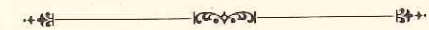


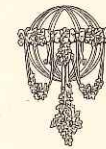
PLANS FOR THE
NORTHERN AND SOUTHERN
RIVER FRONT

SAINT LOUIS MISSOURI

PLANS FOR THE
NORTHERN AND SOUTHERN
RIVER FRONT
SAINT LOUIS MISSOURI



CITY PLAN COMMISSION
HARLAND BARTHOLOMEW
ENGINEER



1 9 2 9

THE SECOND VOLUME OF TWO REPORTS COVERING PLANS
FOR THE DEVELOPMENT OF THE SAINT LOUIS RIVER FRONT

August 1, 1929

Honorable Board of Public Service,
Saint Louis, Missouri.

Gentlemen:

On June 1, 1928, the City Plan Commission had the honor of submitting a report dealing with the improvement of that section of the riverfront lying opposite the main downtown business district and the approaches thereto. The Commission has since devoted its attention to the preparation of plans for a more appropriate use of the northern and southern riverfront and we now have the honor to submit a report covering this latter study.

The principal features of this report are the creation of a large new airport and the development of a bluff drive. Both are necessary attributes of the future city. It is fully appreciated that plans contemplating such an extensive improvement cannot be consummated within a few years, but they do offer goals toward which continued effort can and should be directed.

During the preparation of these plans we have requested and secured much valuable information from Major John C. Gotwals, of the United States District Engineers Office, for which we wish to make grateful acknowledgement.

Respectfully submitted,

CITY PLAN COMMISSION,

E. J. RUSSELL,

Chairman.

F. E. LAWRENCE, JR.

Secretary.

CITY PLAN COMMISSION OF SAINT LOUIS

1928-1929



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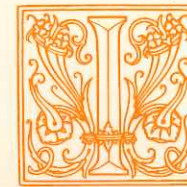
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Foreword

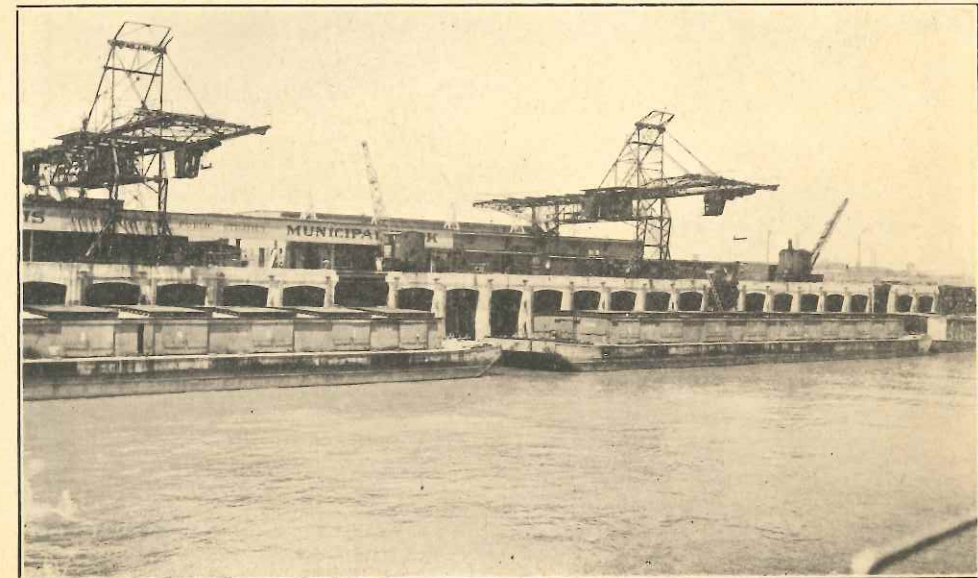


IN 1926 the City Plan Commission undertook studies for the development of the St. Louis Riverfront. It was estimated that the work would require three years and cost \$25,000.

In 1928 the Commission published a plan for the improvement of the Central Riverfront, dealing more particularly with the area between Spruce Street and Franklin Avenue.

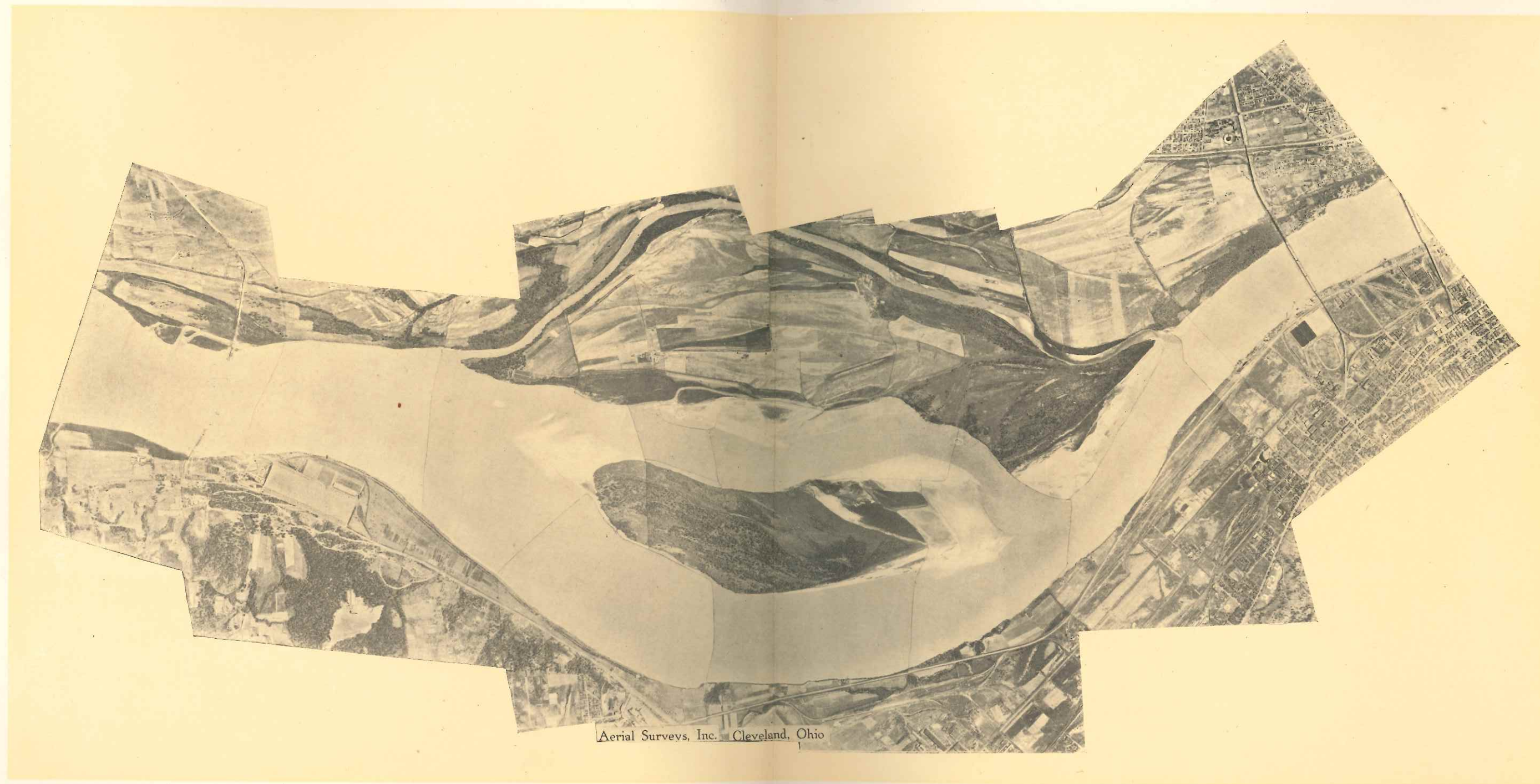
The present report completes the studies undertaken three years ago, all of which have been completed within the original estimates of cost.

In the present report, plans are shown which deal with the area extending north from Bissell's Point to the City Limits at the Chain of Rocks,



The St. Louis Municipal Dock at North Market Street, typical of the commercial and industrial development along the Riverfront.

and with that section of the riverfront north from Bellerive Park to President Street and the Marine Hospital property. It is believed that the remaining riverfront areas, i. e., between Franklin Avenue and the Merchants Bridge, between Spruce and President Streets, and between Bellerive Park and the southern City Limits, comprising eight miles of the total water frontage of twenty miles in the City of St. Louis, offer no particularly strategic opportunities for special improvement, since they are now largely devoted to commercial and industrial purposes and afford ample opportunity for such further commercial or industrial development as the growth of this city may warrant.



Aerial Surveys, Inc. Cleveland, Ohio

PLATE 1

An aerial view of the Cabaret Island district. The river was approximately six feet above normal stage when this picture was taken.

