. The most frequently caught species in the minnow and shiner categories is the emerald shiner. Sport fishing does occur in the downtown area, but the quality of water in the Mississippi River is such that consumption of fish taken from the river is not recommended on a regular basis.

4.3 Existing Land Use and Development

4.3.1 SEGMENT A - BASSETT CREEK

The Bassett Creek Segment is predominantly vacant and undeveloped, as illustrated by Figure 4-2. However, along First Street N. is a row of warehouses built in the 1880s. These structures now handle warehousing, wholesale trade, and light manufacturing, although the structures and location do not lend themselves to modern industrial needs. One group of these buildings, including the Itasca "A" and "B" warehouses, is currently undergoing conversion to residential condominiums, offices, and shops. Just north of the First Street warehouses is an unused 1000-foot railroad freight terminal. One other industrial building, located along Fourth Avenue N. behind the railroad freight terminal, is in active use.

Access to the Bassett Creek Segment is provided by Plymouth Avenue, First Street N., and Fourth Avenue N. Plymouth Avenue is classified as a minor arterial roadway, while First Street and Fourth Avenue are local roadways.

4.3.2 SEGMENT B - GATEWAY

Land development in the Gateway Segment may be divided into three or four groups. First, along the river's edge from the Burlington Northern Railroad bridge to the Third Street bridge is a broad wedge of land once dominated by the Burlington Northern Railroad tracks and passenger terminal. There are now remains only a single through track utilized by the Chicago-Northwestern Railroad. (Refer to Figure 4-3.)

Next, along First Street are a number of buildings which date from the 1880-1900 era of industrial, warehouse, and hotel development. Parking lots now occupy locations where some of these early buildings once stood, and the remaining structures are in various states of repair. More recently, some retail firms have modernized warehouse space south of First Street N. First Street itself is in very poor condition, as is the bridge over the Burlington Northern Railroad tracks.

East of Hennepin Avenue along First Street, the scene is much different. Land to the north of First Street is entirely occupied by the central Minneapolis Post Office and a large, new parking structure. The Post Office is a fine example of the style of public building constructed during the 1930's by the Federal Government. A tall, stone retaining wall separates the Post Office and High Street from the former Burlington Northern Railroad yard to the north. South of First Street are five modern residential buildings.

Access to the Gateway Segment is via First Street, Hennepin Avenue, and First Avenue N. Most of the Segment, being a former railroad yard, has very limited roadway access. Movement to the riverfront is possible only via unpaved roads.

4.3.3 SEGMENT C - MILL DISTRICT

Urban development in the Mill District, which extends from the Third Avenue bridge to Chicago Avenue, consists principally of mill buildings constructed in the second half of the 19th century. A number of these buildings have been demolished and only their foundations and tailraces remain, now buried beneath fill material. Today, only the General Mills grain elevators (Second Street S. and Chicago Avenue) and the Northwestern Consolidated "A" (Second Street and Fifth Avenue) are in active use. Other mill buildings which still stand between Fifth and Eighth Avenues S. are used to varying degrees as warehouses. (Refer to Figure 4-4.)

Just north of the former mill district and Canal Street is the J.L. Shiely Company. This firm transports sand and gravel by barge up the river to this temporary storage site. The company sells ready mix concrete, sand, and aggregate from this yard. Next to the Shiely site is the abandoned Stone Arch Bridge and the U.S. Army Corps of Engineers Upper Lock and Dam.

Other buildings in the Mill District include the First Street Station Restaurant (formerly a Minneapolis Eastern Railroad engine house) and the former Hall and Dann Barrell Factory at First Street and Third Avenue. The railroad tracks across the Stone Arch Bridge have been removed. The railroad tracks remaining in the Mill District are being considered for possible abandonment.

Access to the Mill District Segment is provided by First, Canal, and Second Streets and by Third, Fifth, and Portland Avenues. All of these roads, with the exception of Third Avenue, are in poor condition. Canal Street is on private property.

4.3.4 SEGMENT D - GASWORKS BLUFF

Gasworks Bluff contains significantly less urban development than does the adjacent Mill District. The predominant structure here is the General Mills Elevator No. 2 (1916). These imposing concrete cylinders and their attached mill buildings are now used only for the storage of grain. An elevated conveyor carries grain from the elevator to barges which tie up at the river's edge below, as indicated by Figure 4-5.

A large portion of the J. L. Shiely Company operation is sited just along the top of and below the river bluff. Included here are storage piles, a barge dock, a conveyor chute, and a concrete batch plant.

East of the General Mills and the Shiely Company sites is the Minneapolis Gas Company propane storage and injection plant. Gas tanks are buried under raised mounds and connected to the citywide distribution system. There is also an office and operations building.

The Lower Lock and Dam hugs the river's edge just upstream of Interstate 35-W, almost hidden by the steep bluff nearby.

A number of spur tracks of the Minneapolis and St. Louis Railroad run just south of the gas tank site and west of the General Mills grain elevator. East of General Mills, extending to Thirteenth Avenue, are several industrial buildings established in more recent years, some within the last decade.

Finally, six high-voltage electrical transmission lines are strung across the river corridor and linked to a three-legged tower situated near the foot of Tenth Avenue S.

As with other segments of the Project Area, motorized access to Gasworks Bluff is rather limited. Second Street runs along the southern edge of the area. Thirteenth Avenue and First Street lead to a private road which serves the Minnegasco operation. Another private road connects the Upper and Lower Locks to the top of the bluff in the Bohemian Flats Segment.

4.3.5 SEGMENT E - BOHEMIAN FLATS

Bohemian Flats is a wide floodplain below a towering bluff stretching from the Cedar Avenue bridge around the riverbend to the Washington Avenue bridge. (See Figure 4-6.) Once a housing site for many eastern European immigrants, Bohemian Flats is now used only for coal and dredge material storage and some automobile parking for the University of Minnesota. The coal storage is scheduled to be discontinued in this location. Major structures here include the Minneapolis and St. Louis Railroad bridge, the Cedar Avenue bridge, and a concrete river wall.

On top of the bluff in this segment are the University of Minnesota Law School, Wiley Hall Student Center, and the Studio Arts building. Other developments here include the Riverview Towers apartments and the Burlington Northern Railroad Bridge No. 9.

First Street leads to the terrace below the bluff in this segment. The only other access to the river's edge is via an unpaved road which branches from the Lower Locks access road.

4.3.6 SEGMENT F - BREWERY FLATS

Like Bohemian Flats, this segment is divided into floodplain and bluff top areas. The floodplain, once the location of a brewery, contained six large oil storage tanks until recently. Below the former tank site is a small park designed for sitting and viewing. A concrete river wall extends through Brewery Flats from Bohemian Flats. On top of the bluff are classroom buildings, a library, a performing arts center, and a residential building of the University of Minnesota, as shown by Figure 4-7.

Access to the floodplain may only be gained via Bohemian Flats, while the city street grid and existing West River Parkway serve the remainder of this segment.

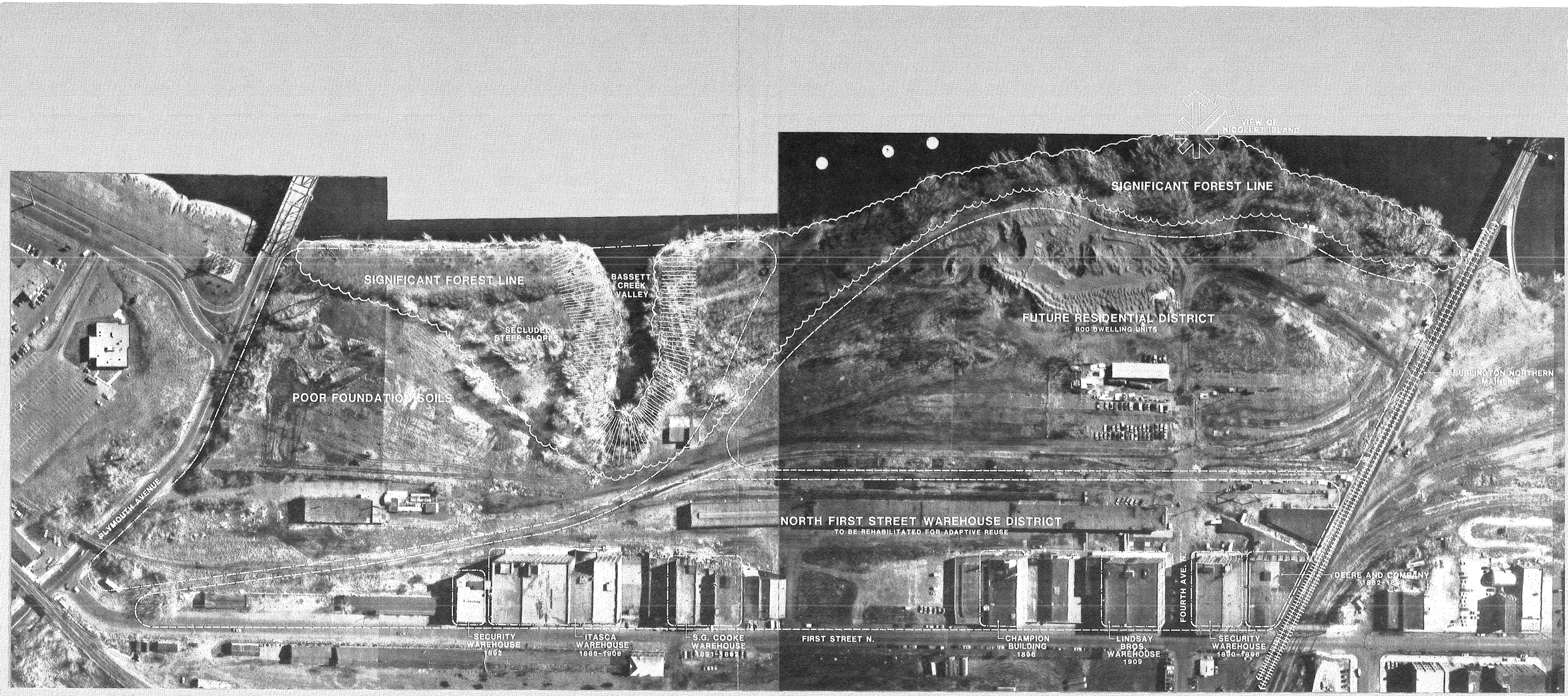


FIGURE 4-2
BASSETT CREEK FORCES

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

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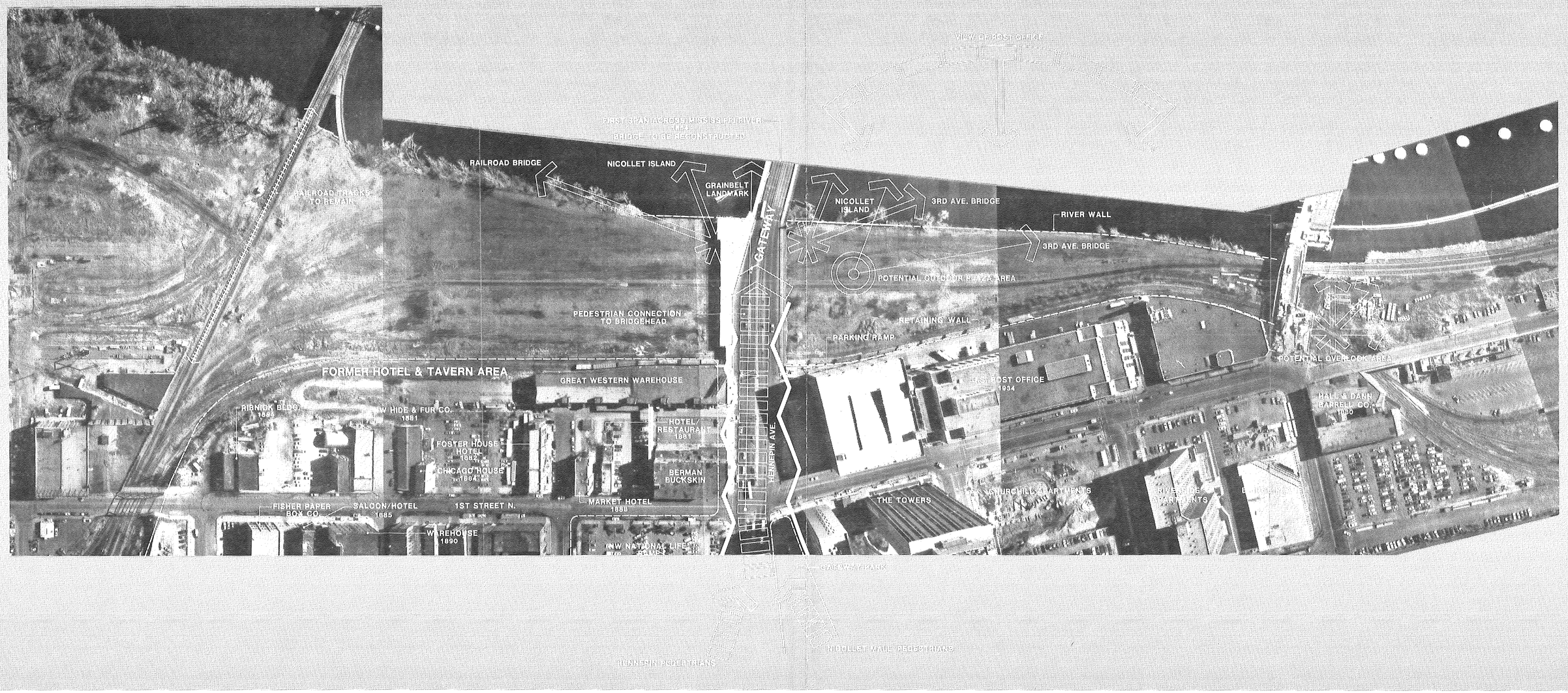


FIGURE 4-3
GATEWAY FORCES

West River Parkway

Minneapolis Park and Recreation Board

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BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

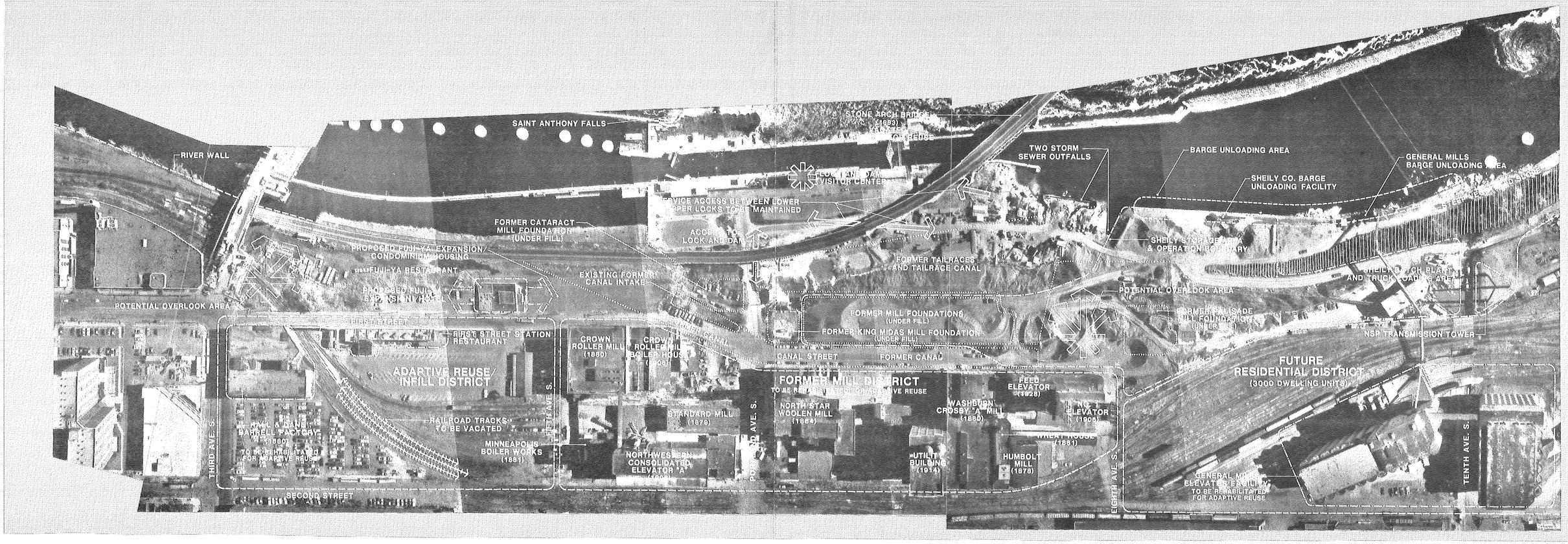


FIGURE 4-4
MILL DISTRICT FORCES

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



West River Parkway

Minneapolis Park and Recreation Board

FIGURE 4-5

GASWORKS BLUFF FORCES

FT. 0 50 100 150 250 350

BRW

BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

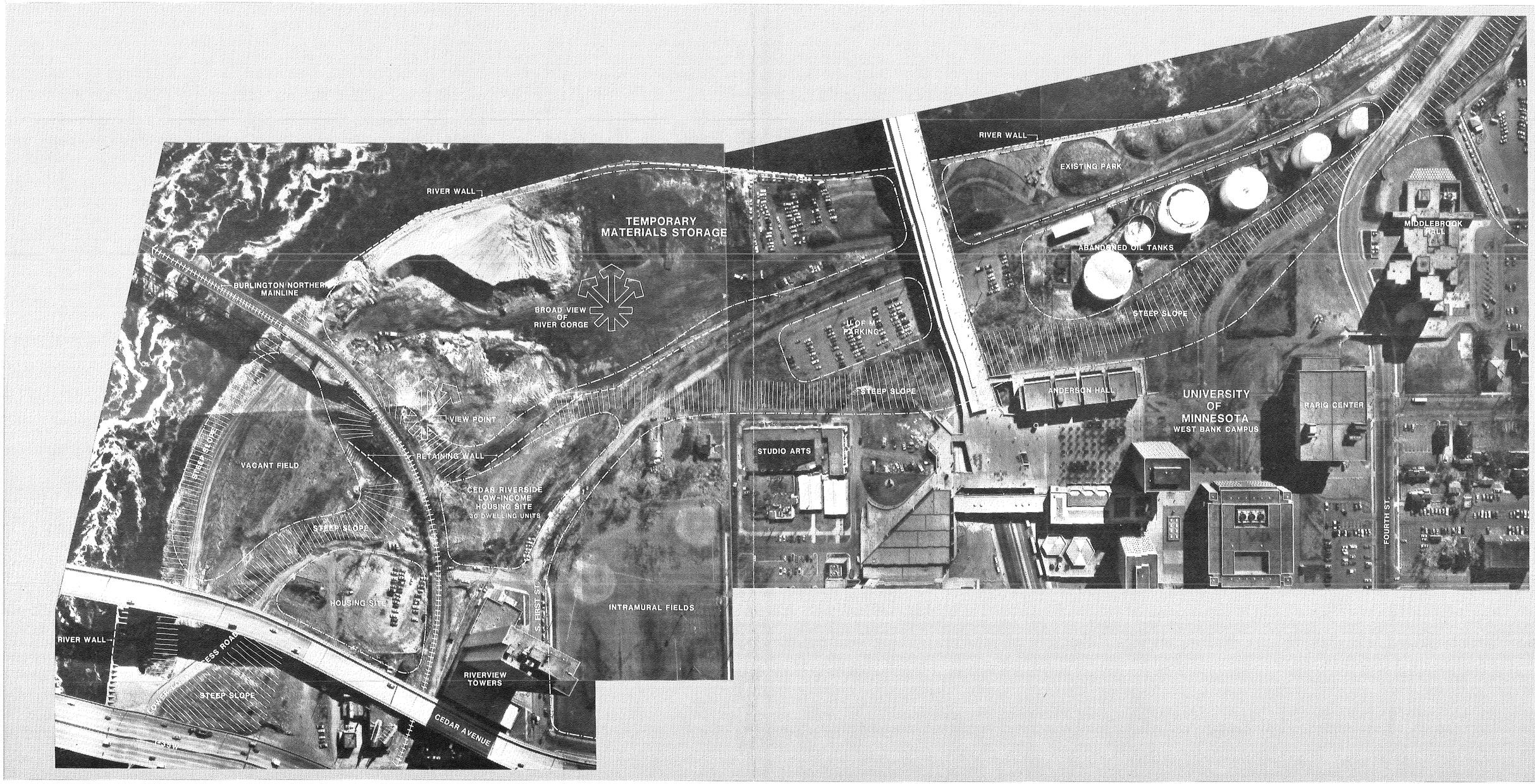


FIGURE 4-6
BOHEMIAN FLATS FORCES

West River Parkway

Minneapolis Park and Recreation Board

FT. 0 50 100 150 250 350

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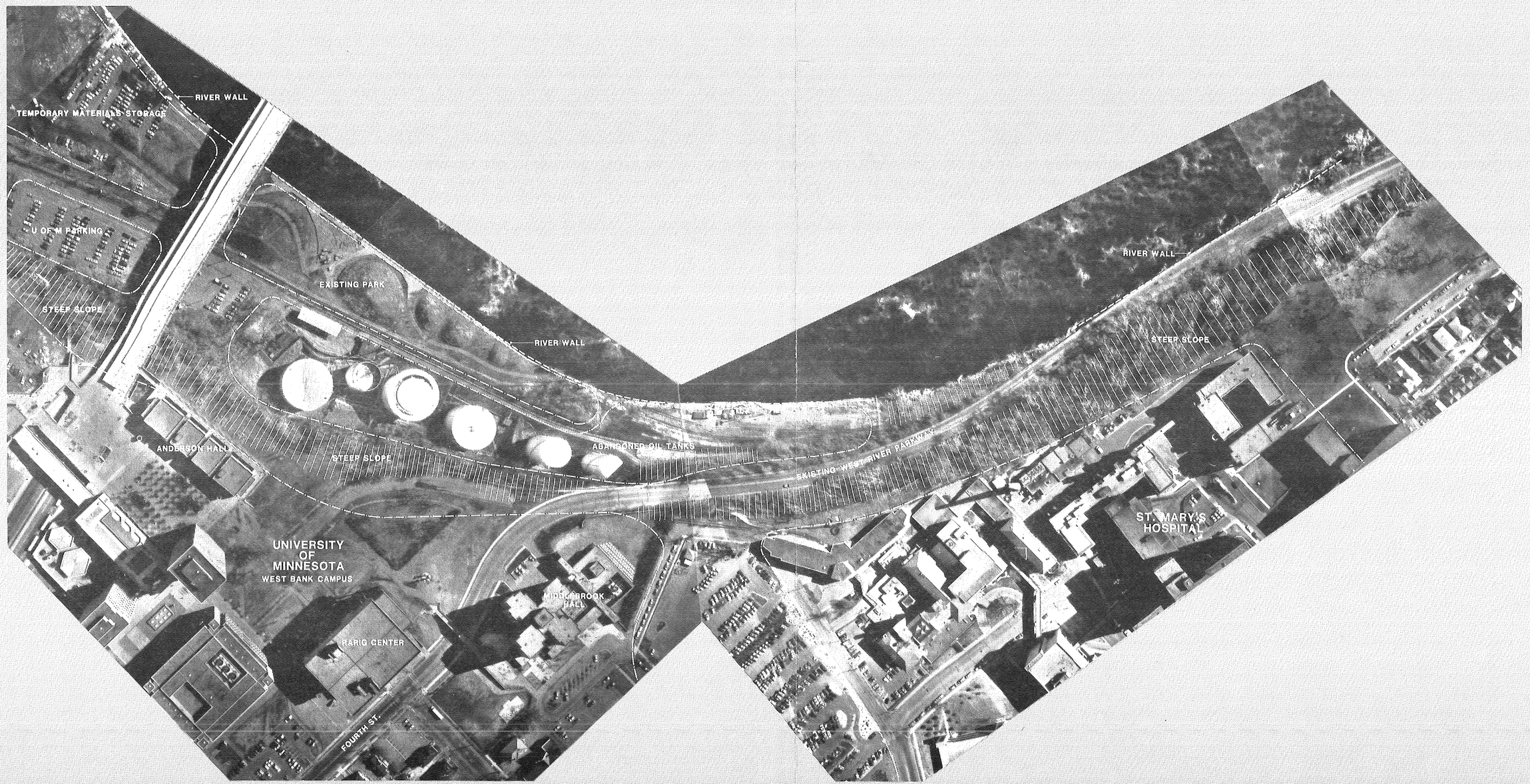


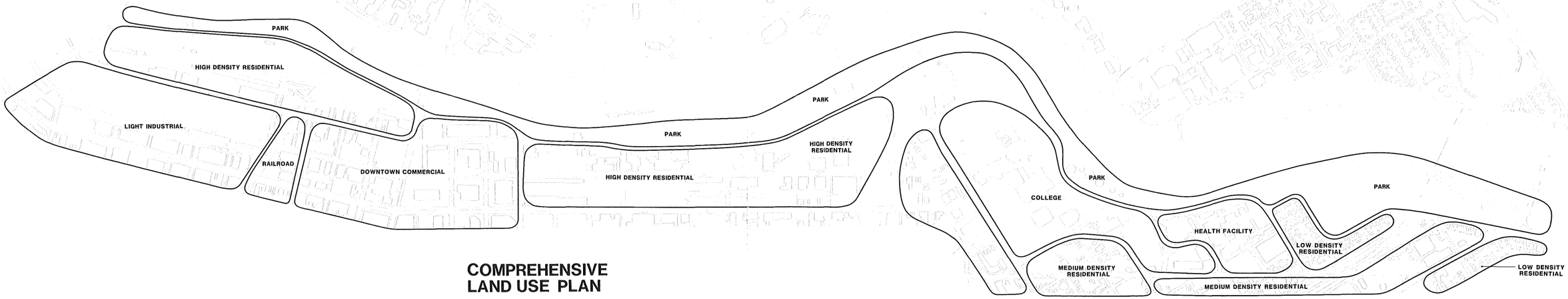
FIGURE 4-7
BREWERY FLATS FORCES

West River Parkway

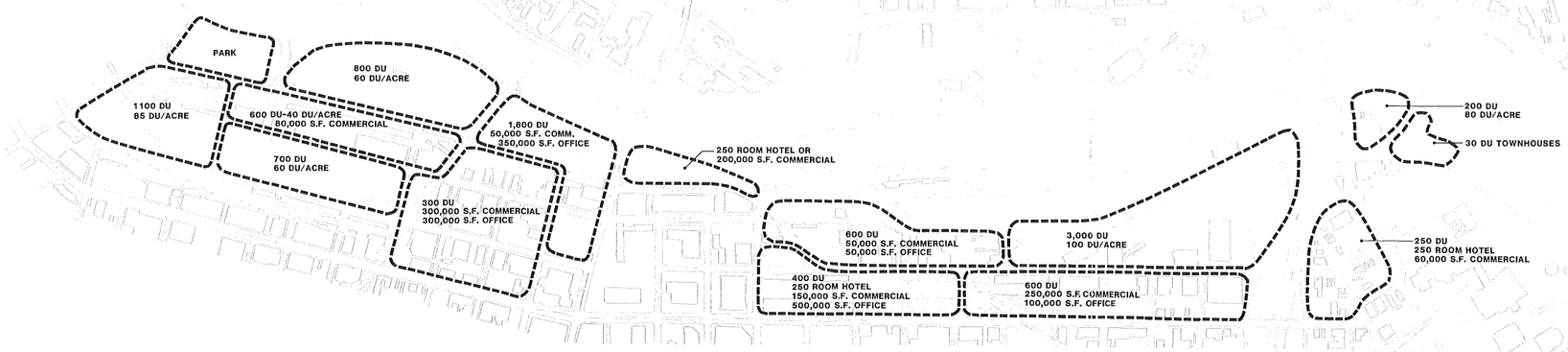
Minneapolis Park and Recreation Board

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BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.



COMPREHENSIVE LAND USE PLAN



West River Parkway

Minneapolis Park and Recreation Board

FIGURE 4-8

DEVELOPMENT FRAMEWORK

BRW

BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

4.4 Urban Planning Context

4.4.1 MINNEAPOLIS COMPREHENSIVE PLAN

The Land Use Plan of the Draft Minneapolis Comprehensive Plan (1979) calls for a linear park along the west bank of the Mississippi River through the Project Area. (See Figure 4-8). The Plan also recommends residential development at over 50 dwelling units per acre in two locations: (1) from Plymouth to Hennepin Avenues between First Street and the river, and (2) from Third Avenue to I-35W between Washington Avenue and the river. The Plan recommends light industrial development south of First Street in the Bassett Creek Segment, downtown commercial development south of First Street in the Gateway Segment, university development on top of the bluff in the Bohemian Flats Segment, and university and health facility land use on top of the bluff in the Brewery Flats Segment.

The Economic Development Chapter of the Draft Minneapolis Comprehensive Plan recognizes the west bank of the Central Riverfront as a Development Opportunity Area. The Chapter recommends that in such areas city projects should be created which stimulate and encourage high-density, market rate residential construction. These projects should contribute to the municipal property tax base and mutually reinforce downtown development and the city's high quality of life.

The Transportation chapter of the Draft Minneapolis Comprehensive Plan proposes bicycle and pedestrian trails along the west bank of the Central Riverfront which would connect to the city-wide and regional trails systems. The Plan also proposes a parkway in this location as an extension of the Minneapolis parkway system and as an element of the Great River Road. Finally, the use of the Stone Arch Bridge as one segment of a larger, new railway transit system is envisioned.

4.4.2 MINNEAPOLIS MISSISSIPPI RIVER CORRIDOR CRITICAL AREA PLAN

The Draft Minneapolis Mississippi River Corridor Critical Area Plan (1979) proposes a linear regional riverfront park along the west side of the Mississippi in the Project Area. Behind the park is recommended high-density housing from Plymouth to Washington Avenues. The Plan recommends that a scenic observation area be established at the Upper Locks, and that the Bassett Creek channel, Hennepin Avenue, and Central Avenue act as "greenway windows" (special access routes to and across the Mississippi River Corridor). The plan also advises that river corridor trails should provide the user with visual contact with the river and river-related activities whenever feasible.

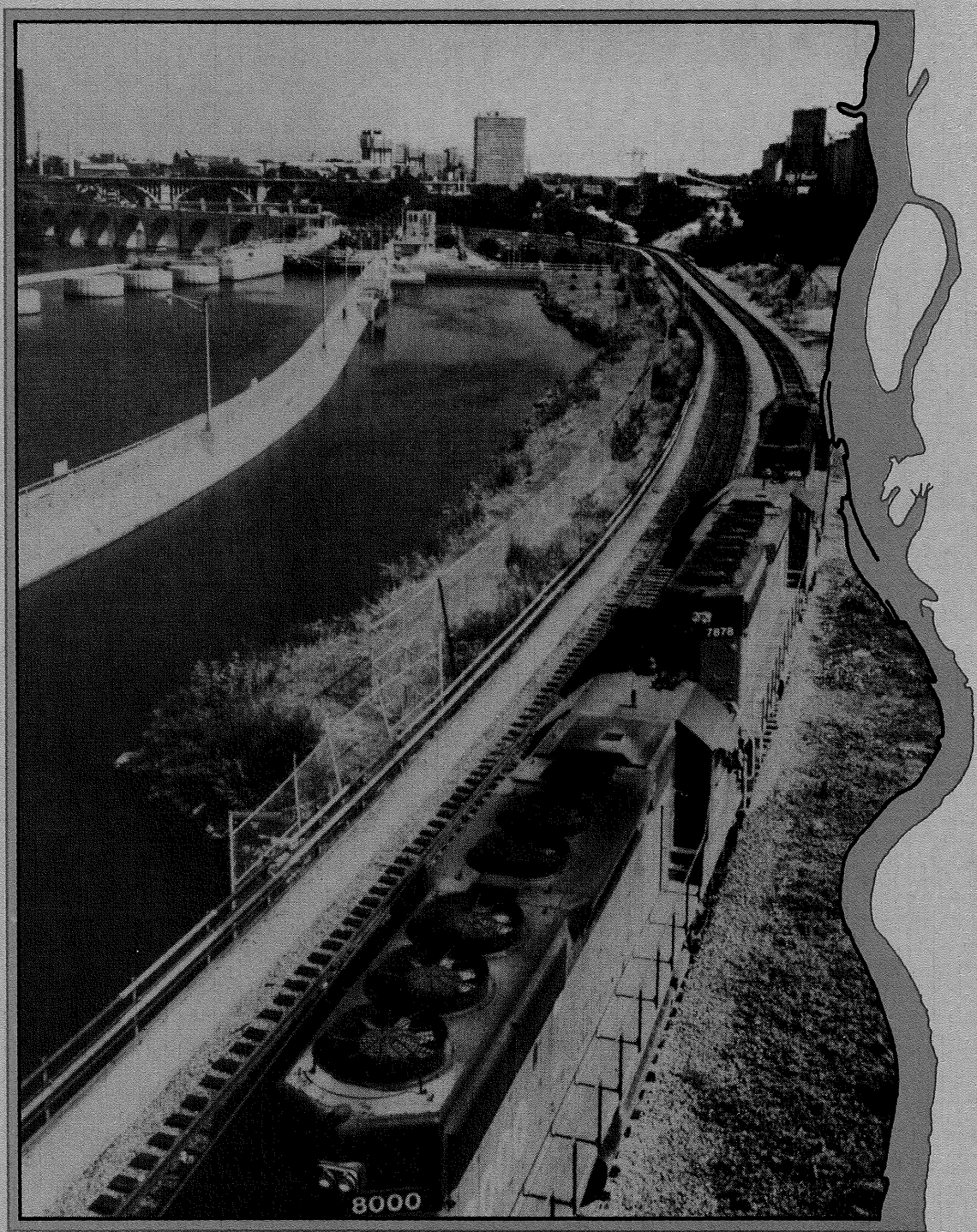
The Critical Area Plan contains several policies addressing industrial land uses along the river. It acknowledges that industries which have a need for the water for activities such as transportation should have the highest priority for riverfront sites. However, it recommends that industry, warehousing, and excess railroad activities should be removed from the Central Riverfront as the area makes a transition to residential uses.

The Central Riverfront Urban Design Guidelines (1981) were written by the City of Minneapolis as an addendum to its Critical Area Plan. The guidelines deal with physical design and development principles on which there is a broad public consensus. They propose ways to preserve historic buildings and the character of the St. Anthony Historic District; to develop along the river a motorway, pedestrian path, and bicycle trail; to create a riverfront open space area which is both highly urban yet respects the major natural features of the location; to provide adequate parking in keeping with the character of the open space; to link the riverfront open space to the central business district; and to blend new buildings with the old. The Development Framework shown in Figure 4-8 was developed for the West River Parkway planning process, and is based almost totally on the Urban Design Guidelines.

4.4.3 CENTRAL RIVERFRONT OPEN SPACE MASTER PLAN

The Central Riverfront Open Space Master Plan was completed by the Riverfront Development Coordination Board (RDCB) in 1978 and proposed three key plan concepts: (1) create regional open space facilities which meet regional needs and are appropriate to their urban setting, (2) establish a regional trail corridor providing for continuation of the Great River Road on the west bank and a parkway on the east bank of the river, including motorways, bicycleways, pedestrian paths, and a tramway, and (3) develop an interpretive system for the Central Riverfront, including museums, interpretive displays, and plaques recording for educational purposes the rich heritage of the area.

The west bank motorway was recommended by the Open Space Master Plan to be a continuous facility and connect with the existing West River Parkway on the south and the existing West River Road at Plymouth Avenue. Connections to the local street system were proposed at Portland Avenue, Plymouth Avenue, and, possibly, Second Avenue N. The motorway was recommended to run as close as possible to the river, separated from the river by the pedestrian and bicycle trails. River windows (the same concept as the Critical Area Plan's greenway windows) were proposed at Bassett Creek, Second Avenue N., Hennepin Avenue, Third Avenue S., Portland Avenue, and, potentially, Tenth Avenue S. A major public plaza was proposed at the Hennepin Avenue bridgehead.



5. Environmental Consequences

West River Parkway

Minneapolis Central Riverfront

5. Environmental Consequences

5.1 Summary of Environmental Consequences and Mitigation Measures

5.1.1 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

To aid in the comparison of project alternatives, environmental consequences for each portion of the Project Area are summarized in Table 5-1. This table presents those impacts which are suited to a summary comparison. A more detailed discussion of environmental consequences is included in subsequent sections of Chapter 5, which should be consulted for a full explanation of these and other impacts.

The proposed action would result in both adverse and beneficial consequences. However, the positive effects of the project would far outweigh the negative. The adverse impacts would include the relocation of two businesses, public financial commitments, and, depending on the alternative chosen, alterations to one historic building and several historic bridges. Route 1 and possibly Route 2 could adversely affect the West Side Milling District area of the St. Anthony Falls Historic District.

Beneficial effects would include: (1) improved public access to and enjoyment of the Mississippi River, (2) improved recreation opportunities, particularly for persons living in the downtown area, (3) improved understanding and appreciation of the historical and cultural background of the vicinity, (4) improved bicyclist and pedestrian movement, (5) accelerated growth of the local property tax base, and (6) fulfillment of local and regional urban plans.

5.1.2 SUMMARY OF SIGNIFICANT ADVERSE IMPACTS AND MITIGATION MEASURES

Three types of significant adverse impacts would be possible as a result of this project. These impacts and their possible mitigation measures are described below.

Property Displacement and Relocation

Any project alternative would require the relocation of two businesses, the J. L. Shiely Company (sand and gravel) and the Minnesota Gas Company (Minnegasco) Service Building. Properties which would be acquired would be compensated at fair market value, and owners would have the option of obtaining independent appraisals. Relocation benefits would also be available to displaced businesses. The Shiely Company and Minnegasco would be assisted by the Minneapolis Community Development Agency in finding a suitable alternative location.

TABLE 5-1

SUMMARY OF MAJOR ENVIRONMENTAL CONSEQUENCES

ENVIRONMENTAL CONSEQUENCE TOPIC	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	NO-ACTION ALTERNATIVE
SOCIAL Residential Environment	1 - positive effect	2A & 2B - no positive effect on residential environment 2E - adversely affects future residential site 2C & 2D - positive effect	3 - no positive effect on residential environment	no positive effect on residential environment
ECONOMICS Business Displacement	All alternatives require relocation of two businesses.		3C - requires removal of Milwaukee Road tracks	no effects
Property Value and Tax Base	All alternatives would encourage redevelopment and increased property value and tax base.			
TRANSPORTATION	1 - volumes consistent with recreational roadway	2A & 2B - volumes higher than desired on North First Street and not consistent with recreational roadway 2C, 2D, & 2E - volumes consistent with recreational roadway	3 - traffic volumes higher than desired for recreational roadway	higher than desired volumes on North First Street
AIR QUALITY Ambient Standards	1 - less traffic through critical intersection	2A & 2B - more traffic through critical intersection 2C, 2D, & 2E - no effect	3 - no effect	more traffic through critical intersection
NOISE Federal Design Noise Levels (# of sites exceeding acceptable levels)	No adverse effects under any alternative.			
ENERGY	no significant effect	2A & 2B - higher energy consumption	higher energy consumption	no significant effect
FLOODPLAINS Flood Frequency	1E - insignificant encroachment 1A, 1B, 1C, 1D, & 1F - No effects	no effects	no effects	no effects
WETLANDS Acres affected	No effects under any alternative.			

TABLE 5-1
(Continued)

URBAN PLANNING	consistent	consistent	consistent	not consistent
PARKS AND OPEN SPACE	positive effect	2A & 2B - positive effect, but poor access and security to riverfront 2C, 2D, & 2E - positive effect	positive effect, but poor access and security to riverfront	poor access to the riverfront
HISTORICAL RESOURCES	1C - adverse effect on Stone Arch Bridge and West Side Milling District 1A,1B,1D,1E,&1F - no effect	2A & 2B - adverse effect on bridge and several buildings 2C - adverse effect on two bridges and one building, and potential adverse effect on Milling District 2D & 2E - no effect	3C - probable adverse effect on one bridge and building	no effect
WATER QUALITY	No significant effect under any alternative.			
AGRICULTURAL LANDS	No effect under any alternative.			
SURFACE WATER	No effect under any alternative.			
VEGETATION AND WILDLIFE Vegetation	1A - small amount of forest veg. removed 1B - one-half acre of forest veg. removed 1C,D,E,&F - no effect	2A - small amount of forest veg. removed 2B,2C,2D,2E - no effect	no effect	no effect
Threatened or Endangered Species Disturbed	No effect under any alternative.			
VISUAL FACTORS	Positive visual effects.			no effects
CONSTRUCTION	Minor adverse air, noise, and traffic effects.			no effects
FINANCIAL COMMITMENTS	$22.9 million	$22.0 million	$20.4 million	no effect

Public Financial Commitments

The total project cost would be about $22.9 million for Route 1, $22.0 million for Route 2, or $20.4 million for Route 3. (Property acquisition costs are based on 1982 Assessor's Market Value data.) Financing would come from federal, state, and local sources. The effect of the local expense would be mitigated by a resulting quicker pace of adjacent land redevelopment and, thus, an earlier increase in the local property tax base.

