FOREST PARK MASTER PLAN

City of Saint Louis

ADOPTED BY THE COMMUNITY DEVELOPMENT COMMISSION
OF THE CITY OF SAINT LOUIS
DECEMBER 5, 1995

AS AMENDED
Through 2006

Amendment No. 01/97 - Art Museum Purchase of Arena Site
Amendment No. 02/97 - Municipal Golf Courses
Amendment No. 03/06 - Portion of Forest Park East of Kingshighway Blvd. and North of Interstate 64 (Approved by City of St. Louis Planning Commission)

FOREST PARK MASTER PLAN
AMENDMENT NO. 01/97
ATTESTED COPY

2/5/97

STEPHEN ACREE, CHAIRMAN DATE
CDC

F O R E S T P A R K M A S T E R P L A N

Approved at the Community Development Commission Meeting of December 5, 1995

AMENDMENT NO. 01/97

(ART MUSEUM PURCHASE OF ARENA SITE)

to

THE FOREST PARK MASTER PLAN

approved by the Community Development Commission on February 4, 1997

BACKGROUND:

The Master Plan as approved by the CDC in December 1995 refers in several places to a proposed expansion of the Art Museum on up to 4 acres on Art Hill , which included the proposed purchase of the Arena by the Forest Park Assistance Corporation (FPAC).

Since the Plan was adopted, the Land Clearance for Redevelopment Authority (LCRA), the Art Museum, and the Parks Department have agreed to a revised proposal (which is to be included in a Cooperation Agreement between the Art Museum and LCRA) that calls for an inclusive planning process for the Arena site (which will continue to be owned by LCRA during the planning process), and a substantial financial contribution by the Art Museum Subdistrict to Forest Park improvements, under its Forest Park lease. The Museum entities continue to commit $11 million distributed as follows: $7 million from the Museum Subdistrict to improvements in Forest Park outside of the Art Museum leased area (to be provided for in the Art Museum lease); up to $1 million towards the holding costs and planning process for the Arena site; and $3 million as an inducement to the developer to be used for improvements at or adjacent to the Arena Site, if the planning process and the Arena Master Plan will, in the Museum's sole judgment, produce a benefit to Forest Park and to the Museum, as a resident thereof, which justifies such level of funding; otherwise, the $3 million will be for improvements in Forest Park, outside of the Existing Art Museum and the Leased Premises, as determined by the Museum.

The Forest Park Advisory Board approved a resolution recommending an amendment to the Forest Park Master Plan, reflecting this revised proposal, at its meeting of January 6, 1997, as contained in the supporting documentation attached hereto.

Accordingly, amendment of the Master Plan is appropriate, as follows:

AMENDMENT NO. 01/97 TEXT

Upon the recommendation of the Forest Park Advisory Board, made by resolution on January 6, 1997, the Community Development Commission adopts as amendment 01/97 of the 1995 Forest Park Master Plan the following:

a. Notwithstanding anything in the 1995 Forest Park Master Plan to the contrary, the Plan's recommendation regarding the Art Museum expansion in Forest Park including its lease of four additional acres, is not contingent on the purchase of the Arena site, but is contingent on the provisions of the revised proposal as outlined in the Background to this Amendment.

b. Page 17 of the Executive Summary of the 1995 Forest Park Master Plan, AREA 2, Site Specific Recommendations (St. Louis Art Museum) is revised as follows:

DELETE, the following line: -Purchase of the Arena site for park related uses.

ADD, in its place: -Compliance with the terms of the Cooperation Agreement between the Art Museum and the Land Clearance for Redevelopment Authority.

All other references to the Art Museum and the Arena in the 1995 Master Plan are hereby deemed consistent with these changes.

FOREST PARK MASTER PLAN
AMENDMENT NO. 02/97
ATTESTED COPY

10/21/97

STEPHEN ACREE DATE
CHAIRMAN CDC

FOREST PARK MASTER PLAN

Approved at the Community Development Commission Meeting of December 5, 1995

PROPOSED

AMENDMENT NO. 02/97

(MUNICIPAL GOLF COURSES)

to

THE FOREST PARK MASTER PLAN

approved by the Community Development Commission on October 7, 1997

BACKGROUND

The Master Plan as approved by the CDC in December 1995 refers in several places to the fact that the current layouts of the Municipal Golf Courses do not meet today's standards, contains land use conflicts, and drainage problems. The Master Plan outlines site specific recommendations and particular improvements, and suggests two design options for the development of the golf courses.

The first, option A, offers 27 competition golf holes (one 18-hole course and one 9-hole course) and continues to use Lindell Pavilion as the clubhouse. The second, option B, provides 18 competition golf holes, a new clubhouse, a new driving range and 3 practice holes.

Since the plan was adopted, discussions have occurred with the American Golf Corporation and other golf related interests to achieve consensus on a design for the new Municipal Golf Courses. The result of these discussions is the development of a hybrid plan that integrates favorable elements from both options.

Accordingly, amendment of the Master Plan is appropriate, as follows:

AMENDMENT NO 02/97 TEXT

I. Upon the recommendation of the Forest Park Advisory Board, made by resolution on October 2, 1997 the Community Development Commission adopts as Amendment 02/97 of the Forest Park Master Plan the following:

   a. Notwithstanding anything in the 1995 Forest Park Master Plan to the contrary, the Municipal Golf Courses will have 27 holes consisting of 3 returning nines, and golf course operations will be relocated to a new clubhouse building and a new parking lot.

   b. Notwithstanding anything in the 1995 Forest Park Master Plan to the contrary, existing hole 16, located on the western edge of the Art Hill/Grand Basin, is slightly modified in order to allow for the proposed promenade and walkway around Grand Basin, but remains approximately in its current location.

   c. Notwithstanding anything in the 1995 Forest Park Master Plan to the contrary, the proposed soft surface path from the Des Peres Ave./Lindell Blvd. intersection to the Grand Basin is deleted.

II. Page 21 of the Executive Summary of the 1995 Forest Park Master Plan, Section J., System and Site Recommendations, Area 3: Cascades - Municipal Golf Course, is revised as follows:

   Delete all text following the caption, "MUNICIPAL GOLF COURSES", and insert in lieu thereof the following:

   Notwithstanding any other provision of the 1995 Master Plan:

   - Relocate four [five] golf holes away from the Art Hill/Grand Basin to create open space for passive recreation.

   - Improve drainage and golf course quality with new lake system and wetlands. The water level will fluctuate within the lake/wetlands system and the water may be used for irrigation purposes.

   - Landscape to be more naturalistic and responsive to the topography and proposed water system.

   - Remove Grand Drive between Forsyth entrance and De Baliviere entrance.

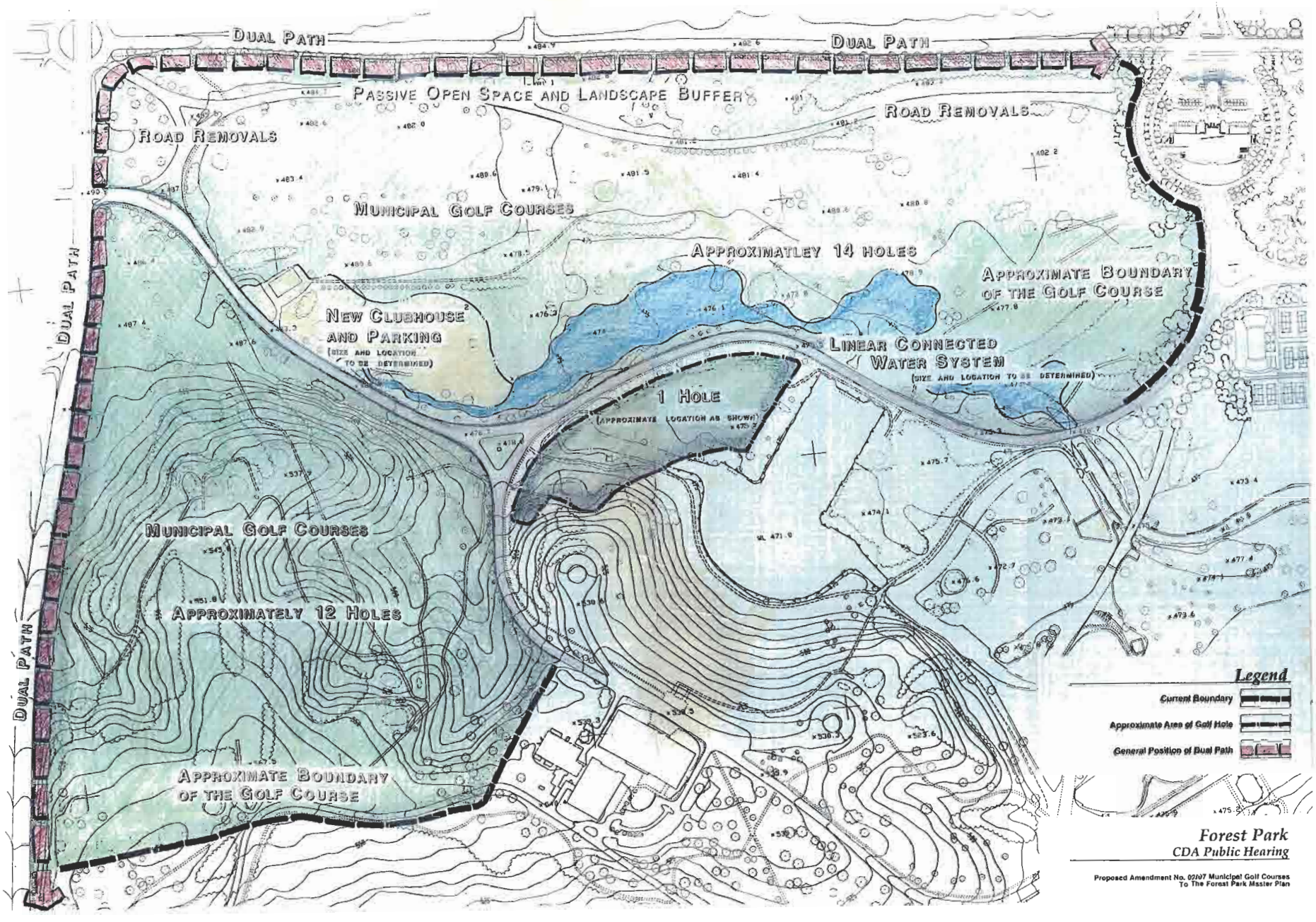
   - The Municipal Golf Courses will have 27 holes consisting of 3 returning nines, and golf course operations will be relocated to a new clubhouse building and a new parking lot. [Consider two golf course options: i) 27-hole course. ii) an 18-hole course.]

   - Consider relocating the maintenance building to a visually unobtrusive hillside location.

   - Redesign Municipal Golf Courses to maintain existing southern boundary adjacent to the existing Valley Drive.

   Note: Text indicated by Italics thus is to be ADDED.

   Text indicated in Brackets[thus] is to be DELETED.



Forest Park
CDA Public Hearing

Proposed Amendment No. 02/97 Municipal Golf Courses
To The Forest Park Master Plan

FOREST PARK MASTER PLAN
AMENDMENT NO. 03/06
ATTESTED COPY

05-10-06

SUSAN A. STAUDER, CHAIRMAN DATE
PLANNING COMMISSION

Approved at City of St. Louis Planning Commission Meeting May 3, 2006
(PDA 063-06-CMP)

FOREST PARK MASTER PLAN
AMENDMENT NO. 03/06
(MODIFICATION OF BJH LEASE)
TO
THE FOREST PARK MASTER PLAN
AND
STRATEGIC LAND USE PLAN

BACKGROUND

Provided By Department of Parks Recreation and Forestry:

The Master Plan as approved by the CDC in December 1995 refers in several places to the desire to limit or prohibit new construction in Forest Park while also acknowledging that there are park areas that are over-utilized and under-utilized and that Forest Park serves as a catalyst "for the continued development and enhancement of the surrounding neighborhoods and business community." Further, the Master Plan recognizes that in the past, Forest Park was "distressed due to years of declining maintenance budgets and resulting deferred maintenance" and among the Master Plan's stated policies are the exploration of additional funding sources for daily maintenance and management costs as well as the requirement to:

> "Utilize private funds to support park improvements and capital expenditures only:
>
> a. Upgrade the City's standards of maintenance and repair so that private and institutional sources of funding are assured of the security of their donations and investments.
>
> b. The level of public funding should not be reduced."

Since the Master Plan was adopted, meeting the goal of not reducing the level of public funding has become more and more difficult.

Barnes-Jewish Hospital ("BJH") has an existing lease with 44 years remaining in its term for approximately 9.4 acres east of Kingshighway. BJH approached the City of St. Louis and its Parks Department seeking an "Amended Lease" with the following modifications to the existing lease: (i) a 46-year extension to the term of that lease; (ii) an immediate expansion of the leased premises to

include an additional approximately 1.4 acres south of Clayton Avenue; (iii) a future expansion to cover land regained when the 40/I-64 and Kingshighway intersection is reconfigured south of Clayton Avenue; and (iv) the right to a dedicated easement in order to continue to have vehicular access to Kingshighway from those sites via Clayton Avenue and Euclid. Based on arms length negotiations and appraisals, representatives of the City and BJH have agreed to the value of the lease extension and expansion and continued vehicular access. Such agreed upon amounts will be deposited in a Maintenance Trust Agreement with an independent trust company and made available as requested by the City to reimburse the City for expenses incurred in maintaining Forest Park in accordance with the City's from time-to-time Forest Park maintenance plan. Under limited circumstances, if other funds are made available on a dedicated basis to Forest Park maintenance, these funds may be used to maintain other parks in the City of St. Louis. Except as provided in the prior sentence, all amounts deposited shall remain in trust until so applied to reimburse the City for maintenance expenses of Forest Park. Any amounts in trust that remain undisbursed for such purpose during any year shall be carried over from time-to-time and year-to-year until disbursed to reimburse the City for such maintenance expenses of Forest Park; any amounts remaining in trust upon termination of the lease shall be released to the City. In this way the City and BJH will dedicate funds contributed in consideration of the lease extension and expansion solely to the maintenance of Forest Park.

AMENDMENT NO. 03/6

(MODIFICATION OF BJH LEASE)

TO

THE FOREST PARK MASTER PLAN

The form of Amendment No. 03/06 of the Master Plan is as follows:

Effective upon the effective date of the Amended and Restated Master Lease between the City and BJH (the "Amended Lease") and the related documents, and for the term of such Amended Lease and any extension thereof, the Forest Park Master Plan, as amended, shall not apply to the area subject to such Amended Lease and any related easements (collectively, the "Leased Premises"); provided, that in the event of the expiration of the term of the Amended Lease, or any extension thereof, or the early termination of the Amended Lease, the Forest Park Master Plan, as amended, shall again be applicable to the Leased Premises, according to its terms. Specifically, notwithstanding anything in the 1995 Forest Park Master Plan to the contrary:

a. The Plan's prohibition on new buildings in Forest Park, for uses unrelated to existing ZMD institutions, shall not apply to the "Leased Premises" under the proposed Amended Lease between the City and BJH.

b. The Plan's guiding principle concerning the quantity of no-net-loss-of-open-space shall hereafter be calculated excluding all land east of the west line of Kingshighway and north of 40/I-64. The updated calculations for 1983 and as of January 1, 2006 for the land west of Kingshighway is as follows:

PAGE 130 - E. Forest Park 1983 Area Calculations:
Existing Built and Open Space Areas

Built Areas		Acres	%
Roads and Parking			
Buildings and Structures			
Paths and Sidewalks			
Service Yards			
Paved Recreational			
	Sub-Total	278.75	21.88

Open Areas		Acres	
Passive Green			
Active Green			
Water			
Swales/Tributaries			
	Sub-Total	995.31	78.12
Total Area Considered for Open Space Calc.		1,274.06	100.00

Area Excluded from Open Space Calc.	Acres
Light Rail & I-64 R.O.W.	85.66
TOTAL AREA OF PARK	1,359.72

Note the balance between built and open space is approximately 22% to 78% respectively.

Forest Park 2006 Area Calculations:
Existing Built and Open Space Areas

Built Areas		Acres	%
Roads and Parking			
Buildings and Structures			
Paths and Sidewalks			
Service Yards			
Paved Recreational			
	Sub-Total	**276.22**	**21.88**

Open Areas		Acres	
Passive Green			
Active Green			
Water			
Swales/Tributaries			
	Sub-Total	**985.94**	**78.12**

Total Area Considered for Open Space Calc.	**1,262.16**	100.00

Area Excluded from Open Space Calc.		Acres
Light Rail & I-64 R.O.W.		85.66
Land East of Kingshighway, North of I-64		11.90
	Sub-Total	**97.56**

TOTAL AREA OF PARK	**1,359.72**

Methodology:

We first established that the area of land located east of Kingshighway was 11.9 acres in area and comprised of 2.53 acres of built space and 9.37 acres of open space. The respective built and open areas were then reduced and the area excluded from the open space calculation increased accordingly.

General Notes:

It should be noted that by taking this area out of the open space calculation we are able to maintain the 1983 balance between open and built space.

The current status of the built and open space stands at 4.42 acre surplus of open space.

c. The Plan's recommendation for the Hudlin Courts Area, Barnes Hospital Plaza, Clayton Road Entrance, Bowl Lake, Jefferson Drive East of Lake and Faulkner Drive shall be revised to allow for: (i) the development of the Leased Premises; (ii) the maintenance of Clayton Avenue in its current condition; (iii) the relocation of the Hudlin Court improvements to a location designated by the City at such time as the area is developed at the expense of BJH; and (iv) consideration of the installation of bike path access along Clayton Avenue under Kingshighway. The specific section shall be revised to read as follows:

HUDLIN COURTS AREA [pp. 29, 281, 362, 398]

- Barnes-Jewish Hospital shall relocate the lighted racquet sports facilities, children's play areas and other improvements to new locations as designated by the City Parks Department at such time as development by Barnes-Jewish Hospital is scheduled for the courts area.
- Maintain existing improvements to Clayton Avenue allowing vehicular access to Euclid and to Kingshighway.

BARNES-JEWISH HOSPITAL PLAZA [pp. 357 and 396]

- Coordinate with the BJC Hospital complex to redesign the roadway from Euclid to Clayton Avenue, creating a landscaped boulevard entrance and exit for both the park and hospital complex. (completed)
- Reconfigure the four-way Kingshighway intersection to create 90° connections in all directions. (completed)

CLAYTON AVENUE ENTRANCE [pp. 362 and 398]

- Maintain Clayton Avenue and consider adding bike path.

BOWL LAKE [pp. 362, 398 and 400]

- Re-route the bike path to a new crossing at a redesigned Faulkner-Clayton intersection.
- Provide a hard and soft surface trail network with boardwalks and overlooks around the lake, possibly providing an interpretive nature trail system coordinated with the Science Center.
- Improve pedestrian access to Seven Pools.
- Link to the existing entrances at Clayton Avenue and Barnes-Jewish Hospital Plaza.

JEFFERSON DRIVE EAST OF LAKE [pp. 362 and 396]

- Maintain Clayton Avenue and consider adding bike path.

FAULKNER DRIVE [p. 397]

- Redesign the portion north east of Jefferson Lake to allow safe street parking on both sides.
- Redesign the Clayton Road intersection as a four-way stop with improved sight lines, reduced dead space, 90° junctions, and accentuated pedestrian and bike crossing areas.
- Remove parking from along the entrance drive to the Science Center and consolidate into a redesigned, more efficient parking area adjacent to the building (±150 cars).

d. The "Responsibilities and Authority of the Forest Park Advisory Board" and the related approval process for projects in Forest Park shall be modified such that the development of the property leased to Barnes-Jewish Hospital shall be subject to the jurisdiction of a Community Unit Plan and not be within the jurisdiction of the Forest Park Advisory Board, the Forest Park Master Plan or any successor or similar entity or process. [add to end of B on page 409 and D on page 413]

FOREST PARK MASTER PLAN

City of Saint Louis

ADOPTED BY THE COMMUNITY DEVELOPMENT COMMISSION
OF THE CITY OF SAINT LOUIS
DECEMBER 5, 1995

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EXECUTIVE SUMMARY

A. PRESERVING A UNIQUE ST. LOUIS RESOURCE

Forest Park is one of St. Louis' most unique and treasured resources. Located within easy access of most of the region's citizens, the park has neighborhood, city-wide and regional significance. Approximately 10 million people use the park each year to visit the region's major cultural institutions, participate in active recreational pursuits, attend special events or enjoy a respite from urban life.

Forest Park is equally significant from a naturalistic perspective. In a city where 80% of the land has been developed for business, industry or residential uses, the park serves as a natural oasis for the city, an important source of green space, a home away from home for migrating birds, and an integrated ecosystem where humans and nature interact.

Over two years ago, the City of St. Louis began the process of developing a revision to the 1983 Master Plan for Forest Park that would conserve the park's size, beauty, and quality, while satisfying the needs of a diverse group of park users. Throughout this process, planners have recognized the importance of the park as an ecosystem and have attempted to formulate a sound and holistic approach to meeting the needs of all park users.

The extensive nature of the planning process has been reflective of the diversity of uses and users of the park itself and has included:

- 25 public meetings to gather input and ideas from park users and area residents.

- An additional 100 meetings with various community, park user, and neighborhood groups.

- Citizen involvement in the planning process, led by the 67 member Forest Park Master Plan Committee (FPMP Committee), appointed by Mayor Freeman Bosley, Jr. in May 1994, which met approximately 20 times.

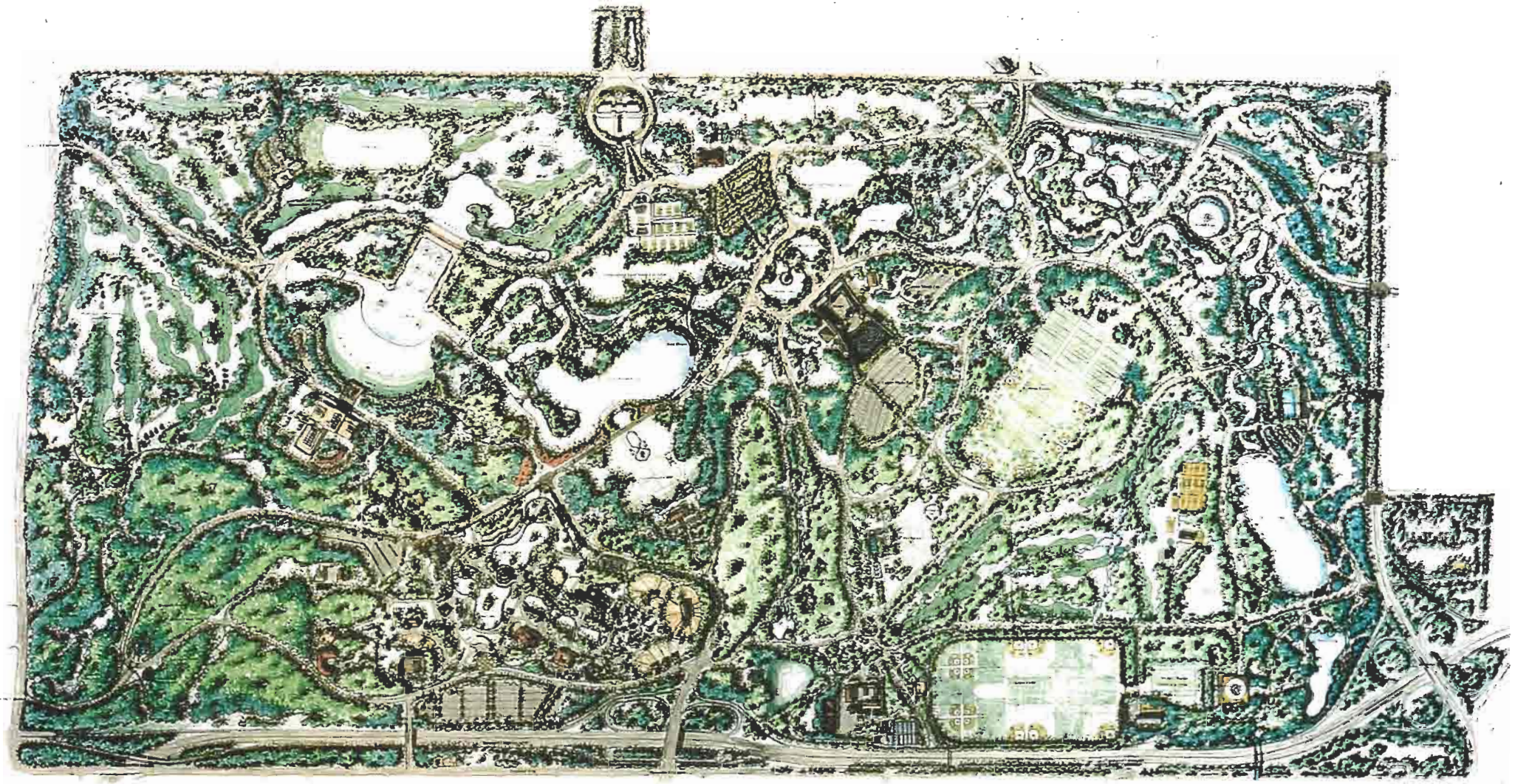
- An Executive Committee, consisting of the two co-chairs of the Master Plan Committee, Gary Bess and Kathryn Nelson, plus three elected officials, four City department representatives, one representative from the mayor's office, and nine non-City representatives. The Executive Committee met more than 50 times.

- A Project Team, chaired by John Hoal, director of Urban Design, St. Louis Development Corporation, and consisting of City design professionals and consultants with technical expertise in a variety of disciplines required for analysis and design of the park. Membership on the team included architects, urban designers, a landscape architect, a traffic engineer, a community liaison specialist, golf consultants, an ecologist/naturalist, soil and water consultants, a civil engineer/ hydrologist, and facilitators.

B. A VISION OF THE FUTURE

As part of the planning process, Forest Park planners developed the following vision statement for the park, which was endorsed by the St. Louis Board of Aldermen in January 1995. It describes how the planners and citizens envision the park in the future.

> *Forest Park is a gathering place for St. Louisans and our guests, an urban park that is the home for attractions, events and activities that reflect our interests, culture, and history. It is a place to experience wonders great and small, natural and man made: an inspiring vista, an endangered species, an Old World masterpiece, real world technology, or a shady glen that offers a moment of tranquillity. It is a place we share, and a place for which we share responsibility.*
>
> *Forest Park provides us with settings to appreciate the world around us, and within ourselves. It is easily accessible, yet free of the constant intrusions of daily life. Here we may walk barefoot in the grass, hear the sweet song of a migratory bird, watch young children catching their first fish or neighbors enjoying a summer's day. We may contemplate a piece of art or architecture, float on the lakes amidst falling autumn leaves, walk silently through a forest on freshly fallen snow, or lie in the fields of wildflowers as Spring arrives.*
>
> *As home to many of our finest cultural institutions, Forest Park is a place to come face-to-face with a baby chimpanzee, take a journey through the heavens or back in time, hear the stars sing at night, or uncover the secrets of a pharaoh's tomb. It is a place of learning and discovery, of unique experiences that bring us back again and again.*
>
> *As a center of recreational activity, Forest Park teems with athletes and sports enthusiasts at all levels, ages, and skills. Its paths, fields, courses, and courts allow those involved in each activity the freedom to enjoy the park without limiting the enjoyment of others.*
>
> *As a focal point for special events, Forest Park gives us reasons to celebrate our heritage, our hopes, and our happiness. Our gatherings here help define our community and demonstrate the warmth, wonder, and friendship that we share.*
>
> *No where else can we share the variety and totality of experiences that Forest Park provides. The strength of the park flows from that sharing, from our willingness and ability to protect the park for all of us in all of our uses. Forest Park is more than a symbol of the beauty and tradition of St. Louis; it is a place where we define our community and celebrate our pluralism every day.*



FOREST PARK MASTER PLAN

C. MASTER PLAN GOALS

The Master Plan for Forest Park contains a number of goals which, when accomplished, will ensure a diverse, multi-purpose, environmentally sound future for the park and its users. These goals are:

- ❑ Forest Park should be ...

  - An attraction for visitors to St. Louis and the citizens of the region.
  - A place where the St. Louis region celebrates its pluralism.
  - The home of many of the region's special events, including multi-cultural events.
  - Well-maintained and safe for all park users.
  - An environmentally safe recreation area, posing no hazard to the health and safety of current and future park users.

- ❑ Forest Park should provide ...

  - For many of the diverse open space, cultural, and recreational needs and activities of the region.
  - For the preservation and maintenance of its natural resources, environment and wildlife habitat to ensure a sustainable, ecologically sound natural system.
  - Safe and enjoyable access for all park users.
  - Educational and volunteer programs, events, visitor services, and outreach activities.
  - A diversity of activities, including multi-cultural events.
  - City-run and promoted youth programs.
  - Access and attractions that are in full compliance with the Americans with Disabilities Act (ADA).

- ❑ Forest Park's existing cultural institutions (Art Museum, Zoo, Science Center, History Museum and the MUNY) are valued and should remain in Forest Park.

- ❑ Forest Park's natural beauty, scenic value, and historic and cultural institutions should be the basis for the enjoyment of the park, regardless of future changes in types and levels of park activities and park users.

- ❑ Forest Park should be well-managed, governed, and financed, based upon an open and inclusive, public/private, participatory process.

- ❑ Forest Park should be preserved as an affordable experience for all park users.

- ❑ The principles of stewardship, partnership and shared responsibility among all Forest Park entities are strongly encouraged.

- ❑ Available sites along the park's edge outside of its current boundaries, including the Arena site, should be pursued for future park needs.

D. ACCOMPLISHMENTS

This Master Plan reflects the interests, needs and wishes of individuals, groups, neighbors, institutions, benefactors, and other interest groups who share a desire to see that Forest Park remains a vital asset for the entire community. Among its accomplishments, the Master Plan:

- Acknowledges that the redevelopment of Forest Park will serve as a catalyst, not only for improvements to the park, but for the continued development and enhancement of the surrounding neighborhoods and business community.
- Provides ongoing citizen input and involvement in the future of Forest Park.
- Respects and retains the diversity of park activities.
- Retains the existing balance of park uses.
- Respects and improves existing park character.
- Improves the park's natural systems.
- Improves the park's active recreation systems.
- Retains the park's existing cultural institutions.
- Improves other existing park facilities.
- Provides operational flexibility.
- Improves connections to neighborhoods, City and the region.
- Proposes no increase in built area.
- Is realistic and attainable.

E. COMMUNITY INVOLVEMENT

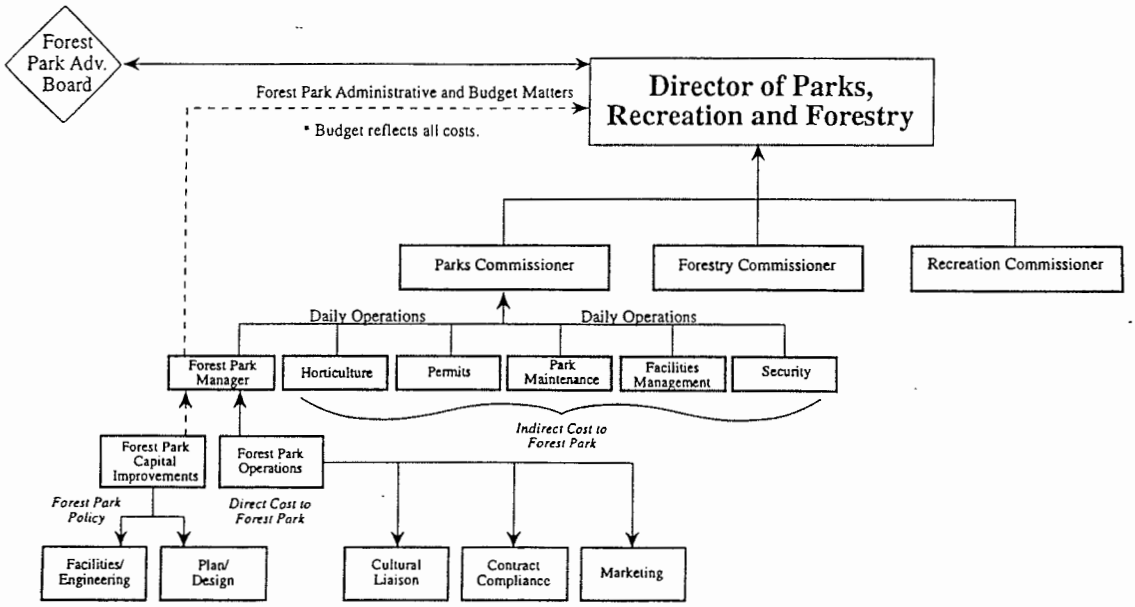
Throughout the development of this Master Plan, the input and involvement of the citizens of St. Louis has been a primary tenet. The park must serve the needs of many diverse groups. The continuing involvement of these groups and citizens in ongoing detailed development and implementation of this plan is critical.

F. GOVERNANCE AND MANAGEMENT

The Master Plan recommends the establishment of a new Forest Park Advisory Board, whose members will be appointed by the mayor and approved by the Board of Aldermen. This Advisory Board will provide ongoing public input and oversight into the implementation of the Master Plan. It will be representative of all major park user groups. The City's Board of Aldermen, by virtue of their responsibility for the City's annual budget, will have oversight authority to ensure the provisions of this plan are met.

The Forest Park Manager, who will report to the City's Director of Parks, has day-to-day responsibility for managing implementation of the Plan. In order to provide greater autonomous management and full budgetary responsibility, Forest Park will also be identified within the city budget as a separate budget unit.

1. Proposed Management Structure Diagram



2.

Forest Park Advisory Board

Total Membership = 25

20 Members Appointed by the Mayor

Board of Aldermen approve the appointments made by the Mayor

One selected from among persons nominated by community groups or neighborhood organizations in neighborhoods adjacent to Forest Park

One selected from among persons nominated by Subdistricts or governing boards of institutions of the ZMD with facilities located in Forest Park and the Muny.

One selected from among persons nominated by community organizations which use or whose members use a portion of Forest Park on an ongoing basis for amateur sports activities pursuant to permits issued by BPS and Dept. of P, R & F.

One selected from among persons nominated by persons, organizations or other entities which are not described in paragraphs 1, 2 or 3 with leases or permits from, or contract with the City or Dept. of P, R & F, for ongoing use of a portion of Forest Park.

One selected from among persons nominated by environmental advocacy groups active in the metropolitan area.

One member with experitise in landscape architecture.

One member with experitise in urban design.

One member with experitise in ecology and natural resources.

Seven members at large reflecting the geographic, racial, ethnic and gender diversity of the City. In addition, the Mayor may appoint up to five non-voting*, advisory members who are not residents of the City.

**City Charter requires residency for voting membership*

5 Members

The following members shall serve ex-officio:

- The Forest Park Manager
- The Exec. Dir. of Forest Park Forever, Inc. or his/her designee
- The Alderman of any ward in which any part of Forest Park is located
- The chair of the Parks Committee of the Board of Aldermen
- One of the following as determined by the Mayor:
  - The Director of Planning - CDA
  - The Commissioner of Heritage and Urban Design
  - The Director of Urban Design - SLDC or
  - The President of the Board of Public Service

City of Saint Louis
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

Dec. 5, 1995

G. Design Approach

The design approach used in the development of the Master Plan was to **"create a total park experience using the human-ecosystem design method to develop sustainable park-wide systems that balance and integrate the diversity of activities, uses, users, and environments."**

Each component of the design approach is discussed below:

1. A Total Park Experience

The overriding ideal used throughout the design effort to guide decision-making was **"to create a total park experience."** This is described in the following way:

- A total park experience allows park users to stimulate the mind, the body or the spirit as they see fit, through a variety of cultural, educational and recreational facilities, opportunities, and amenities.
- Park patrons should be able to access and conveniently circulate between any park attractions they wish to experience.
- Park attractions should span a broad spectrum of activities, providing a balanced mix of indoor and outdoor cultural and educational amenities, outdoor active recreation, and unstructured outdoor passive recreation.
- The park should be a place of education, where visitors can learn from and about our natural systems and where park facilities and institutions facilitate the delivery of educational program tied to the park experience itself.

2. The Human-Ecosystem Design Method

Parallel to the total park experience, the planners stressed a design method known as the **human-ecosystem design method.** A human-ecosystem is an intentionally designed and managed ecosystem representing a symbiosis of human and natural processes. In a human-ecosystem, human and natural processes will merge indistinguishably into an organic whole. This is a critical element when determining the extent of built facilities, natural areas, and other uses which are appropriate for Forest Park.

3. Sustainability

The third component of the design approach was **sustainability**. It is generally accepted that the St. Louis region should embrace the concept of sustainability to remain competitive and on the cutting edge of the latest business and environmental practices. The park system is an important component in this drive toward a sustainable region. With Forest Park representing approximately 50% of our park system it is critical that it be the first of our parks to fulfill this ideal. Not only should Forest Park and its facilities embrace and be designed on sustainable principles, but they should be catalysts and educational classrooms for the entire region.

4. Park-wide Systems

Critical to the success of the above three design components was the creation of cohesive **park-wide systems.** This approach focuses on the Park's design as a series of systems which must remain connected to function in an efficient and healthy manner. Some of the benefits of connected systems include:

- Improved water flow and health.
- Improved landscape biodiversity.
- Improved vehicular and pedestrian flow and function.
- Improved wildlife habitat and migration corridors.
- Improved function and efficiency of underground utilities.
- Improved connections between the existing park facilities.
- Improved connections to the neighborhoods, City and region.
- Improved and integrated educational opportunities.
- Improved public realm and heart of our community.

5. Balance

The final component of the design approach that integrates all the above is the notion of **balance**. This component stresses the fact the Forest Park is an urban park which is heavily used by humans. It also acknowledges that Forest Park is an urban oasis for local and migrating wildlife and one of the few large, continuous areas of open green space within the St. Louis Metropolitan Area. It is, therefore, critical to the area's environment. As a result, Forest Park's design must balance, connect and integrate the functional needs of humans, as well as the needs of the entire biological community, that make up the area's ecosystem.

H. Design Concept

In developing the major concepts for the park, the designers integrated the above mentioned design approach with Forest Park's existing **sense of place**. The park's sense of place is a complex phenomenon, founded upon people's perceptions and emotional attachments, the history and culture of the park, its physical characteristics and facilities, and their use. Thus, the park designers wanted the improvements to Forest Park to re-create the beauty of the Park, retain its beloved familiarity, and restore its place as the crown jewel of parks in the area.

One major concept was to provide an **open space spine** connecting and integrating the park's natural infrastructure and the civic infrastructure (the cultural institutions, park facilities, and features). The open space spine links the Cascades in the north-west section to Kennedy Forest in the south-west section and to Bowl Lake, adjacent to the Science Center and Kingshighway Boulevard in the south-east section of the park. The open space spine is based upon the park's natural and man-made features and follows the old River Des Peres' water course and line of bluffs in the park. It is essentially passive in nature, although the design, the quality and the experience of the park changes along its length. Functionally and visually, this spine connects all the major cultural institutions, park facilities, and active recreation areas. It is also the means by which people move between these major park facilities. From a natural systems point of view, it connects the natural communities and wildlife.

A second important design concept was to provide a major civic space or gathering place. This was achieved by restoring the **heart of the park** — the Grand Basin, Art Hill and Post-Dispatch Lake area. This area was the historic center of the park during the 1904 World's Fair and the site of many major community gatherings, such as the celebration in 1927 for Charles Lindbergh's flight from New York to Paris. Today, it is the symbolic center of the park which has the potential to be restored to its former prominence and become a major center of activity along the open space spine.

To compliment the open space spine and the major civic space — the heart of the park — the design provides, on a more intimate scale, a sequence of **landmarks, places, streets and paths**. Landmarks help visually orient users of the park by providing a wayfinding system. Places provide intimate spaces for people to interact, enjoy nature and wildlife, or just to be alone. The design concept provides for a variety of places with different forms, identities, and spatial and experiential qualities that correspond to the different uses in the park. In addition, Forest Park has major streets and pathways that are aesthetically and functionally designed to be significant experiences for both the pedestrian and the driver of an automobile.

Forest Park is designed on a detailed scale with an understanding of the following issues: human scale and how people relate to and move in the landscape; the proportions, texture and seasonal rhythm of the landscape; the implications of the juxtaposition of uses; and the sense of the passage of time.

I. DESIGN PRINCIPLES

Based upon the design approach and concept as well as the analysis of the existing conditions of Forest Park, the planners developed 10 design principles:

1. Integrate and connect Forest Park to the region, city, and adjacent neighborhoods.
2. Integrate historically significant landmarks, landscape, and site relationships.
3. Emphasize land forms to define park experience.
4. Create a linear connected water system.
5. Create a passive open space system.
6. Create active space systems.
7. Emphasize site relationships.
8. Create multi-functional zones with shared facilities.
9. Create multi-modal, distributed access system.
10. Create underground utility corridors.

J. SYSTEM AND SITE RECOMMENDATIONS

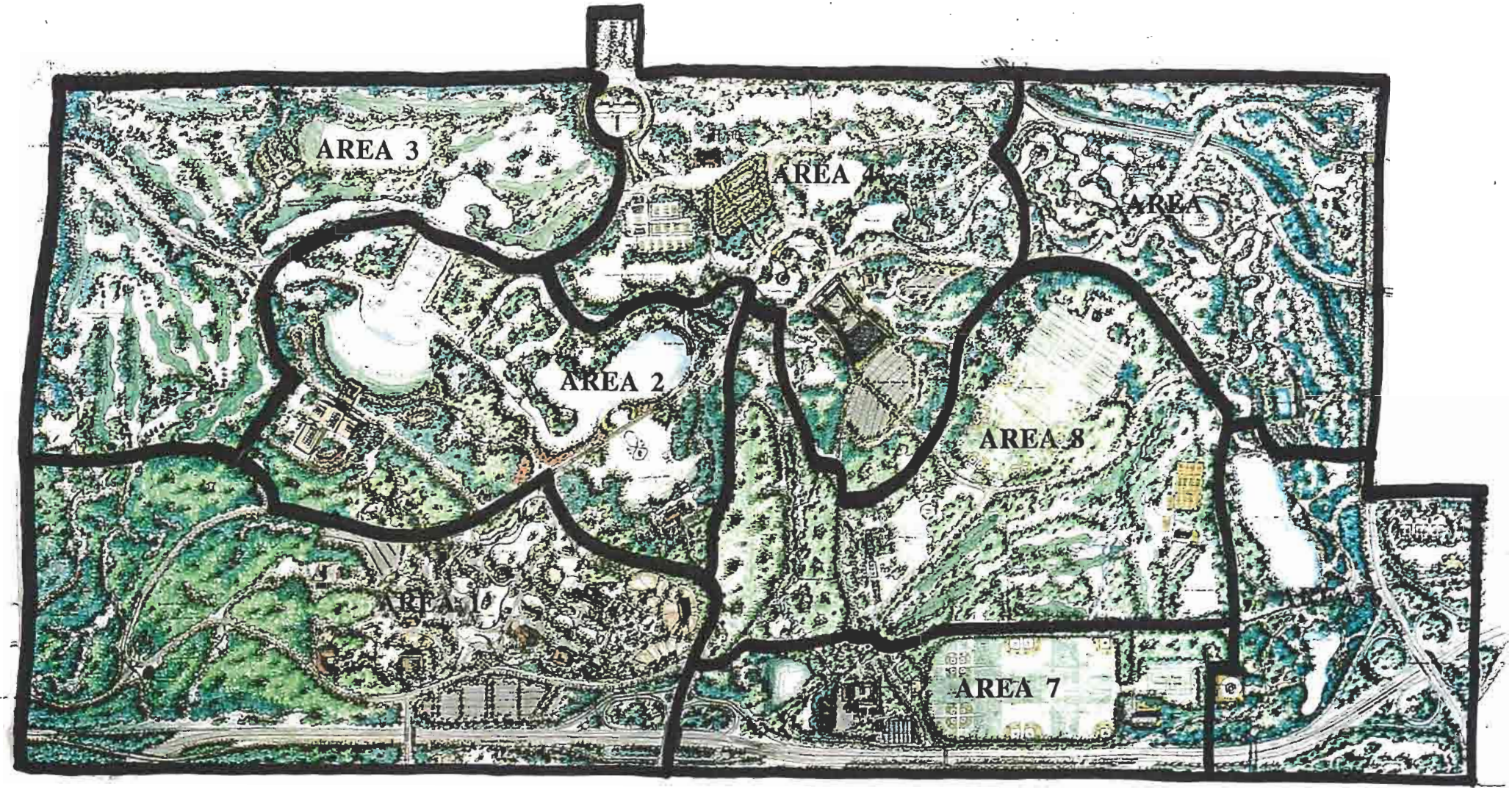
In order to develop a set of design recommendations for improvements to Forest Park, a comprehensive inventory and analysis of existing sites, facilities, amenities, and infrastructure was undertaken. This study compared the park's existing conditions in 1995 to its original layout and features in 1874 and its evolution to the present. It also analyzed how and where the historical context and natural features of the park could and should be restored, modified, or changed. Specific recommendations were then proposed, reviewed, submitted for public comment and revised before their inclusion in this Master Plan.

Recommendations were developed for each area and site in the park with regard to six critical systems:

- Passive open space
- Water
- Landscape
- Active space
- Park facilities, art, architecture and infrastructure
- Access, circulation and parking.

In the future, decisions will be made by other institutions and agencies outside the park that will have an impact on the park. Every effort should be made to work collaboratively to ensure that those decisions fulfill the goals, policies, and principles of this Plan.

Specific recommendations contained in the Master Plan are summarized below. Recommendations are shown for each site within eight designated areas, which correspond to the park map on the adjacent page.



SITE SPECIFIC RECOMMENDATIONS - KEY PLAN

AREA 1: KENNEDY FOREST - ZOO - HAMPTON ENTRANCE

The Southwest portion of Forest Park contains Kennedy Forest and the Saint Louis Zoo. Recommendations for this area include improvements to the ecological, aesthetic and educational aspects of Kennedy Forest, reduction in traffic by making Wells Drive one-way eastbound from Skinker, efforts to reduce the traffic congestion at the Hampton entrance to the park, the Zoo's proposal to upgrade their exhibits and facilities within the existing Zoo grounds, and aesthetic and safety improvements to the parking lot south of the Zoo.

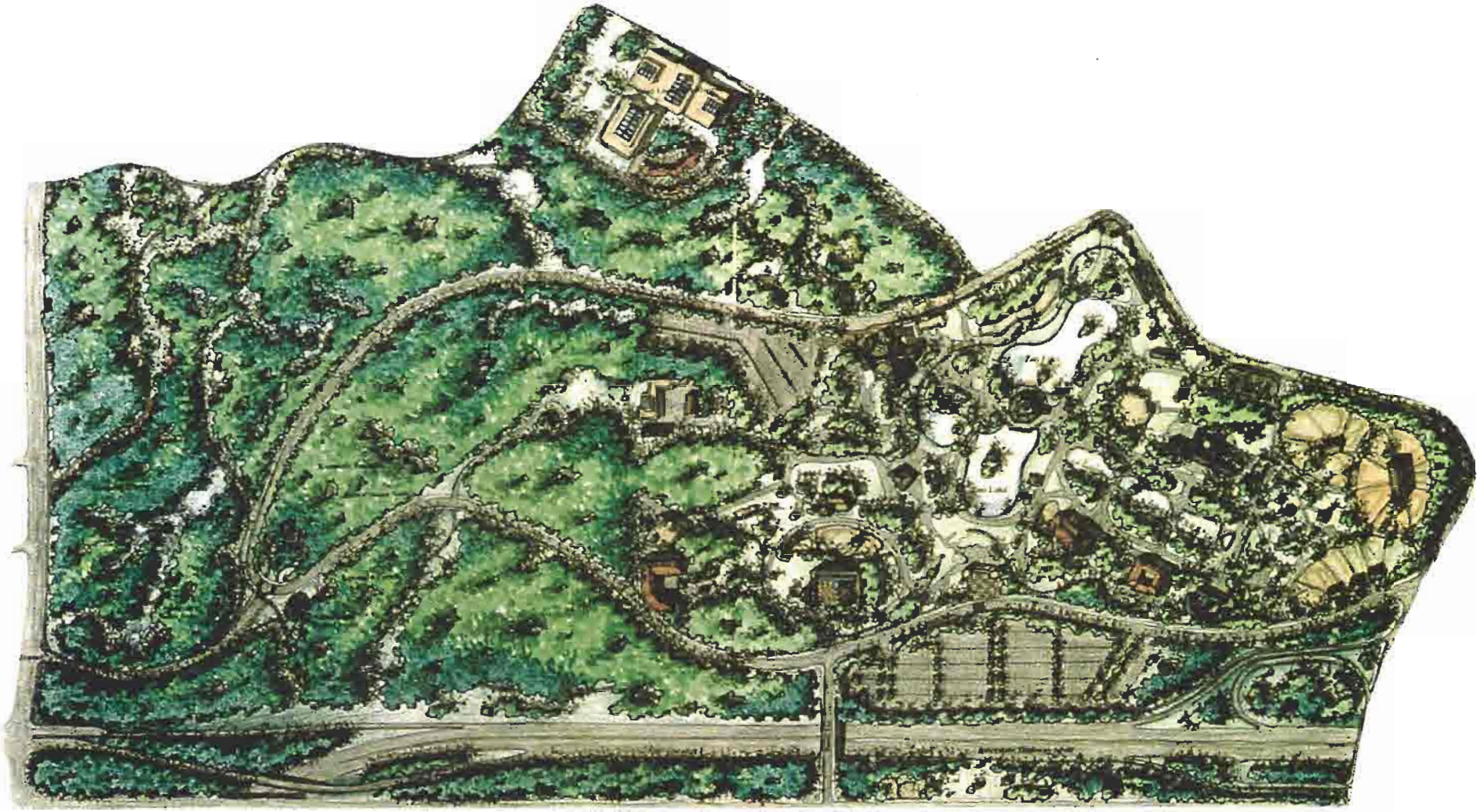
Site specific recommendations include:

KENNEDY FOREST

- Improve the Forest's environmental and aesthetic quality while allowing safe recreation and educational use.
- Support Missouri Department of Conservation (MODOC) plans for vegetative management and nature trail operation.
- Expedite MODOC's nature/trail center at/near the Government/Wells intersection.
- Ensure public safety in isolated areas.
- Design paths to function as public trails as well as service and security access routes.
- Make Wells a one-way entrance from Skinker to Government Drive with a parallel bike/pedestrian entrance.
- Use plantings to reduce the visual and audible impact of area roads and highway 64/40.
- Improve erosion control, sediment filtration, and water quality/control.
- Redesign the surface drainage system to improve the water quality of the lake system.