The Northern River Front



FROM Bissell's Point north to the Chain of Rocks there are seven miles of unimproved waterfront. Here the Mississippi River makes a pronounced bend. (See Plate 1.) Back of this water frontage is a vast area of low-lying property the development of which has been greatly retarded because of inaccessibility and repeated overflow from the river. It is now largely occupied by railroad yards. In recent years, however, the city has acquired title to a strip one and one-half miles long, just south of the Chain of Rocks Waterworks and between the River and Riverview Drive, which is now being used as a public park, although little or no improvement has been made.

A sharp bend in the river (Sawyer Bend), and the unusual drop producing rapid current have long offered an obstacle to navigation. It is generally agreed that a straight channel would be much more desirable, even though it would produce some new difficulties with respect to velocity of the river for several miles below Bissell's Point.

For very nearly a century, consideration has been given to the elimination of this bend by creating a channel running more or less in a straight line from Chain of Rocks to Bissell's Point. Lt. Col. W. F. Reynolds, in 1871, on transmitting a report by Capt. C. J. Allen, states as follows: — "Opening Cabaret Slough has been a favorite project of most engineers who have written on the harbor of St. Louis. We find it first proposed by Gen. Gratiot in 1836; by Capt. T. J. Cram in 1844; and by the city engineer in several subsequent reports." As early as 1837 Gen. Robt. E. Lee, then

a young lieutenant of engineers in the United States Army, made a survey in connection with this project.

At various times a substantial volume of water has followed a more or less direct course through Cabaret Chute, and between Cabaret and Mosenthien Islands, instead of following the main river channel. (See Plate 2.)

Plate 3 shows the general location of this area in relation to the northern part of the City of St. Louis.

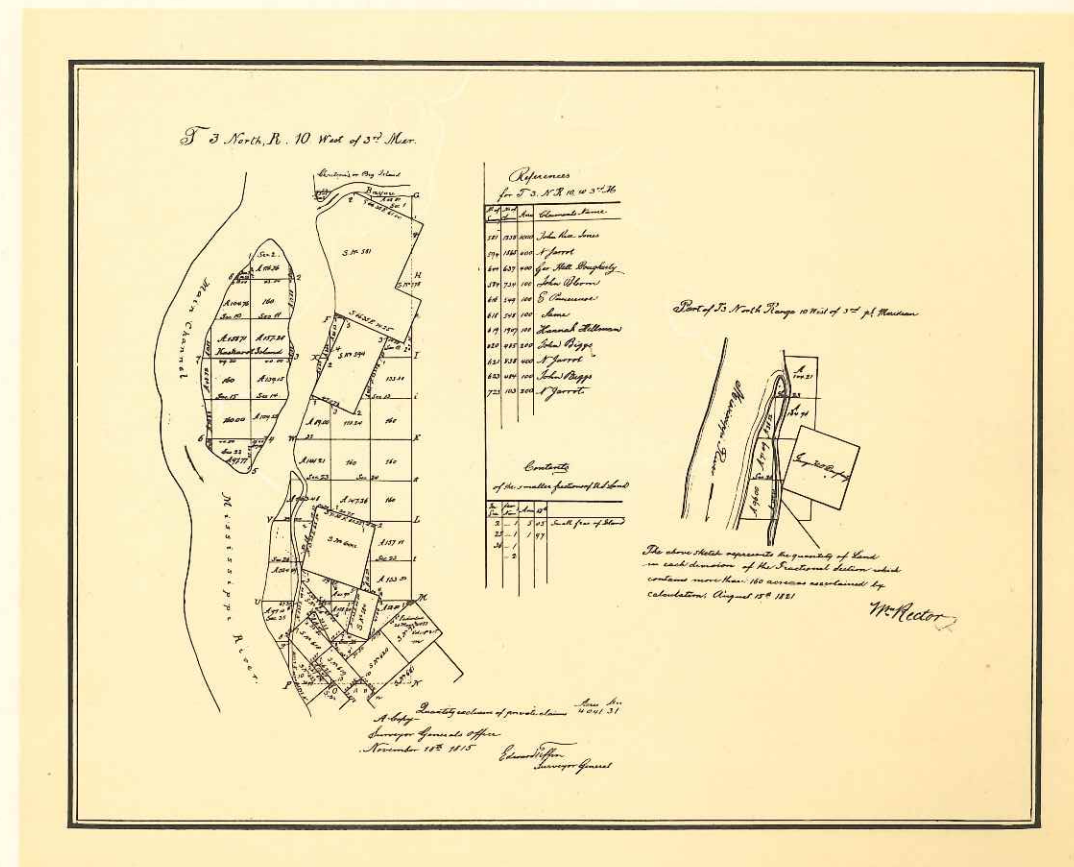


PLATE 2

A very old, if not the first, survey of Cabaret Island.

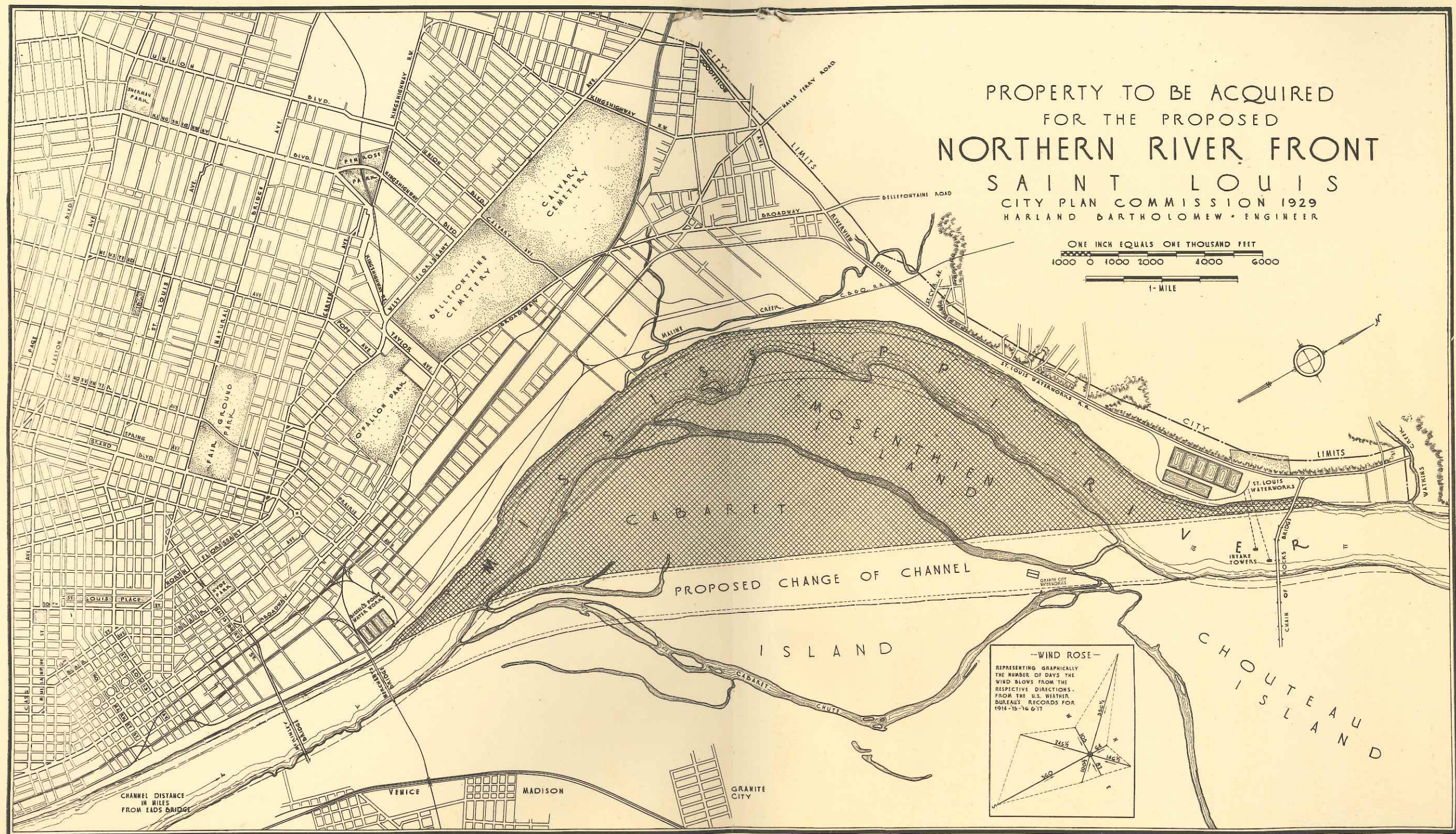


PLATE 3
Location of the Proposed Northern River Front Development.