Alteration or Removal of Historic Structures

The route would run through the St. Anthony Falls Historic District. Depending on the route alternatives chosen, one building could be removed and four bridges or portions of bridges could be removed or obliterated. Mitigation of the effect on two of the bridges would be possible through careful roadway design and construction. Route 1 and possibly Route 2 could adversely affect the continuity of the West Side Milling District. However special design features can mitigate the potential impact of Route 2.

5-2 Environmental Effects of the Alternatives and Mitigation Measures

5.2.1 SOCIAL FACTORS

In general, the implementation of West River Parkway would enhance the Central Riverfront as a residential location, by creating an environment which encourages the development of new housing in underutilized land areas and by improving outdoor recreational opportunities where few presently exist. Urban development and rehabilitation would occur as private entrepreneurs take advantage of the improved residential desirability, image, and river access created by West River Parkway.

In the Bassett Creek and Gateway Segments, Route 1 would more likely achieve the positive results described above than would Route 2 because Route 1 would provide better access and exposure to the major development and recreation sites in these segments. For the same reason, Routes 1 and 2 would provide better access to the river than Route 3 in the Mill District and in Gasworks Bluff.

In Bohemian Flats, Route 1 provides better river access than Route 2. Further, Route 2 adversely affects the ability of the City to implement the proposed Section 8 housing project on the bluff just east of the Cedar Avenue bridge. Figure 5-1 indicates the amount of housing development that could be placed on this site with Route 2. That number of housing units is only about half of what could be achieved without Route 2.

There will be no displacement of residents from the Project Area by any of the route alternatives. No social group would be harmed by any route alternative.

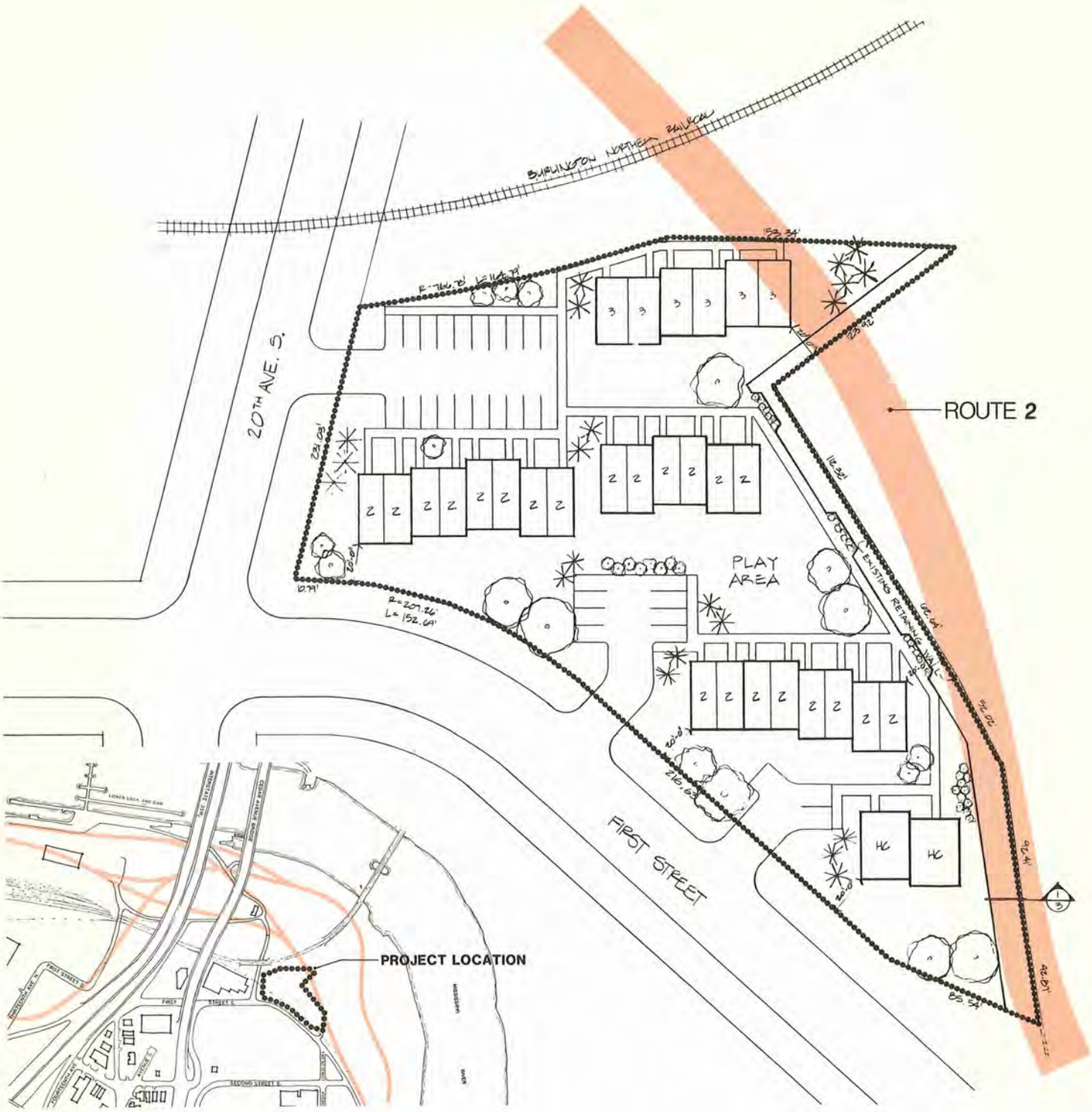


FIGURE 5-1

RIVER BLUFF HOUSING SITE PLAN

PROJECT AREA BOUNDARY

ROUTE ALIGNMENT

West River Parkway

Minneapolis Park and Recreation Board

0 30 60 FT.

BRW

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No-Action Alternative

The No-Action Alternative would have no significant adverse or beneficial effect on any of the social factors addressed above.

5.2.2 ECONOMIC FACTORS

The effects of the West River Parkway on economic factors have been grouped for analysis as follows:

- Business displacement,
- Business access, and
- Property values and tax base.

Business Displacement

The J. L. Shiely Company sand and gravel operation in the Mill District and the Minneapolis Gas Company (Minnegasco) service building in Gasworks Bluff would be displaced by all of the route alternatives. The Shiely operation is inconsistent with the Mill District park plans and with the long term objective of establishing housing in the area. The Shiely facilities would be phased out as the project is implemented. The City of Minneapolis would assist Shiely in finding a suitable relocation site in the Upper Harbor. Use of the new site would require Shiely to move its barges through the Upper Locks. Possible relocation sites about two miles upstream from the existing site would require about four miles of additional barge travel.

The Minnegasco Service Building would be relocated to a new site in Central Minneapolis with the assistance of the City. The Minnegasco propane tanks would not be affected by any of the route alternatives. The roadway alternatives will be at least 50 feet from the propane loading point, as required by fire safety regulations.

Implementation of Route 3 in the Mill District is dependent upon the removal of the Milwaukee Road railroad tracks along Second Street. The City of Minneapolis has initiated action which would result in abandonment of these tracks to encourage urban redevelopment. Alternative routes for railroad service to customers affected by this abandonment are being investigated. Service to General Mills and Minnegasco could be rerouted to access the area from the east, over Burlington Northern Bridge No. 9.

General Mills would continue to be allowed to dock its barges near what would be the foot of Tenth Avenue S. for as long as it remains in business at that location. Grain would continue to be loaded to barges via the existing overhead conveyor system.

The No-Action Alternative would not affect any business operations. However, it is anticipated that as redevelopment of the area proceeds, the J.L. Shiely operation and the Minnegasco Service Building would still be eventually relocated to other sites.

Another business-related impact concerns navigation maintenance of the Mississippi River channel in the Lower George area. The U.S. Army Corps of Engineers is temporarily utilizing the Bohemian Flats (or coal flats) area for storage of dredge material from the river. The dredge material is primarily sand saturated with water. All Action Alternatives would require a new site for dredge material unloading and temporary storage.

Other sites are possible in the area, including the transport of the material into the Upper Harbor area to the north. The U.S. Army Corps of Engineers has the responsibility for locating acceptable dredge material sites in this section of the river below the Lower Lock and Dam.

Business Access

None of the route alternatives would obstruct access to any business remaining in the area. Trucks would continue to be allowed to use any existing local streets (e.g., First Street North or South) which may be designated as a portion of the Great River Road route. Parkway segments on new locations would not affect business access, and trucks shall not be allowed on these segments.

A related business access concern has been expressed by the Fuji-Ya Restaurant on South First Street. The restaurant is concerned that the implementation of Alternative 1C along the riverfront will disturb visual and physical access of restaurant patrons to the river. Until recently, this area was occupied by an operating mainline of the Burlington Northern Railroad. Any parkway facility would be a substantial visual and physical access improvement over the railroad. A number of design techniques, including grade changes, landscaping, and pathways, will ensure public access to the riverfront in the Fuji-Ya Restaurant area.

A final business access concern is the potential development of underground industrial space in the area. The bluff near the Bohemian Flats area represents a good location for direct access to underground, mined industrial space. While there are no active plans for such development, all alternatives have been designed to accomodate future commercial roadway access to the lower bluff area.

Property Value and Tax Base

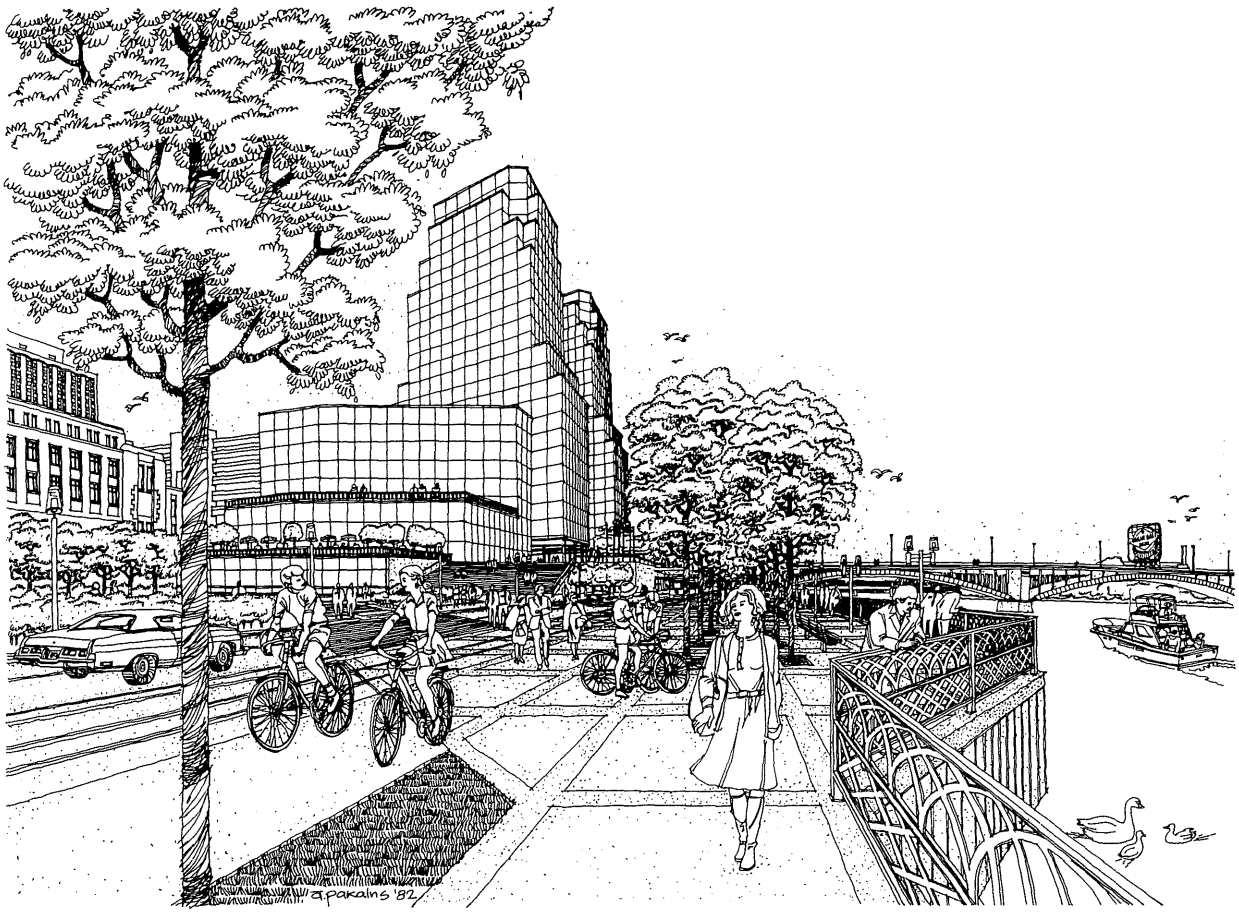
Any Action Alternative would result in greater total Central Riverfront property value and tax revenue than would the No-Action Alternative.

Total future value of development in the area would be greater with the project than without it for the following reasons:

1. Potential residential land parcels would experience greater value increases because the parkway would bring more visibility, recreational amenities, and perceived status than would the No-Action Alternative.

2. More parcels would experience value increases with the project than without it. This is because the parkway will provide river access for parcels distant from the river. This will bring the value of the river and park amenities to parcels not abutting the river.

3. Redevelopment and subsequent property value increases would occur sooner with the parkway than without it. The establishment of the parkway would create a visible public commitment to the riverfront, encouraging more rapid residential development.



Gateway

The net property tax revenue of the Central Riverfront would be greater with the parkway than without it for the following reasons.

1. The greater individual parcel value and the greater number of land parcels affected would result in more property tax revenue.

2. The increase in property tax revenue would easily offset the revenue loss resulting from certain parcels being removed from the tax rolls for the parkway. The total 1982 property tax due from land proposed for park acquisition is $438,365. The total potential new housing in the Central Riverfront could generate more than $32 million in property taxes at the 1982 mill rate.

No-Action Alternative

There would be no significant adverse economic effects related to the No-Action Alternative. No businesses are dependent upon the completion of this project, and any riverfront access needed for development could be supplied in other ways.

Mitigation Measures

Businesses which are displaced by the proposed action would receive assistance in securing adequate replacement sites. They will be paid a fair value for their property and for the cost of moving to new locations.

5.2.3 TRANSPORTATION

The purpose of the transportation analysis was to determine the traffic effects of alternative project routes. An objective of the project is to limit traffic levels to average volumes in the range of 5,000 vehicles per day to maintain recreation roadway characteristics. Another concern regards the effect of the routes on access to existing and future development. A more detailed explanation of the traffic analysis process is provided in Traffic and Circulation Technical Report, Minneapolis Park and Recreation Board, February 1982.

Methodology

The land use projections that were used to forecast traffic volumes for the parkway corridor reflect the more intensive urban development possible under the City of Minneapolis Urban Design Guidelines for the Central Riverfront. These guidelines for land use, building massing, and building design have been translated into estimates of potential housing, office, and retail development which are portrayed by Figure 4-8.

Table 5-2 compares estimates of population, dwelling units, and total trip ends between the Metropolitan Council's year 2000 socio-economic forecast for the Central Riverfront and that of the City of Minneapolis.

Table 5-2 clearly shows the magnitude of the effect of using the local rather than the regional development assumptions for the Central Riverfront.

Subsequently, the assumptions of travel behavior for people living in the Central Riverfront were also revised. It is expected that this travel behavior will be different than that of individuals in other high density residential areas outside of the Central Business District.

TABLE 5-2

Comparison of Metropolitan Council and City of Minneapolis Year 2000 Socio-Economic Forecasts

	Metropolitan Council	City of Minneapolis
Population	6,784	22,634
Dwelling Units	4,075	12,830
Daily Trip-Ends	46,586	107,468

Source: "Traffic and Circulation Technical Report," Minneapolis Park and Recreation Board, 1982.

Certain access restrictions were assumed for the parkway traffic projections. Direct access to the parkway would be prohibited except in special cases where access to a development parcel is restricted and the development is not a high traffic generator; the park system would have exclusive access from the parkway; and the Great River Road alternative on First Street north of Third Avenue S. or on Second Street south of Third Avenue S. would have no access restrictions.

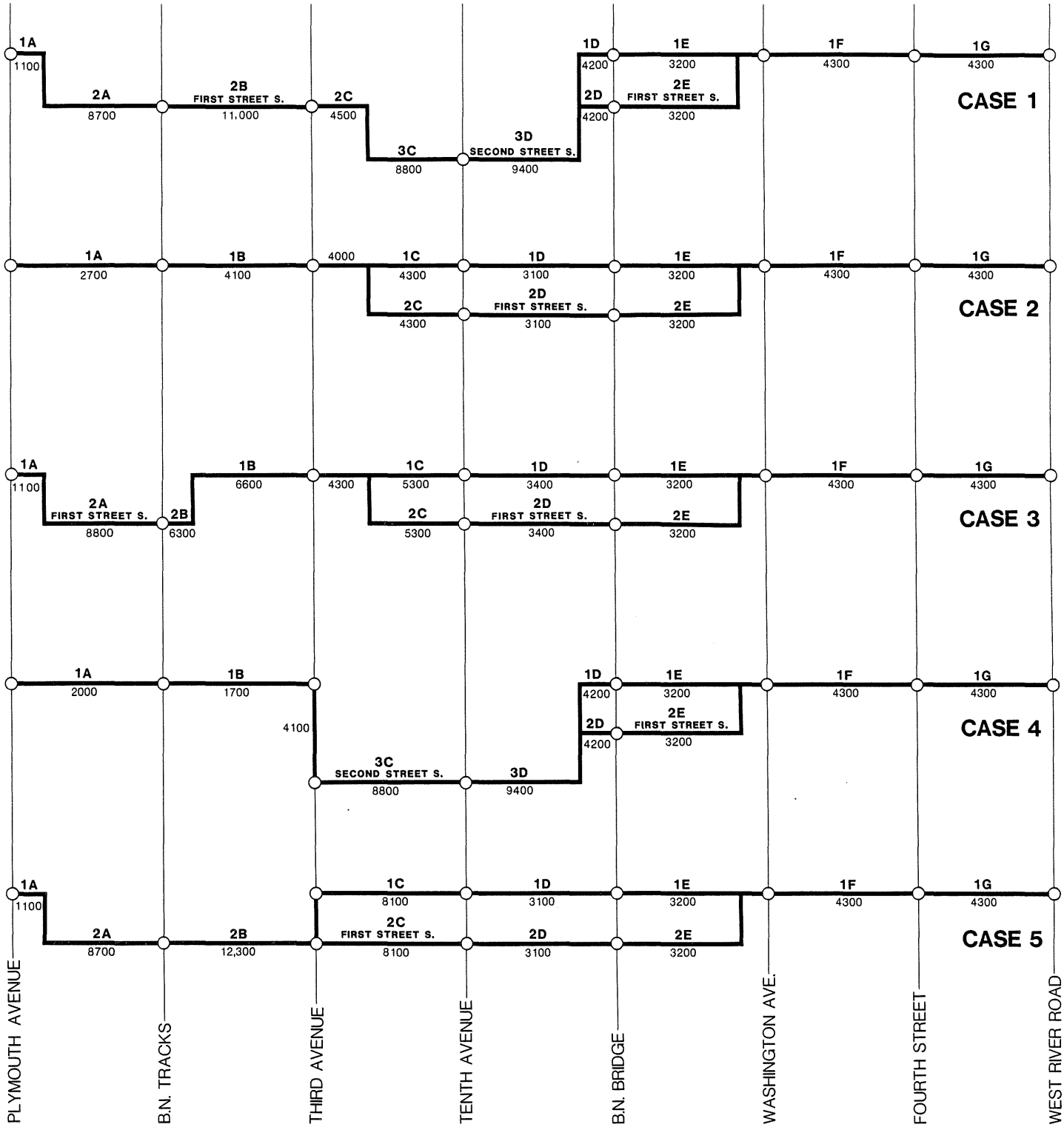
Recreation traffic was estimated at 500 to 1000 vehicles per weekday. This traffic is not expected to noticeably affect peak hour volumes since it will occur principally at off-peak hours and on the weekend.

The results of these refinements were year 2000 (or "full development") average daily traffic volumes along the parkway corridor that were significantly higher than those of a previous forecast which was based on Metropolitan Council projections. These higher, "full development" volumes are more appropriate for determining the best location for Great River Road. The year in which these volumes are realized, year 2000 or after, is less important to the location decision.

Traffic Forecasts for the Project Alternatives

Traffic volumes of each route alternative in each segment depend on three factors: (1) how route alternatives in each segment are combined with route alternatives in other segments, (2) how access from land parcels and city streets is provided to the route alternatives, and (3) the type and intensity of development on land adjacent to the route alternative.

The projected average daily traffic volumes for five route alternative cases, assuming full development of the Project Area, are shown in Figure 5-2. These five cases can be used to identify the volumes associated with all route alternatives. The traffic affects are explained in more detail in the following discussion.



2A — ROUTE SEGMENT
2A / 8800 — ROUTE ALTERNATIVE
8800 — AVERAGE DAILY TRAFFIC

FIGURE 5-2
TRAFFIC FORECAST
(FULL DEVELOPMENT)

West River Parkway

Minneapolis Park and Recreation Board

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

Segment A

Route 1 - Traffic demand on Route 1 can be expected to range between 1800 and 2700 daily vehicle trips as illustrated by Cases II and IV. The major factors influencing the traffic demand on this route are the access provided to downtown Minneapolis between Third Avenue S. and I-35W, and the access provided to major arterials. Traffic demand would increase on this segment as the parkway section is lengthened, allowing city street connections at Portland Avenue S. and Tenth Avenue S.

Route 2 - Traffic demand on Route 2 is shown in Cases I, III and V. The traffic demand on Route 2 is not significantly affected by the Great River Road route in other segments. Forecast traffic demand on Route 2 in Segment A is between 4900 and 5000 average daily trips north of Seventh Avenue N. and between 8700 and 8800 daily vehicle trips between Fourth Avenue N. and Seventh Avenue N. These higher volumes are not consistent with the City's plans to restore the historic, commercial street character of North First Street. Implementation of Route 1 would reduce these volumes on First Street to lower levels.

Segment B

Route 1 - Traffic demand on this route segment would range between 1700 and 6300 daily vehicle trips. The lowest traffic demand is generated by Case IV and the highest traffic demand is generated by Case III. The factors that influence the traffic demand on this route alternative are the city street connections at Portland Avenue S. and Tenth Avenue S., and the parkway connection to the Third Avenue Distributor.

Route 2 - Traffic demand on this segment is represented by Cases I and V and is not affected by route alternative choices in other segments. Between Hennepin Avenue and Third Avenue N., the daily traffic demand is forecast at 11,000 and between Third Avenue S. and Hennepin Avenue the average daily traffic demand is forecast at 12,300. Again, the higher volumes are not consistent with the City's plans for restoration of North First Street.

Segment C

Route 1 - Traffic demand on this route segment may range from 4100 to 8100 daily vehicle trips as represented in Cases II, III and V. The major factor affecting traffic demand on this link is the direct connection between Portland Avenue and Third Avenue S. This connection extends First Street as a through street from Third Avenue S. to Portland Avenue and attracts some trips previously assigned to Third Avenue S. to Portland Avenue S. Terminating the parkway section at Third Avenue N. will also increase traffic demand on this route segment.

Route 2 - The access and circulation in this segment would change very little by whether Route 1 or Route 2 is being considered, and therefore Route 2 has the same forecast traffic demand as Route 1.

Route 3 - Traffic demand on this route segment is represented by Cases I and IV and is not significantly affected by route alternative choices in other segments. Route 3 in Segment C has a forecast traffic demand of 8800 average daily trips. This volume is inconsistent with the recreation character of the proposed project. Route 3 (Second Street) would have to be designed as a four lane city street capable of handling commercial traffic for business access.

Segment D

Route 1 - Traffic demand on this route may range from 3100 to 3400 daily vehicle trips as represented by Cases II, III and V. Terminating the parkway section at Third Avenue N. results in the slightly higher forecast traffic demand.

Route 2 - Traffic demand on this route segment is considered to be the same as Route 1. The access and circulation in this segment will change very little by having the route above or below the river bluff. Development parcel access will be restricted in both cases and city street connections to the parkway will be provided at the same locations.

Route 3 - Traffic demand on this route segment is represented in Cases I and IV. Traffic demand is not expected to vary significantly between the cases. With the Great River Road route on Second Street in this segment, the forecast traffic demand is as high as 9400 average daily trips.

Segment E

Route 1 - Traffic demand on this route segment is forecast at 3200 daily vehicle trips and is the same in all cases. The traffic is made up principally of trips between South Minneapolis and downtown Minneapolis and are assigned to the parkway independent of route choices in the previous segments.

Route 2 - Traffic volumes on Route 2 would be the same as on Route 1.

Segment F

Route 1 - Forecast traffic demand on this route segment is the same as the forecast traffic demand on Routes 1 and 2 in Segment E. The access at First Street S. is not expected to have a significant affect on traffic volumes.

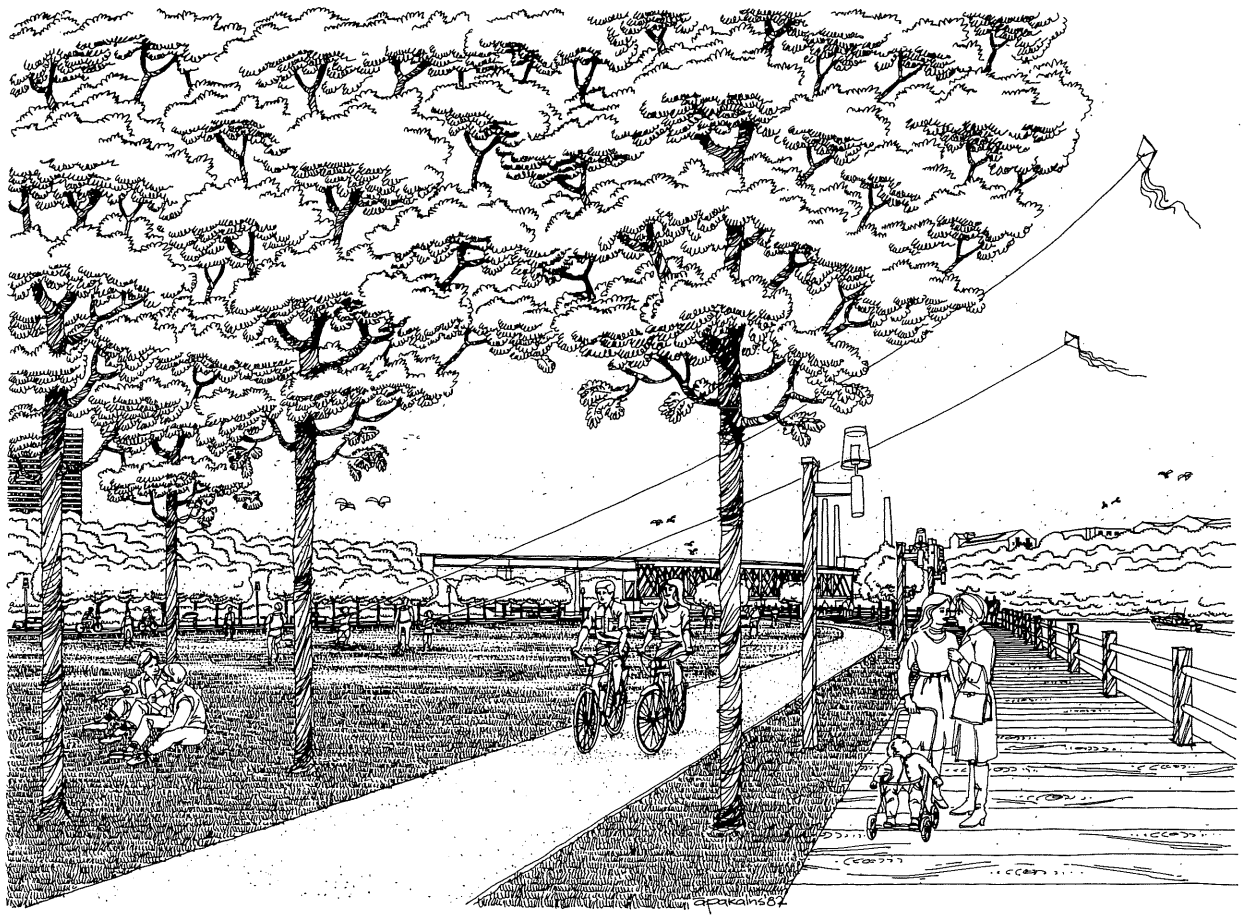
Segment G

Route 1 - Traffic demand on the existing West River Parkway is expected to increase to 4300 daily trips with completion of a parkway to Thirteenth Avenue S. as shown in Case I through V. Traffic demand is not expected to vary greatly by alternative.

Bicyclist and Pedestrian Movement

Any of the Action Alternatives would improve bicyclist and pedestrian access to and from downtown Minneapolis, the University of Minnesota, and, especially, to and along the riverfront in the Project Area. Bicyclist and pedestrian trails are proposed to run the length of the Central Riverfront, connecting to the existing system of parkway trails at Plymouth Avenue and Fourth Street S. Bicyclists would be able to eventually travel on a separated bicycle path along the entire length of the River in Minneapolis. These trails would become part of a city-wide and a regional trails network. Both short- and long-distance trips would be facilitated. Connections would also be provided to the city street and sidewalk systems so as to allow interaction with the established grid.

The Metropolitan Council projects that 225,000 pedestrians and bicyclists would utilize the paths along West River Parkway each year. Approximately 80% of the users would be bicyclists.



Bohemian Flats

These trails would also let pedestrians and bicyclists experience places along the river that are currently inaccessible. Finally, the trails would be laid out according to the design standards of the Minneapolis Park and Recreation Board, which minimize conflicts between motorized traffic, bicyclists, and pedestrians.

No-Action Alternative

The traffic forecast for the No-Action Alternative is represented closely by Case 1. Traffic volumes on First Street North would be higher than desired for historic restoration. Pedestrian and bicycle access to the riverfront would be dependent on the actions of individual private developers.

5.2.4 AIR QUALITY

Action Alternatives

The air quality analysis focused on localized emissions of carbon monoxide (CO). CO monitoring identified existing violations of the eight-hour state and federal standards at the corner of Hennepin Avenue and First Street. Eight-hour average concentrations as high as 12 parts per million (PPM) were monitored in 1980 compared to a standard of 9 PPM. Using the Modified ISMAP air quality prediction model, a worst-case eight-hour average concentration of 14.1 PPM was predicted for the existing situation at this intersection.

A comparison of year 2000 traffic volume forecasts identified as potential CO "hotspots" the intersections of Third Avenue and First Street and Hennepin Avenue and First Street. These two intersections were analyzed considering both a new parkway along the river and the Great River Road designated on First Street. The location of the carbon monoxide receptor sites is shown in Figure 5-3.

CO concentrations predicted in the vicinity of Third Avenue and First Street were well below state air quality standards for 1980, 1987, and the year 2000 for all alternatives.

In the vicinity of Hennepin Avenue and First Street, CO concentrations in excess of state standards are predicted to continue through 1987, regardless of the route alternative selected. None of the route alternatives would generate additional traffic or significantly change the circulation of existing traffic through this intersection. The maximum eight-hour concentration predicted for 1987 is 9.2 PPM, as shown in Table 5-3. Only one of the five receptor sites analyzed, at First Street and Hennepin Avenue, exceeded the state standard of 9 PPM in 1987.

Developments anticipated in the Central Riverfront will generate new traffic in the Project Area. Although the construction of this development is independent of the route alternative selected, the distribution of development traffic will be affected. Thus, in the year 2000, a new parkway along the riverfront (Route 1) would result in CO concentrations near Hennepin and First Street 0.5 to 1.0 PPM less than if Great River Road were

designated on First Street (Route 2). A new parkway will help to divert traffic from future developments away from the First and Hennepin intersection. Regardless of the route alternative selected, year 2000 CO concentrations would be below state standards. The need for mitigative measures at this intersection will be evaluated in the final EIS based on the selected alternative and the schedule for implementation.

A more complete discussion of air quality impacts is included in "Air Quality Technical Report, West River Parkway", Minneapolis Park and Recreation Board, 1982.

No-Action Alternative

The No-Action Alternative would have no adverse impact on air quality in the Project Area. The No-Action Alternative is represented by the Route 2 discussion above.

Mitigation Measures

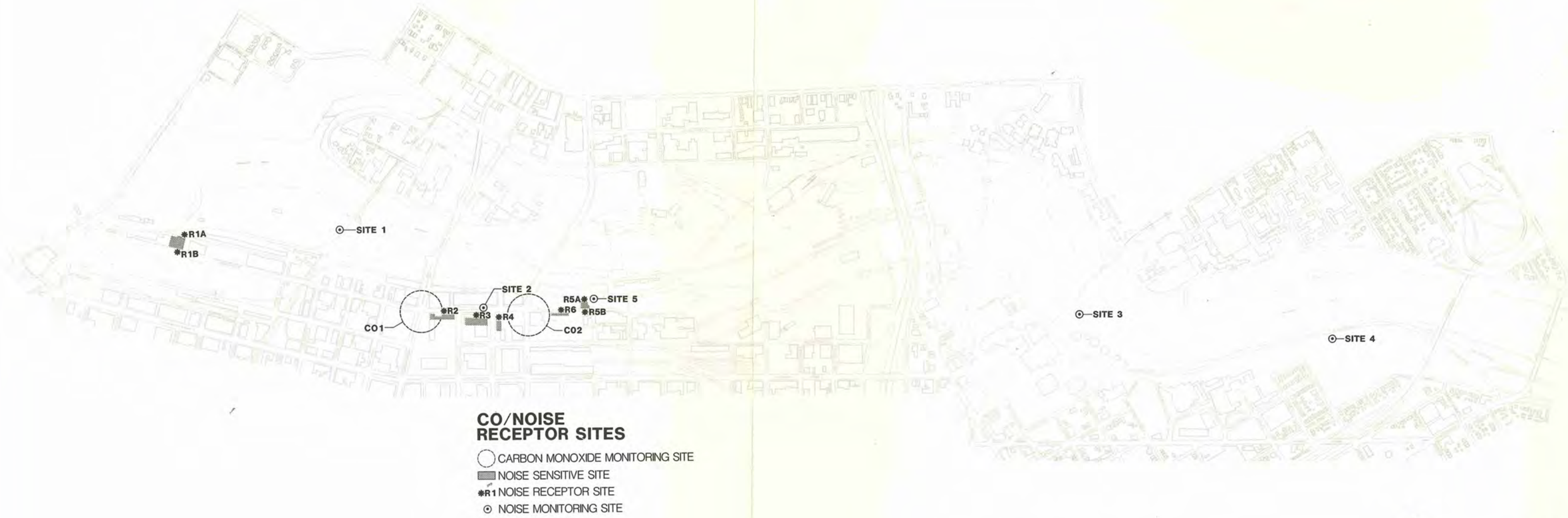
Regardless of the West River Parkway alternative selected, traffic volumes at the intersection of Hennepin Avenue and First Street should be monitored carefully. As new developments occur in the riverfront area, changes in approach volumes and turning movements may warrant changes in the signal timing and phasing to optimize traffic flow.

5.2.5 NOISE

The "Preliminary Noise Technical Report" (Minneapolis Park and Recreation Board, 1982) documented the noise analysis for West River Parkway. The analysis monitored existing noise levels and modeled future noise levels at sensitive receptors. Figure 5-3 shows the locations of the monitoring sites and sensitive noise receptors.

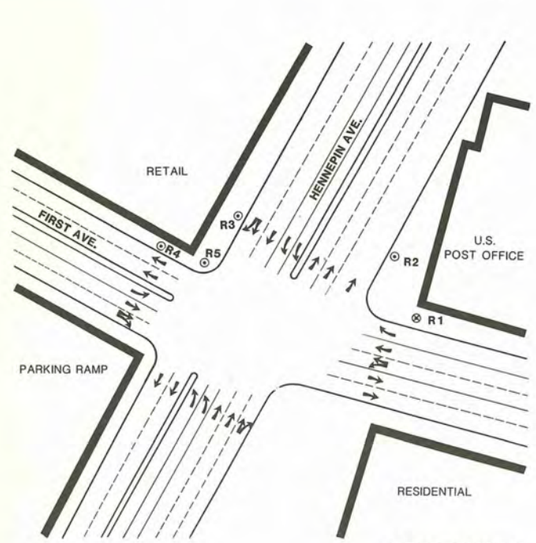
Six noise-sensitive receptors were identified, and all are along First Street between Portland Avenue S. and Eight Avenue N. Future noise levels for both daytime and nighttime periods were predicted at each site. The resulting future noise level predictions were compared to federal design noise levels, state noise standards, and estimated existing noise levels.

As shown in Tables 5-4 and 5-5, all of the predicted future noise levels are below the Federal Design Noise Levels. All but one of the sites are predicted to be below the State Daytime and Nighttime Noise Standards. Site 3, which exceeds the state standards, is a climate-controlled apartment building on First Street. More stringent state standards apply at this site because the building has balconies facing First Street. The State Standards are predicted to be exceeded at Site 3 for the No-Action Alternative or if Great River Road is routed on First Street (Alternative 2). Alternatives 1 will have no impact on noise levels at Site 3.



CO/NOISE RECEPTOR SITES

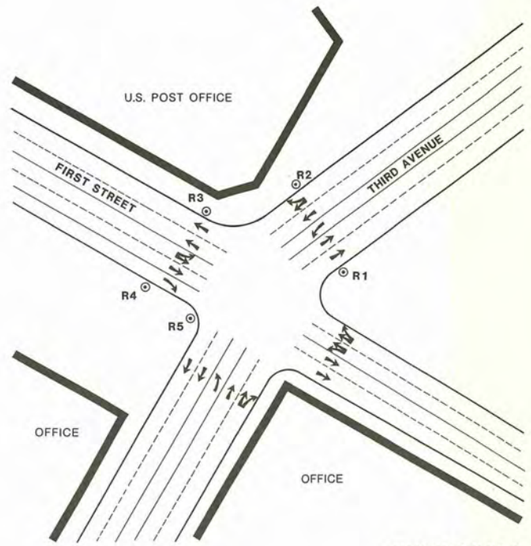
- ◯ CARBON MONOXIDE MONITORING SITE
- ▭ NOISE SENSITIVE SITE
- ✱R1 NOISE RECEPTOR SITE
- ⊙ NOISE MONITORING SITE



⊙ RECEPTOR SITE
⊗ POST OFFICE MONITOR

CARBON MONOXIDE RECEPTOR SITES HENNEPIN AVENUE AT FIRST STREET

0 25 50



⊙ RECEPTOR SITE

CARBON MONOXIDE RECEPTOR SITES THIRD AVENUE AT FIRST STREET

0 25 50

FIGURE 5-3

West River Parkway

Minneapolis Park and Recreation Board

BRW

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Year - 1980 All Alternatives			
	WIND DIRECTION		
SITE	120°	140°	150°
R1	18.2/12.1	15.7/10.5	14.7/9.8
R2	11.4/7.6	14.2/9.5	13.4/8.9
R3	21.1/14.1	18.5/12.3	16.2/10.8
R4	15.1/10.1	11.6/7.7	13.1/8.7
R5	17.9/11.9	11.7/7.8	11.5/7.7

Year - 1987 All Alternatives			
	WIND DIRECTION		
SITE	120°	140°	150°
R1	11.5/7.7	10.2/6.8	9.4/6.3
R2	7.1/4.7	8.9/5.9	8.4/5.6
R3	13.8/9.2	12.1/8.1	10.6/7.1
R4	9.7/6.5	7.3/4.9	8.3/5.5
R5	11.7/7.8	7.4/4.9	7.3/4.9

Year - 2000 Route 2 and No Action Alternative			
	WIND DIRECTION		
SITE	120°	140°	150°
R1	10.6/7.1	8.8/5.9	7.9/5.3
R2	5.7/3.8	7.5/5.0	7.0/4.7
R3	11.6/7.7	9.7/6.5	8.4/5.6
R4	8.1/5.4	6.4/4.3	7.9/5.3
R5	9.7/6.5	5.8/3.9	6.1/4.1

Year - 2000 Route 1			
	WIND DIRECTION		
SITE	120°	140°	150°
R1	8.4/5.6	6.9/4.6	6.2/4.1
R2	5.0/3.3	6.4/4.3	5.9/3.9
R3	10.1/6.7	8.6/5.7	7.6/5.1
R4	6.9/4.6	5.6/3.7	6.7/4.5
R5	8.2/5.5	5.3/3.5	5.5/3.7

Hennepin Avenue at First Street
1-Hour/8-Hour

TABLE 5-3

PREDICTED CARBON MONOXIDE CONCENTRATIONS (PPM)

	Existing		Alternative 1[1/]		Alternative 2[2/]		No-Build[3/]		State Standard		Federal Design Noise Level
Site	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{10}
1A	N/A	N/A	46.9	52.9	N.I	N.I	N/A	N/A	65	70	70
1B	52.2	60.1	N.I	N.I	55.8	62.8	55.8	62.8	65	70	70
2	59.4	67.5	N.I	N.I	61.3	68.9	61.3	68.9	65	70	70
3	55.5	64.2	N.I	N.I	60.0	66.8	60.0	66.8	60	65	70
4	53.4	62.8	N.I	N.I	59.4	66.0	59.4	66.0	65	70	70
5A	N/A	N/A	56.0	61.2	N.I	N.I	N/A	N/A	65	70	75
5B	46.3	58.3	N.I	N.I	60.9	68.1	60.9	68.1	65	70	75
6	46.0	58.0	51.9	60.9	60.6	67.4	60.6	67.4	65	70	75

N/A - Not Applicable (The receptor is not adjacent to a roadway.)