SAINT LOUIS ZOO

- Zoo to modify exhibit space within existing boundaries.
- Zoo to improve parking lot south of the Wells Drive, including perimeter and internal landscaping and a new, naturalistic entrance plaza.
- Improve edges of existing lakes within Zoo to enhance aesthetics, water fowl display, and habitat.
- Improve ADA access from surrounding area landscapes.
- Provide significant quantities of bike parking to serve path users.



FOREST PARK MASTER PLAN

Area 1 Recommendations

KENNEDY FOREST - ZOO - HAMPTON ENTRANCE

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

OAKLAND EDGE: HAMPTON TO SKINKER

- Reduce Hampton usage as the major park entrance by encouraging use of all four interchanges (Skinker, Oakland, Hampton and Kingshighway).
- Consider long-term option for tight diamond interchange at Hampton/Highway 64/40 intersection.
- Collaborate with the city, the State Highway Department, and neighborhood groups to design solutions for the Skinker/Highway 64/40 intersection which reduce amount of park open space used and place no additional commuter traffic burden on the park.
- Maintain existing Par Course Exercise Station.
- Improve and expand children's play areas, including Turtle Park.
- Maintain existing comfort station for area users.
- Improve sidewalks and streetscape treatments along Oakland.
- Improve Tamm bridge with decorative paving, lighting, railings, etc. to create a pedestrian gateway at Oakland.
- Remove or consider modifying remnant of Clayton road to create a small parking area if it meets the criteria of no net-loss-of-open -space.

AREA 2: ART HILL/GRAND BASIN - POST-DISPATCH LAKE

This area of Forest Park is dominated by three land features: a relatively flat, bottom land area which is ideal for golf, jogging, biking and picnicking; the Art Hill/Grand Basin area, home to the Art Museum and some of the most dramatic vistas in the park; and Post-Dispatch Lake, the largest single body of water in the park. Changes and improvements include redesign of the golf courses to remove existing holes from Art Hill and Grand Basin, creation of pedestrian promenades at the top and bottom of Art Hill, expansion of the Art Museum facilities, and linking of the Grand Basin area to Post-Dispatch Lake for improved public boating and strolling.

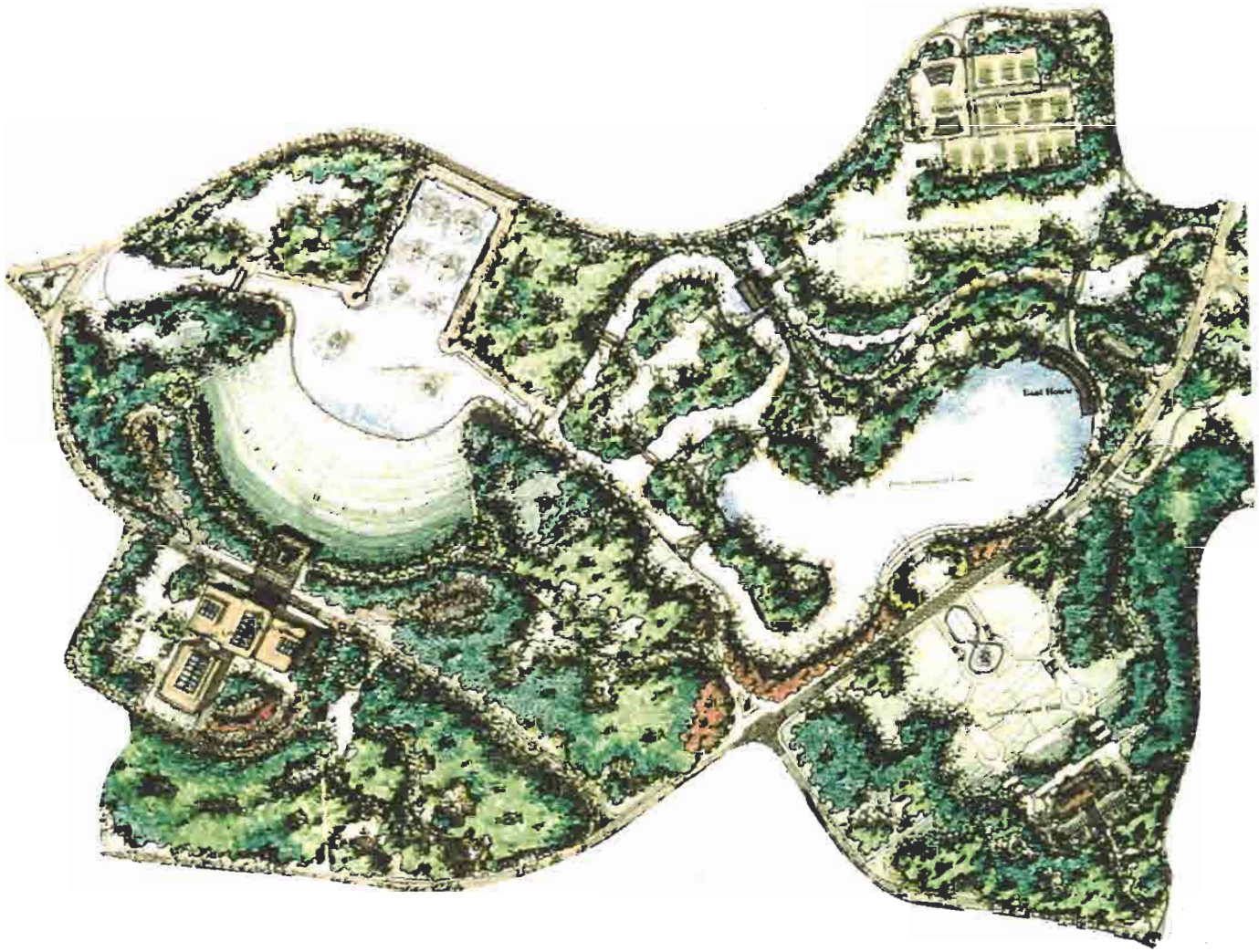
Site specific recommendations include:

SAINT LOUIS ART MUSEUM

- The Art Museum to expand over the next 50 years, per the Forest Park Assistance Corporation proposal, which includes:
  - Purchase of the Arena site for park-related uses.
  - Expansion of exhibit space and institutional facilities on up to 72% of four acres.
  - Expansion of built area (buildings, roads, sidewalks, etc.) on up to 85% of four acres.
  - Construction of up to 575 underground parking spaces beneath the new building.
- Provide significant quantities of bike parking to serve path users.

ART HILL/GRAND BASIN AREA

- Relocate five golf holes away from the Art Hill/Grand Basin area to create open space for passive recreation and special events.
- Create pedestrian pathways and overlooks at the crest of Art Hill.
- Mow Art Hill with horizontal light and dark green bands.
- Use paths and plantings to frame Art Hill and the Art Museum.
- Create informal spaces to the east and west of Art Hill and Grand Basin, tied to the lagoons there.
- Provide evergreen and upland forest plantings to provide winter seasonal color.
- Provide seasonal amenities and safety features to facilitate safe winter recreation.
- Reconstruct Grand Basin walls and stairs.
- Use decorative paving, plantings, canopy trees and other aesthetic features to create "The Promenade" at the base of Art Hill around basin.
- Improve pedestrian links to Post-Dispatch Lake.
- Provide opportunities for improved public boating.
- Consider lighting of fountains and other basin features for dramatic visual effects.
- Install provisions and facilities for a temporary performance stage in Grand Basin for occasional special events.
- Improve adjacent areas for picnics, special events and passive recreation.
- Reconfigure existing parking lots at the top of Art Hill.



FOREST PARK MASTER PLAN

Area 2 Recommendations

ART HILL - GRAND BASIN - POST DISPATCH LAKE

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

POST-DISPATCH LAKE AREA

- Dredge and expand the lake.
- Restore former islands and dramatic vistas.
- Improve water links to Grand Basin.
- Improve water quality, aesthetics, and environmental quality.
- Deter water fowl use of this area.
- Remove the sanitary sewer input which currently enters the lake.
- Improve water link and flow to River Des Peres Lagoon.
- Utilize lake volume to attenuate the rate of stormwater run-off through the drainage system.
- Improve/expand the path system to link to area landscapes, islands and major park uses.
- Create a pedestrian plaza at the base of Government Hill.
- Utilize plantings, public art, and site furnishings to accentuate the isthmus between Post-Dispatch Lake and River Des Peres Lagoon and to create intriguing open spaces.
- Create "The Clearing" at the termination of the central isthmus and Government Hill axes, highlighted by canopy and ornamental trees and public art.

BOATHOUSE

- Demolish existing buildings.
- Provide a new boathouse with possible food concession and all-season programming.

LOG CABIN

- Consider adaptive re-use, removal, or relocation.

SPILLWAYS AREA

- Use vegetation and stone outcroppings to enhance naturalistic cascading character.
- Improve water quality, aesthetics, and wildlife habitat.
- Create a small pavilion to serve area users.
- Restore the existing pedestrian suspension bridge.

THE ISLAND

- Create an informal woodland and island area with picnic-related site furnishings and dramatic water edge plantings.
- Restore and/or provide new pedestrian bridges to access the island.
- Provide a path connection to Grand Basin area and its promenade.

GOVERNMENT HILL

- Repair and restore the Pavilion and scenic beauty of the hillside.
- Increase evergreen and flowering ornamental plantings.
- Accentuate relationships and access ways between World's Fair Pavilion and surrounding landscapes and architecture.
- Define small respite sites to the east and west of the hill with public art and other small-scale furnishings.

WORLD'S FAIR PAVILION

- Increase use as a flexible, all-season, affordable facility with improved food service, restrooms, and visitor amenities.
- Accentuate the scenic overlooks from the building.
- Improve vehicular and pedestrian access.
- Redesign parking areas for improved aesthetics and efficiency.
- Provide significant quantities of bike parking to serve path users.

AREA 3: CASCADES - MUNICIPAL GOLF COURSE

The Northwest portion of the park is the location of the municipal golf course. This course will be redesigned in order to remove five holes from the Art Hill/Grand Basin area. A landscape buffer will be maintained along Lindell Boulevard and a pathway is proposed connecting Des Peres Avenue to Grand Basin. Site specific recommendations include:

CASCADES

- Connect the Cascades to the rest of the passive open space, path, and water systems.
- Install lush understory plantings.

LINDELL EDGE — SKINKER TO DEBALIVIERE

- Maintain existing alée (double row of trees) along Lindell.
- Provide a dual path and passive open space along the northern golf course edge to serve neighborhood residents and provide a landscape buffer.
- Remove Grand Drive from Lagoon Drive to the Missouri History Museum.
- Remove Des Peres Drive.
- Provide a soft surface path linking Des Peres Avenue to Grand Basin.

MUNICIPAL GOLF COURSES

- Relocate five golf holes away from the Art Hill/Grand Basin to create open space for passive recreation.
- Improve drainage and golf course quality with new lake system and wetlands. The water level will fluctuate within the lake/wetlands system and the water may be used for irrigation purposes.
- Landscape to be more naturalistic and responsive to the topography and proposed water system
- Remove Grand Drive between Forsyth entrance and DeBaliviere entrance.
- Consider two golf course options:
  i) 27 hole course.
  ii) 18 hole course.
- Consider relocating the maintenance building to a visually unobtrusive hillside location.
- Redesign Municipal Golf Course to maintain existing southern boundary adjacent to the existing Valley Drive.

FOREST PARK MASTER PLAN

Area 3 Recommendations

MUNICIPAL GOLF COURSE

AREA 4: MISSOURI HISTORY MUSEUM - MUNY

Significant attention will be paid to the open space central spine of Forest Park, to reestablish its prominence and grandeur while enhancing opportunities for passive recreation in this area. Major proposed changes include linking the lagoons and lakes to create a linear water chain throughout the park, and adding plantings, trees, art, and furnishings to tie together landmarks in this area, including the Missouri History Museum, the Muny, and the Lindell Pavilion. Site specific recommendations include:

MISSOURI HISTORY MUSEUM

- Missouri History Museum to expand exhibit and visitor amenities space within existing lease boundaries.
- Reconfigure and expand Twin Lots for shared parking.
- Redesign roadways to relocate parking to south of the building and provide visitor drop-off to the north.
- Provide significant quantities of bike parking to serve path users.
- Coordinate evening events with the Muny, Dwight Davis Tennis Center, and the Parks Department to avoid conflicts for parking and access.
- Create a one-way traffic circle around the Missouri History Museum.

LINDELL PAVILION

- Maintain Lindell Pavilion predominantly as a golf facility or enhance it as an active recreation support facility, with visitor services such as park maps and literature, concessions, lockers, and showers.
- Provide significant quantities of bike parking to serve path users.
- Provide necessary building maintenance.

PAGODA LAKE AREA

- Provide additional lagoon system through Pagoda Lake and Angel Pond.
- Maintain water flow under the Muny.
- Provide ornamental site furnishings and formal decorative plantings.
- Improve access to Nathan Frank Bandstand for public events.

DWIGHT DAVIS TENNIS CENTER

- Provide landscaping to integrate the facility into its surroundings.
- Maintain existing lighted racquet sports facilities.
- Encourage parking in Twin Lots.
- Remove existing angled parking and provide a drop-off area.
- Provide significant quantities of bike parking to serve path users.

LANGENBERG FIELD

- Relocate rugby fields to Central Fields.
- Create two athletic fields.
- Provide unstructured/non-permit active recreation use.
- Utilize as active recreation overflow space on peak days.
- Utilize plantings and wetlands to enhance aesthetics and control erosion.

MISSOURI HISTORICAL MUSEUM - MUNY

FOREST PARK MASTER PLAN

Area 4 Recommendations

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

THE MUNY

- Muny to make improvements for patron safety, comfort, and technical enhancements for shows.
- Investigate potential for increased use throughout the year
- Investigate potential for increased special event and active recreation use of parking lots.
- Implement operational plans to improve pre- and post-event traffic flow.
- Coordinate operational needs with the History Museum, Jewel Box, Dwight Davis Tennis Center, and the Parks Department to avoid conflicts for parking and access.
- Negotiate a lease.

DEER LAKE

- Expand the lake area and connect to adjacent water bodies.
- Provide some deeper water pockets for winter fish survival.
- Change lake elevation to deter upstream migration of certain fish species to surrounding lagoons.
- Investigate potential for MODOC fishing programs/stocking.

CRICKET FIELD

- Improve spatial definition and visual axes to surrounding public art.
- Operate as multi-use facility for active and passive recreation and special events.
- Maintain as unlighted facility.

LINDELL EDGE: DEBALIVIERE TO UNION

- Remove Confederate Circle.
- Redesign and reprogram area for unstructured recreation.
- Remove Cricket Drive from Lindell Boulevard to Lagoon Drive and convert it to a path entrance.
- Relocate the par course exercise stations from west of DeBaliviere to this area.
- Renovate the existing children's play area northeast of Lindell Pavilion.
- Improve aesthetics around the existing handball, racquetball, and corkball courts.
- Create an overlook plateau and redesign plantings around the Daughters of the Confederacy monument.

CABANNE HOUSE

- Provide visitor amenities and continue public rental through Saint Louis Ambassadors.

UNION ENTRANCE AREA

- Enhance wetlands or meadows to create a park entrance gateway.
- Provide sediment filtration measures to improve water quality.
- Provide some water retention capacity.
- Convert Government Drive to pedestrian path between Sigel Statue and Union Entrance and utilize for one-way Muny egress.
- Repair balustrades at Union/Lindell Boulevard entrance.

AREA 5: ROUND LAKE - FISH HATCHERIES - STEINBERG RINK

This area of the park is significant for its many lakes and lagoons, most of which will be linked to the park's new linear water system. Steinberg Rink will be upgraded for all-season use and access points to the park from Union and Kingshighway will be enhanced.

Site specific recommendations include:

ROUND LAKE AREA

- Enhance plantings around lake to emphasize symmetrical effect.
- Expand portions of lagoon to increase water flow and peak water level capacity.
- Enhance lagoon's naturalistic river character.
- Provide sediment filtration measures to improve water quality.
- Build new bridge along the former Wells Drive and re-route the existing bike path.
- Accentuate views from automobiles using Grand Drive.

FISH HATCHERIES LAKE AREA

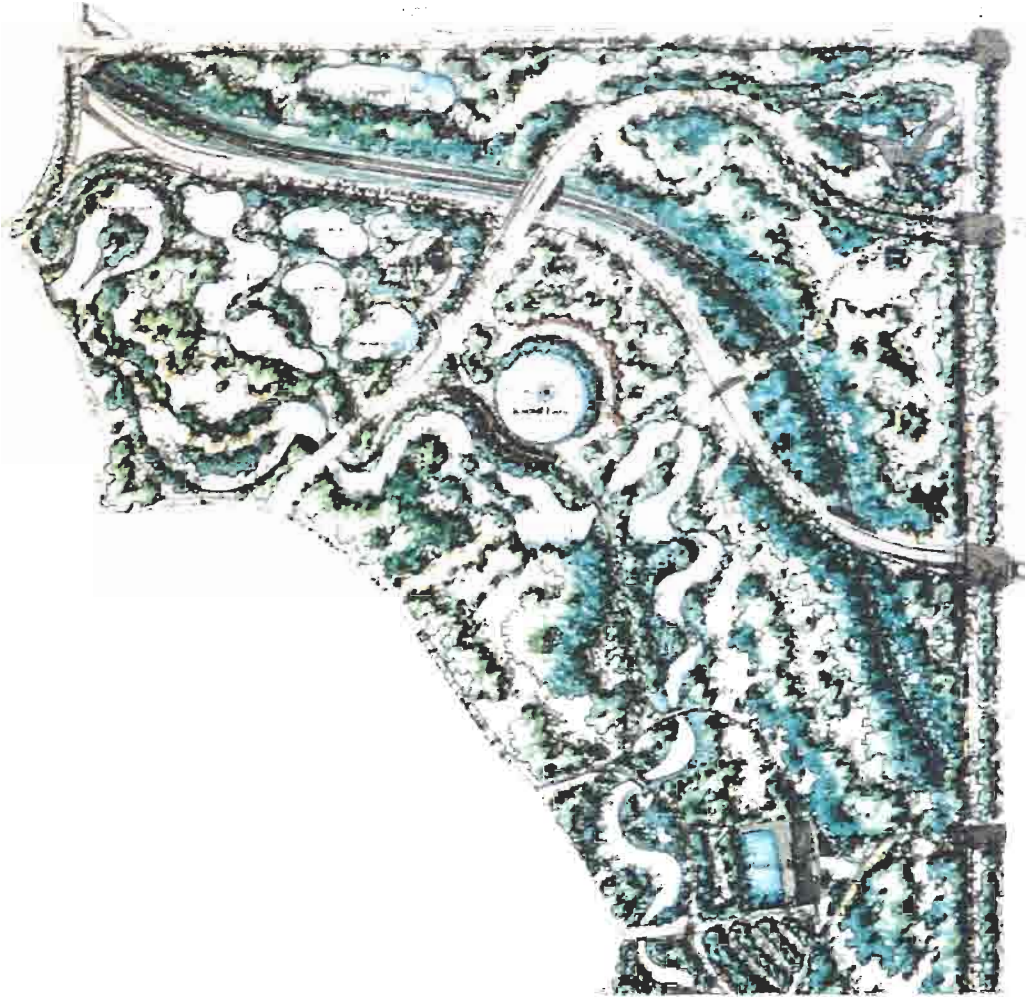
- Maintain separate lakes for MODOC youth fishing programs.
- Utilize existing hatcheries building for MODOC and other operations.
- Improve vehicular access.
- Re-connect area lagoons to form an oxbow.
- Rebuild a former bridge near Grand/Jefferson Dr. intersection with a new pedestrian/bike pass below to access the Round Lake area.

WEST PINE PARK FACILITY

- Renovate or replace the comfort station as a path support center, with park information/maps, secure, attended public toilets, and potentially a small concession.
- Provide off-street parking (±30 cars) if this meets the no-net-loss-of-open-space criteria.

STEINBERG RINK AREA

- Upgrade Steinberg to improve use as an all-season facility.
- Increase active recreation uses.
- Redesign bike and pedestrian paths to improve access to and from Kingshighway.
- Increase passive recreation opportunities, including possible MODOC nature-related education programming.
- Create a lagoon to the west of Steinberg Rink and link it with the existing lagoons north of the rink and with Jefferson Lake to the south.
- Create public fishing in area water bodies.
- Relocate the existing parking lot to the area immediately south of the building.



FOREST PARK MASTER PLAN

Area 5 Recommendations

ROUND LAKE - FISH HATCHERIES - STEINBERG RINK

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

- Provide adequate bike parking to serve path users.
- Remove Wells Drive east of Jefferson Drive and replace with bike/pedestrian paths.
- Provide some wetlands/meadows to help control water levels and erosion.
- Consider using Steinberg roof as a children's play area and observation deck.
- Investigate using hillside behind Steinberg as an outdoor amphitheater.

KINGSHIGHWAY EDGE

- Improve the aesthetics and function of the eastern park edge for automobiles, pedestrians and bikes.
- Improve pedestrian crossings along Kingshighway.
- Coordinate with the City and the BJC Hospital Complex to improve Kingshighway sidewalks, plantings, site furnishings, tree uplighting, and signage.
- Provide a new bike path from West Pine to Barnes Hospital Plaza.
- Redesign Forest Park Parkway/Kingshighway intersection to allow easier parkway access and improved pedestrian and bike path circulation.
- Maintain street parking for the park along the west side of Kingshighway.
- Improve landscaping and overall spatial character of the Lindell and Kingshighway corner as a major pedestrian entry.
- Coordinate with BJC Hospital on possible relocation of Euclid Metrolink station.

AREA 6: JEFFERSON LAKE - BOWL LAKE - SCIENCE CENTER

The Southeast portion of Forest Park is home to the Science Center and the park's major fishing lake. Improvements in this area will include linking the lakes to the park's water system, replacing some roads with pedestrian and bike paths, and expanding outdoor educational programming tied to the area's lakes.

Site specific recommendations include:

JEFFERSON LAKE AREA

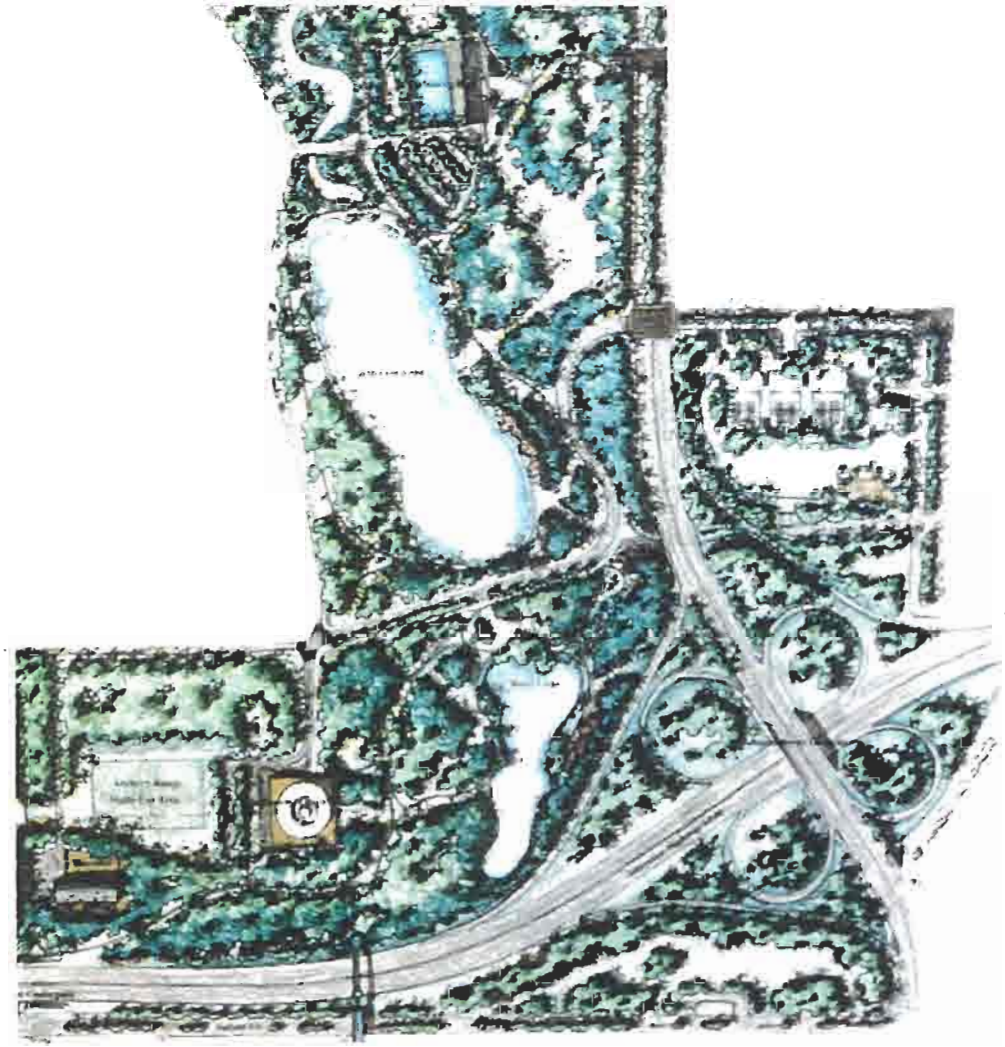
- Make improvements to lake and lake edges to enhance public fishing access.
- Connect lake to River Des Peres lagoons and the rest of the linear water system.
- Extend and enhance unique landscape features around the lake.
- Remove Jefferson Drive south of Wells Drive and replace with a path.
- Create a dramatic cascading water input at the south end of the lake.
- Widen Faulkner Drive to allow safe street parking on both sides.
- Provide a pedestrian path to the Science Center.
- Redirect the bike path to a new crossing at Faulkner and Clayton.

HUDLIN COURTS AREA

- Barnes Hospital to continue to maintain lighted racquet sports facilities and children's play areas.
- Improve roadway function and aesthetics of Barnes Plaza and Euclid.
- Remove a portion of Clayton road to create a reconfigured Barnes Plaza entrance.
- Convert removed roadway into pedestrian and bike paths.
- Coordinate with BJC regarding Kingshighway improvements.

BOWL LAKE AREA

- Create a unique, naturalistic, and intimate landscape setting.
- Create an earthen berm at the southern end of the lake to screen Highway 64/40 noise and visibility.
- Create a water outfall at the north end of the lake.
- Accentuate the Seven Pools area with plantings, pedestrian path access, and a restored stone bridge.
- Re-route the existing bike path to a new crossing at Faulkner.
- Partner with the Saint Louis Science Center and potentially the Central Institute for the Deaf on outdoor educational programming.
- Provide sediment filtration measures to improve water quality, aesthetics, and wildlife habitat.



FOREST PARK MASTER PLAN

Area 6 Recommendations

JEFFERSON LAKE - BOWL LAKE - SCIENCE CENTER

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation

FOREST PARK MASTER PLAN

SAINT LOUIS SCIENCE CENTER

- Science Center to expand underground for exhibit space within existing lease boundaries.
- Redesign surface parking to maintain existing spaces and improve access and safety.
- Investigate potential for new natural sciences and outdoor education programming.
- Provide significant quantities of bike parking to serve path users.
- Modify Highway 64/40 and other roadway signage to direct patrons to the Oakland Avenue facility.
- Redesign the Highway 64/40 hillside to accentuate the overpass structure and solve hillside structural problems.

KINGSHIGHWAY INTERCHANGE

- Coordinate with the proposed Boyle/Tower Grove interchange to reduce hospital commuter traffic through the park.
- Consider long-term redesign option of tight diamond interchange to reduce amount of park open space used.

AREA 7: PARKS DEPARTMENT - AVIATION FIELD

This area of the park is primarily used for active recreation purposes. It also houses the Parks department complex. Recommendations for the area include improving the functionality and aesthetics of the area, expanding athletic support facilities where possible, and reducing the size of the Parks Department complex.

PARKS DEPARTMENT COMPLEX

- Limit activities to those which are essential to Forest Park and reduce the size of the complex.
- Reduce the size of the existing dirt hill or convert it to passive recreation.
- Re-route the bike path south of the complex to alleviate dangerous road crossings.
- Improve overall aesthetics and building maintenance.
- Maintain and renovate historic buildings.

AVIATION FIELD

- Improve operational flexibility, environmental quality, participant and viewer comfort/convenience, and aesthetic character.
- Relocate backstops and dirt infields into the tree-lined edges, leaving a green swath down the center.
- Create improved spectator areas around the perimeter.
- Install formal perimeter plantings to minimize visual impact of backstops and dirt infields and diffuse some traffic noise.
- Provide an active recreational support facility to serve Aviation Field.
- Expand vehicle and bike parking along Clayton Road.

MOUNTED POLICE HANGAR

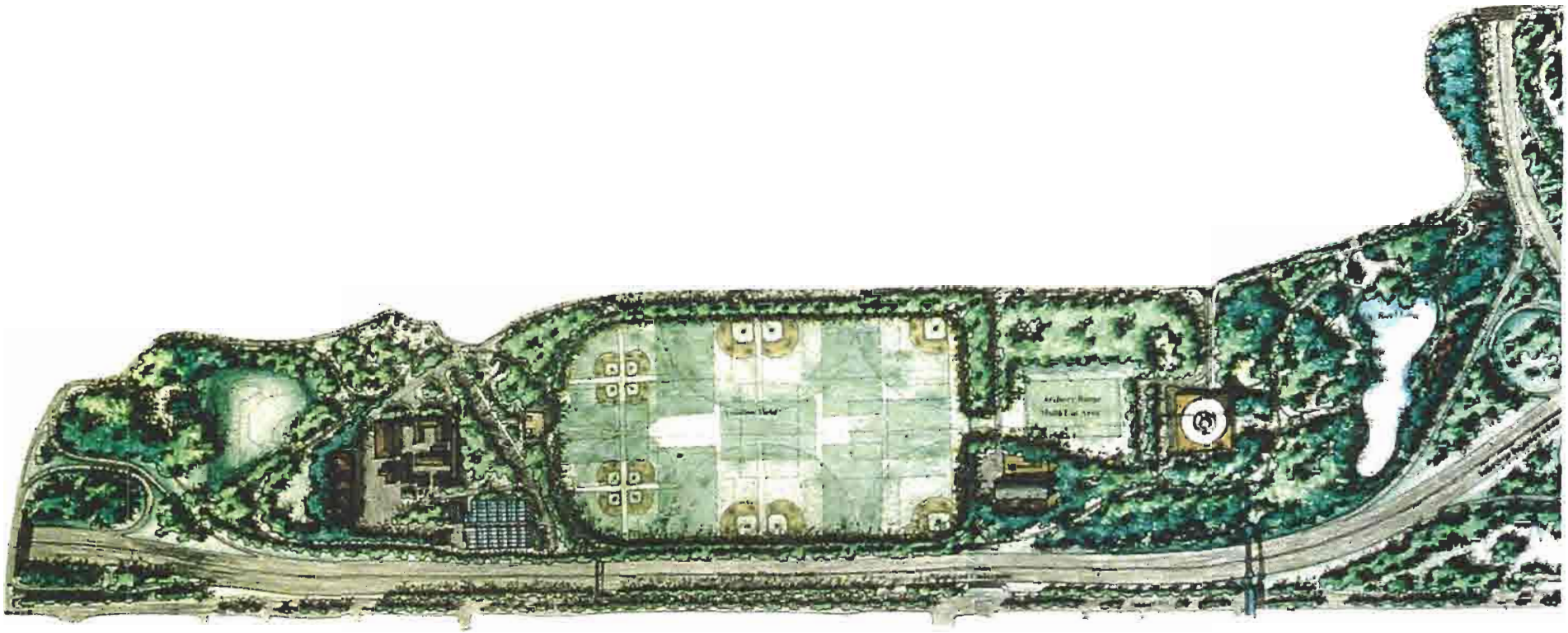
- Retain the current use and renovate the Mounted Police Station.
- Consider long-term relocation of the Mounted Police to another Park site and reprogram the building
- Widen existing road and provide parking.

OAKLAND EDGE: KINGSHIGHWAY TO HAMPTON

- Provide a landscape buffer along Highway 64/40.
- Consider providing picnic/children's play area near Science Center.
- Consider adding a new comfort station for area users.
- Provide improved sidewalks and streetscapes along Oakland.
- Improve aesthetics of Kingshighway entrance area with landscaping and site furnishings.
- Improve the Macklind underpass and highway overpass bridge for pedestrians and bikes.

HIGHWAY 64/40 EDGE

- Implement plantings which minimize the noise and negative visual impact of Highway 64/40 and other major roadways and transportation systems.



FOREST PARK MASTER PLAN

Area 7 Recommendations

PARKS DEPT. - AVIATION FIELD - SCIENCE CENTER

AREA 8: CENTRAL FIELDS - TRIPLE A - JEWEL BOX

This part of the park is a multi-use area that includes many active and passive recreation facilities. Proposed changes in this area include enhancements to the landscaping and aesthetics and reconfiguration of the athletic fields to improve their function.

CENTRAL FIELDS

- Improve operational flexibility, environmental quality, participant and viewer comfort/convenience, and aesthetic character.
- Relocate backstops and dirt infields into the tree-lined edges, leaving a green swath down the center .
- Relocate 3 rugby fields from Langenberg Field to the northeast end of the space.
- Create improved spectator areas around the perimeter.
- Install informal perimeter plantings to minimize visual impact of backstops and dirt infields.
- Reconnect tributary stream to the lagoon system.
- Upgrade existing building facilities to serve as an active recreation support facility with attended lockers, shower and toilet facilities, and, potentially, a small concession.
- Provide significant quantities of bike parking to serve path users.

TRIPLE A CLUB

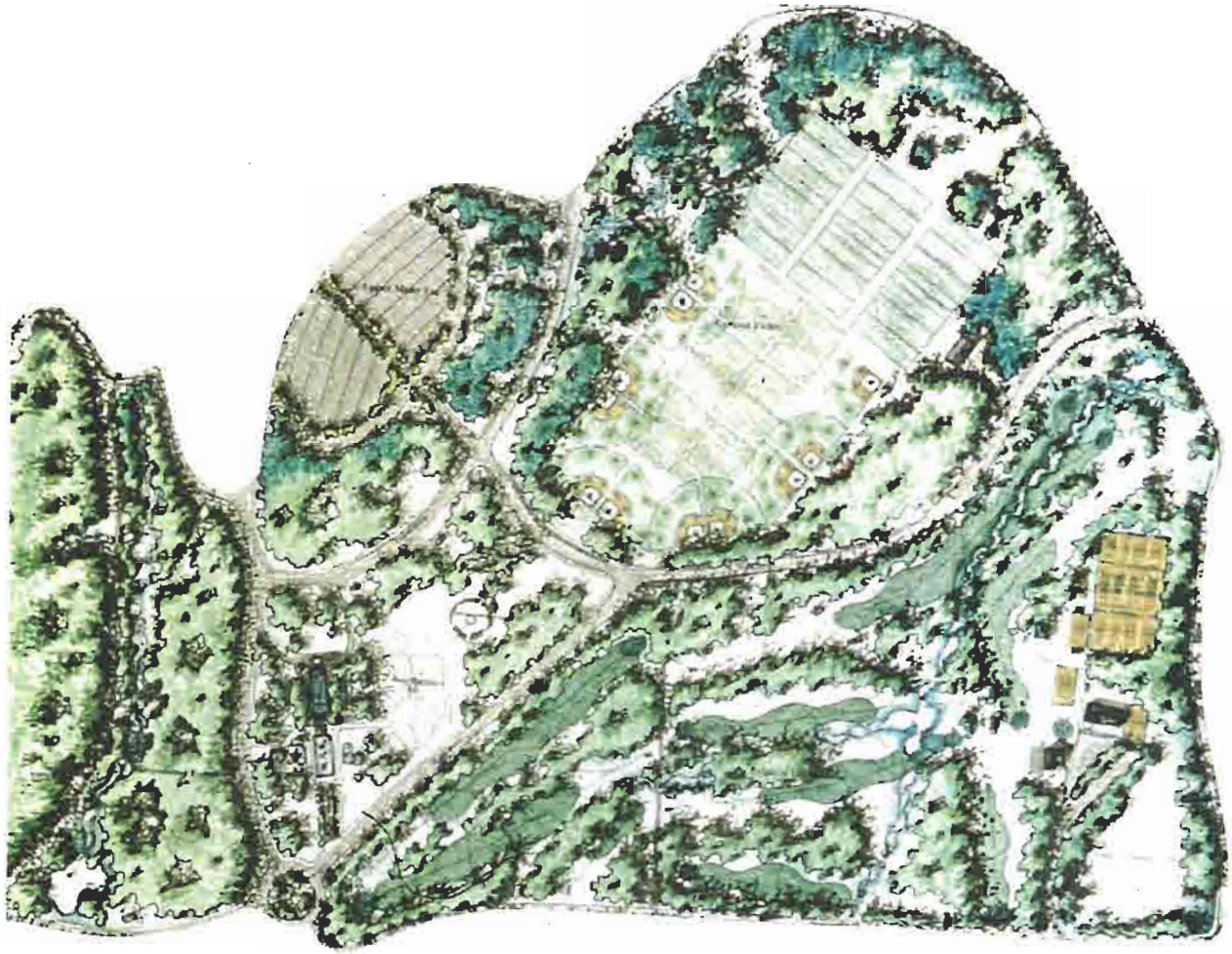
- Provide a 9-hole golf rate.
- Provide a seniors rate for golf.
- Increase marketing of golf, tennis, and park support facilities to the general public and park users.
- Provide significant quantities of bike parking to serve path users.
- Negotiate amended lease.

JEWEL BOX

- Operate as public conservatory with formal external gardens.
- Provide significant quantities of bike parking to serve path users.
- Provide pedestrian path link to the upper Muny parking lot.
- Consider use for pre-Muny events.
- Coordinate evening special events with the Muny and Parks Department to avoid conflicting demands for parking and access.

SUCCESSIONAL FOREST

- Improve the forest ecosystem and aesthetics while allowing safe recreation and educational use.
- Provide native canopy and other plantings.
- Implement naturalistic, erosion control plantings along intermittent tributaries.
- Consider incorporating area under MODOC's Kennedy Forest vegetative management and nature trail agreement.
- Remove Carr Lane and replace with a dual path.



FOREST PARK MASTER PLAN

Area 8 Recommendations

CENTRAL FIELDS - TRIPLE A - JEWEL BOX

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation

FOREST PARK MASTER PLAN

K. MASTER PLAN FUNDING

Forest Park's operational expenses and capital projects are now funded through the Forest Park Sales Tax Trust Fund, City of St. Louis general and capital funds, Forest Park Improvement Fund, City of St. Louis supplemental department support, lease payments, state and federal grants, and private support.

Funding needs for the recommendations in this plan are expected to total $100 million over a 15 year period. Approximately 50% of this amount is expected to come from the public sources cited above. Public funds will be used to pay for major infrastructure repairs, improvements and maintenance throughout the park. The other $50 million is expected to be raised from a variety of other sources, led by a partnership of the City of St. Louis, Forest Park Forever, and major park institutions. Private funds will be used to enhance the beauty and visitor amenities of the park.

L. MASTER PLAN IMPLEMENTATION

Implementation of this plan will take place over approximately a 15-year period, depending on the availability of funds.

SECTION B — OVERVIEW

I. INTRODUCTION

A. Why the Plan Now?
B. The Planning Process
C. Community Participation in Planning
D. Development of the Plan
E. Accomplishments
F. Organization and Scope of the Plan

II. PARK PROFILE

A. Planning and Design History
B. Forest Park Profile Today
C. Summary of Existing Conditions

I. INTRODUCTION

A. Why the Plan Now?

B. The Planning Process

C. Community Participation in Planning

D. Development of the Plan

E. Accomplishments

F. Organization and Scope of the Plan

LIST OF DRAWINGS AND DIAGRAMS

Forest Park Master Plan - Community Design Process - Forest Park Summit
Forest Park Master Plan - Community Design Process - Development of Planning Process and Analysis of Park
Forest Park Master Plan - Community Design Process - Community Goal Setting-Creating a Common Vision
Forest Park Master Plan - Community Design Process - Development of Physical and Governance Plan
Forest Park Master Plan - Community Design Process - Implementation
Information Synthesis

I. INTRODUCTION

In September 1993, the City of St. Louis began the process of developing a revision to the 1983 Forest Park Master Plan that would conserve the park's size, beauty and quality while satisfying the needs of park users. The need for this revision was driven by increasing and new demands on the park by a wide range of users, the continuing deterioration of the park's natural and physical systems, the desire of many park institutions to expand their facilities, and the availability of new, dedicated sales tax revenue from the City of St. Louis to pay for park improvements and upkeep.

Throughout this process, planners have recognized the importance of viewing the park as an integrated ecosystem with a wide range of purposes and needs, in which nature and humans interact. Recognizing the need to both sustain economic development and carry out responsible resource management in our community, park planners have attempted to formulate an ethically sound and holistic approach to meeting the needs of all park users.

As urban residents, we spend most of our lives working, living, and recreating in a landscape dominated by monuments derived from technological advances, such as buildings, motorized vehicles, and roadways. As we physically crowd ourselves into smaller land areas for economic benefit and time efficiency, we attempt to offset this lifestyle by conserving remnants of natural communities that offer an opportunity for respite, recreation and education. More and more generations of urbanites lose touch with the land, which furnishes us food to eat, water to drink, and air to breathe.

One of the most important remnants of natural communities in St. Louis is Forest Park. Forest Park is one of St. Louis' most unique and treasured resources. Located within easy access of most of the region's citizens, the park has neighborhood, city-wide and regional significance. More than 10 million people come to the park each year, to visit the region's major cultural institutions, participate in active recreational pursuits, attend special events or enjoy a respite from urban life.

From a naturalistic perspective, Forest Park is equally significant. In a city where 80% of the land has been developed for business, industry or residences, the park serves as an important natural oasis for the city, a source of green space where citizens find respite, a home away from home for migrating birds, and an integrated ecosystem where humans and nature interact.

In an effort to conserve the size, beauty and quality of Forest Park and to satisfy the needs of park users, master plans for the park were published in 1983 and 1993. This 1995 Master Plan builds upon the strengths of these earlier plans. While this document marks the completion of a significant phase of the planning process, it is also just a beginning. Implementation of this plan will last well past the turn of the century. An important component of this Master Plan, therefore, is the governance structure for the park which establishes a Forest Park Advisory Board to oversee implementation of this plan. It is the goal of the park planners that this body represent all park constituencies and that it provide an ongoing source of community input and involvement in Forest Park's future.

A. Why the Plan Now?

In 1993 Mayor Freeman Bosley, Jr. addressed the pleas of area citizens to have a master plan which was rooted in broad public consensus. Prior to this process, two master plans had been produced in a 10-year period, the Community Development Commission-adopted plan in 1983 and the 1993 plan sponsored by Forest Park Forever. Neither plan had the vast public support or the funding necessary for implementation. In addition, deferred maintenance of the park's roads, paths, lakes, buildings, and landscapes had resulted in a park in need of extensive repair. Yet, no agreed-upon plan existed to complete the task.

When the 1983 Forest Park Master Plan was developed, the park itself was in better shape than it is today. The 1983 Plan focused primarily on land use and development issues within the park. The 1993 Plan was originally conceived as a landscape plan to augment the 1983 plan, but it grew into a much more comprehensive plan with many recommendations which differed or conflicted with the 1983 Plan. In the past 12 years, the park has continued to deteriorate. A continuing lack of maintenance, caused by inadequate funding and high demand by park users has accelerated this deterioration. New uses, such as roller blading, have added burdens to park systems that were already overcrowded. Highly valued and popular park institutions developed plans to continue their own expansion and growth, all of which had potential impacts on the park's system. These plans were not readily accepted by all members of the general public and development in the park was at an impasse.

In 1993 the City of St. Louis asked the voters to approve a 1/2¢ sales tax to help pay to improve all of the city's parks. The tax was approved in April, 1994. An allocation of the sales tax revenue is made to all city parks, based on the number of acres each contains. Consequently, Forest Park, the city's largest, receives the largest share of this tax revenue.

Shortly after the tax was approved, the Mayor and the Board of Aldermen recognized the need to revise the 1983 Master Plan to reflect the ideas, wishes, and needs of all park users and to develop a vision of what the park should be well into the next century. The subsequent planning process officially began in December 1993, when 300 citizens attended a Forest Park Summit sponsored by the mayor to gather the community's thoughts, ideas, and concerns about Forest Park and its future. The large number of participants at that summit, and at subsequent public meetings and workshops throughout the planning process, underscores the importance of Forest Park to all segments of the community.

B. The Planning Process

The development of a revised Master Plan for Forest park officially began in December 1993, when the Mayor's Forest Park Summit was held at Forest Park Community College to gather the community's thoughts, ideas, and concerns about Forest Park and its future. More than 300 people participated in that meeting, underscoring by their presence the importance of Forest Park to all segments of the community.

Following the summit meeting, the mayor appointed a Forest Park Master Plan Committee (FPMPC), whose role it was to assist in gathering public opinion, ideas, and future expectations of the park, developing and recommending goals and policies to guide revisions to the existing 1983 Forest Park Master Plan, and submitting recommendations to the Executive Committee for review and approval. The FPMPC was chaired by Gary Bess, the city's director of Parks, Recreation and Forestry, and Kathyrn Nelson, a private citizen. The other 65 members of the FPMPC (a list of whom is included in the acknowledgments) were representative of all major park user groups, surrounding neighborhoods, park institutions, environmental and other interested groups. The Master Plan Committee met 20 times during the planning process.

An Executive Committee, selected from the FPMPC by the Mayor, provided oversight of the planning process and functioned as the final decision making body to resolve differences on policy issues after due process. Its 19 members consisted of the two co-chairs of the Master Plan Committee, three elected officials, four City department representatives, one representative from the mayor's office, and nine non-City representatives.

The Executive Committee's responsibilities included overseeing and advising the Project Team, refining and approving the FPMPC's recommended goals and policies, resolving issues where differences of opinion existed, reviewing comments from the public and FPMPC members, and submitting recommendations to the mayor regarding the approval/adoption process for the Master Plan. The Executive Committee met more than 50 times.

Assisting the Executive Committee was a Project Team, chaired by John Hoal, director of Urban Design, St. Louis Development Corporation, and consisting of City design professionals and consultants with technical expertise in a variety of disciplines required for analysis and design of the park. Membership on the team included architects, urban designers, a landscape architect, a traffic engineer, a community liaison specialist, golf consultants, an ecologist/naturalist, soil and water consultants, a civil engineer/hydrologist, and facilitators.

The Project Team's responsibilities included the coordination and supervision of consultants, provision of technical assistance to the FPMPC, and coordination of public workshops, user surveys and outreach efforts. In addition, the Project Team acted as the design team, drafting revisions to the existing plan, and preparing the Master Plan.

C. Community Participation in Planning

Throughout the planning process, the Mayor stressed the need for citizen involvement in all aspects of the process. To this end, a high level of emphasis was placed on ensuring that all individuals and groups with an interest in Forest Park were given adequate opportunity to express their views and contribute to the development of the goals and policies, and ultimately, the final revised plan. The Master Plan Outreach Program included a series of meetings and public forums, as summarized below.

- More than 20 pre-Summit meetings held to build community support for the planning process and to begin to identify issues to be dealt with at the Summit.

- A Forest Park Summit, open to the public and held over the weekend of December 3-5, 1993 at Forest Park Community College, to gather initial public comments on the park and its needs. More than 300 people participated in the Summit.

- More than 25 public meetings, held to gather input and ideas from park users and area residents.

- A series of issues workbooks were developed and shared with the public. These identified existing conditions and framed the discussion around future needs and directions through a series of specific planning questions. Input from these discussions was extremely useful in the development of the Plan's goals and policies.

- An additional 100 meetings with various community, park user and neighborhood groups were also held to ascertain their ideas and concerns and allow them to provide input and guidance.

- Rebroadcast of major meetings about the park on KETC-Channel 9.

- Ongoing communication with meeting participants, in the form of mailings, telemarketing, flyers, and direct mail, to keep those who expressed interest in the planning process advised on its progress.

- Ongoing public relations/communications efforts, including public notices in local newspapers, press releases, and radio public service announcements, to keep the general public informed about the progress of the planning process and to continue to encourage public participation in the process.

- A community outreach effort, that included a series of focus groups and other meetings with neighborhood groups, user groups, and other interested citizens. Approximately 500 people provided input through this outreach effort.

In all, there were at least 10,000 person hours contributed by more than 1,000 individuals, groups and institutions to the planning process. This master plan reflects many of their ideas, concerns, and desires for the future of the park. No decisions have been made and no actions have been taken without first submitting those proposed decisions or actions to the public for comment and final review. As a result of the extensive nature of the planning process, this Master Plan is truly reflective of the diversity of uses and users of the park itself.