The Plan:

It is proposed that, in co-operation with the United States Government engineers and other public and private interests directly concerned, preliminary steps be taken for the straightening of the channel of the Mississippi River between Chain of Rocks and Bissell's Point, and that the area between the present and proposed new channels be secured for public use and enjoyment, as shown in Plate 3, and more particularly described later.

The area proposed to be acquired comprises 3150 acres, or 4.92 square miles. It is proposed that this area be devoted to two particular purposes: one, an airport — the other, a large public park.

The airport would contain one square mile and the park approximately four square miles, two of which would be water area in the form of lagoons along the present river channel.

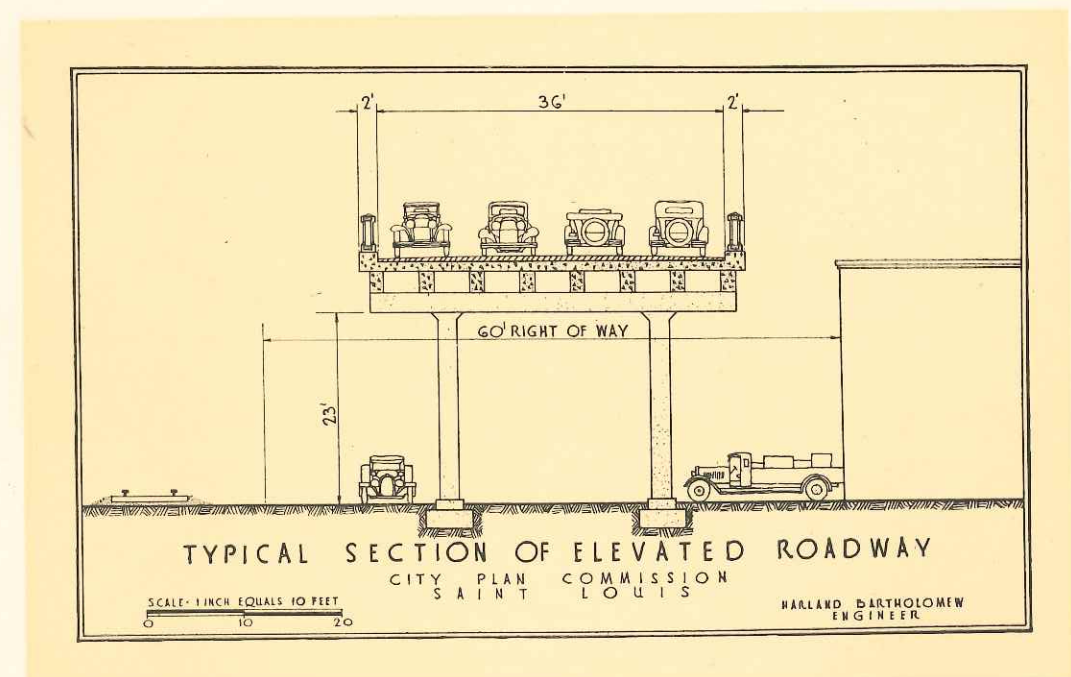


PLATE 4

Typical Section of Elevated Roadway.

The Approaches:

In the plan for the Central Riverfront, an elevated approach thoroughfare is proposed along Third Street and North Broadway to Mullanphy, and thence west. It is here recommended that the elevated roadway be extended east on Mullanphy Street to the Riverfront and thence along the Riverfront to the Merchants Bridge where it would come to grade. A typical section of the proposed elevated roadway is shown by Plate 4.

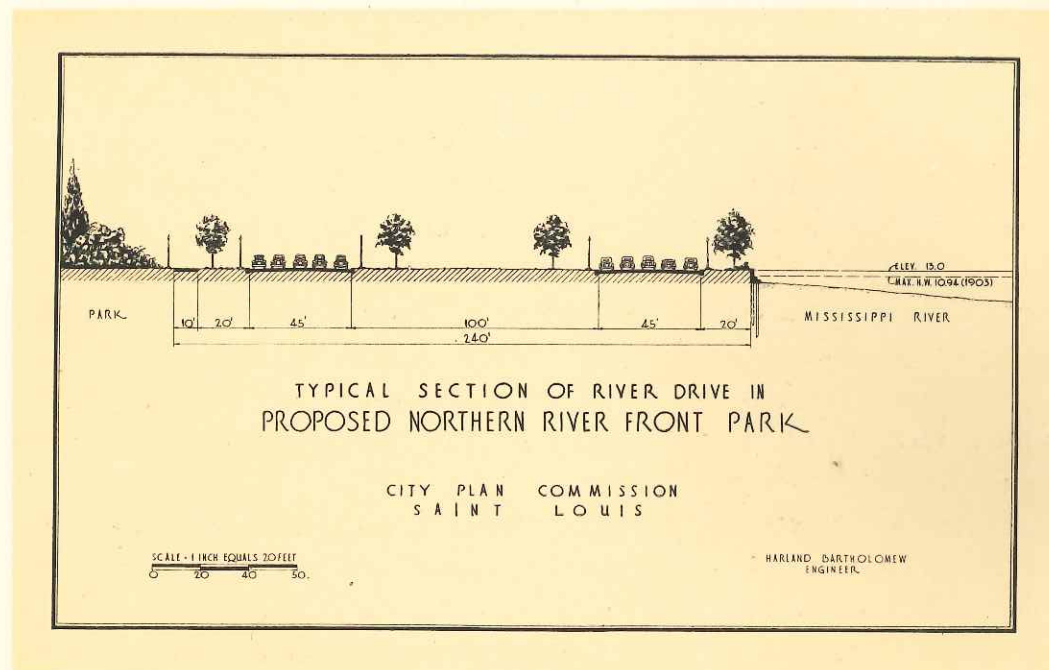


PLATE 5
Typical Section of River Drive.

The City of St. Louis now owns some of the river frontage along which this elevated roadway would run; in certain other cases a right-of-way would be secured, by purchase or condemnation, through property now privately owned. Being an elevated structure it would in no way interfere with existing or prospective use of the waterfront by private

interests. North of the Merchants Bridge and Bissell's Point, where the Mississippi River would be straightened, a strong protective embankment would be built at an elevation of 13.0. The top of this embankment would be used for an attractively designed and improved drive 240 feet wide, having its northern terminus at Chain of Rocks Park and the present Riverview Drive. This River Drive (see Plate 5) would have a length of 7 miles from the Merchants Bridge to Chain of Rocks and 9.5 miles from Mullanphy Street to Chain of Rocks. From the central business district this northern approach thoroughfare would virtually be a high-speed non-stop route, making possible communication between the business district and the airport in from twelve to fifteen minutes time.

Two additional approaches to the proposed new park and airport are provided, as shown by Plate 6. From the junction of Warne and Adelaide Avenues, being the southeast corner O'Fallon of Park, a viaduct would be built passing over Broadway and all of the railroads now lying between Broadway and the River, and coming to grade at the River Drive approximately one mile north of Merchants Bridge.

A similar viaduct would be constructed on Calvary Avenue starting immediately west of and passing over Broadway and the railroads between Broadway and the river.

Access would also be provided to the airport and park areas from Riverview Drive in the vicinity of the present Missouri-Portland Cement Plant. This latter connection would, of course, be the direct approach for traffic on Kingshighway, which is now being constructed northwest from Penrose Park to Halls Ferry Road and ultimately will be extended to the intersection of Riverview Drive, Broadway and Bellefontaine Road.

The Airport:

St. Louis needs a first-class airport close to the heart of the city. The proposed location offers an opportunity for "the finest airport in the world," according to a well-known authority on airport design and con-

struction, Mr. B. Russell Shaw. It would be practically level and filled to an elevation above all high water stages of the river. Approaches from the air would be totally unobstructed for great distances in any direction because of park surroundings on three sides and the Mississippi River on the east.

There would be runways of four thousand feet minimum and five thousand feet maximum length. The runways of maximum length would be favored by all prevailing winds.

Automobile parking spaces of unlimited size would be provided north and south of the field, as shown in the plan.

The entire group of service buildings, including hangars, shops, hotel, field office and the like, are shown at the east side of the airport adjacent to the drive along the river. An attractive entrance to the airport would be created from this drive.

The Mississippi River could be used for landing of hydro-planes which could also take advantage of the numerous service buildings at the east side of the airport and close to the river.

The presence of the park to the north, west and south would amply protect the field from serious encroachments or hazards arising from private ownership of land.