N.I. - No Impact (The receptor is not adjacent to the proposed roadway alignment.)

1/ Alternative 1 refers to a new parkway facility along the river.

2/ Alternative 2 refers to the designation of Great River Road on existing city streets.

3/ The No-Action alternative is expected to result in the same noise levels as Alternative 2.

TABLE 5-4
PREDICTED DAYTIME NOISE LEVELS (dBA)

	Existing		Alternative 1[1/]		Alternative 2[2/]		No-Build[3/]		State Standard	
Site	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}
1A	N/A	N/A	44.5	51.3	N.I	N.I	N/A	N/A	65	70
1B	50.4	59.3	N.I	N.I	51.9	60.0	51.9	60.0	65	70
2	56.0	62.9	N.I	N.I	56.9	63.7	56.9	63.7	65	70
3	53.4	60.0	N.I	N.I	55.8	62.1	55.8	62.1	50	55
4	51.0	57.9	N.I	N.I	55.1	61.1	55.1	61.1	65	70
5A	N/A	N/A	53.2	59.4	N.I	N.I	N/A	N/A	65	70
5B	45.0	57.0	N.I	N.I	56.6	66.0	56.6	66.0	65	70
6	44.8	56.8	48.4	53.0	56.4	65.1	56.4	65.1	65	70

N/A - Not Applicable (The receptor is not adjacent to a roadway.)

N.I. - No Impact (The receptor is not adjacent to the proposed roadway.)

1/ Alternative 1 refers to a new parkway facility along the river.

2/ Alternative 2 refers to the designation of Great River Road on existing city streets.

3/ The No-Action alternative is expected to result in the same noise levels as Alternative 2.

TABLE 5-5
PREDICTED NIGHTTIME NOISE LEVELS (dBA)



North First Street

Noise will increase over existing levels at all receptor sites adjacent to existing city street regardless of the West River Road alternatives selected. The noise level increase will be a result of increased traffic in the project area caused by planned developments in the Central Riverfront area. This development is expected to occur whether or not West River Road is built. The traffic actually generated by West River Road is insignificant. For this reason the noise impact of any of the project alternatives is also insignificant.

5.2.6 ENERGY

The energy impacts of the project area are described in detail in the "Energy Technical Report" (Minneapolis Park and Recreation Board, 1982). The energy analysis considered both direct energy consumption of vehicles using West River Road and indirect energy consumption which includes vehicle maintenance and manufacture, roadway construction, and roadway maintenance. Thirteen representative Action Alternatives and the No-Action Alternative were analyzed.

The results of the energy analysis are summarized in Table 5-6. This table shows the annual energy consumption in BTU's for each of the previously described energy categories. Each column in the table represents a distinct roadway route between the project termini. The general route is

Case	Route Alternative	Direct Energy	Indirect Energy					Total Energy		% Change from No-Build
			Vehicle Manufacture	Vehicle Maintenance	Facility Construction	Resurfacing 1/	Facility 2/ Maintenance	Per Year	Barrels per Day	
I	1E	3.086	0.591	0.314	1.401	0.678	0.334	6.404	30.25	24.6
	2E	2.962	0.568	0.302	1.370	0.678	0.327	6.207	29.32	20.8
II	1C-1D-1E	2.402	0.562	0.299	1.329	0.678	0.348	5.618	26.54	9.3
	2C-2D-1E	2.387	0.568	0.302	1.381	0.678	0.350	5.666	26.76	10.2
	2C-2D-2E	2.212	0.547	0.291	1.375	0.678	0.344	5.447	25.73	6.0
III	1C-1D-1E	2.165	0.575	0.306	1.273	0.678	0.337	5.334	25.20	3.8
	2C-2D-1E	2.128	0.581	0.309	1.325	0.678	0.339	5.360	25.32	4.3
	2C-2D-2E	1.953	0.560	0.297	1.319	0.678	0.333	5.140	24.28	0
IV	1E	2.978	0.602	0.320	1.478	0.678	0.369	6.425	30.35	25.0
	2E	2.856	0.578	0.307	1.447	0.678	0.361	6.227	29.41	21.1
V	1C-1D-1E	2.864	0.569	0.303	1.305	0.678	0.316	6.035	28.51	17.4
	2C-2D-1E	2.794	0.567	0.301	1.306	0.678	0.315	5.961	28.16	16.0
	2C-2D-2E	2.619	0.546	0.290	1.300	0.678	0.309	5.742	27.12	11.7
	No-Action	3.309	0.599	0.319	0	0.678	0.236	5.141	24.28	0

1/ Resurfacing applies to the existing city streets assumed for the No-Action route. These streets will require resurfacing with the Action or the No-Action alternatives.

2/ Maintenance energy includes the energy needed to maintain the city streets used for the No-Action route.

3/ 1 Barrel = 5.8×10^6 BTU

TABLE 5-6

PREDICTED ANNUAL ENERGY CONSUMPTION
(x 10^{10} BTU)

defined by a case number from the traffic analysis and the route alternative defines the specific roaday route analyzed in certain segments. Energy consumption has been converted to units of barrels of oil per day to aid in comparing the alternatives. The percent change in energy consumption from the No-Action Alternative is also shown.

Corridor energy consumption will be from 0% to 25% higher for the Action Alternatives as compared to the No-Action Alternative. The major difference between the Action and No-Action Alternatives is a result of the one-time energy expenditure for construction. Partially offsetting this construction energy expenditure is a savings in direct energy consumption. This savings results from the diversion of traffic off congested city streets and onto a relatively free-flowing parkway.

Cases I and IV show an increase of over 20% and Case V shows an increase of over 11% as compared to the energy consumption of the No-Action Alternative. Under these route alternatives, the Great River Road is designated along existing city streets for much of the route. Thus, the energy savings of providing a new parkway is minimal under these cases. The major difference in energy consumption is a result of the one-time construction energy expenditure.

Cases II and III show increases in energy consumption of 10% or less. In these cases, the direct energy savings of a relatively free-flowing parkway almost offsets the construction energy expenditure. The net result is just a small increase in energy consumption.

Based on the state-of-the-art of the energy analysis procedure, a change in energy consumption of 10% or less is not considered significant. Because this analysis considers such a small portion of the total transportation energy consumed in the downtown area, the percentage difference between alternatives is exaggerated. The absolute difference in energy consumption between alternatives is relatively small.

5.2.7 FLOODPLAINS

Construction of West River Parkway would result in two types of encroachment into the Mississippi River floodplain. One encroachment would be river walls in several locations along the riverfront. The other encroachment would be the placement of the parkway in the floodplain in the Bohemian Flats Segment. The locations of these encroachments are illustrated by Figure 5-4.

The purpose of the river wall would be to stabilize the river bank and prevent the sloughing of rubble into the river. Such erosion narrows the stream bed. Although the river wall will intrude into the river, its net result will be beneficial. The stream will cease to be affected by erosion and rock slides, and no significant wildlife habitat will be disturbed. Also, the retaining wall will not encroach into the established river channel. During the construction of the parkway, sheet piling will be used to minimize erosion and sedimentation impacts on the river.

Route 1 in the Bohemian Flats Segment would be below the 15-year flood elevation, and thus would be a longitudinal floodplain encroachment.

The impact of the floodplain encroachment would be generally beneficial. Parts of Bohemian Flats are used for coal storage presently, and the potential exists for pollution of the river during flood periods. Conversion of this area to parkway and parkland would eliminate the hazard and also result in an aesthetic improvement.

The proposed park and roadway uses would be consistent with floodplain guidelines. River flooding would make the parkway and park unusable from a few days every fifteen years to two or three weeks every one hundred years. However, park facilities would be those not subject to significant or costly damage as a result of a flood. Also, little or no material would be present in the parks to be swept downstream, thus causing more damage. There would be no quantifiable effect on flood levels, as no filling or placement of structures would impede flood flows. The park designation will prevent future development of the floodplain.

5.2.8 WETLANDS

There are no wetlands in the West River Parkway Project Area. Consequently, there would be no wetland impacts as a result of this project.

5.2.9 URBAN PLANNING AND DEVELOPMENT

Conformance with Local Plans

Several local plans have been adopted which affect the evaluation of West River Parkway. These plans are described in Section 4.4, Urban Planning Context, of this DEIS, and they include the following: City of Minneapolis Comprehensive Plan, Minneapolis Mississippi River Corridor Critical Area Plan, Metro Center '85, Central Riverfront Open Space Master Plan and Regional Recreation Open Space Development Guide.

Although there are minor differences in the way each of these documents treats the Central Riverfront, certain themes are clearly evident in all of them. Each proposes a linear public park along the river's edge from Plymouth Avenue past the University of Minnesota; each includes a motorway, pedestrian path, and bicycle trail through this park which would connect to the city-wide parkway system; each proposes linking the linear park to the downtown area and nearby neighborhoods by a limited number of local streets; each recommends the development of high density housing or some combination of housing, office, and shops immediately south of the linear park; and each acknowledges the importance of highlighting the historic features of the Mill District and St. Anthony Falls.

Route 1 would be totally consistent with the intent of these plans. It would allow completion of the continuous Central Riverfront open space, would link diverse elements of the city's parkway system, and would promote intensive reuse of the land bordering the Central Riverfront.

Route 2 west of Third Avenue and Route 3 would be less consistent with these plans in that the motorway would be removed from view of the river. Access to the riverfront for visitors arriving by car would be less direct. However, other plan objectives could probably be achieved by Routes 2 or 3.

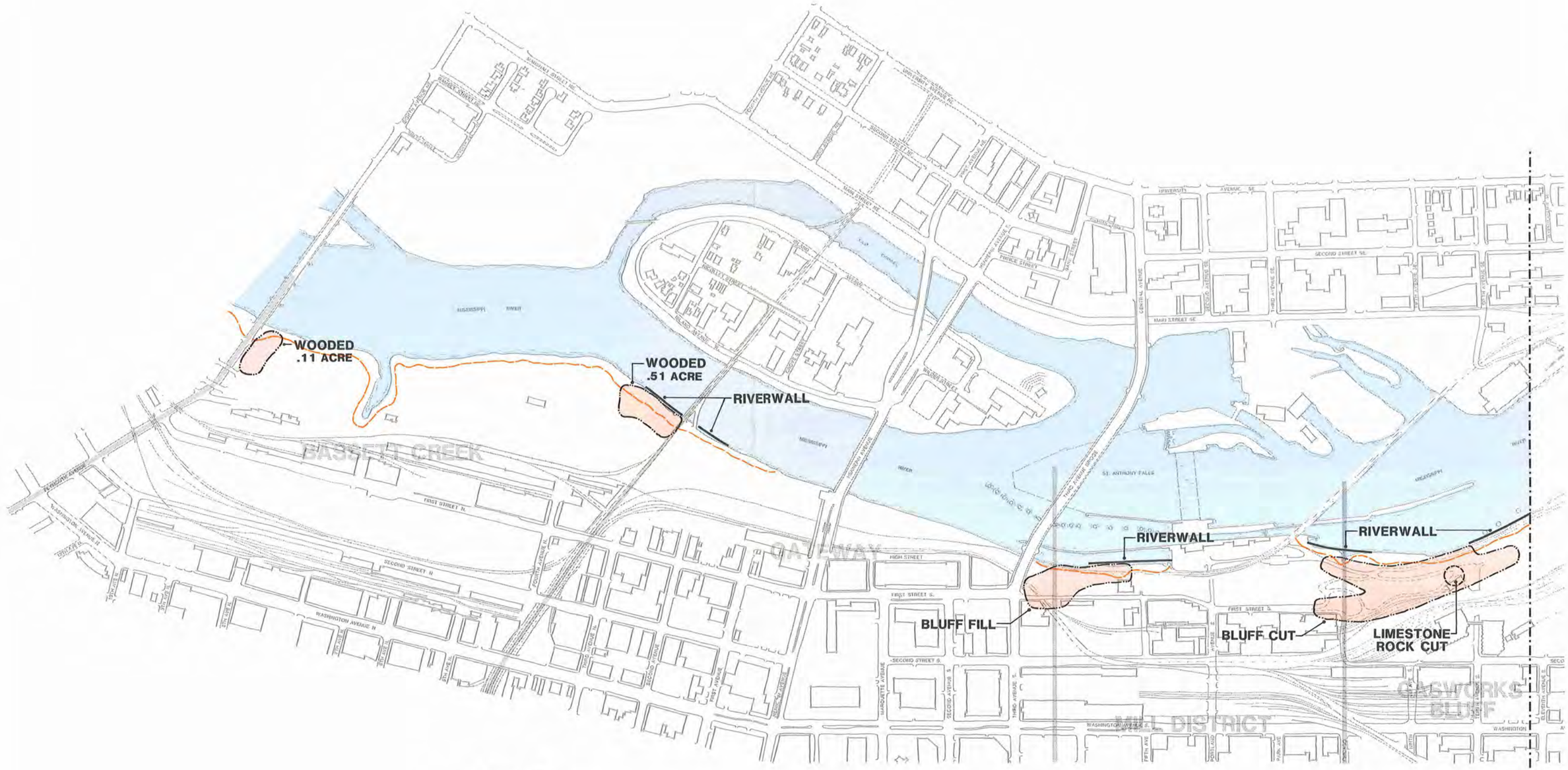


FIGURE 5-4
NATURAL RESOURCE IMPACTS

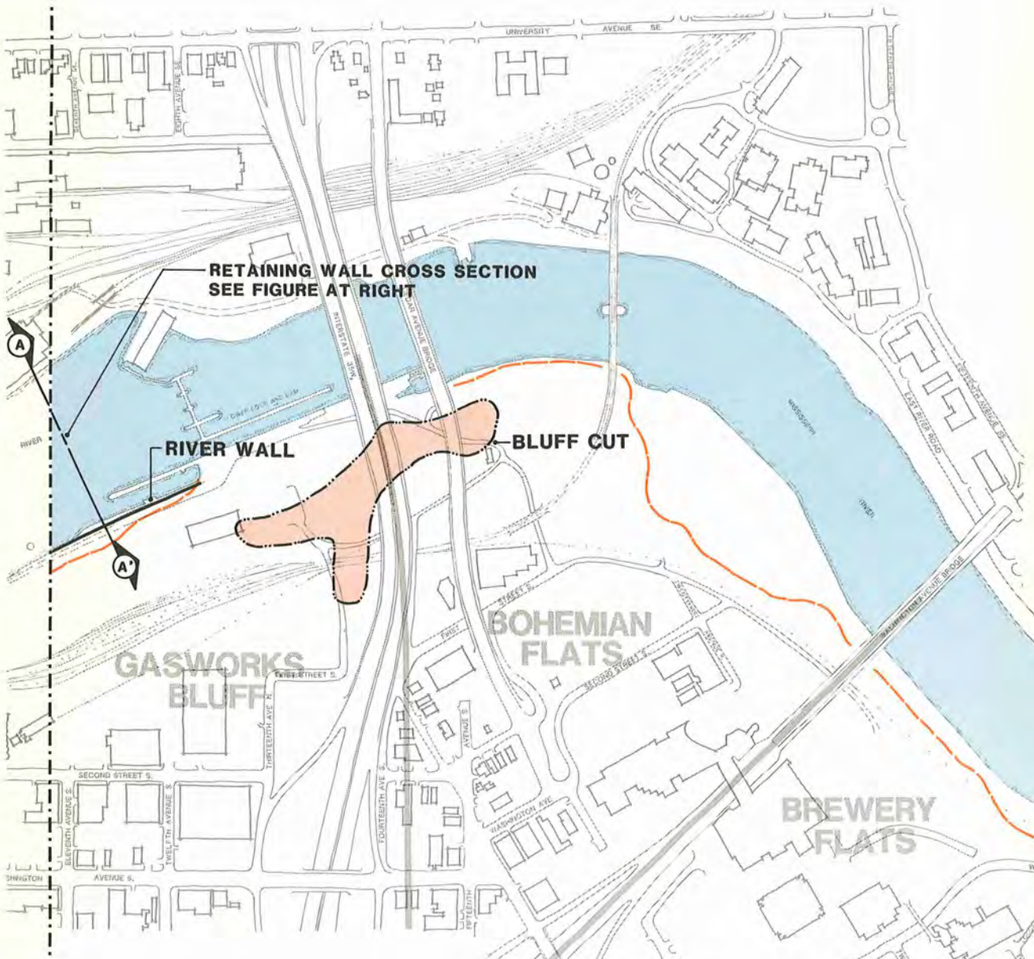
NATURAL RESOURCE IMPACT AREA

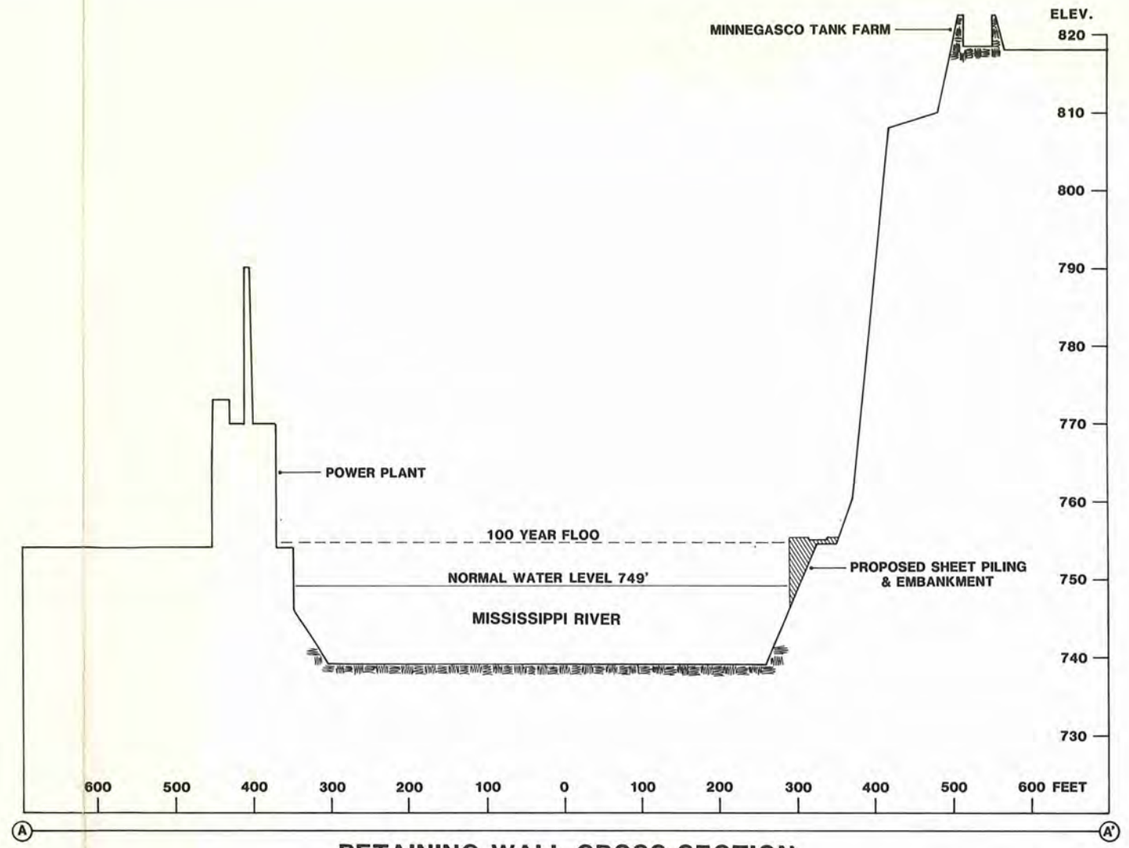
100 YEAR FLOOD PLAIN

West River Parkway
Minneapolis Park and Recreation Board

BRW
BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

FIGURE 5-4
NATURAL RESOURCE IMPACTS
WEST SEGMENT





RETAINING WALL CROSS SECTION



FIGURE 5-4

NATURAL RESOURCE IMPACTS

EAST SEGMENT

No-Action Alternative

The alternative of not constructing a parkway for the Great River Road and not acquiring land for a continuous Central Riverfront park would not be in conformance with local urban planning efforts. The anticipated residential and commercial redevelopment would probably still be achieved, but with no certainty regarding public access to the riverfront.

5.2.10 PARKS AND RECREATION AREAS (SECTION 4(f))

The proposed Central Riverfront park and open space system is described in Section 3.3 of this DEIS and is illustrated by Figure 3-2. The riverfront park developed under any of the Action Alternatives would be in conformance with all of the local and regional park and open space development plans and policies mentioned in Section 4.4, Urban Planning Context. No adverse impacts are anticipated to accrue to the local park system as a result of the development of West River Parkway. The effects of the proposed park on other elements of urban planning and development, especially residential development, would be beneficial.



Mill District

The route alternatives provide varying levels of recreational experience. Each alternative would include pedestrian and bicycle trails below the bluff from one end of the Project Area to the other. Also, the amount of parkland created would be practically identical under any combination of route alternatives. However, the recreational motorist would be able to see and enjoy the river better on Routes 1, 2C or 2D than on Routes 2A, 2B, 2E, or 3. The latter routes would include some views of river historic buildings, but the river would be hidden in most locations. Routes 2 and 3 would provide access and parking perpendicular to the river, which would be less desirable from a recreational access and security viewpoint than the access provided by Route 1. An exception is in the Gasworks Bluff area, where parking areas are at the bluff top, adjacent to Route 2. Route 1 would be at the base of the bluff, and access roads would connect to the parking above.

Section 4(f) of the Department of Transportation Act protects parklands and wildlife refuges from use for roadway purposes. An existing park in the Brewery Flats area will be incorporated into the overall open space area. No roadway alternative would use any land from this park. There will be no use of land from any Section 4(f) or 6(f) (Land and Water Conservation Fund) property.

No-Action Alternative

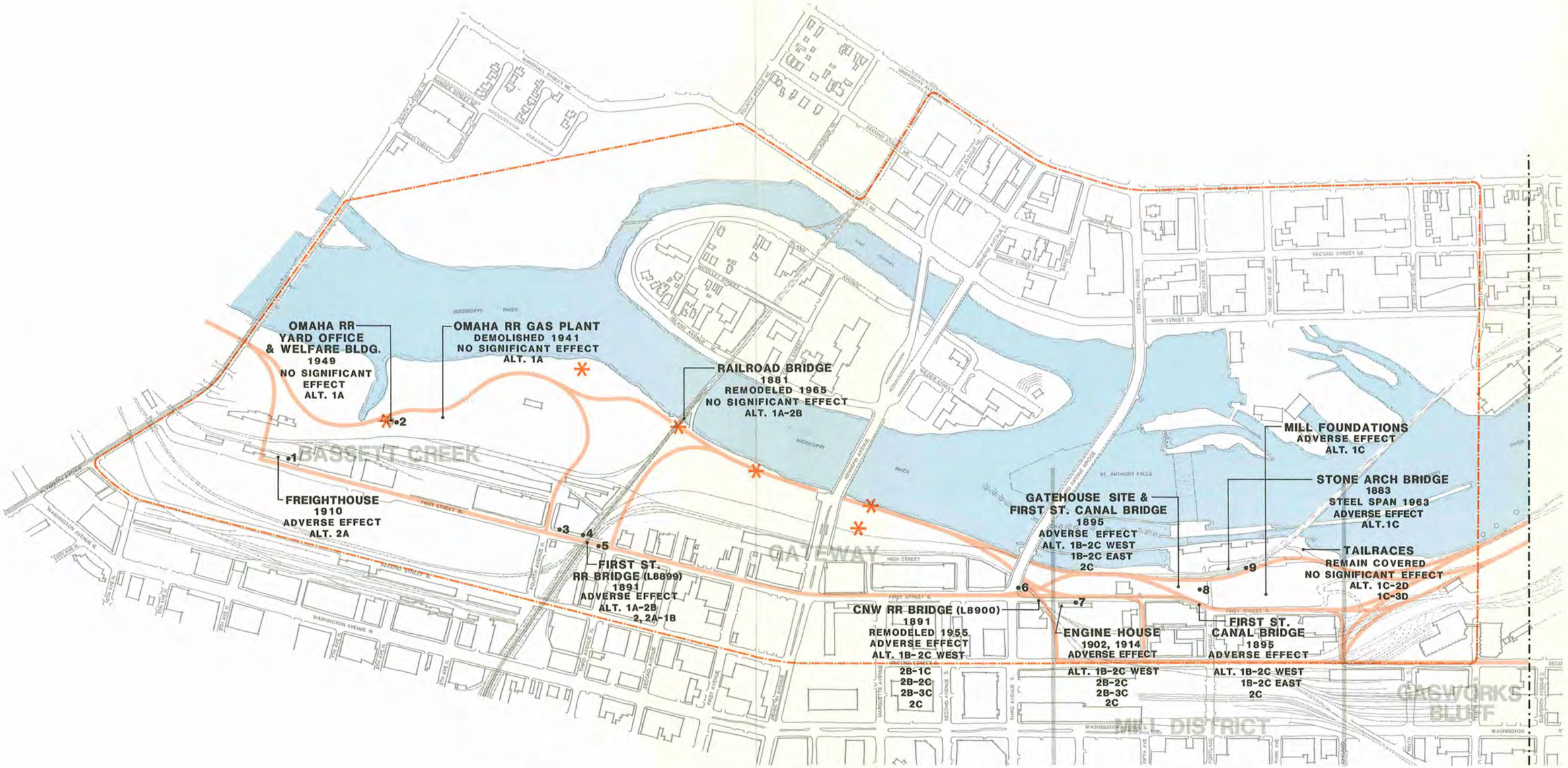
The impacts of not building West River Parkway would be significant. Long term City and regional needs for access to the Mississippi Riverfront would have to be met through negotiations with private owners as the area develops.

5.2.11 HISTORICAL AND CULTURAL RESOURCES (SECTIONS 4(f) AND 106)

Section 6, (Section 106 Evaluation) presents a detailed discussion of the historical and archeological resources existing or potentially located within the Project Area. This section summarizes the detailed findings of Section 6. All Action Alternatives would affect the St. Anthony Falls Historic District, which is listed in the National Register of Historic Sites. All Action Alternatives would therefore use land from Section 4(f) property under a strict interpretation of the regulations.

Effects on Archeological Resources

Route 1, while having the potential for adversely affecting archeological resources, also offers the greatest opportunities for the discovery of buried artifacts. (Refer to Figure 5-5.) Very little information pertaining to archeological artifacts has been recorded for the Central Riverfront. The environmental safeguards associated with Federal Highway Administration projects provide an opportunity for discovering artifacts buried during previous riverfront development activities. Extensive development of the riverfront by private interests could preclude archeological exploration in the future.



West River Parkway

Minneapolis Park and Recreation Board

FIGURE 5-5

HISTORIC RESOURCES IMPACTS

0 200 400 600 800 FT.

BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

SAINT ANTHONY FALLS HISTORIC DISTRICT BOUNDARY

POTENTIAL ARCHAEOLOGICAL SITE

ROUTE ALTERNATIVES

•1 PHOTO LOCATION AND REFERENCE NUMBER (PHOTOS AT UPPER RIGHT ON FOLLOWING PAGE)

FIGURE 5-5

HISTORIC RESOURCES IMPACTS

WEST SEGMENT


1


2

3



4


5

6

7

8

9

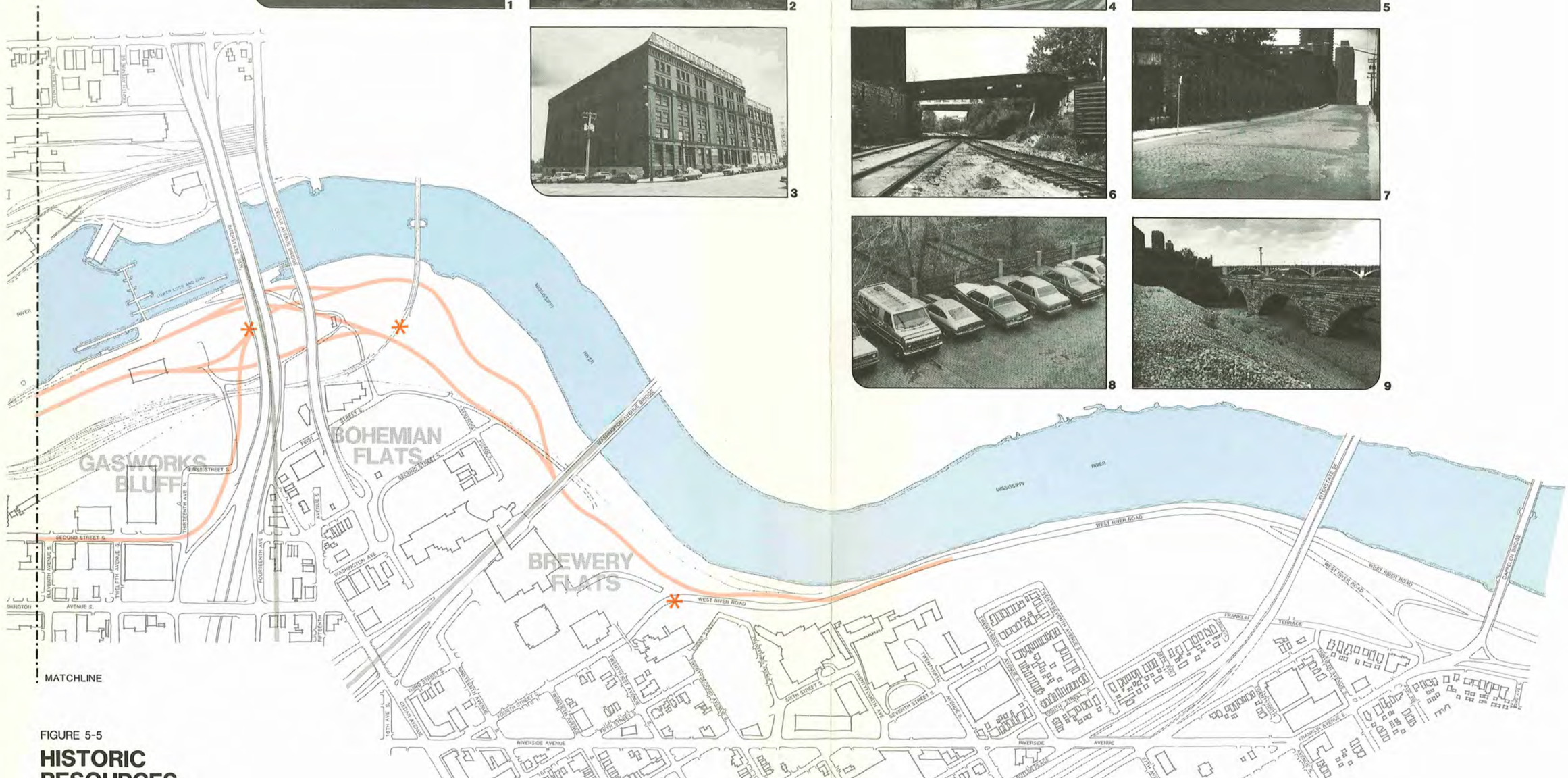


FIGURE 5-5

HISTORIC RESOURCES IMPACTS

EAST SEGMENT

Potential adverse effects associated with Route 1 could be mitigated by having a qualified archeologist present during construction to document the location, type and quality of artifacts discovered. If a potentially significant find were unearthened, it would be necessary to temporarily halt construction or slightly modify the roadway alignment to allow for protection and interpretation of the discovery.

Effects on Historical Resources

While all Action Alternatives for West River Parkway would affect the St. Anthony Falls Historic District; the concept of a recreational drive along the river has long been a part of City plans. The Action Alternatives would be narrow, most alternatives would carry low traffic volumes, and all alternatives would be constructed to complement existing historic structures.

The individual routes would also have specific impacts on individual structures in the District. Significant adverse effects are described below.

Route 2A would require demolition of the Chicago, St. Paul, Minneapolis, and Omaha Company Freighthouse at 730-832 N. First Street. The building makes a significant contribution to the District.

Route 2A would require removal and reconstruction of Hennepin County Bridge L8899 at North First Street and Third Avenue North. A new bridge constructed to meet modern railroad clearances would require roadway approaches to be constructed in front of the Security Warehouses A and B and the Deere Building. The new roadway grade would obstruct up to three feet of the buildings' lower facades, creating a visual impact.

Routes 2A/2B would adversely affect the historic character of North First Street due to high traffic volumes.

Route 2B and the 1B-2C West Connection would require removal and reconstruction of the Hennepin County Bridge 28900. While the structure is significant, the impact could be mitigated by replacing the bridge with another structure of similar, unobtrusive design. Reconstruction of this bridge would also cause street-grade changes in front of the Minneapolis Eastern Railway Engine House (First Street Station Restaurant).

Route 1C would require a 150-foot long retaining wall in front of the Stone Arch Bridge near Portland Avenue. The wall at one point would be ten feet high and would significantly obscure the bridge. The visual obstruction of a significant structure is an adverse impact.

Route 2C may require the removal of the South First Street Canal Bridge. The bridge formerly spanned a portion of the canal. Now the area under the bridge has been substantially filled. Depending on future structural evaluation, the bridge could be left in place. The adverse effects could be mitigated by replacement of the structure, canal restoration, and interpretation of the area.

Route 1C and possibly Route 2C would adversely affect the character of the West Side Milling District. The design of Route 2C would mitigate this effect.

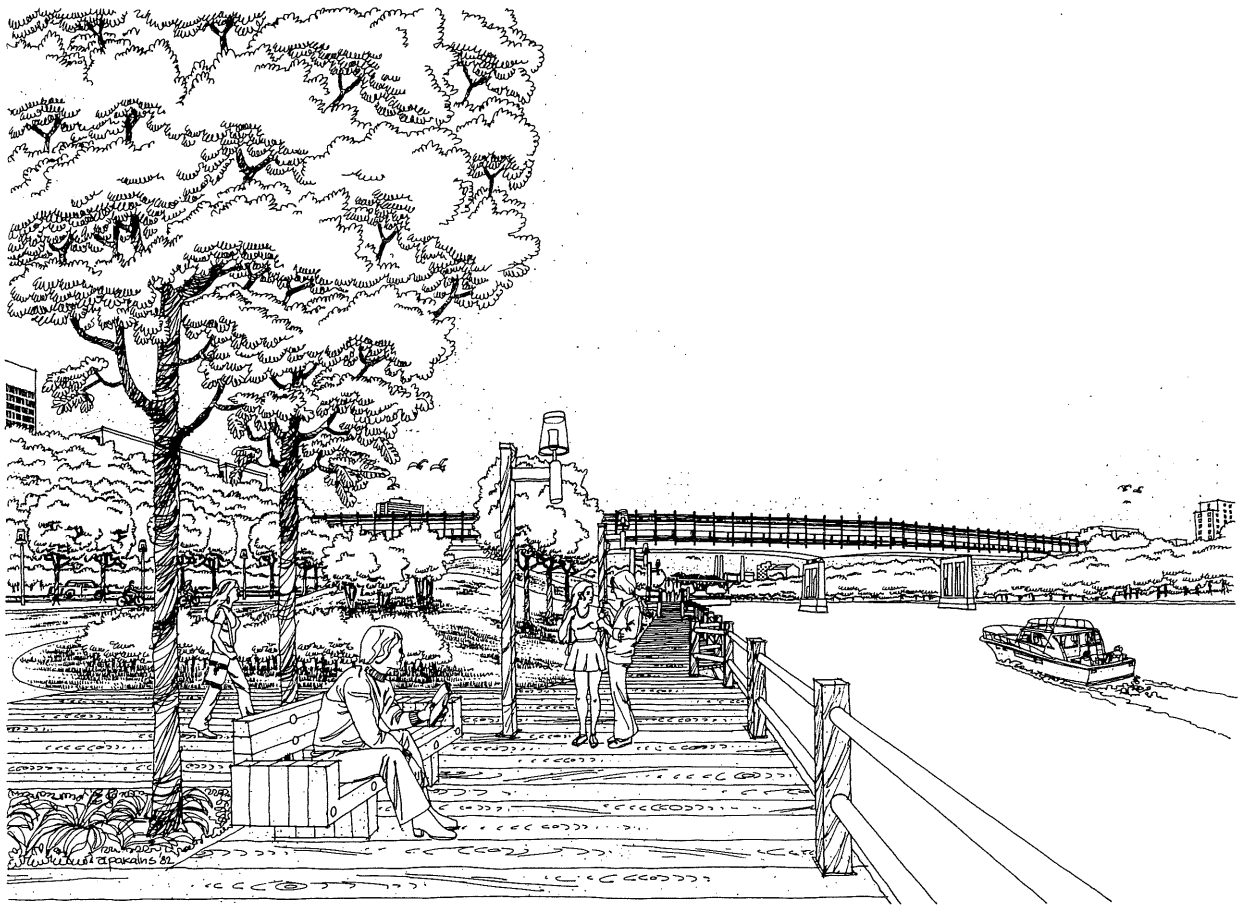
Section 4(f) and Section 6 (f) Requirements

Section 4(f) of the Department of Transportation Act provides for the protection of parklands, wildlife refuges, and nationally significant historic sites. West River Parkway would, with any route alternative, pass through the St. Anthony Falls Historic District, which is protected by Section 4(f).

Since the project objectives include improving physical and visual access to the Mississippi River, some Section 4(f) impacts would occur under a strict interpretation of the regulations. However, the intent of West River Parkway is not to create adverse historical or parkland impacts but, rather, to provide for opportunities which would result in increased protection and understanding of the historical and archaeological resources of the Historic District. The No-Action Alternative is the only one which would not violate a strict interpretation of the Section 4(f) regulations.

No-Action Alternative

The No-Action Alternative would not adversely affect archaeological or historical resources, nor would it violate the provisions of Section 4(f).



Brewery Flats

Mitigation Measures

Mitigation of adverse effects to historical structures could be accomplished by photographically recording the appearance of buildings and structures prior to removing or changing the street-structure relationship. Replacement of certain bridge structures is a feasible mitigation measure.

5.2.12 WATER QUALITY

Major pollutants associated with roadway use include de-icing salts, traffic related pollutants originating from the combustion of petroleum products and the wear of vehicle components, and hazardous materials accidentally spilled within the roadway. Table 5-7 presents a summary of the water quality impacts associated with this project.