Forest Park Master Plan

Community Design Process

Development of Planning Process & Analysis of Park

Planning Process

- Summit Participants Mandate Open & Inclusive Planning Process
- City Finalizes Process
- Mayor Announces Process to Public
- Mayor Appoints Exec. Comm. & FPMPC

Executive & FPMP Committees

Park Analysis

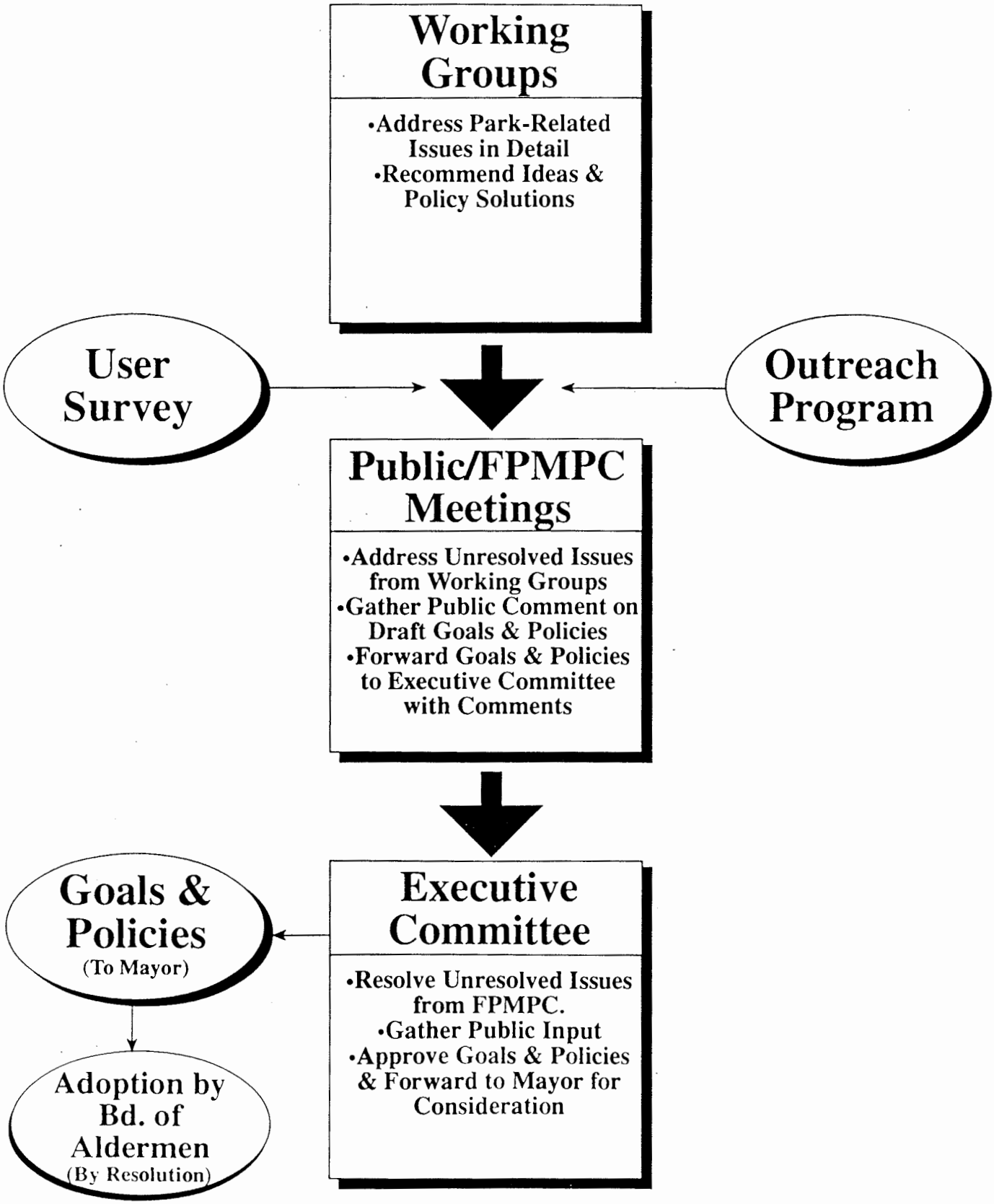
- City Assembles Project Team
- Project Team Analyzes Existing Conditions & Previous Park Plans
- Project Team Assembles Data for Outreach & Public Working Group Meetings

Issue Working Group Booklets

Forest Park Master Plan

Community Design Process

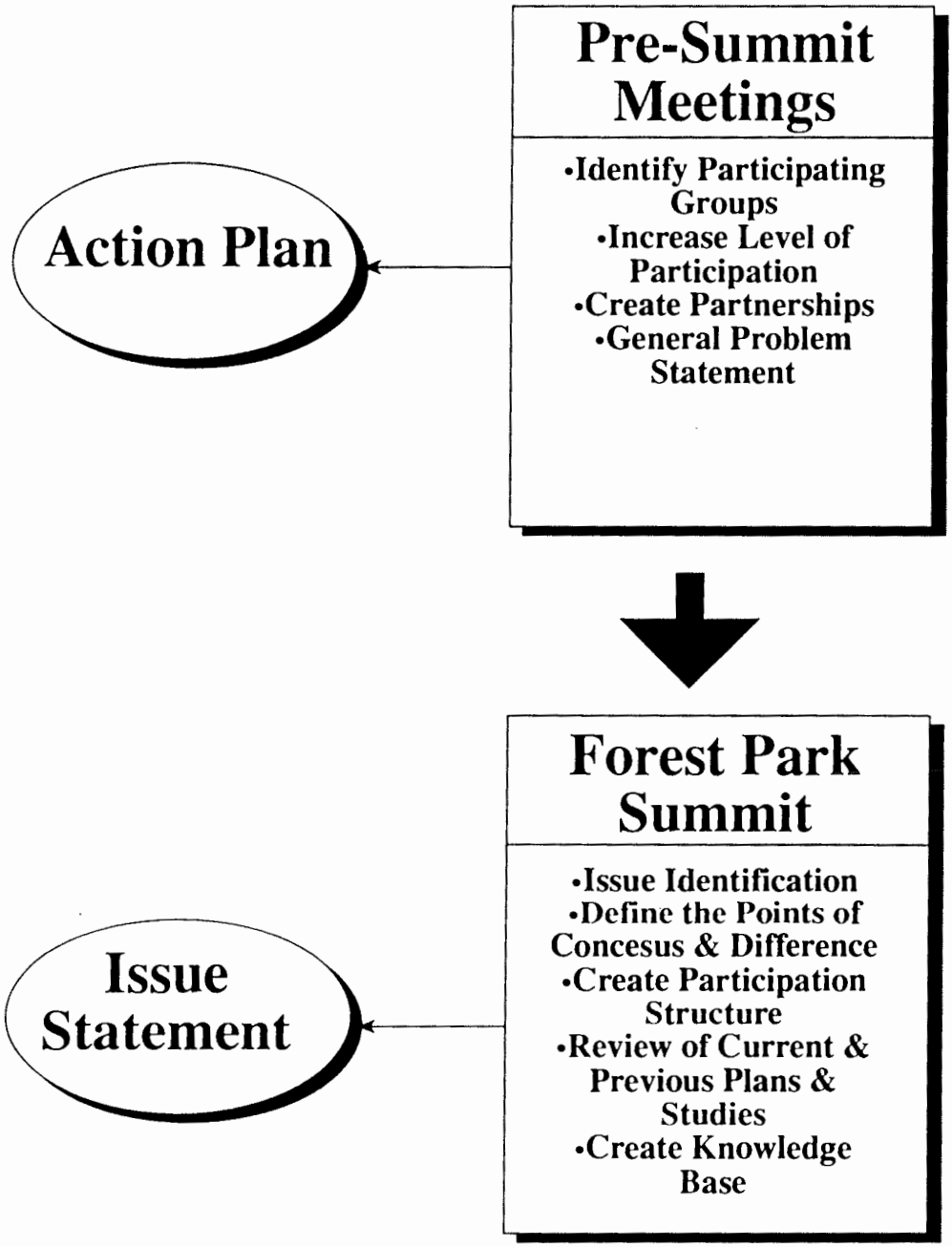
Community Goal Setting - Creating A Common Vision



Forest Park Master Plan

Community Design Process

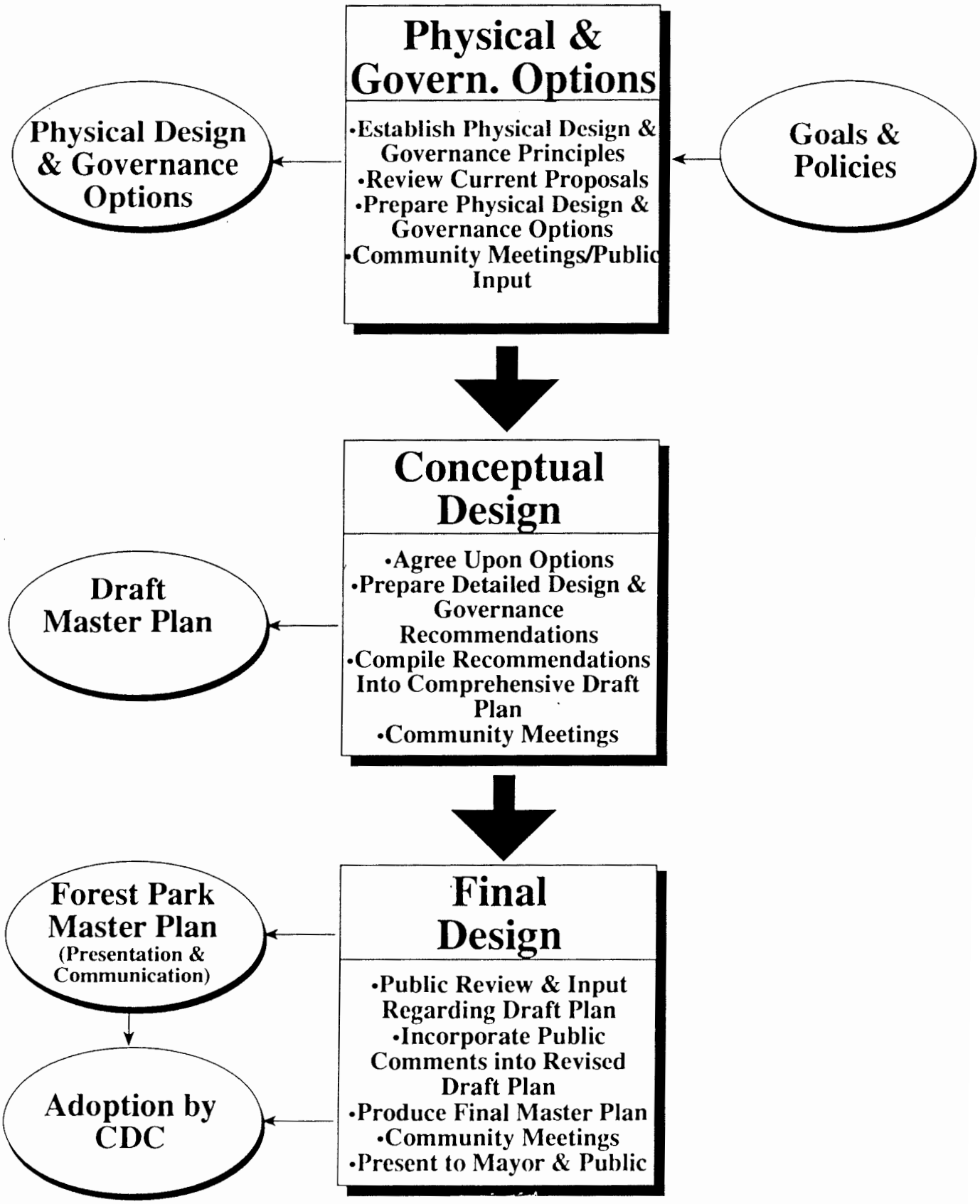
Forest Park Summit



Forest Park Master Plan

Community Design Process

Development of Physical & Governance Plan



Forest Park Master Plan

Community Design Process

Implementation

Phasing Process

- Establish Project Phasing & Priority
- Public Meetings to Inform Interested and Affected Parties
- Produce Design & Construction Documents for Selected Projects

Funding Sources

- Circulate Plan to Potential Public & Private Funding Sources
- Attach Funding Sources to Selected Projects
- Public Meetings to Inform Interested and Affected Parties

Construction Process

- Bidding Process for Selected Projects
- Coordinate Construction
- Public Meetings to Inform Interested and Affected Parties

D. Development of the Plan

Development of the Master Plan followed a logical and carefully thought-out sequence, flowing from a macro vision of what the park should be in the future, through a series of goals and policies to guide the design process, down to a set of specific recommendations on changes, modifications and improvements that are recommended for each site and system in the park.

The planning sequence is summarized below:

1. A vision statement which describes how Forest Park should appear and be used in the future.

2. A set of goals that, when achieved, will ensure a diverse, multi-purpose, environmentally sound future for the park and its users.

3. A set of policies which provide detailed guidance on ways to realize the vision and which formed the basis for site-specific design principles and recommendations.

4. An analysis of existing and historical park conditions and systems, to provide a baseline of understanding of the park's infrastructure and needs.

5. A series of design principles to provide parameters for the development of specific design recommendations.

6. Specific system-by-system recommendations for improvements to Forest Park.

7. Site specific recommendations for improvements to Forest Park.

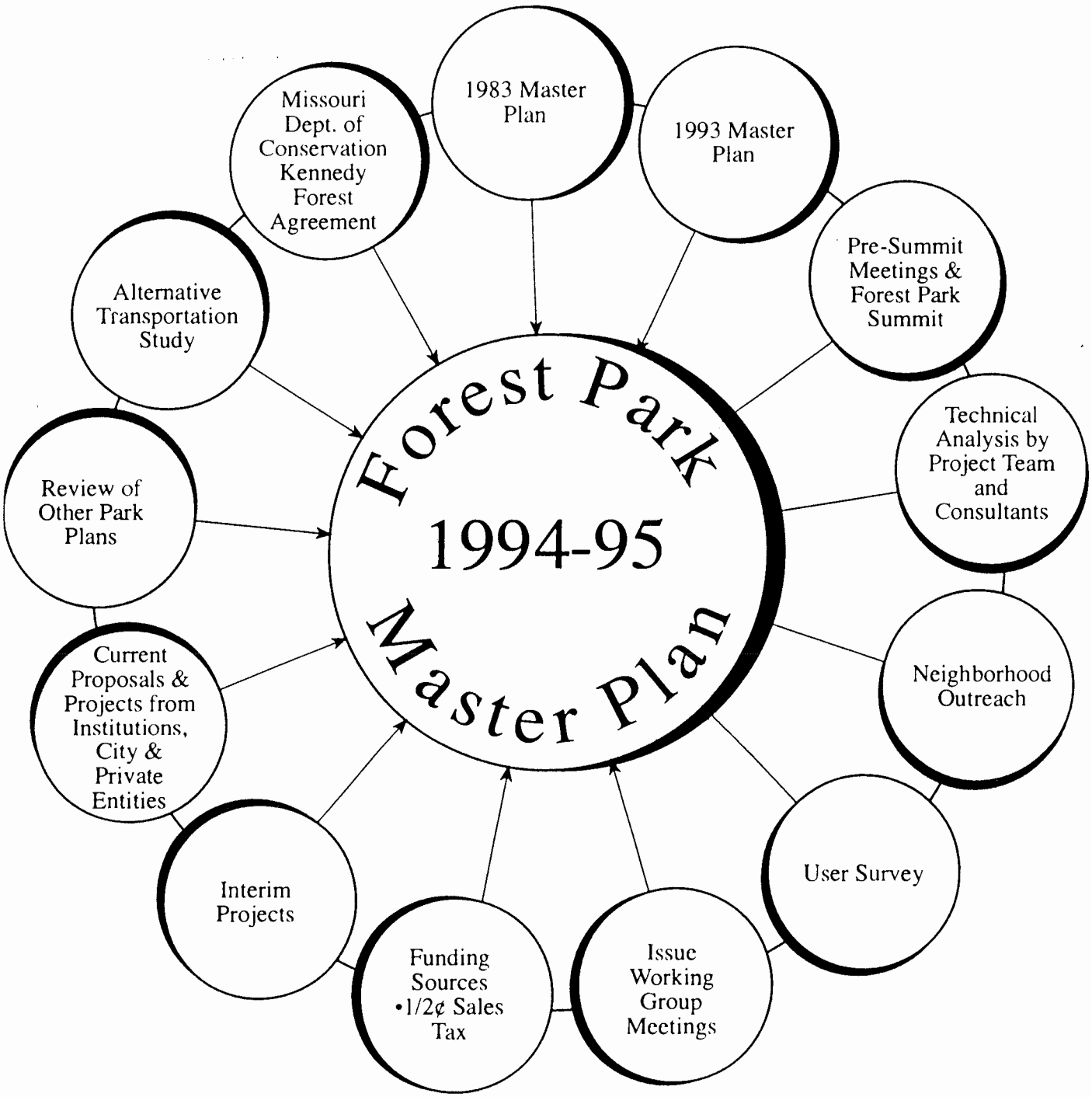
8. A plan for how the park should be governed.

9. A plan for how the park should be managed.

10. Initial steps towards identifying funding needs and sources of funds to cover the cost of implementing recommended changes and maintaining the park in the future.

Forest Park Master Plan

Information Synthesis



E. Accomplishments

This Master Plan reflects the interests, needs and wishes of individuals, groups, neighbors, institutions, benefactors and other interest groups who share a desire to see that Forest Park remains a vital asset for the entire community.

Among its accomplishments, the Master Plan:

- Acknowledges that the redevelopment of Forest Park will serve as a catalyst, not only for improvements to the park, but for the continued development and enhancement of the surrounding neighborhoods and business community.
- Provides ongoing citizen input and involvement in the future of Forest Park.
- Respects and retains the diversity of park activities.
- Retains the existing balance of park uses.
- Respects and improves existing park character.
- Improves the park's natural systems.
- Improves the park's active recreation systems.
- Retains the park's existing cultural institutions.
- Improves other existing park facilities.
- Provides operational flexibility.
- Improves connections to neighborhoods, City and the region.
- Proposes no increase in built area.
- Is realistic and attainable.

F. Organization and Scope of the Plan

The rest of this Master Plan document summarizes each of these steps. The Plan first looks at the current conditions in Forest Park and summarizes how the park has arrived at this point over its long history (Part III). Attention is then turned to a vision of what the park should be and how it should appear in the future (Part IV).

A first step in the planning process was to develop a set of goals and policies which were then used to guide planners in the development of all aspects of their design recommendations. Those goals and policies are summarized in Part V.

Under Section VI, the overall design approach, principles and major concepts are described. An overview of how Forest Park relates to the surrounding area and how it's land will be used follows in Section VI, D and E. Following this section is Section VI F which includes a detailed design report that examines six basic systems within the park. The park's systems are divided into natural systems: passive space, water, and landscape; and built systems: active space, art, architecture and infrastructure, and access, circulation and parking. Within each system-specific section, the Plan includes an overview of the system and its conditions, the design principle which guided these recommendations, a summary of the recommendations and the impact they will have on the park, and a listing of all system recommendations on a site-by-site basis. All site specific recommendations are then summarized in Section VI, G.

Plans for how the park will be governed (Section VII), how it will be managed, (Section VIII) and how improvements and maintenance will be funded (Section IX) follow.

Additional background on many of these items can also be found in the Appendix to this Plan.

This Master Plan addresses all aspects of the park in detail and, when fully implemented, will ensure a park experience that is diverse, unique and inviting for all of the residents of St. Louis and the surrounding region.

II. PARK PROFILE

A. Planning & Design History

1. 1876 Forest Park Plan
2. The 1904 World's Fair
3. The 1911 Dwight Davis Era
4. The Federal Era
5. Contemporary Plans
6. Comparison of the 1983 and 1993 Master Plans
7. History Composite

B. Forest Park Profile Today

C. Summary of Existing Conditions

1. Passive Open Space
2. Water System
3. Landscape
4. Active Space
5. Facilities, Art, Architecture, and Infrastructure
6. Access, Circulation, and Parking
7. Governance
8. Management
9. Funding

LIST OF DRAWINGS AND DIAGRAMS

1876 Original Design
1876 Original Design Plan
1874 Topography
1874 Surface Drainage
1874 Landscape
1903 Prior to World's Fair
1904 Louisiana Purchase Exposition Design
1943 Plan
November 1983 Existing Conditions Map
1983 Master Plan Proposal
Park Developments 1983-1994
1993 Master Plan Proposal
Passive - Unstructured Recreation 1983/1993
Lakes 1983/1993
Active Recreation 1983/1993
ZMD Institutions and Park Facilities 1983/1993
Roads 1983/1993
Paths 1983/1993
History Composite
Existing Conditions

II. PARK PROFILE

A. Planning and Design History

Throughout its 121-year history, Forest Park has seen proposals to change and improve the park, yet few have been implemented comprehensively. The development of this Master Plan marks an important milestone for Forest Park and the City of St. Louis. In this master plan there now exists a comprehensive plan that integrates all of the park's natural and man-made systems into a cohesive and mutually beneficial ecosystem.

One of the basic goals of the master planning process was to draft a plan rooted in the historic design of Forest Park, literally where possible and conceptually in other areas. To that end, much consideration was given during the planning process to the historical record and existing documents that described the original park planners' ideas and dreams for the park and its systems.

1. 1876 Forest Park Plan

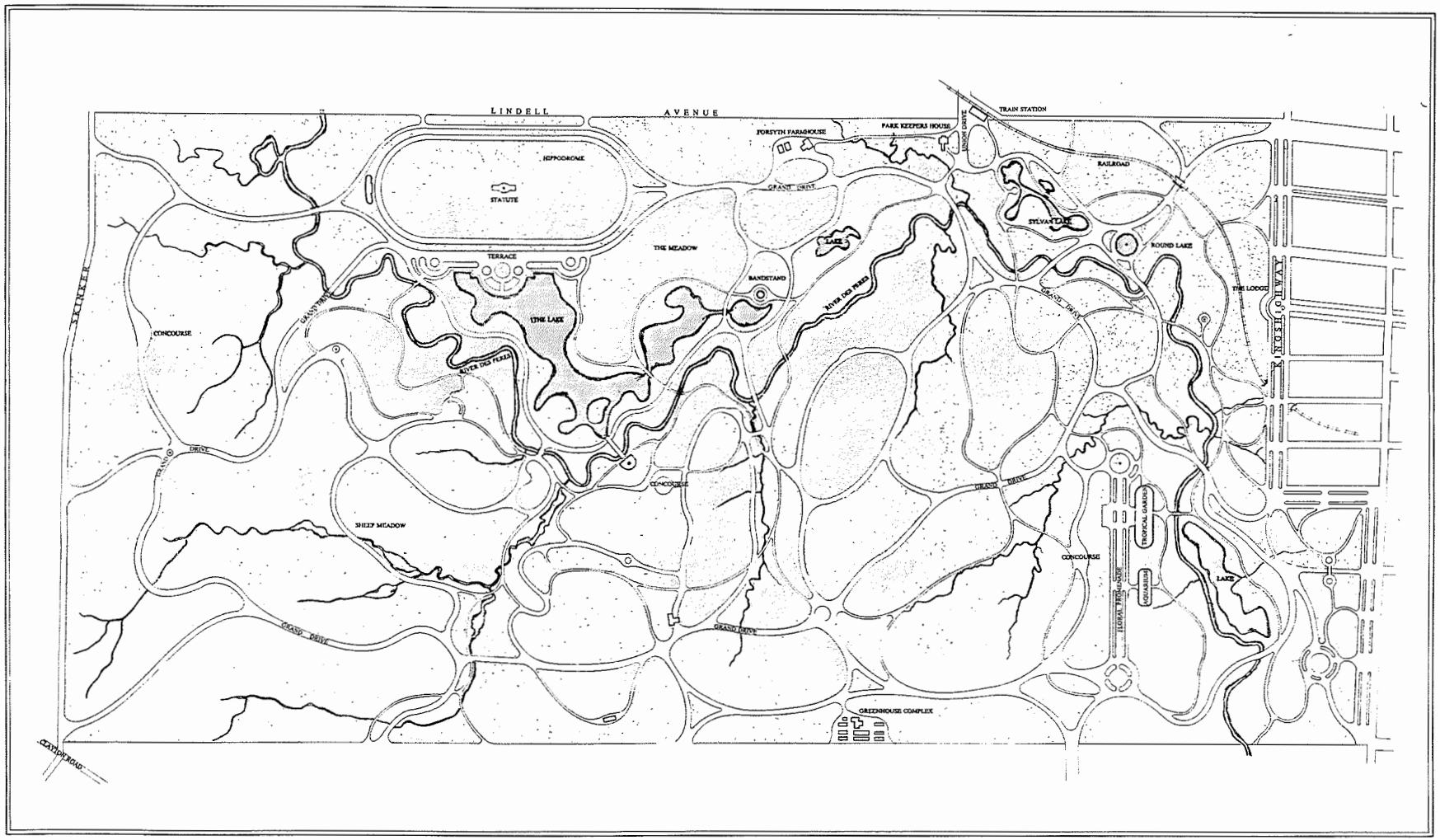
In 1876, Forest Park was established and a plan was prepared. The park was envisioned as a great romantic landscape, with winding trails and carriageways through deep woods and pastoral fields surrounded by informal water bodies and naturalistic streams. Up to that time, the land had several owners and was primarily the site of farms and coal mines. The River Des Peres wandered through the northern and eastern parts of the area and a major east-west thoroughfare, Clayton Road, passed through the property.

The first park commissioners authorized a plan for the new park, "To preserve the natural beauties of the ground, so that it will always appear in fact as well as in name, a Forest Park." The plan called for a hippodrome, floral decorations, a bandstand, and a Forest Park Zoo.

In preparation for Opening Day, June 24, 1876, 19 miles of roads and 20 miles of walks were built along with some bridges, water and sewer pipes, including Round Lake, Pagoda Lake and a portion of Peninsula Lake. Other facilities included a restaurant, bandstand, a large race track, and superintendent's home. A small zoo was built and later a fenced area for five buffalo became a major park attraction. By 1891, there was a variety of animals to be viewed by the public at no charge.

In 1876-77 St. Louis City and St. Louis County separated, with Forest Park remaining part of the City. The new city charter abolished an existing Forest Park tax and dictated that park funding was to come from the city budget.

By 1894 the park had 2.5 million visitors, brought there by street car and improved roadways. Park activities were diverse, including annual bicycle races, carriage rides, boating, cricket, lacrosse, baseball, tennis, croquet, golf, and harness racing.



1876 ORIGINAL DESIGN

FOREST PARK MASTER PLAN

ST. LOUIS, MO

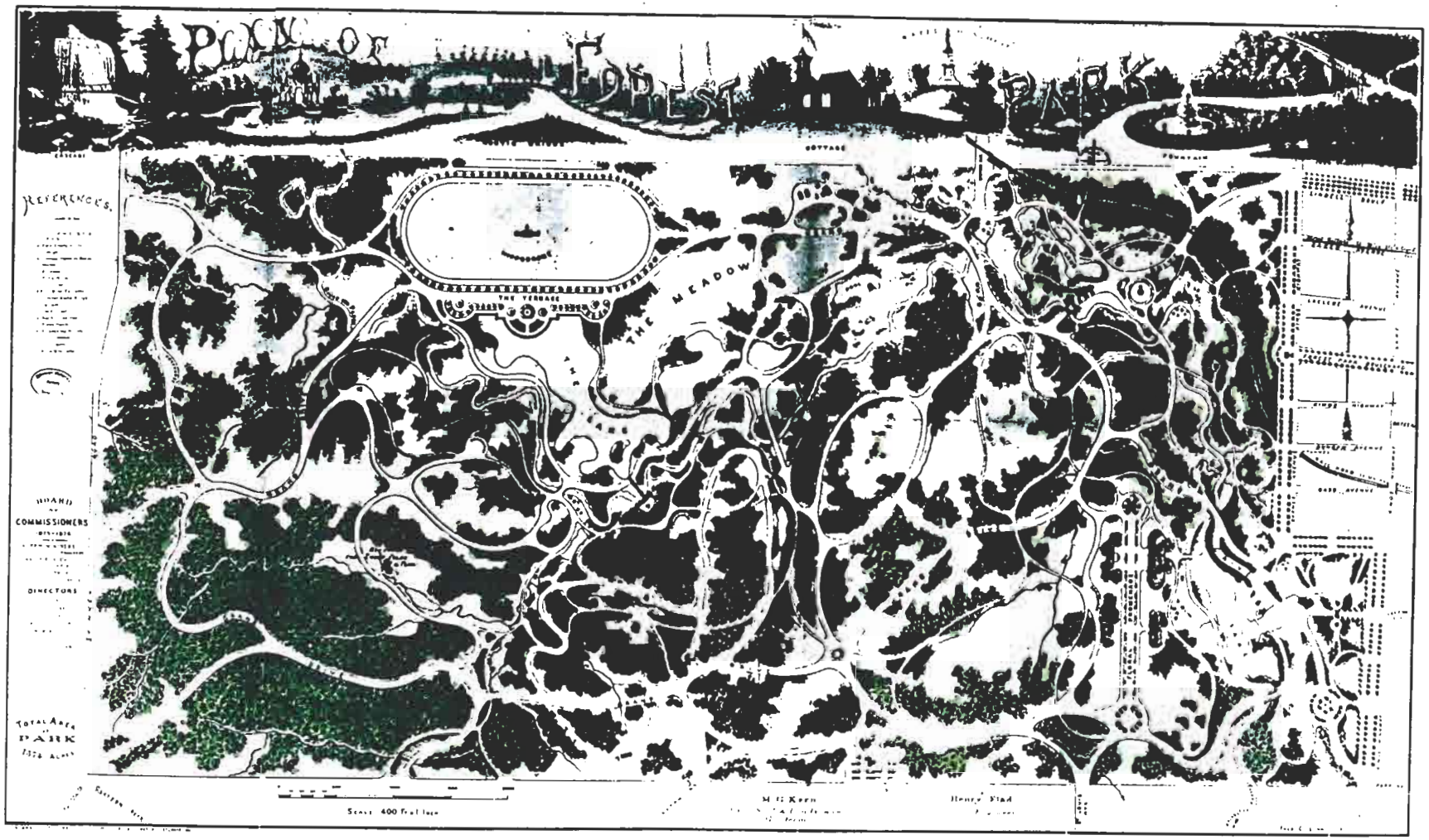
SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

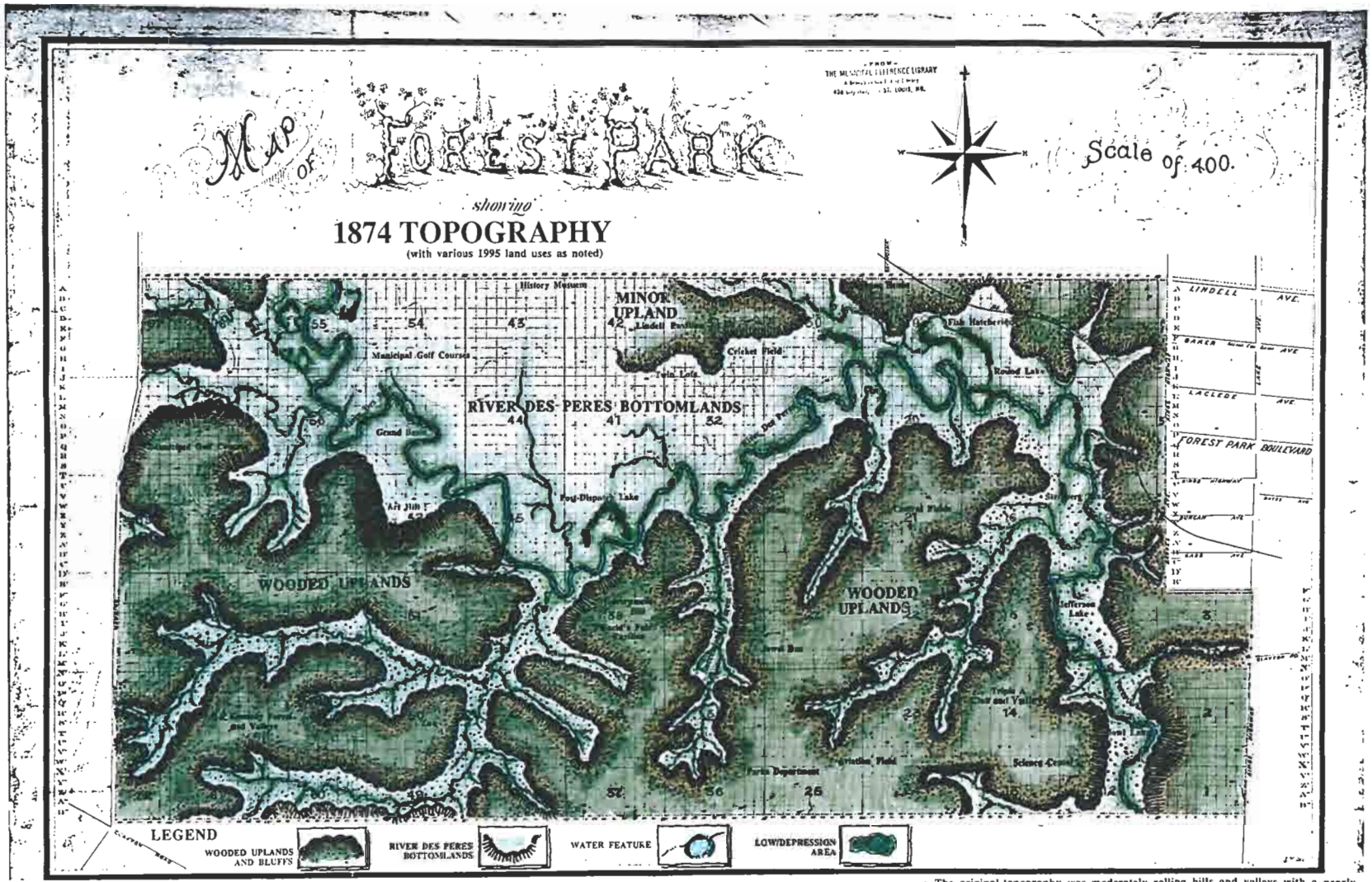
FOREST PARK MASTER PLAN



1876 ORIGINAL DESIGN PLAN

GENERAL OBSERVATIONS

- The plan was a mix of intimate and grand, flowing spaces with occasional touches of formal treatment.
- The plan contained mostly romantic, passive spaces but also contained provisions for cultural amenities, service facilities and active recreation.
- The plan's diverse spaces and water features were connected by a linear water feature called the River Des Peres and a series of intricate paths and carriageways.
- Many of the natural features such as valleys, bluffs, uplands and tributaries which existed before the park's creation were integrated into the design plan.
- The design and character which was intended in this plan remains in many of today's spaces, especially in the eastern half of the park although many have been modified over the years to accommodate contemporary needs.



*Analysis by Design Team 1995
*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

GENERAL OBSERVATIONS

- The original topography was moderately rolling hills and valleys with a nearly level to gently undulating bottom land or flood plain.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 2800

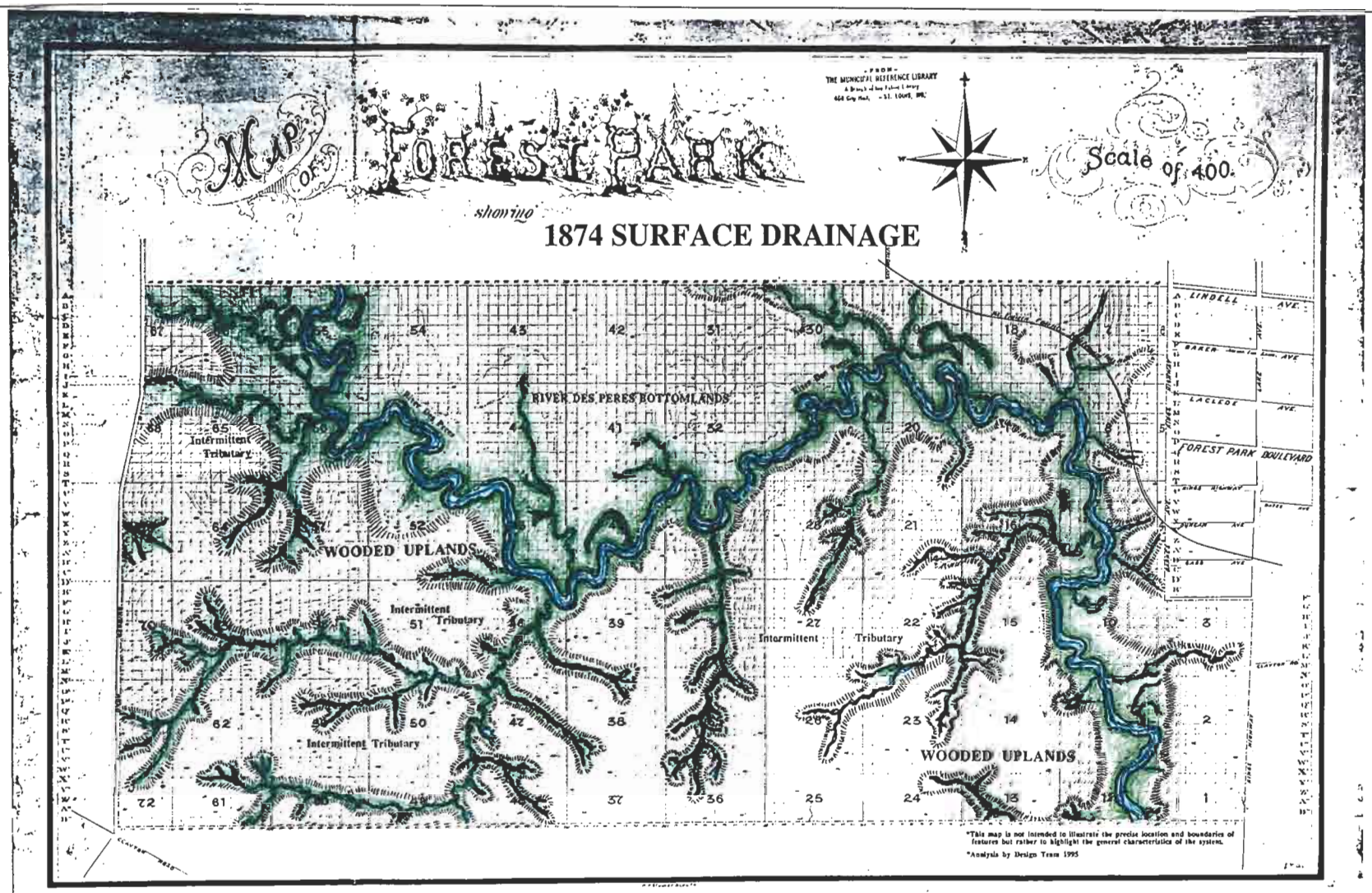
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



LEGEND

PRIMARY WATER ELEMENT

TRIBUTARY ELEMENT

GENERAL OBSERVATIONS

- The River Des Peres originally flowed through Forest Park on its way to the Mississippi River. It was fed by a series of intermittent tributaries which flowed down valleys from the uplands above. These tributaries only flowed when there was adequate rainfall.
- All water bodies were naturally occurring linear streams. Isolated water bodies occurred when droughts left only deep pools, in areas where ground water discharges kept the pools charged and in depressional areas that collected water.
- Flooding was a normal, periodic event.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

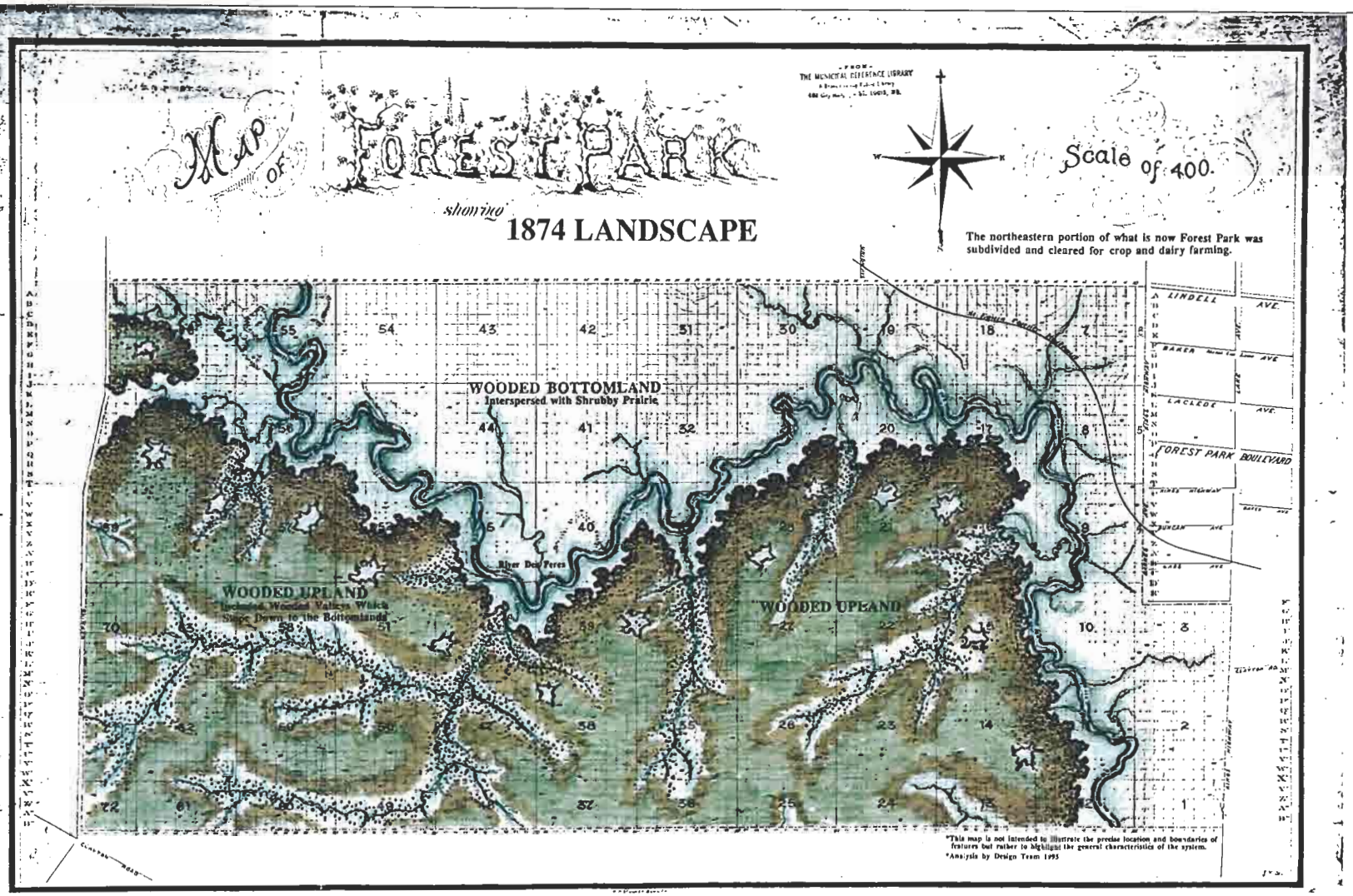
27 FEBRUARY 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



GENERAL OBSERVATIONS

- The city was approximately 40% forested and 60% prairie in pre-settlement time. The area east and north of Forest Park (the original River Des Peres Water Corridor) was primarily prairie while west and south of River Des Peres was woodland.
- The River Des Peres defined much of the vegetation and land forms at the time of Forest Park's creation.
- Internationally, for thousands of years, woodlands along the Mississippi River flyway have been used as a source of food and cover by migrating birds.
- Woodland vegetation was natural and adapted to the site (soils, slope and groundwater) and to the climate (temperature, rainfall, etc.).
- Woodland vegetation furnished habitat for many species of wildlife, a sediment filter, soil stabilization and a stormwater sponge.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

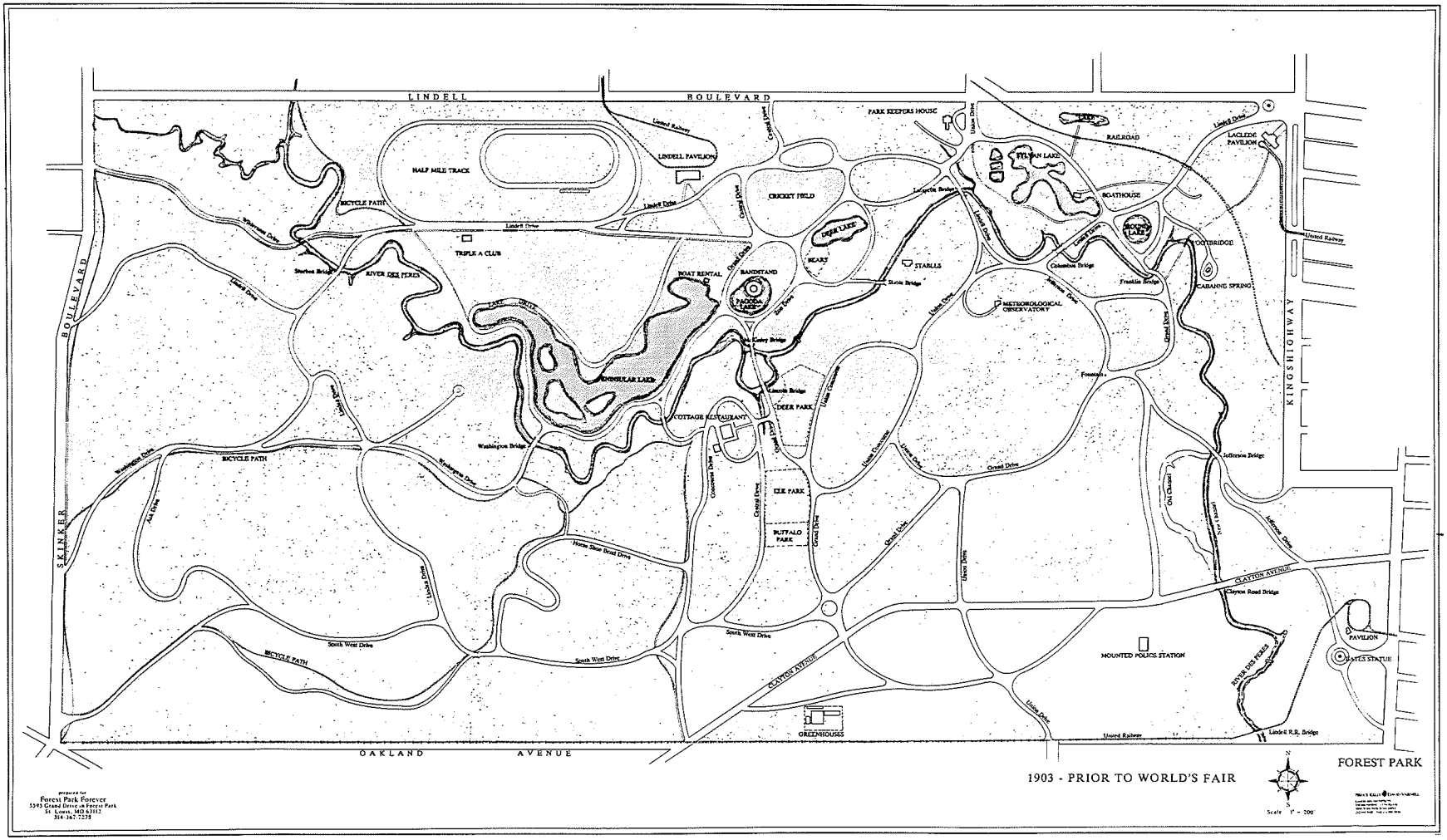
DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

2. *The 1904 World's Fair Plan*

The most significant changes to the park came as the result of the 1904 Louisiana Purchase Exposition, which was held over much of the park's western half. To accommodate the fair, most of the trees in the western part of the park were removed, except for what today is Kennedy Forest. Large portions of the park were land-filled to accommodate the new structures. The River Des Peres was rerouted, channeled and sections of it were placed underground. All that remains of the fair's buildings are The Art Museum and the Zoo's Flight Cage. Grand Basin and Post-Dispatch Lake were reshaped from Peninsula Lake. The plan for the fair required that the park be returned to its original condition after the conclusion of the fair, but too many trees had been cleared and the added wear and tear of the fair left an indelible mark on the park's natural systems. In addition, after the fair, the park became the home for cultural and recreational facilities — the Jefferson Memorial, Zoo, and World's Fair Pavilion were soon added — all done in a piecemeal fashion that did not adhere to any comprehensive plan.