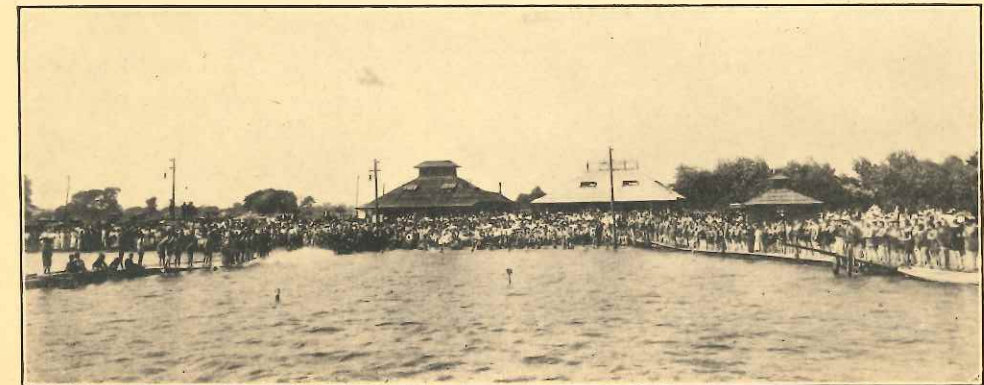
The airport would be six miles, air line distance, from either Eighth and Olive Streets or Kingshighway and Lindell Boulevards, which are respectively the approximate centers of the business and residential districts of the City of St. Louis.

The Recreation Area:

Approximately four square miles would be available for a large park and recreation development. Specifically there would be available 1288 acres of park land and 1172 acres of water surface. The park land approximately equals Forest Park (1380 acres) in size. On the park plan there are shown an eighteen-hole golf course, large parking spaces for automobiles,

numerous baseball, football and recreation facilities, a stadium, an arboretum and museum of natural history, and six miles of pleasure drives through attractively planted areas, including a series of islands in the main lagoon.

The lack of seashore and lakes causes many residents of St. Louis to leave the city during the long summer season. Others, unable to leave town, are compelled to forego such privileges. Opportunity for the enjoyment of water scenes, and more particularly for boating, bathing, and other water sports, should be provided in St. Louis. The present plan affords a splendid opportunity in this respect. The old channel of the river could well be preserved, thus taking advantage of circulation of water under proper control and eliminating the necessity for a large amount of fill that might otherwise be necessary. A large stretch, something over one and one-half miles long, is shown along the northern portion of the park. This would be sufficient for boat races when desired, and would provide opportunity for canoeing and rowing, as well as for water pageants and the like. Facilities for winter sports, including skating and ice boating, would also be available here.



Carter Lake Park Bathing Beach at Omaha, Nebraska.

Investigation discloses the fact that bathing beaches are entirely practicable and feasible within this area. A very popular bathing beach exists in Carter Lake Park in the City of Omaha, which was created in the former bed of the Missouri River. Facilities for swimming are extremely limited in the St. Louis district.

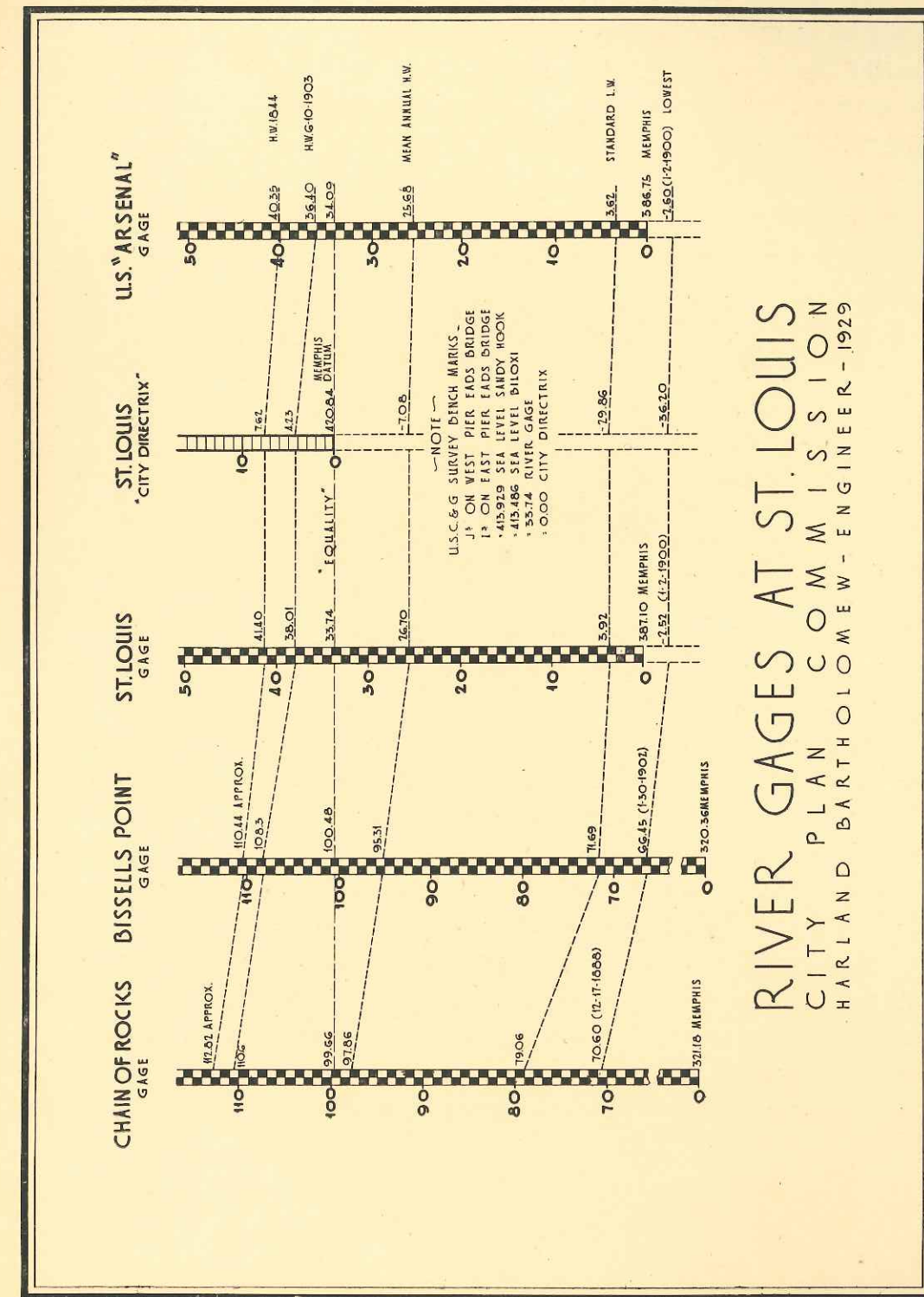
Method of Development

Cabaret and Mosenthien Islands at present have an average elevation of -9.0 on the City Datum. This is 20 feet below the highest water of which there is record, namely the flood of 1903. (See Plate 7.)

To secure a fill of 20 feet over an area of three square miles (estimated land area of proposed park and airport) is an undertaking of considerable magnitude. With the usual processes of filling, the cost would be very great. On the other hand, it is a commonly known fact that up to a certain point the river will create large fills at a comparatively small cost when properly controlled. Numerous instances of this occur in the St. Louis district where dikes have been constructed and new land has been created. This was done, for instance, at the city's north Market Street Dock. It is not a rapid process but one whose economy justifies its use if time is not an important factor.

To carry out the present plan it is proposed that the first step should be a gradual straightening of the river channel under the direction of United States Government engineers. As gradual straightening of the river is effected, back areas would be partially filled by the construction of dikes. When the river channel has been fully straightened levees would then be constructed on either side of the new channel.

The amount of fill deposited by the river would be more or less uncertain in quantity. In no case would it be sufficient to bring the elevation of any of the land above flood stage. With the final establishment of the straightened channel, hydraulic filling would then be necessary in the areas back of the new levees. Since all of the land back of the new levees



would be fully protected from flood it is not considered necessary to bring all of this land above flood stage, which would necessitate a fill of 20 feet. The Airport, River Drive and main highways should, of course, be kept above flood stage, but certain of the park areas might well be somewhat below flood stage. It is estimated that approximately one-third of the total reclaimed area would require a fill of 20 feet and remaining areas would have a varying but lesser amount of fill. It would not be necessary, for instance, to secure any substantial amount of fill in the old river channel, which, according to the proposed plan, would be devoted to water areas.