TABLE 5-7

Predicted Water Quality Impacts
For Routes 2A, 2B, 3C, 3D, 2E, 1F

Pollutant	Desired Standard *(mg/l)	Existing River Quality **(mg/l)	Predicted Increases from Study Area (28 cfs outflow) (mg/l)
Total Solids	500.00	NA	3.150
Turbidity	25.00	12.190	NA
Biochemical Oxygen Demand (BOD)	25.00	3.600	0.012
Chemical Oyxgen Demand (COD)	NA	31.100	0.150
Total Phosphate (P)	NA	0.212	0.002
Nitrate N (NO3)	45.00	0.430	0.0002
Kjeldahl N	NA	0.990	0.012
Lead	0.05	0.016	0.021
Chromium	0.05	-	0.0002
Copper	0.01	0.015	0.0005
Nickel	NA	0.014	0.0004
Zinc	5.00	0.086	0.003

NA - Data not available

* For 1C (Domestic Consumption), 2B (Recreation & Fishing), 3B (Industrial Consumption) Waters.

** Average for water quality samples taken from October 17, 1975, to September 22, 1977. Samples taken at Wabasha Street, St. Paul.

As Table 5-7 indicates, the expected additional water pollution resulting from West River Parkway (even under the worst-case analysis shown) is not expected to be significant, nor would it cause the river water quality to exceed standards. Water quality degradation resulting from runoff of

deicing salts or traffic-related pollutants is expected to be insignificant due to the very small amounts of such pollution which would come from the parkway and their levels of dilution. The problem of hazardous material spills is insignificant since most alternatives would not allow use of West River Parkway by commercial vehicles.

The worst-case analysis for water quality impacts involves the use of city streets for the parkway. A new, exclusive parkway would have lower traffic volumes and a lower accumulation of chlorides and other pollutants than the worst-case analysis.

No-Action Alternative

The No-Action Alternative would have no adverse water quality impacts.

5.2.13 PRIME AND UNIQUE AGRICULTURAL LANDS

There are no prime or unique agricultural lands in the Project Area.

5.2.14 SURFACE WATER

Surface water runoff from the proposed West River Parkway would be directed into catchbasins and discharged into existing or proposed storm sewer drainages. Storm water runoff will not be of a volume sufficient to require holding ponds. No major storm sewer modifications would be required as a result of this project.

No-Action Alternative

The No-Action Alternative would not adversely impact surface water flow.

5.2.15 VEGETATION AND WILDLIFE

Vegetation

None of the route alternatives would have a significant impact upon the vegetation of the area. In the Bassett Creek segment, Routes 1 and 2 would require the removal of 0.11 acre of trees. This impact would take place at Plymouth Avenue where the proposed section of the parkway will link up with the existing parkway. For Linkage 1A-1B, 0.51 acres of boxelder and cottonwood would be removed near the Burlington Northern railroad underpass.

The area around Bassett Creek is proposed to be a landscaped park area. Existing vegetation would eventually be replaced by tree species better suited to both aesthetic considerations and wildlife needs.

Wildlife

None of the route alternatives would have an adverse impact upon wildlife populations. Traffic speeds and volumes on the parkway would be generally low, thus minimizing the potential for wildlife-vehicle collisions. The new parkway would ultimately result in improved food and cover conditions for wildlife and would result in increased wildlife diversity. The parkway would have no effect on fish populations in the Mississippi River.

Threatened and Endangered Species

The Project Area lies within the range of the Peregrine Falcon, Bald Eagle, and Higgins Eye Pearly Mussel. Periodic and infrequent observations have been made of the Bald Eagle and the Peregrine Falcon in the Twin Cities area. The Project Area is not within the normal breeding range of either species, and it is likely that observations which have been made were of migrating individuals. Completion of the proposed project would not adversely affect these species nor their habitat. The Higgins Eye Pearly Mussel is not know to exist upstream of the Ford Dam, six miles south of the proposed project.

No-Action Alternative

The No-Action Alternative would have no adverse impact on vegetation or wildlife.

5.2.16 VISUAL FACTORS

Action Alternatives

The effect of any of the route alternatives on the ability of people to view the natural or man-made features of the Central Riverfront will be beneficial. The parkway will provide access to locations rarely visited by the general public, and observation areas will be integral elements of the project. Views of the river will be improved by the relocation of certain industrial activities and by the restoration and rehabilitation of some of the existing historical structures in the Central Riverfront.

The parkway itself would be designed for minimal adverse visual effects. Route alternatives would avoid bluff cuts in undisturbed areas, remove minimal vegetation, have narrow widths, have few vertical obstructions, and be well landscaped.

No-Action Alternative

The No-Action Alternative would have no positive or adverse impact on visual factors in the Central Riverfront.

5.2.17 CONSTRUCTION

Action Alternatives

Impacts from the construction of any of the route alternative would be minor or temporary. These effects would include noise, dust, erosion and short-term traffic or access disruptions in a few locations. None of these effects are expected to be significant for the downtown environment. All impacts with the exception of noise could be effectively mitigated. The City of Minneapolis Noise Ordinance will assist in the enforcement of noise control during construction.

No-Action Alternative

The No-Action Alternative would have no adverse construction-related impacts.



Bassett Creek

5.2.18 FINANCIAL COMMITMENTS

Construction of West River Parkway would entail the expenditure of a substantial amount of public funds. It has been estimated that the cost of constructing the roadway, exclusive of property acquisition, business relocation, and park development, may range from $4 million to $6.3 million. Table 5-8 indicates the estimated cost by route alternative for road construction, land acquisition, business relocation, and park development.

It is anticipated that about 75% of needed funds will be available from the Federal Great River Road Program. These funds could be used for preliminary engineering, land and easement acquisition, road and parking area construction, and construction and landscaping of areas for scenic overlooks and rest areas. The remainder of the necessary funds will come from the State of Minnesota through the Metropolitan Park and Open Space Commission, and from the City of Minneapolis Park and Recreation Board.

TABLE 5-8

Estimated Project Costs by Route Alternative

Cost Category	Cost in Millions of Dollars		
	Route 1	Route 2	Route 3
Road Construction	$ 5.5	$ 3.9	$ 3.4
Land Acquisition	8.4	9.1	8.0
Relocation	3.0	3.0	3.0
Park Development	6.0	6.0	6.0
TOTAL	$22.9	$22.0	$20.4

5.3 Adverse Impacts Which Cannot Be Avoided

The only unavoidable adverse impact associated with the proposed project is business relocation.

The project would necessitate the acquisition of two businesses and about 45 acres of privately owned land. These businesses would be paid a fair value for their property and would receive assistance in re-establishing themselves in other locations.

The J.L. Shiely sand, gravel, and concrete operation anticipates that a new site upstream would be economically disadvantageous. The main disadvantage would be the additional time and cost for the barging of incoming materials. The extent of this economic disadvantage would be determined at the time of acquisition.

The Minnegasco Service Building can be relocated at any location in central Minneapolis with no adverse effect on operations.

In some instances, a short-term environmental impact may result in a long-term environmental benefit. In other cases, a short-term benefit may be traded for a long-term adverse effect. Described below are those topics on which choices would be made regarding short-term and long-term uses of resources.

5.4 Short Term Uses of the Environment Versus the Maintenance of Long Term Productivity

5.4.1 ECONOMIC RESOURCES

To some degree there would be a trade-off between continued, long-term industrial activity along the riverfront and the creation of a continuous public park in that location. However, industrial demand for these sites is now minor, and abandonment of the Central Riverfront has been going on since the 1930s. The park area will encourage redevelopment of adjoining lands for residential and other uses more appropriate to the riverfront.

5.4.2 ENERGY AND MATERIAL RESOURCES

Certain amounts of energy and material resources would be required for the construction of the parkway and the parks. These resources would not be available for other uses. Urban development in this location, however, reinforces central city development and works against suburban sprawl, which is more costly in terms of energy and other resorces over the long term.

5.4.3 FINANCIAL RESOURCES

A significant amount of public funding would be devoted to acquisition and construction activities of this project. These public funds would not be available for other uses. Although significant local commitments would be necessary in the short term, the financial return to the City of Minneapolis over a long period of time would be greater than the initial investment. This return would be created by encouraging private urban development in the Central Riverfront.

5.5 Irreversible and Irretrievable Commitments of Resources

Commitments of resources which are either wholly or in part irreversible and irretrievable are described below.

5.5.1 LAND RESOURCES

The conversion of about ninety acres of land along the edge of the Central Riverfront represents for all practical purposes a permanent commitment of resources.

5.5.2 ECONOMIC RESOURCES

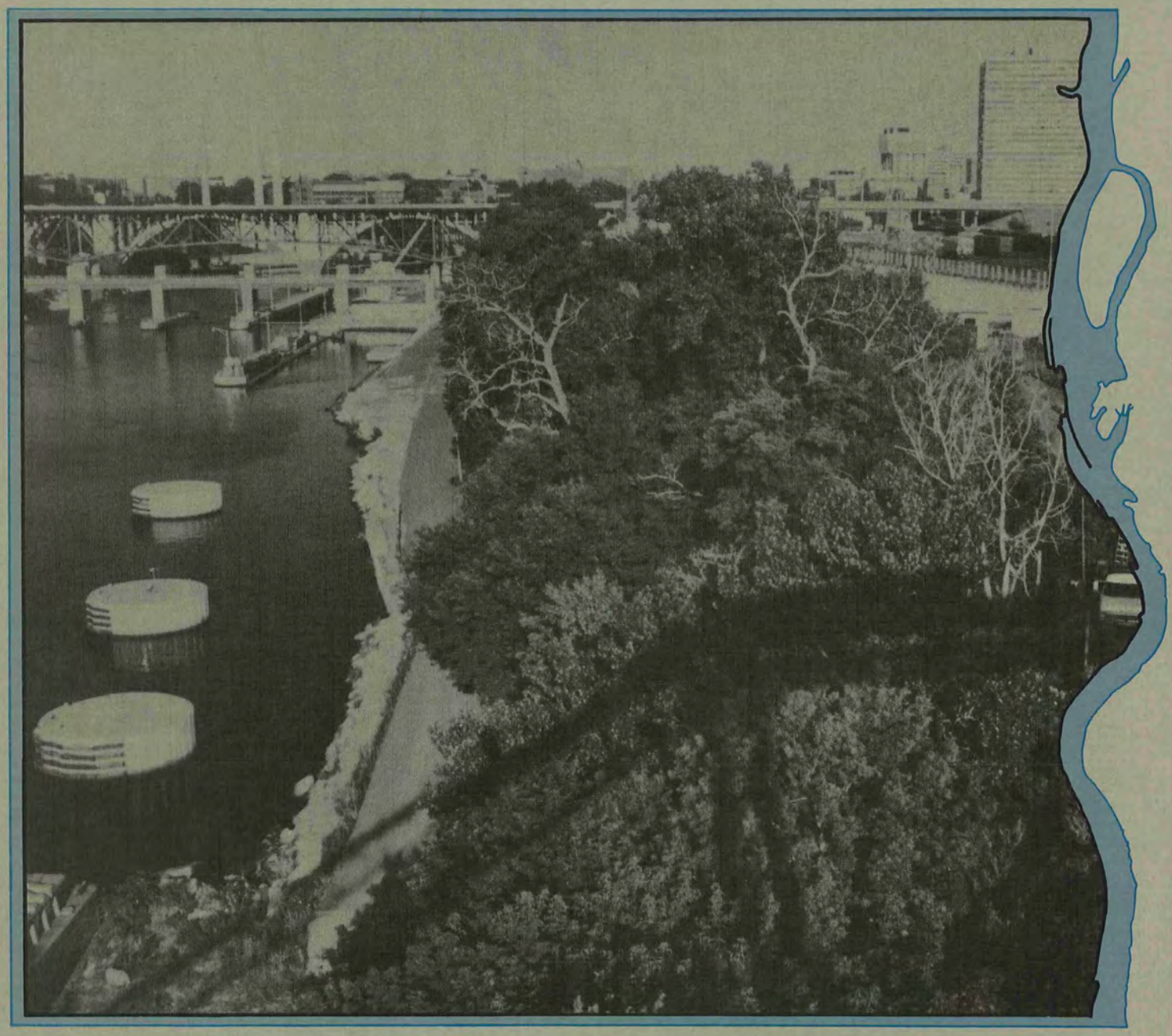
Potential industrial and residential sites along the riverfront would be irreversibly committed to park use.

5.5.3 ENERGY AND MATERIAL RESOURCES

The energy and materials used in constructing the parkway and the park would not be available again for other uses except for those items which have some salvage value and can be recycled. These include petroleum products, coal, steel, cement, sand, aggregate, and water.

5.5.4 FINANCIAL RESOURCES

Funds expended in the design, construction, and maintenance of the facility would be totally committed and unavailable for other uses.



6. Section 106 Evaluation

West River Parkway

Minneapolis Central Riverfront

6. Section 106 Evaluation

6.1 Methods and Procedures

Section 106 of the National Historic Preservation Act of 1966, as amended, and Executive Order 11593, "Protection and Enhancement of the Cultural Environment," require that all historic districts, sites, buildings, structures or objects and archeological sites which are listed or eligible for inclusion in the National Register of Historic Places be examined and that an assessment of impacts be made for all federally assisted projects. Stipulations within the Act specify that the Advisory Council on Historic Preservation (ACHP) be given a reasonable opportunity to comment on projects that affect such properties. The involved federal agencies, the ACHP and the State Historic Preservation Office (SHPO) cooperate in this effort utilizing the procedures specified within the Code of Federal Regulations, entitled "Protection of Historic and Cultural Properties" (36 CFR, Part 800). This section of the Code includes the information necessary for compliance with the Section 106 process and procedures utilized by ACHP regarding the potential impacts of project alternatives on historic and archeological properties.

A determination of effect using the "criteria of effect" as outlined in 36 CFR 800.8 has been made for all properties which are affected by the route alternatives and which are either on or eligible for listing in the National Register. The "Criteria of Adverse Effect" as outlined in 36 CFR 800.9 have also been applied to the listed and eligible National Register properties and the findings of adverse effect are documented in this report.

The descriptions of properties affected and the potential impacts were compiled subsequent to consultation with the SHPO. Continuation of the coordination procedure with SHPO, the Department of the Interior and the ACHP will be documented in the Final EIS. The mitigation measures presented herein are considered tentative. Adoption of final mitigation measures will be accomplished through the Section 106 process with the cooperation of the ACHP and SHPO.

The data collection process included a careful review of previous architectural and historical studies,1/ documentary research in primary sources, field inspections of existing structures and potential archeological sites, and consultation with the State Historic Preservation Office and the State Highway Archeologists Office of the Minnesota Historical Society. The survey yielded four major conclusions: (1) all potential effects on significant properties occur within the boundaries of the St. Anthony Falls Historic District; (2) all project alternatives affect the St. Anthony Falls Historic District; (3) most project alternatives adversely affect significant structures within the St. Anthony Falls Historic District; (4) mitigation of adverse effect is possible and feasible in several but not all cases. The nature of these effects and the possibility of their mitigation is discussed in detail below. Table 6-1 briefly summarizes the findings.

To better describe the nature and significance of the historical and archeological background of the project area, the project area was divided into segments which reflect a particularly dominant theme. Discussion of the archeological and historical resources in this report are organized as follows: (1) general archeological and historical background; (2) listing of potential sites having archeologic significance with a discussion of potential adverse effects, and measures to minimize harm; (3) discussion of the St. Anthony Falls Historic District, and (4) discussion of subdistricts and specific structures within the St. Anthony Falls Historic District, potential impacts and measures to minimize harm.

1/ Donald R. Torbert, A Century of Minnesota Architecture (Minneapolis: Minneapolis Society of Fine Arts, 1958); Lucile M. Kane, The Waterfall That Built a City (St. Paul: Minnesota Historical Society, 1966); David Gebhard and Tom Martinson, A Guide to the Architecture of Minnesota (Minneapolis: University of Minnesota Press, 1977); MacDonald and Mack partnership and others, "Restoration and Preservation Research and Planning Study, Saint Anthony Falls Historic District," unpublished report prepared for the Minneapolis Riverfront Development Coordination Board, 1979. MacDonald and Mack Partnership and others, St. Anthony Falls Rediscovered (Minneapolis: Minneapolis Riverfront Development Coordination Board, 1980); Minnesota State-Wide Historic Sites Inventory, unpublished survey files in State Historic Preservation Office, Minnesota Historical Society; Judith Martin and others, "Consultants' Recommended Nominations," unpublished report prepared for Minneapolis City Planning Department, May 1982.

SEGMENTS									
A	LINK	B	LINK	C	LINK	D	LINK	E	F
1A 1) Omaha RR yard office and welfare building, built 1949. Not historically significant. Remove. 2) Omaha RR Gas Plant, Demolished 1941. Not significant. Save pavers and reuse.	**1A-1B** Railroad Bridge Built 1881, Remodeled 1963. Not significant.		**1B-2C West** **2B-2C** 1) CNW RR Bridge (L8900) Remodeled 1955. Adverse Effect; Mitigation Possible. 2) Engine House Built 1902, 1914. Adverse Effect; Mitigation Difficult. 3) First St. Canal Bridge, Built ca. 1895. Adverse Effect; Mitigation Possible.	**1C** Stone Arch Bridge, Bridge built 1883, Steel Span added 1963. Adverse Effect; Mitigation Difficult. **1C,2C,3C** Shiely Batch Plant, Built Mid-1960's; Not historically significant. Remove.	**1C-1D** **1C-2D** **1C-3D** 1) Tailraces remain covered; Not significant. 2) Stone Arch Bridge, Bridge built 1883, Steel Span added 1963. Adverse Effect; Mitigation Difficult.	**1D,2D,3D** No Impacts.	**1D-1E** **1D-2E** **2D-2E** **3D-1E** **3D-2E** No Impacts.		
		1B No Impacts.	**1B-2C East** Gatehouse site and First St. Canal Bridge, Built ca 1890. Adverse Effect; Mitigation Possible.					**1E,2E** No Impacts.	**1F** No Impacts.
2A 1) Freighthouse Built 1910. Adverse Effect; Mitigation Difficult. 2) First St. Railroad Bridge (L8899), Built 1891, Remodeled 1949. Adverse Impact on District Mitigation Impossible	**1A-2B** **2A-1B** **2A-2B** First St. Railroad Bridge (L8899), Built 1891, Remodeled 1949. Adverse Effect; Mitigation Impossible	**2B** First St. Railroad Bridge (L8899), Built 1891, Remodeled 1949. Adverse Impact on District Mitigation Impossible	**2B-1C** 1) CNW RR Bridge (L8900) Built 1891, Remodeled 1955. Adverse Effect; Mitigation Possible. 2) Stone Arch Bridge, Bridge built 1883, Steel Span added 1963. Adverse Effect; Mitigation Difficult. **2B-3C** 1) CNW RR Bridge (L8900) Built 1891, Remodeled 1955. Adverse Effect; Mitigation Possible. 2) Engine House Built 1902, 1914. Possible Adverse Effect; Mitigation Possible. **1B-1C** Stone Arch Bridge, Bridge built 1883, Steel Span added 1963. Adverse Effect; Mitigation Difficult. **1B-3C** No Impacts.	**2C** 1) CNW RR Bridge (L8900) Built 1892, Remodeled 1955. Adverse Effect; Mitigation Possible. 2) Engine House Built 1902, 1914 Adverse Effect; Mitigation Difficult. 3) First St. Canal Bridge, Built ca. 1895. Adverse Effect; Mitigation Possible. **3C** No Impacts.	**2C-1D** **2C-2D** **2C-3D** 1) CNW RR Bridge (L8900) Built 1892, Remodeled 1955. Adverse Effect; Mitigation Possible. 2) Engine House Built 1902, 1914 Possible Adverse Effect; Mitigation Possible. 3) First St. Canal Bridge, Built ca. 1895. Adverse Effect; Mitigation Possible. **3C-1D** **3C-2D** **3C-3D** No Impacts.				

TABLE 6-1

SUMMARY OF HISTORICAL AND ARCHEOLOGICAL EFFECTS

6.2 Archeological and Historic Potential

6.2.1 ARCHEOLOGICAL POTENTIAL

The project area was surveyed by the State Highway Archeologists Office of the Minnesota Historical Society. Excerpts from the investigation report follow which describe the archeologic significance of the area.

The potential archeological impacts of the proposed West River Parkway from Plymouth Avenue to Franklin Avenue in Minneapolis are difficult to assess. Intensive construction and demolition throughout the last 150 years have created and partially destroyed a complex archeological record that may have begun to be deposited as long as 10,000 years ago. It is impossible to accurately assess the archeological potentials of this record without extensive subsurface testing and excavation. Ironically, careful archeological monitoring of the grading of certain proposed segments of West River Parkway may provide the most efficient and effective method of not only determining the archeological potential of the area, but even adequately interpreting many of the sites. Federal guidelines such as Section 4(f) of the Department of Transportation Act suggest that the route with the least potential for adversely affecting archeological resources should be the preferred route. Such a route in the case of the West River Parkway would contain the least terrain altering activity and most likely would follow existing roadways. This route preference, however, is a qualified preference due to the lack of archeological information regarding the area and the fact that the use of an existing route away from the river may eventually promote or at least allow for private development in the river edge areas that have the most archeological potential. Such development may not be subject to the careful archeological review required on federally assisted projects like the Great River Road. If unmonitored development were to occur, archeological sites in these areas may be destroyed with little or no archeological information retained. In essence then, what appears to be the preferred route based on current guidelines may be the worst route from an overall archeological perspective.

6.2.2 POTENTIAL SITES

For the purposes of this report, archeological sites are considered to be those locations where products of past human behavior are preserved at or below the current ground level. Furthermore, only sites dating prior to 1880 are considered significant for the purposes of this study since it was at about this time that Minneapolis started to become a modern urban center. Such a definition excludes standing structures and features produced in the last 100 years. Excluded locations that some may consider to hold archeological potential are either well documented, for the most part, or their obvious presence today promotes their consideration in historical and architectural assessments.

Two major categories of sites can be used to discuss the archeological potentials of the West River Parkway: Aboriginal sites and Euro-American sites. Aboriginal sites are Indian villages, campsites, and special-use sites. These sites are indicated by a literature search of early sources and existing archeological data. Aboriginal sites in this region could date as early as the last glacial recession (ca. 12,000 years ago) and could be as late as about 1860. Even in relatively undisturbed areas, many aboriginal sites are difficult to locate if there are not obvious surface features (e.g., mounds, house depressions) or if there are only low concentrations of artifacts. It is also difficult to distinguish some late aboriginal sites from early Euro-American sites due to the introduction of trade goods which rapidly transformed Indian material culture.

Euro-American sites in the West River Parkway corridor are primarily related to settlement, manufacturing, and transportation. These sites could potentially date from as early as 1700 just after French penetration into the region and, for the purposes of this study, date as late as 1880. While many of the early building location sites may not exhibit well defined foundations, features such as builders' trenches, trash pits and latrines often constitute or contain important archeological remains. The concentration of sawmills and flour mills in the St. Anthony district is an especially intriguing, if complex, archeological problem.

The survival of archeological sites along the West River Parkway corridor is directly related to the amount of terrain cutting that has occurred over the last 150 years. Filling, on the other hand, often preserves sites as is the case with the gravel fill over the mill foundations on the east side of the canal. Of crucial importance is the amount of disturbance caused by railroad construction along the northern half of the route near the river. In the area of the Hennepin Avenue bridge, railroad cutting may have been slight since the top of the retaining wall along the river's edge appears to be at the same level with respect to the ground surface as it was 100 years ago when the suspension bridge was still in place.

It is interesting that not a single archeological site is recorded in the city of Minneapolis according to the official site file of the State Archeologist. This is especially surprising when considering how the area was a focus for early white activity and historic Indian occupation. The presence of the numerous lakes, the Falls of St. Anthony and Minnehaha, and nearby confluence of the Mississippi and Minnesota Rivers would have certainly encouraged prehistoric use of the area. There are certainly archeological sites surviving within the Minneapolis city limits; they simply have to be identified.2/

6.2.3 PARKWAY HISTORIC THEME SEGMENTS

The Parkway Project Area was divided into seven segments, each reflecting a specific theme of particular significance to the historical development of

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2/ Scott A. Anfinson, A preliminary report on potential archeological impacts of the proposed West River Parkway. State Highway Archeologist's Office, Minnesota Historical Society, May, 1982.

Minneapolis. The segments are discussed in order beginning at the north end of the project area, progressing southward to the project terminus south of the University of Minnesota, West Bank. These areas are identified in Figure 3-2.

Bassett Creek and the Upper Riverfront Segment

> Bassetts Creek ... has now nearly disappeared from sight. Stone bridges carry nearly every street across it, and the stream has partly been diverted into sewers and otherwise arched and covered from sight. Where its marshy banks once arrested improvements, now rise stately elevators and mammoth warehouses; while multitudinous rails carry the traffic of several systems of steam roads.
>
> Isaac Atwater, History of Minnesota, 1893

Bassett Creek empties into the Mississippi River about half a mile above the Hennepin Avenue Bridge. Despite its proximity to the downtown business district, the area remained secluded for many years. Although a steam-powered sawmill was erected at the mouth of the creek in 1856, the building was destroyed by an explosion in its first year of operation.3/ Almost twenty years would elapse before the area was reclaimed for industrial use. The history of Bassett Creek illustrates the commercial growth of the upper riverfront.

When the railroad stepped across Nicollet Island to the upper riverfront in 1867, the shoreline was mostly open prairie. Apart from a sawmill just north of the Hennepin Avenue Bridge, commercial development was restricted to the first three blocks of North First Street, which contained a scattering of wooden shops and hotels.4/

The arrival of the railroad stimulated a modest industrial expansion, which gradually engulfed the Bassett Creek area. In 1878 an insurance underwriter gave this report of the upper riverfront:

> From Bassetts Creek, between First Street and the River, [there is] a space varying in width from one to three blocks, and from three to five blocks in length. [It] is a district upon which is piled a large quantity of lumber. This district also includes one frame shingle mill, (at present not in operation) two frame saw mills, one stone and frame machine shop and foundry, and one one-story stone plow factory. All [are] operated by steam power.5/

3/ Weekly Minnesotian, November 29, 1856.

4/ Saint Anthony Falls Rediscovered (Minneapolis: Riverfront Development Coordination Board, 1980), p. 15.

5/ Jacob Stone, The Flouring Mills of Minneapolis, Minnesota (Minneapolis: Johnson, Smith and Harrison, 1878), p. 48.

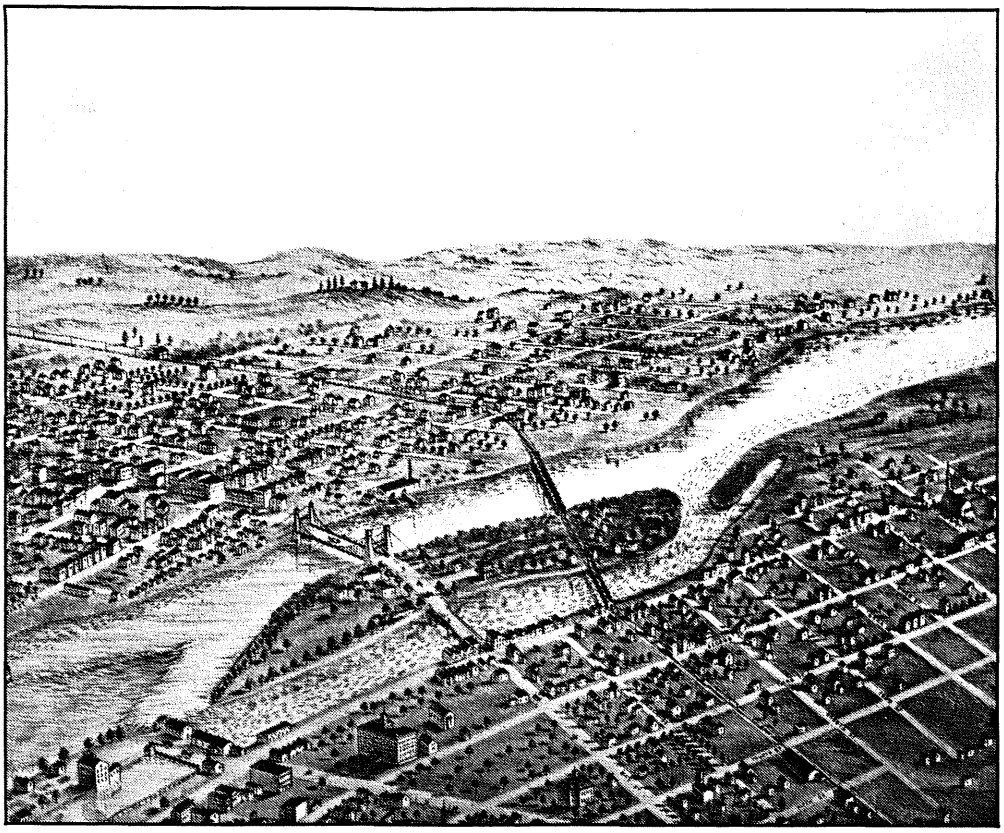


Fig. 6-1 Bassett Creek and the Upper Riverfront, 1867. Map courtesy of Minnesota Historical Society.

During the 1880's the upper riverfront experienced a radical transformation. By this time the Northern Pacific Railroad had opened up the rich farmlands of western Minnesota and the Dakotas. Since Minneapolis was the nearest rail center to these newly settled regions, the city became a major supplier of agricultural implements. Hastening to establish headquarters in Minneapolis, implement dealers constructed an almost solid wall of brick warehouses along the upper reaches of North First Street. To accommodate these new buildings, the railroads bought out the lumber yards on the upper riverfront and blanketed the area with freight depots and spur-track facilities. In the early 1890's the mouth of Bassett Creek was channeled into a masonry culvert and covered with tracks.6/

Although the upper riverfront is no longer a shipping center, most of the old warehouses, freight depots, and trackage facilities remain. Some of the buildings are now being converted to residential use. In the early

6/ St. Anthony Falls Rediscovered, pp. 15-16; Minneapolis, Minnesota, vol. 2 (New York: Sanborn Map Publishing Company, 1885, updated to 1890), plate 43, on file at Minnesota Historical Society; Atlas of the City of Minneapolis (Minneapolis: C.M. Foote & Co., 1892), plate 4.

1970's the Center for Community Action landscaped a small park at the mouth of Bassett Creek.7/ Neither widely used nor well maintained, this park soon fell into disrepair. Today Bassett Creek seems as remote from the downtown business district as it did in the 1850's.

The Gateway Segment

> More than her gates, the city opens her heart to you.
> Inscription in Gateway Park, 1915

With the completion of the Hennepin Avenue Bridge in 1854, lower Hennepin Avenue literally became the gateway to Minneapolis. Quickly claimed for hotels and retail establishments, the Gateway was the city's first downtown business district. By the 1870's its buildings included both the City Market and City Hall. As Minneapolis developed into a rail center, the Gateway was the obvious site for the new Union Depot, which was erected on the south side of Hennepin Avenue in 1884.8/

7/ Center for Community Action, The Riverfront Environmental Effort (Minneapolis: Minneapolis Planning Department, 1974).

8/ This historical sketch relies heavily on Sherman Hasbrouck, "A History of the Minneapolis Lower Loop," unpublished report prepared for Minneapolis Housing and Redevelopment Authority, 1956.

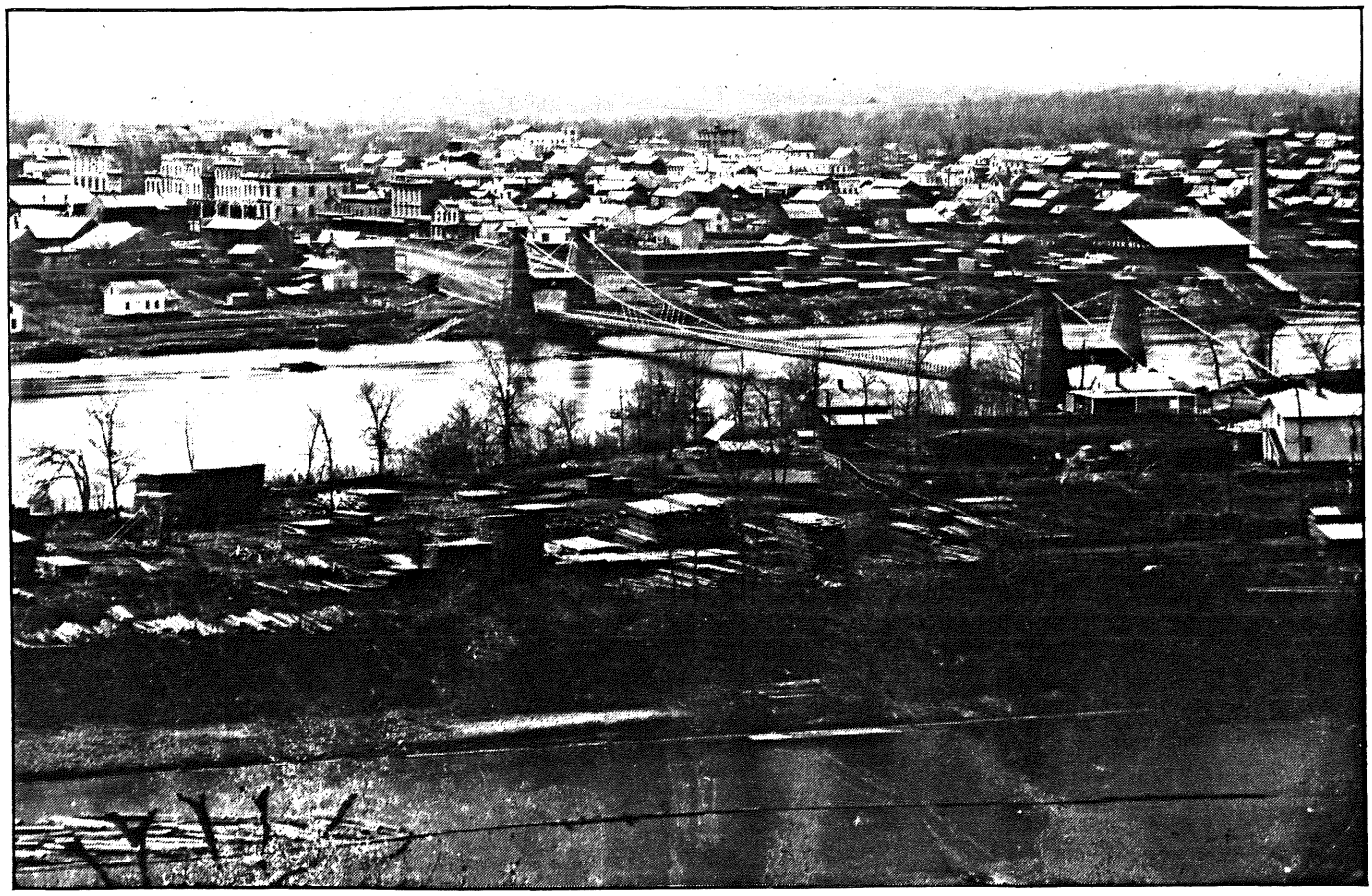


Fig. 6-2 The Gateway ca. 1869. Photo courtesy of the Minnesota Historical Society.

At the time of its construction, the Union Depot seemed merely to be a logical updating of the gateway function of lower Hennepin Avenue. But its presence had an unforseen impact on the area. During the 1890's Minneapolis became the major labor exchange for the Upper Midwest. Each year tens of thousands of workers passed through the depot in search of jobs in logging, heavy construction, and flour milling. Although this transient population brought new business to the Gateway, it also redefined the area's old commercial patterns. Hotels became boardinghouses, specialty stores gave way to taverns, and banks were replaced by employment agencies. Despite attempts to upgrade the Gateway with the new Great Northern Depot in 1911 and the Gateway Park in 1913, the city's rehabilitation plans for the area were cut short by the First World War. With the arrival of the Great Depression, the district's boardinghouses became flophouses, and the Gateway degenerated into a skid row. Although urban renewal programs in the 1950's and 1960's brought a substantial amount of new construction, the Gateway still exhibits signs of its former blight and neglect.

West Side Milling District Segment

> Go now with me down to the Falls,
> And see the power there moving,
> Mill stones, and saws, and countless shafts,
> As if 'twere nothing doing.
>
> Newton H. Chittenden, Strangers' Guide in Minneapolis, 1869

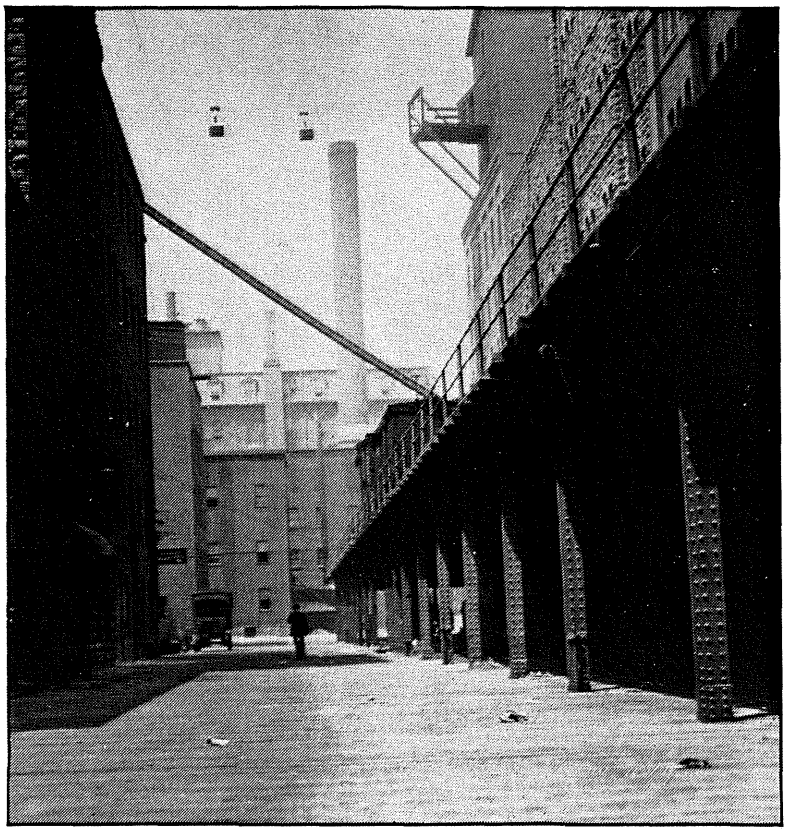


Fig. 6-3 West Side Milling District, South First Street. Photo courtesy Hennepin County Historical Society.

The commercial development of the West Side Milling District dates from the mid-1850's when the Minneapolis Mill Company assumed ownership of the shoreline and began an extensive program of waterpower improvements. Adapting New England milling techonology to local conditions, the company designed a waterpower system with three basic engineering features: (1) a dam located above the falls, which diverted water toward the shore; (2) a mill pond located near the foot of Fifth Avenue South, which penned the waterpower prior to distribution; and (3) a power canal through South First Street, which distributed the waterpower to millsites by means of underground tunnels, or "raceways." The system was fully operational by the mid-1860's, with a power canal approximately 950 feet long, 50 feet wide, and 14 feet deep. In addition to supplying the district with waterpower, the South First Street Canal also functioned as the area's main transportation artery. By 1870, its surface had been covered with wooden planking to serve as the central access road to the mills. Still later in the 1880's, it was surmounted by a railroad trestle for the shipping and receiving of flour and grain.

After an initial period of industrial diversification, almost all of the area's millsites came under the control of flour milling interests, which by 1880 had constructed about two dozen flour factories along the South First Street Canal. For the next half century, this densely industrialized area was the world's leading producer of flour. During the 1930's, however, significant changes in American tariff policy, freight rates, and wheat quality undermined the area's competitive position in the national market. As the Minneapolis milling companies transferred their operations to Buffalo and Kansas City, many of the area's mills, and all of the railroad trestles, were abandoned and demolished. In 1965 the last flour mill in the district suspended operations. This final shutdown resulted from the construction of the Upper St. Anthony Falls Lock, which closed off the power canal from the river.

Today there is little evidence that this area was once one of the nation's most important industrial sites. Only a half-dozen mill buildings remain. The South First Street Canal -- now know simply as South First Street -- has been filled in and paved over. Most of the former mill foundations by the river have become a storage ground for sand and gravel. Although few structures survive, the City of Minneapolis has recognized the area's national historical significance by establishing careful guidelines for its preservation and redevelopment.