1903 PRIOR TO WORLD'S FAIR

FOREST PARK MASTER PLAN

ST. LOUIS, MO

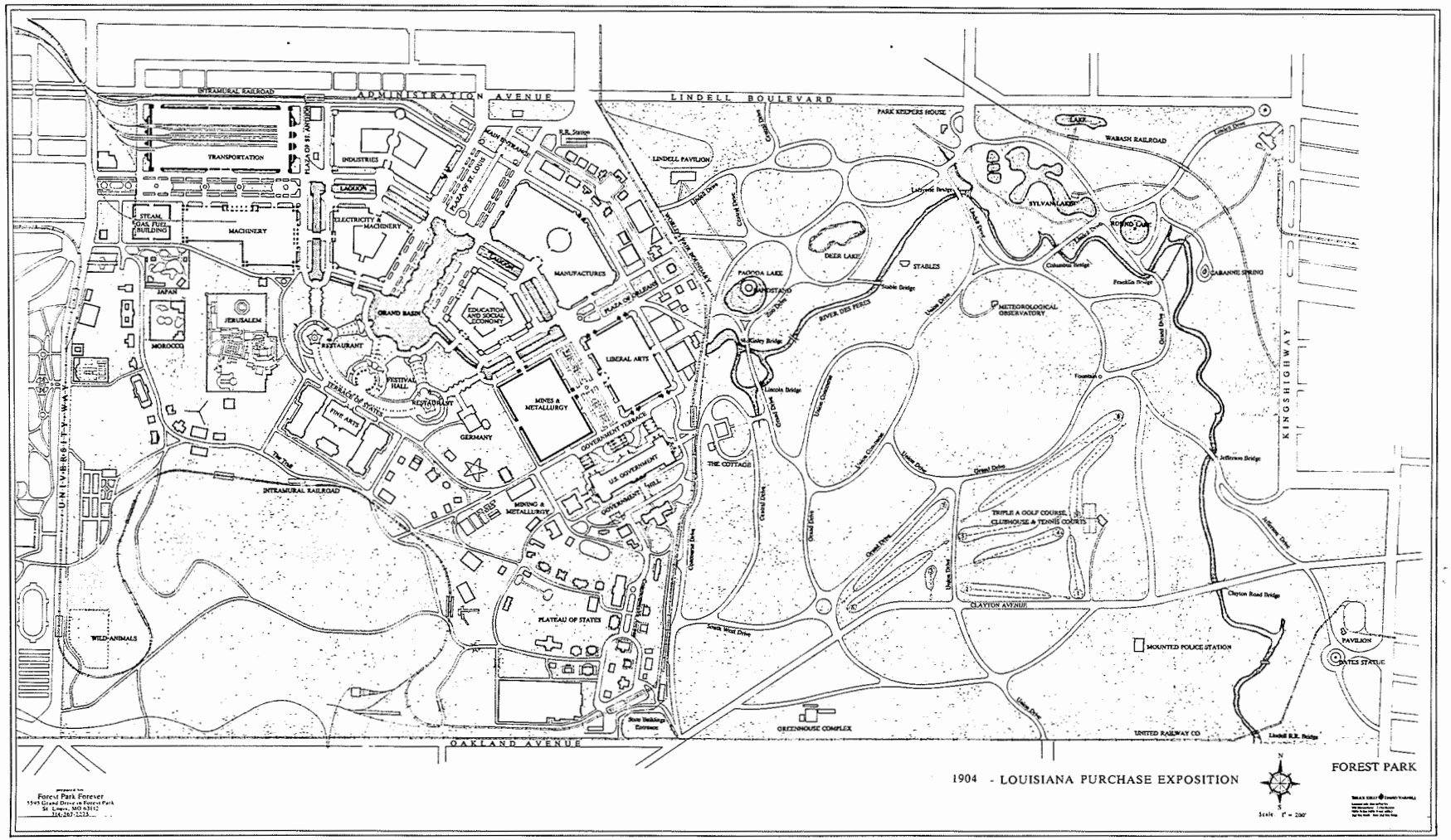
SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



1904 LOUISIANA PURCHASE EXPOSITION DESIGN

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400'

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

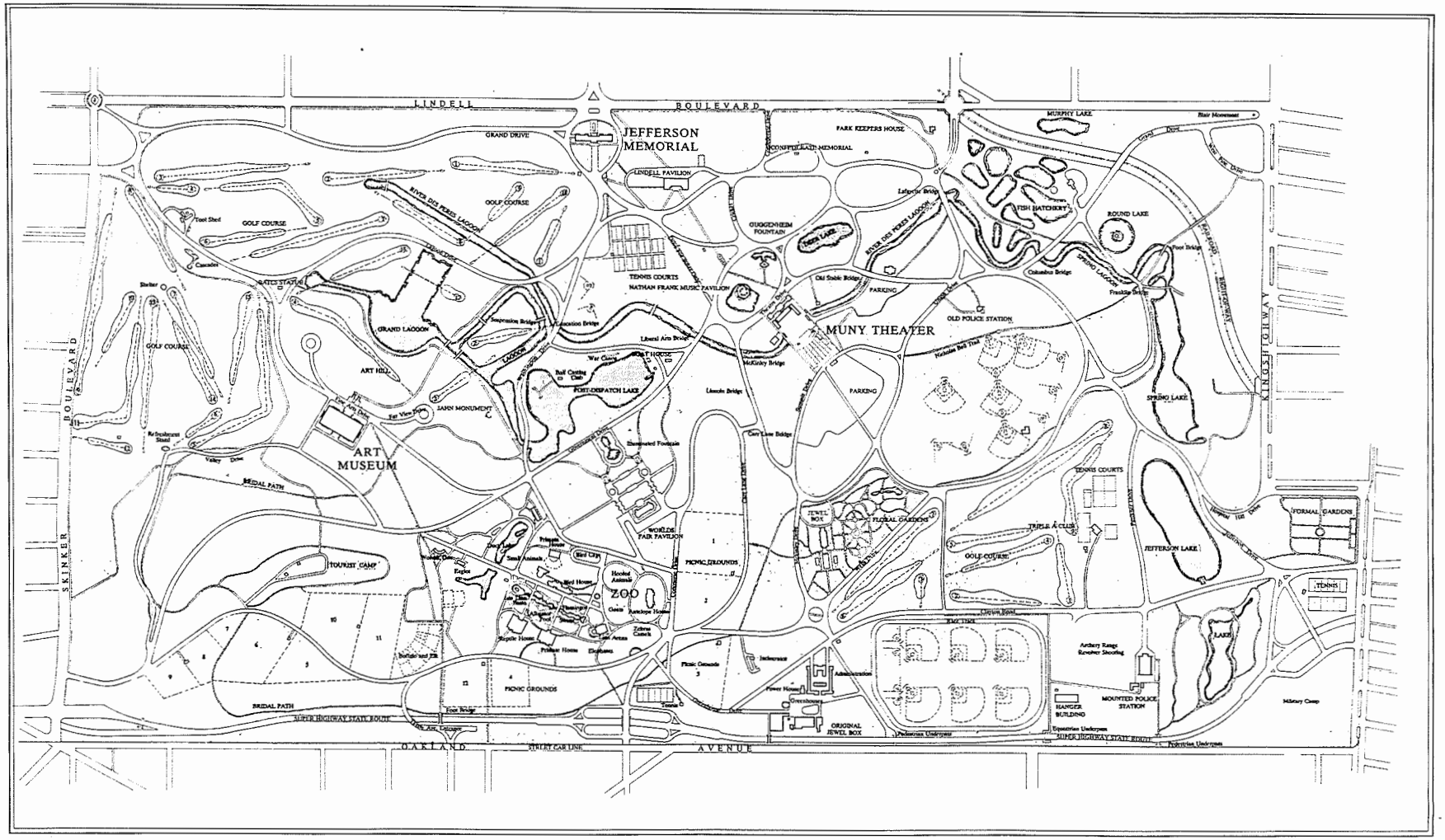
FOREST PARK MASTER PLAN

3. *The 1911 Dwight Davis Era*

In the years following the World's Fair, up until the late 1920s, Forest Park underwent a series of changes which altered the shape, design, and use of many areas of the park. Many of these changes involved the addition of active recreation facilities in the park, under the guidance of Park Commissioner Dwight Davis. The changes, while greatly expanding the attraction of the park for many citizens, resulted in a park whose natural systems and linkages were disturbed, a condition that exists to this day.

4. The Federal Era

The park continued to change, as new facilities, institutions, and amenities were built. In 1930, the River Des Peres disappeared from the park as it was buried in two underground sewer pipes. More and more of the park's passive green space was replaced by buildings, athletic fields, golf courses and paths. Highway 64/40 and the Forest Park Parkway were routed through the park's perimeters during this time. Some attempts were made to plan for the park's continued growth during this period, but none had any significant physical impact.



1943 PLAN

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

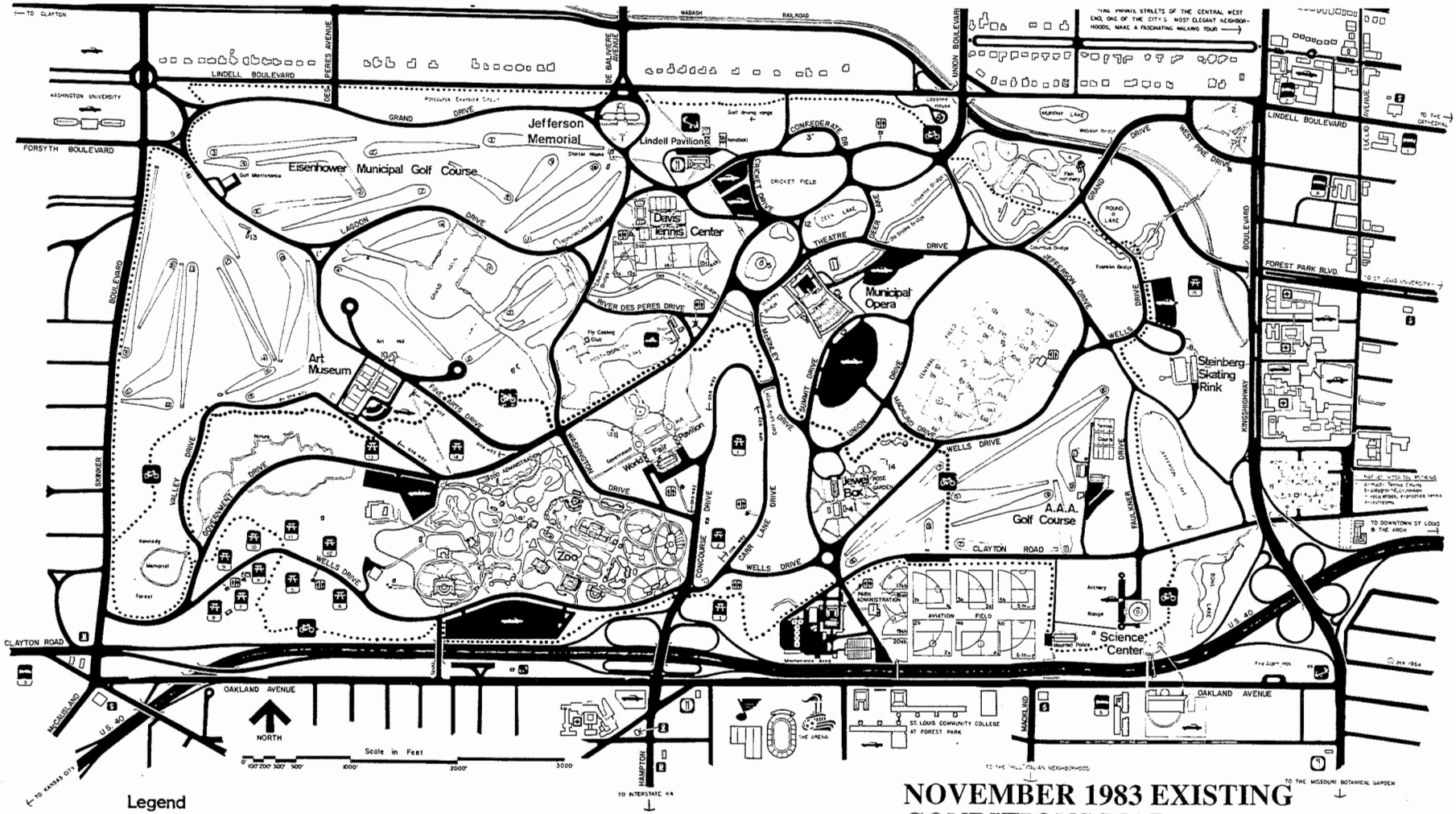
ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

5. Contemporary Plans

The 1983 plan was adopted by the Community Development Commission of the City of St. Louis as the only comprehensive plan for the park since the 1904 plan for the fair and the original plan of 1876. However, it was not significantly implemented. There have been a number of changes to the park subsequent to the 1983 plan. The most significant have been a number of road removals, road re-surfacing and in-fill of the lagoons around Post-Dispatch Lake.

In Fall 1993, a plan was prepared by the New York firm of Kelly/Vernell Landscape Architects to augment the 1983 plan's landscape component. However, it was never adopted or implemented.



NOVEMBER 1983 EXISTING CONDITIONS MAP

Legend

PARK ACTIVITIES

BICYCLE PATH	
BOATING	
MONUMENTS	
PARKING LOTS	
PICNIC GROUNDS	
PLAYGROUNDS	
RESTROOMS	

ATHLETIC FIELDS	
Baseball	b
Softball	sb
Field Hockey	fh
Rugby	r
Soccer	s
Touch Football	tf

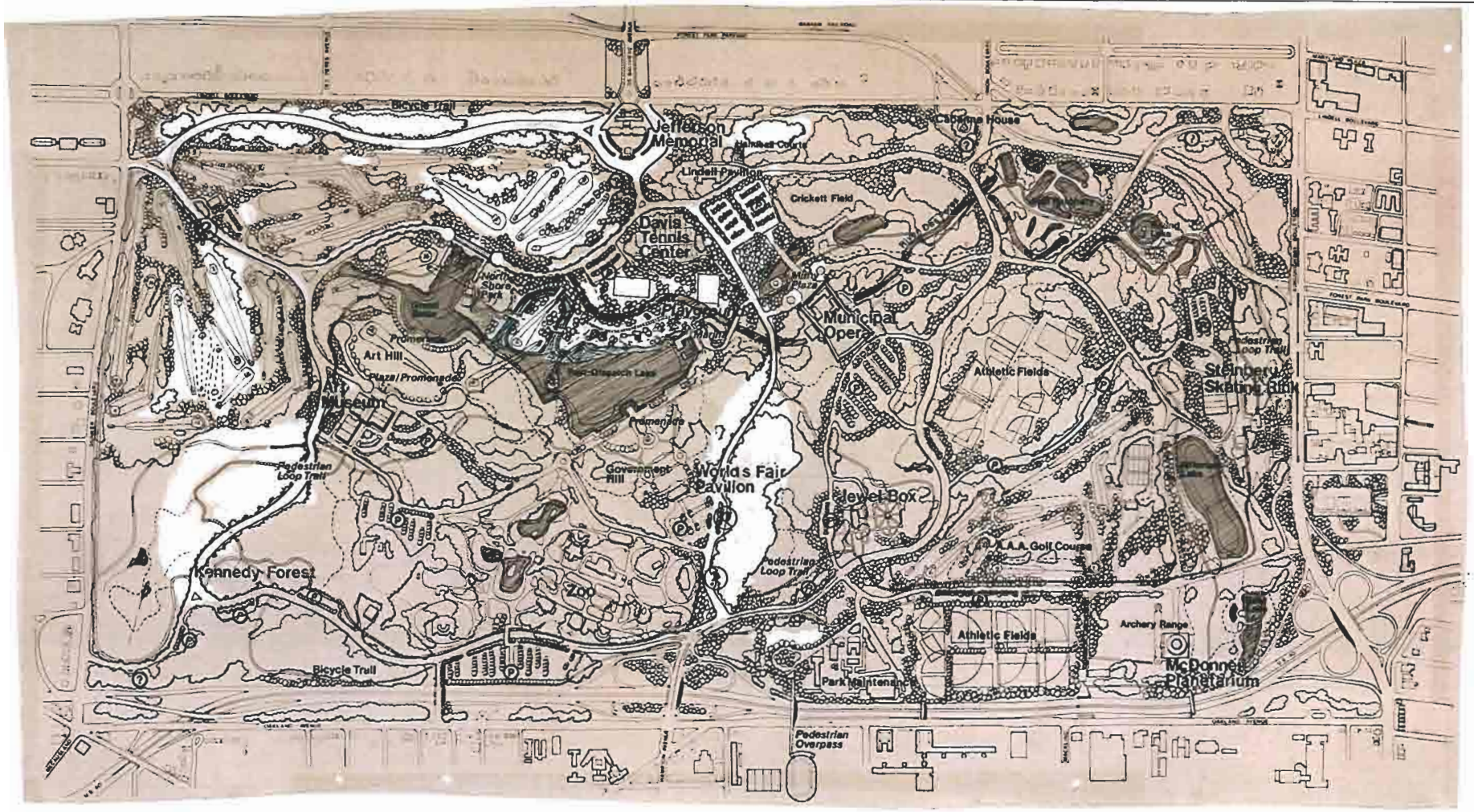
PARK BOUNDARY SERVICES

- BANKS
- DINING
- GASOLINE STATIONS
- HISTORIC HOMES
- HOSPITALS
- LODGING

MONUMENTS & STATUARY

1. EDWARD BATES, 1876
2. FRANK BLAIR, 1885
3. CONFEDERATE MEMORIAL, 1914
4. ST. FRANCIS OF ASSISI, 1962
5. NATHAN FRANK BANDSTAND, 1926
6. FREDRICH JAHN MEMORIAL 1913
7. JEWISH FIRST AMERICAN SETTLEMENT, 1956
8. JOE de JORE, 1962
9. MUSICIANS MEMORIAL, 1923
10. APOTHEOSIS OF ST. LOUIS, 1906
11. ST. LOUIS AWARD, 1965 & 1973
12. GENERAL FRANZ SIGEL, 1908
13. CASCADES, 1938
14. VANDEVENTER PLACE ENTRANCE, 1950
15. NATIVE AMERICAN, 1976

MAP OF FOREST PARK



1983 MASTER PLAN PROPOSAL

FOREST PARK MASTER PLAN

ST. LOUIS, MO

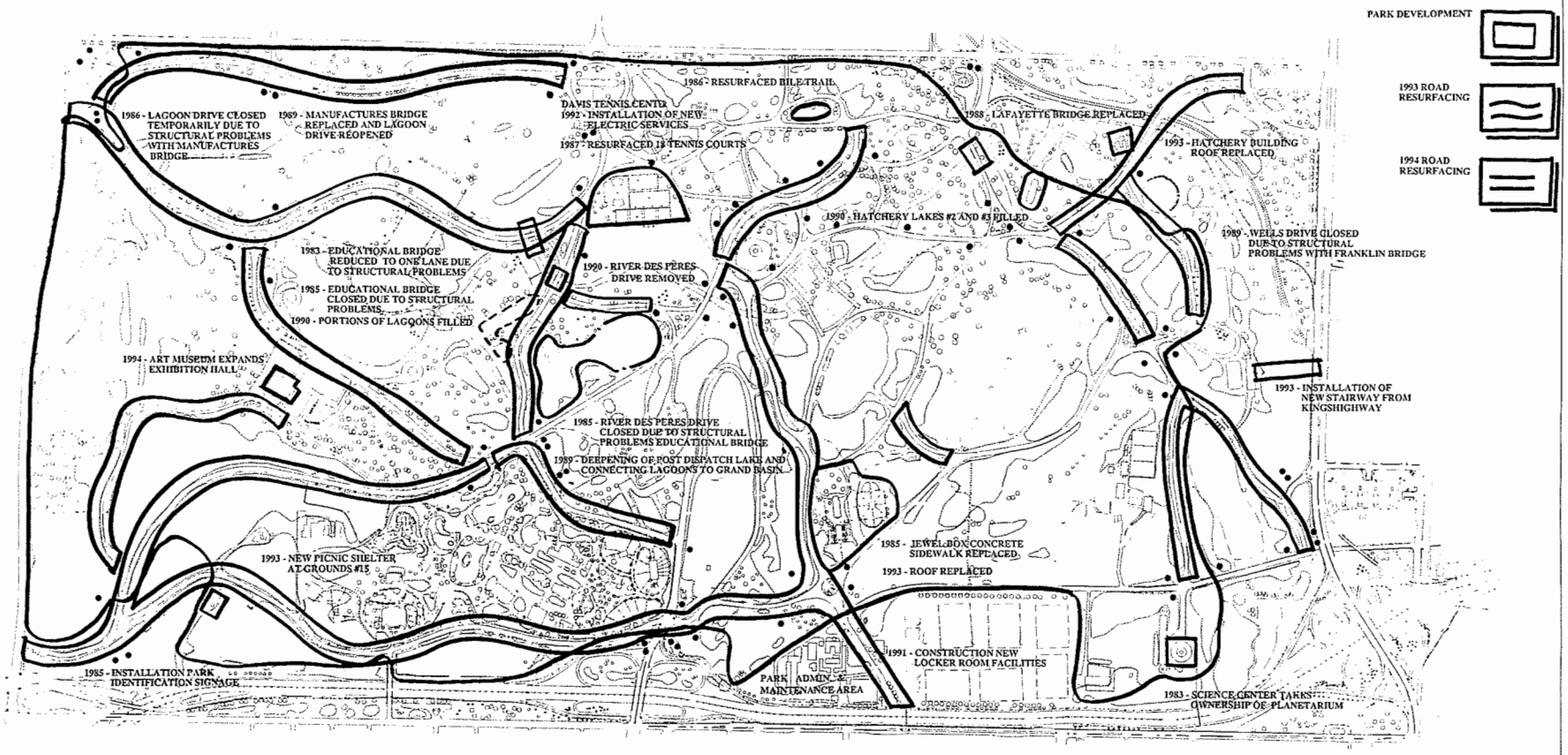
SCALE: 1" = 400'

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



PARK DEVELOPMENTS 1983 - 1994

FOREST PARK MASTER PLAN

ST. LOUIS, MO

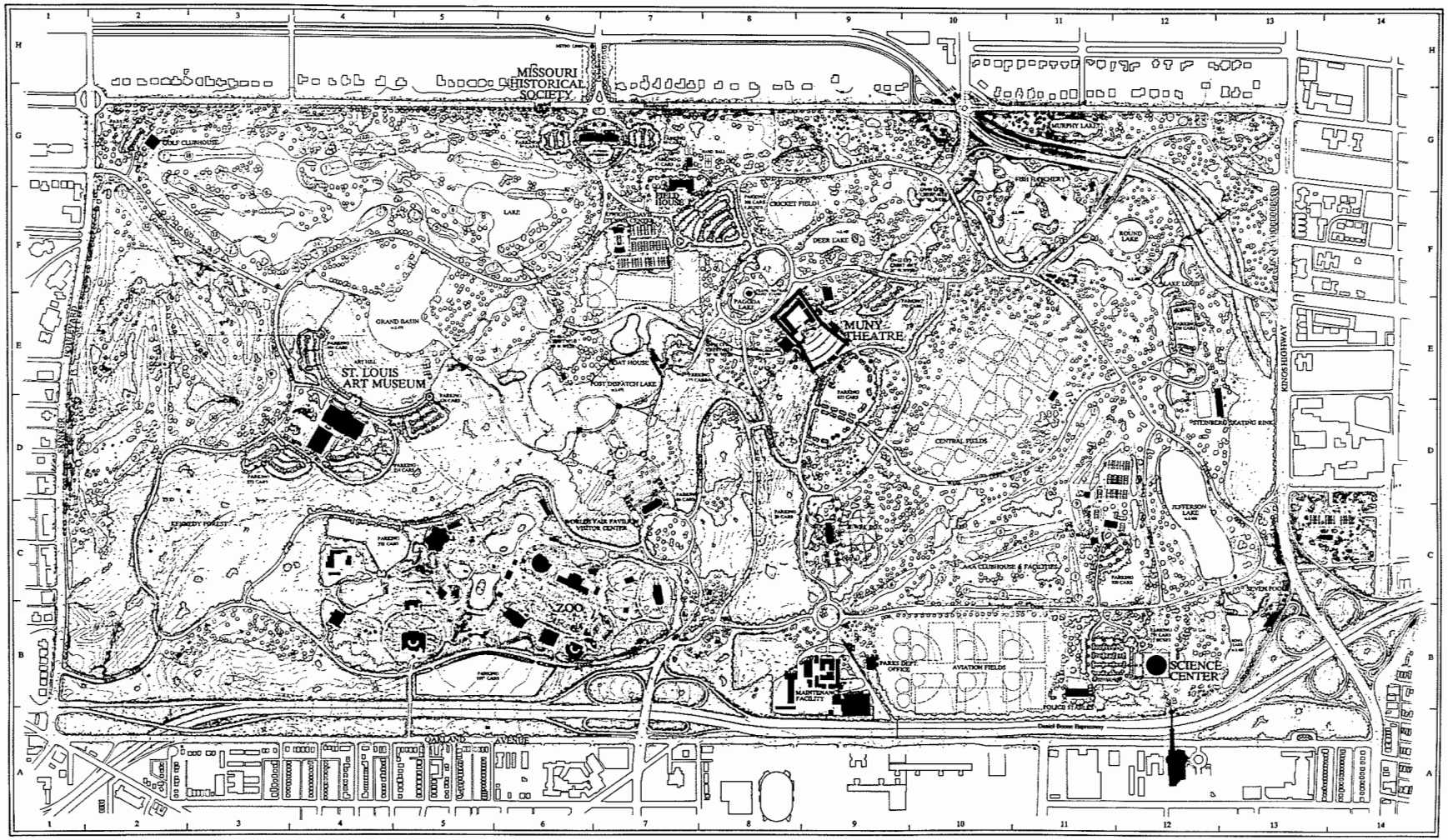
SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



1993 MASTER PLAN PROPOSAL

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

CITY OF SAINT LOUIS

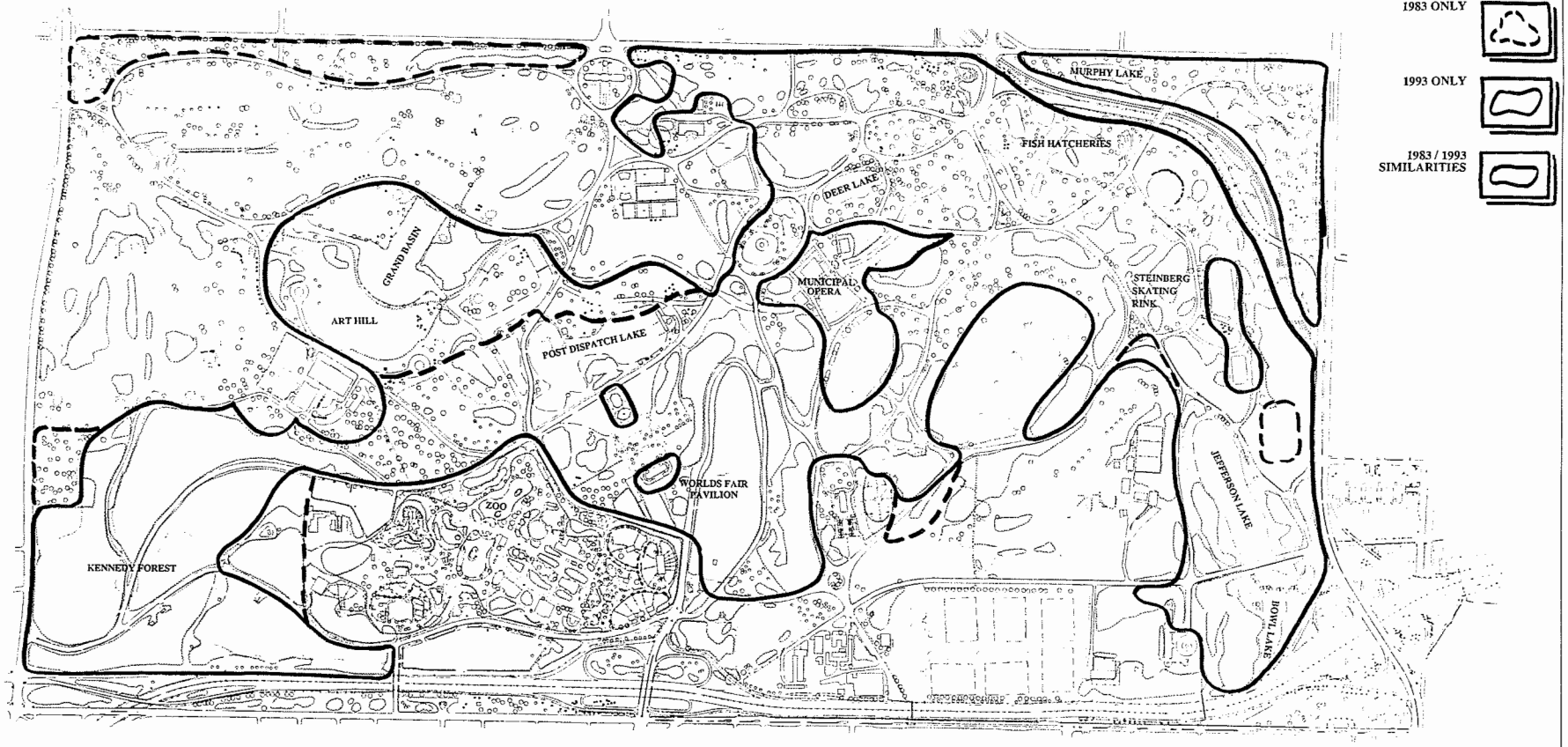
DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

6. Comparison of the 1983 and 1993 Master Plans

A comparison between the 1983 and 1993 plans reveal different approaches to the park. The most significant differences included: different attitudes regarding Grand Basin/Art Hill and Post Dispatch Lake area in terms of active recreation and access, circulation and parking; the 1993 Plan incorporating a more extensive lake and lagoon system; different resolutions for the cultural institutions expansion needs; and some differences in roads and paths.



PASSIVE - UNSTRUCTURED RECREATION 1983 / 1993

FOREST PARK MASTER PLAN

ST. LOUIS, MO

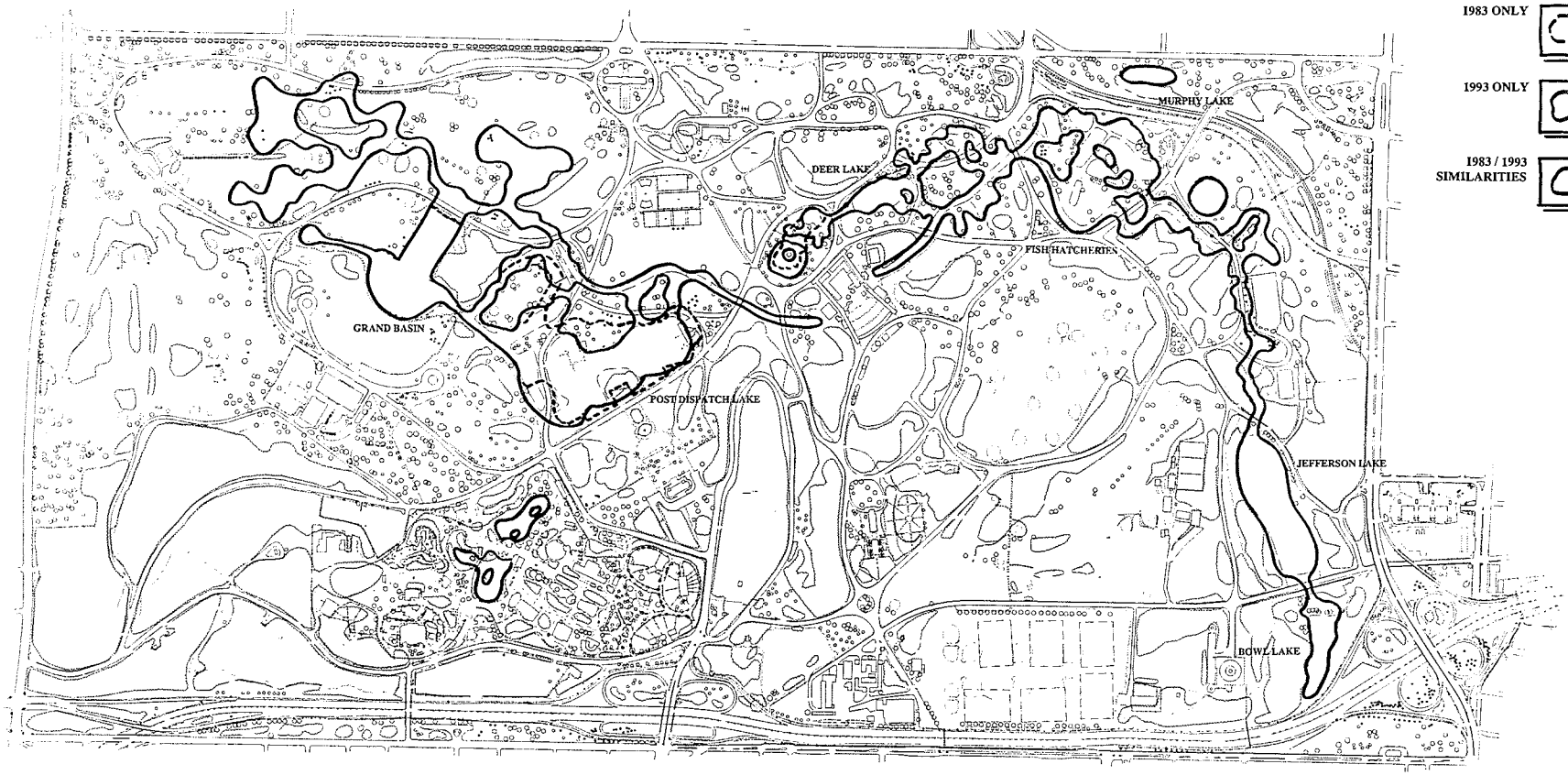
SCALE: 1"= 400' 0 400 1600 2500

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



LAKES 1983 / 1993

FOREST PARK MASTER PLAN

ST. LOUIS, MO

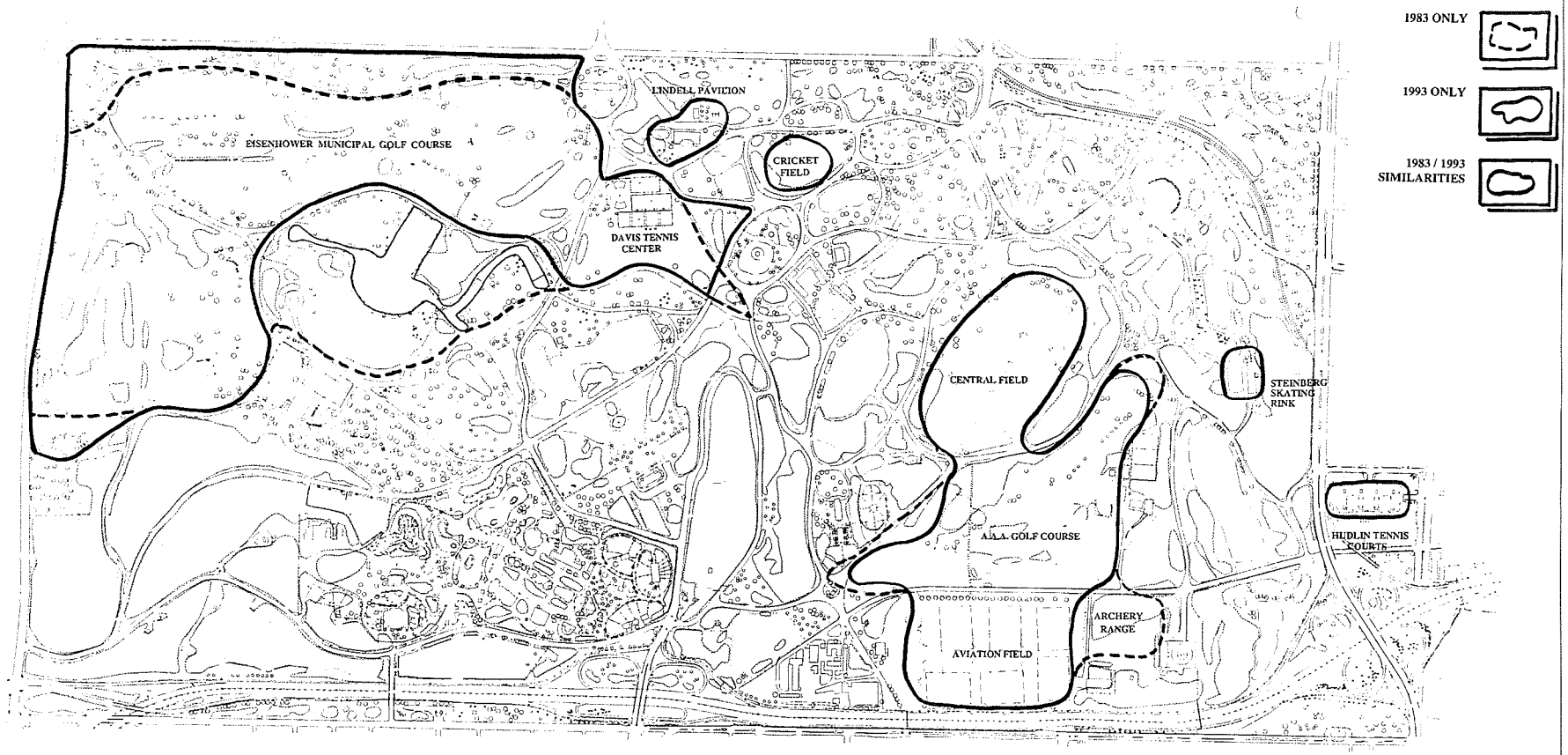
SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



ACTIVE RECREATION 1983 / 1993

FOREST PARK MASTER PLAN

ST. LOUIS, MO

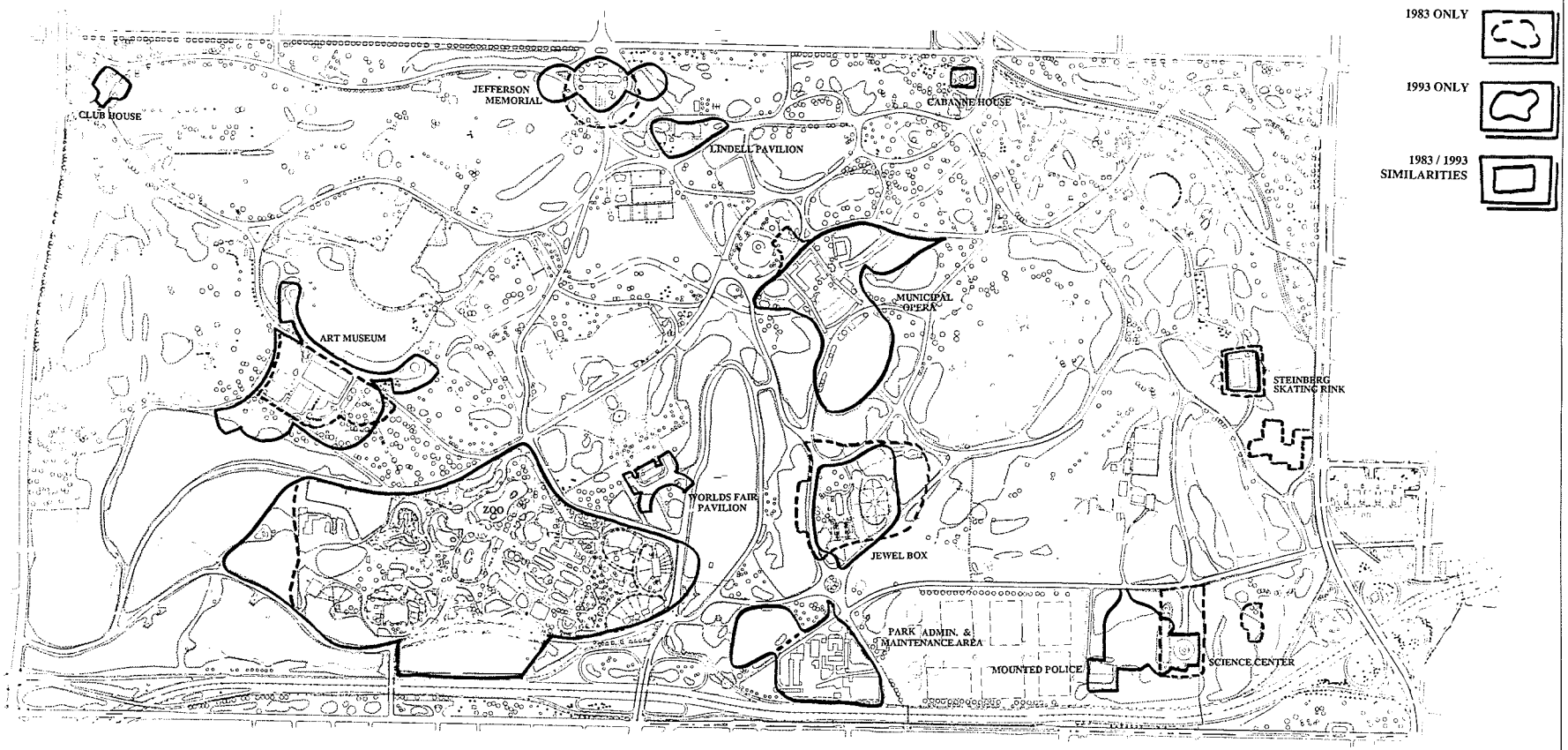
SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



ZMD INSTITUTIONS AND PARK FACILITIES 1983 / 1993

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2500

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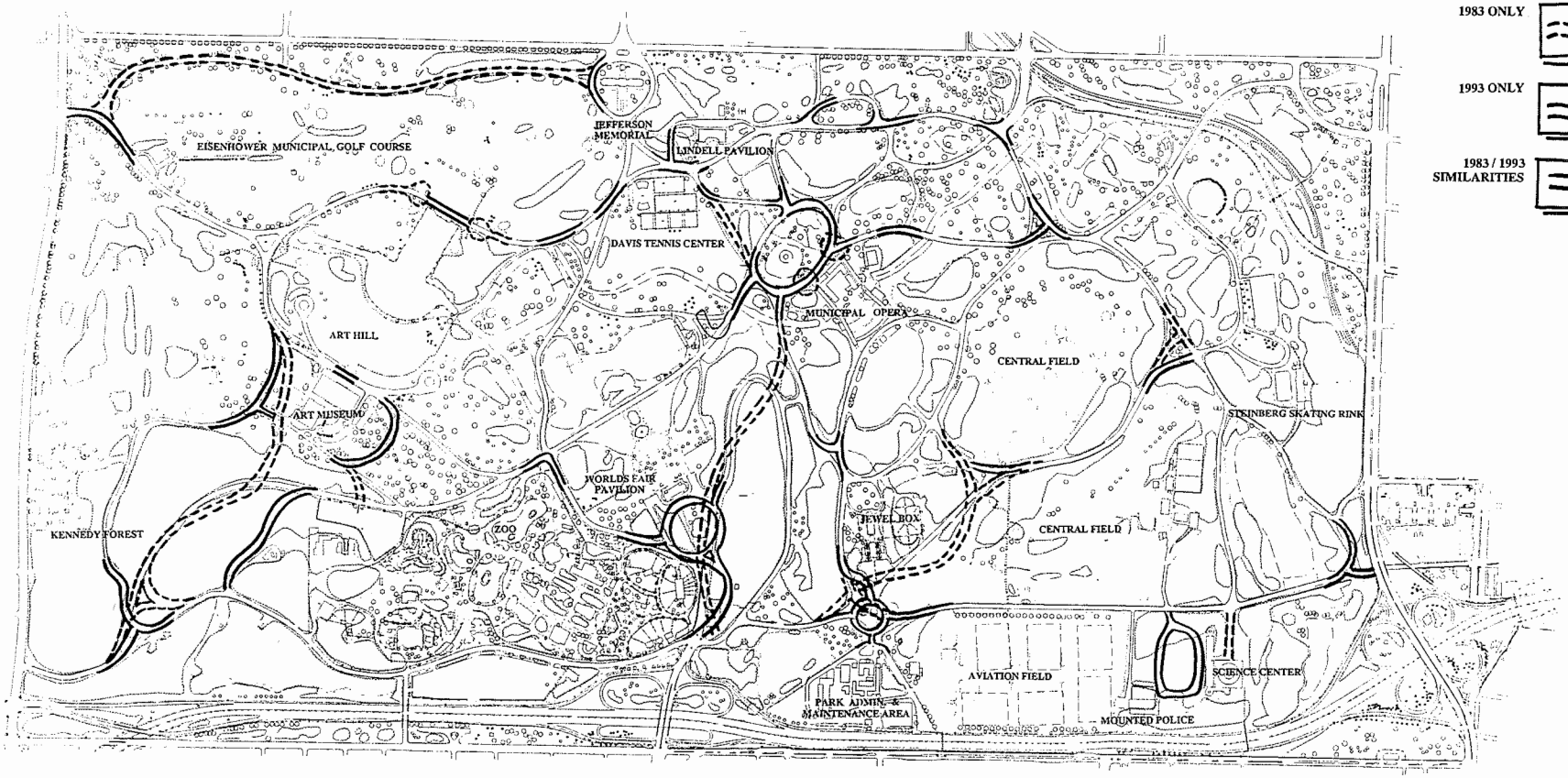
CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



ROADS 1983 / 1993

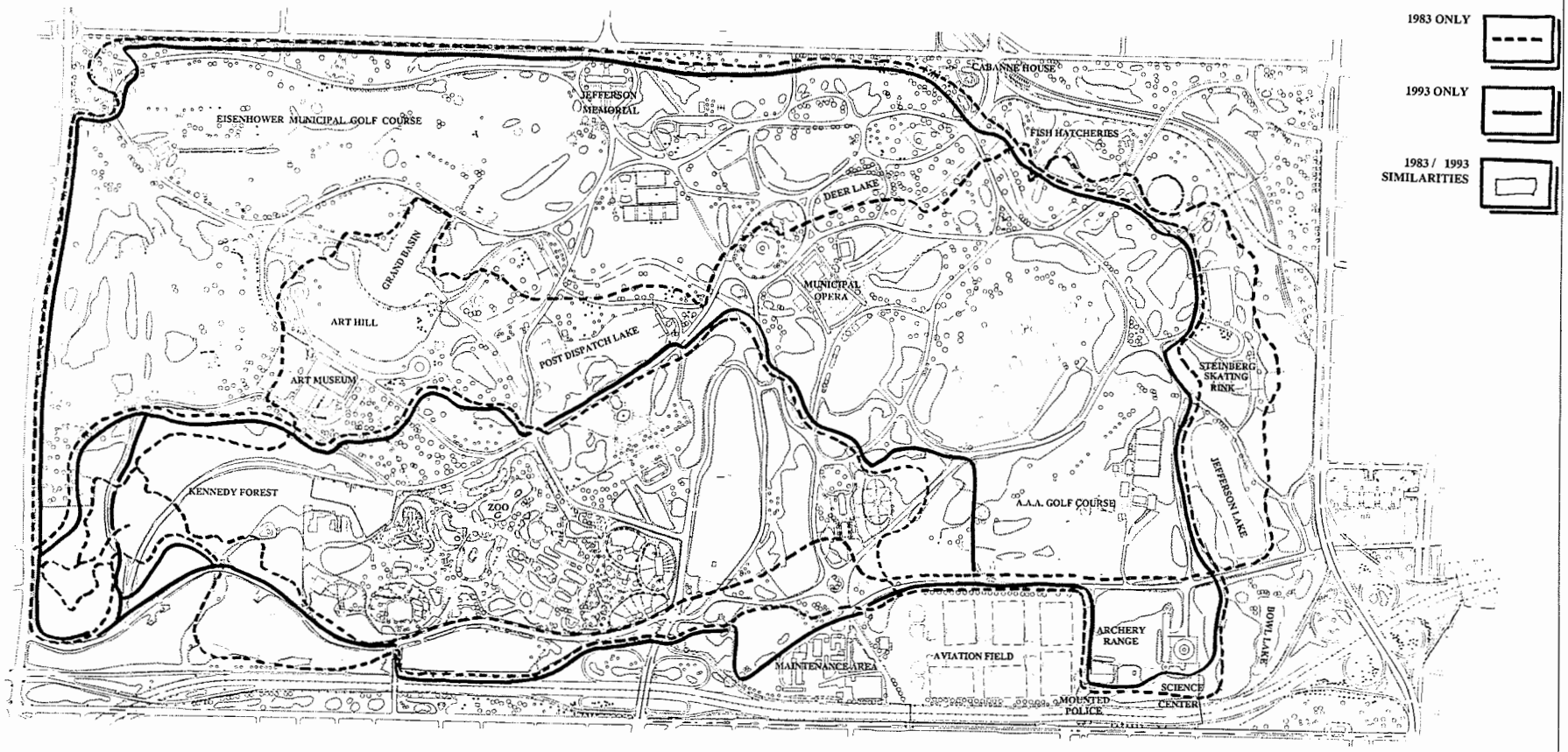
FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



PATHS 1983 / 1993

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2500

CITY OF SAINT LOUIS

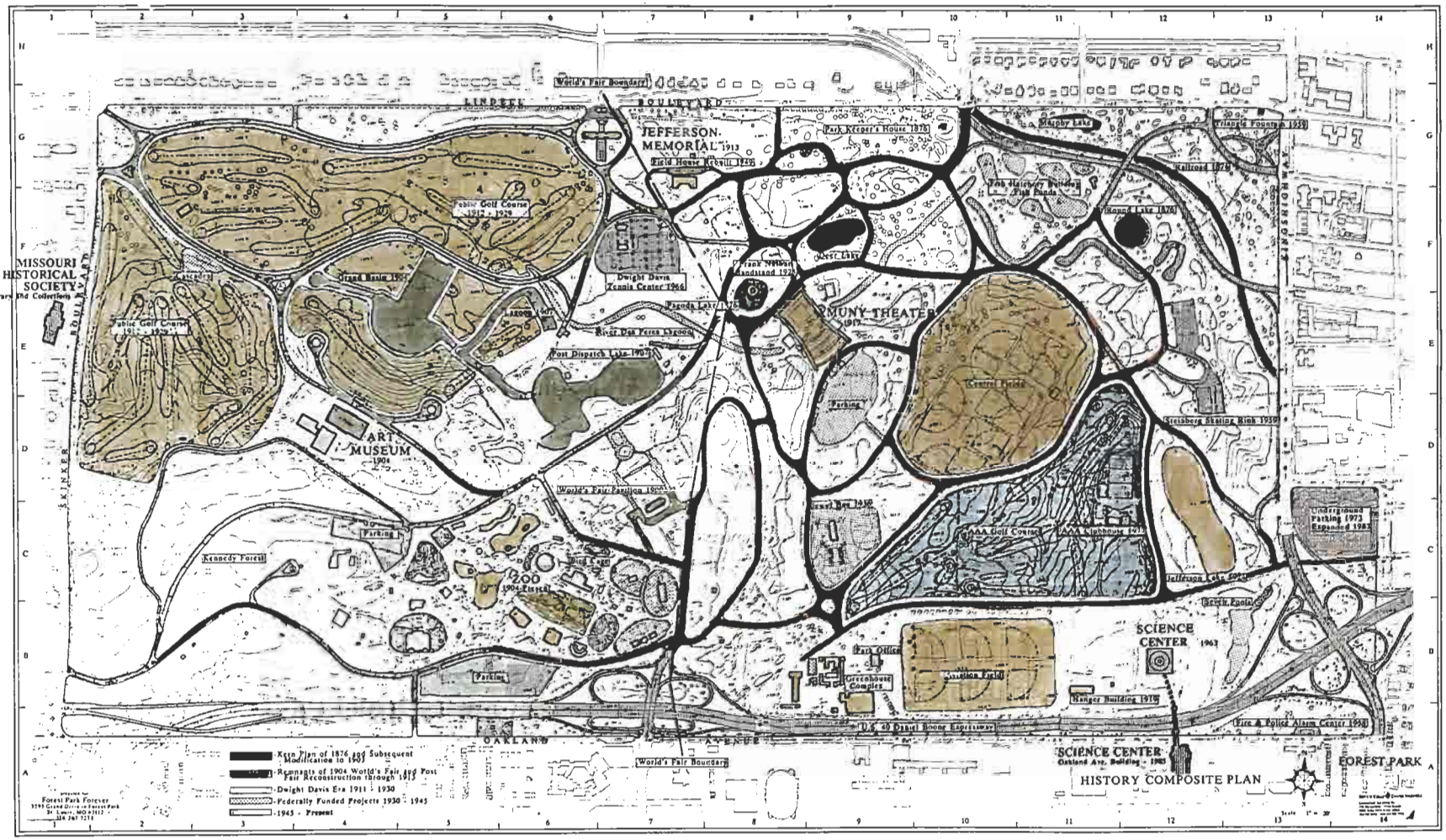
DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

7. History Composite

Forest Park today is the result of these various plans as they were overlaid on each other over time. The enclosed map - History Composite - shows what features of the different eras of park planning remain today. What is clearly apparent is that the park is essentially split down the middle, with the eastern section being more reminiscent of the pre-World's Fair design approach and the western section reflecting the post-World's Fair design approaches.