Cost of the Plan:

Estimates of cost for various elements of the plan have been prepared. These may be summarized as follows:

| | |
|---|--------------|
| Acquisition of land (including riparian rights, damages and contingencies)..... | \$ 2,500,000 |
| Filling of land..... | 5,000,000 |
| Levees and bank protection..... | 1,500,000 |
| Construction of airport..... | 2,500,000 |
| Park construction..... | 3,000,000 |
| Riverfront elevated thoroughfare..... | 4,650,000 |
| Viaducts at Adelaide and Calvary Avenues.... | 3,500,000 |
| Total..... | \$22,650,000 |

Time Required:

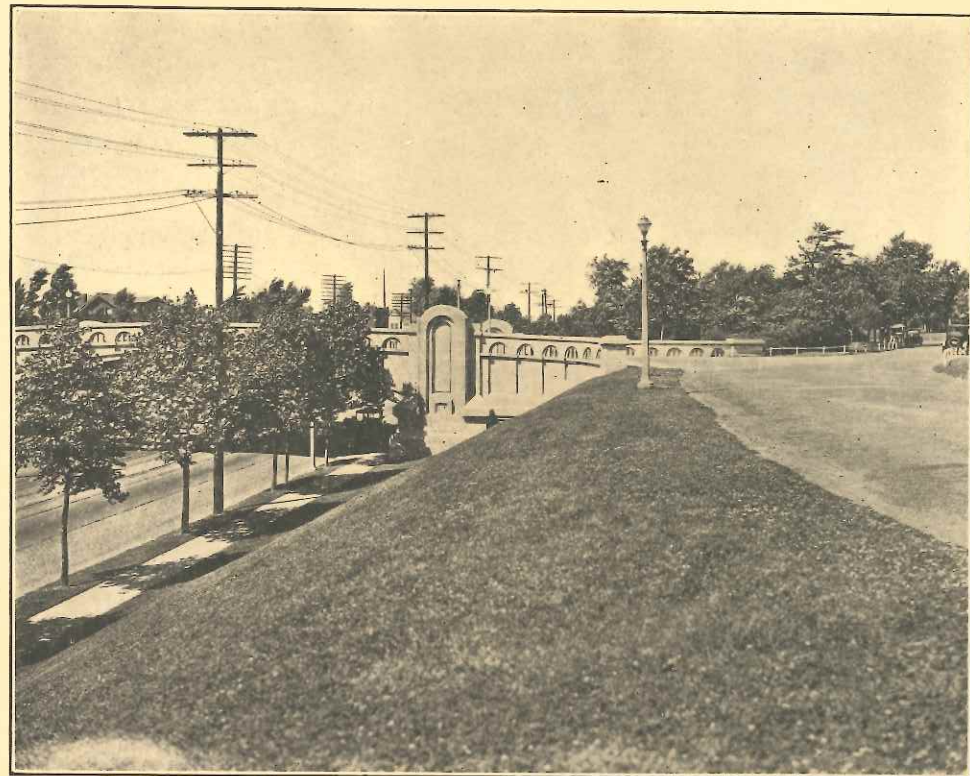
It is estimated that the realization of a project of this character will require a period of many years. It is doubtful if it could be done in ten years, and more probable that twenty years would be required for full completion. Assuming an average of these two estimates, the project would cost, according to this estimate, something over one million dollars a year for such a period. No definite method of financing is recom-

mended at this time. Agreement as to numerous fundamental policies is a first requisite. This should be followed by acquisition of land. Construction costs for filling and levees will then be distributed over a considerable period of years thereafter. Costs of airport and park construction and approaches would be undertaken as a last and greatest financial obligation.

Since the project will be of lasting benefit to the community, long-term bonds would appear to be the most logical method of financing unless there be sufficient current revenues to meet the costs as they arise. Certainly the project will not involve any large expenditures at any one time. This does not minimize, however, the importance of many early decisions necessary to the realization of the plan.

An Alternate Plan:

Much study was given to the development of the area for industrial purposes and, indeed, it would prove to be an ideal location for industrial development. It did not seem advisable, however, to throw so vast an area into competition with other available land, particularly on the Illinois side of the river. Costs would be greatly increased because of the necessity of bringing the entire area to an elevation completely above flood stage, and the community thereby would be involved in a program of real estate improvement and sale, which can scarcely be considered advisable or wise. It is believed that the plan now proposed holds vastly greater community benefits and advantages.



The Kingshighway Viaduct at Bellerive Park.

The Southern River Front



OF SOME six miles of waterfront in the southern part of the city, practically none of it is used for public recreational purposes. A great majority of this frontage is privately owned, some being devoted to fairly intensive industrial use, but much of it remaining in a more or less unimproved state. From the Municipal Bridge to President Street and from Bellerive



The Bluff at the southern end of the proposed Bluff Drive.

Park to the River des Peres most of this waterfront is of very little use except for industrial purposes.

Between President Street and Bellerive Park, however, a distance of two and one-half miles, there is a bluff 50 to 75 feet high, just back from the water's edge. A short frontage along this bluff (900 feet) was acquired by purchase in 1908. This area, which is known as Bellerive Park, affords a most interesting view of the river to large numbers of people. The park contains only 5.67 acres, however, and is totally inadequate in size.

The Plan:

The plan for the development of the southern riverfront, shown on Plate 8, proposes:



The View from Bellerive Park.

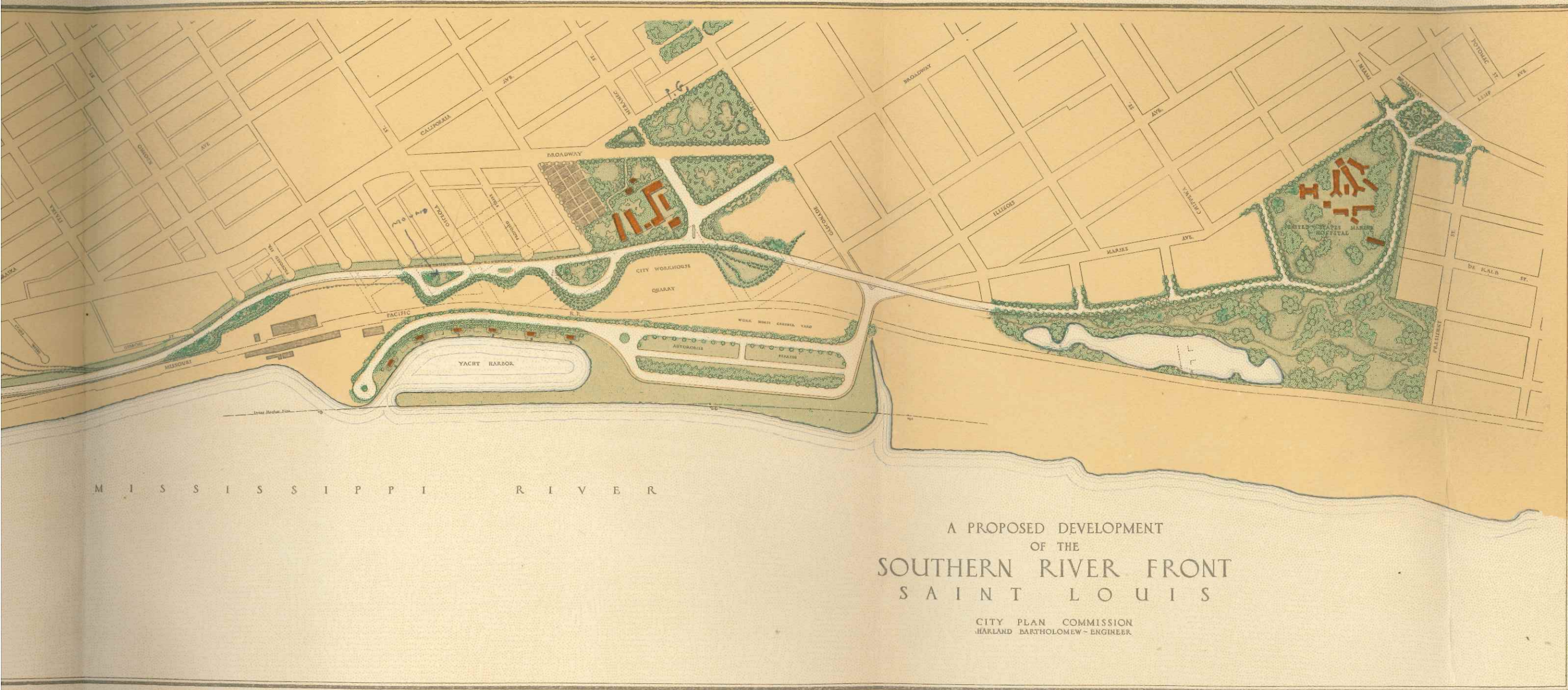
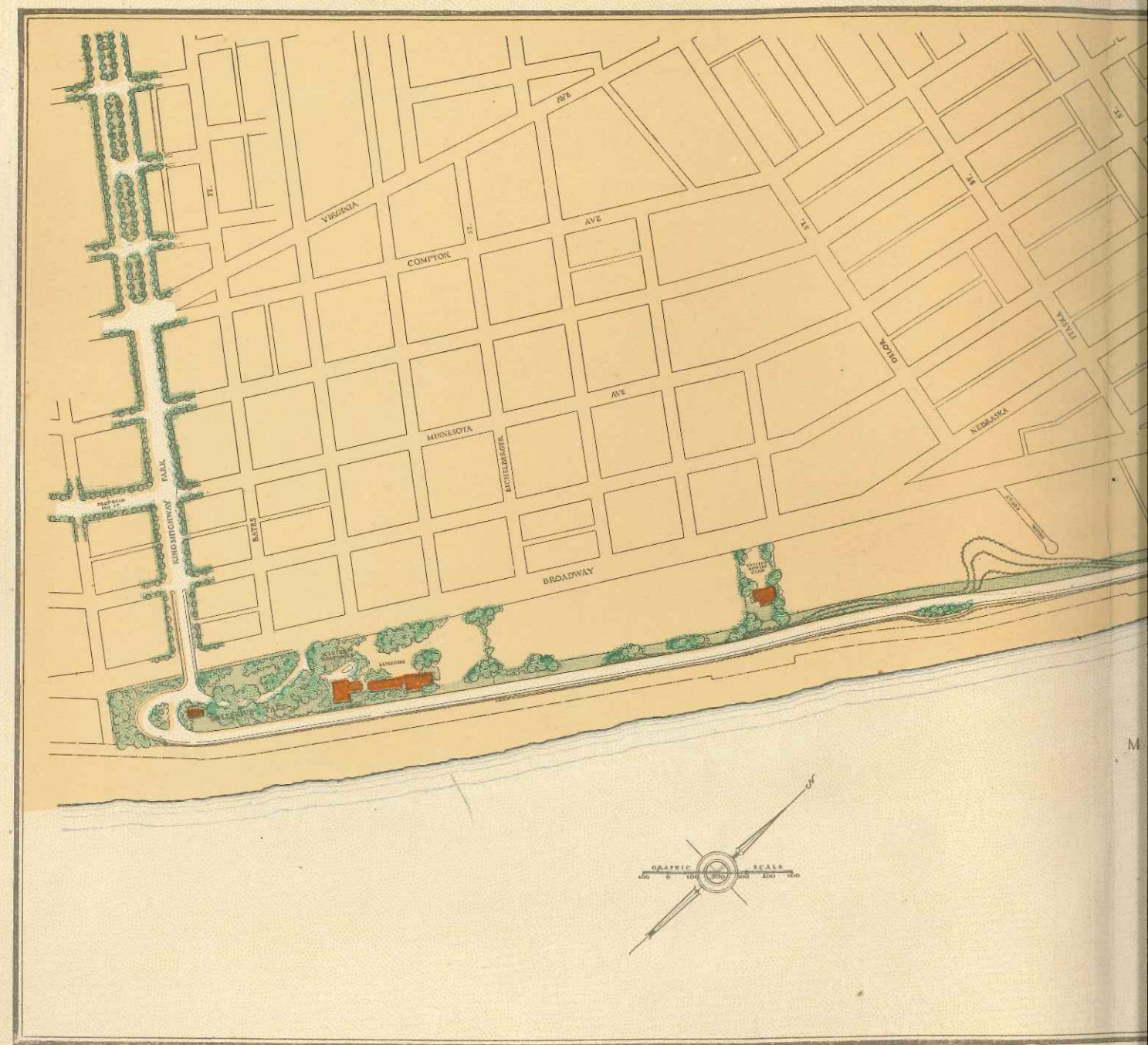