Gasworks Bluff Segment

> This city will burn gas tonight for the first time.... We witnessed a fine test of the illuminating element yesterday at the works, and the light given is clear and white, free from odor and all impurities, and is as good as is used anywhere. There are about a hundred consumers who are ready to be supplied today.
>
> Minneapolis Tribune, November 22, 1870

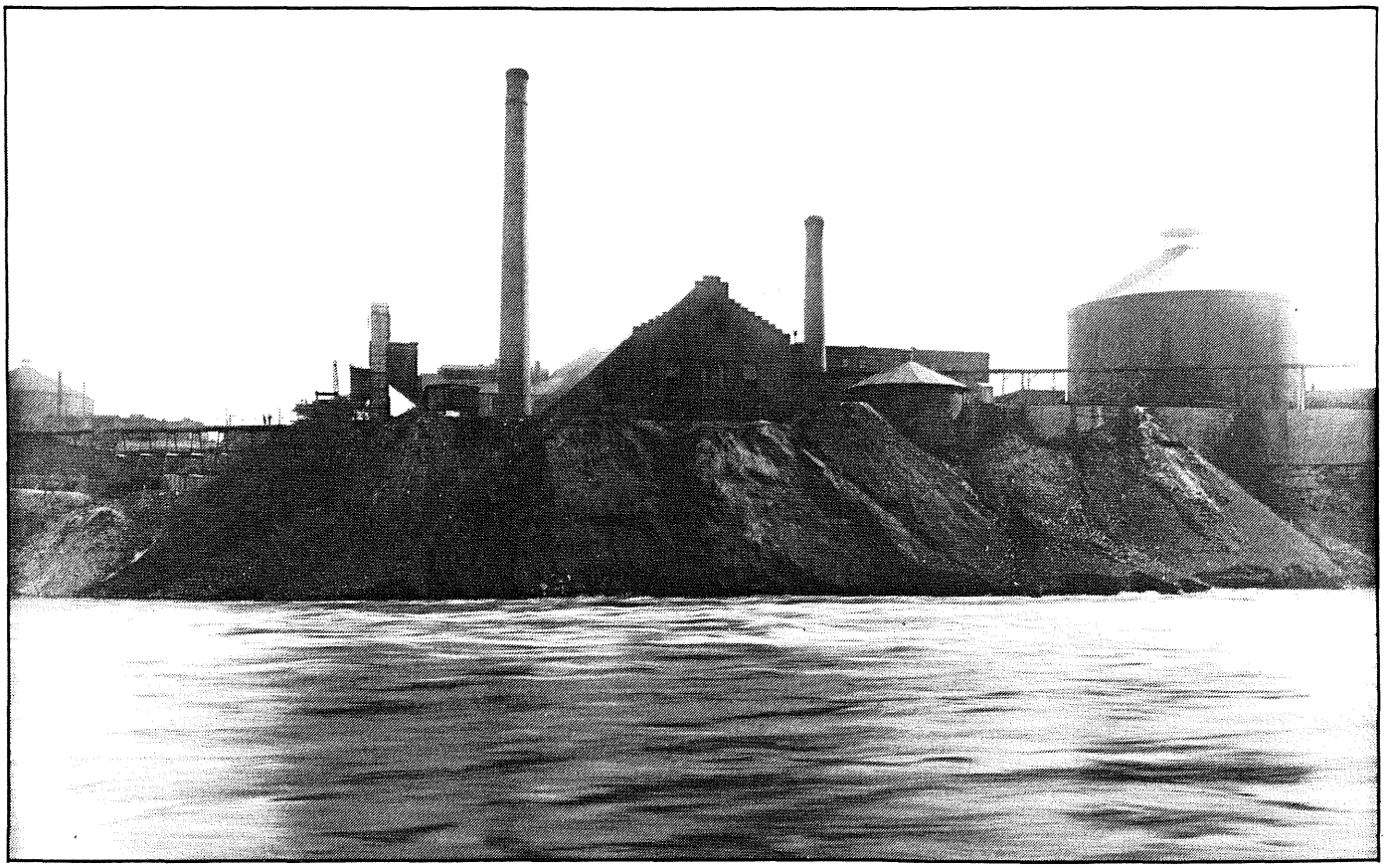


Fig. 6-4 Gasworks Bluff, 1912. Photo courtesy of Minnesota Historical Society.

In 1870 the Minneapolis Gas Light Company erected a gasworks at the foot of 14th Avenue on the bluff overlooking the Mississippi River. This plant converted coal into illuminating gas which was distributed by underground mains throughout the city. With major additions in 1893, 1904, and 1924, the gasworks eventually covered several acres of the riverfront.9/

During its early years of operation, the gas company held the municipal franchise for street lighting. This monopoly was soon challenged by the city's emerging electric power industry. By 1900 the gasworks shared both the utility market and the riverfront with a new hydroelectric power plant erected at the Lower Dam.10/

9/ Marion Daniel Shutter, ed., History of Minneapolis (Chicago and Minneapolis: The S. J. Clarke Publishing Company, 1923), pp. 160-163; Minneapolis Department of Inspections, Building Permits for 1800 - 1920 Bluff Street.

10/ Saint Anthony Falls Rediscovered (Minneapolis: Riverfront Development Coordination Board, 1980), p. 97.

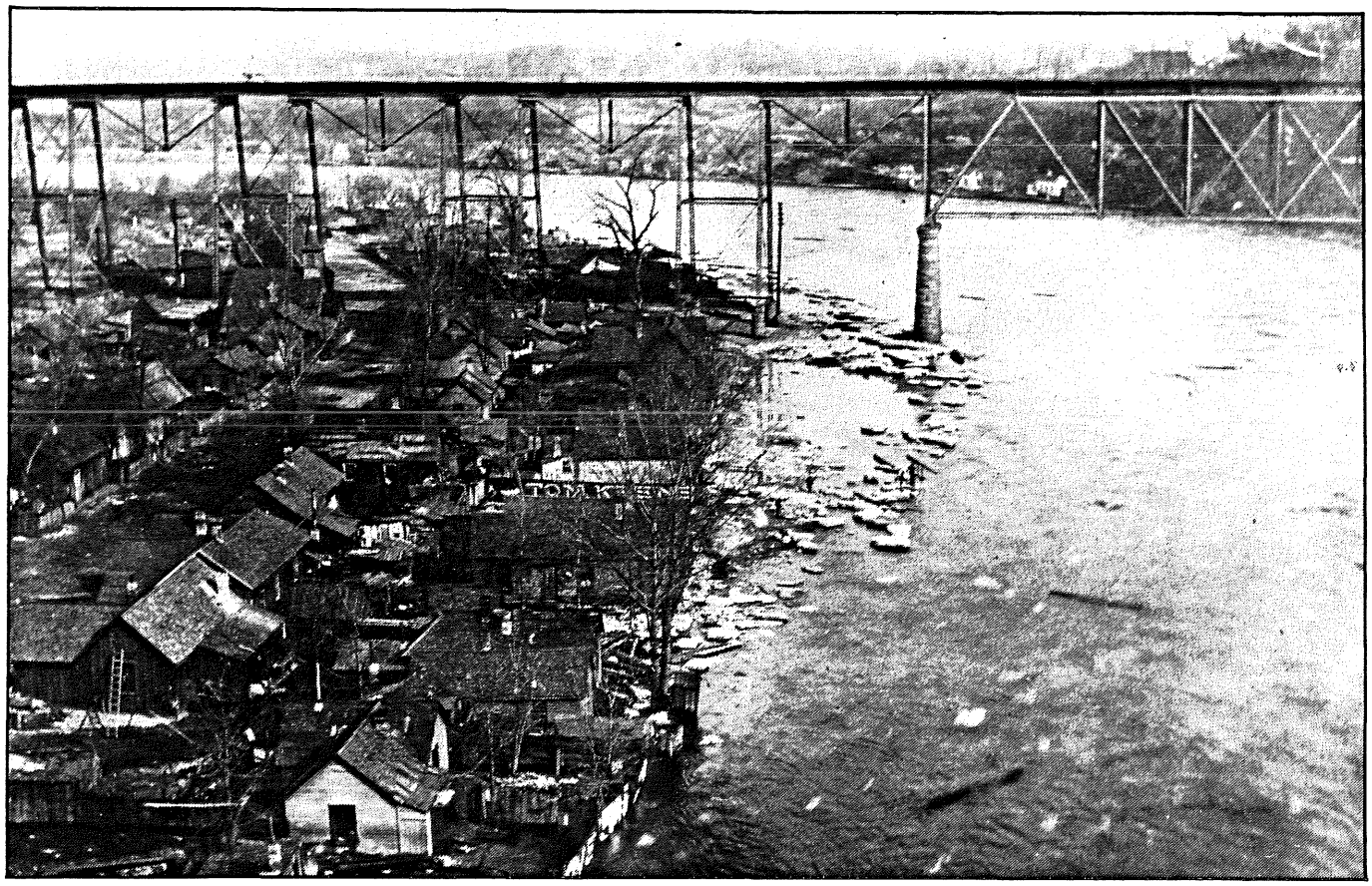


Fig. 6-5 Bohemian Flats ca. 1910. Photo courtesy of Minnesota Historical Society.

But the most serious challenge to the gasworks stemmed from technological changes within its own industry. In the 1930's, a pipeline was built between Minneapolis and the natural gas fields of Kansas. Over the ensuing decades, coal gas became increasingly obsolete. The old plant on the river bluff was finally demolished in 1961.11/

Bohemian Flats Segment

> You can see from the bluff on either side a curious little village, low down by the water's edge.... The houses are dropped about in a strange fashion and in irregular lines.... They are wholly wooden houses and mostly one story high ....Their contrast with the high mills and elevators and the huge city blocks above them and in plain sight, adds to the feature of picturesqueness which they represent....
>
> Northwest Magazine, 1887

11/ 25 Years of Progress: Natural Gas in the Minnesota Region (Omaha: Northern Natural Gas Company, 1956); Building Permits.

The story of Bohemian Flats is a tale of conflict between commercial and residential expectations. In the early years of Minneapolis, the city's business leaders hoped to develop a municipal levee along the river flats near the present site of the Washington Avenue Bridge.12/ But few steamboat pilots were willing to risk their crafts in the shallow, rocky waters above St. Paul. With the coming of the railroad to Minneapolis in 1867, the dream of a municipal harbor was temporarily laid to rest. During the 1870's, the levee was allowed to deteriorate, and the river flats were gradually taken over by immigrant families who paid little or no rent. Although many nationalities were represented in the area, Czechs and Slovaks were in the majority. Hence the name: Bohemian Flats.13/

While the residents of Bohemian Flats raised their families and tended their gardens, Minneapolis commercial interests revived their hope for a municipal harbor. In 1894 they persuaded Congress to appropriate funds for the construction of a lock and dam at Meeker Island, about two miles below the Washington Avenue Bridge. The project was designed to make Minneapolis the head of navigation on the Mississippi. Plagued by engineering difficulties, the Twin Cities Lock and Dam was only half complete in 1912.14/ Yet its impact on Bohemian Flats was unmistakable. In 1915 the City of Minneapolis started condemnation proceedings against property near the old levee "with the intention of using same ... for wharfage and railroad purposes." The residents of Bohemian Flats began to move. As the Minneapolis Tribune noted in 1924: "All along the narrow cluttered streets of the river flats... you'll see vacant houses .... The windows that used to look so gay with their plants stare at you lonesomely as you pass."15/

In 1927 the City of Minneapolis finally realized its dream of a municipal harbor by building a barge terminal near the site of the old levee. Shortly afterwards, city officials conducted a survey of Bohemian Flats. They counted 59 houses and a church still standing. In 1931 the occupants of all these buildings received eviction notices to clear the way for coal docks. By the late 1930's Bohemian Flats was only a folklore memory. As a former resident declared, "This is now industrial property."16/

12/ Marion Daniel Shutter, ed., History of Minneapolis (Chicago and Minneapolis: The S. J. Clarke Publishing Company, 1923), p. 265.

13/ W.P.A. Writers' Project, The Bohemian Flats (Minneapolis: University of Minnesota Press, n.d.), pp. 8-14.

14/ Raymond H. Merritt, Creativity, Conflict and Controversy: A History of the St. Paul District U.S. Army Corps of Engineers (Washington, D.C.: U.S. Government Printing Office, n.d.), pp. 141 - 145.

15/ Bohemian Flats, pp. 41-44.

16/ Mildred C. Hartsough, From Canoe to Steel Barge on the Upper Mississippi (Minneapolis: University of Minnesota Press, 1934), p. 238; Bohemian Flats, pp. 46-47.

Brewery Flats Segment

> The lager beer manufactured in Minnesota is fast achieving a reputation equal to that of Milwaukee and Chicago, and one of the best breweries in the State is the Minneapolis Brewery, located on the lower levee....
>
> The City of Minneapolis, 1874

An 1879 lithograph of south Minneapolis reveals an imposing cluster of buildings on the west riverbank at the foot of Fourth Street. This was the home of the Minneapolis Brewery, which occupied the site for more than 30 years. In 1881 a local historian gave this account of the company:

> The Minneapolis Brewery, Mueller & Heinrich proprietors, was built in 1860, by Kranzlein & Mueller ... [who] conducted the concern until 1869, when Mr. Kranzlein became the sole owner .... [He] conducted it four years, and then conveyed it to Mueller & Heinrich, who have enlarged it from time to time, erecting in 1875 a stone building 30 x 40 feet, two and one half stories high, used for brewing, in 1876, a three-story brick 30 x 40 feet, used for boilerhouse and other purposes, besides a

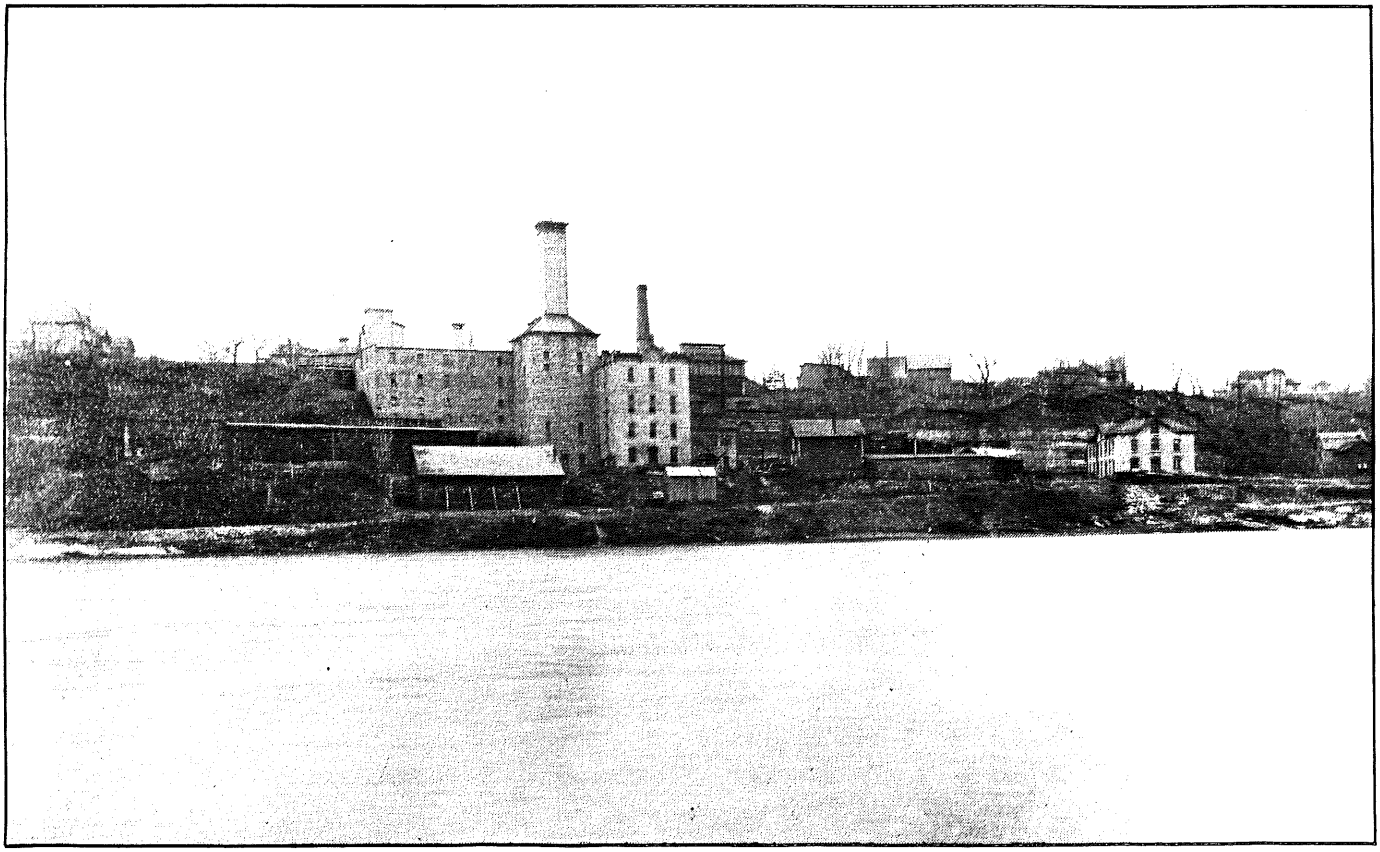


Fig. 6-6 Brewery Flats, Mueller and Heinricks Brewery, ca. 1880. Photo courtesy of Minnesota Historical Society.

> malt-kiln and malt-house and three ice-houses.... They now have a brewery equipped in a thoroughly first-class manner throughout.[17]

The Minneapolis Brewery remained on the riverbank until 1892. In that year the company moved its operations to northeast Minneapolis, constructing a new manufacturing plant which later became the Grain Belt Brewery.[18] By the turn of the century, the old brewery complex on the river had been demolished. The land was purchased by the Minneapolis Park Board about 1910 and subsequently incorporated into the West River Road Parkway. By 1940 the old brewery site was playing host to waterfront picnickers.[19]

Existing West River Road Segment

> These banks are covered with a magnificent growth of trees and shrubbery, assuming all the picturesque forms which are incident to such growth ... and which no art could imitate.
>
> H. W. S. Cleveland, 1883

During the 1880's Minneapolis experienced startling and unprecedented expansion. In the first three years of the decade, the city's population more than doubled from 46,887 to 96,272 people. Alarmed that municipal resources were being overwhelmed by unregulated growth, civic leaders clamored for increased municipal planning and an expanded public works program. These pleas triggered the formation of the Minneapolis Board of Park Commissioners in 1883. To assist their planning, the new commissioners sought the counsel of a nationally prominent landscape architect, H. W. S. Cleveland.[20]

From the outset, Cleveland urged the park commissioners to focus their attention on the Mississippi River. "You have it in your power," he declared, "to convert its banks into the most attractive and most conspicuous asset of the city." Noting that the west bank south of 25th Avenue "still remains in its native condition," Cleveland recommended its acquisition for park purposes. He also suggested the construction of a riverfront boulevard that might eventually lead to Minnehaha Falls.[21]

17/ George E. Warner et al, History of Hennepin County and the City of Minneapolis (Minneapolis: North Star Publishing Company, 1881), p. 421.

18/ One Hundred Years of Brewing (Chicago and New York: H. S. Rich & Co., 1903; reprinted, Newton, Conn.: Sonja and Will Anderson, 1973), p. 514.

19/ Theodore Wirth, Minneapolis Park System 1883-1944 (Minneapolis: Board of Park Commissioners, 1945), p. 162.

20/ Theodore Wirth, Minneapolis Park System 1883 - 1944 (Minneapolis: Board of Park Commissioners, 1945), pp. 18-26.

21/ H. W. S. Cleveland, "Suggestions for a System of Parks and Parkways, for the City of Minneapolis" (Minneapolis: Johnson, Smith & Harrison), 1883, pp. 6-7, 9.

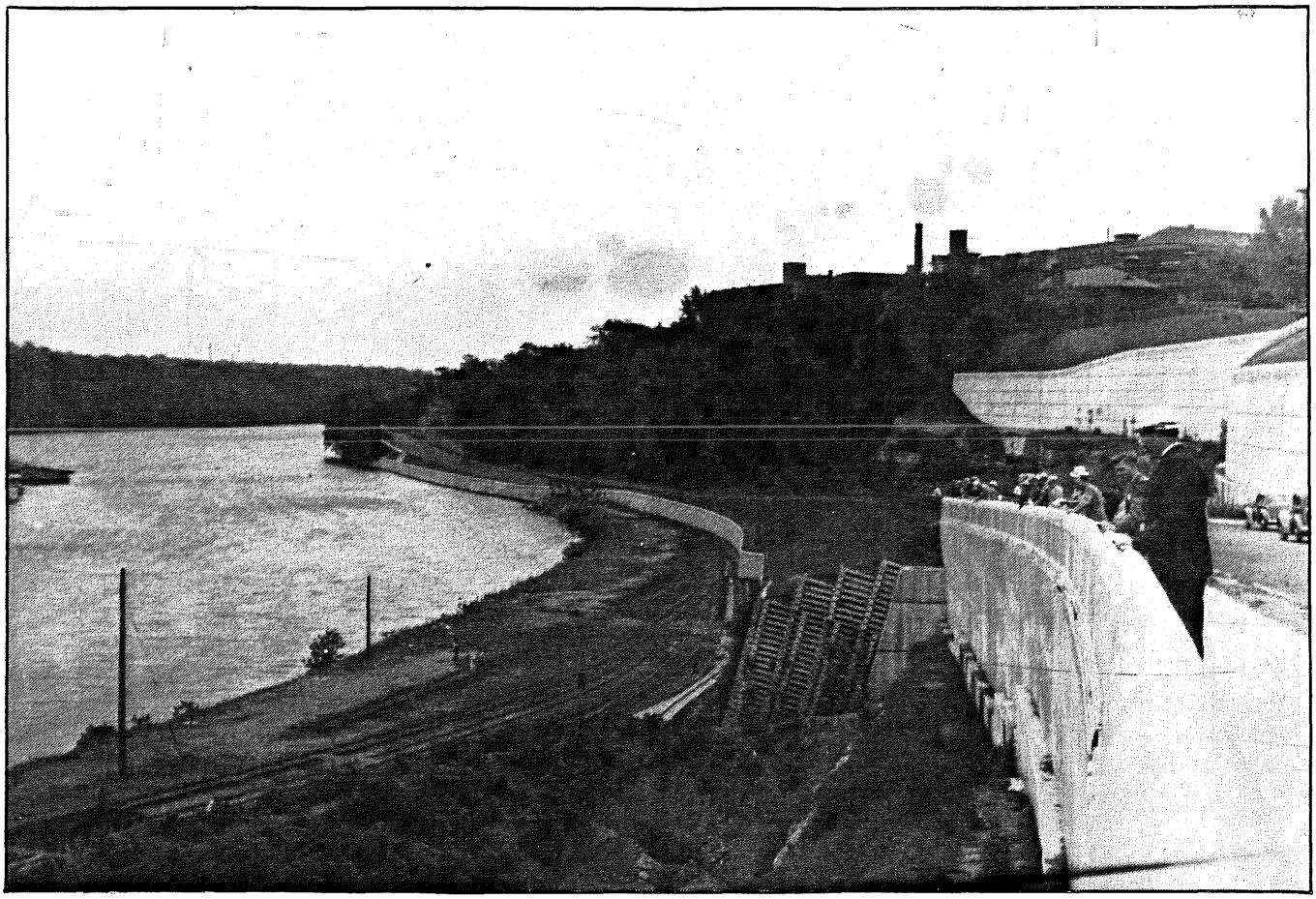


Fig. 6-7 West River Parkway ca. 1940's. Photo courtesy Minneapolis Park and Recreation Board.

In 1885 the Park Board began implementing Cleveland's recommendations by purchasing and landscaping Riverside Park. During the period 1902 to 1911, the Board acquired the frontage between Riverside Park and Minnehaha Falls, and commenced a phased construction of a riverfront boulevard. Known as West River Road, this parkway was virtually complete by 1940.22/

6.3 Affected Sites, Adverse Effects and Measures to Minimize Harm

This section describes affected sites, the nature of potential impacts and measures to minimize harm. The archeological sites are described first followed by the St. Anthony Falls Historic District, Sub-Districts within the District and specific structures within each Sub-District. The locations of all significant and potentially significant sites are identified on Figure 6-8.

22/ Wirth, pp. 159 - 162.

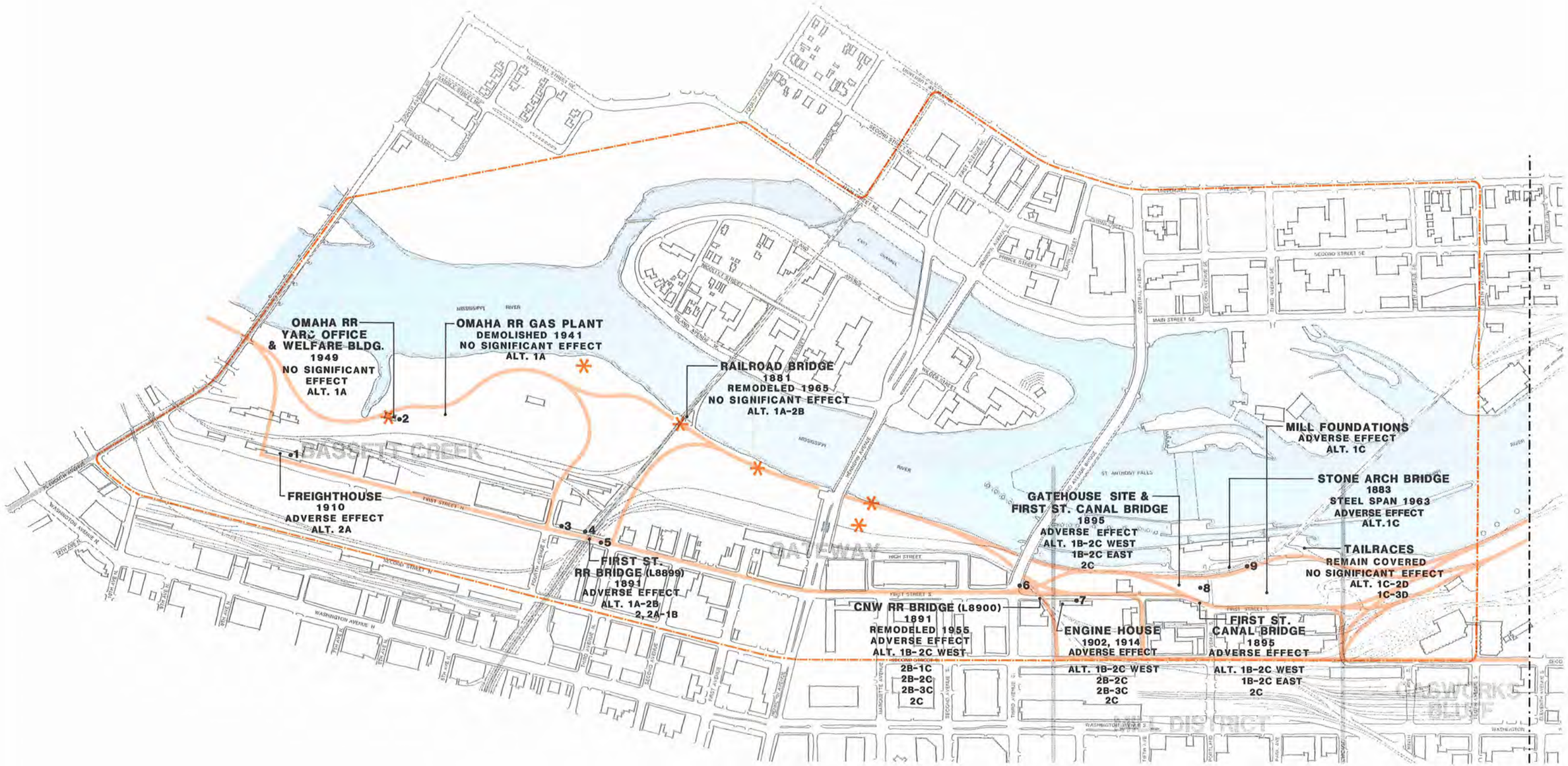


FIGURE 6-8

HISTORIC RESOURCES IMPACTS

0 200 400 600 800 FT.

SAINT ANTHONY FALLS HISTORIC DISTRICT BOUNDARY

* POTENTIAL ARCHAEOLOGICAL SITE

ROUTE ALTERNATIVES

•1 PHOTO LOCATION AND REFERENCE NUMBER (PHOTOS AT UPPER RIGHT ON FOLLOWING PAGE)

West River Parkway

Minneapolis Park and Recreation Board

BRW

BENNETT, RINGROSE, WOLSFELD, JARVIS, GARDNER, INC.

FIGURE 6-8

HISTORIC RESOURCES IMPACTS

WEST SEGMENT


1


2

3



4


5

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7

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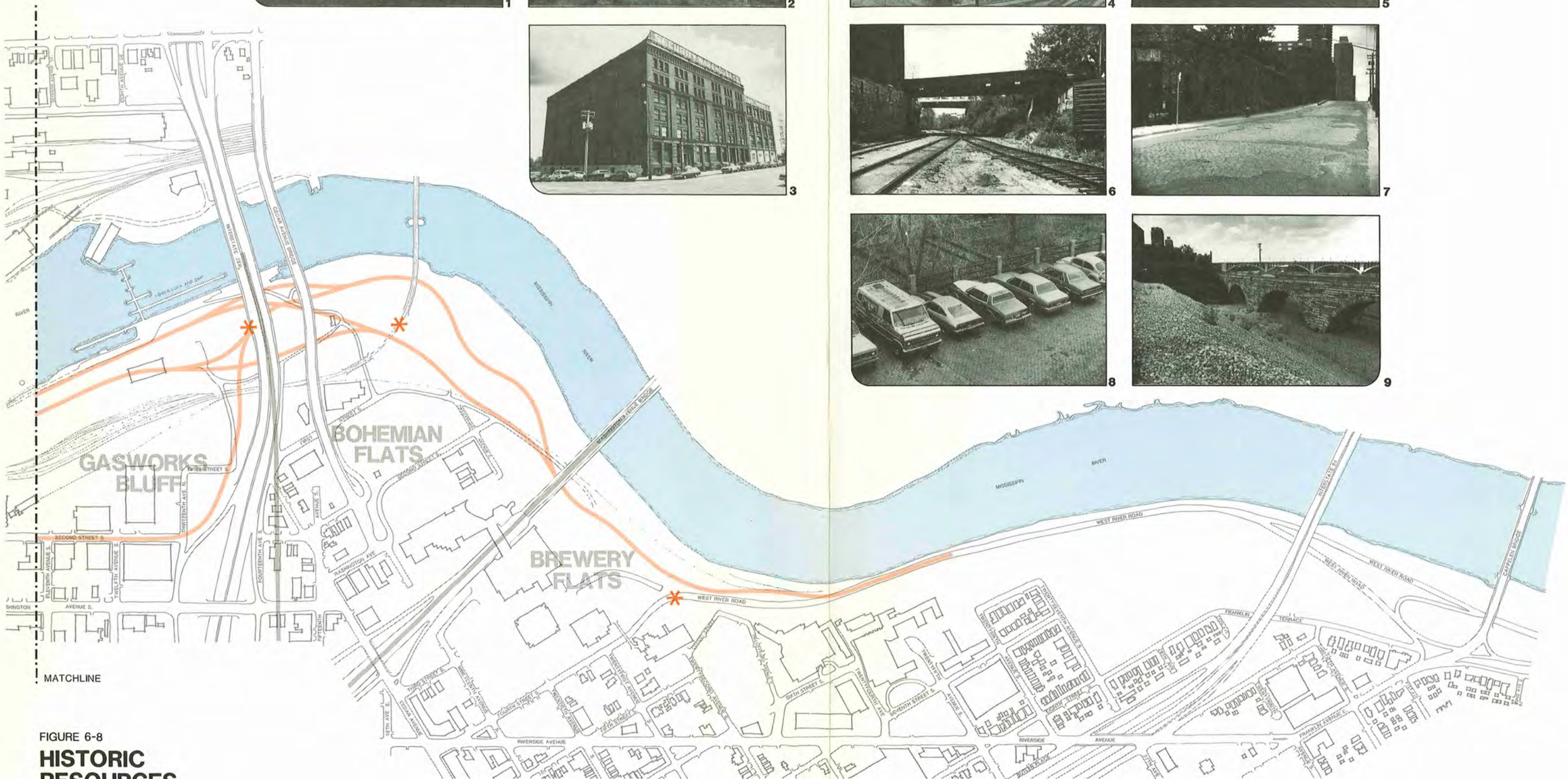


FIGURE 6-8

HISTORIC RESOURCES IMPACTS

EAST SEGMENT

6.3.1 POTENTIAL ARCHEOLOGICAL RESOURCES

The descriptions of the archeological sites included in this section are excerpted from the preliminary field survey report submitted by the State Highway Archeologist's Office of MHS.

Based on a literature search of historic records (e.g., plat maps, photographs), a review of the limited archeological records, a surface walkover of the project area, and discussions with individuals knowledgeable about the area, the following locations have been determined to hold particular archeological potential. These are by no means the only locations that hold site potential, but the determination of other locations would have to be based on a more extensive literature search and an intensive archeological testing program.

Descriptions

Aboriginal Sites

a) Historic Village(s) -In several early drawings, photographs, and accounts, the area between what is now the Hennepin Avenue bridge and the Falls of St. Anthony is shown or described to have Indian dwellings, usually tepees. Indians even occupied this area after Stevens built his house in 1849 (Fig. 6-9).

b) Prehistoric Habitation Area - A few artifacts in the collections of the University of Minnesota and the Minnesota Historical Society are said to have been found in the area of the west side of the Washington Avenue bridge. One of the few Clovis points ever found in Minnesota was reportedly picked up off the surface in this area in 1941 by a University student. Clovis points found elsewhere date between 12,000-10,000 years ago.

Euro-American Sites

a) Bassetts Creek Sawmill(s) - In 1855 Pommeroy, Bates and Co. built a sawmill near the outlet of Bassetts Creek. This mill burned down about a year later. Another mill called the Atlantic Mill may have been built at about the same location in 1870, but this mill too burned shortly thereafter. Joel Bassett also built his first house in this vicinity in 1852.

b) North Star Steam Sawmill - The 1885 and 1892 plats show this sawmill which was probably built about 1880.

c) North Star Iron Works - The 1874 Andreas Atlas and the 1885 plat show this plant, but it was gone by 1892.

d) Pacific Sawmill - This sawmill was built in 1866 on the west bank of the river between 1st and 2nd Avenues N. It is shown on the 1874 Andreas Atlas and the 1885 plat, but it was gone by 1892.



Fig. 6-9 Indian Teepees with Stevens House in background, 1854. Photo courtesy of Minnesota Historical Society.

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e) Stevens House - In 1849 J. H. Stevens built the first private dwelling in Minneapolis on the west bank of the river just south of what now is the Hennepin Avenue bridge. Prior to the construction of the first bridge in 1854, a ferry landing was near the Stevens house. The ferry had been established by Franklin Steele in 1847. The house was moved from its original location in 1872 and now stands in Minnehaha Park. Several other houses were built south of the Stevens house as shown on photographs from the 1850's. Extensive railroad construction began in the area in the late 1870's.

f) Union Depot - This was built in 1884 along the south side of the Hennepin Avenue bridge which was a suspension bridge at the time. Some of the footings of this building probably still exist, although its archeological potential may be slight.

g) St. Anthony Mill Area - The area between 4th Avenue South and 8th Avenue South and from 2nd Street to the river was once one of the most heavily industrialized areas in the world. Between 1821-23, Josiah Snelling constructed a sawmill and a grist mill at what was later the foot of 7th Avenue. The foundations of these mills were probably completely

destroyed by the later construction of the Sidle-Holmes/Northwestern mill. The building of a canal in 1857 allowed for intensive flour mill construction on either side of the canal which is below what is now 1st Street from Portland Avenue to 18th Avenue. Many of the mills on the west side of the canal still stand while the foundations of many of the east side mills exist beneath gravel piles. A portion of the filled-in canal is still visible just north of Portland Avenue at 1st Street. The mill foundations and the canal are the most obvious and perhaps the most important archeological features of the entire route.

h) Minneapolis Gas Light Plant - In 1870 the Minneapolis Gas Light Company built its plant below the bluff at the foot of Cedar Avenue. Much of this site may have been destroyed by the construction of the I-35 bridge.

i) Norenberg Brewery - About 1870 F. Norenberg built a brewery at the intersection of 20th and 21st Avenues. The Minneapolis Brewing and Malt Association had facilities on the river flat below the brewery by 1892.

j) Bohemian Flats - Beginning about 1870 the river flats below what is now the west bank campus of the University of Minnesota were settled by poor immigrants of primarily Slavic ancestry. The area was intensively settled by the turn of the century, but the residents were forced to leave in 1931 in order to convert the area to a coal and oil storage yard. While most of the houses did not have foundations, some subsurface features of the settlement may remain.

k) Kanzlein and Mueller/Heinrich Brewery -Built in 1860, this brewery later joined the Norenberg Brewery and several other Minneapolis breweries to start the Grain Belt Brewery in northeast Minneapolis.23/

Potential Adverse Effects

As a result of severe and often extensive disturbance of the project area in the past, it is difficult to specify which route alternatives will have an effect on archeological resources. Because detailed knowledge of the area from an archeological standpoint is lacking, comments regarding potential adverse effects can only be made in a general sense. Alternative 1 has the greatest potential to affect archeological resources but at the same time it provides the unique opportunity for the discovery of buried artifacts and for interpretation. Without project routing along Alternative 1, it is likely that future private development along the riverfront would result in a lesser opportunity to fully ascertain the archeological resources of the area. Substantial private investment in the area would make archeological investigations in the future much more difficult. Alternative 1 could conceivably impact all of the above described sites with the possible exception of the Stevens House site. The nature and extent of the impacts are difficult to predict since so little is known of the area with respect to archeological resources.

23/ Anfinson, A preliminary report on potential archeological impacts of the proposed West River Parkway.

Alternatives That Would Avoid Adverse Effects

Of the Action Alternatives, Alternatives 2 and 3, which utilize existing streets, would have the least amount of archeological impact. The No-Action alternative would avoid any archeological impacts.

Measures to Minimize Harm

The following suggestions to minimize harm associated with Action alternatives are excerpted from a report by the State Highway Archeologist's Office (MHS).

Great River Road guidelines state that the purpose of the Great River Road "is to provide a scenic, recreational and historic roadway along the Mississippi River"; this purpose is best fulfilled by Alternative 1. In addition, none of the potential sites to be adversely affected by any route are likely of National Register quality in themselves, although many of them are within a National Register district. Determining their locations alone may mitigate any adverse effects.

If Alternative 1 were chosen as the route for the West River Parkway on the northern half of the project and Alternative 1 or 2 chosen on the southern half, a number of archeological procedures should be implemented:

1) An archeologist should monitor the initial grading of the roadway in order to determine if significant archeological resources will be impacted. The possibility would exist that salvage excavations or slight alignment changes would be recommended if the monitoring discovered especially important sites.

2) If the gravel piles are removed to expose the mill foundations along the east side of the canal and if a portion of the canal and raceways are restored, an archeologist should assist with the supervision of these activities in order to minimize the damage to the sites and help to properly interpret them.

In conclusion, federal guidelines with regard to road construction, in general, stress the preservation of sites; but the Great River Road program encourages interpretation as well as preservation. The primary purpose of the West River Parkway project is not to provide a transportation route, but a pathway through the heart of one of Minneapolis' most scenic and historic areas. Archeology can help interpret this history and even assist in providing interesting cultural scenery. The most difficult aspect of determining the potential impacts of the various routes is the lack of detailed archeological information as to what actually exists beneath the current surface of the corridor. This information can only be provided through intensive excavation which could occur in conjunction with the actual construction of the parkway. In any event, extensive testing should not be implemented until a single alignment has been selected.24/

24/ Anfinson, Ibid.

6.3.2 HISTORIC RESOURCES: ST. ANTHONY FALLS HISTORIC DISTRICT

Description

The St. Anthony Falls Historic District was placed on the National Register of Historic Places in 1971. Its boundaries, as amended in 1973, extend for a width of approximately two blocks on both sides of the Mississippi River from the Plymouth Avenue Bridge to about Tenth Avenue South (Figure 6-8). On the west side of the river, the District is completely contained within the Project Area.