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

HISTORY COMPOSITE

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

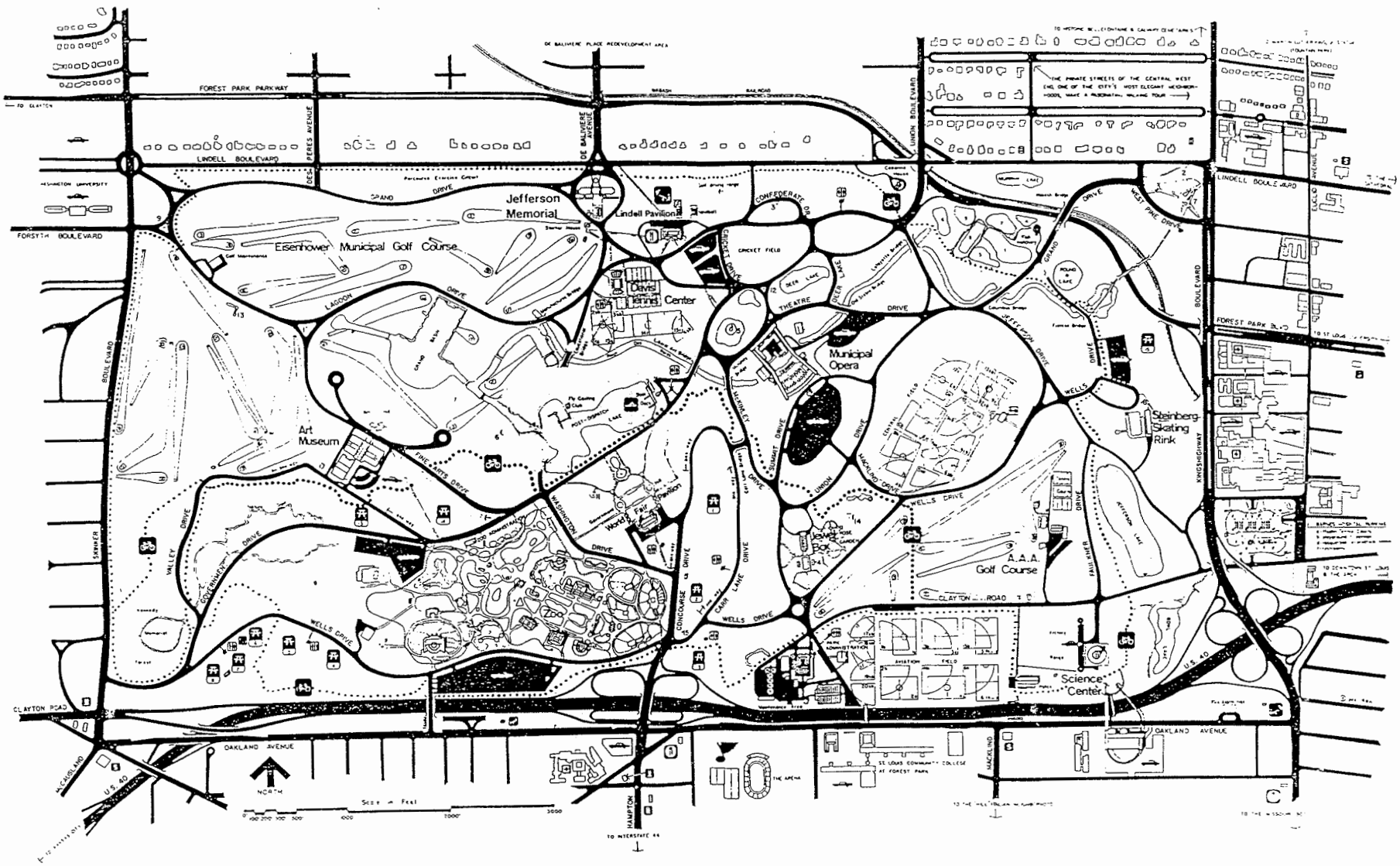
FOREST PARK MASTER PLAN

B. Forest Park Profile Today

Forest Park is unique in the way that it serves and is served by the neighborhoods and region that surrounds it.

The following are key facts:

- The park is approximately one mile long and two miles wide, with a total of 1,293 acres.
- As a neighborhood park, it is surrounded by more than 70,000 residents in neighborhoods within one mile of the park.
- As a city park, it serves the nearly 400,000 residents of the City of St. Louis.
- As a regional park, it provides attractions and facilities for the nearly 2.4 million residents of the seven-county metropolitan area.
- Forest Park attracts approximately 10-12 million visitors annually.
- Located within the park are the region's leading cultural institutions, including the Zoo, Art Museum, History Museum, Science Center, and the Muny.
- The park is part of the region's natural systems, which include water, vegetation, wildlife, topography, and air quality, among others.
- The park is located entirely within the 28th aldermanic ward, lies adjacent to two others (17th and 24th) and within one mile of the 8th, 18th and 26th wards.
- The park is an important anchor of the surrounding area, providing a vitality and appearance that spreads into existing neighborhoods and serves as a catalyst for continued growth, development, and revitalization of those areas.



EXISTING CONDITIONS

C. Summary of Existing Conditions

As part of the master planning process, an analysis was performed of all of the park's natural and built systems to determine their current condition and their ability to survive and prosper under existing conditions. The results of those studies can be found in each of the relevant sections throughout this plan and in the appendix.

In general, Forest Park does not currently have an ecologically sound and sustainable natural system. Many opportunities do exist, however, to improve the functioning of the natural system, using sound ecological design principles. The natural system is seen as the base infrastructure of the park. Without it, there is no park. There are areas of the park that will always be less sustainable from a natural ecological point of view and will require high maintenance (i.e., ball fields). However, the opportunity does exist to ensure that maintenance practices are also environmentally sound.

Forest Park's built system was equally distressed due to years of declining maintenance budgets and resulting deferred maintenance. Its roads, curbs, sidewalks, and underground utilities are all in need of extensive repair or, in many cases, complete replacement.

This plan seeks both to improve the environmental health of the Park's natural systems and extensively repair its built systems. The plan's design guidelines are divided into six "systems," which are summarized below:

1. Passive Open Space

    - Not all open spaces are equally maintained and utilized.
    - Existing fragmentation and barriers degrade the health of Forest Park's vital natural systems.

2. Water System

    - The existing water system lacks visual as well as physical connection.
    - The existing combination of surface drainage and subsurface infrastructure cannot adequately handle the park's drainage needs.
    - The inadequate drainage system not only restricts usage but also damages the vegetation.
    - Due to the gradual removal of vegetation over time, the park faces serious water run-off and erosion problems.
    - The water and surface drainage system is presently connected to the public sewer system.
    - Water quality does not meet the standards outlined in the Federal Clean Water Act.

3. Landscape

- There is no predominant landscape "theme" in Forest Park.
- Many of the spaces envisioned in the original 1876 plan and 1904 World's Fair plan remain in some capacity, with a range of modified/contemporary uses.
- The park's topography is largely the result of the original configuration of River Des Peres prior to its burial into concrete sewer tubes.
- Forest Park's landscape is aesthetically diverse.
- Much of the park lacks spatial definition and all-season visual drama.
- Most of the current tree planting occurs in an ad-hoc manner with no coordinated plan.
- Some of the park's plantings are located in inappropriate locations in terms of site moisture, orientation, and use.
- Generally, the park is void of ornamental trees, shrubs and diverse ground cover plantings.

4. Active Space

- There are few areas available for active recreational pursuits without a permit.
- Many permit areas go unused during significant portions of the week and year.

5. Facilities, Art, Architecture, and Infrastructure

- Existing park facilities, especially the cultural institutions, are heavily used and all need major improvements to meet current standards.
- Generally, park support facilities and amenities are inadequate to meet the needs of park users.

6. Access, Circulation, and Parking

- Forest Park does not have an overall system plan for its roads and paths
- The current road and path system is often redundant and confusing.
- The current road system is part of a regional transportation system.
- There is adequate parking throughout the park. However, it is inefficient and inappropriately located to meet typical and peak summer demands.
- The path system in the park is plagued by multiple, often conflicting uses and by frequent intersections with roadways where path users are at a distinct disadvantage.

The analysis of Forest Park's existing conditions also looked at the critical issues of governance, management, and funding, which are summarized below:

7. Governance

- Forest Park is owned and operated by the City of St. Louis.
- There is no formal method for citizen input on the future of Forest Park.

8. Management

- The Department of Parks, Recreation, and Forestry administers Forest Park.
- The existing management and operational model assigns no specific status to Forest Park as a separate and distinct program or budget unit.

9. Funding

- Funding sources include the city's general fund, the city's capital fund, the Forest Park Improvement Fund, private donations, grants and supplemental city departmental contributions.
- The annual operating budget is approximately $2.9 million.
- The Forest Park Capital Improvement Fund currently receives funding from a 1/2 cent sales tax that was passed by voters in 1993.

SECTION C — GUIDING DOCUMENTS

I. A VISION OF FOREST PARK'S FUTURE

II. GOALS AND POLICIES

III. DESIGN APPROACH

A. A Total Park Experience
B. Human Ecosystem Design Methods
C. Sustainability
D. Park-wide Systems
E. Balance

IV. DESIGN CONCEPT

V. DESIGN PRINCIPLES

VI. CONTEXTUAL RELATIONSHIPS

A. Overview
B. Summary of Existing Conditions
C. Design Principle
D. Design Recommendations

VII. LAND USE

A. Overview
B. Summary of Existing Conditions
C. Design Principle
D. Design Recommendations
E. 1983 No-Net-Loss-of-Open-Space Calculation
F. Master Plan No-Net-Loss-of-Open-Space Calculation

I. A VISION OF FOREST PARK'S FUTURE

As part of the planning process, Forest Park planners developed the following vision statement for the park, which was endorsed by the St. Louis Board of Aldermen in January 1995. It describes how the planners and citizens envision the park in the future.

> *Forest Park is a gathering place for St. Louisans and our guests, an urban park that is the home for attractions, events and activities that reflect our interests, culture, and history. It is a place to experience wonders great and small, natural and man made: an inspiring vista, an endangered species, an Old World masterpiece, real world technology, or a shady glen that offers a moment of tranquillity. It is a place we share, and a place for which we share responsibility.*
>
> *Forest Park provides us with settings to appreciate the world around us, and within ourselves. It is easily accessible, yet free of the constant intrusions of daily life. Here we may walk barefoot in the grass, hear the sweet song of a migratory bird, watch young children catching their first fish or neighbors enjoying a summer's day. We may contemplate a piece of art or architecture, float on the lakes amidst falling autumn leaves, walk silently through a forest on freshly fallen snow, or lie in the fields of wildflowers as Spring arrives.*
>
> *As home to many of our finest cultural institutions, Forest Park is a place to come face-to-face with a baby chimpanzee, take a journey through the heavens or back in time, hear the stars sing at night, or uncover the secrets of a pharaoh's tomb. It is a place of learning and discovery, of unique experiences that bring us back again and again.*
>
> *As a center of recreational activity, Forest Park teems with athletes and sports enthusiasts at all levels, ages, and skills. Its paths, fields, courses, and courts allow those involved in each activity the freedom to enjoy the park without limiting the enjoyment of others.*
>
> *As a focal point for special events, Forest Park gives us reasons to celebrate our heritage, our hopes, and our happiness. Our gatherings here help define our community and demonstrate the warmth, wonder, and friendship that we share.*
>
> *No where else can we share the variety and totality of experiences that Forest Park provides. The strength of the park flows from that sharing, from our willingness and ability to protect the park for all of us in all of our uses. Forest Park is more than a symbol of the beauty and tradition of St. Louis; it is a place where we define our community and celebrate our pluralism every day.*

II. GOALS AND POLICIES

A. Master Plan Goals

B. Management and Implementation General Policies

C. Land Use General Policies

D. Landscape General Policies

E. Art, Architecture, and Infrastructure General Policies

F. Access, Circulation, and Parking General Policies

II. GOALS AND POLICIES

A. MASTER PLAN GOALS

- ❑ Forest Park should be ...

  - An attraction for visitors to St. Louis and the citizens of the region.
  - A place where the St. Louis region celebrates its pluralism.
  - The home of many of the region's special events, including multi-cultural events.
  - Well-maintained and safe for all park users.
  - An environmentally safe recreation area, posing no hazard to the health and safety of current and future park users.

- ❑ Forest Park should provide ...

  - For many of the diverse open space, cultural, and recreational needs and activities of the region.
  - For the preservation and maintenance of its natural resources, environment and wildlife habitat to ensure a sustainable, ecologically sound natural system.
  - Safe and enjoyable access for all park users.
  - Educational and volunteer programs, events, visitor services, and outreach activities.
  - A diversity of activities, including multi-cultural events.
  - City-run and promoted youth programs.
  - Access and attractions that are in full compliance with the Americans with Disabilities Act (ADA).

- ❑ Forest Park's existing cultural institutions (Art Museum, Zoo, Science Center, History Museum and the MUNY) are valued and should remain in Forest Park.

- ❑ Forest Park's natural beauty, scenic value, and historic and cultural institutions should be the basis for the enjoyment of the park, regardless of future changes in types and levels of park activities and park users.

- ❑ Forest Park should be well-managed, governed, and financed, based upon an open and inclusive, public/private, participatory process.

- ❑ Forest Park should be preserved as an affordable experience for all park users.

- ❑ The principles of stewardship, partnership and shared responsibility among all Forest Park entities are strongly encouraged.

- ❑ Available sites along the park's edge outside of its current boundaries, including the Arena site, should be pursued for future park needs.

B. Management and Implementation General Policies

Maintaining the quality, uniqueness, and attractiveness of Forest Park requires that it be well-managed, governed, and adequately financed. Effective management of the park must be based on an open and inclusive, public/private, participatory process that involves elected officials, city departments, citizens, park interest groups, neighborhood associations, and other appropriate groups. Specifically, this plan calls for:

- The creation of a Forest Park Board, appointed by the Mayor of St. Louis, to monitor the implementation of the master plan and provide ongoing community input on Forest Park. Representation on this Board should follow a prescribed formula that ensures a broad, well-balanced base, including elected officials, city departments, citizens, park interest groups, neighborhood associations, and other appropriate groups.

- The establishment of a clear and logical process for addressing changes to Forest Park.

- The encouragement of partnerships between government, institutional, and private entities to benefit the park's daily operation and management.

- The development of a long-term comprehensive management and maintenance plan.

- The encouragement of the principles of stewardship, partnership, and shared responsibility among all Forest Park entities.

- The continuation of leases or otherwise contracting for the operation of public facilities by non-city agencies/ organizations to supply needed services and/or produce revenue for Forest Park.

C. Land Use General Policies

Forest Park is a place for people to enjoy recreation, leisure, athletics, culture, and nature in an urban park setting. As such, this plan is responsive to a wide range of uses and users, while seeking to preserve the character of the park's lakes, landscapes, institutions, and park facilities, active and passive recreational areas, and historic structures. Land use in Forest Park should be guided by the following:

- The balance between Forest Park's existing uses is appropriate and should be maintained.

- All park institutions, attractions and facilities should recognize the principles of co-existence and interdependency, and develop plans which result in mutually beneficial solutions for these entities and the park itself.

- All park institutions, attractions and facilities must share stewardship and responsibility for the future of the park.

- Forest Park's existing cultural institutions (Art Museum, Zoo, Science Center, Missouri History Museum, and the MUNY) are highly valued and should be encouraged to remain in the park and the City of St. Louis.

- The quality and quantity of open space in Forest Park should be preserved, based on a general concept of no-net-loss-of-open-space.

- Multiple use of all Forest Park facilities should be encouraged wherever possible and appropriate.

- Expansion, modification, replacement, relocation, and/or adaptive re-use of existing ZMD institutions, park facilities, and service and support facilities should be permitted only if such proposals meet all criteria adopted herein, and after completing a carefully prescribed process. Any proposed expansion of existing facilities is desirable in areas adjacent to, rather than within, Forest Park, where appropriate.

- New buildings in Forest Park, for new uses unrelated to existing ZMD institutions, park, athletic, or service and support facilities, should be prohibited. This does not prohibit expansion, modification, replacement, relocation, and/or adaptive re-use of existing buildings.

- The continuation of leases or otherwise contracting for the operation of public facilities by non-city agencies/ organizations to supply needed services and/or produce revenue for Forest Park should be encouraged.

D. Landscape General Policies

The beauty of the Forest Park landscape and its unique, interconnected spaces are critical components of the park's history and its ongoing attractiveness. As an important part of the region's open space system, Forest Park should have a diverse, well-maintained, naturally sustaining, and ecologically sound landscape system that draws on the park's existing diversity of design and maintains standards of excellence for any additions or modifications. Landscape design and maintenance standards specific to Forest Park should be created to ensure that a cohesive overall design is achieved and maintained.

- Utilize landscaping to complement, accentuate, and reinforce Forest Park's woodland areas, open meadows, gardens, water edge plantings, and other natural features, public art, architecture, and infrastructure.

- Implement a comprehensive planting/reforestation plan.

- Respect and enhance existing views and vistas throughout the park and from adjacent neighborhoods, land uses, roads, and highways.

- Maintain passive areas for appropriate wildlife habitats.

- Modify existing maintenance practices to promote a well-managed, diverse, naturally sustaining, and ecologically sound landscape system that reduces long-term maintenance requirements.

E. ART, ARCHITECTURE AND INFRASTRUCTURE GENERAL POLICIES

Forest Park displays a wide and diverse range of public art, architecture, and infrastructure which add to the unique nature of the park and its ambiance. The Master Plan acknowledges the value of these cultural amenities and seeks to maintain and enhance existing styles through the establishment of design and maintenance standards which are specific to the park. Emphasis will be placed on repairing and maintaining existing art and structures, ensuring that new park elements are consistent with neighboring styles and landscaping, and creating clear and comprehensive signage to ensure that visitors have the ability to enjoy fully the Park's many attractions.

General policies concerning public art, architecture, and infrastructure include:

- Acknowledge and maintain Forest Park's existing diversity of design through guidelines which consider each element and site on its own merits and apply an appropriate style or approach to ensure proper integration into park surroundings.

- Create design and maintenance standards for art, architecture, and infrastructure which are specific to Forest Park.

- Ensure that new park elements respect their architectural and landscape context.

- Design new park elements which are near, or additions to, historically significant public art, architecture, archeological interest, and infrastructure to be compatible and harmonious with the existing style and landscape setting.

- Develop a comprehensive signage plan that includes directional, informational, and entry signage and maps which are visually sensitive and unobtrusive.

- Repair, reconstruct, or remove Forest Park's infrastructure as needed and ensure the availability of funds for adequate future maintenance.

- Maintain the aesthetic integrity of architecture, where possible, in making modifications to meet ADA requirements.

- Review Forest Park's public art collection to ensure that it reflects the diverse culture of the St. Louis community.

- Modify existing park elements, as appropriate and when possible, to assure compliance with the master plan.

F. ACCESS, CIRCULATION AND PARKING GENERAL POLICIES

Development of a plan that balances the need for adequate access to Forest Park for all users with the goal of maintaining and enhancing the park's open space, natural systems, and charm is critical to the future of the park. The Master Plan seeks to:

- Make Forest Park attractions and destinations accessible to all users.
- Balance the need for adequate parking and access to Forest Park's attractions and destinations with the preservation of the park setting.
- Promote environmentally sound transportation policies that protect Forest Park's valuable open space, its natural systems, and the charm of its adjacent neighborhoods.
- Recognize that driving through the park is also a recreational experience.
- Require motorized vehicles to yield the right-of-way to other Forest Park users.
- Develop parking solutions that are as unobtrusive as possible, with careful investigation of solutions outside Forest Park, including the Arena site.
- Address the circulation needs of Forest Park's users first, prior to the needs of commuters.
- Assess the existing parking in Forest Park. Consider moving any under-utilized parking spaces to locations that best serve the public need for convenience and accessibility.

III. DESIGN APPROACH

A. A Total Park Experience

B. Human Ecosystem Design Method

C. Sustainability

D. Park Wide Systems

E. Balance

III. DESIGN APPROACH

Following the period of community input and the development of a vision, goals and policies to guide the park's future, the Master Plan Committee turned its attention to the future design of the park and the changes necessary to achieve the stated goals. The design approach used in the development of the Master Plan was to **"create a total park experience using the human-ecosystem design method to develop sustainable park-wide systems that balance and integrate the diversity of activities, uses, users, and environments".**

Each component of the design approach is discussed below:

A. A total park experience

The overriding ideal used throughout the design effort to guide decision-making was **"to create a total park experience."** This is described in the following way:

- A total park experience allows park users to stimulate the mind, the body or the spirit as they see fit, through a variety of cultural, educational and recreational facilities, opportunities and amenities.

- Park patrons should be able to access and conveniently circulate between any park attractions they wish to experience.

- Park attractions should span a broad spectrum of activities, providing a balanced mix of indoor and outdoor cultural and educational amenities, outdoor active recreation and unstructured outdoor passive recreation.

- The park should be a place of education, where visitors can learn from and about our natural systems and where park facilities and institutions facilitate the delivery of educational program tied to the park experience itself.

Forest Park has the potential to serve as a classroom where current area residents and future generations can learn about the region's culture and natural systems and the importance of their existence. The park contains a diverse mix of cultural, educational, and active recreation facilities which contribute to a total park experience. However, it lacks the outdoor, natural system component with its cultural and educational potential. Park patrons currently go to quality indoor facilities to learn about the outdoor natural systems and park history, but do not go to the park's outdoor spaces to learn. For example:

- They learn about World's Fair history at the Missouri History Museum, even though they are surrounded by many of the fair's landmarks, landscapes, and site relationships.

- They learn about natural sciences across Oakland Avenue at the Science Center, when the real thing is across Highway 64/40.

- They learn about the priceless pieces of international art at the Art Museum, but are not connected to the legacy of outdoor public art around the museum and throughout the rest of the park.

- They go indoors to view the plantings of the Jewel Box, but don't as easily embrace the diverse landscapes and plant communities around it and throughout the rest of the park.

- They go to the Zoo's Living World to view regional and international wildlife in naturalistic settings, but aren't able to view local urban wildlife that would naturally inhabit the park if the ecosystem were a healthy one.

The existing cultural and educational facilities could be enhanced by having an outdoor component. For every existing cultural or educational facility, there is a logical, if not obvious, outdoor partner which is not being realized:

- The Zoo and urban wildlife in Forest Park.
- The Art Museum and outdoor public art in Forest Park.
- The History Museum and the historic legacy of Forest Park.
- The Science Center and the natural sciences of Forest Park.
- The Jewel Box and the natural vegetation and plant communities of Forest Park.

B. Human Ecosystem Design Method

Parallel to the total park experience, the planners stressed a design method known as the **human ecosystem design method**, developed and promoted by, amongst others, John Lyle. To understand this approach, one must understand the principle of an ecosystem. Ecosystems describe the interaction of living (biotic) components, such as plants, animals and fungi, with non-living (abiotic) components, such as soil, temperature and moisture. Functionally, two main processes occur within an ecosystem: 1) energy flows from the sun to green plants and then to animals, and 2) matter such as nitrogen, carbon, oxygen, and water continually recycles.

Ecosystems consist of food chains that interact with other food chains to form food webs. Organisms eating/using other organisms for a source of food, and competition for food, are essential components of food chains. However, in nature, as some plants out-compete other plants, habitat conditions change and may favor one species over another species. This change is referred to as ecological succession or, simply, succession.

Humans have tremendous impact on the succession of ecosystems. Humans have the ability to temporarily freeze succession at inefficient immature stages to serve various needs. The problem is that these immature stages are not efficient at utilizing energy and recycling of matter.

For instance, a large mowed expanse of one or two species of grass is referred to as a monoculture, as opposed to an area with multiple plant species (a higher biodiversity) which could be called a multiculture. Monocultures fit into the category of an immature ecosystem. They are not efficient at using energy and recycling matter/nutrients. In fact, many grass species planted on a golf course or park lawn are not even adapted to the abiotic components such as local temperature and rainfall. Therefore, to help the grass thrive/survive, humans must intervene and supply it with water, food/fertilizer, and treat it with pesticides if it gets attacked by a fungus or insects. Monocultures also require fossil fuel energy to keep them mowed, which increases labor costs. Mowing further stresses the grass, causing it to send up new shoots and requiring more energy and nutrients. Furthermore, grasses do not recycle oxygen back into the atmosphere like multi-layered forests.

On the other hand, a diverse, mature forest is more self-sustaining. Because it contains many diverse species, if a plant species is attacked by a pest fungus or insect, chances are higher that somewhere in one of the food chains, a bird or predaceous insect will help keep the pest species in check. Because of the low species diversity in the grassland, pest populations typically mushroom. In addition to pesticide and fertilizer runoff, which pollutes the creeks and lakes, grasses offer little erosion control, thereby increasing soil loss and adding sediments to water bodies. Most grass species typically planted in parks (not native warm-season grasses) do not absorb much stormwater runoff to help the recharge of groundwater (which naturally supplies water to plants as part of the water cycle). Diverse mature ecosystems are more efficient as sponging up stormwater runoff.

The design approach, therefore, was to create environmentally healthy, sustainable ecosystems which have a native base of green plants that can efficiently capture solar energy and transfer that energy into many different food chains. We should strive to select plants that are more self-sustaining, to cut down on expenses, require fewer resources (fuels, water, etc.) to sustain them, help reduce water pollution and soil erosion, enhance the recycling of water and nutrients, create fertile soils, and even provide habitat for more songbirds and butterflies.

In addition, all ecosystems are open and connected by flows of energy and materials. In drawing the boundaries of an ecosystem, therefore, we need to consider the flows that link it with its neighbors. Every ecosystem is a part — or subsystem — of a larger system and, in turn, includes a number of even smaller subsystems.

Humans are integral, interacting components of ecosystems at every level. A human ecosystem is an intentionally designed and managed ecosystem representing a symbiosis of human and natural processes. In a human ecosystem, human and natural processes will merge indistinguishably into an organic whole.

For the planning team, one of the most useful tools for sorting out the competing patterns, function and structure of the human ecosystem was a series of suitability maps which formed the basis for integrating the complex analysis maps and determining the relative suitabilities of various activities and uses for specific geographical areas in the park.

C. Sustainability

The third component of the design approach was **sustainability**. It is generally accepted that the St. Louis region should embrace the concept of sustainability to remain competitive and on the cutting edge of the latest business and environmental practices. The concept of sustainability is continually being developed to ensure the continued well-being, in the most holistic sense, of our region, nation and world.

Sustainability first emerged during the 1980's and rose to international prominence during the 1992 Earth Summit in Rio de Janeiro. There is great debate as to what this concept entails and means specifically. The World Commission on Environment and Development has offered the following definition: "Meeting the needs of the present without compromising the ability of future generations to meets their own needs". In general, sustainability refers to our long-term economic, environmental, cultural, and social health and vitality, and the notion that we have to understand and design for these factors in an integrated and holistic manner.

Our city park system is an important component in this drive toward a sustainable region. With Forest Park representing approximately 50% of our park system, it is critical that it be the first of our parks to fulfill this ideal. Not only should Forest Park and its facilities embrace and be designed on sustainable principles, but they should be catalysts and educational classrooms for the entire region. Importantly, sustainability should not be narrowly defined and applied only to the natural systems but, where feasible, to all park facilities, operations, maintenance, economic and governance systems. Although the Master Plan design is based upon the general principles of sustainability, detailed operational and indexes should be developed for the ongoing development and maintenance of Forest Park.

D. Park-wide Systems

Critical to the success of the Master Plan was the creation of cohesive **park-wide systems.** This design approach focuses on understanding the park as a series of systems which must remain connected in order to function in an efficient and healthy manner. Systems are integrated wholes whose properties cannot be reduced to those of smaller units. Every organism, from the smallest bacterium to the wide range of plants and humans, is an integrated whole and thus a living system. Systems exhibit dynamic, adaptive, goal-seeking, self-preserving, and evolutionary behavior. The principle of systems states that their whole is always greater than the sum of their parts, implying that the health and full development of any part is determined by the characteristics of wholeness, interrelationships, and connectivity. Therefore, the study of the interconnectedness of the parts is critical. Systems are destroyed when they are dissected or fragmented into isolated parts, as Forest Park is today.

Some of the benefits of connected systems include:

- Improved water flow and health
- Improved landscape biodiversity
- Improved vehicular and pedestrian flow and function
- Improved wildlife habitat and migration corridors

- Improved function and efficiency of underground utilities
- Improved connections between the existing park facilities
- Improved connections to the neighborhoods, City and region
- Improved and integrated educational opportunities
- Improved public realm and heart of our community

For planning purposes, Forest Park was categorized into six systems, classified as either natural or built systems. They are:

Natural Systems
- Passive open space
- Water
- Landscape

Built Systems
- Active space
- Park facilities, art, architecture and infrastructure
- Access, circulation and parking.

An example of this approach is the water system. When designing the lakes and lagoons, the entire park water system was carefully analyzed to determine the most appropriate configuration and function of each water body. The design solution created a connected ribbon of lagoons and lakes which flow from one end of Forest Park to the other to improve environmental health and water quality while addressing the park's flooding problems. This approach was utilized on all six park systems.

In the end, the six systems were overlaid and designed at even greater detail on a site specific basis to create the Forest Park Master Plan.

E. Balance

The final component of the design approach that integrates all the above is the notion of **balance**. This component stresses the fact the Forest Park is an urban park which is heavily used by humans. It also acknowledges that Forest Park is an urban oasis for local and migrating wildlife and one of the few large, continuous areas of open green space within the St. Louis Metropolitan Area. It is, therefore, critical to the area's environment. As a result, Forest Park's design must balance, connect and integrate the functional needs of humans, as well as the needs of the entire biological community, that make up the area's ecosystem.

IV. DESIGN CONCEPT

IV. DESIGN CONCEPT

In developing the major concepts for the park, the designers integrated the above mentioned design approach and principles with Forest Park's existing **sense of place**. The park's sense of place is a complex phenomenon founded upon people's perceptions and emotional attachments, the history and culture of the park, its physical characteristics and facilities, and their use. Thus, the park designers wanted improvements to Forest Park to re-create the beauty of the park, retain its beloved familiarity and restore its place as the crown jewel of parks in the area. Great sensitivity was used in improving the function of the park systems by providing links between park features and areas as well as in restoring the heart of the park. By taking this approach, the designers were able to enrich the park's tradition as an important social and community gathering place, while allowing for the ecological and natural systems of the park to be self-sustaining.

One major concept was to provide an **open space spine** connecting and integrating the park's natural infrastructure and the civic infrastructure (the cultural institutions, park facilities, and features). The open space spine links the Cascades in the north-west section to Kennedy Forest in the south-west section and to Bowl Lake, adjacent to the Science Center and Kingshighway Boulevard in the south-east section of the park. The open space spine is based upon the park's natural and man-made features and follows the old River Des Peres' water course and line of bluffs in the park. It is essentially passive in nature although the design, the quality and the experience of the park change along its length. Functionally and visually, this spine connects all the major cultural institutions, park facilities, and active recreation areas. It is also the means by which people move between these major park facilities. From a natural systems point of view, it connects the natural communities and wildlife.

A second important design concept was to provide a major civic space or gathering place. This was achieved by restoring the **heart of the park** — the Grand Basin, Art Hill and Post-Dispatch Lake area. This area was the historic center of the park during the 1904 World's Fair and the site of many major community gatherings, such as the celebration in 1927 for Charles Lindbergh's flight from New York to Paris. Today it is the symbolic center of the park, which has the potential to be restored to its former prominence and become a major center of activity along the open space spine.

To compliment the open space spine and the major civic space - the heart of the park - the design provides, on a more intimate scale, a sequence of **landmarks, places, streets and paths**. Landmarks help visually orient users of the park by providing a wayfinding system. In addition, landmarks are often significant destinations and/or are often in prominent locations. Forest Park has a combination of both. Examples include the Art Museum, History Museum, a number of the bridges, and the significant tree with spectacular fall colors at the northern end of Grand Basin.

The design provides for a variety of places with different forms, identities, and spatial and experiential qualities that correspond to the different uses in the park. Places provide intimate spaces for people to interact, enjoy nature and wildlife, or just to be alone. In these places, the sense of human scale and relationship to nature and/or the architecture and public art is an important design element. People will feel comfortable in the landscaped spaces. In addition, Forest Park has major streets and pathways that are aesthetically and functionally designed to be significant experiences for both the pedestrian and the driver of an automobile.

Forest Park is designed on a detailed scale with an understanding of the following issues: human scale and how people relate to and move in the landscape; the proportions, texture and seasonal rhythm of the landscape; the implications of the juxtaposition of uses; and the sense of the passage of time.

V. DESIGN PRINCIPLES

LIST OF DRAWINGS AND DIAGRAMS

Design Principle - Integrate and Connect Forest Park to the Region, City and Adjacent Neighborhoods
Design Principle - Integrate Historically Significant Landmarks, Landscapes, and Site Relationships
Design Principle - Land Forms Define Park Experience
Design Principle - Create a Passive Open Space System
Design Principle - Connected, Linear Water System
Design Principle - Active Space System
Design Principle - Emphasize Site Relationships
Design Principle - Multi-Functional Zones with Shared Facilities
Design Principle - Multi-Modal, Distributed Access System
Design Principle - Coordinated Infrastructure Replacement and Underground Utility Corridors

V. DESIGN PRINCIPLES

Based upon the design approach and concepts, as well as the analysis of the existing conditions of Forest Park, the planners developed 10 design principles:

1. Integrate and connect Forest Park to the region, city, and adjacent neighborhoods.

2. Integrate historically significant landmarks, landscape, and site relationships.

3. Emphasize land forms to define park experience.

4. Create a linear connected water system.

5. Create a passive open space system.

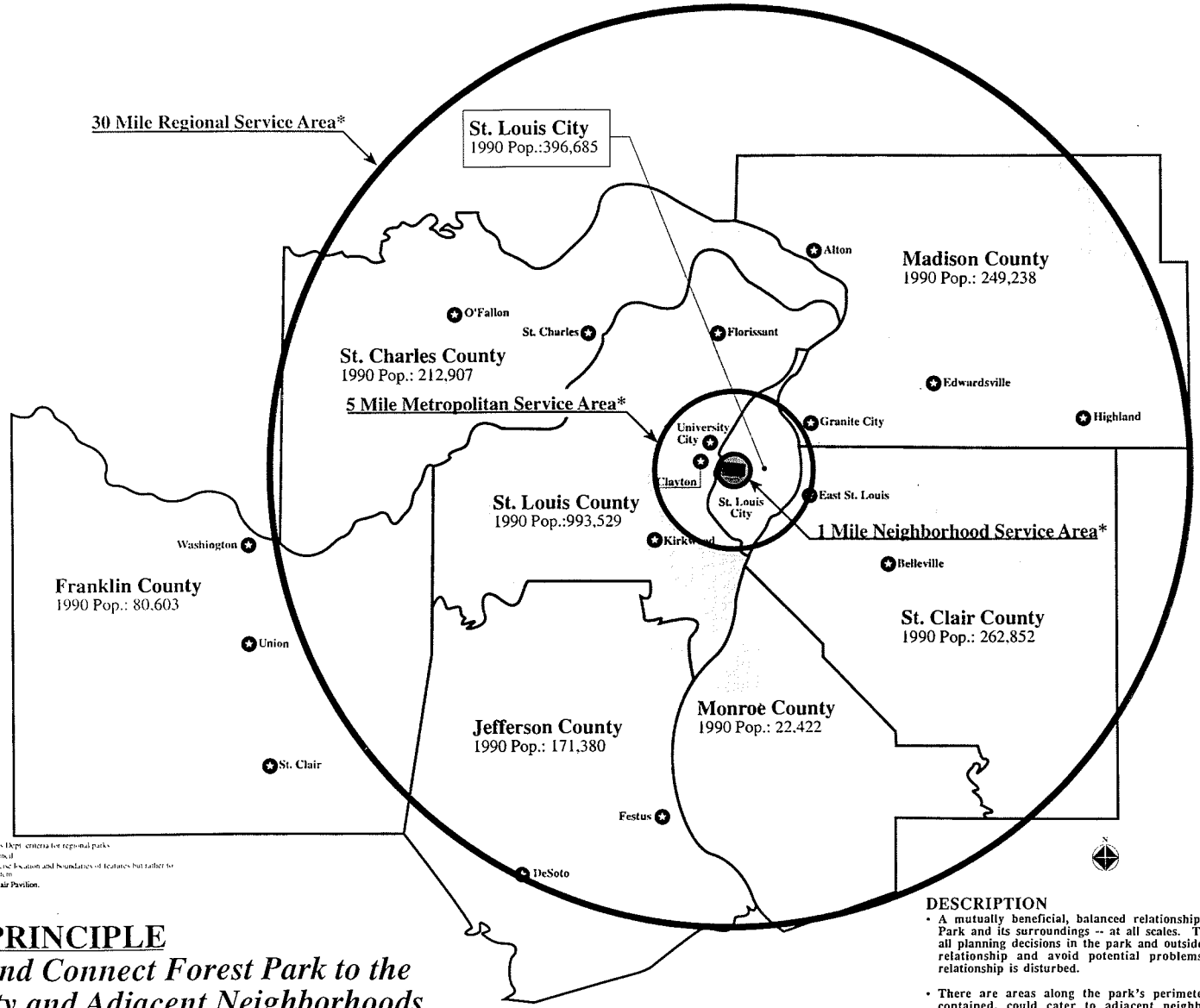
6. Create active space systems.

7. Emphasize site relationships.

8. Create multi-functional zones with shared facilities.

9. Create multi-modal, distributed access system.

10. Create underground utility corridors.



*Service area based on St. Louis County Parks Dept. criteria for regional parks
*Figures Courtesy of East West Gateway Council
*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system
*Service area radius measured from World's Fair Pavilion.

DESIGN PRINCIPLE

Integrate and Connect Forest Park to the Region, City and Adjacent Neighborhoods

DESCRIPTION

- A mutually beneficial, balanced relationship must be maintained between Forest Park and its surroundings -- at all scales. This relationship should be observed in all planning decisions in the park and outside of it. This will improve the existing relationship and avoid potential problems which result when this balanced relationship is disturbed.
- There are areas along the park's perimeter which, by location and amenities contained, could cater to adjacent neighborhoods and provide activities not otherwise available there.

FOREST PARK MASTER PLAN

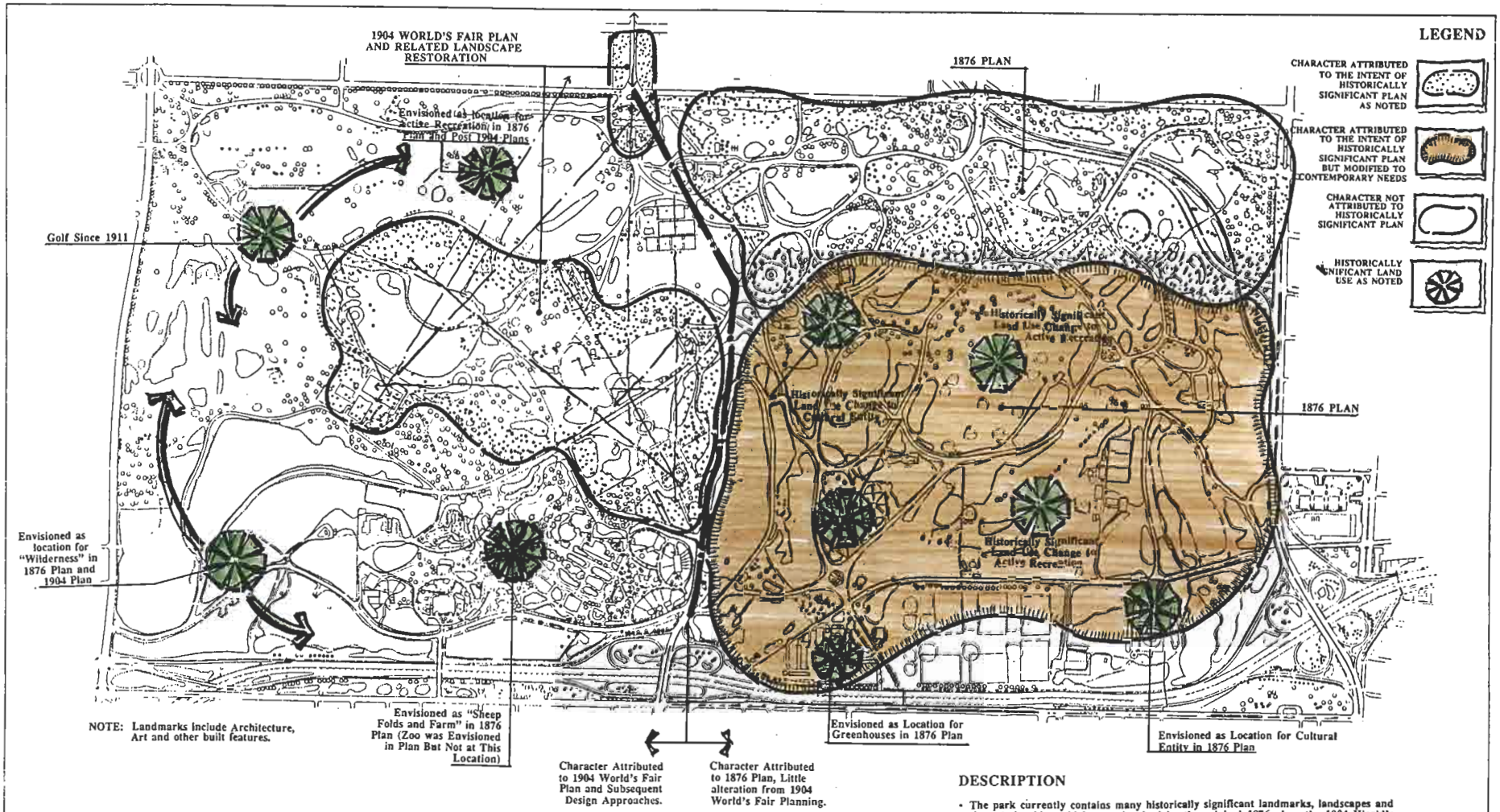
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



DESIGN PRINCIPLE

Integrate Historically Significant Landmarks, Landscapes and Site Relationships

DESCRIPTION

- The park currently contains many historically significant landmarks, landscapes and site relationships which were inspired by the original 1876 plan, the 1904 World's Fair and related landscape restoration and other historically significant designs. Future design and management should respect these elements while considering appropriate contemporary uses which occupy these locations today.
- Historic landmarks, landscapes and site relationships should be viewed as equally important elements in future design and management.
- It is important to note that virtually every historically significant landmark, landscape and site relationship in the park has been modified to accommodate contemporary needs.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

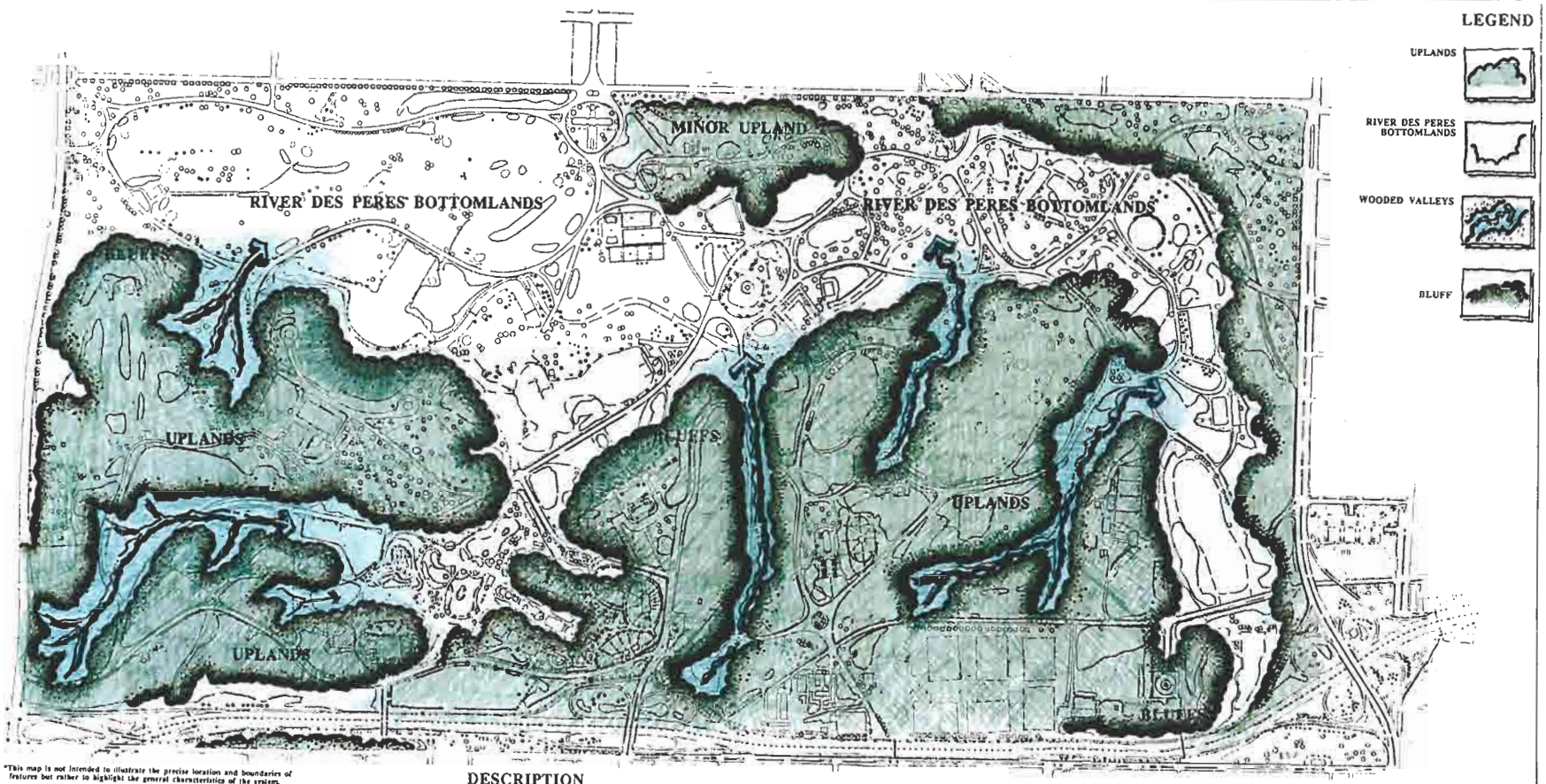
27 FEBRUARY 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- Site planning should respect and accentuate the character of the River Des Peres Bottomlands, Uplands, Bluffs and Wooded Valleys.
- Site planning should utilize design approaches which are most suitable for each particular landform.
- The park's original River Des Peres corridor created a series of land forms which define the spatial character of the park. They are defined as follows:

River Des Peres	*River Des Peres was buried underground but its historic floodplain Bottomlands still remains as the low flat areas in the northern and eastern sections of the park.*
Uplands	*Higher elevations which once drained into the River Des Peres Bottomlands.*
Bluffs	*Transitional, sloping hill faces between the Bottomlands and Uplands above.*
Wooded Valleys	*Some of the original intermittent tributaries of River Des Peres which direct runoff water flow down from the Uplands to the River Des Peres Bottomlands below.*

- Where possible, steep slopes in excess of 10% should be left as natural areas and as passive recreation areas due to erosion hazards and development limitations.

DESIGN PRINCIPLE
Land Forms Define Park Experience

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

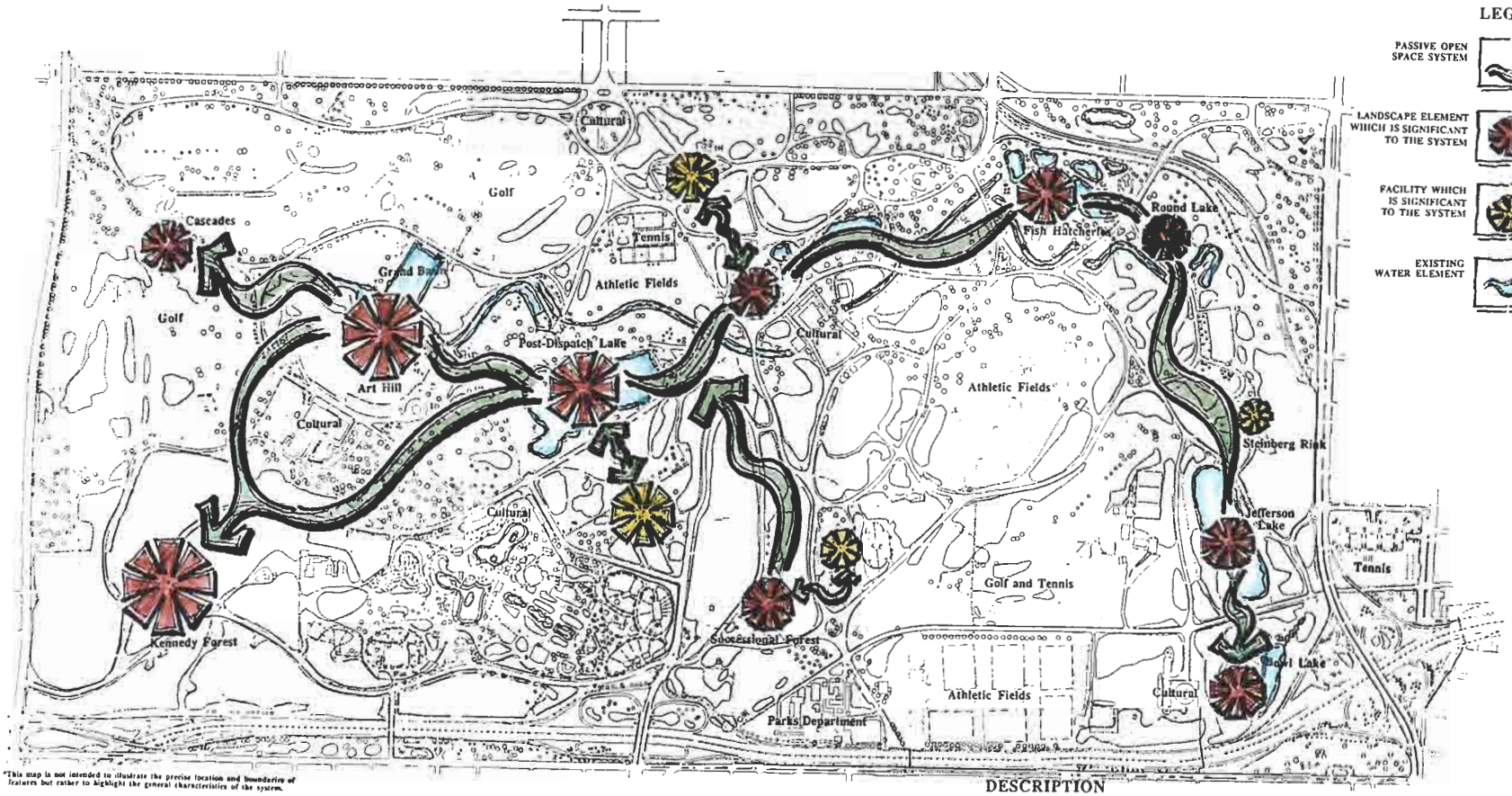
27 FEBRUARY 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- Creates actual and perceptual connections which unite Kennedy Forest with Art Hill, Grand Basin, Post Dispatch Lake and ultimately Bowl Lake via passive open space corridors which link existing green spaces with natural, tree lined passageways, water elements, view corridors and linking pathways/trails.
- Provides an internal connection for perimeter active and cultural land uses and unifies diverse and fragmented open spaces along its path.
- Could provide passive green spaces and connecting paths for structured educational, interpretive and recreational programming and unique natural and cultural resources which would allow park users to better understand and appreciate the park's natural resources.
- Could provide the locations for outdoor activities such as bird watching, hiking and nature photography which are popular with St. Louis area residents.
- Would improve air and water quality by reducing carbon dioxide levels, erosion and surface water runoff while increasing oxygen levels and filtering airborne pollution.