PLATE 8
General Plan of the Proposed Southern Riverfront Development.



A Bluff Drive from Bellerive Park north to the Marine Hospital, 2.5 miles long.

A Yacht Harbor.

A 37-acre park along the bluff between Gasconade and President Streets.

The Bluff Drive:

The citizens of St. Louis have very few opportunities to secure commanding views of the Mississippi River. The single outstanding opportunity now afforded at Bellerive Park has always excited keen interest and the desire for more opportunities of this type. For many years it has been proposed that such a drive be extended north along the bluff from Bellerive Park. This proposal has always met with the objection of those private owners who have had sufficient vision to acquire the land and secure the enjoyment of these splendid views for themselves.

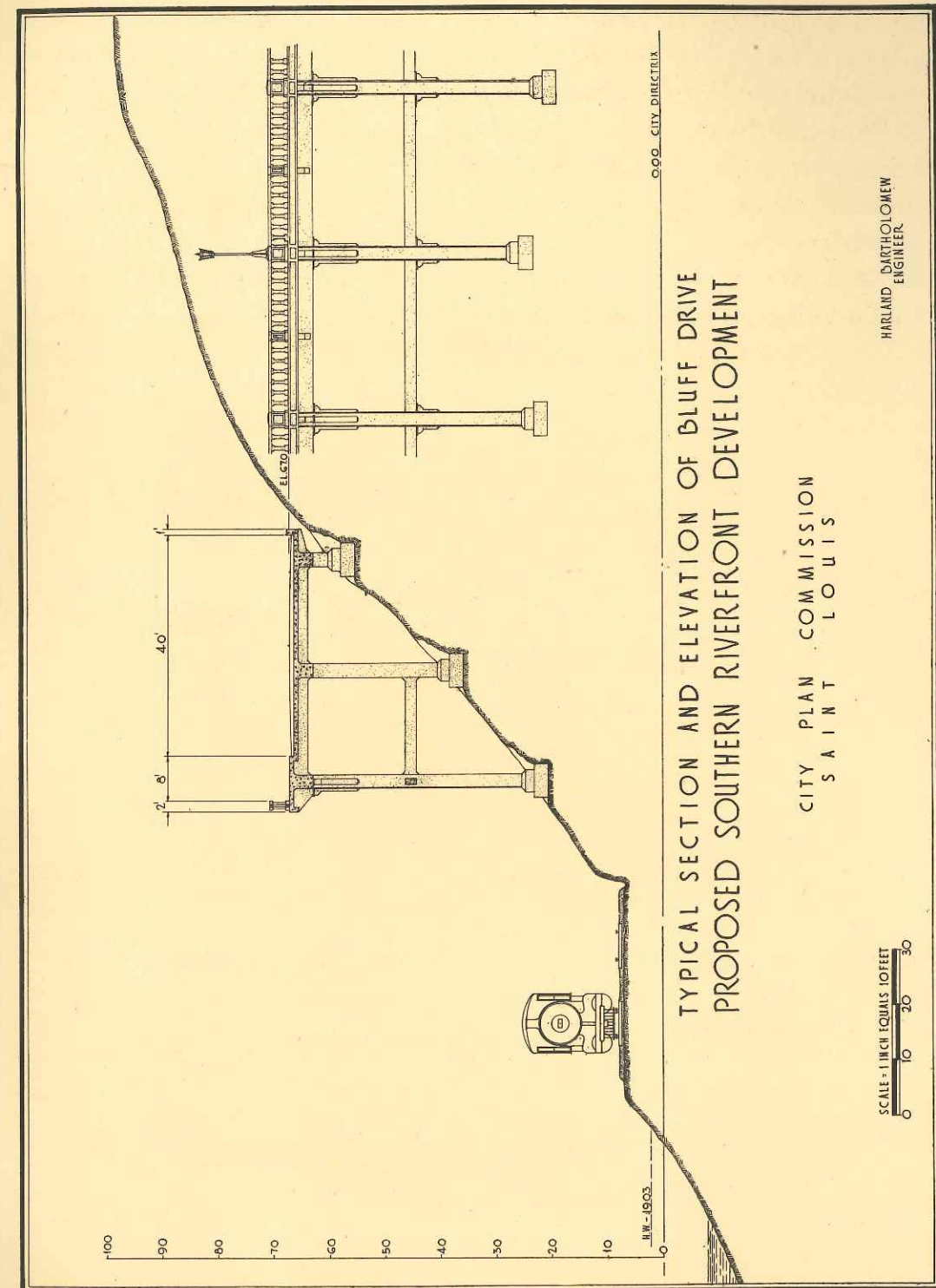
The present study has shown that it is entirely possible to acquire a limited amount of the bluff and to provide a most interesting and scenic drive without seriously impairing the rights of private property owners. From Bellerive Park to about Delor Street it is proposed that the bluff drive be constructed below the top of the bluff in such a way that both the structure itself and the traffic would be well below the home sites along the top of the bluff. The bluff drive would be designed exclusively for pleasure traffic. Throughout its two and one-half miles of length there would be no physical connections with abutting private property. For this reason it is believed that a four-line 40-foot roadway would be sufficient. For approximately one mile north of Bellerive Park there would be a reinforced concrete trestle-like structure, as shown in Plate 9. This structure would extend from Bellerive Park almost to Wyandotte Street. North of this point the drive would be constructed on solid ground near the top of the bluff, excepting only a section in the vicinity

of Gasconade Street where a great viaduct would carry it across the valley at this point. Where the contour of the ground would permit, observation points would be constructed, as at Bellerive Park, where views from the bluff could be enjoyed. Standing or parked vehicles along the main roadway would necessarily have to be prohibited because of ensuing obstruction of view and unnecessary impediment of traffic movement.

There would be a maximum curvature of 4 degrees (1432-foot radius) and a maximum grade of 2 per cent.