The St. Anthony Falls Historic District is locally, regionally, and nationally significant. Locally, it is important as the first commercial and industrial center of Minneapolis; regionally, as the former warehousing and transportation hub of the Upper Midwest; nationally, as the former flour-milling capital of the United States. In general terms, the District made its most numerous historical contributions during the period 1870 to 1930. Virtually all of the significant structures surviving in the district were constructed during this period.25/

Although the St. Anthony Falls Historic District has a long history of private commercial and industrial use, there have been strong historical expectations for developing the area's shoreline into public recreational space. As early as 1883, the newly formed Minneapolis Board of Park Commissioners began studying the feasibility of a "broad avenue ... on each side of the river near enough to its banks to admit of views into the depths below."26/ This goal received further support from a group of prominent Minneapolis businessmen who, in 1910, established the Civic Commission to prepare a comprehensive plan for municipal development. Obtaining the services of Daniel H. Burnham, the nation's most influential city planner, the Commission published a preliminary plan in 1911, calling for "a roadway from the city limits on the north to the city limits on the south, skirting the shore wherever possible."27/ In its final report of 1917, the Commission reiterated its pleas for an extended riverfront parkway, declaring that "the River should be regarded not only as of economic value but as a great civic asset in its possibilities of enjoyment by the people."28/ As a recent historical study of the riverfront has noted,

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25/ See: "Building Inventory," St. Anthony Falls Rediscovered, pp. 105-11 Exceptions are the Post Office Building (c. 1940) and the Upper Lock and Dam (c. 1963).

26/ H. W. S. Cleveland, "Suggestions for a System of Parks and Parkways for the City of Minneapolis," 1883, in Theodore Wirth, Minneapolis Park System, 1883 - 1944 (Minneapolis: Minneapolis Board of Park Commissioners, 1945), p. 30.

27/ Civic Commission of Minneapolis, Preliminary Plan of Minneapolis (Minneapolis: no. pub. , 1911), p. 32; see also Vincent Oredson, "Planning a City." Minnesota History, 33 (Winter 1953), 332-336.

28/ Edward H. Bennet and Andrew Wright Crawford, Plan of Minneapolis (Minneapolis: The Civic Commission, 1917), p. 150.

"These recommendations were to become guiding principles for future city planning at the falls."29/

Despite the social and economic disruptions of the First World War and the Great Depression, the City of Minneapolis succeeded in implementing a good deal of the Civic Commission's 1917 plan for the riverfront. By 1940, the Park Board had completed the phased construction of the West River Parkway between Minnehaha Falls and the West Bank Campus of the University of Minnesota. In light of these historical considerations, the present study should be seen as part of a century-long planning process concerned with the public development of the Minneapolis riverfront.

Any planning study of the St. Anthony Falls Historic District faces certain methodological problems. Because of the District's considerable size and diversity, it is difficult to formulate detailed planning criteria that apply on a district-wide basis. Previous studies have addressed this problem by partitioning the area into smaller geographic units that are more susceptible to analysis and generalization. In 1977, for example, the City of Minneapolis and the Minnesota Historical Society jointly commissioned an architectural and historical survey that divided the region into a series of "sub-districts" on the basis of historical themes and building types. For the purposes of the present study, it seems advisable to adopt the same methodology. Following the example of the 1977 survey, the west bank of the St. Anthony Falls Historic District has been divided into three historically cohesive sub-districts: the Upper Riverfront, the Downtown Riverfront, and the West Bank Milling Districts. Each sub-district, and its affected sites, is discussed in detail below.30/

Upper Riverfront Sub-District

Description

The Upper Riverfront Sub-District (Figs. 6-10, 6-11, 6-12) extends from Hennepin Avenue to Plymouth Avenue in the St. Anthony Falls Historic District. Except for a few steam-powered sawmills along the shore, the area was largely undeveloped prior to the 1880's. During the last two decades of the nineteenth century, however, the region became a major distribution center for agricultural implements. North First Street was built up with large warehouses and small workingmen's hotels; the shoreline was blanketed with freight yards, depots, and spur-track facilities. After the decline of the warehousing industry in the 1930's, the region experienced substantial blight and decay, which are just beginning to be remedied by restoration and rehabilitation projects. Although most of the

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29/ Jeffrey A. Hess and Nicholas Westbrook, curators, "See the Power There Moving: Three Centuries at the Falls of St. Anthony," an exhibit prepared for the Minnesota Historical Society, 1980.

30/ MacDonald and Mack Partnership and others, "Restoration and Preservation Research and Planning Study, Saint Anthony Falls Historic District," unpublished report prepared for the Minneapolis Riverfront Development Coordination Board, 1979, p. 3. While the study gives two of the sub-districts different names, boundaries are the same in all cases.



Fig. 6-10 Upper Riverfront Sub-District, 1907. Photo courtesy Minnesota Historical Society.

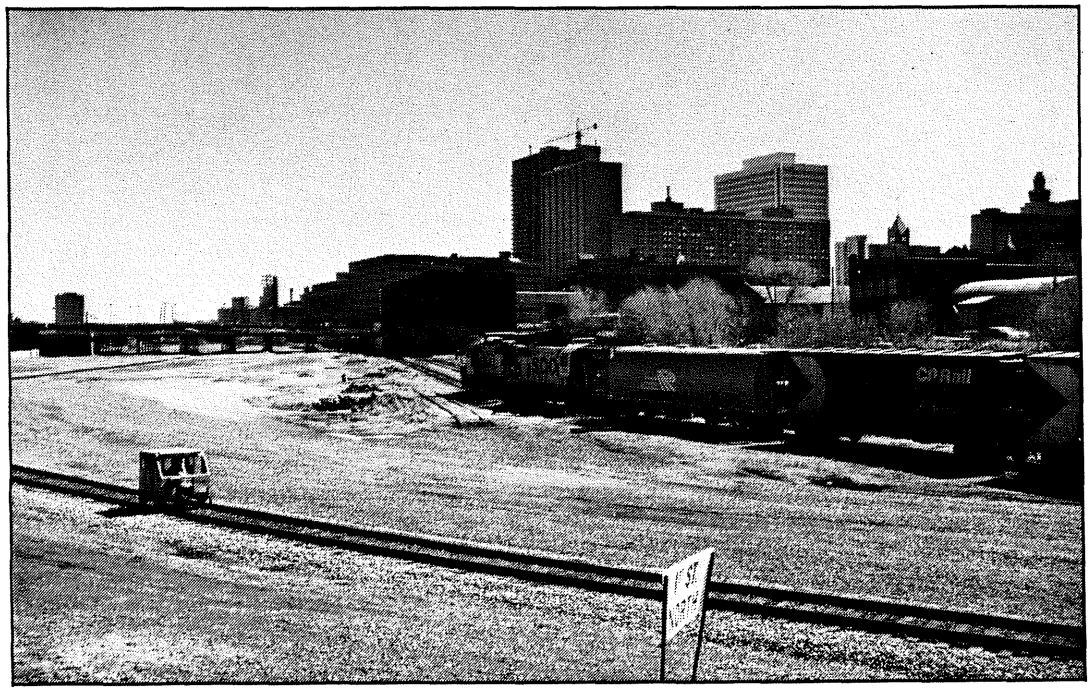


Fig. 6-11 Upper Riverfront Sub-District. 1981.

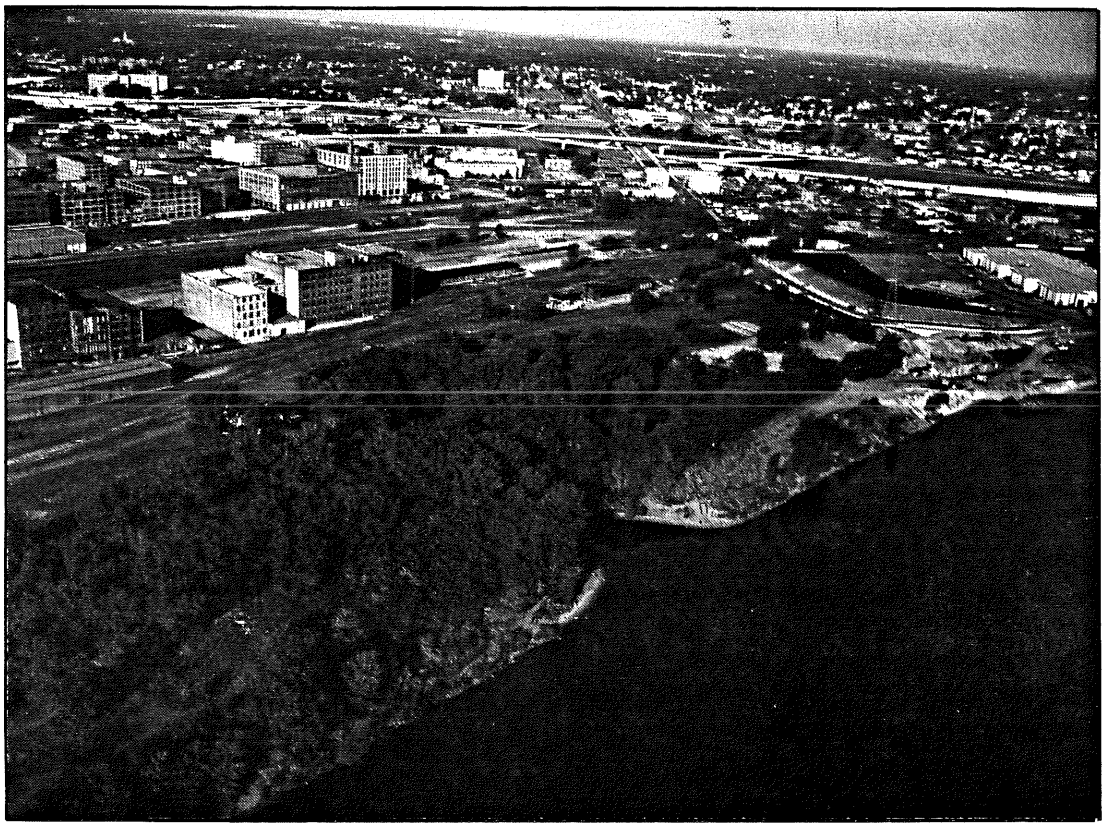


Fig. 6-12 Aerial View of Bassett Creek, Upper Riverfront Sub-District, 1981.

riverside trackage has been removed, the area's former warehousing function is clearly discernible from the many surviving warehouse and freight-depot structures.

Elements

1. Omaha Line Yard Office and Welfare Building (Fig. 6-13)
601-629 North River Street

Description. This structure is a one- and two-story, concrete block building, measuring 66 feet by 34 feet. It was originally constructed as a yard office and "welfare building" by the Omaha Line in 1949.31/ Situated near the riverbank just south of Bassett Creek, the building occupies the approximate site of a railroad-company coal-gas plant which was demolished in 1941.32/ Because of its isolated setting, the building does not significantly contribute to the streetscape of the St. Anthony Falls Historic District. In its architectural detailing and historical associations, the structure does not make significant contribution to the overall integrity of the District. The building therefore is not considered to be a significant structure.

31/ Minneapolis Department of Inspections, Building Permit A-28908.

32/ Minneapolis Department of Inspections, Building Permit I-5078.



Fig. 6-13 Omaha Line Yard Office and Welfare Building, 1981.

Potential Adverse Effects. New roadbed construction (Route Alternative 1A) will necessitate the demolition of the structure. Since the building is not a significant structure, its demolition does not create an adverse impact.

Alternatives That Would Avoid Adverse Effects. Route Alternative 2A would avoid this building.

Measures to Minimize Harm. No mitigation is required. Some brick pavers remain at the site of the coal-gas plant. These could be reused elsewhere in the project area.

2. Chicago, St. Paul, Minneapolis and Omaha Railway Company Freighthouse 730-832 North First Street (Fig. 6-14).

Description. Constructed in 1910, this one-story, brick freighthouse originally measured 512 feet by 30 feet. The northern half of the building was demolished after a fire swept the structure in 1954.33/ The building significantly contributes to the St. Anthony Falls Historic District by virtue of its streetscape siting and former freight-house function. The building is presently in a deteriorated condition.

33/ Minneapolis Department of Inspections, Building Permits B-869370, I-6971; Telegram to Offices of Chicago, St. Paul, Minneapolis and Omaha Railway Company, February 18, 1954, in Chicago and Northwestern Transportation Company Office, St. Paul, File No. 430-3-22.



Fig. 6-14 Chicago, St. Paul, Minneapolis and Omaha Railway Company Freighthouse, ca. 1921 (upper left corner). Bassett Creek is located right, center. Photo courtesy Minnesota Historical Society.



Fig. 6-15 Chicago, St. Paul, Minneapolis and Omaha Railway Company Freighthouse, with potential effects of Alternative 1A shown.

Potential Adverse Effects. New roadbed construction (Route Alternative 2A) will necessitate the demolition of at least part of the structure (Fig. 6-15).

Alternatives That Would Avoid Adverse Effects. Route Alternative 1A would avoid adverse effects upon this structure.

Measures to Minimize Harm. Apart from photographically recording the structure prior to its demolition, mitigation appears to be impossible. Relocation of the building is not considered practical nor feasible.34/

3. Security Warehouses A and B (Fig. 6-16)
324-334 North First Street

Description. Security Warehouse "A" was built in 1890 followed 2 years later by the construction of Warehouse "B." The nearly identical six-story buildings are of the classical revival style and were designed by Minneapolis architect Willian Channing Whitney. Warehouses "A" and "B" each measure 58 by 150 feet. The interior of Warehouse "B" was destroyed by fire in 1896 and was rebuilt in the same year. The exterior of Warehouse "B" appears to be unaltered. The buildings were constructed to serve as the Security Warehouse Company headquarters and played a significant role in the emergence of the implement trade in Minneapolis.35/

Both buildings are still being used for storage purposes and are in generally good condition.

Potential Adverse Effects. Route Alternatives 1A-2B, 2A-1B, and 2A-2B will affect these buildings (Fig. 6-17, 6-18). Use of the First Street Alternative will require the removal of the existing railroad bridge.

34/ According to historic preservation guidelines established by the U.S. Department of the Interior, photographic documentation is the standard mitigation of last resort; see Harley J. McKee, Recording Historic Buildings (Washington, D.C.: U. S. Department of the Interior, National Park Service, 1970). As McKee explains (pp. 11, 63), "A significant structure, imminently threatened, demands special attention. If a building is about to be demolished or its character changed by remodeling, it is important to have photographs made .... Photographs depict visual appearance in a way which written description, however good, cannot. They can be made quickly when necessary, as when a structure is to be demolished or is only temporarily available for study. Photographs cost much less than measured drawings, often doing things which drawings accomplish only with considerable labor." For standard photographic procedures in recording historically significant structures, see "Photographic Specifications for Contract Photographers," unpublished typewritten brochure prepared by Historic American Buildings Survey/Historic American Engineering Record, U.S. Department of the Interior, n.d.

35/ St. Anthony Falls Rediscovered p. 28.

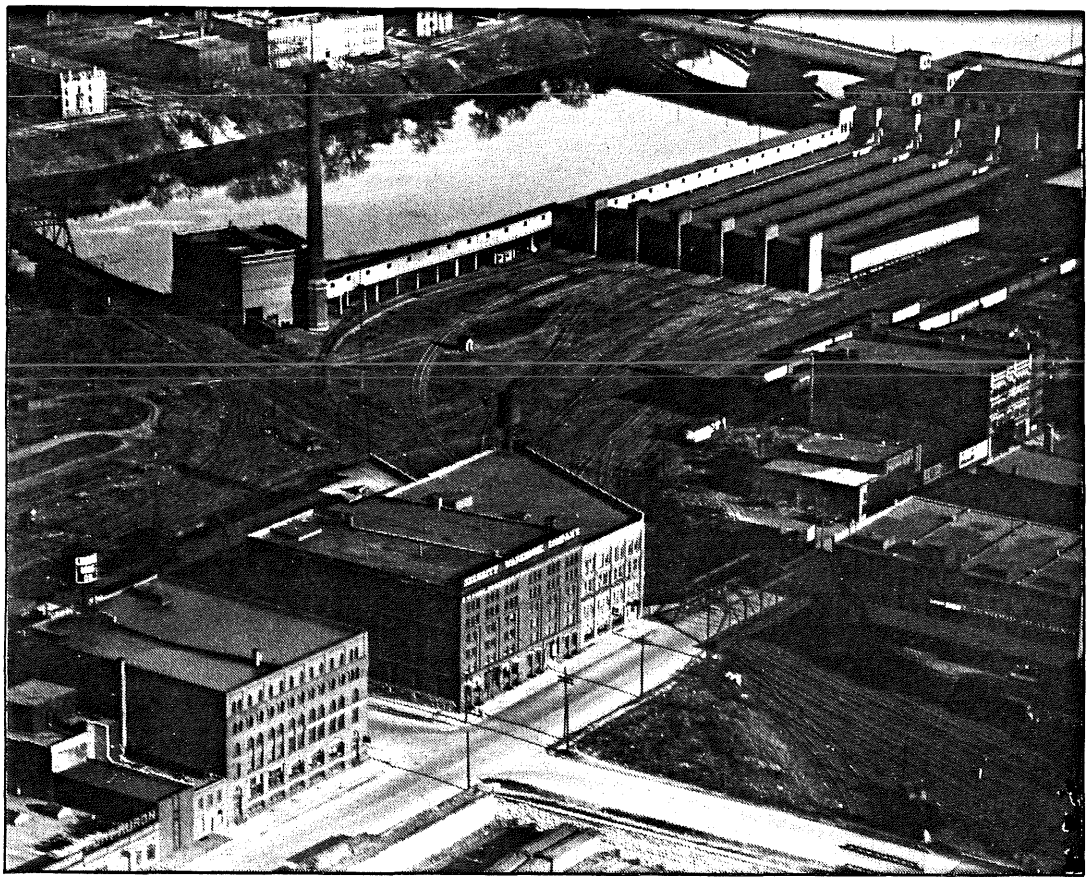


Fig. 6-16 Security Warehouses A and B, Deere Building and Hennepin County Bridge L8899, ca. 1921. Photo courtesy Minnesota Historical Society.

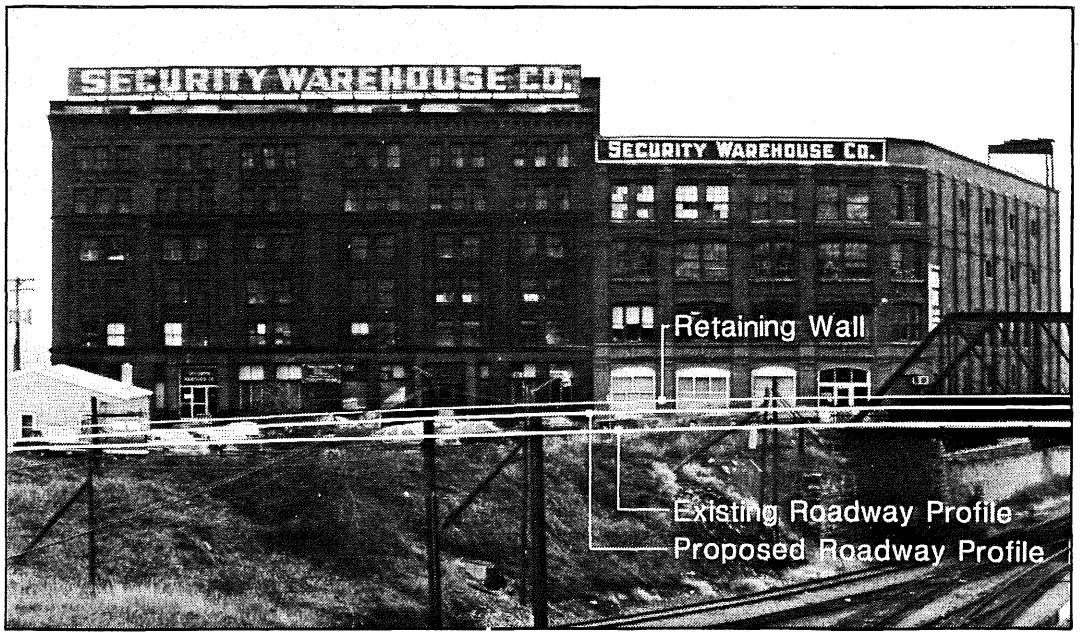


Fig. 6-17 Security Warehouses A and B, Deere Building, with potential effects of Alternatives 1A-2B, 2A-1B, and 2A-2B shown.

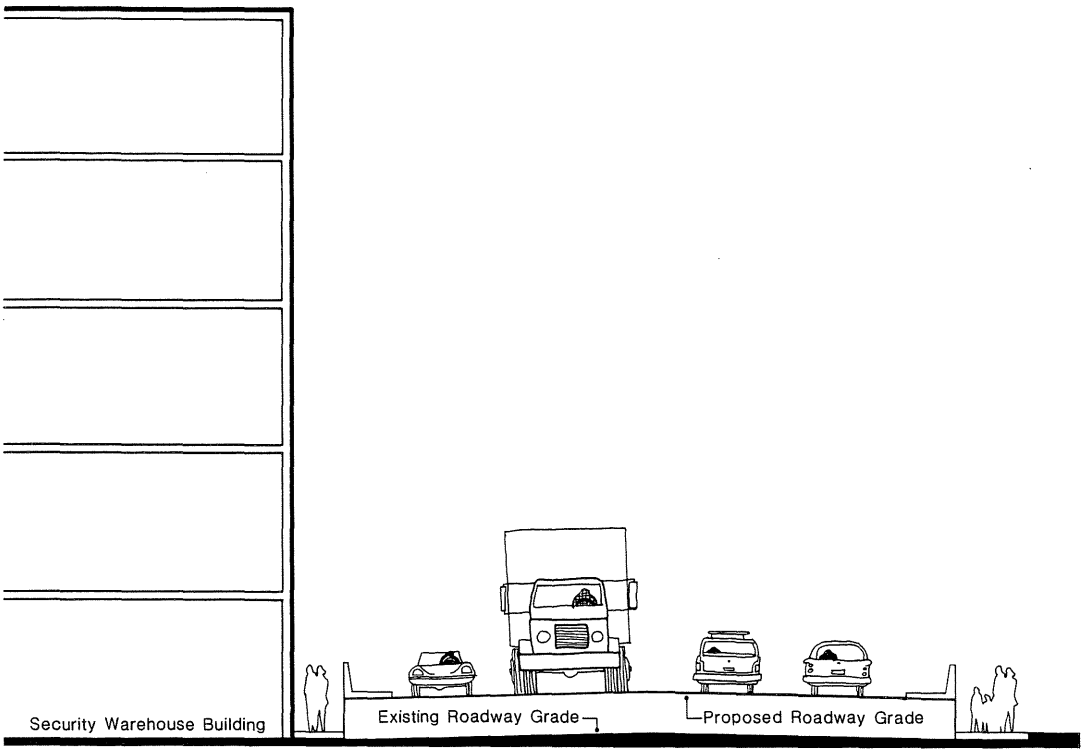


Fig. 6-18 Cross-section near Railroad Bridge L8899, Upper Riverfront Sub-District.

Construction standards require that the sight distance on First Street be greater than presently exists today. Along with replacement of the First Street bridge, grade modification would be required. This grade change would require that a 1-3 foot retaining wall be placed between the street and the sidewalk so that the appropriate street grade could be constructed. This retaining wall would rise above the existing sidewalk grade obscuring the bottom three feet of the Security Warehouse facade. The sidewalk would remain at existing grade and no material would be placed against the building itself.

The visual obstruction of a significant structure is an adverse effect.

Alternatives That Would Avoid Adverse Effects. Alternative 1A-1B would avoid adverse effects upon this building.

Measures to Minimize Harm. Apart from photographically recording the structures' relation to the streetscape prior to constructing the retaining wall, mitigation appears to be impossible.

4. Deere Building (Fig. 6-16)
310-316 North First Street

Description. The Deere Building, constructed in 1882, is the oldest surviving agricultural implement warehouse on North First Street. Deere and

Company, one of the important nineteenth century manufacturers of steel plows, was also involved in the wholesaling of other farm machinery. The company's decision to build a warehouse on North First Street signalled the emerging importance of Minneapolis as an implement supply center. Measuring 90 by 130 feet, the original structure stood four stories high. In 1891, the company hired architect Warren Howard Hayes to design a fifth story to harmonize with the building's general Queen Anne style. The building survives in generally good condition and is still used for storage purposes.

Potential Adverse Effects. This structure will be affected by alternatives 1A-2B, 2A-1B, and 2A-2B as a result of the removal and replacement of the First Street railroad bridge (Fig. 6-17, 6-18). As with Security Warehouses A & B, a three-foot retaining wall in front of the building would obscure the facade. The visual obstruction of a significant structure is an adverse effect.

Alternatives That Would Avoid Adverse Effects. Route Alternative 1A-1B would avoid adverse effects upon this structure.

Measures to Minimize Harm. Apart from photographically recording the structure's relation to the streetscape prior to constructing the retaining wall, mitigation appears to be impossible.

5. Hennepin County Bridge L8899 (Fig. 6-16)
North First Street and Third Avenue North

Description. Constructed in 1891 and renovated in 1949, this structure is a steel, high-truss Pratt bridge with a 20 foot span, steel-angle railings, plank flooring, and stone abutments.[36/] It carries automobile and pedestrian traffic across the Burlington Northern Railroad tracks in the old warehouse district. By virtue of its prominent trusswork and siting, the structure significantly contributes to the general streetscape of the St. Anthony Falls Historic District.

Potential Adverse Effects. Alteration in roadway grade (Route Alternatives 1A-2B, 2A-1B, and 2A-2B), will necessitate the removal of the bridge and its replacement by another structure. The destruction of a significant structure is an adverse impact.

Alternatives That Would Avoid Adverse Effects. Route Alternative 1A-1B would avoid impacts to this bridge.

Measures to Minimize Harm. Apart from photographically recording the structure prior to its demolition, mitigation appears to be impossible.

36/ Hennepin County Bridge L8899 Folder, Bridge Inventory Files, Minnesota Department of Transportation Building, St. Paul.

Potential Adverse Effects on Upper Riverfront Sub-District

Alternatives 1A, 1A-1B, and 1B do not adversely affect any significant standing structures. Since these routes follow a former rail corridor along the riverfront, they do not adversely affect any existing streetscapes. But the alternatives do entail substantial new roadbed construction, which may adversely affect buried archeological sites of historic and/or prehistoric significance.

Alternatives 1A-2B, 2A, 2A-1B, 2A-2B and 2B will have an adverse effect on four contiguous significant structures: Deere Building, Security Warehouses A and B, and Hennepin County Bridge L8899. Since these alternatives adversely affect an extended portion of the Sub-District, they adversely affect the integrity of the entire Historic District. These routes would also increase traffic volumes substantially, which is inconsistent with the City's plan for restoring the historic character of First Street in the Upper Riverfront. Section 5.2.3 describes in greater detail the traffic impacts of this alternative.

Alternatives That Would Avoid Adverse Effects

Alternatives 1A, 1A-1B, and 1B have no known adverse effects. The No-Action Alternative, which consists of designating existing streets and highways as the Great River Road Route, also has no adverse effects.

Measures to Minimize Harm

To mitigate the potential adverse impacts of Alternatives 1A, 1A-1B and 1B a trained archeologist should monitor the initial grading of the roadway in order to determine if archeological resources of historic and/or prehistoric significance will be affected. It is also essential that all design elements of the new roadway be compatible with the historic character of the riverfront setting. To further mitigate the possible impacts of new roadway construction, interpretive displays should be used to explain the area's previous historic patterns.

Apart from photographically recording the affected sites and streetscape, there appears to be no way of mitigating the adverse impact of Alternatives 1A-2B, 2A, 2A-1B, 2A-2B, and 2B.

Downtown Riverfront Sub-District

Description

The Downtown Riverfront Sub-District extends from Third Avenue South to Hennepin Avenue in the St. Anthony Falls Historic District (Figs. 6-20, 6-21). Ever since the construction of the first Hennepin Avenue Bridge in 1854, the area has functioned primarily as a commercial district. Because of major redevelopment, during the early twentieth century and extensive urban renewal in the 1950's-1960's, few significant structures survive. The last demolition of a significant structure occurred in 1979, with the razing of the Burlington Northern train station on Hennepin Avenue.

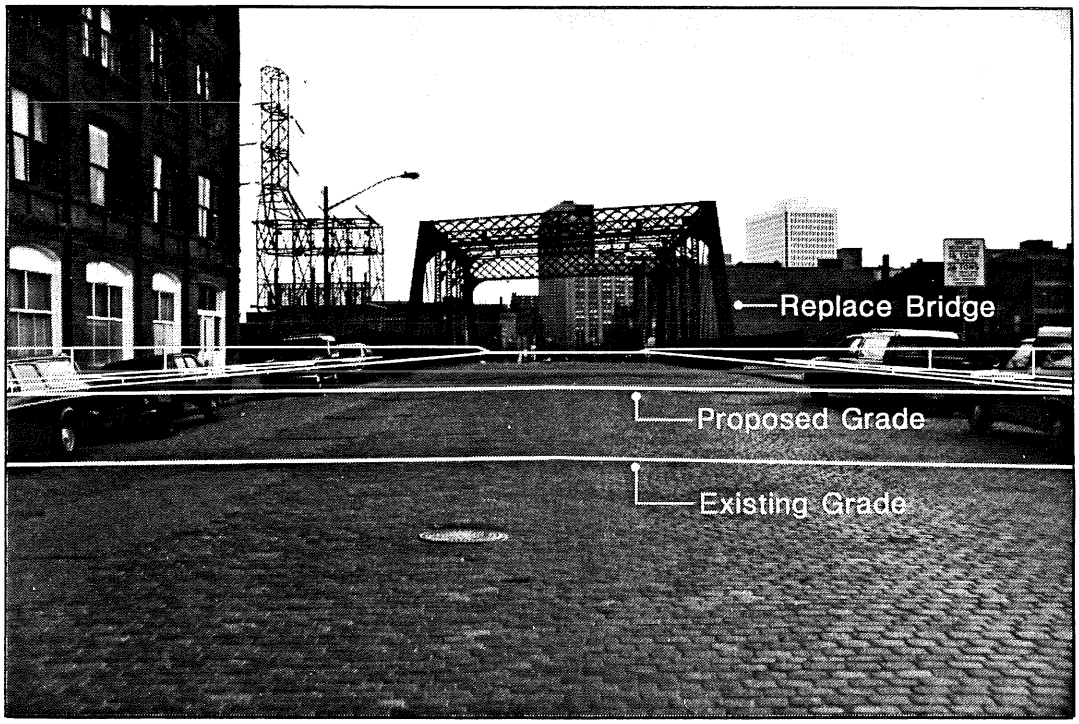


Fig. 6-19 Railroad Bridge L8899, with potential effects of Alternatives 1A-2B, 2A-1B and 2A-2B shown.

Elements

There are no individual buildings or sites of historical significance adversely impacted in the Downtown Riverfront Sub-District.

Potential Adverse Effects on Downtown Riverfront Sub-District

Alternatives 1B, 1B-2C, and 1B-3C do not adversely affect any significant standing structures. Since these routes follow a former rail corridor along the riverfront, they do not adversely affect any existing streetscapes. But the alternatives do entail substantial new roadbed construction, which may adversely affect buried archeological sites of historic and/or prehistoric significance.

Alternative 2B does not adversely affect any significant structures in this part of the St. Anthony Falls Historic District. Since the route utilizes South First Street without necessitating any new construction, it does not adversely affect any existing streetscapes. It should be pointed out, however, that the northern extension of Alternative 2B does seriously impact several significant structures in the Upper Riverfront Sub-District, and that these impacts jeopardize the overall integrity of the Historic District.



Fig. 6-20 Downtown Riverfront Sub-District, ca. 1869. Photo courtesy Minnesota Historical Society.



Fig. 6-21 Downtown Riverfront Sub-District, 1981.

Alternatives That Would Avoid Adverse Effects

Alternatives 1B, 1B-2C, and 1B-3C have no known adverse effects. The No-Action Alternative, which consists of designating existing streets and highways as the Great River Road Route, also has no adverse effects.

Measures to Minimize Harm

To mitigate the potential adverse impacts of Alternatives 1B, 1B-2C, and 1B-3C, a trained archeologist should monitor the initial grading of the roadbed in order to determine if archeological resources of historic and/or prehistoric significance will be affected. It is also essential that all design elements of the new roadway be compatible with the historic character of the riverfront setting. To further mitigate the possible impacts of new roadway construction, interpretive displays should be used to explain the area's previous historic patterns.

West Side Milling Sub-District

Description

The West Side Milling Sub-District extends from Third Avenue South to Tenth Avenue South in the St. Anthony Falls Historic District (Figs. 6-22, 6-23, 6-24). The area's commercial development dates from the mid-1850's when the Minneapolis Mill Company assumed ownership of the shoreline and began an extensive program of waterpower improvements. Adapting New England milling technology to local conditions, the company designed a waterpower system with three basic engineering features: (1) a dam located above the falls, which diverted water toward the shore; (2) a mill pond located near the foot of Fifth Avenue South, which penned the waterpower prior to distribution; and (3) a power canal through South First Street, which distributed the waterpower to millsites by means of underground tunnels, or "raceways." The system was fully operational by the mid-1860's, with a power canal approximately 950 feet long, 50 feet wide, and 14 feet deep. In addition to supplying the district with waterpower, the South First Street Canal also functioned as the area's main transportation artery. By 1870, its surface had been covered with wooden planking to serve as the central access road to the mills. Still later in the 1880's, it was surmounted by a railroad trestle for the shipping and receiving of flour and grain.

After an initial period of industrial diversification, almost of the the area's millsites came under the control of flour milling interests, which by 1880 had constructed about two dozen flour factories along the South First Street Canal. For the next half century, this densely industrialized area was the world's leading producer of flour. During the 1930's, however, significant changes in American tariff policy, freight rates, and wheat quality undermined the area's competitive position in the national market. As the Minneapolis milling companies transferred their operations to Buffalo and Kansas City, many of the area's mills, and all of the railroad trestles, were abandoned and demolished. In 1965 the last flour mill in the district suspended operations. This final shutdown resulted from the construction of the Upper St. Anthony Falls Lock, which closed off the power canal from the river.

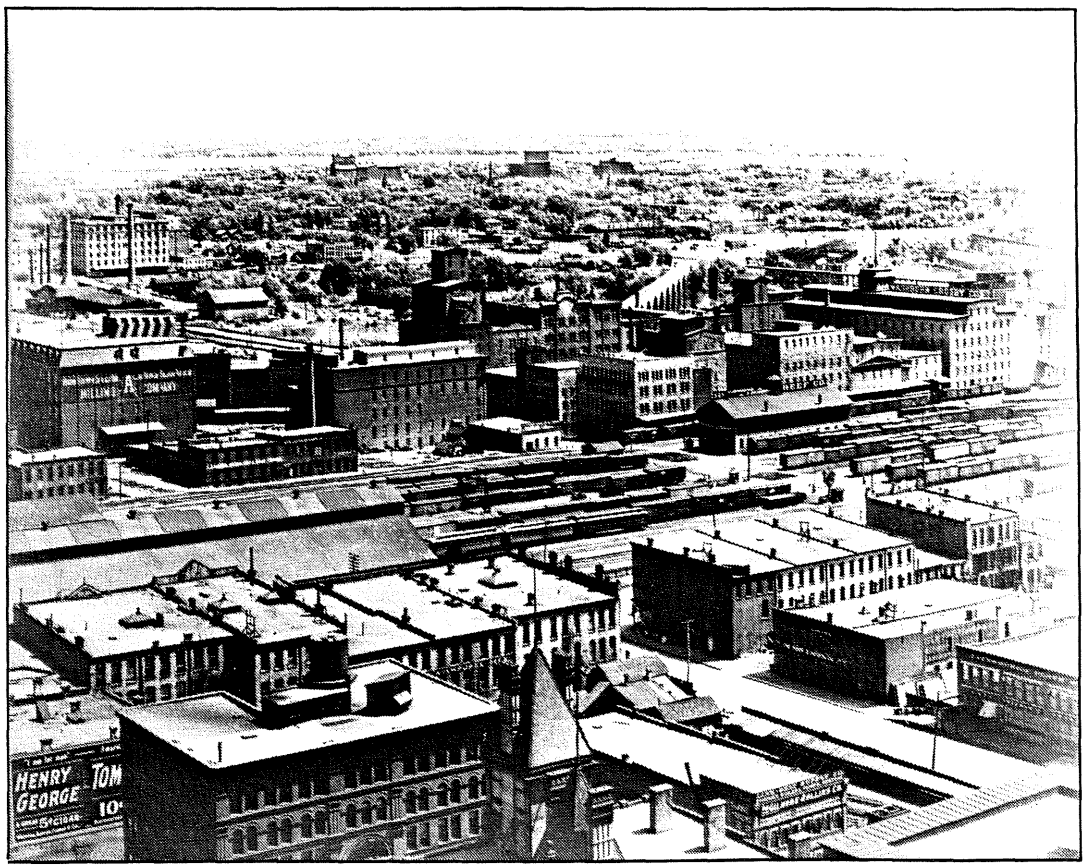


Fig. 6-22 Minneapolis West Side Milling Sub-District, date unknown. Photo courtesy Minneapolis Public Library.

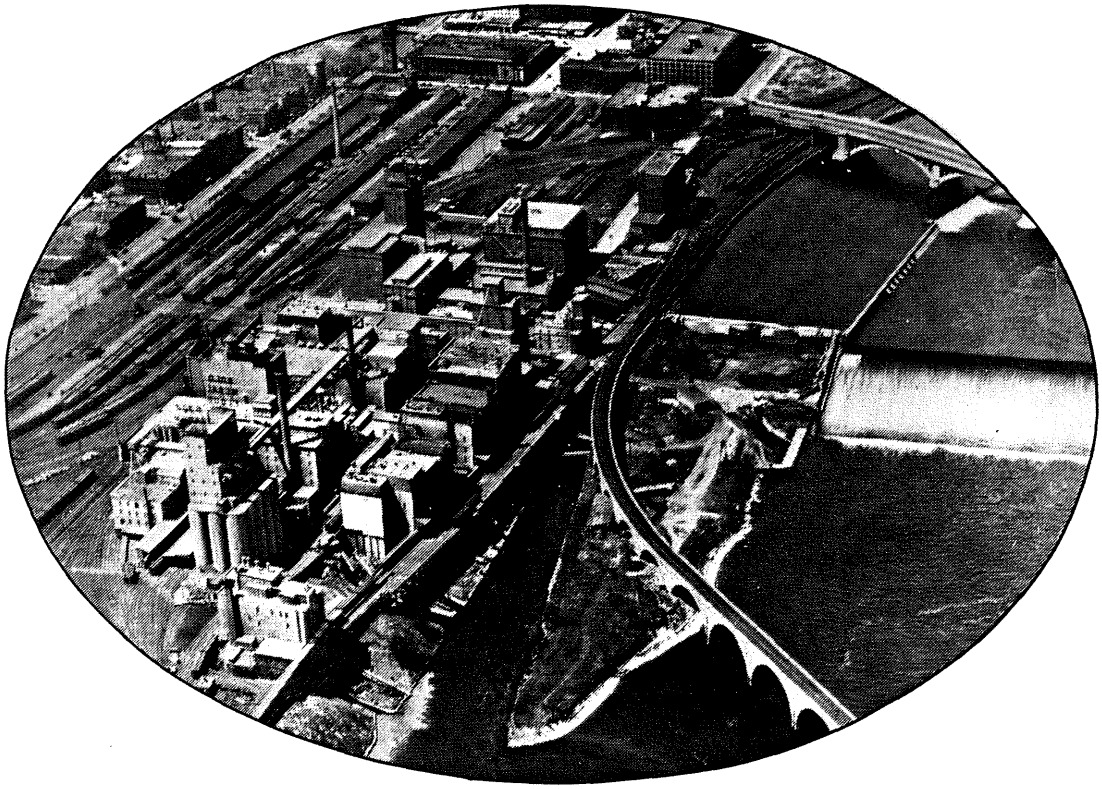


Fig. 6-23 Minneapolis West Side Milling Sub-District, ca. 1935. Photo courtesy Minnesota Historical Society.