DESIGN PRINCIPLE

Create a Passive Open Space System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

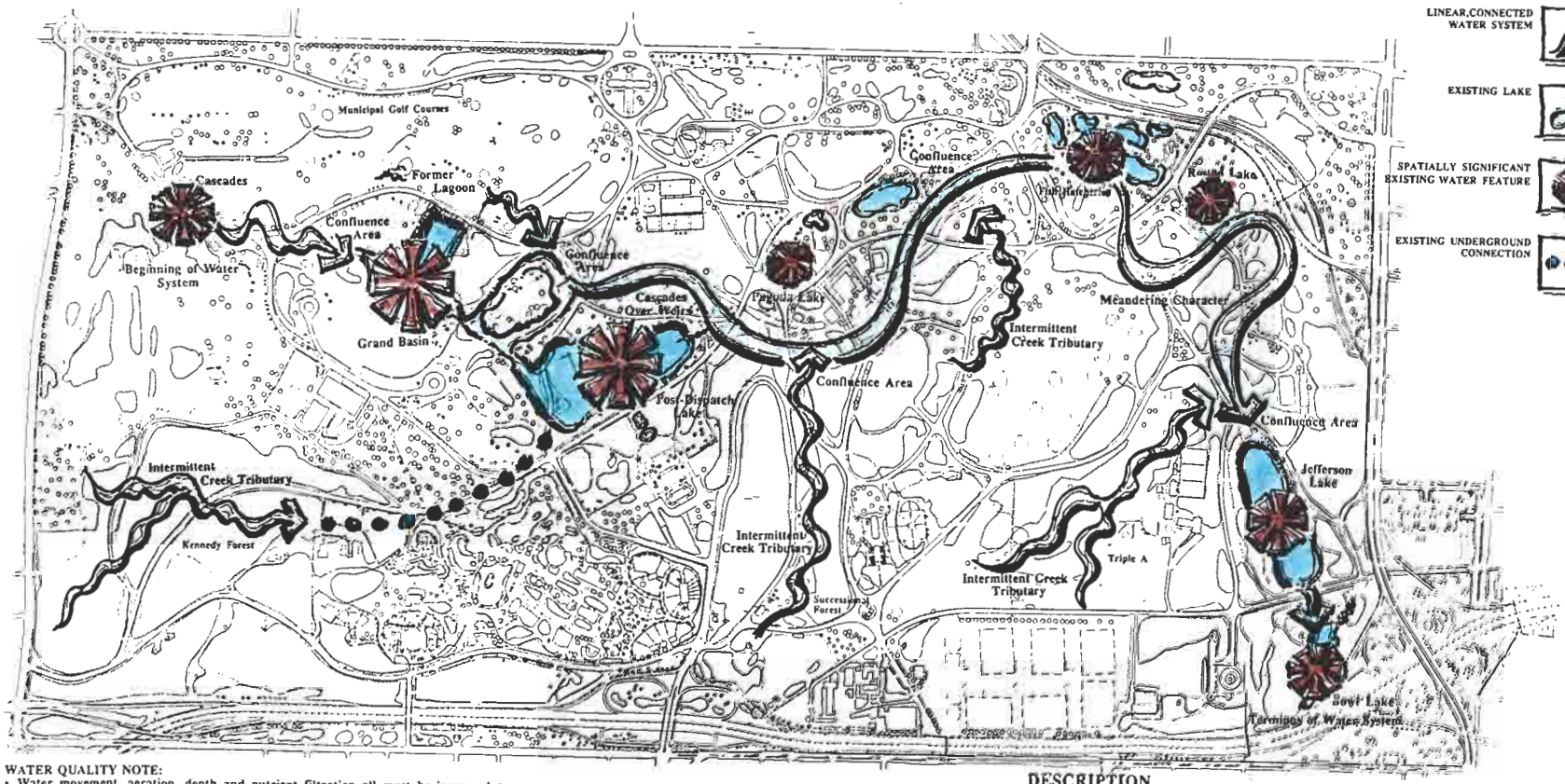
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



LEGEND

- LINEAR, CONNECTED WATER SYSTEM
- EXISTING LAKE
- SPATIALLY SIGNIFICANT EXISTING WATER FEATURE
- EXISTING UNDERGROUND CONNECTION

WATER QUALITY NOTE:

- Water movement, aeration, depth and nutrient filtration all must be increased to improve water quality. Upland erosion must also be controlled at the source to limit the amount of siltation.
- Runoff should be managed to maximize water use and reuse.

DESCRIPTION

- The park's water system should be redesigned to resemble its original linear river character which reconnects the existing, diverse water features.
- The linear water system should form a link from the Cascades to Bowl lake.
- The linear water system should be the unifying element which connects the park's diverse water features.
- The linear water system is fed by a series of intermittent creek tributaries which have unique characters of their own.
- The linear water system contains a series of unique confluence areas which act as transitional elements where diverse water features unite.
- The linear water system should increase the use of appropriate naturalistic edges which are compatible with adjacent land uses while maintaining important formal elements.

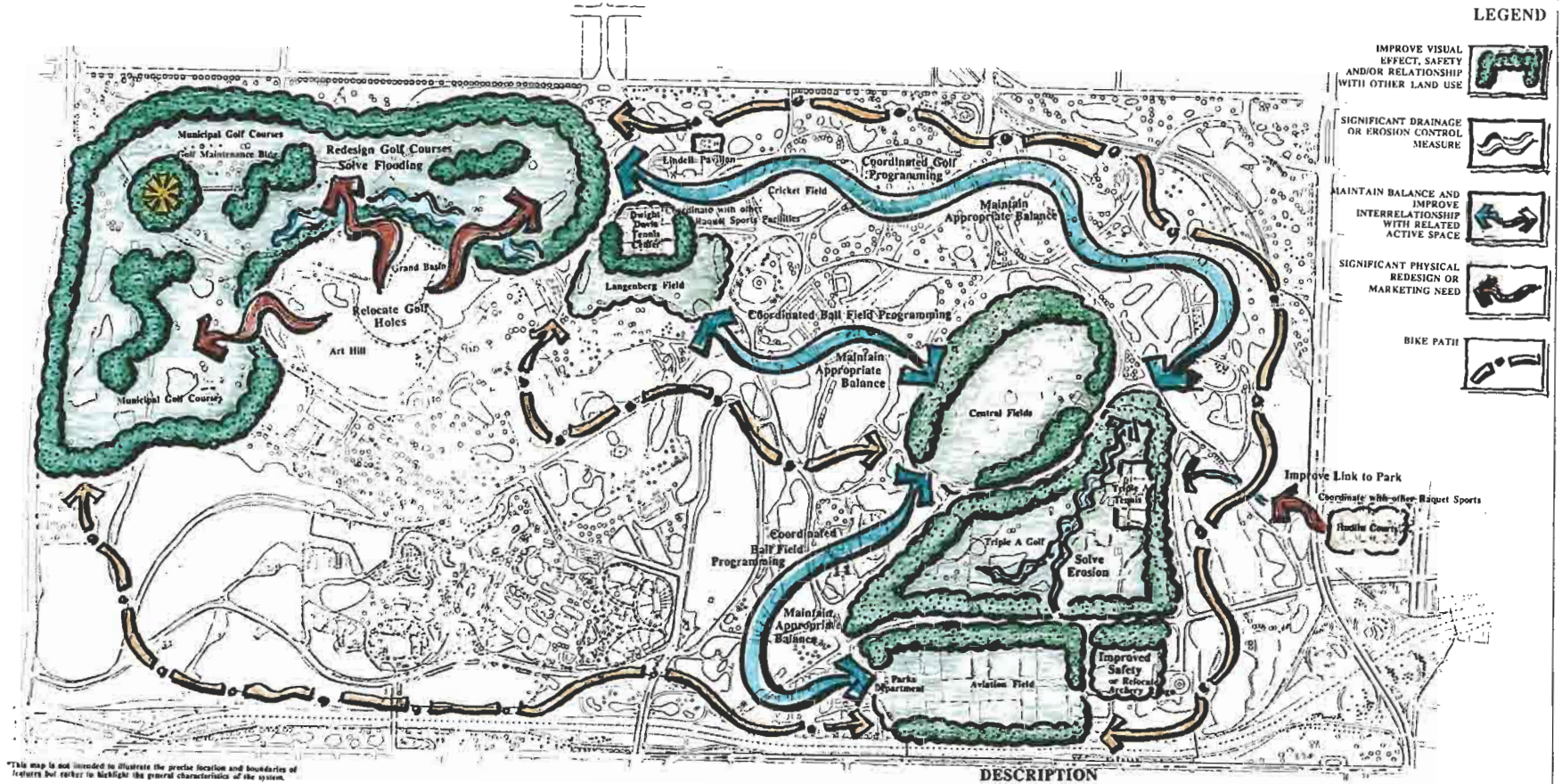
DESIGN PRINCIPLE
Connected, Linear Water System

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1200 1600

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



DESCRIPTION

- Forest Park's active spaces which have common programming (i.e. Aviation and Central Fields) should be designed and managed as systems which maintain the current balance of activities while locating and designing them to best serve park users and respect the park's natural systems.
- The park's active space systems should maintain existing, appropriate multiple use spaces and support facilities while encouraging new ones where appropriate. Oversubscribed spaces should be redesigned and programmed to reduce physical damage from over use.
- Some active spaces should be redesigned to achieve the best land use mix and interrelationship. The visual effect of all active use spaces should be improved to better relate to surrounding park character.
- The bike path should be designed to best serve and interact without conflict with other park uses including pedestrian paths and roads.
- Solutions which correct major drainage and erosion problems should be compatible with water and passive open space system principles.

DESIGN PRINCIPLE
Create Active Space Systems

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

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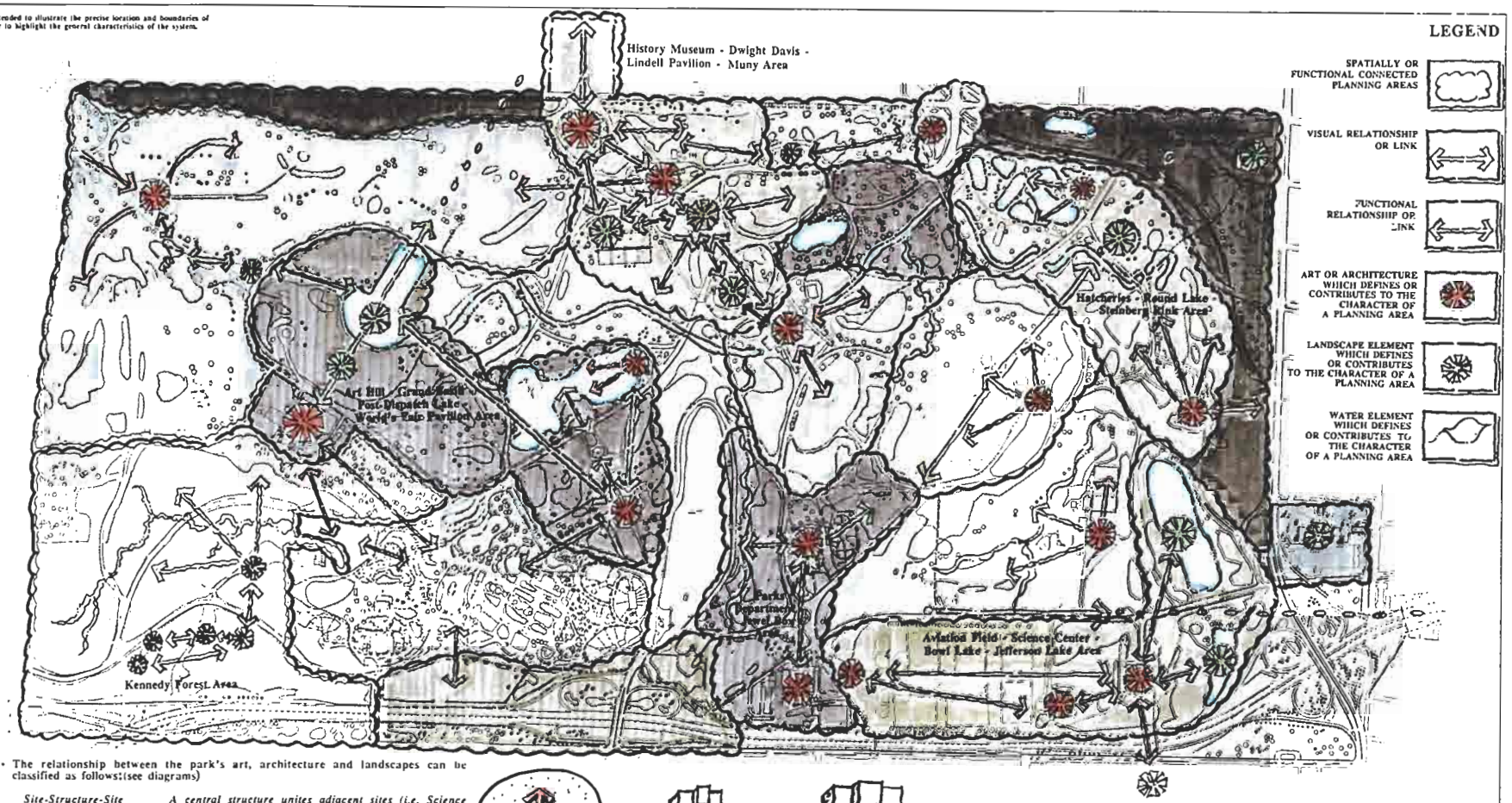


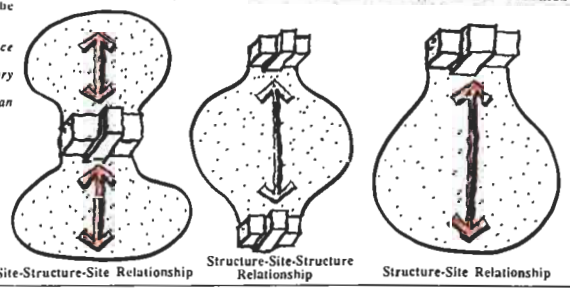
LEGEND

- SPATIALLY OR FUNCTIONAL CONNECTED PLANNING AREAS
- VISUAL RELATIONSHIP OR LINK
- FUNCTIONAL RELATIONSHIP OR LINK
- ART OR ARCHITECTURE WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA
- LANDSCAPE ELEMENT WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA
- WATER ELEMENT WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA

- The relationship between the park's art, architecture and landscapes can be classified as follows:(see diagrams)

Site-Structure-Site	*A central structure unites adjacent sites (i.e. Science Center-Bowl Lake-Archery Range relationship).*
Structure-Site-Structure	*A central site unites adjacent structures (i.e. History Museum-Lindell Pavilion relationship).*
Structure-Site	*A single structure and associated site function as an independent unit.*(Art Hill-Art Museum)

DESIGN PRINCIPLE
Emphasize Site Relationships



DESCRIPTION

- Sites containing art, architecture and landscapes should be linked together through a series of spatial and functional relationships. Clusters of individual sites often have spatial and/or functional relationships as well.
- Sites with spatial or functional connections should be treated as continuous, composite planning areas.
- Site design within planning areas should enhance their spatial and functional connections.

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS
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ST. LOUIS DEVELOPMENT CORPORATION
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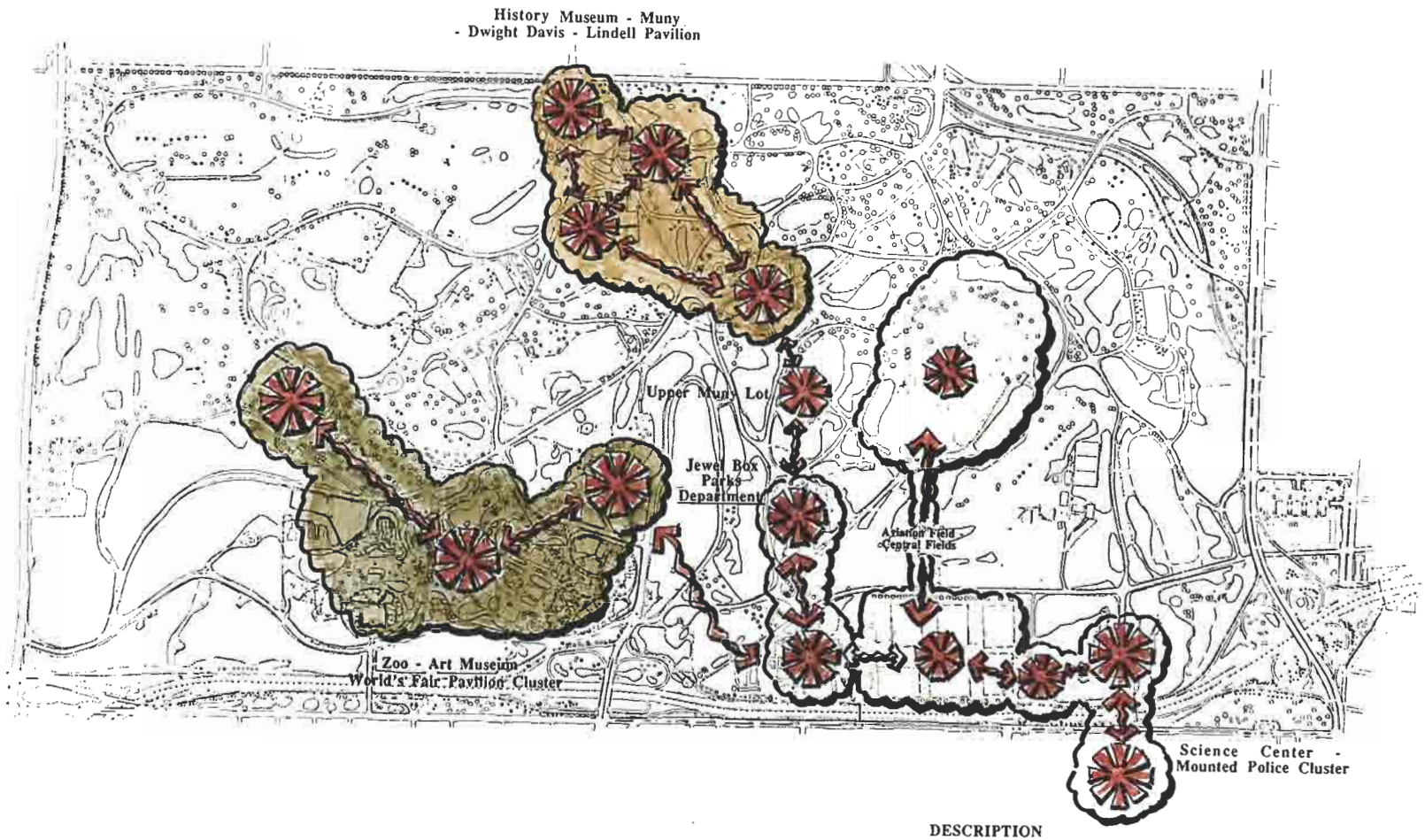


DESIGN PRINCIPLE

Multi-Functional Zones with Shared Facilities

DESCRIPTION

- Many park entities have functional relationships which require cooperation and coordination to best meet their functional requirements. If these requirements are addressed individually, rather than in groups, the park will suffer from piecemeal development.
- Many park facilities and infrastructure elements are located between park entities with similar needs and could be programmed to serve multiple purposes and users.
- The impact of meeting all the needs of each park entity can be reduced if all entities work together and share common facilities and infrastructure.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 2800

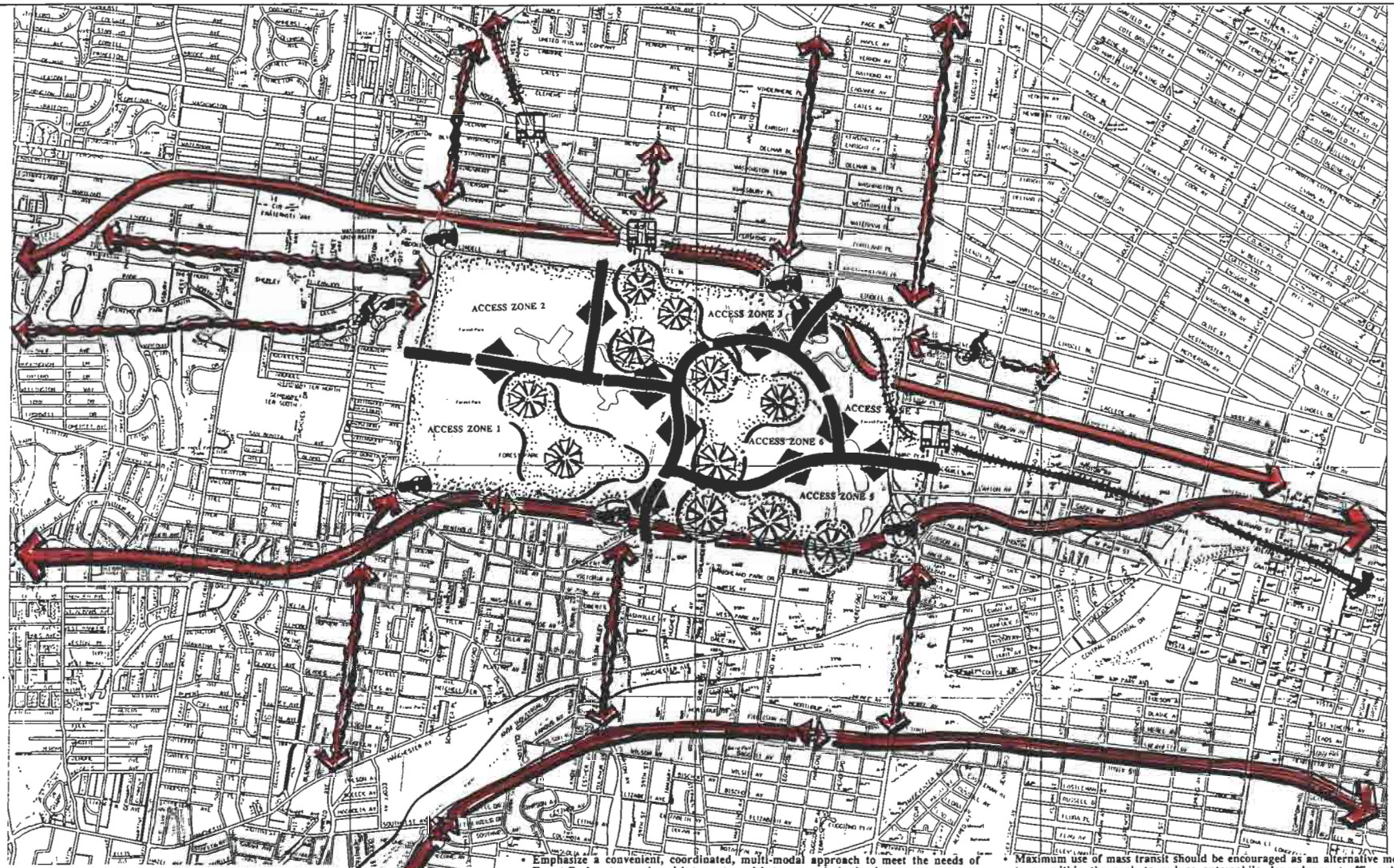
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



"This map is not intended to illustrate the exact location and boundaries of features but rather is to highlight the general characteristics of the space."

DESIGN PRINCIPLE

Multi-Modal, Distributed Access System

DESCRIPTION

- Emphasize a convenient, coordinated, multi-modal approach to meet the needs of Forest Park patrons who wish to go to and between park destinations.
- Emphasize a balanced use of appropriate park entrances rather than the currently overburdened Hampton Avenue entrance.
- Some major destinations which are in close proximity to each other should be handled as "Access Zones" which share facilities and infrastructure. Access zones are more easily accommodated than are all destinations independently.
- Use of the park as a rush hour flow commuter system should be minimized to reduce congestion, improve air quality and maximize activity in the park by the park user.
- Maximum use of mass transit should be encouraged as an alternative means of travel to an within the park to reduce automobile dependence, traffic volumes and to improve air quality.
- Surface traffic flow, transit and parking sites should be integrated spatially and functionally as a system with park activities.
- Realistic speed limits in the park should be set, in consultation with enforcement officials and based on study data.
- Dialogue should be established with the Missouri State Highway and Transportation Department regarding the forthcoming alternatives analysis of I-64-40

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = ½ mile

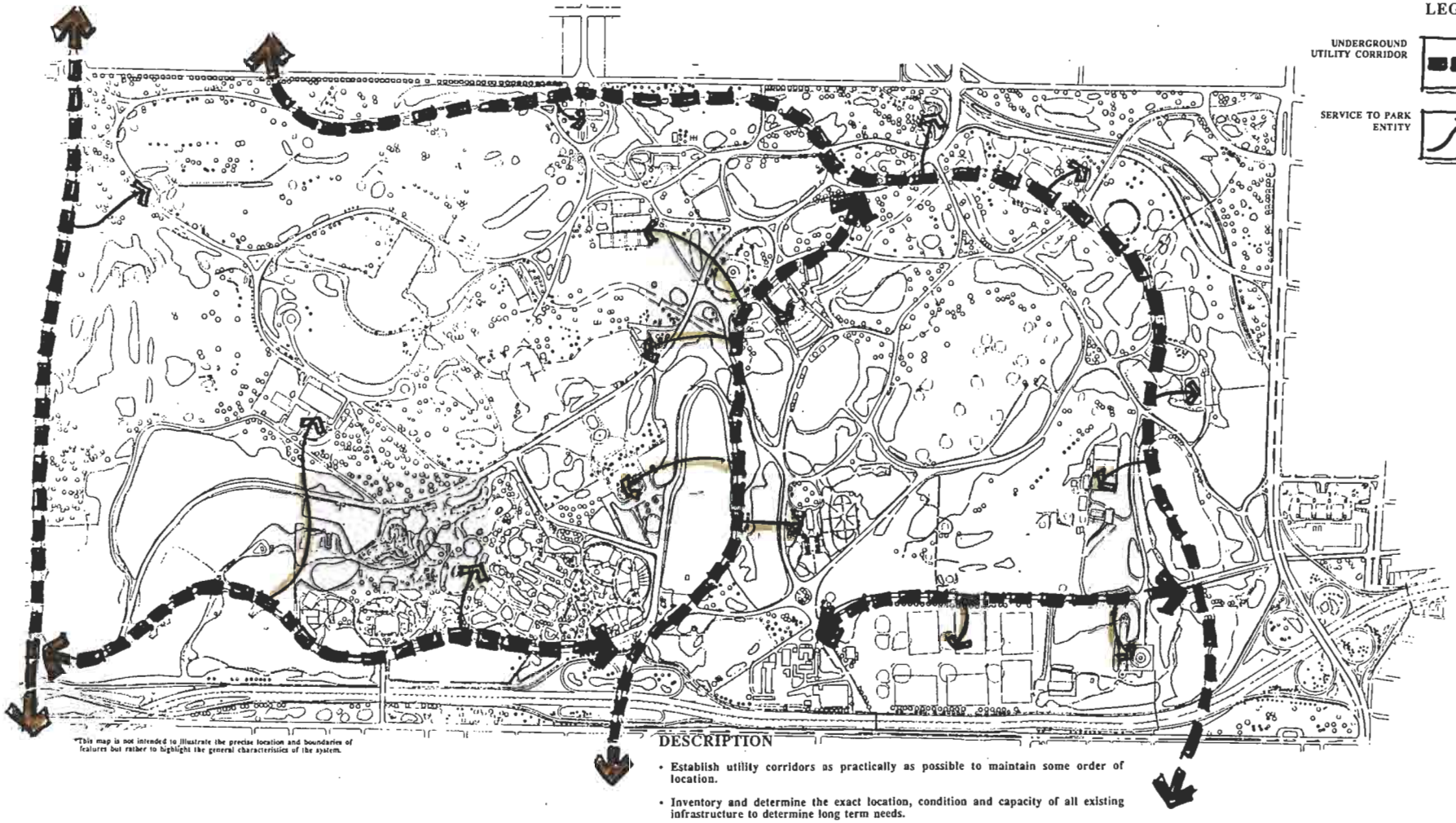
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- Establish utility corridors as practically as possible to maintain some order of location.
- Inventory and determine the exact location, condition and capacity of all existing infrastructure to determine long term needs.
- Transfer responsibility of park-maintained sewers to MSD.
- Eliminate combined sanitary sewer flow to existing water bodies.
- Coordinate planned infrastructure repairs and construction with proposed landscape and other park repairs to minimize disruption and redundant construction.
- Reconstruct roadways, parking lots and paths to current city design standards.
- Repair or replace bridges in poor condition.
- Provide appropriate lighting along roads, parking lots, interior walkways and bicycle paths.

DESIGN PRINCIPLE

Coordinated Infrastrucure Replacement and Underground Utility Corridors

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

VI. CONTEXTUAL RELATIONSHIPS

A. Overview

B. Summary of Existing Conditions

C. Design Principle

D. Design Recommendations

LIST OF DRAWINGS AND DIAGRAMS

Regional Context
Metropolitan Context
Neighborhood Context
Regional Access and Circulation
Regional Access Implications
1995 Transit
Design Principle - Integrate and Connect Forest Park to the Region, City and Adjacent Neighborhoods
Neighborhood Connections
Boulevard Connections

VI. CONTEXTUAL RELATIONSHIPS

A. Overview

Forest Park is unique in the way it serves and is patronized by the neighborhoods and region that surround it. It is surrounded by over 70,000 residents in neighborhoods within one mile of the park, nearly 400,000 residents from the city and nearly 2.4 million residents from its surrounding seven county metropolitan area. It serves as a major tourist attraction for the area with over 10 million visitors per year.

Forest Park accommodates neighborhood, city and regional recreation, circulation systems, facilities, and utilities. It is also part of the local and regional natural systems, which include water, vegetation, wildlife, topography, and air quality. Forest Park has excellent accessibility via its transportation connections to the neighborhoods, city and region . The city's major arterial system borders the park on three sides, with Forest Park Parkway on the north, Highway 64/40 on the south, and Kingshighway on the east. Bi-State serves Forest Park with buses and MetroLink.

Forest Park is also a major asset for the economic redevelopment of the surrounding neighborhoods and business districts. It plays a significant cultural and educational role in the region, since it houses our major cultural institutions. As such, Forest Park relies on its local, city, and regional neighbors and they rely on it.

B. Summary of Existing Conditions

- Forest Park is a major regional tourist attraction with over 10 million visitors per year.

- As a metropolitan park, Forest Park serves a population of almost 2.4 million within a 30 mile radius and a surrounding seven county area. Population in most of the metropolitan area counties increased or remained constant between 1980 and 1990, except St. Clair County and the City of St. Louis, which experienced decreases of three percent and twelve percent respectively. The western county of St. Charles experienced the largest increase at 48 percent.

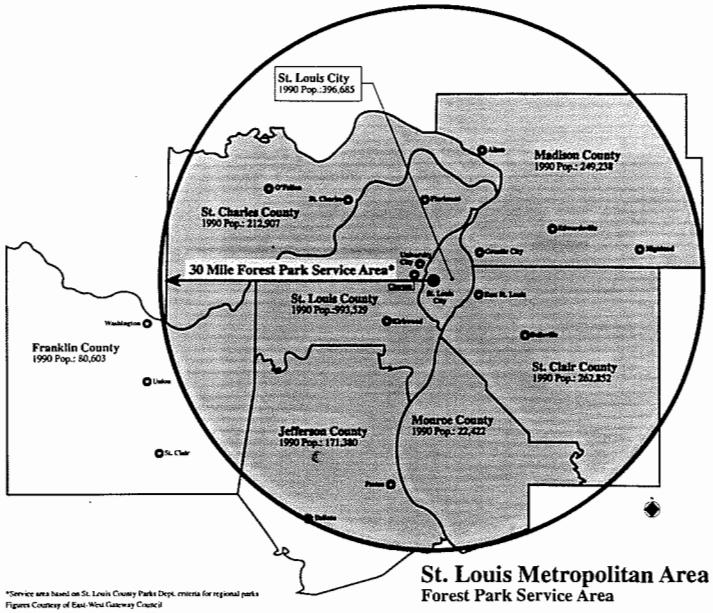
- As a city park, Forest Park represents approximately 50% of the park system. It serves the nearly 400,000 residents of the City of St. Louis who live within a five mile radius. Forest Park is located one block east of the western boundary of the City of St. Louis or within one block of the cities of Clayton and University City, which have populations of 13,874 and 40,087 respectively. This location adds another dimension when determining the park's users, their needs, and the role the park should play in accommodating them.

- Recreation density (population per acre of recreation space) of 113 individuals per acre for the City of St. Louis is over three times the metropolitan area average.

Figures Courtesy of East-West Gateway Council

St. Louis City Metropolitan Parks
Service Area

- As a metropolitan park, Forest Park serves most of the City of St. Louis and its nearly 400,000 residents within a five mile radius. It also serves Clayton, University City and other near-west St. Louis County cities.



*Service area based on St. Louis County Parks Dept. criteria for regional parks
Figures Courtesy of East-West Gateway Council

St. Louis Metropolitan Area
Forest Park Service Area

- As a regional park, Forest Park serves a population of almost 2.4 million within a 30 mile radius.

REGIONAL CONTEXT MAP

Note: All statistics from 1990 Census

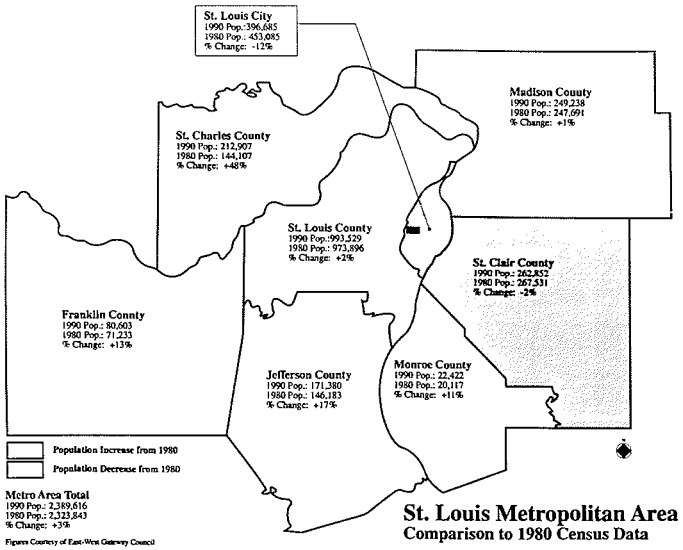
FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

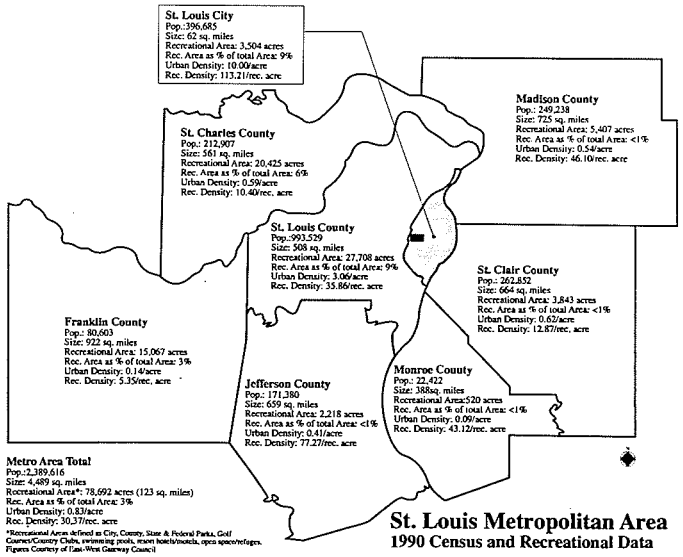
CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



St. Louis Metropolitan Area
Comparison to 1980 Census Data

- Population in most of the metropolitan area counties increased or remained constant between 1980 and 1990 except St. Clair County and the City of St. Louis which experienced decreases of 3% and 12% respectively. The west county of St. Charles experienced the largest increase at 48%.



St. Louis Metropolitan Area
1990 Census and Recreational Data

- Urban density (population per acre) in the City of St. Louis is over 10 times the average for the metropolitan area at 10 individuals per acre. Other than the City of St. Louis, only St. Louis County is above one individual per acre with over 3 individuals per acre.
- Recreation density (population per acre of recreation space) of 113 individuals per acre for the City of St. Louis is over 3 times the metropolitan area average.

METROPOLITAN CONTEXT MAP

Note: All statistics from 1990 Census

*Analysis by Design Team 1995

FOREST PARK MASTER PLAN

ST. LOUIS, MO

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CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

- Forest Park is well served by a regional and city-wide access system. It is well connected to the City by its surrounding major boulevards — Kingshighway, Skinker, Oakland, Union, Hampton and Lindell. These boulevards also provide links to the surroundings neighborhoods, which are enhanced by the local street system. The regional access system is Highway 64/40 and Forest Park Parkway. Bi-State provides comprehensive public access with a combination of bus and ShuttleBug system and the MetroLink.

- Forest Park is surrounded by over 70,000 residents in neighborhoods within one mile of the park. The population in five of the neighborhoods to the south and west of Forest Park decreased between 1980 and 1990, while three neighborhoods to the north, east and south increased over the past decade.

- As a political entity, Forest Park is contained entirely within the 28th Aldermanic Ward. It is also adjacent to the 17th and 24th Wards, and within one mile of three other three wards: 8th, 18th, and 26th.

- Forest Park acts as a major stabilizing element for the surrounding neighborhoods and businesses. For instance, the Washington University and BJC Medical complex, the City's largest employer, is located adjacent the park. The surrounding neighborhoods of the Central West End, Forest Park South East, Skinker DeBaliviere, and Dog Town have seen slow but continual redevelopment. Thus, the park is a major factor in the economic revitalization of the adjacent areas.

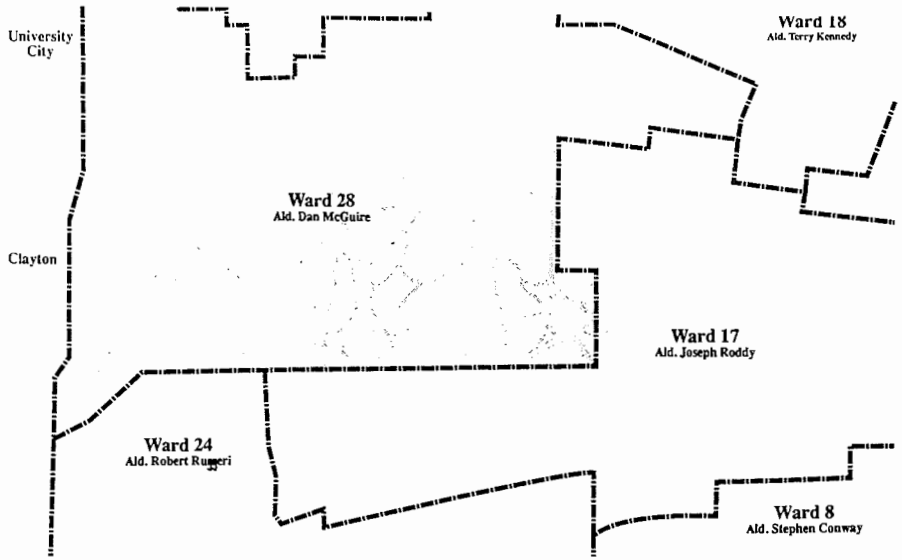
- Forest Park functions as a major civic space and community gathering place.

- Forest Park is the home to the region's cultural institutions. There is an emerging educational and institutional corridor on the southern edge of the park.

- There is currently a mutually beneficial, balanced relationship between Forest Park and its surroundings at each scale.

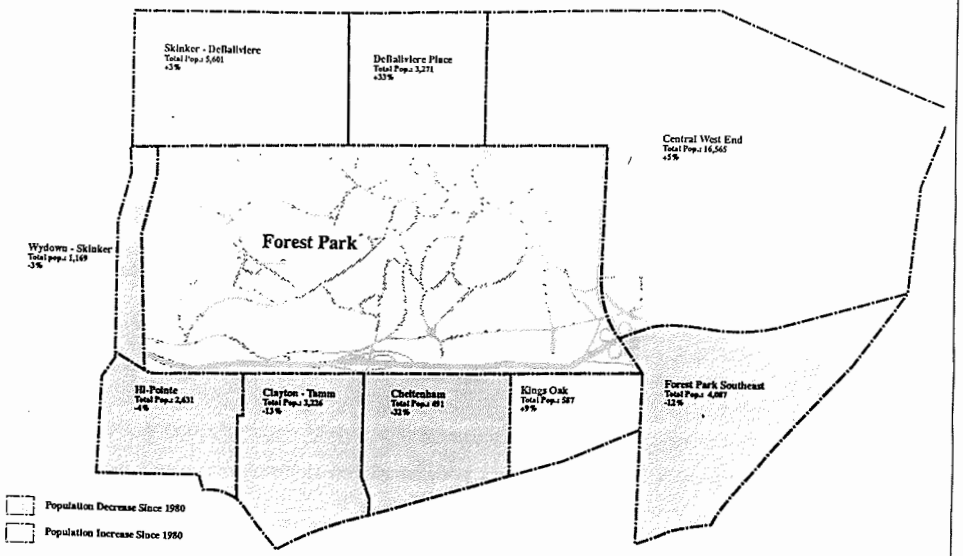
- From a natural perspective, Forest Park functions as a regional, city and neighborhood oasis.

- There are areas along the park's perimeter which, by location and the amenities contained, could cater to adjacent neighborhoods and provide activities not otherwise available there. An awareness of these relationships should be observed in all planning decisions inside and outside of the park. This will improve the existing relationship and avoid potential problems that result when the balanced relationships are disturbed.



Adjacent Wards

- Forest Park is contained entirely within the 28th Aldermanic Ward but lies adjacent to two others, the 17th and 24th and within one mile of another three, the 8th, 18th and 26th Wards.



1980-1990 Population Changes

- Forest Park is unique in the way it serves and is served by the neighborhoods and region that surrounds it. It is surrounded by over 70,000 residents in neighborhoods within one mile of the park, nearly 400,000 residents of the City of St. Louis and nearly 2.4 million residents of the seven county metropolitan area.
- Forest Park relies on its local and regional neighbors and they rely on it. Forest Park accommodates neighborhood and regional recreation, circulation systems and utilities. It is also part of the local and regional natural systems which include water, vegetation, wildlife, topography, air quality, etc.
- Forest Park is located one block east of the City of St. Louis' western boundary or within one block of the cities of Clayton and University City with populations of 13,874 and 40,087 respectively. This location adds another dimension when determining the park's users, their needs and the role the park should play in accommodating them.
- The population in five of the neighborhoods south and west of Forest Park decreased between 1980 and 1990 while three neighborhoods north and east and one south increased in that period.

NEIGHBORHOOD CONTEXT MAP

Note: All statistics from 1990 Census

*Analysis by Design Team 1995

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

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CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
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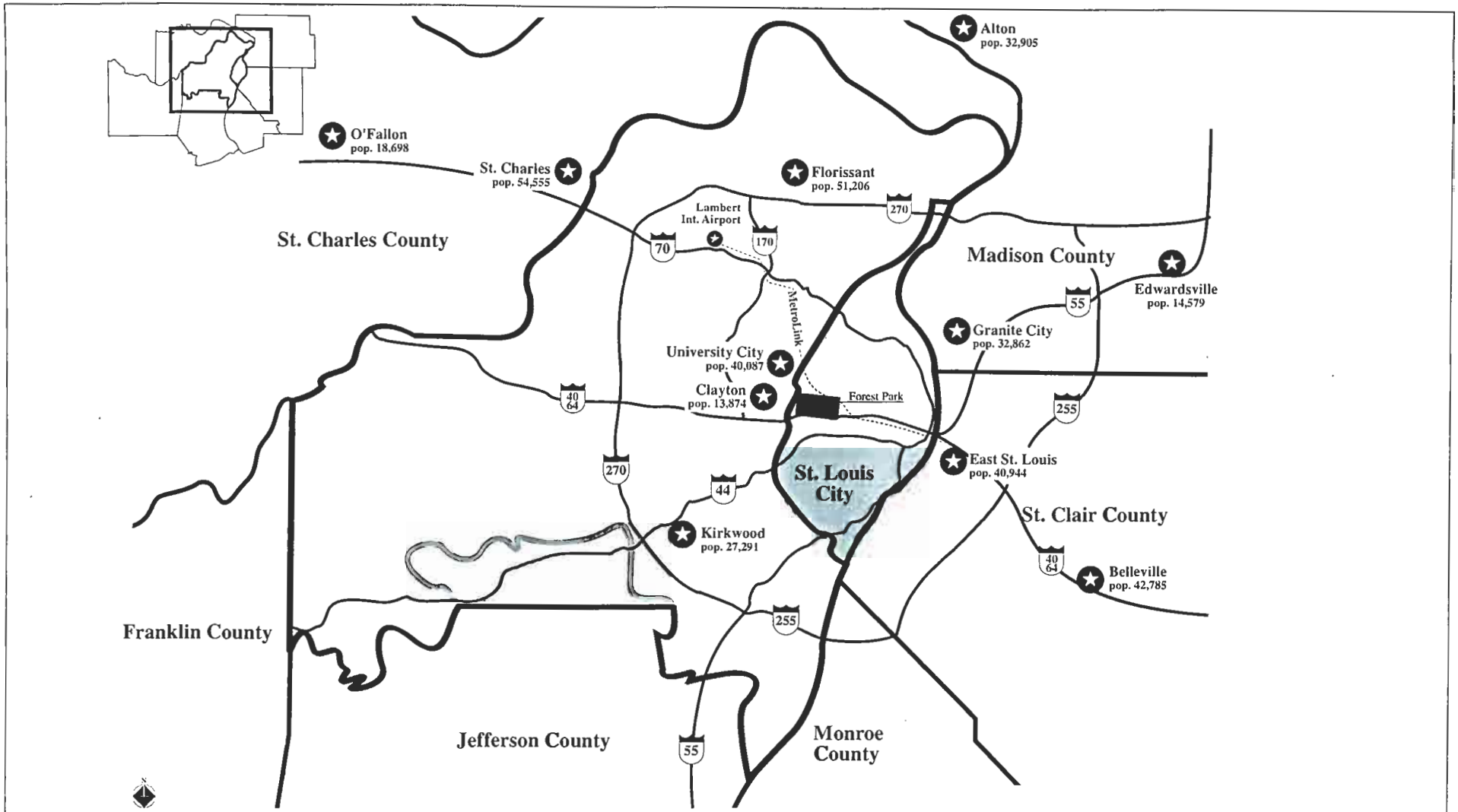

Figures Courtesy of East-West Gateway Council

• Forest Park is served by the region's interstate highway and transit system. Within its boundaries it accomodates Interstate Highway 40/64 and MetroLink, the region's light rail system. This allows easy access to most of the 2.4 million residents of the metropolitan area but also places a physical burden on the park.