The proposed Drive, located along this Bluff, would offer many commanding views.



There would be three principal points of entry and exit, i.e., Kings-highway at Bellerive Park, which is the southern terminus; Miami, Lemp, and Broadway, the northern terminus; and at Meramec and Broadway, approximately midway between the northern and southern termini.

Freedom from connections with intermediate streets and from connections with abutting private property will greatly simplify and expedite traffic movement. While high-speed traffic is neither contemplated nor desired as, for instance, in the elevated thoroughfare to the northern waterfront, the length of the bluff drive is sufficient to permit of reasonably good speed without impairing enjoyment of the view. The greatest pleasure obtained by those using the bluff drive will be in observing the distant views of the majestic river, changing from time to time with the contour of the bluff, rather than the intimate views of nearby scenery, as in a park, which would require much more leisurely driving.

Between Bellerive Park and Gasconade Street, it is not proposed to acquire more land than is actually needed for the construction of the drive, observation points, and a slight additional width to permit of planting of trees and shrubs or the preservation of the natural beauty of the present bluff and, incidentally, to prevent unsightly conditions that might arise were inappropriate construction to take place on abutting private property.

The Yacht Harbor:

There are no public facilities that would encourage the use of the Mississippi River for recreation purposes, although, in recent years there appears to have been a considerable revival of interest in the use of the river for motor boating and rowing. A public yacht harbor is badly needed. In the vicinity of Bellerive Park there is very little land between the foot of the bluff and the water's edge. A portion of this land is already in use by the Missouri Pacific Railroad. North of Delor Street, and particularly north of Neosho Street, the United States Government Harbor Lines have been established at a considerable distance out from the

existing shore line. Between the foot of Dakota Street and Gasconade Street it would be possible to create a yacht harbor with approximately six acres of harbor space for pleasure craft, and twenty acres for park.

A general view of the proposed yacht harbor is shown in Plate 10.

Here could be constructed boat houses for the storage and repair of various kinds of water craft, club houses, refreshment pavilion, and similar structures. The proposed park area contains a promenade parallel to the waterfront, where large numbers of people could gather to witness racing events that might be held. There would also be ample space provided for the parking of automobiles. The park space could



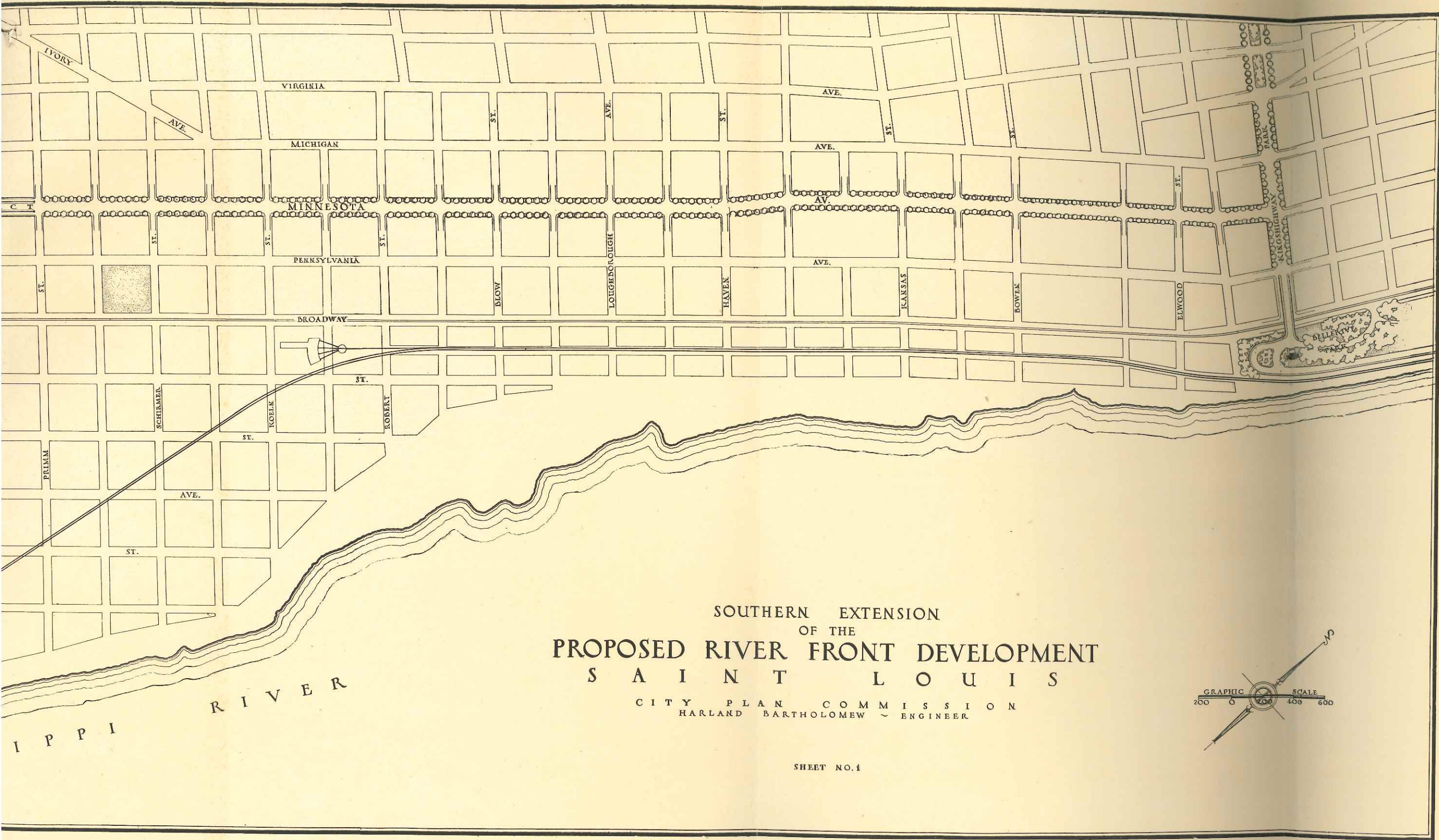
The River and Bluff at the location of the proposed yacht harbor.

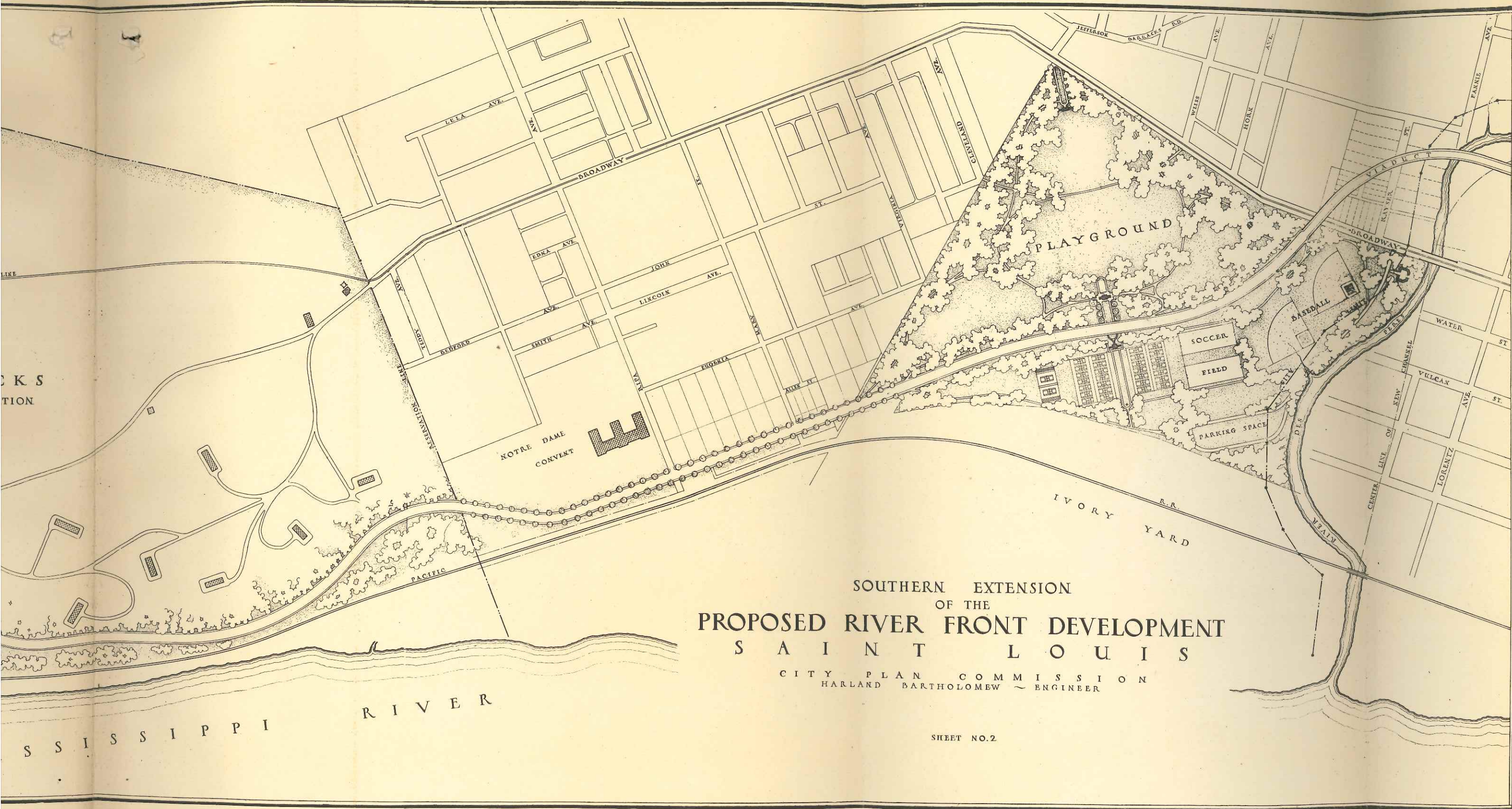
also serve as an attractive water-side park quite different in character from the other recreational areas in the city.