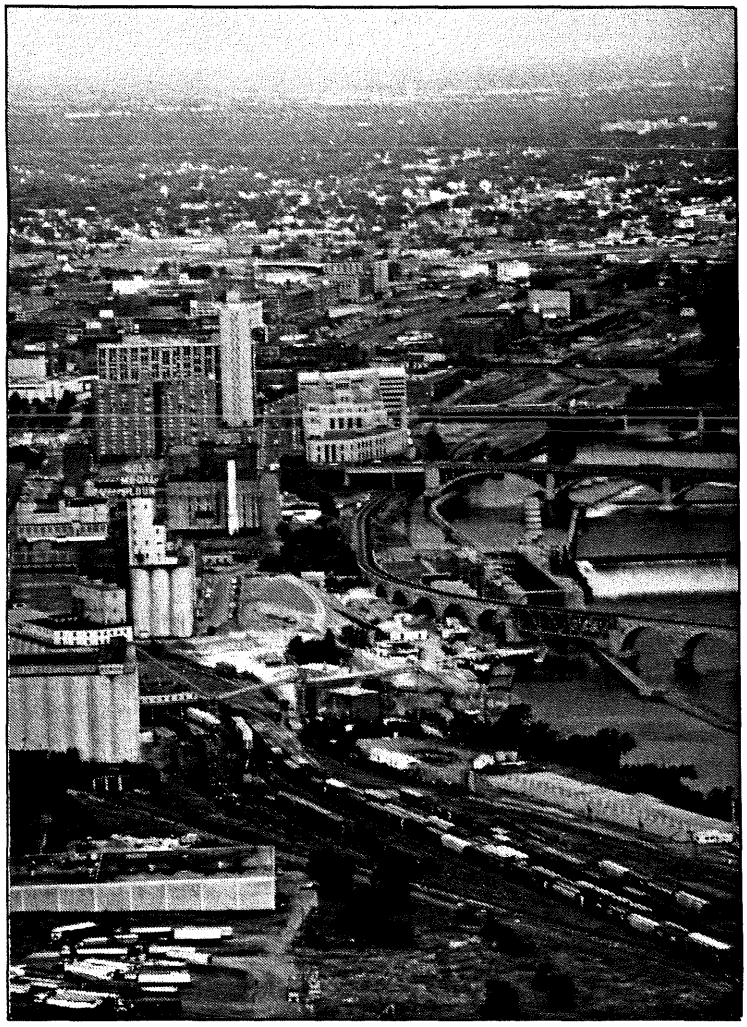


Fig. 6-24 Aerial view, Minneapolis West Side Milling Sub-District, 1981.

Today there is little evidence that this area was once one of the nation's most important industrial sites. Only a half-dozen mill buildings remain. The South First Street Canal -- now known simply as South First Street -- has been filled in and paved over. Most of the former mill foundations by the river have been covered by a sand and gravel storage ground. Although few structures survive, the City of Minneapolis has recognized the area's national historical significance by establishing careful guidelines for its perservation and redevelopment.

Elements

1. Hennepin County Bridge L8900 (Fig. 6-25)
South First Street near Third Avenue South

Description. Constructed in 1891 and renovated in 1955, this steel, through-girder bridge carries automobile and pedestrian traffic across the Chicago and Northwestern Railroad tracks in the old West Side Milling

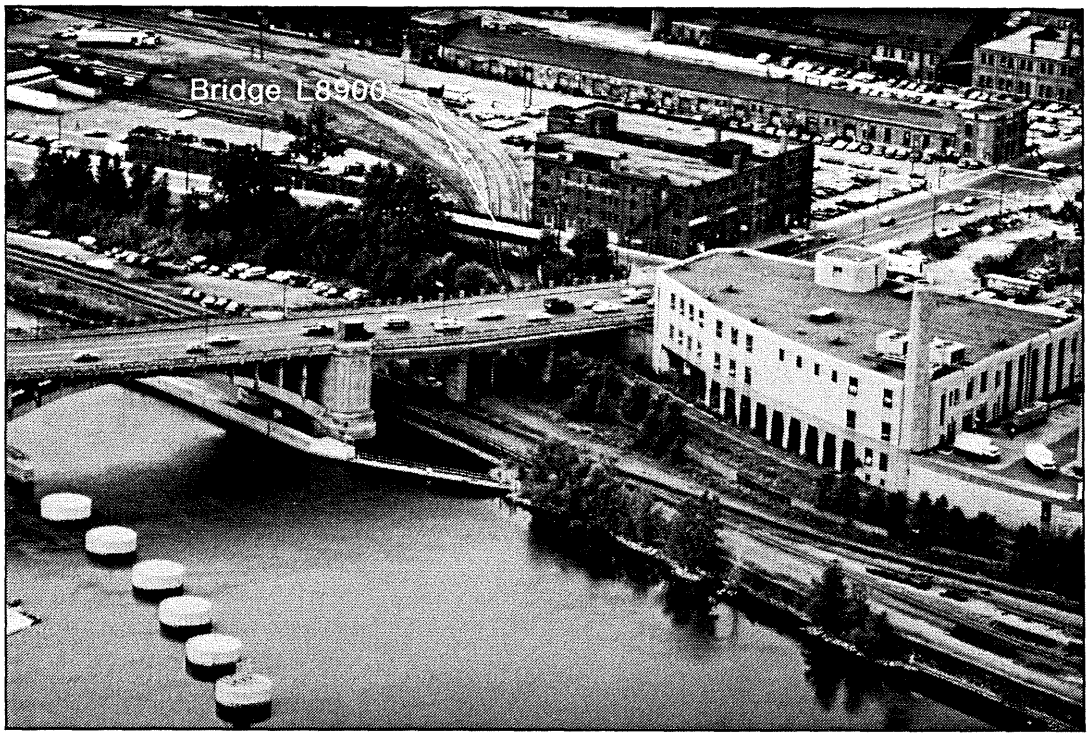


Fig. 6-25 Aerial view of Hennepin County Bridge L8900, 1981.

District. The bridge has an 81-foot span, steel-angle railings, steel-grid and concrete flooring, and stone abutments.37/ Given its unobtrusive design, the bridge is not a significant element in the St. Anthony Falls streetscape. But the structure does materially contribute to the area's overall historic character by helping to delineate the original railroad patterns of the milling district. The structure is therefore significant for its functional rather than its stylistic features.

Potential Adverse Effects. Alterations in roadway grade (Route Alternatives 1B-2C West, 2B-1C, 2B-2C and, 2B-3C) will necessitate the removal of the bridge and its replacement by another structure (Fig. 6-26). The destruction of a significant structure is an adverse impact.

Alternatives That Would Avoid Adverse Effects. Route Alternatives 1B-1C, 1B-2C East, and 1B-3C would avoid adverse effects.

Measures to Minimize Harm. Since the bridge's significance is largely functional rather than stylistic, the adverse impact of its demolition can be partially mitigated by replacing the structure with another bridge, either pedestrian or vehicular, of equally unobtrusive design. A photographic record of the structure should also be made prior to its demolition.

37/ Hennepin County Bridge L8900 Folder, Bridge Inventory Files, Minnesota Department of Transportation Building, St. Paul.

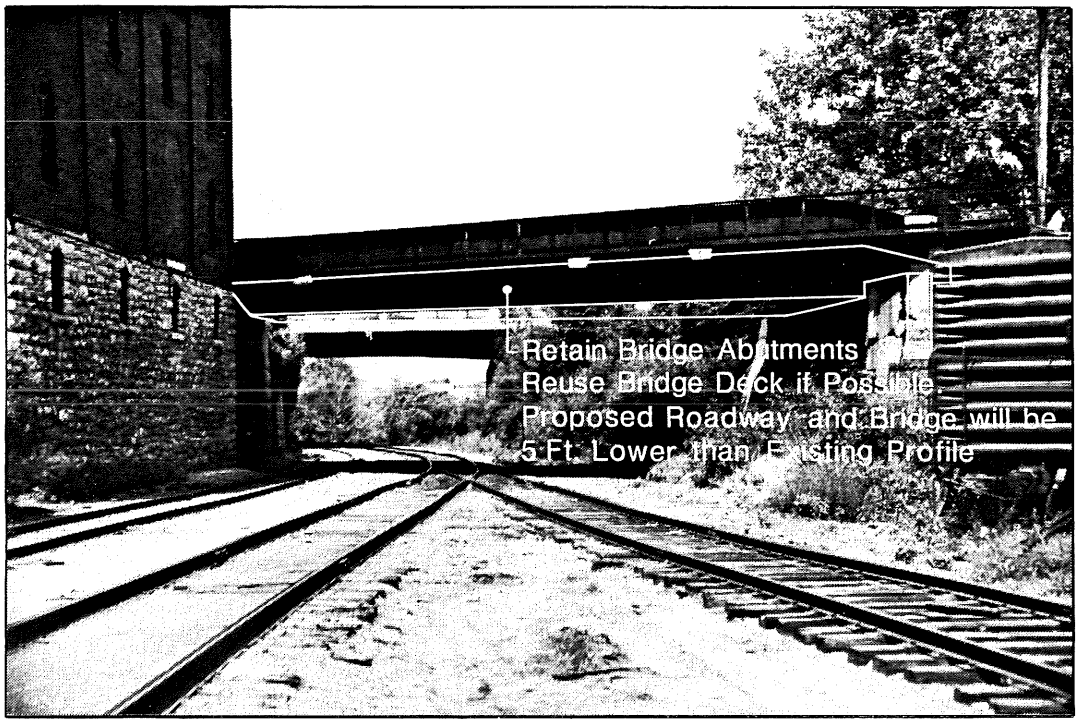


Fig. 6-26 Hennepin County Bridge L8900, with potential effects of Alternatives 1B-2C West, 2B-1C, 2B-2C, and 2B-3C shown.

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2. Minneapolis Eastern Railway Engine House (Fig. 6-27)
333 South First Street

Description. The Minneapolis Eastern Railway organized in 1878, was essentially a "switching line" which shuttled boxcars of grain and flour to and from the mills. During the Minneapolis Eastern's early years, the railroad operated out of several small brick and frame structures in the 300 block of South First Street. In August, 1914, however, the company consolidated its physical plant by constructing a large brick building to serve as a combination engine house, office building and fuel storage area. The new facilitly was erected on the site of the company's old office building, a small brick structure built in 1902. Apparently the interior walls of this first building were incorporated into the design of the new structure. The Railway Company ceased operation in 1972 and the engine house stood idle until it was converted to a restaurant known as the First Street Station in 1975.38/ Remodeling has been done with a sensitivity to the building's original architecture and has contributed significantly to the revitalization of the area.

Potential Adverse Effects. Route Alternatives 1B-2C West, 2B-1C, 2B-2C and 2B-3C would require the reconstruction of that part of South First Street passing in front of this building. The reconstruction would require lowering the existing street grade by 2 feet, thereby creating a change in

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38/ St. Anthony Falls Revisited, pp. 44-45.



Fig. 6-27 Minneapolis Eastern Railway Engine House, 1981. This building is presently a restaurant called First Street Station.

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the relationship between the street and the building (Fig. 6-28). The sidewalk would remain at existing grade and be separated from the street by a retaining wall. Although the retaining wall would not obscure the building's facade, the alteration in streetscape relations might represent an adverse effect.

Alternatives That Would Avoid Adverse Effects. Route Altervatives 1B-1C, 1B-2C East, and 1B-3C would avoid adverse effects.

Measures to Minimize Harm. Photographically recording the existing building-street relationship would mitigate the visual obstruction of this building.

3. Stone Arch Bridge (Figs. 6-23, 6-24, 6-29)

Description. The Stone Arch Bridge diagonally spans the Mississippi River connecting the East and West Side Milling Districts. When James J. Hill announced the construction of the bridge in 1881 he declared that it would be "the finest structure of its kind on the continent."39/ Hill intended

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39/ Kane, p. 147.

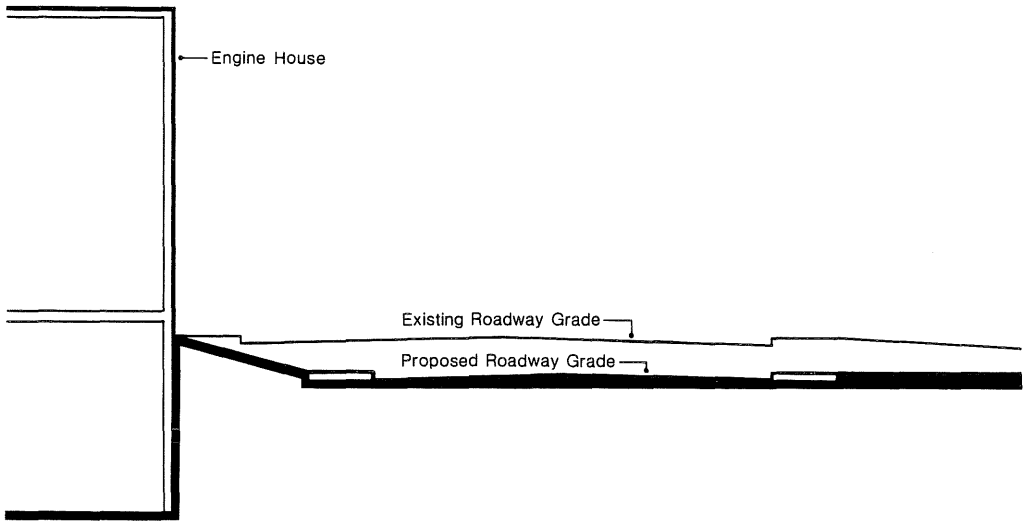


Fig. 6-28 Potential adverse effects of alternatives 1B-2C West, 2B-1C, 2B-2C and 2B-3C on the Minneapolis Eastern Railway Engine House.

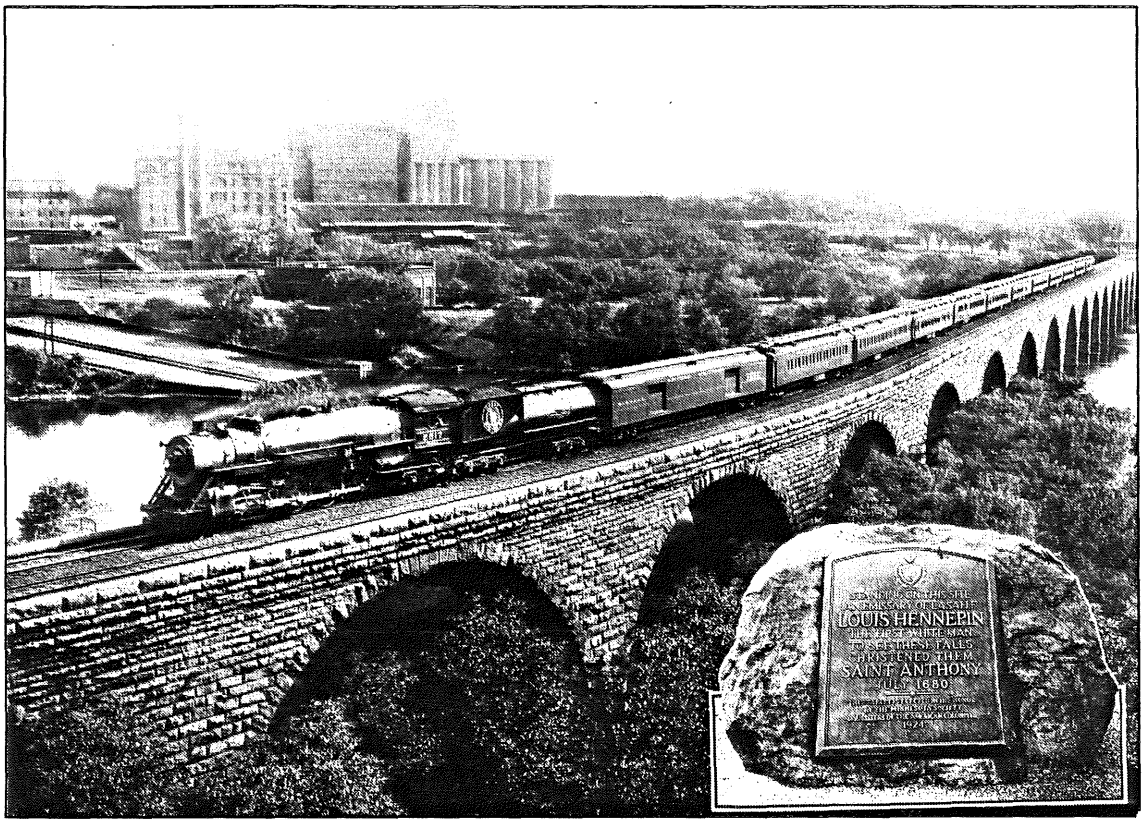


Fig. 6-29 Stone Arch Bridge, date unknown. Photo courtesy Minnesota Historical Society.

the bridge to be a major architectural and engineering monument of unique design. At the time of its completion in 1883, it was the largest stone span across the Mississippi River. The bridge is 2,100 feet long and consists of 23 arches.40/ In 1961-1963 during the construction of the St. Anthony Falls Upper Lock, two arches of the bridge were removed and replaced with a steel truss to allow passage of barge traffic. Although no longer in use for railroad purposes, the bridge is still in sound structural condition.

Potential Adverse Effects. Alternative 1C would require the construction of a 150 foot-long retaining wall directly in front of the Stone Arch Bridge in the vicinity of Portland Avenue (Fig. 6-30). This retaining wall at one point would be 10 feet high and would significantly obscure the view of the bridge from South First Street. The visual obstruction of a significant structure is an adverse impact.

Alternatives That Would Avoid Adverse Effects. Alternatives 2C and 3C would avoid adverse effects upon the Stone Arch Bridge.

40/ U.S. Coast Guard Bridge Div., St. Louis, Missouri. Modification of Railroad Bridges across Mississippi River at Minneapolis, Minnesota 853.0, 853.65, 854.40 and 855.80 miles upstream from mouth of Ohio River.

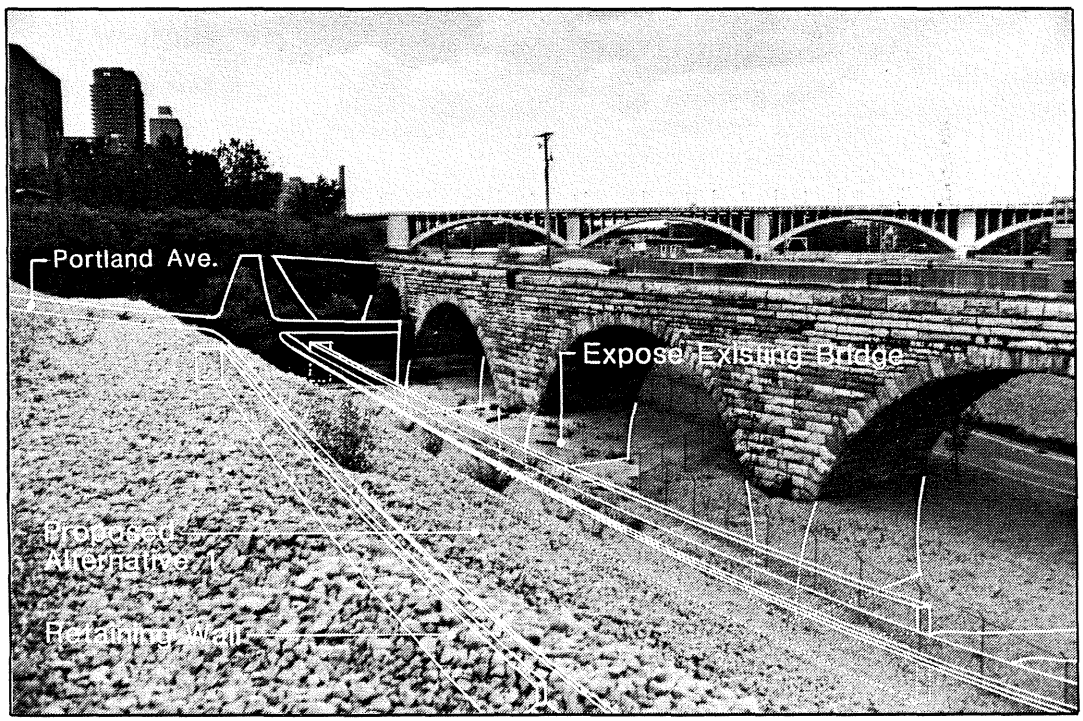


Fig. 6-30 Stone Arch Bridge with potential effects of Alternatives 2B-1C, 1C, 1B-1C, 1C-1D, 1C-2D, and 1C-3D shown.

Measures to Minimize Harm. Apart from photographically recording the appearance of the Stone Arch Bridge prior to the construction of Alternative 1C, there are no other measures to minimize the visual obstruction of the bridge.

4. South First Street Canal Bridge (Figs. 6-31, 6-32, 6-33).
South First Street near Portland Avenue

Description. This structure originally spanned the main headrace of the South First Street power canal, which distributed waterpower to millsites in the old West Side Milling District. It was apparently constructed about 1885 when the Minneapolis Mill Company deepened the canal to increase the area's waterpower.41/ The structure's original configuration and subsequent modifications are unknown. When the canal was filled in and paved over in the early 1960's, at least part of the bridge was left standing. At present, the bridge unobtrusively blends into the milling district streetscape. The only visible evidence of its existence is a stretch of exposed pink granite paving stones which apparently marked the approach to the structure. Since the bridge is an important surviving artifact of the milling district's power-distribution system, it significantly contributes to the St. Anthony Falls Historic District.

Potential Adverse Effects. Construction of alternatives 1B-2C West, 1B-2C East, and 2B-2C may require the removal of what remains of the canal bridge if it is structurally unsound. The extent of the impact is difficult to determine at this point because the former canal has been filled to some extent. Granite paving stones from the approach to the bridge are still visible on First Street. These would be removed as a part of the reconstruction project. Other impacts to the bridge will need to be determined at a later date prior to construction, if this alternative is selected. The destruction of a significant structure is an adverse impact.

Alternatives That Would Avoid Adverse Effects. Route Alternatives 1B-1C, 1B-3C, 2B-1C, and 2B-3C, would not affect the First Street Canal Bridge.

Measures to Minimize Harm. Since the bridge's significance appears to be largely functional rather than stylistic, the adverse impact of its demolition can be partially mitigated by its replacement with a structure of similar design. It would be especially valuable if such replacement were accompanied by interpretive features that explain the purpose and delineate the former route of the South First Street Canal. A photographic record of the bridge should also be made prior to its demolition.

Potential Effects on West Side Milling Sub-District

Alternatives 1B-1C, 1C, 1C-1D, 1C-2D, 1C-3D, and 2B-1C will cause the visual obstruction of the Stone Arch Bridge, (Fig. 6-30) which is an adverse impact on the structure. Since these alternatives jeopardize one of the most important visual landmarks in the Sub-District, they adversely affect the integrity of the entire Historic District.

41/ Kane, pp. 119-120; see also Atlas of Minnesota, vol. 4 (Rascher Insurance Map Publishing Company, 1892), plate 367, in Minnesota Historical Society.

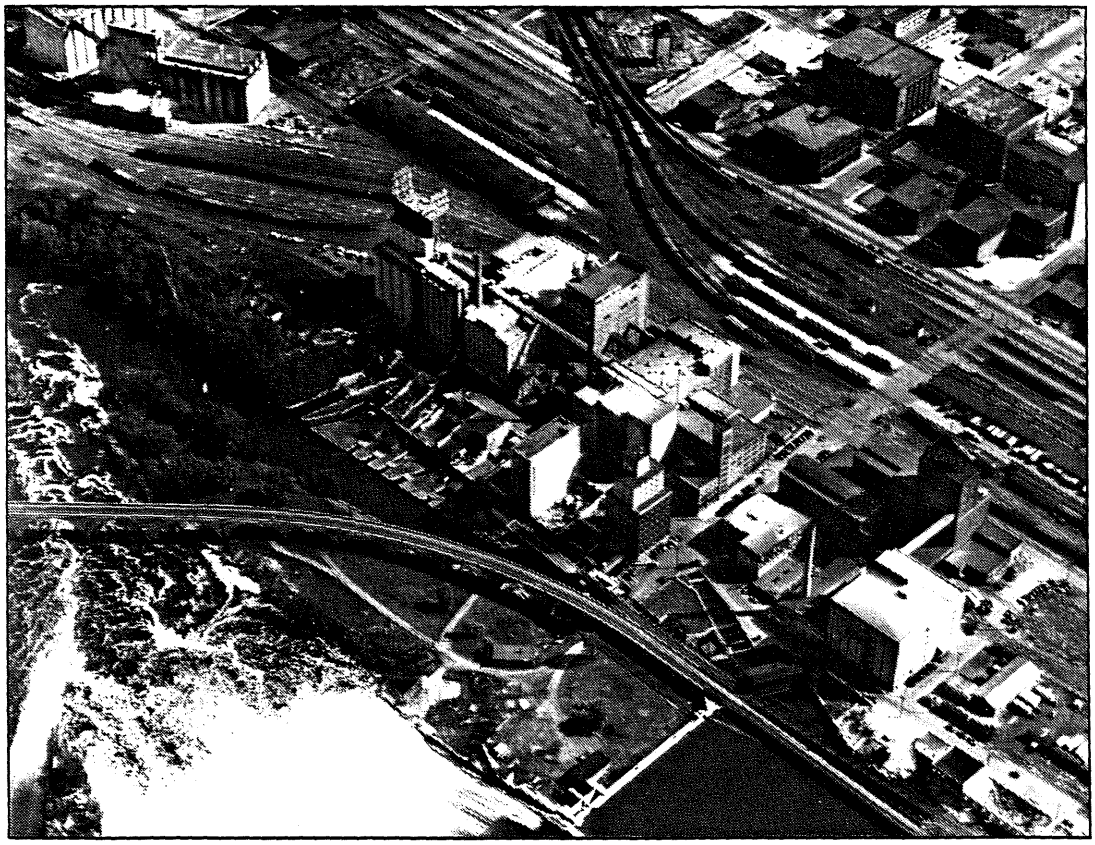


Fig. 6-31 Aerial view of South First Street Power Canal and Mill Ruins, ca. 1945. Photo courtesy Minnesota Historical Society.



Fig. 6-32 South First Street Power Canal and Bridge, 1981.



Fig. 6-33 Aerial view, First Street Canal Bridge, Minneapolis West Side Milling Sub-District, 1981.

Alternatives 2B-2C, 2C, 2C-1D, 2C-2D, and 2C-3D involve the remodeling and extension of South First Street. As part of the remodeling process, all of the routes will adversely affect Hennepin County Bridge No. L8900, the Minneapolis Eastern Railway Engine House and the South First Street Canal Bridge, but these impacts do not appear to be sufficiently serious to jeopardize the overall integrity of the Historic District (Figs. 6-26, 6-28 and 6-33). It is somewhat more difficult, however, to assess the remodeling's impact on the streetscape in general. Before it is possible to evaluate an impact, it is necessary to identify a site's significant characteristics. Unfortunately, the significant qualities of South First Street are not readily discernible from a visual inspection of the existing streetscape.

In its present configuration, South First Street is largely the artifact of an extensive demolition program that began in the mid-1930's and terminated in the mid-1960's. During this period, over a dozen flour mills were razed, the South First Street Canal was filled in and paved over, and a long row of mill foundations between the canal and the river was buried beneath sand and gravel (Figs. 6-23, 6-24, 6-31, 6-34, 6-35). Although these occurrences shaped the existing streetscape, they obliterated and obscured several historical features that give significance to the surviving fabric of the Historic District.

In order to evaluate the historical significance of South First Street, it is necessary to look beyond the existing streetscape and examine the street's historical evolution. During the 1850's, the street was an open power canal; during the 1860's-1870's, it was both a canal and a plank-covered roadway serving the mills on either side; during the 1880's-1940's, it was a simultaneously a canal, a roadway, and a through-rail corridor to southeast Minneapolis (Figs. 6-36, 6-37 and 6-38), and then finally, during the 1960's-1980's, it became simply a macadam-covered service road for the area's surviving buildings. From this historical overview, it appears that South First Street is most significant for its former waterpower technology and continuing transportation functions. In both technological and architectural terms, these two functions served to integrate and unify the milling district. Historically, all of the major mills fronted on South First Street. It was the spine which gave shape to the district.

Although the alternatives under discussion (2B-2C, 2C, 2C-1D, 2C-2D and 2C-3D) call for the renovation of South First Street, they will not alter the historic route of the street. North will they significantly affect its grade or increase its dimensions. Provided that the design elements are sympathetic to the area's surviving architecture, the remodeling of South First Street does not appear to endanger the historically significant qualities of the Historic District. To the contrary, by enhancing the street's utility as an access road to the area's buildings, the remodeling will affirm the street's historically significant role as a unifying element in the district. This role would become even clearer if the remodeling were accompanied by the excavation, stabilization, and interpretation of a portion of the power canal and the adjacent mill foundations which are now buried beneath sand and gravel.

The alternatives also call for the extension of South First Street by means of new roadbed construction at the easternmost end of the Historic District. These alternatives do not adversely affect any significant standing structures. And since they follow former rail corridors, they do not impinge upon any existing streetscapes. They will, however, transform South First Street into a vehicular through street. Unless the design of these alternatives respects the low-speed, unifying nature of South First Street, this transformation could create an adverse impact on the Historic District. This concern for a potential adverse impact is displayed in a letter from the SHPO dated September 14, 1982 (Section 7.1.2.).

Alternative 2B-3C involves the remodeling of two blocks of South First Street and one block of Fifth Avenue South. Although the remodeling will adversely affect Hennepin County Bridge No. L8900, this impact does not

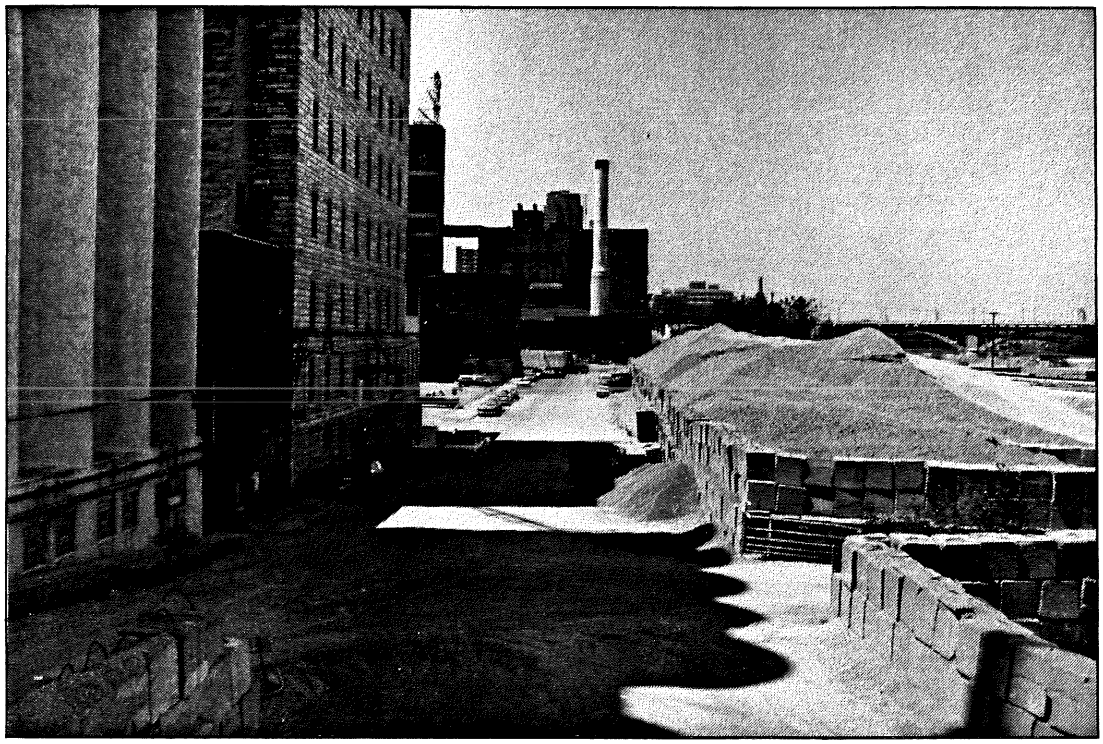


Fig. 6-34 South First Street looking toward Crown Roller Mill, 1981.

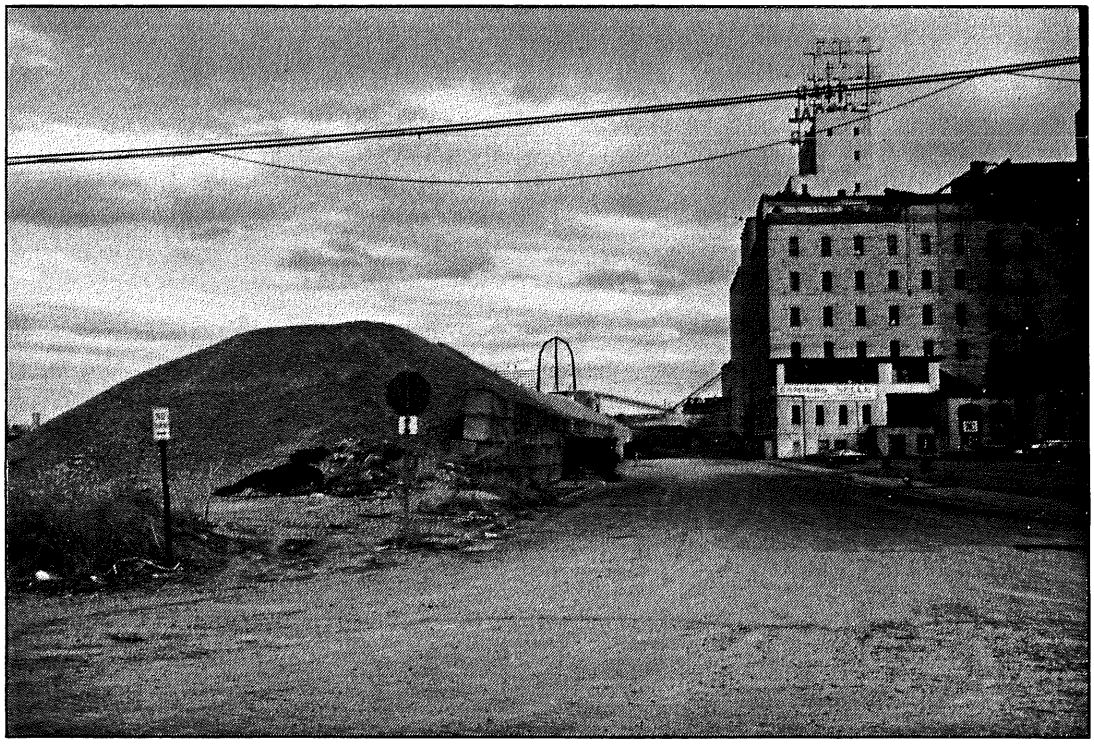


Fig. 6-35 South First Street, 1981. Washburn Crosby "A" Mill is on right.

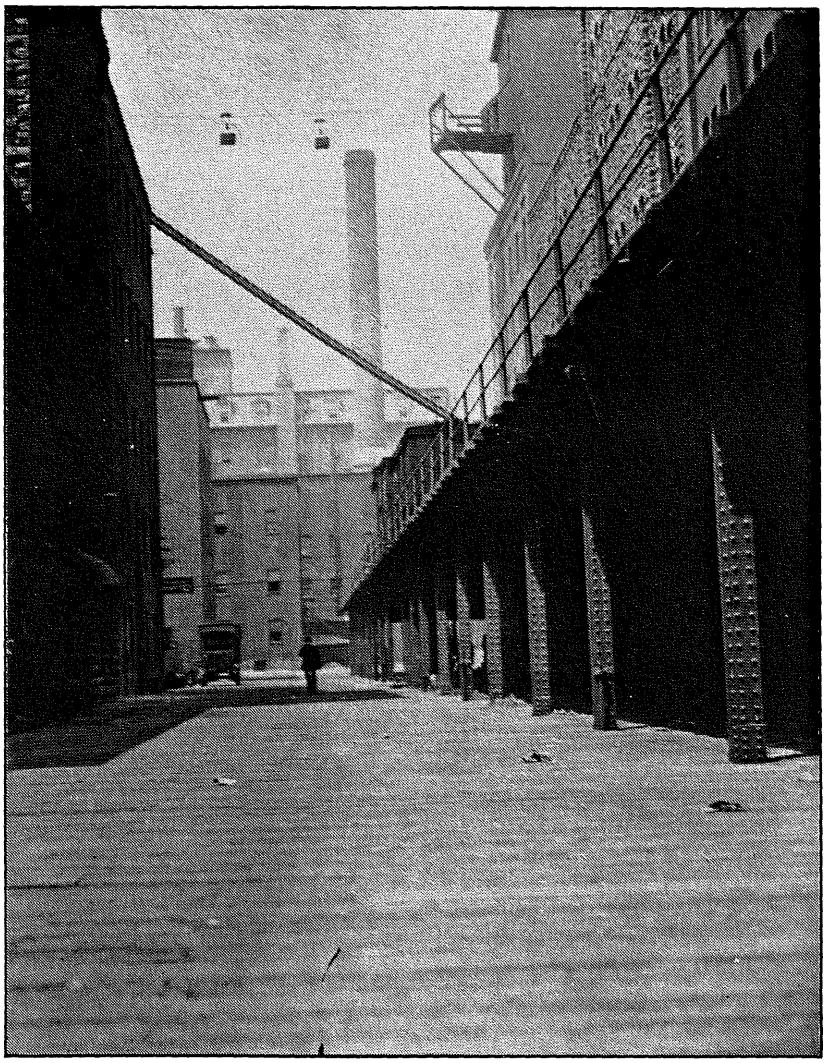


Fig. 6-36 West Side Milling Sub-District, South First Street, date unkown. Crown Roller Mill is in the center background. Photo courtesy of Hennepin County Historical Society.

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appear to be sufficiently serious to jeopardize the overall integrity of the Historic District. The remodeling of South First Street and Fifth Avenue South will not alter the historic routes of the streets. Nor will it significantly alter their grades or increase their dimensions.

Provided that the design elements are sympathetic to the area's surviving architecture, this Alternative 2B-3C does not appear to endanger the historically significant qualities of the Historic District. The designation of this alternative as the Great River Route may, however, deprive the Historic District of the beneficial effects associated with the South First Street routes (2B-2C, 2C, 2C-1D, 2C-2D, 2C-3D).

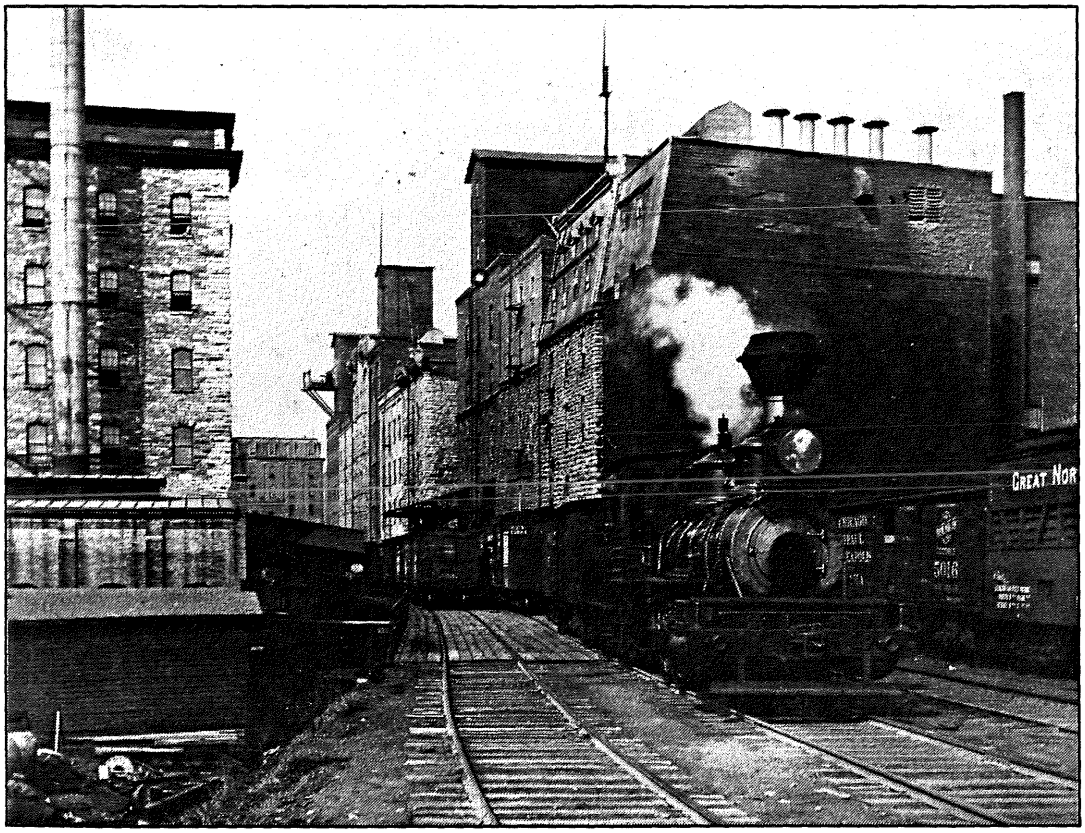


Fig. 6-37 South First Street Canal Trestle between 7th and 8th Avenues, Crown Roller Mill in background, 1897. Photo courtesy of Minnesota Historical Society.