REGIONAL ACCESS AND CIRCULATION MAP

*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

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ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

27 FEBRUARY 1995

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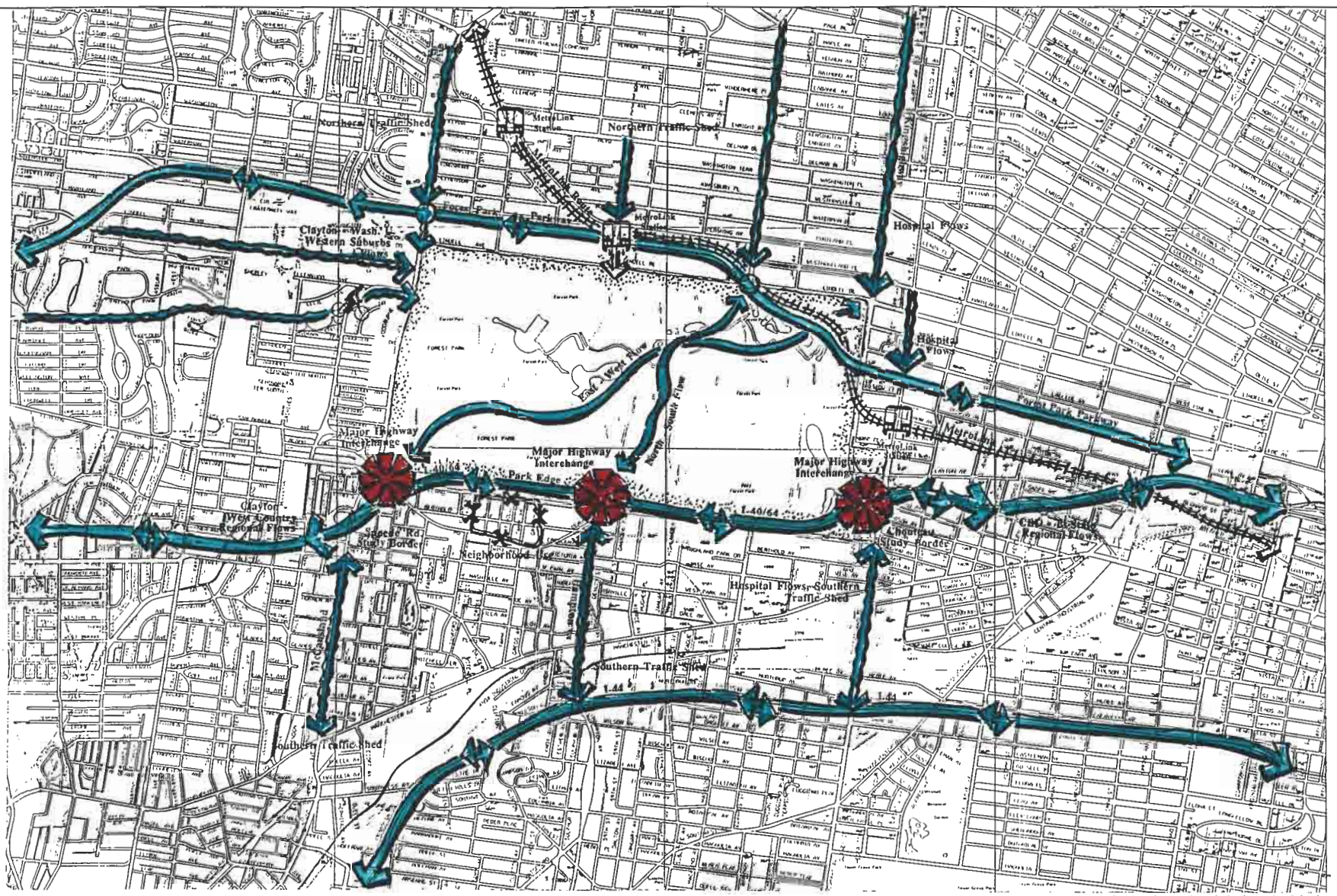

REGIONAL ACCESS IMPLICATIONS MAP

*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.
*Analysis by Design Team 1995

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ST. LOUIS, MO

SCALE: 1"=½MILE 0 ½MILE 1MILE 2MILES

11 MARCH 1995

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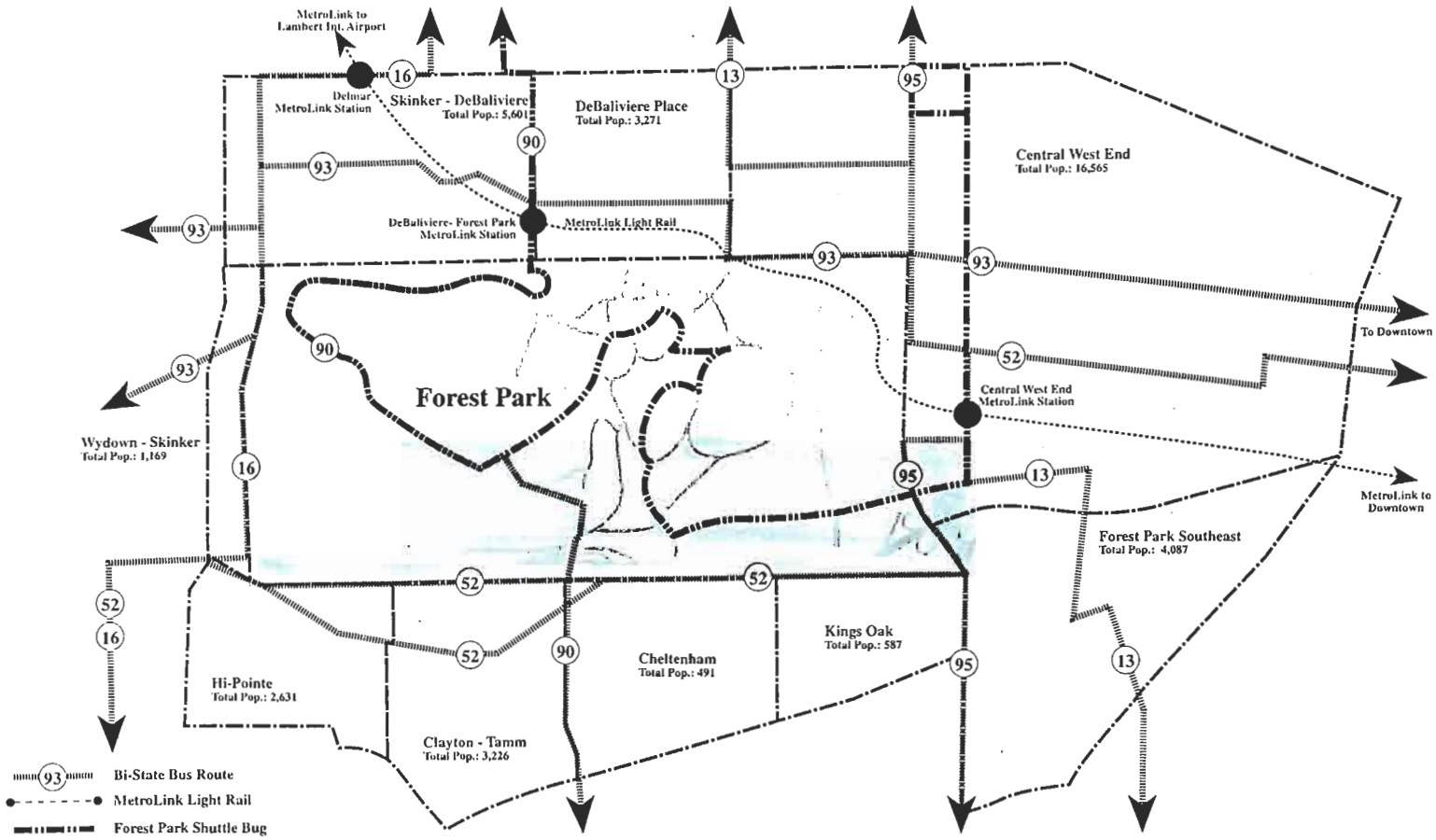
*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Analysis by Design Team 1995



1995 TRANSIT MAP

GENERAL OBSERVATIONS

- Forest Park is served by Bi-State bus and light rail service which links the park to many of the City's neighborhoods as well as cities throughout the St. Louis metropolitan area.
- The park is served by the ShuttleBug which provides internal transit between most of the park's major attractions and provides links to the immediately adjacent neighborhoods and land uses northwest of the park.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 800 1600 2800

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C. Design Principle

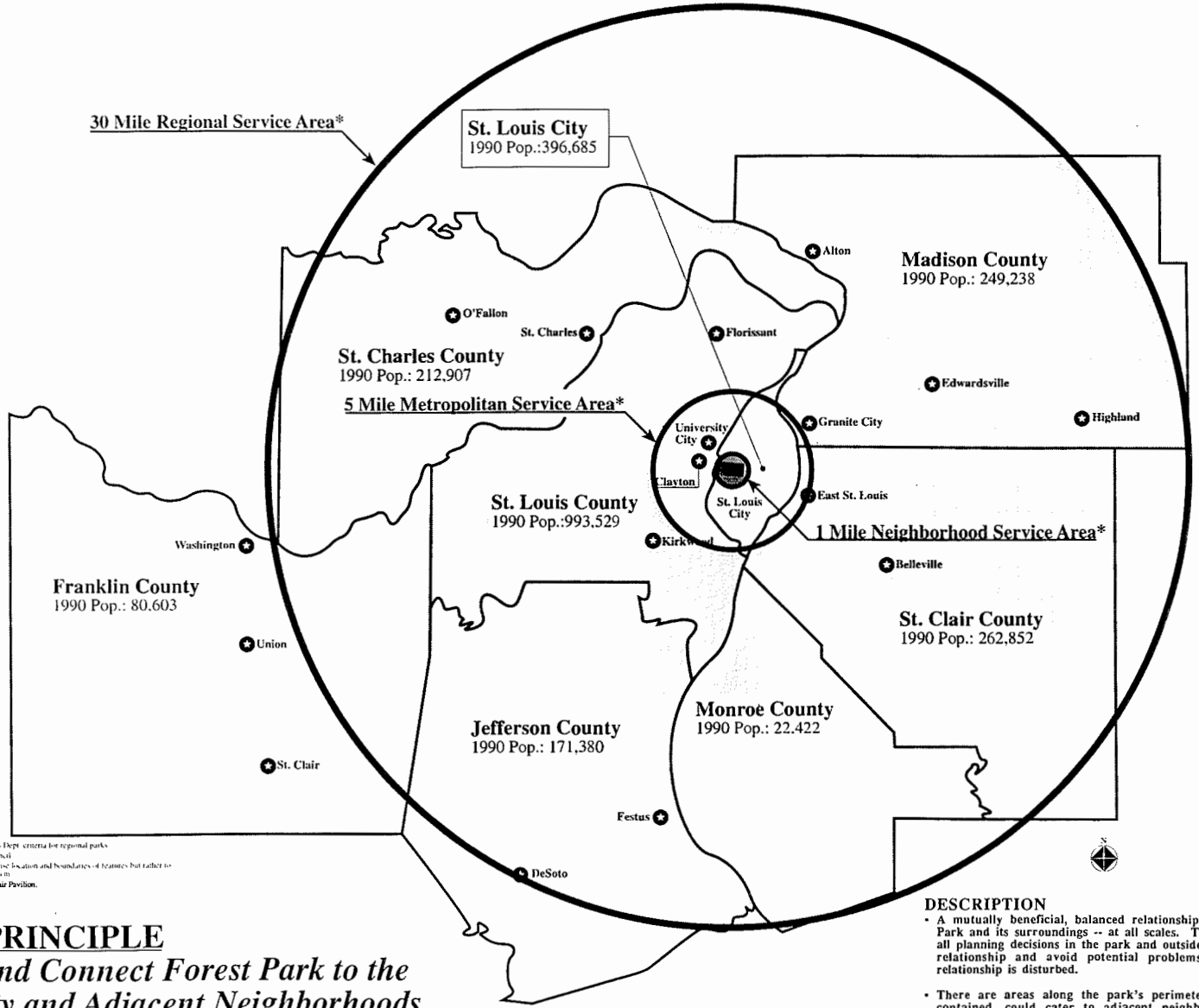
- Integrate and connect Forest Park to the region, city and neighborhoods

D. Design Recommendations

Forest Park must continue to play a major role in the continued redevelopment of the City of St. Louis and environs. Programmatically, the major park facilities and cultural institutions must continue the tradition of outreach into the community and act as a catalyst for bringing together people, education, and public debate on current issues.

As the improvements occur in Forest Park it will continue to stabilize the adjacent redevelopment. This new development surrounding the park should take into account its impact on the park. In addition, it will attract more visitors so the addition of another MetroLink line to the south of the park is important to the long-term viability of the park.

Finally, the park must extend its influence beyond its boundaries and become part of a **"park system"** for the City of St. Louis. By extending the landscape treatment of the streets internal to the park into the city, the historic boulevard system will be revitalized. Similarly, by linking to neighborhood open spaces and parks, Forest Park will not only anchor and support the adjacent neighborhoods, but will be an important component of the overall city park system.



*Service area based on St. Louis County Parks Dept. criteria for regional parks
*Figures Courtesy of East West Gateway Council
*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system
*Service area radius measured from World's Fair Pavilion.

DESIGN PRINCIPLE

Integrate and Connect Forest Park to the Region, City and Adjacent Neighborhoods

DESCRIPTION

- A mutually beneficial, balanced relationship must be maintained between Forest Park and its surroundings -- at all scales. This relationship should be observed in all planning decisions in the park and outside of it. This will improve the existing relationship and avoid potential problems which result when this balanced relationship is disturbed.
- There are areas along the park's perimeter which, by location and amenities contained, could cater to adjacent neighborhoods and provide activities not otherwise available there.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

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CONCEPTUAL DIAGRAM

Neighborhood Connections

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=

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ST. LOUIS, MO

SCALE: 1"=

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VII. LAND USE

A. Overview

B. Summary of Existing Conditions

C. Design Principle

D. Design Recommendations

E. 1983 No-Net-Loss-of-Open-Space Calculations

F. Master Plan No-Net-Loss-of-Open-Space Calculations

LIST OF DRAWINGS AND DIAGRAMS

Design Principle - Multi-Functional Zones with Shared Facilities
Forest Park Area Calculations - Existing Built and Open Areas
Forest Park Area Calculations - Existing Built Areas (1983)
Forest Park Area Calculations - Existing Roads and Parking (1983)
Forest Park Area Calculations - Existing Buildings and Structures (1983)
Forest Park Area Calculations - Existing Paths and Sidewalks (1983)
Forest Park Area Calculations - Existing Service Yards (1983)
Forest Park Area Calculations - Existing Paved Recreational (1983)
Forest Park Area Calculations - Existing Open Areas (1983)
Forest Park Area Calculations - Existing Active Green (1983)
Forest Park Area Calculations - Existing Water (1983)
Forest Park Area Calculations - Existing Swales and Tributaries (1983)
Forest Park Area Calculations - Existing Outboundary (1983)
Forest Park Area Calculations - Proposed Built and Open Areas
Forest Park Area Calculations - Proposed Built Areas
Forest Park Area Calculations - Proposed Roads and Parking
Forest Park Area Calculations - Proposed Buildings and Structures
Forest Park Area Calculations - Proposed Paths and Sidewalks
Forest Park Area Calculations - Proposed Service Yards
Forest Park Area Calculations - Proposed Open Areas
Forest Park Area Calculations - Proposed Water

VII. LAND USE

A. Overview

Forest Park has a great diversity of land uses, ranging from active and passive recreational facilities to cultural institutions and areas of nature, such as Kennedy Woods. Of the 1,293 acres of park land, approximately 411 acres or 32% of Forest Park is classified as active space; 579 acres or 45% as passive space; and 303 acres or 23% is dedicated to cultural institutions and other park facilities.

Two of the major issues facing the park from a land-use perspective are 1) the major conflicts between adjacent land-uses, and 2) the demand for expanded exhibit space and visitor amenities by the cultural institutions and park facilities on a limited supply of park land.

The objective is to retain Forest Park as a place for people to enjoy a diversity of activities — passive and active recreation, leisure, culture, and nature in an urban park setting. Moreover, the existing balance of uses is deemed to be appropriate, providing the conflicts between the land uses can be resolved. Hence, in some cases the actual uses will be moved or modified in order to improve the actual conditions and to provide an amenable interface between uses. Furthermore, the adopted guiding principle is that the quality and quantity of open space in Forest Park should be preserved, based on a general concept of no-net-loss-of-open-space.

This is reinforced by the policy that the expansion, modification, replacement, relocation, and/or adaptive re-use of existing ZMD institutions (includes the St. Louis Zoo, St. Louis Art Museum, St. Louis Science Center, and History Museum), park facilities, and service and support facilities should be permitted only if such proposals meet all designated criteria in the Goals and Policies, and after completing a carefully prescribed process. Furthermore, where appropriate any proposed expansion of existing facilities is desirable in areas adjacent to, rather than within, Forest Park. Similarly, new buildings in Forest Park, for new uses unrelated to existing ZMD institutions, park, athletic, or service and support facilities are be prohibited.

As such, from a land use perspective this Master Plan is responsive to a wide range of uses and users, and seeks to preserve the character of the Park's lakes, landscapes, institutions and park facilities, active and passive recreational areas, and historic structures.

B. Summary of Existing Conditions

The major land-use issues facing Forest Park include the following:

- There are conflicts between adjacent land uses in the park.
- One of the major land use conflicts is between golf on Art Hill and around Grand Basin and the utilization of this area as a passive recreation area and a location for public boating.
- There is a major conflict between pedestrian path users and vehicles in the park.
- There are conflicting demands for a limited supply of park land.

- The major cultural institutions would like to expand their programs and facilities.
- The park has over-utilized and under-utilized areas.
- There is not an even distribution of activities and people throughout the park, and resulting in congested geographical zones.
- There is little coordination of all park facilities program schedules, which often results in event congestion.
- The special events are distributed appropriately through the park relative to the major park facilities and are generally well coordinated.
- The park experience includes as a series of unconnected and isolated land uses.
- There are user groups that are underserved by the park's facilities and programming
- The park's support and service facilities are not well integrated into the overall use and function of the park.
- A monitoring system for existing and future land uses needs to be developed.

C. Design Principle

- Create multi-functional zones with shared facilities.

DESIGN PRINCIPLE

Multi-Functional Zones with Shared Facilities

DESCRIPTION

- Many park entities have functional relationships which require cooperation and coordination to best meet their functional requirements. If these requirements are addressed individually, rather than in groups, the park will suffer from piecemeal development.
- Many park facilities and infrastructure elements are located between park entities with similar needs and could be programmed to serve multiple purposes and users.
- The impact of meeting all the needs of each park entity can be reduced if all entities work together and share common facilities and infrastructure.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

D. Design Recommendations

Forest Park is a place for people to enjoy recreation, leisure, athletics, culture, and nature in an urban park setting. As such, this plan is responsive to a wide range of uses and users, while seeking to preserve the character of the Park's lakes, landscapes, institutions, and park facilities, active and passive recreational areas, and historic structures. Land use in Forest Park is based upon by the following:

- Overall, although the balance between Forest Park's existing uses is maintained, the geographical area of some activities are modified to reduce or eliminate the conflicts.

- Forest Park's existing cultural institutions (Art Museum, Zoo, Science Center, Missouri History Museum, and the MUNY) remain in the park and are allowed modest expansions per the proposals incorporated into this Master Plan (see appendix), providing the appropriate approval process is adhered to. These plans, together with the road, pathway, and parking system changes in the Master Plan, results in the maintenance of the quality and quantity of open space in Forest Park based on a general concept of no-net-loss-of-open-space.

- Multiple use areas have been designated for Forest Park facilities that are in the same geographical areas and/or operational effect one another.

- New buildings in Forest Park, for new uses unrelated to existing ZMD institutions, park, athletic, or service and support facilities, are prohibited. This does not prohibit expansion, modification, replacement, relocation, and/or adaptive re-use of existing buildings.

- The principle of no-net-loss-of-open--space is fulfilled per the goals and policies.

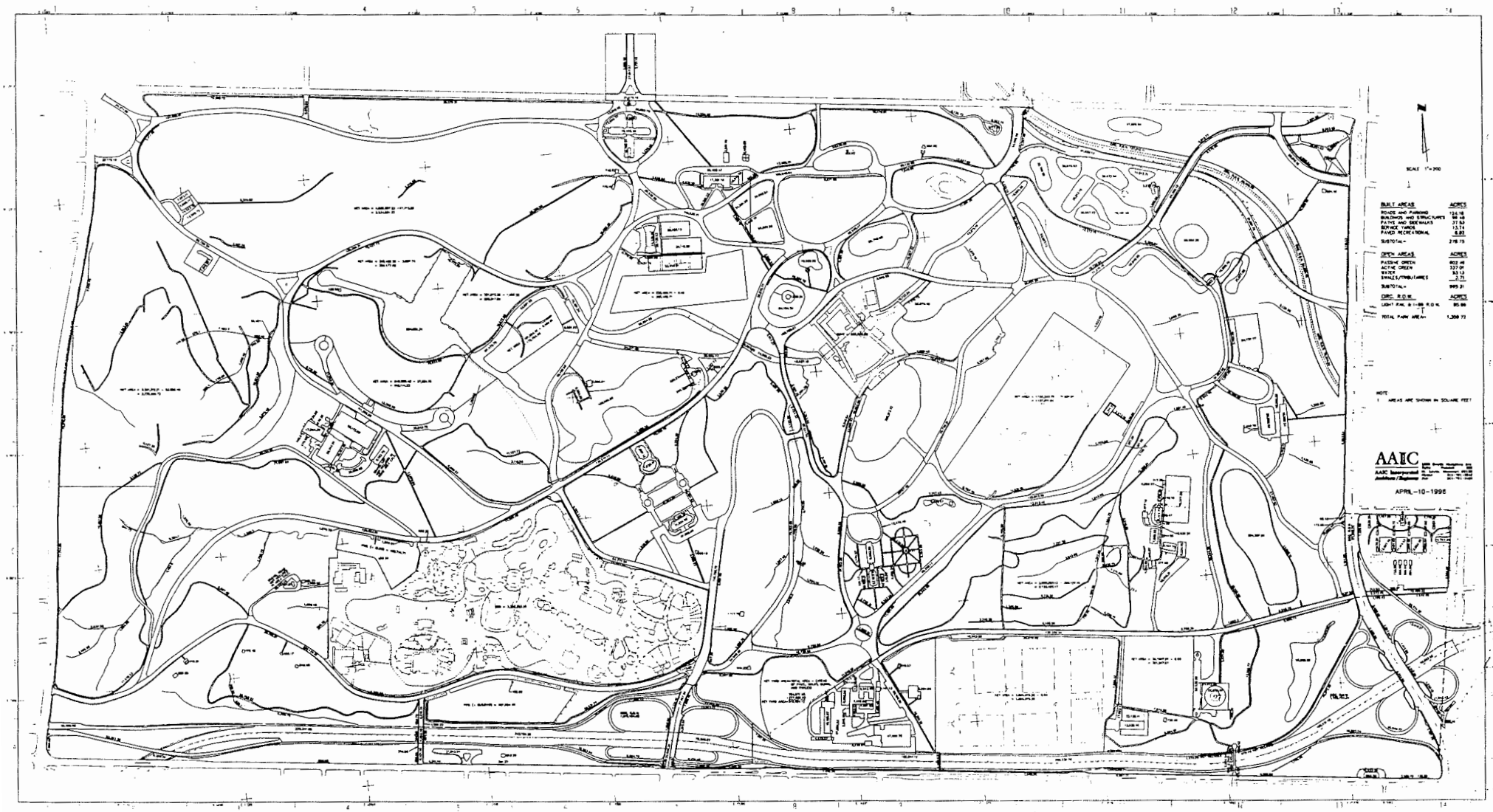
E. 1983 No-net-Loss-of-Open-Space Calculation

Forest Park 1983 Area Calculations:
Existing Built and Open Space Areas

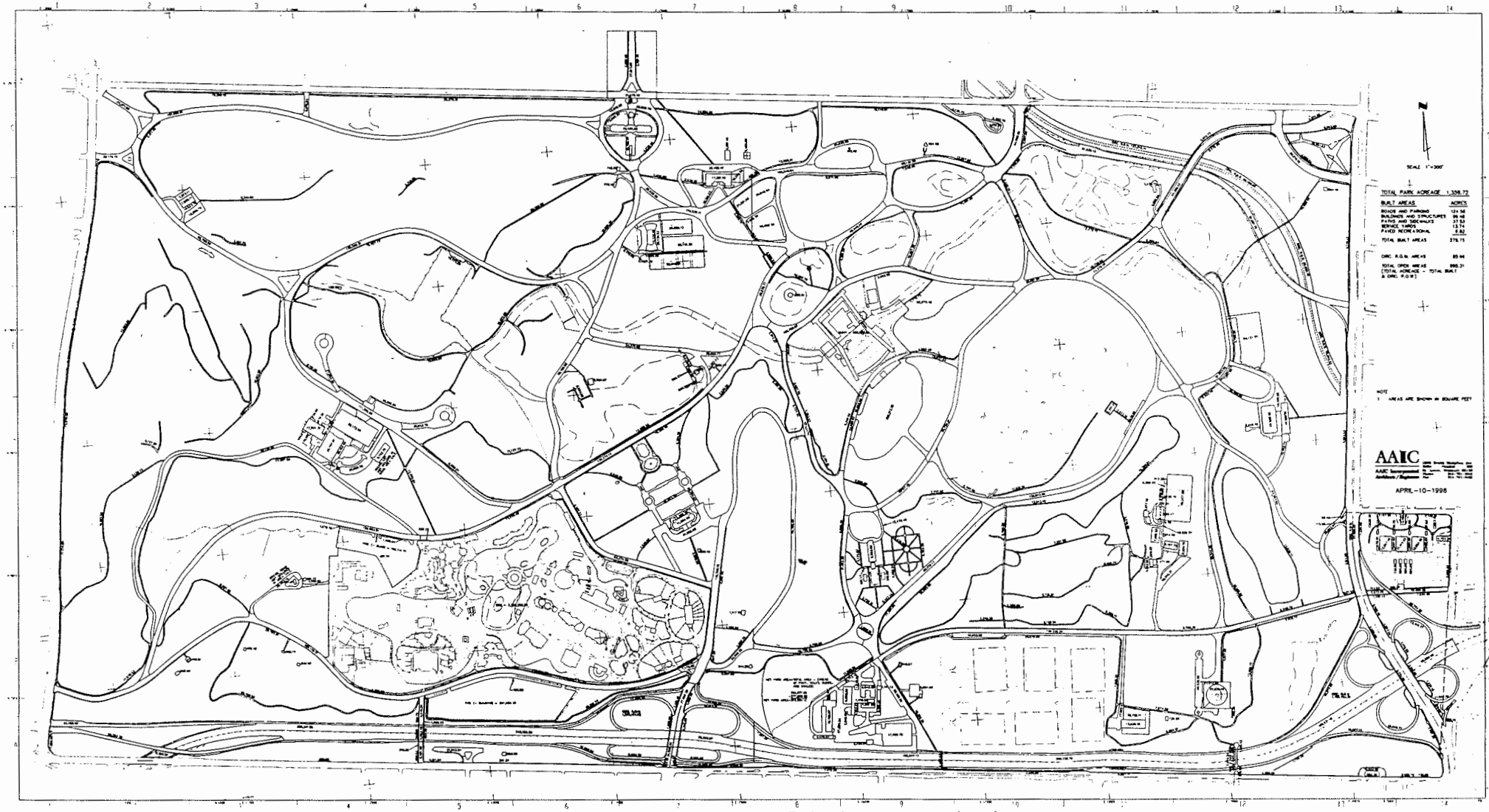
Built Areas	Acres
Roads and Parking	124.18
Buildings and Structures	96.48
Paths and Sidewalks	37.53
Service Yards	13.74
Paved Recreational	6.82
Sub-Total	278.75

Open Areas	Acres
Passive Green	602.46
Active Green	337.01
Water	53.13
Swales/Tributaries	2.71
Sub-Total	995.31

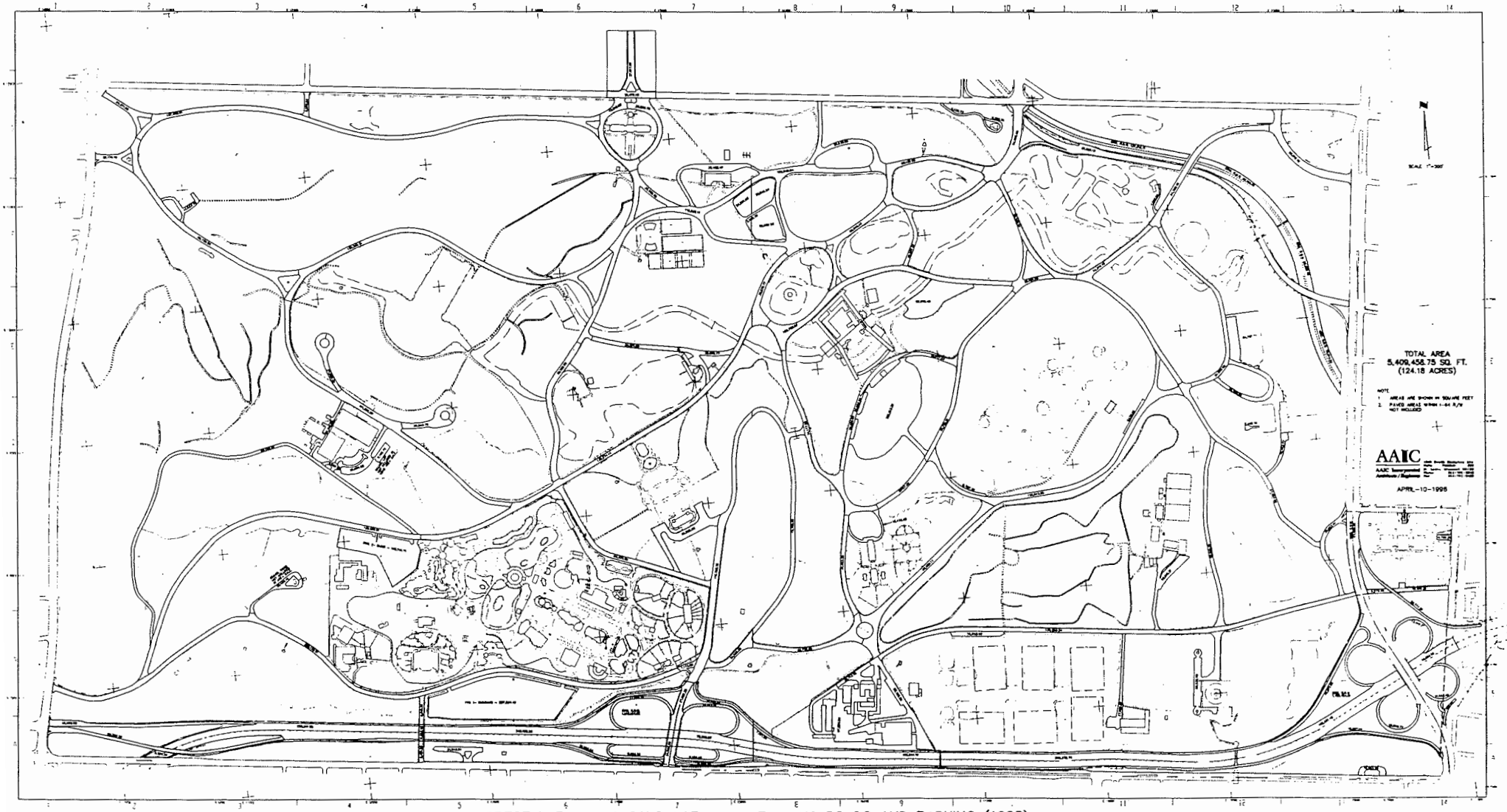
Circ. R.O.W.	Acres
Light Rail & I-64 R.O.W.	85.66
TOTAL	1,359.72



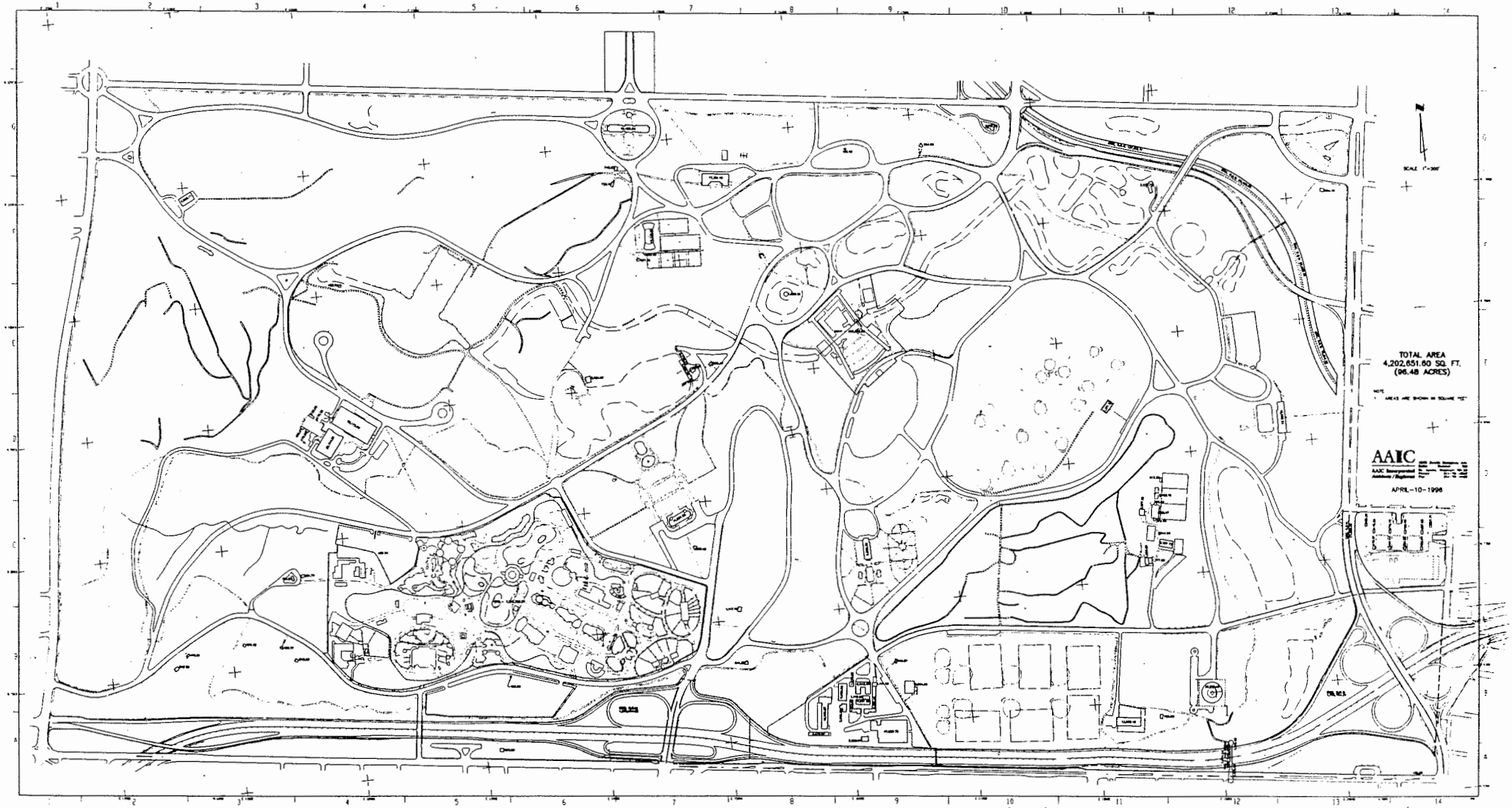
FOREST PARK AREA CALCULATIONS – EXISTING BUILT AND OPEN AREAS (1983)



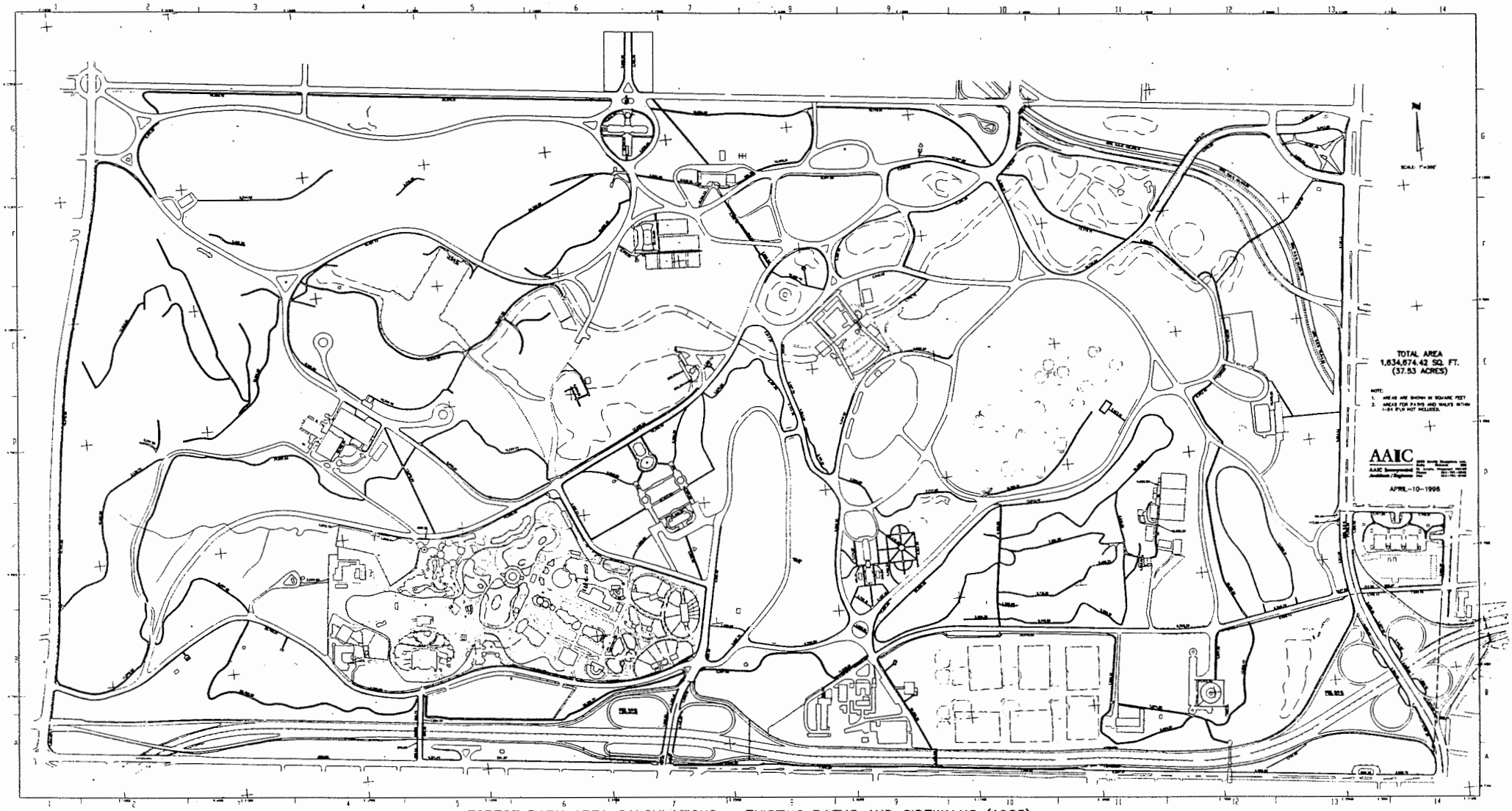
FOREST PARK AREA CALCULATIONS – EXISTING BUILT AREAS (1983)



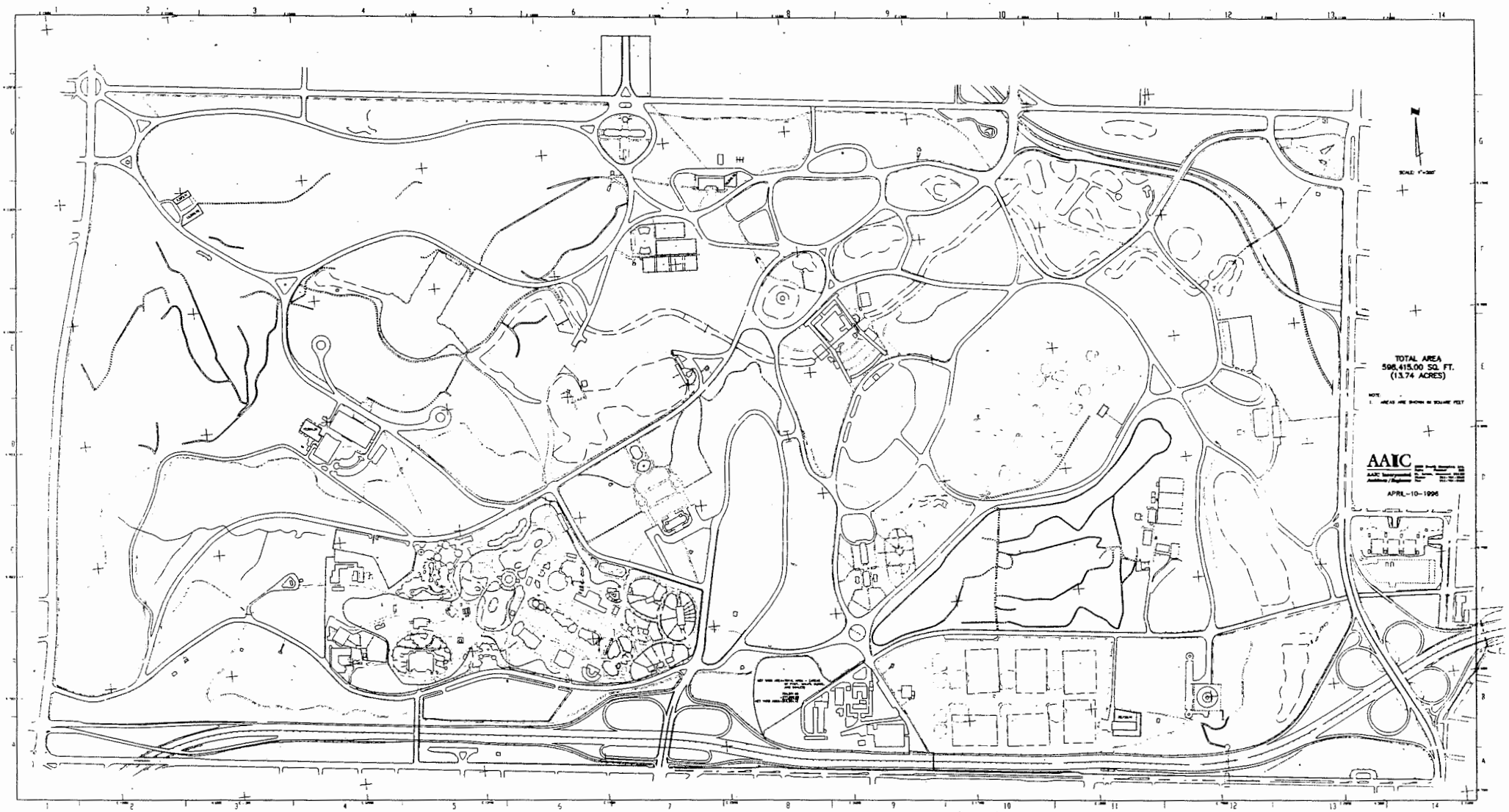
FOREST PARK AREA CALCULATIONS – EXISTING ROADS AND PARKING (1983)



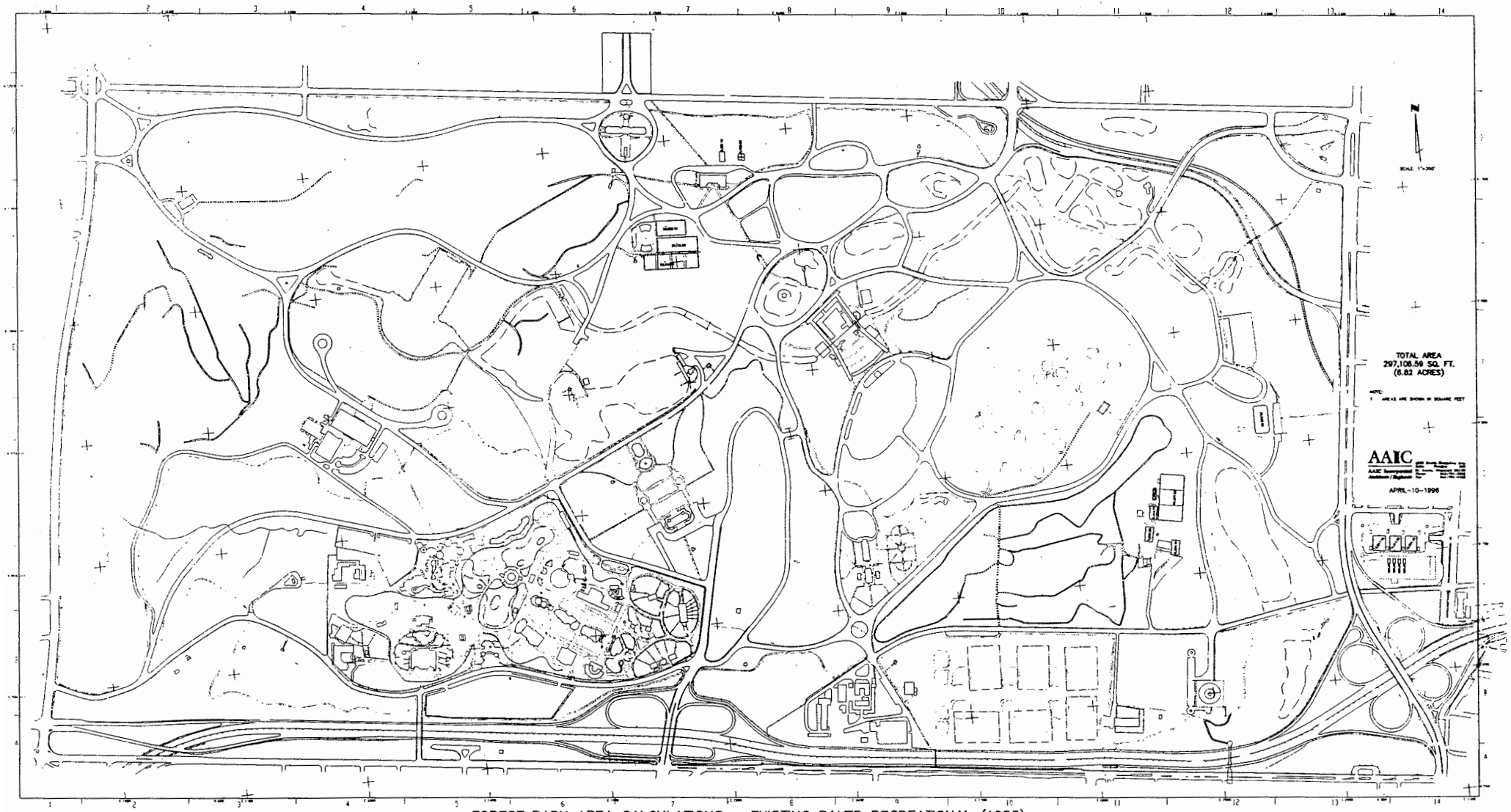
FOREST PARK AREA CALCULATIONS – EXISTING BUILDINGS AND STRUCTURES (1983)



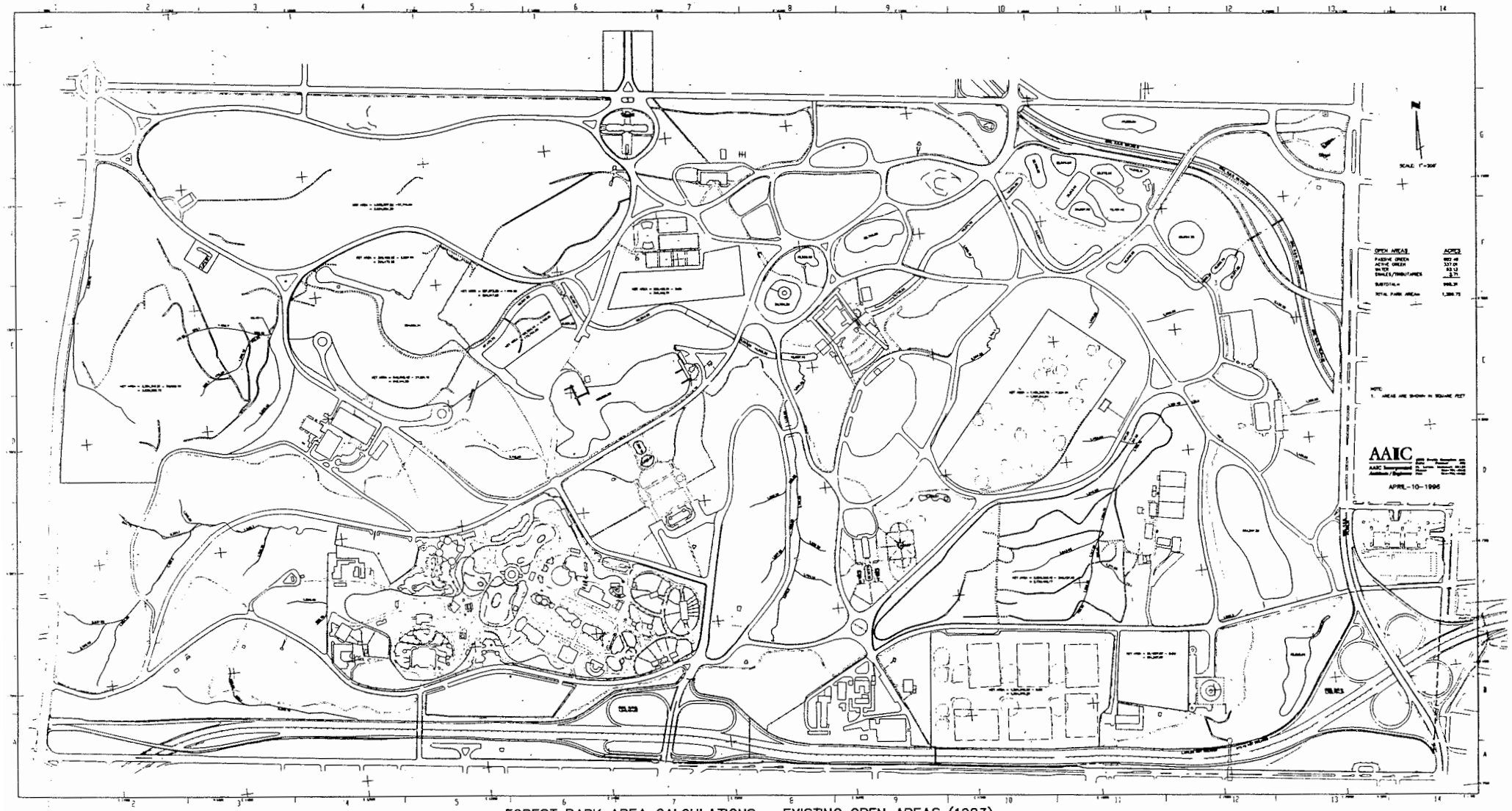
FOREST PARK AREA CALCULATIONS – EXISTING PATHS AND SIDEWALKS (1983)



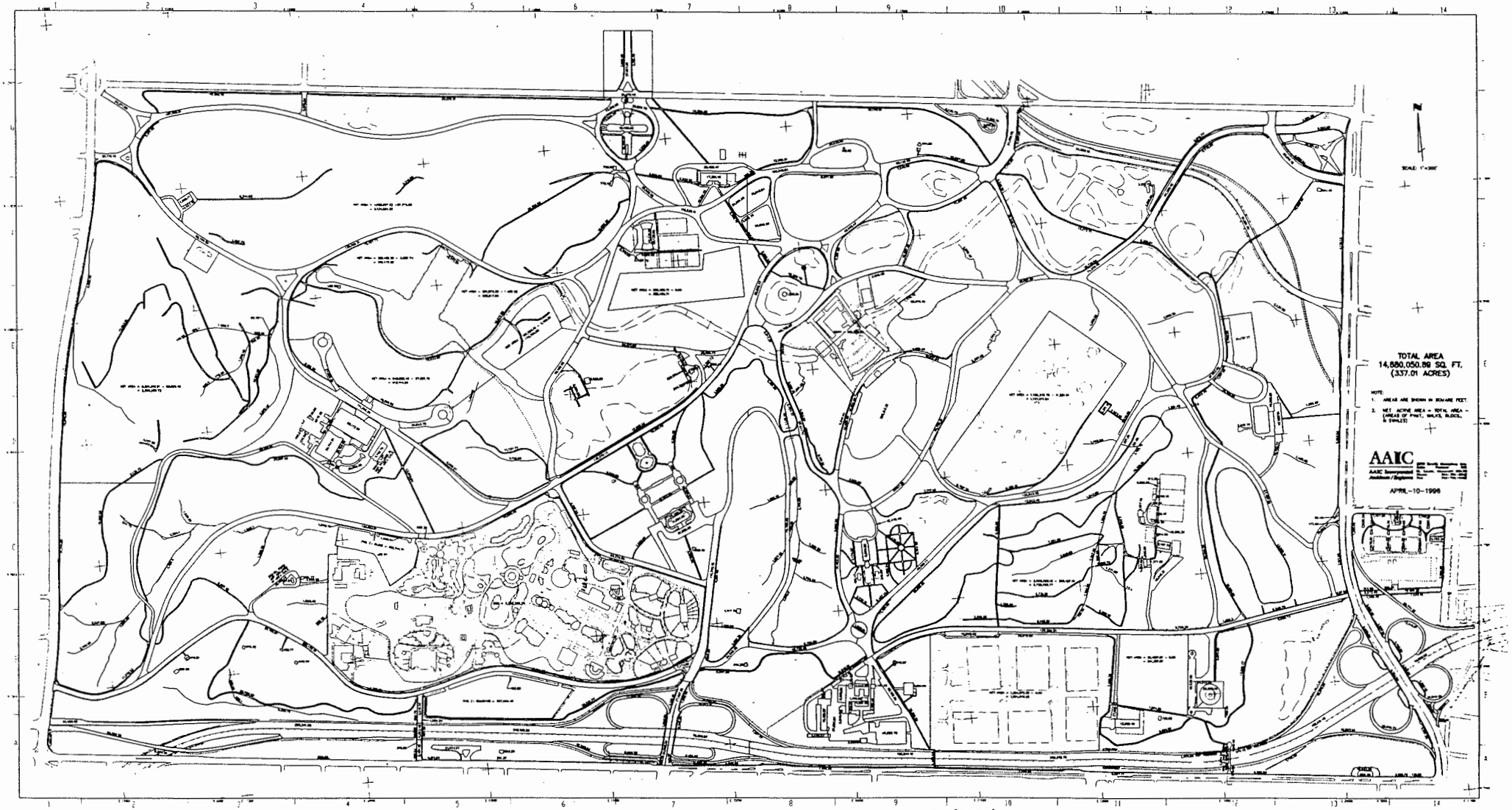
FOREST PARK AREA CALCULATIONS – EXISTING SERVICE YARDS (1983)