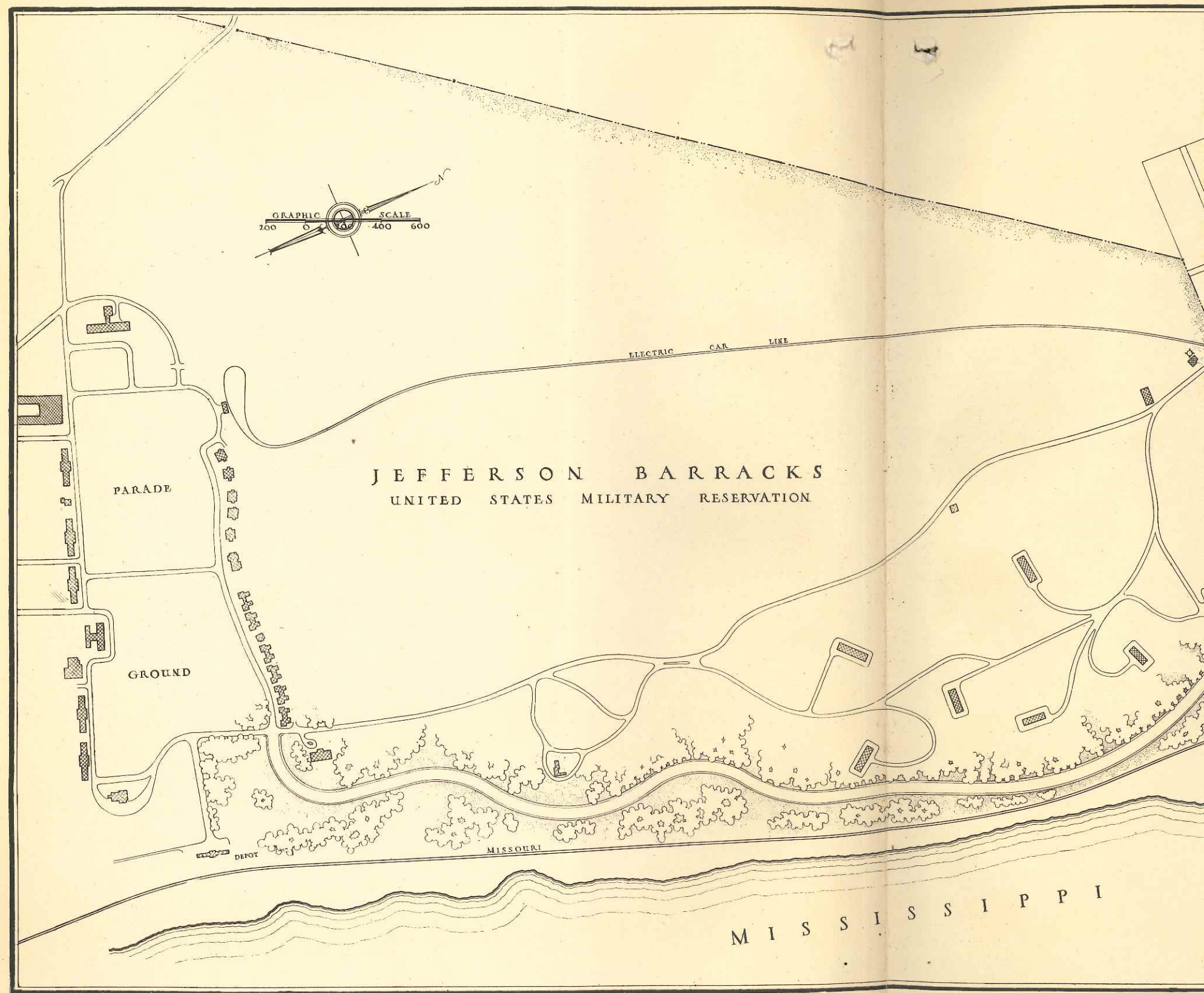
Approaches to the yacht harbor would be via Gasconade Street, Illinois Avenue, or Marine Avenue. These three thoroughfares would intersect at a point in the bottom of the valley over which the bluff drive is carried on a high viaduct. From the point of intersection of these thoroughfares a short viaduct will be constructed over the tracks of the Missouri Pacific Railroad into the area to be acquired for the yacht harbor and park. The proposed yacht harbor while highly desirable is not essen-



The Bluff at the northern end of the proposed Drive. This is the location of the proposed Park, immediately in front of the Marine Hospital grounds.







tial for the completion of the Bluff drive, as the latter could be made an independent proposition.

The Bluff Park:

The only opportunity for a park of any size in close proximity to the southern riverfront appears to be along the bluff from Gasconade Street to President Street. Here about thirty-seven acres could be acquired between the proposed bluff drive and the railroad tracks at the foot of the bluff. The presence of the large Marine Hospital grounds would add to the general open space here proposed.

This area is located close to a large and somewhat densely populated section of the city. If improved, as suggested in Plate 8, it would undoubtedly be used by a great many people throughout a large part of the year.

Approximately 90 per cent of the proposed bluff park is now vacant, unimproved land.

The Jefferson Barracks Connection:

The proposed bluff drive is virtually a part of the Kingshighway route connecting all of the large parks of the city. In the northwestern part of the city, Kingshighway is being extended via Riverside Drive to Chain of Rocks Park, from whence it can eventually be extended into any outer park system that may be developed.

In developing the present plan, study has been given to the extension of the Kingshighway system southward in such a way that it may eventually constitute a connection with any outer park system that may be developed in this direction.

Jefferson Barracks will undoubtedly be an important terminal point in any ultimate outer park plan. By widening Minnesota Avenue from Kingshighway Park to the River des Peres, and by acquiring an attractively wooded area immediately south of the River des Peres and east of Broadway, a most direct and useful connection with Jefferson Barracks would be possible.



PLATE 13
Typical Section of Minnesota Avenue.

Minnesota Avenue is now but 60 feet wide and fairly well built up with buildings on both sides of the street. An entire tier of lots might be taken which would give a total width of 215 feet for this thoroughfare. This would be an ideal width for an appropriately designed parkway. Its cost would be unusually high for the results secured, however, and it is consequently recommended that the street be widened from 60 to 110 feet at this time. This would result in a thoroughfare of adequate capacity with a double line of tree planting, as shown in Plate 13.

Minnesota Avenue is carried directly south across the new River des Peres, necessitating a new bridge at this point. Separation of grades is proposed at Broadway by carrying the pleasure drive on a viaduct similar to that which now carries traffic from Kingshighway Park over Broadway at Bellerive Park. (See Plate 11.) From this point south the route would follow along the bluff and connect with the drives in Jefferson Barracks. (See Plate 12.) The length of this drive from Kingshighway to Jefferson Barracks would be 4.6 miles.

Cost of the Plan:

The estimated costs of the various parts of the plan may be summarized as follows:

The Bluff Drive:

| | |
|-----------------------------------|-------------|
| Property acquisition..... | \$ 776,500 |
| Construction of Bluff Drive..... | 2,355,000 |
| Construction of Yacht Harbor..... | 675,000 |
| Development of Marine Park..... | 88,000 |
| Total..... | \$3,894,500 |

The Jefferson Barracks Connection:

| | |
|--|-------------|
| Widening and extension of Minnesota Avenue.. | \$1,874,946 |
| (including viaducts over Missouri Pacific Railroad and the River des Peres) | |
| Drive from Broadway to Jefferson Barracks..... | 634,144 |
| (including property acquisition and improvement of drive) | |
| Total..... | \$2,509,090 |