Fig. 6-38 South First Street, Washburn-Crosby "A" Mill Center, date unknown. Photo courtesy of Hennepin County Historical Society.

Alternatives 3C, 3C-1D, 3C-2D, and 3C-3D involve major new roadway construction which, for the most part, will extend existing portions of South Second Street. These alternatives do not adversely affect any significant standing structures. And since they follow former rail corridors, they do not impinge upon any existing streetscapes. Provided that the design elements are sympathetic to the historic setting of the milling district, they do not appear to endanger the historically significant qualities of the Historic District. The designation of this alternative as the Great River Road Route may, however, deprive the Historic District of the beneficial effects, associated with the South First Street routes (2B-2C, 2C, 2C-1D, 2C-2D, 2C-3D).

Even if Alternative 3 were selected, South First Street would remain in place as a city street to provide access to the adjacent commercial/residential developments. Such access would be required for business and residential purposes as well as for service, maintenance and emergency vehicles. None of the alternatives under consideration includes the abandonment of South First Street. All alternatives recognize the need for and function of South First Street as a local street. When the West Side Mills were in full operation, South First Street served as a major vehicular link for rail, wagon or truck and pedestrian traffic. (Figs. 6-36, 6-37, and 6-38). Only within the recent past (since 1945) has the street ceased to function in its historical context. (Figs. 6-34 and 6-35). Figure 6-39 is a conceptualization of the various alternatives through the Milling Sub-District.

Selection of any one of the build alternatives would result in projected Average Daily Traffic volumes of between 2,500 to 4,300 vehicles on South First Street. A roadway with daily volumes in this range is considered a low volume street, and there would be little difference in auto-related effects.

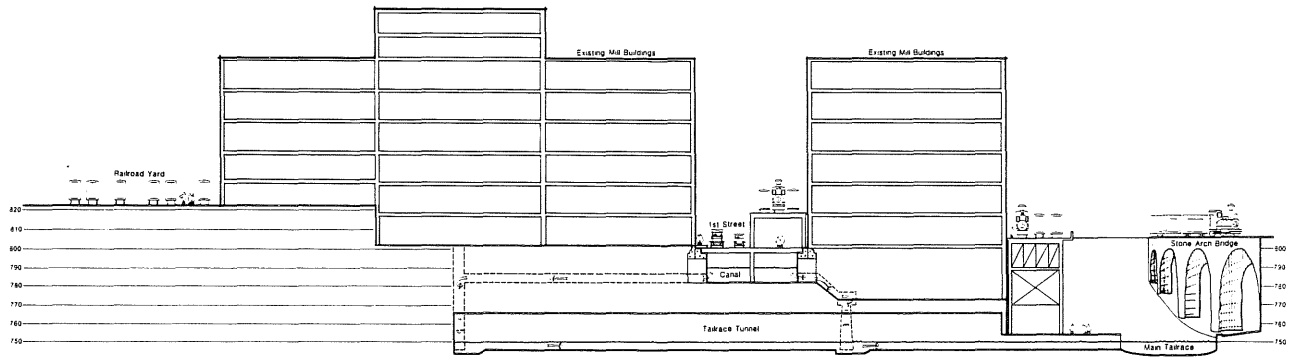
Alternatives That Would Avoid Adverse Effects

Alternatives 2B-3C, 3C, 3C-1D, 3C-2D, and 3C-3D appear to have no adverse effects. The No-Action Alternative, which consists of designating existing streets and highways as the Great River Road Route, also has no adverse effects.

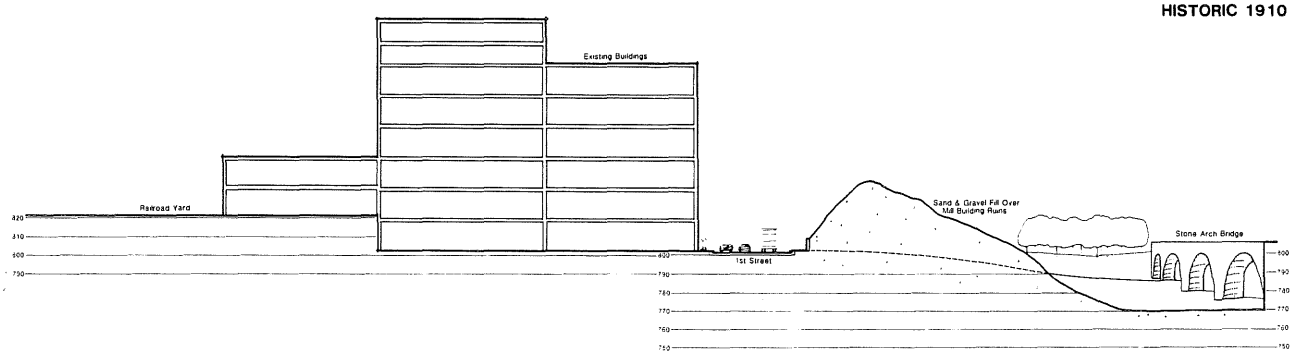
Measures to Minimize Harm

Apart from photographing the Stone Arch Bridge prior to its visual obstruction, there appears to be no way of mitigating the adverse impact of Alternatives 1B-1C, 1C, 1C-1D, 1C-2D, 1C-3D, and 2B-1C.

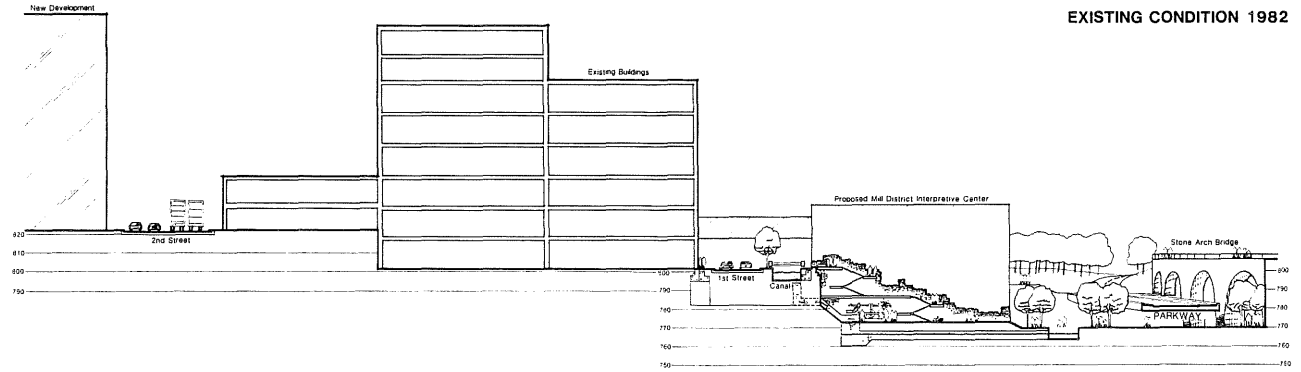
By transforming South First Street into a vehicular through street, Alternatives 2B-2C, 2C, 2C-1D, 2C-2D and 2C-3D hold the potential to adversely affect the Historic District. Since it is essential to preserve South First Street as a unifying and integrating element in the district, these alternatives should be specifically engineered to discourage high-speed, high-volume traffic on the street. Such design mitigation appears to be possible.



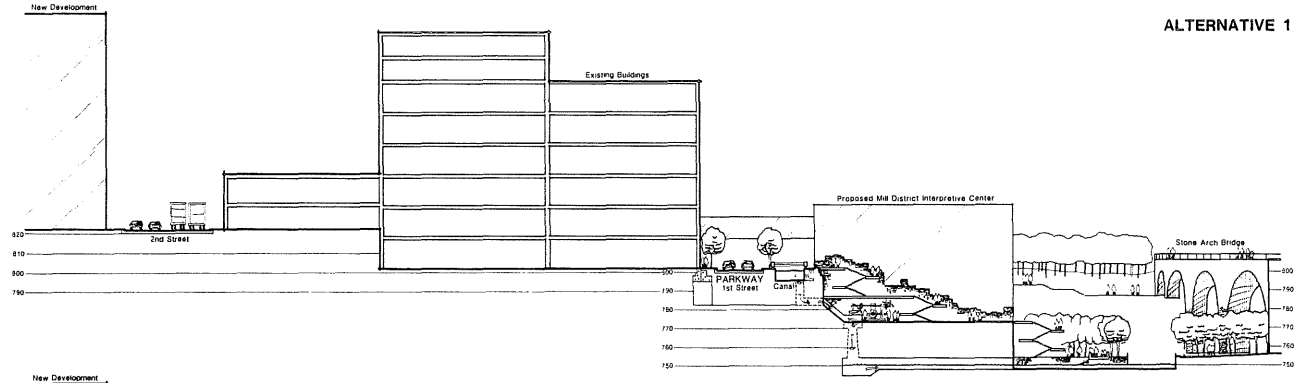
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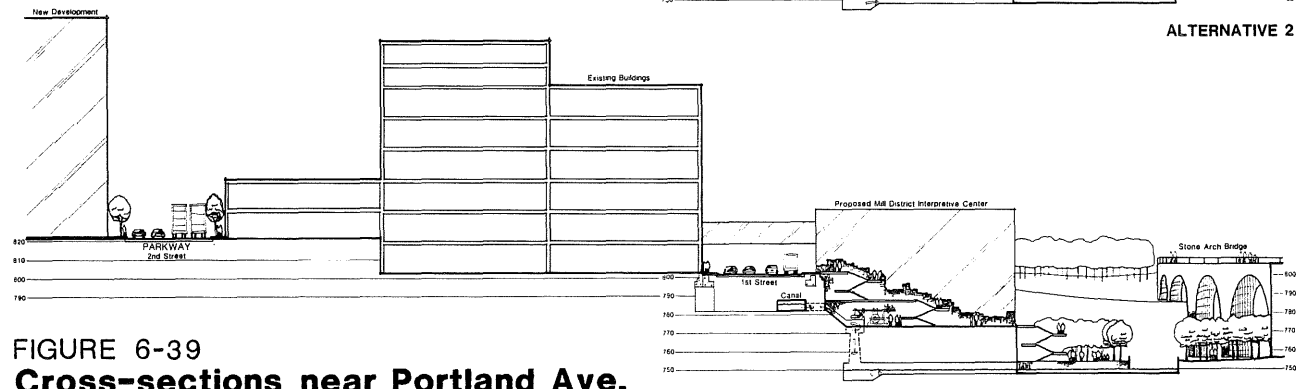
EXISTING CONDITION 1982



ALTERNATIVE 1



ALTERNATIVE 2



ALTERNATIVE 3

FIGURE 6-39

Cross-sections near Portland Ave.
Mill Sub-District

South First Street presently serves as a local access street. Under Alternative 1 or Alternative 3, South First Street would continue to function as a local access street. However, the Average Daily Traffic on South First Street would increase by more than 2,000 vehicles per day south of Portland Avenue and by more than 3,000 vehicles per day north of Portland Avenue as a result of future redevelopment.42/ If South First Street were reconstructed into a low-speed, two-lane, 24-foot wide through street, it would attract a small number of through trips from other development along the river. It has been estimated that the Average Daily Traffic would increase to approximately 4,300 vehicles per day. This modest increase in traffic would not create a disruptive or divisive impact on the Historic District.

The development of the through street should also be accompanied by efforts to reinforce the historically significant qualities of South First Street. These efforts might include the excavation, stabilization, and interpretation of a portion of the power canal and the adjacent mill foundations (Fig. 6-40) which are now buried beneath sand and gravel.

42/ Traffic forecasts are based on the West River Parkway Traffic and Circulation Technical Report. They assume that the same level of development will occur regardless of the parkway location. Existing traffic volumes are based on 48-hour traffic counts in November, 1982.

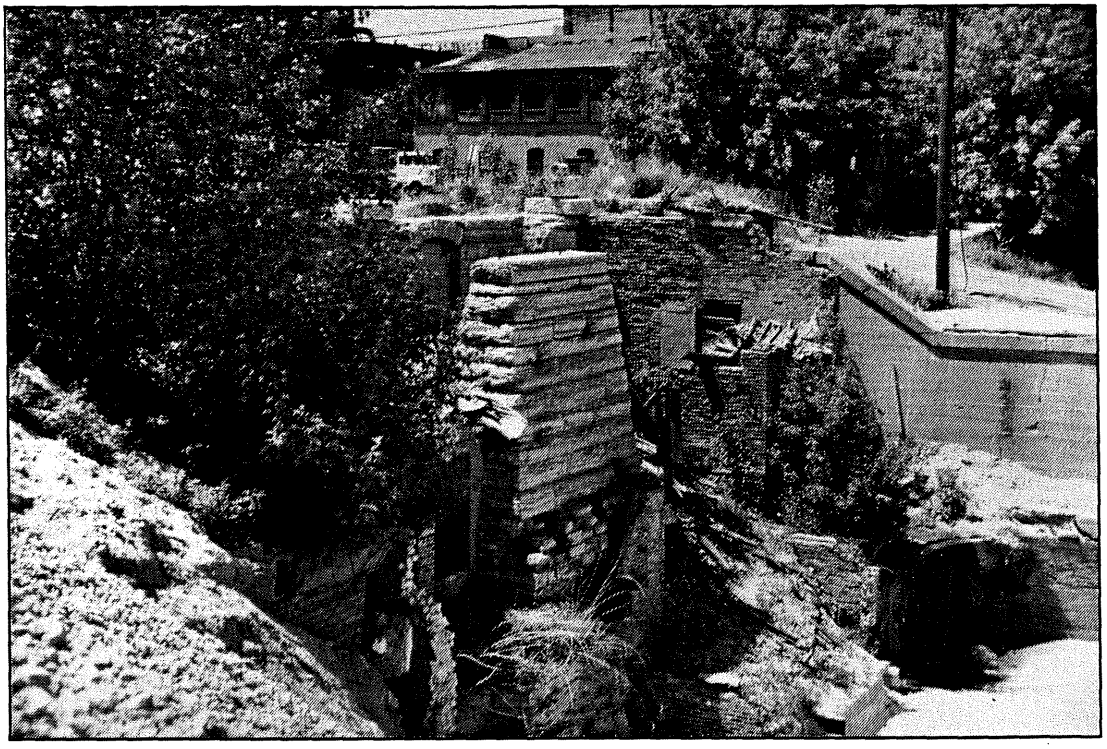


Fig. 6-40 Mill ruins near Portland Avenue, 1981.

Virtually all of the alternatives through the West Side Milling Sub-District entail some amount of new roadbed construction. To mitigate potential adverse impacts, a trained archeologist should monitor the initial grading of the roadways in order to determine if significant prehistoric and/or historic archeological resources will be affected.

6.4 Alternatives Having No Significant Impacts

6.4.1 ACTION ALTERNATIVES

Part of the Project Area lies entirely within the boundaries of the St. Anthony Falls Historic District. Consequently, adverse effects to the District are difficult to avoid.

By definition, the West River Parkway project would in all cases have the potential for affecting historic properties. The reason is that the Parkway's purpose, consistent with Great River Road development guidelines, is to reopen visual and physical access to the downtown riverfront. Because of the role the river played in the development of the City, there is no proposed alternative which would completely avoid impacts upon historical or archeological resources. The differences lie in the degree of impact.

Table 2-1 lists alternatives that would significantly affect historic and archeological resources, as well as those which would not. Route Alternative 3 would have the least impact on historical resources and Route Alternatives 2 and 3 would least impact archeological resources. Beyond the boundaries of the St. Anthony Falls Historic District, none of the route alternatives would have a significant impact on historical or archeological resources.

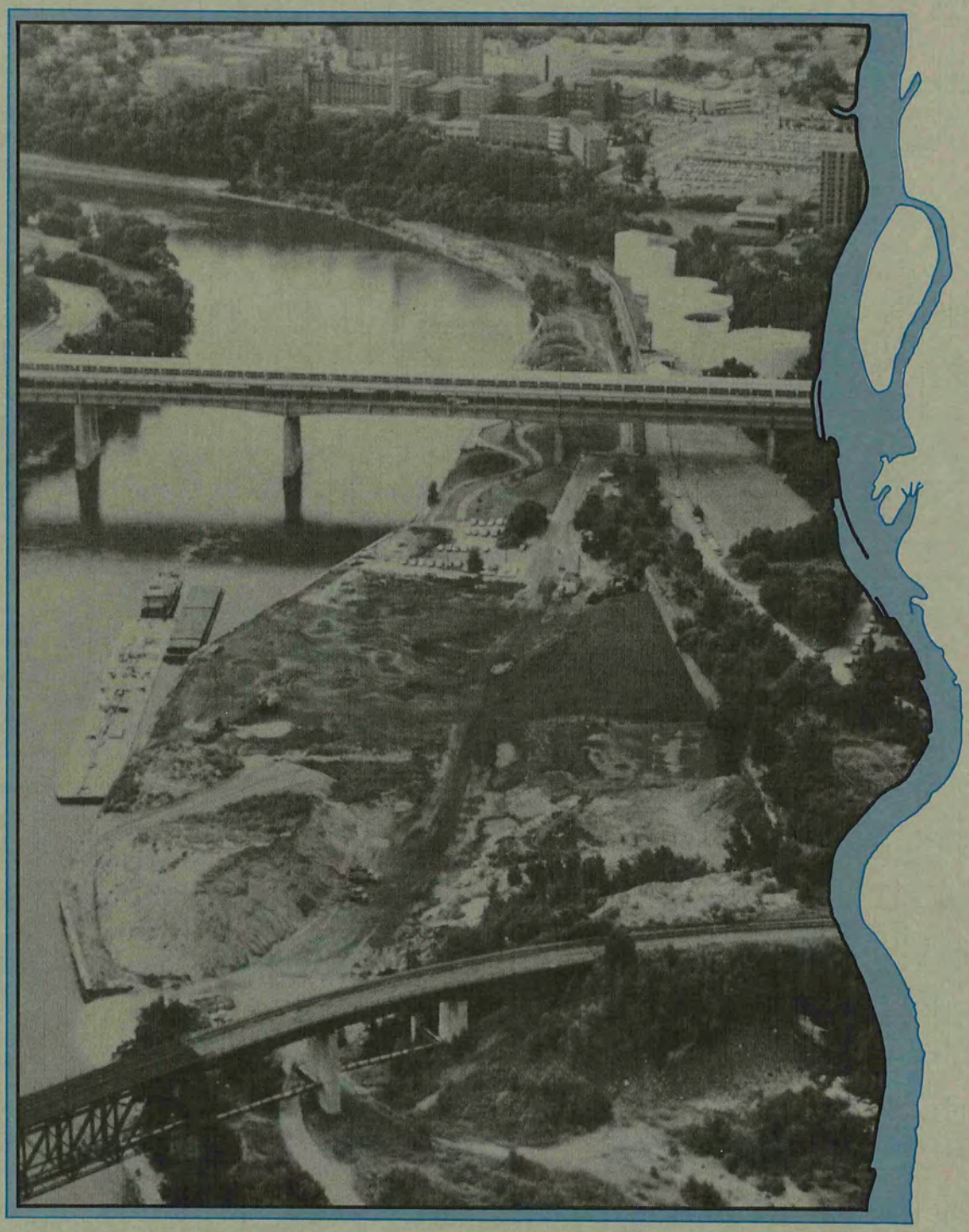
6.4.2 NO-ACTION ALTERNATIVE

The No-Action Alternative, which consists of designating existing streets and highways as the Great River Road Route, will not adversely impact any historical or archeological features. At the same time, however, it will generally deprive motorists of visual access to the river through the downtown area. Physical access to the many historic features along the riverfront will be indirect and frequently inconvenient for motorists to reach. Neither will the alternative result in new opportunities for the interpretation of the City's rich history as it relates to the riverfront. The many diverse historical and potential archeological sites will be unprotected and perhaps subject to permanent loss as a result of future private development of the riverfront. The No-Action Alternative also does not satisfy the intent of the Great River Road development guidelines.

6.5 Coordination and Comments

The list below shows the significant points of coordination with the Minnesota Historical Society which occurred during the preparation of this Section 106 report.

	Type	Date	Purpose
1.	Meeting	February 24, 1981	Discuss scope of West River Parkway project
2.	Meeting	April 16, 1981	Discussion of potential historic effects
3.	Meeting	April 29, 1981	Tour of St. Anthony Falls District
4.	Preliminary Scoping Report	July, 1981	Project Alternative Definition
5.	Final Scoping Report	October, 1981	Project Alternative Definition
6.	Meeting	November 13, 1981	Mill District Gains Identification
7.	Meeting	March 2, 1982	Discussion of Alternative Routes and Impacts
8.	Meeting	May 4, 1982	Discussion of 106 Case Report Findings
9.	Meeting	July 8, 1982	Discussion of Adverse Impact in Mill District
10.	Meeting	August 3, 1982	Discussion of Mitigation Measures
11.	Site Tour	September 1, 1982	Discussion of roadway size and traffic



7. Appendices

West River Parkway

Minneapolis Central Riverfront

7. Appendices

7.1 Coordination

7.1.1 AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED DURING DEIS PREPARATION

Public participation in the preparation of the West River Parkway DEIS was in three forms. First, a series of meetings was held with the project's Citizen Advisory Committee, a group of persons appointed by the Minneapolis Park Board to represent various interests and the public at large. These meetings were conducted during the process of selecting Great River Road Route Alternatives and analyzing route impacts. Second, a series of Technical Reports were prepared for review by public agencies, the Citizen Advisory Committee, the Technical Advisory Committee and the general public. Third, comments were received from various agencies who will review this DEIS. These comments were submitted in response to preliminary correspondence requesting initial review and comment on the project.

Route Alternative Scoping Process

A "scoping" process was conducted in 1981 to develop a reasonable number of project alternatives for detailed study in the DEIS. This process involved members of the Citizen Advisory Committee, the Technical Advisory Committee, and the general public. First, a set of project objectives was developed based upon previously stated goals for the Central Riverfront. Next, up to three routes were selected in each of six Project Area Segments by analyzing environmental, land use, traffic, development, utility, historic, land ownership and other information in the Project Area. The No-Action Alternative was also selected for analysis in the DEIS.

Comments were received on the Preliminary Scoping Report (Minneapolis Park and Recreation Board, July, 1981) and comments were heard at the Project Scoping Meeting of July 28, 1981.

Based upon the project planning and the comments received on the Preliminary Scoping Report, a number of significant issues were identified. These are each analyzed in this DEIS. Comments were received from the following agencies:

1. U.S. Environmental Protection Agency.
2. U.S. Department of the Army, Corps of Engineers.
3. U.S. Department of the Interior, Fish and Wildlife Service.
4. U.S. Department of the Interior, National Park Service.
5. Minnesota State Planning Agency, Office of Local and Urban Affairs.
6. Minnesota Historical Society.
7. Minnesota Pollution Control Agency.
8. Metropolitan Council.
9. Metropolitan Waste Control Commission.
10. Metropolitan Transit Commission.
11. University of Minnesota.
12. City of Minneapolis Planning Department.
13. Great River Road Citizens Advisory Committee Minority Report.
14. Mill District Associates.
15. Bix of Minnesota.
16. Burlington Northern Railroad, Industrial Development and Property Management.

A Final Scoping Report was published in September, 1981.

Route Alternative Impact Analysis Process

The West River Parkway Citizen Avisory Committee met to review parkway designs and to consider potential effects of those designs according to a schedule as listed below.

Topic	Date
1. Bassett Creek - Gateway - Bohemian Flats Design	December 8, 1982
2. Mill District - Lower Locks Design	January 5, 1982
3. Roadway Linkages; Roadway Project Costs	February 9, 1982
4. Air and Noise Impacts; Park Project Costs	March 9, 1982
5. Water Resources; Land Use; Natural Resources Impacts	April 6, 1982
6 Historic Impacts	May 4, 1982

Technical Reports

The following Technical Reports were published by the Minneapolis Park and Recreation Board during the course of the West River Parkway project. The report findings have been incorporated into the DEIS.

Report Title	Publication Date
1. Final Scoping Report	September, 1981
2. Traffic and Circulation	February, 1982
3. Engineering Feasibility	March, 1982
4. Air Quality	March, 1982
5. Noise	March, 1982
6. Energy	May, 1982

Copies of these reports are available for public review at the offices of the Minneapolis Park and Recreation Board, 310 Fourth Avenue South, Minneapolis, Minnesota, 55415.

7.1.2 COMMENTS RECEIVED DURING THE AGENCY COORDINATION PROCESS

During the environmental impact statement and preparation process, letters of comment were received from the following agencies: U.S. Environmental Protection Agency, Minnesota Pollution Control Agency, and Minnesota Historical Society. These letters are reproduced on the following pages.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

17 NOV 1982

Mr. Robert Mattson
Park and Recreation Planner
Minneapolis Park and Recreation Board
310 South Fourth Avenue
Minneapolis, Minnesota 55415

Dear Mr. Mattson:

We have completed our review of the Air Quality and Noise Technical Reports for the West River Parkway (Great River Road); Franklin to Plymouth Avenues.

We believe these reports have adequately identified and assessed the potential impacts, both direct and secondary, associated with implementation of the project.

Thank you for providing us the opportunity to review the reports. This type of early coordination effort should eliminate any delays and lead to an expeditious review of the forthcoming Draft and Final Environmental Statements (EISs).

Sincerely yours,

Barbara Taylor Backley, Chief
Environmental Review Branch
Planning and Management Division

PARK AND RECREATION BOARD
PLANNING DIVISION
RECEIVED
NOV 19 1982

Minnesota Pollution Control Agency

November 17, 1982

Robert Mattson
Park and Recreation Planner
Minneapolis Park & Recreation Board
310 South Fourth Avenue
Minneapolis, Minnesota 55415

Dear Mr. Mattson:

The Minnesota Pollution Control Agency (MPCA) staff has reviewed the Air Quality Technical Report and the Noise Technical Report for the West River Parkway (Great River Road), Franklin to Plymouth Avenues and has comments to offer.

Air Quality Technical Report

From an air quality standpoint, Case II, the parkway alternative extending from Plymouth Avenue North to Fourth Street South, is the preferred alternative. Less traffic congestion and consequently lower carbon monxide (CO) concentrations will occur on existing downtown streets in both the post-development and construction stages with the parkway alternative (Case II) than with the other cases. With Case II, less traffic would pass through the intersection at Hennepin Avenue and First Street, reducing CO concentrations at this hot spot. Also, with Case II, less traffic disruption and lower CO concentrations would occur due to construction activities since detours would not be needed around the construction site. The least desirable alternative is Case I, which includes all alignment alternatives with the Great River Road designated on First Street or Second Street.

Only one CO hot spot will exist along the project route. This is in the vicinity of Hennepin Avenue and First Street. An average 8 hour CO concentration of 9.2 ppm is predicted at this intersection in the year 1987 (The federal and state standard for CO is 9.0 ppm for an 8 hour averaging period). This CO concentration will occur regardless of which alternative is chosen, since a new parkway facility, if built by this time, will have attracted only a minimal portion of the trips in the area.

Phone: (612) 296-7216
1935 West County Road B2, Roseville, Minnesota 55113-2785
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Equal Opportunity Employer

The draft environmental impact statement (EIS) must contain a description of the mitigative measures to bring CO levels into compliance with the ambient standards at this hot spot intersection. APC-19, the rule regarding indirect source permits, states that regardless of whether a permit is required for an indirect source, no owner or operator of an indirect source shall cause or allow a violation of any ambient air quality standard.

Contrary to what is stated on page 36 (second paragraph) of the report, it appears that the CO levels at the background monitoring site (site 1) did, in general, correlate with high CO concentrations at site 2. Thus, traffic activity graphed in the appendix also correlates with high CO concentrations, except for the period with the highest CO concentrations, on Friday, December 12, 1980.

Preliminary Noise Technical Report - September, 1982

State daytime and nighttime noise standards are predicted to be exceeded at only one of eight analyzed sites, an apartment building located at Marquette Avenue and First Street South (site 3). Noise monitoring conducted near site 3 (site 2 of Table 1, at First Street between Second Avenue and Marquette Avenue) has identified an existing noise problem in this area. Monitored noise levels are 3 dBA over the state daytime L_{10} noise standard.

If route 1, not route 2, of segment B were the selected alternative, noise levels would be reduced somewhat at this site since part of the traffic would be diverted to the parkway segment along the river. If route 1 of segment B is the selected alternative, the final noise report should state what the magnitude of this reduction in noise levels will be, if significant.

The building at site 3 is climate controlled (windows will be closed). This will reduce inside sound levels due to traffic on surrounding streets. Only the use of the apartment balconies could result in exposure to noise levels over the state standard. Mitigative measures should be proposed in the final noise report to protect the apartment dwellers from excessive noise levels.

Table 5 entitled "Predicted Noise Levels (dBA) At 50 Feet From A Parkway Facility" indicates that state nighttime noise standards could be exceeded if residential units (without climate control or with balconies or outdoor activities) are built along the parkway segments with an average daily traffic (ADT) greater than about 5,300. However, as is stated in the noise report on page 31, development in the Central River front area can be designed from a noise perspective. One mitigative measure of the draft EIS should be that only development consistent with the noise standards should take place.

In addition to the construction noise control measures listed on pages 45-46, the city should consider the use of temporary noise barriers for problem areas where the state standards will be exceeded. Consideration should also be given to limiting the noisiest activities to nonbusiness hours if nearby business or residential units would not be adversely affected.

Finally, it should be noted on page 31 of the report that industrial land use is also sensitive and is protected by the state noise standards NAC-3 (a daytime and nighttime L_{10} standard of 80 dBA). These standards apply to manufacturing and industrial land uses.

If you have any questions on these comments, please contact Marlene Voita of my staff (296-7392).

Sincerely,

Deborah R. Pile

Deborah R. Pile
Environmental Review Coordinator
Office of Planning and Review

DRP:pab

MINNESOTA HISTORICAL SOCIETY
FOUNDED IN 1849
690 Cedar Street, St. Paul, Minnesota 55101 • (612) 296-6126

September 14, 1982

Mr. Frank Svoboda
Bennett-Ringrose-Wolsfeld-Jarvis-Gardner, Inc.
2829 University Avenue S.E.
Minneapolis, Minnesota 55414

Dear Mr. Svoboda:

RE: Draft of Preliminary Case Report,
West River Parkway, Minneapolis,
Hennepin County, MN

MHS Referral File No: N-222

Thank you for the opportunity to review the above-referenced Preliminary Case Report.

As you are well aware, the proposed West River Parkway passes through the west bank of one of Minnesota's most important historic districts, the St. Anthony Falls Historic District, designated both by the National Register of Historic Places and by the Minnesota State Legislature.

Generally, we have found the Preliminary Case Report to be a well-documented discussion of the resources of the District and of the impacts of the various alternatives. We would, however, like to offer the following comment:

Table 1, Segment 2C (page 6-3), and Section 6.4.12 (page 6-34). Because the nature of circulation on a parkway varies considerably from that of a historic city street, and because the West Side Milling District has, historically, constituted a unified whole adjacent to the river, it is our opinion that routing of the parkway through the West Side Milling District would constitute an adverse effect on this area. Therefore, we believe that the impact of alternate 2C, as represented in Table 1, should include a fourth item citing an adverse effect on the West Side Milling District.

Since the Washington Avenue corridor is no longer considered a potential alternative, the findings of the report lead us to conclude that the route with the least effect on historic resources would follow a 1A-1B-3C pattern (sections D and E are outside the historic district and we have no strong preference in these areas). Any of the other potential alternates for the parkway would have substantial adverse effects on important elements of the district. We should note that the 1A-1B-3C pattern follows the currently preferred route except in the area of the West Side Milling District (area C).

Further, we believe that the relatively unimpeded flow and often serpentine nature of a parkway represents a transportation pattern similar in many ways to a rail corridor. The above route follows a historic rail corridor through the area, and would avoid imposing substantially different patterns on either the pivotal area of the West Side Milling District on South First Street or on the important concentration of hotels and warehouses along North First Street (both in the Historic District).

We should note the potential for archaeological resources in both the 1A and 1B segments, and heartily endorse the measures suggested in the report to deal with this potential.

If you have any questions regarding an assessment of this project, please do not hesitate to contact Dennis Gimmestad, Acting Assistant State Historic Preservation Officer, Fort Snelling History Center, St. Paul, Minnesota 55111 (612)726-1171.

Sincerely,

Dennis A. Gimmestad

for Russell W. Fridley
State Historic Preservation Officer

cc: C.P. Kachelmyer
Preliminary Design Engineer
Room 612H Transportation Building
St. Paul, MN 55155

Scott Anfinson
Municipal Highway Archaeologist
Fort Snelling History Center
St. Paul, MN 55111

7.1.3 AGENCIES, ORGANIZATIONS, AND PERSONS RECEIVING COPIES OF THE DEIS FOR REVIEW AND COMMENT

U.S. Department of Agriculture
U.S. Department of the Army
Corps of Engineers
St. Paul District
U.S. Department of Housing and Urban Development
U.S. Department of Health and Human Services
U.S. Department of Interior
Fish and Wildlife Service
National Park Service
U.S. Department of Transportation
Second Coast Guard District
Federal Railroad Administration
Federal Aviation Administration
Urban Mass Transportation Administration
U.S. Department of Commerce
Advisory Council on Historic Preservation
Civil Defense Preparedness Agency
Environmental Protection Agency
Federal Energy Administration
Federal Power Commission
Minnesota Department of Energy Planning and Development
Minnesota Department of Agriculture
Minnesota Environmental Quality Board
Minnesota Historical Society
Minnesota Department of Natural Resources
Minnesota Pollution Control Agency
Metropolitan Council (A-95) Clearinghouse
Metropolitan Transit Commission
Hennepin County Department of Transportation
Hennepin County Park Reserve District
Minneapolis Community Development Agency
Minneapolis Planning Department
Minneapolis Public Works Department

7.2 List of Preparers

The following people were primarily responsible for preparing and reviewing the West River Parkway Draft Environmental Impact Statement.

Name Education Professional Discipline	Experience	Project Responsibility
BENNETT-RINGROSE-WOLSFELD-JARVIS-GARDNER, INC.		
Donald E. Hunt BLA, MCRP AICP Environmental Planning	8 years, environmental planning and EIS preparation	Managed consultant staff, agency contact, work assignment and review.
Arijs Pakalns BA AIA, AICP Architecture	15 years, urban design and site planning	Urban design.
William C. Weber BA, MURP AICP Urban Planning	8 years, city planning and EIS preparation	Land use and social impacts.
Craig Amundsen BA, MA AIA, AICP Architecture	10 years, urban design and environmental planning	Urban design.
Jack Lynch BA ASLA Landscape Architecture	15 years, landscape architecture	Urban design.
Franklin J. Svoboda BS Biology	15 years, wildlife biology and wildlife management	Historical, floodplain, visual, vegetation and water impacts.
Anthony Heppelman BA, BS Civil Engineering	2 years, traffic engineering	Traffic analysis.
Richard Nau BS Computer Modeling	3 years, air quality and noise analysis	Air quality and noise impacts.

Name Education Professional Discipline	Experience	Project Responsibility
Terry Herman BS PE, Minnesota Civil Engineering	14 years, civil engineering	Engineering feasibility and project costs.
Jeff Ruehle BA Architecture	4 years, graphic design	Mapping and graphic design.
SASAKI ASSOCIATES, INC.		
Hideo Sasaki Landscape Architecture	Urban design	Mill District urban design.
Kenneth Kreutziger BA, MA City Planning	City Planning	Mill District urban design.
Stuart Dawson Landscape Architecture	Landscape Architecture	Mill District urban design.
Jeffrey Hess BA, MA, American Civilization Historian	10 years, architectural, social historian	Historical impacts.
TECHNICAL ADVISORY COMMITTEE		
Robert Mattson BA, MA Landscape Architecture	14 years, parks planner	Overall project manager for Minneapolis Park and Recreation Board.
John Burg BA Architecture	14 years, city planning	Representative of City Planning Department.
Jerry Luesse BA Landscape Architecture	30 years, city planning and development	Representative of Minneapolis Community Development Agency

Name Education Professional Discipline	Experience	Project Responsibility
Bill Barnhart MA Urban Studies	8 years, city planning and development	Representative of City Coordinator's office.
James Lind BA Civil Engineer	21 years, civil engieering	Representative of Minneapolis Department of Public Works.
Donald Risk Industrial Development Studies	15 years, economic development planning	Representative of Minneapolis Community Development Agency.

Name Education Professional Discipline	Experience	Project Responsibility
FEDERAL HIGHWAY ADMINISTRATION		
Ronald Shriver BSCE Planning and Research Engineer	20 years	Assuring the accuracy and completeness of the urban transportation planning coverage in the EIS.
Wallace O. Oien BSFM Division R/W Officer	18 years	Assuring the EIS contains required analysis of civil rights, EEO, and relocation considerations.
James E. St. John BSCE, MSIS District Engineer	14 years	Assuring that the EIS and technical reports comply with applicable Federal environmental regulations.
James W. McCutcheon BSCE, MSCE Division Bridge Engineer	17 years	Structures, floodplains.
Stephen J. Bahler BSCE Area Engineer	14 years	Assure that EIS and technical reports accurately and completely describe the S.E.E. impacts of the proposed project.

CITIZEN ADVISORY COMMITTEE

The following persons served as members of the Citizen Advisory Committee. As such, they participated in the selection of route alternatives (scoping process), evaluated route impacts, and will recommend a preferred route.

Name	Representing
Judith Anderson	Minneapolis Park Board
Kathleen Anderson	Committee on the Urban Environment
Connie Baillie	Minneapolis Park Board
Lyle Bratsch	Burlington Northern Land Development Corporation
Julia Copeland	Southeast Riverfront Advisory Committee (SERAC)
Moira Cross	Citizen League
John Cunningham	North Loop Area
Richard Erdall	Long-Range Regional River Development and Acquisition Committee
Donald Frentz	Industry Square Project Area 1
Ken Gibson	Minneapolis Park Board
Harold Holden	Industry Square Project Area 1
Elaine Kienitz	Minneapolis Park Board
Kay Koelker	Nicollet Island Project Area
Charles Krusell	Industry Square Development Company
Ray Lappegaard	Minneapolis Park Board Alternate
Robert Mack	Seward Neighborhood
Vladimir Mashek	Elliott Park Neighborhood

Name	Representing
Ray Masterson	Near North PDCAC
Ben Miller	Industry Square Project Area 2
Timothy J. Ogren	Cedar-Riverside Project Area
Colleen Person	League of Women Voters
John S. Pillsbury	Downtown Council
Patrick D. Rainville	Northeast PDCAC
Ruth Saari	Environmental Interests Representative
Patricia Sheppard	Riverview Apartments
Al Smith	Industry Square Project Area 2
Glenn L. Speidel	Minneapolis Park Board
Ted Tucker	University PDCAC
Linda Wejeman	Minneapolis Park Board
Merlin Berg	SERAC Alternate
Robert Brokopp	North Loop Area Alternate
Tom Duffee	Downtown Council Alternate
O. D. Gay	Downtown Council Alternate
Carolyn E. Olson	Chamber of Commerce Alternate
Doris Park	Nicollet Island Project Area Alternate
Ford Robbins	Environmental Interests Alternate
Millie Schafer	Elliot Park Neighborhood Alternate
Henry Spang	North Loop Area Alternate

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