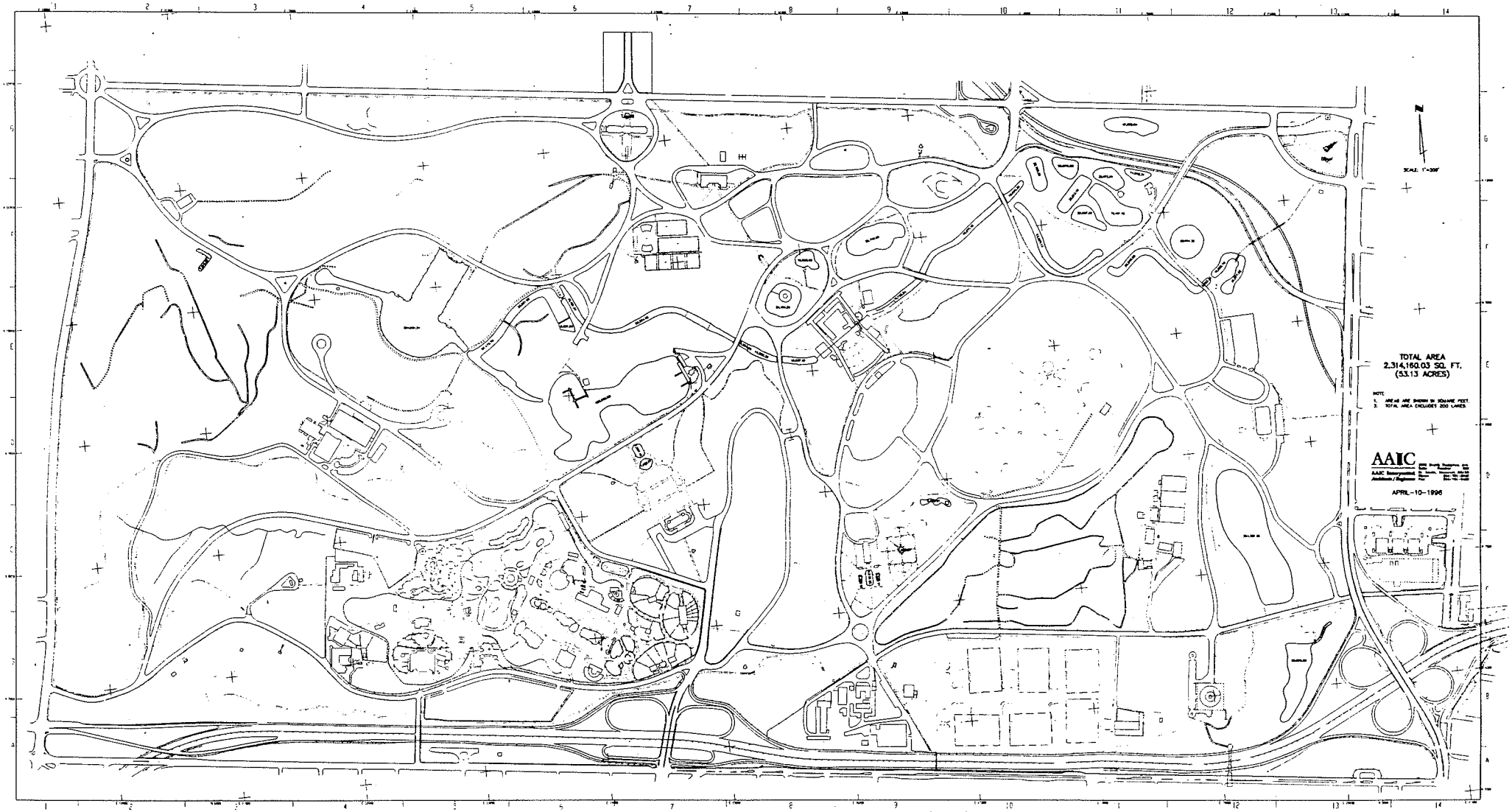
FOREST PARK AREA CALCULATIONS – EXISTING PAVED RECREATIONAL (1983)



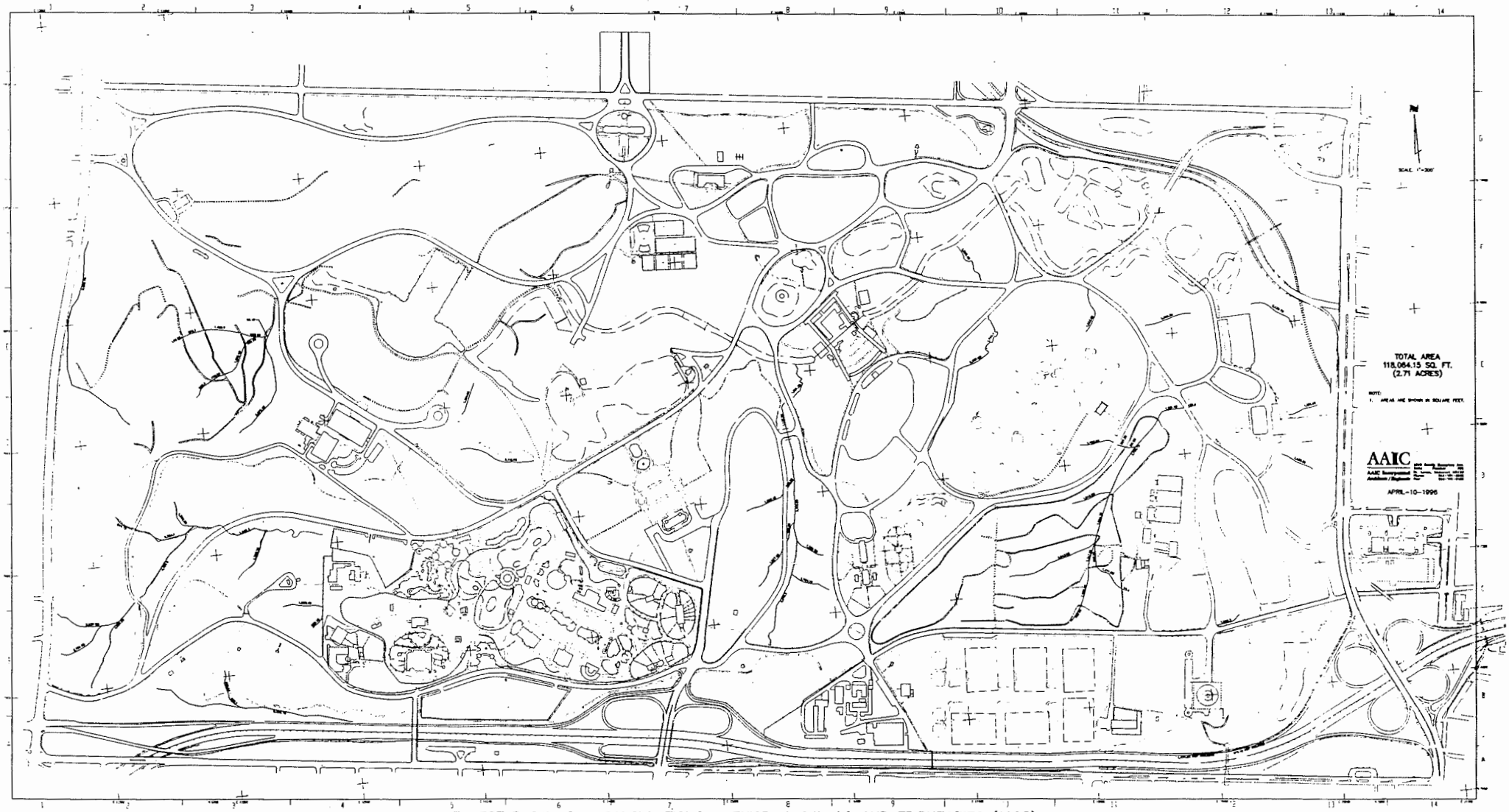
FOREST PARK AREA CALCULATIONS – EXISTING OPEN AREAS (1983)



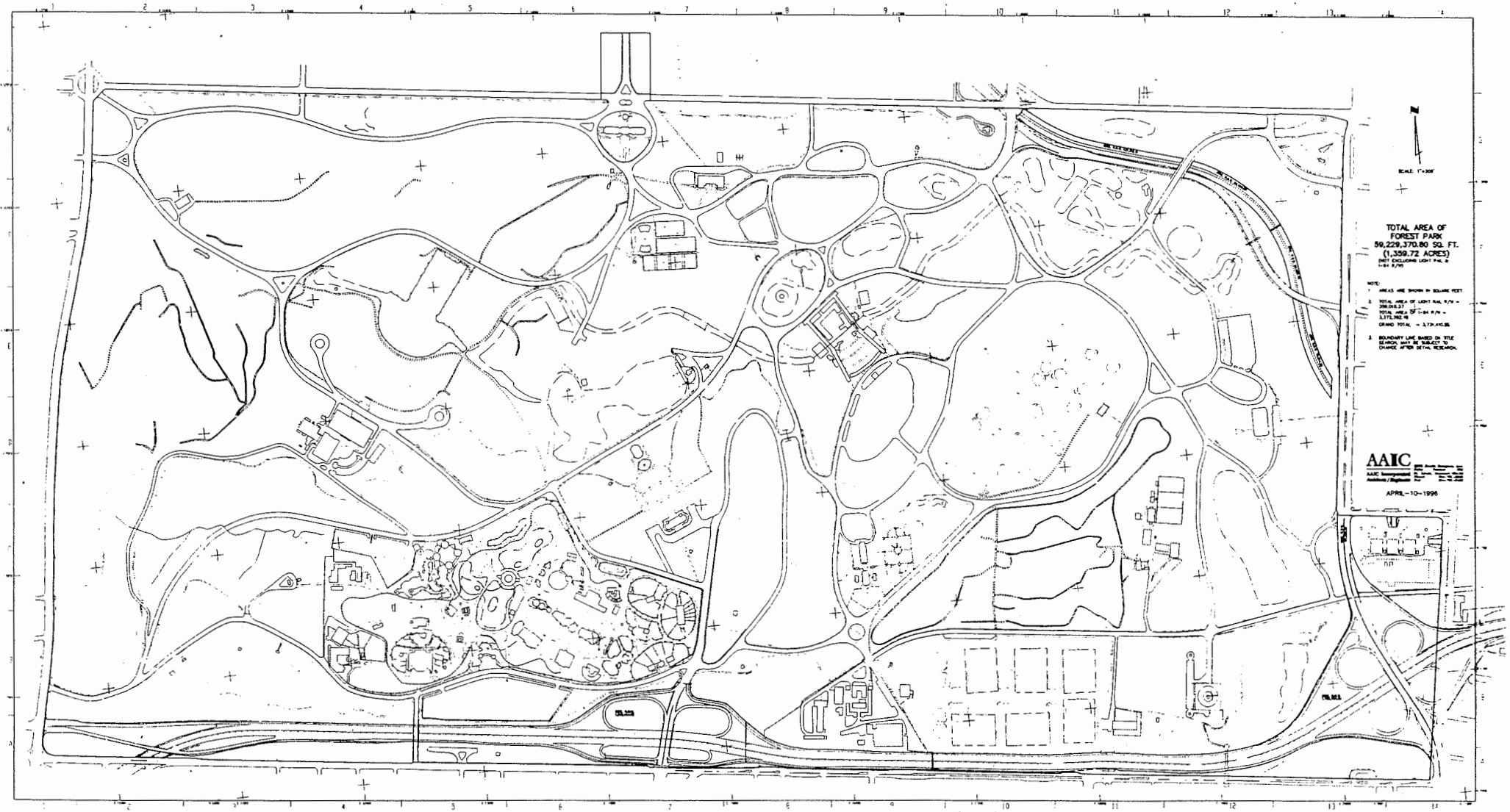
FOREST PARK AREA CALCULATIONS – EXISTING ACTIVE GREEN (1983)



FOREST PARK AREA CALCULATIONS – EXISTING WATER (1983)



FOREST PARK AREA CALCULATIONS – EXISTING SWALES AND TRIBUTARIES (1983)



FOREST PARK AREA CALCULATIONS – EXISTING OUT BOUNDARY (1983)

F. Master Plan No-net-Loss-of-Open-Space Calculation

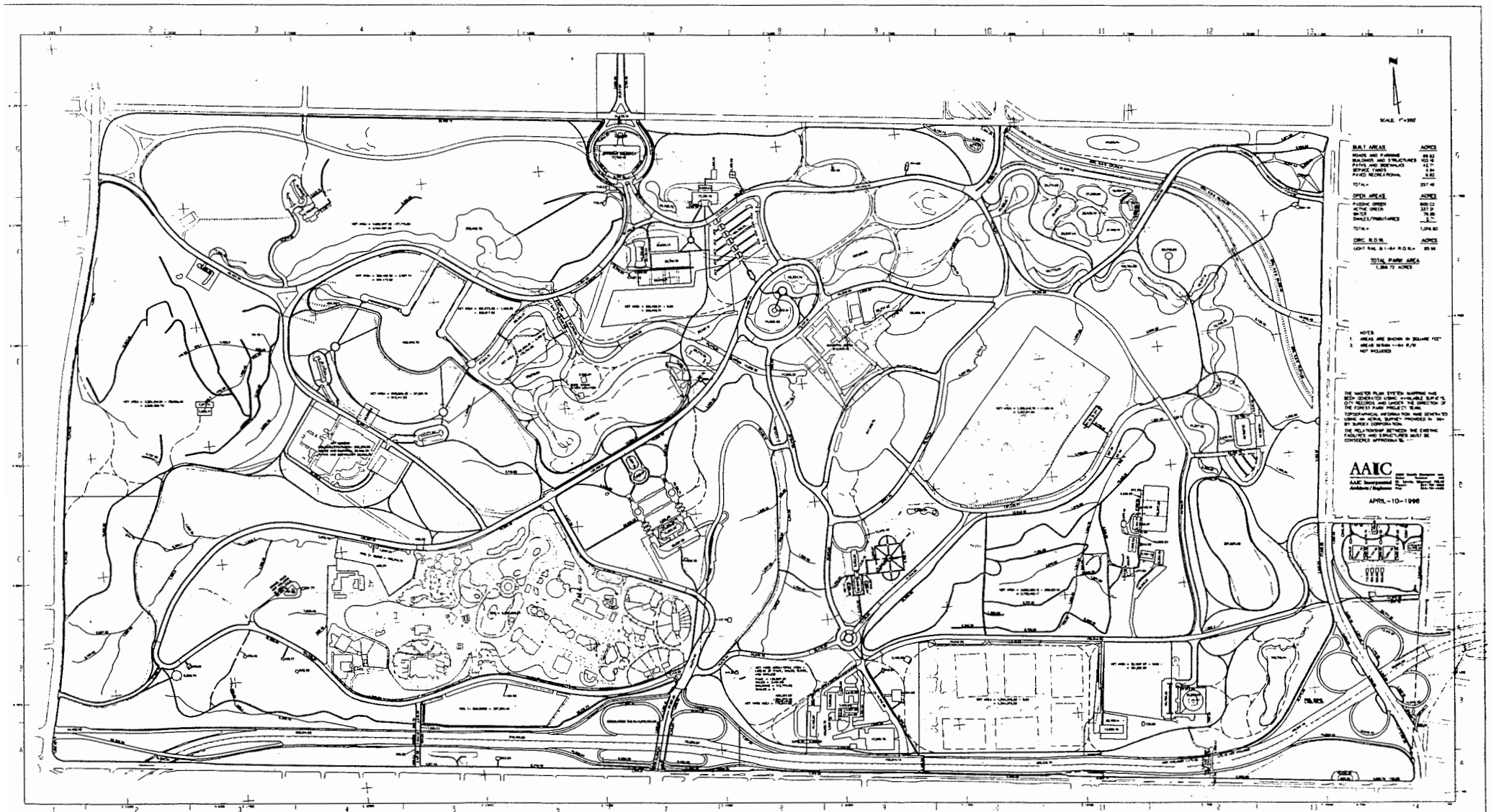
Forest Park Master Plan Area Calculations:
Proposed Built and Open Space Areas

Built Areas	Acres
Roads and Parking	99.83
Buildings and Structures	103.16
Paths and Sidewalks	42.71
Service Yards	4.94
Paved Recreational	6.82
Sub-Total	257.46

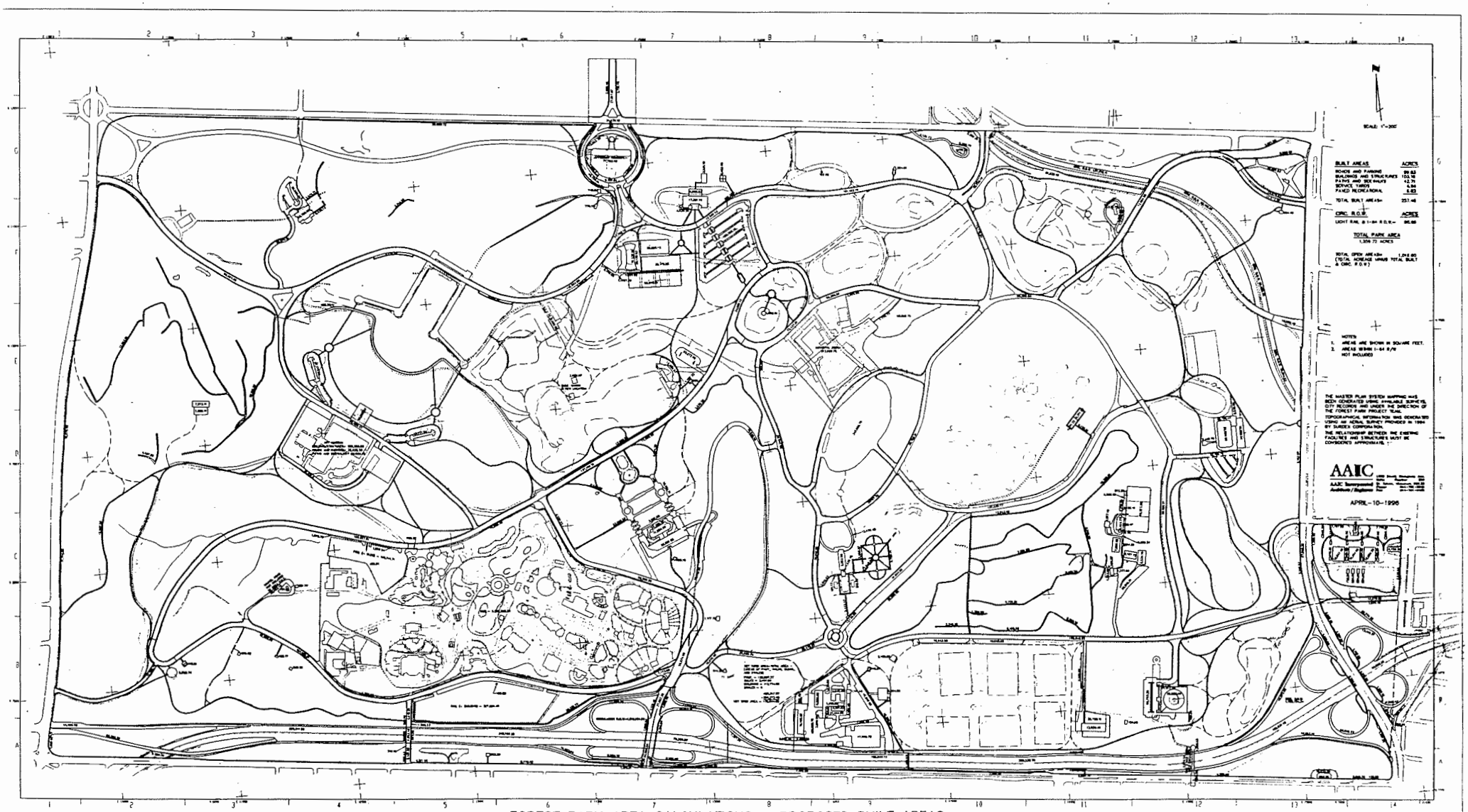
Open Areas	Acres
Passive Green	600.03
Active Green	337.01
Water	76.85
Swales/Tributaries	2.71
Sub-Total	1,016.60

Circ. R.O.W.	Acres
Light Rail & I-64 R.O.W.	84.66

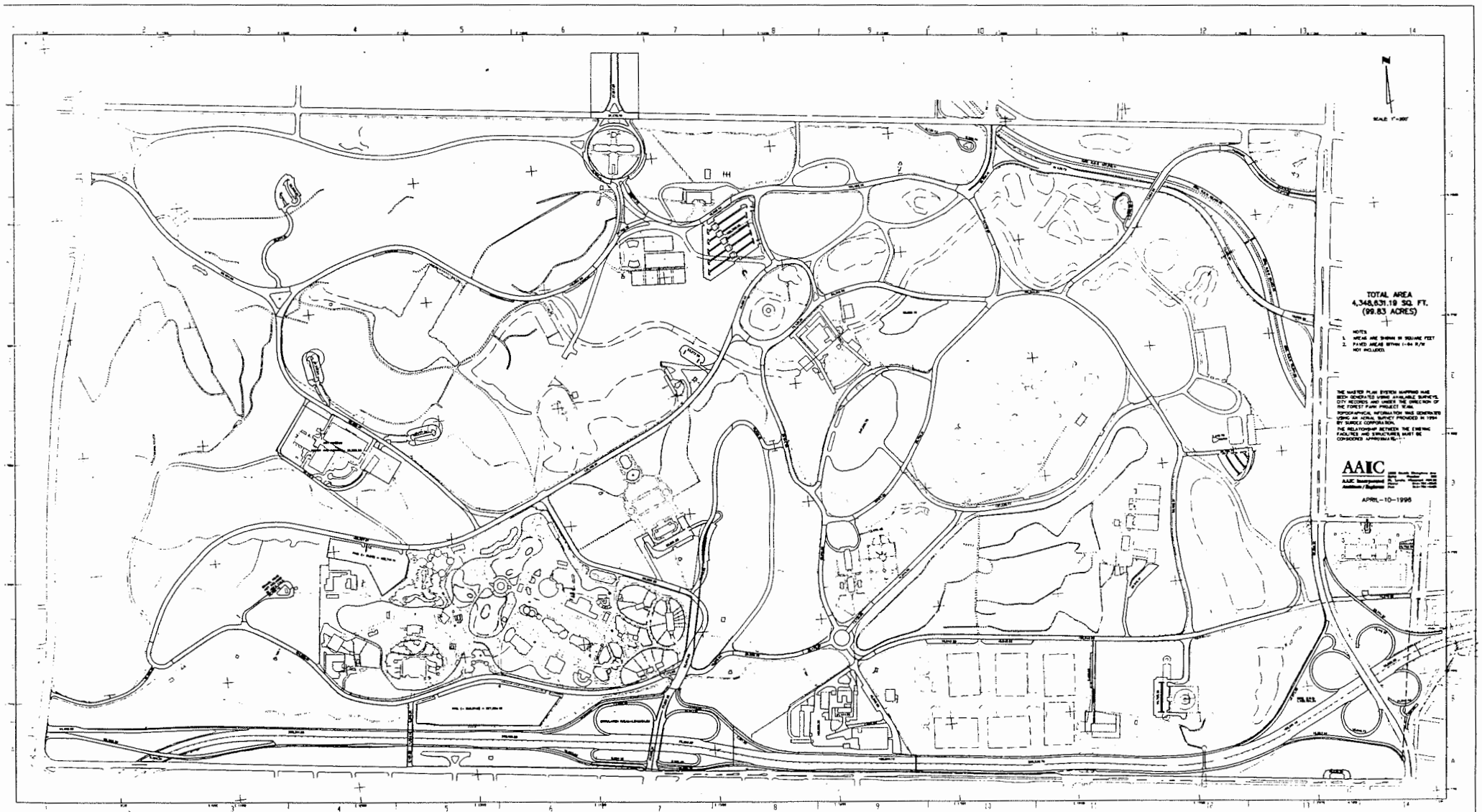
TOTAL	1,359.72



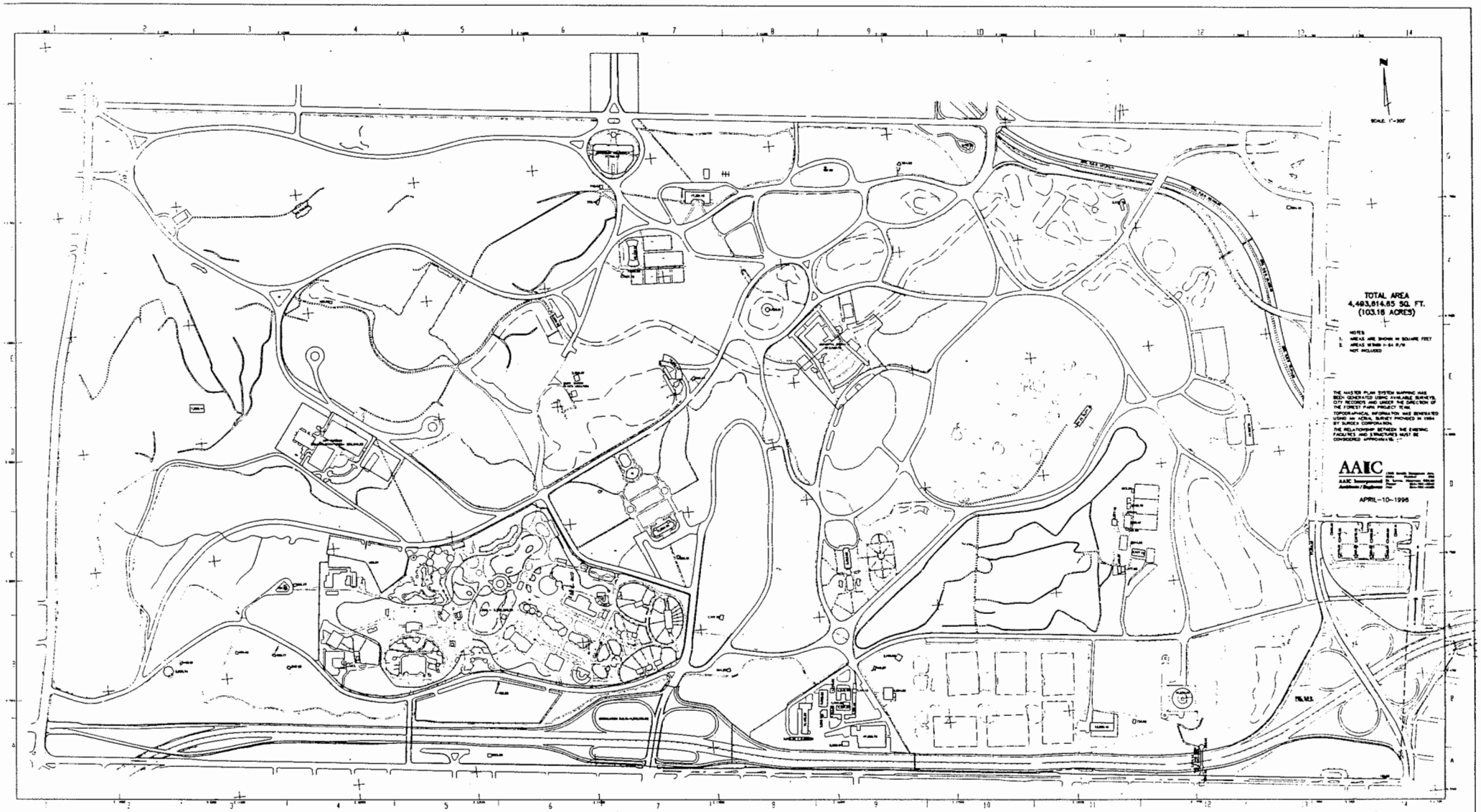
FOREST PARK AREA CALCULATIONS – PROPOSED BUILT AND OPEN AREAS



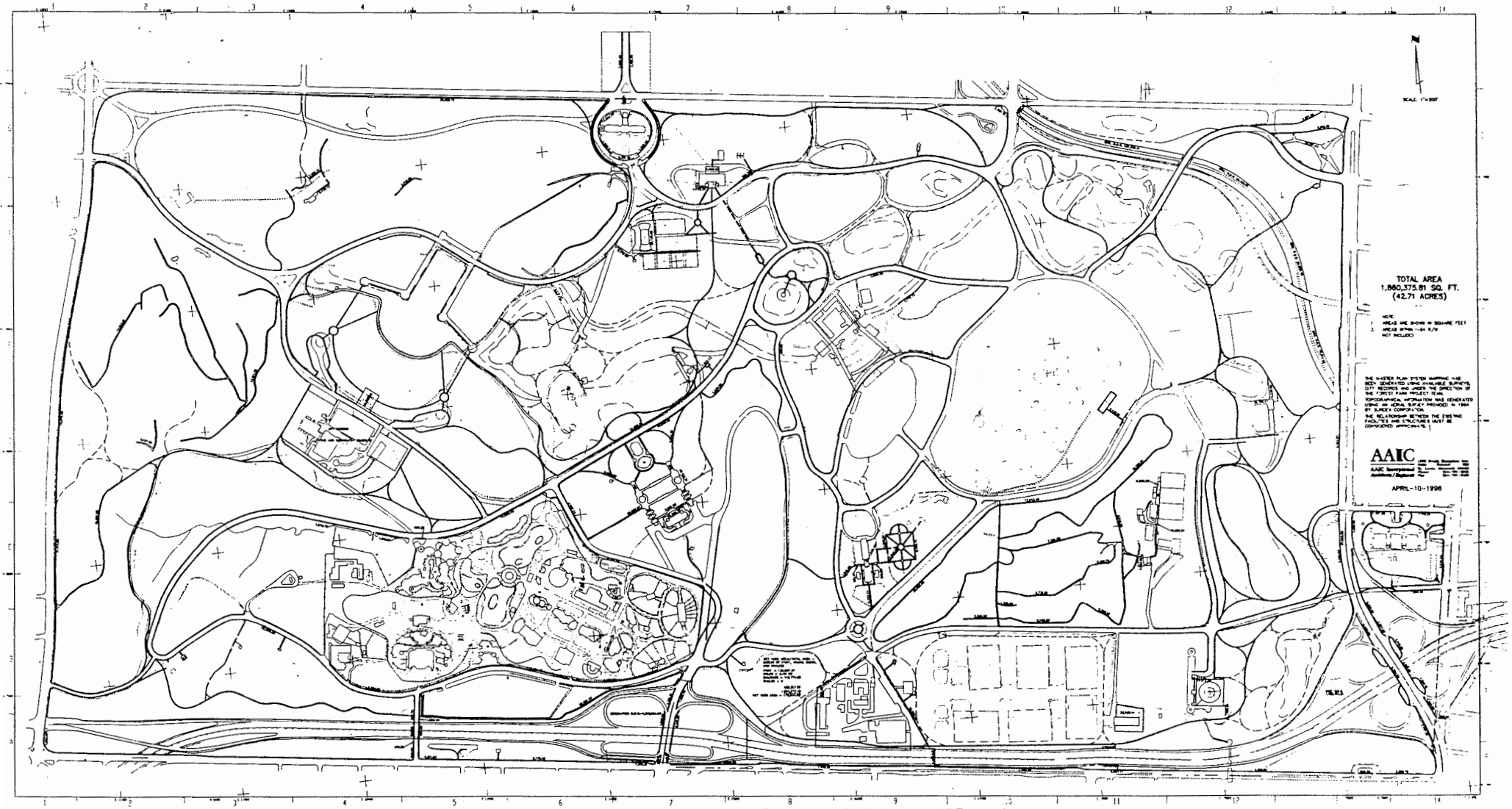
FOREST PARK AREA CALCULATIONS – PROPOSED BUILT AREAS



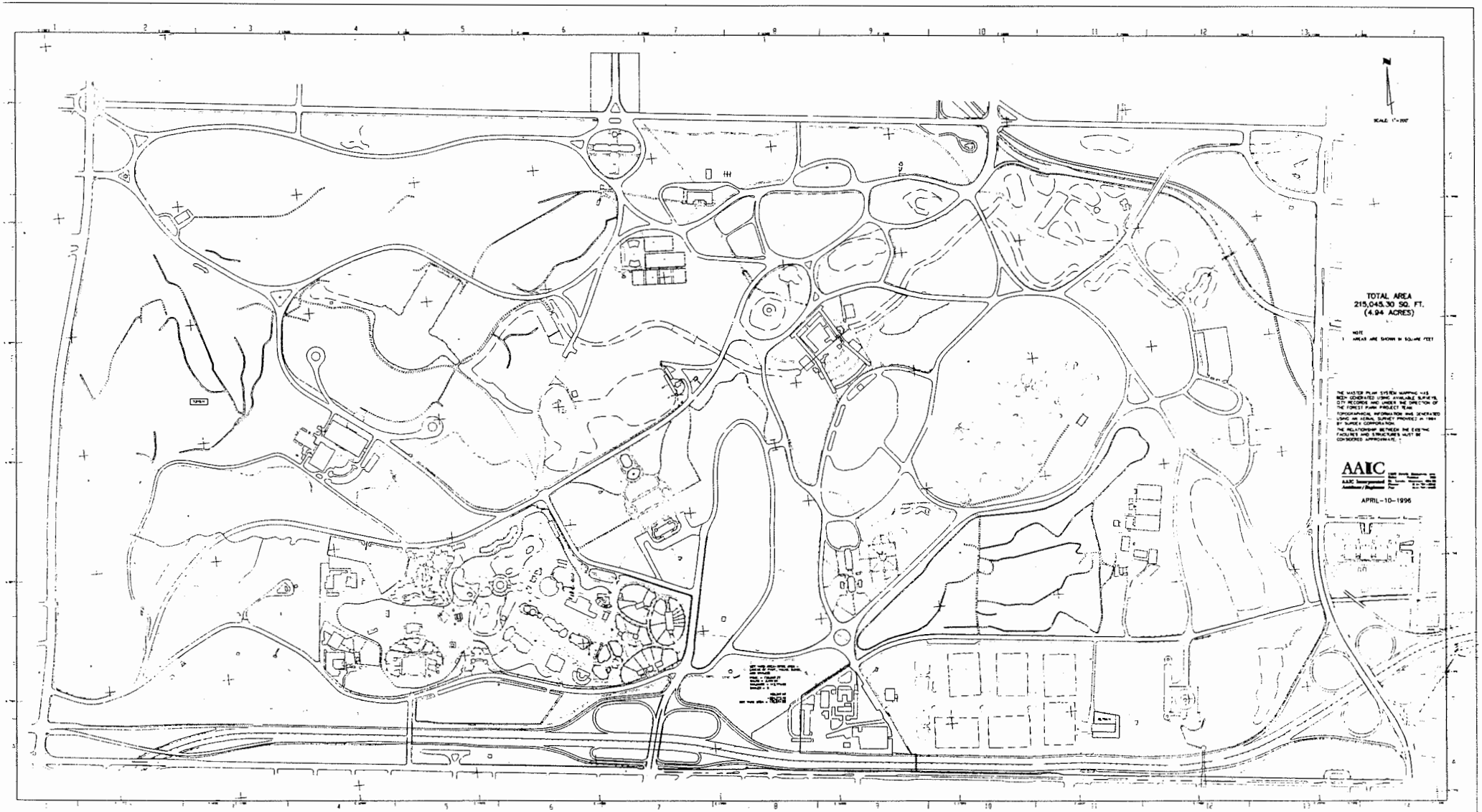
FOREST PARK AREA CALCULATIONS – PROPOSED ROADS AND PARKING



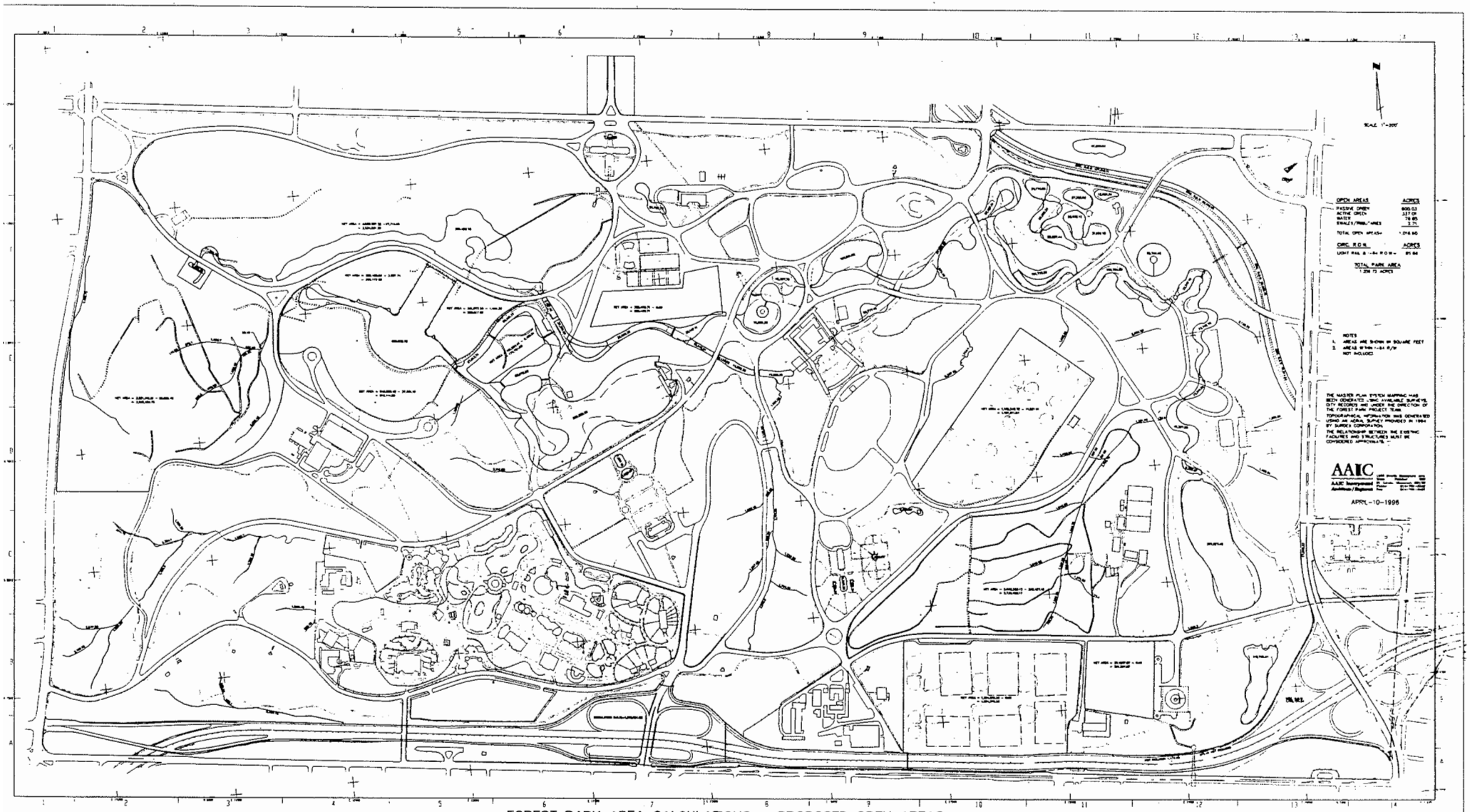
FOREST PARK AREA CALCULATIONS – PROPOSED BUILDINGS AND STRUCTURES



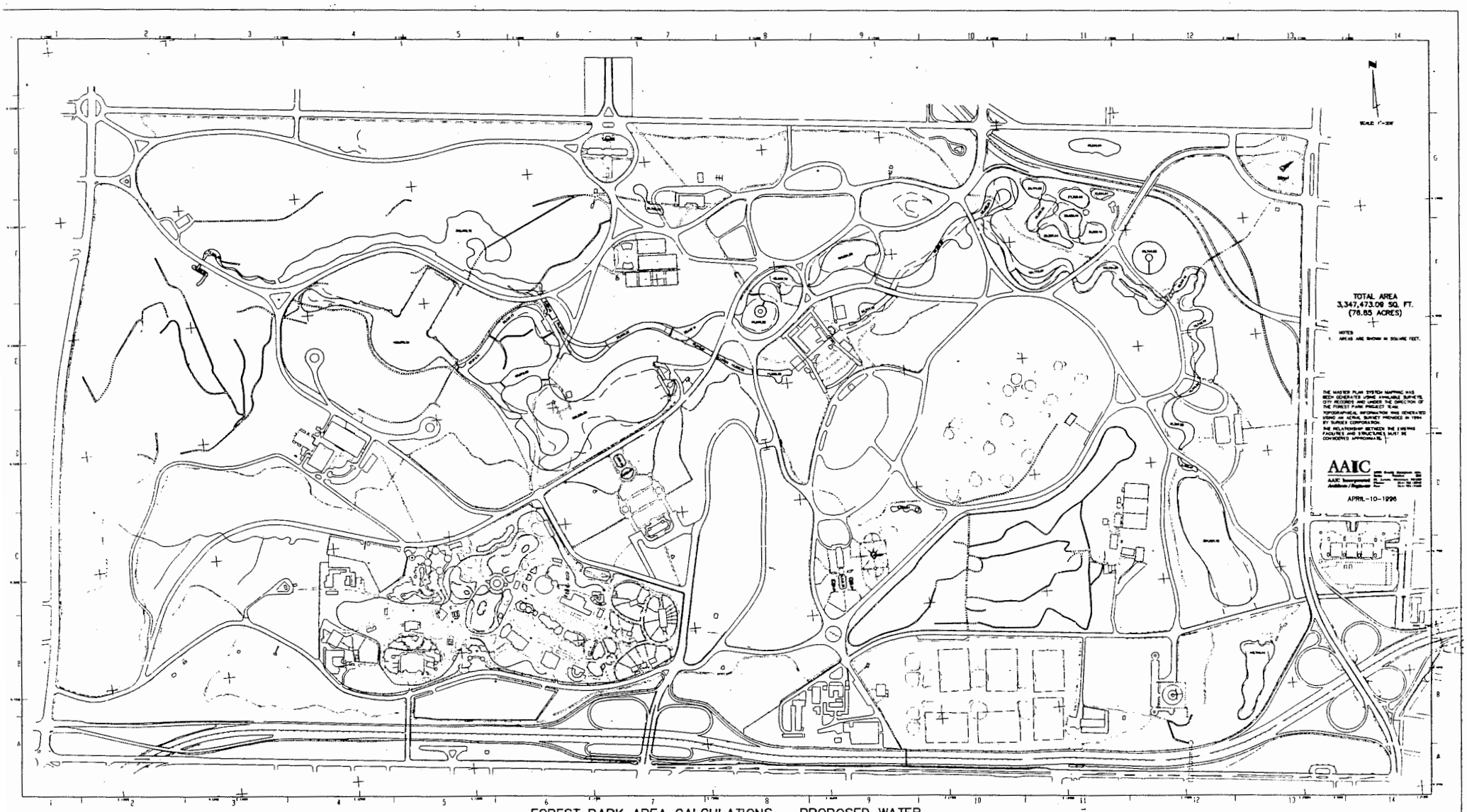
FOREST PARK AREA CALCULATIONS – PROPOSED PATHS AND SIDEWALKS



FOREST PARK AREA CALCULATIONS – PROPOSED SERVICE YARDS



FOREST PARK AREA CALCULATIONS – PROPOSED OPEN AREAS



FOREST PARK AREA CALCULATIONS – PROPOSED WATER

SECTION D — THE PHYSICAL PLAN

NATURAL SYSTEMS

I. PASSIVE OPEN SPACE SYSTEM

A. Overview
B. Summary of Existing Conditions
C. Design Principle
D. Design Recommendations
E. Site Specific Recommendations

II. WATER AND SURFACE DRAINAGE SYSTEM

A. Overview
B. Summary of Existing Conditions
C. Design Principle
D. Design Recommendations
E. Site Specific Recommendations

III. LANDSCAPE AND SITE RELATIONSHIPS

A. Overview
B. Summary of Existing Conditions
C. Design Principle
D. Design Recommendations
E. Site Specific Recommendations

BUILT SYSTEMS

IV. ACTIVE SPACE SYSTEM

A. Overview
B. Summary of Existing Conditions
C. Design Principle
D. Design Recommendations
E. Site Specific Recommendations

V. ART, ARCHITECTURE AND INFRASTRUCTURE

A. Overview
B. Summary of Existing Conditions
C. Design Principle
D. Design Recommendations
E. Site Specific Recommendations

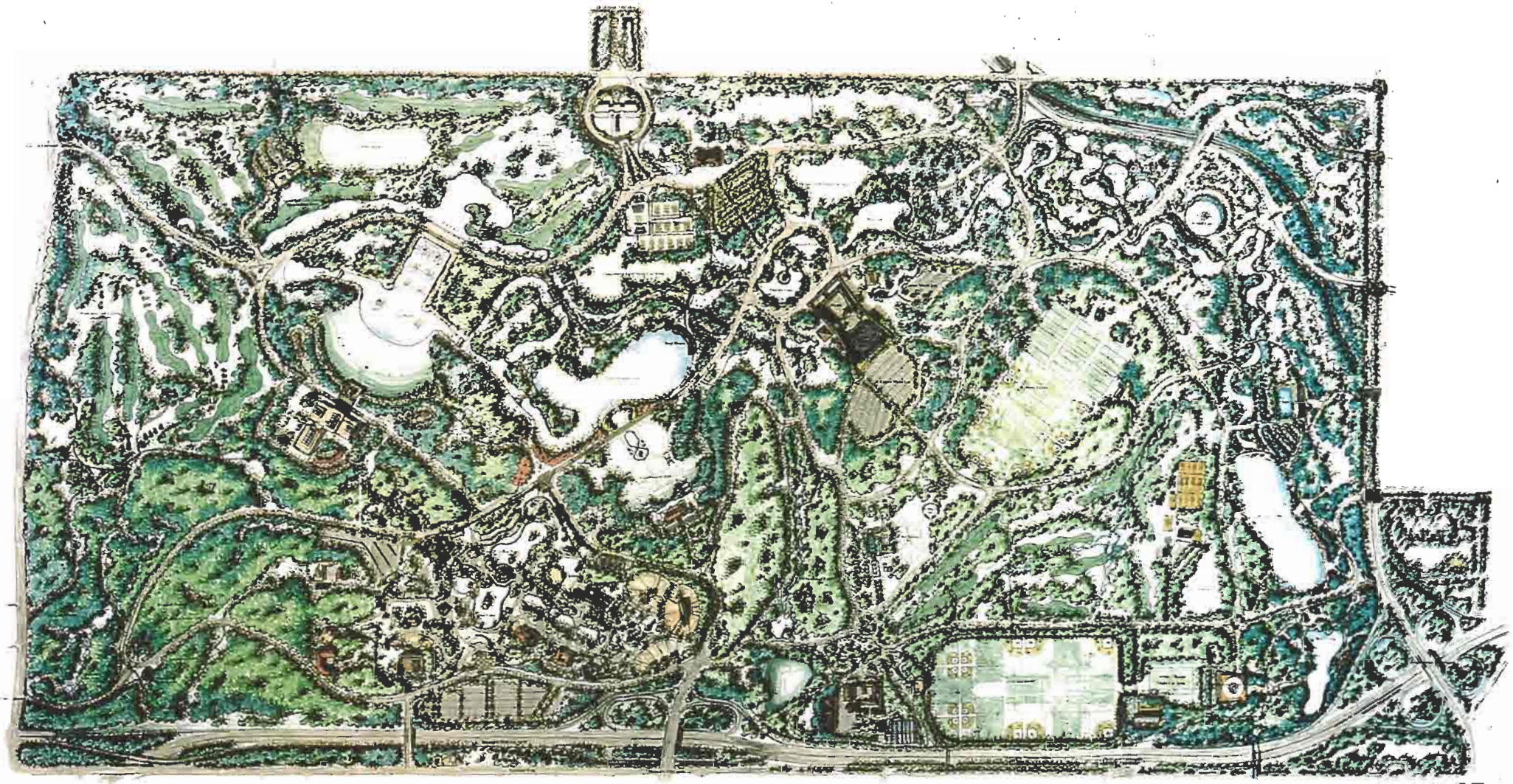
VI. ACCESS, CIRCULATION AND PARKING

A. Overview
B. Summary of Existing Conditions
C. Design Principle
D. Design Recommendations
E. Site Specific Recommendations

SUMMARY

VII. SITE SPECIFIC RECOMMENDATIONS

A. Area 1: Kennedy Forest - Zoo - Hampton Entrance
B. Area 2: Art Hill/Grand Basin - Post-Dispatch Lake
C. Area 3: Municipal Golf Courses
D. Area 4: Missouri History Museum - Muny
E. Area 5: Fish Hatcheries - Round Lake - Steinberg Rink
F. Area 6: Jefferson Lake - Bowl Lake - Science Center
G. Area 7: Parks Department - Aviation Field
H. Area 8: Central Fields - Triple A - Jewel Box



FOREST PARK MASTER PLAN

I. PASSIVE OPEN SPACE SYSTEM

A. Overview

B. Summary of Existing Conditions

C. Design Principle

D. Design Recommendations
1. General Approach
2. Passive Open Space System Components

E. Site Specific Recommendations

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Passive Open Space System Components
Passive Open Space Spine
Passive Open Space Spine Axonometric
Passive Open Space Spine Character
Passive Space Use

Natural Systems

I. PASSIVE OPEN SPACE SYSTEM

A. Overview

Passive open space is defined as the casual use areas throughout the park where one can picnic, view nature, stroll along a lagoon, or fly a kite. Forest Park's passive open space system includes forest settings, open grassy meadows, lakes and lagoons, linear green spaces, and a multitude of other landscapes throughout the Park. It surrounds and connects the Park's active space areas and cultural institutions and connects them to the neighborhoods which surround the Park.

In principle, Forest Park's passive open space system connects Kennedy Forest in the west to Bowl Lake in the east. Its character changes through the park's bottomlands from the Forsyth entrance to Bowl Lake and is physically defined by the park's uplands and bluff system. It is connected to upland land uses via the valley and intermittent tributary system. The passive open space system is comprised of landscapes, landmarks and water features with varying scale, character, seasonal quality, use, and visual drama.

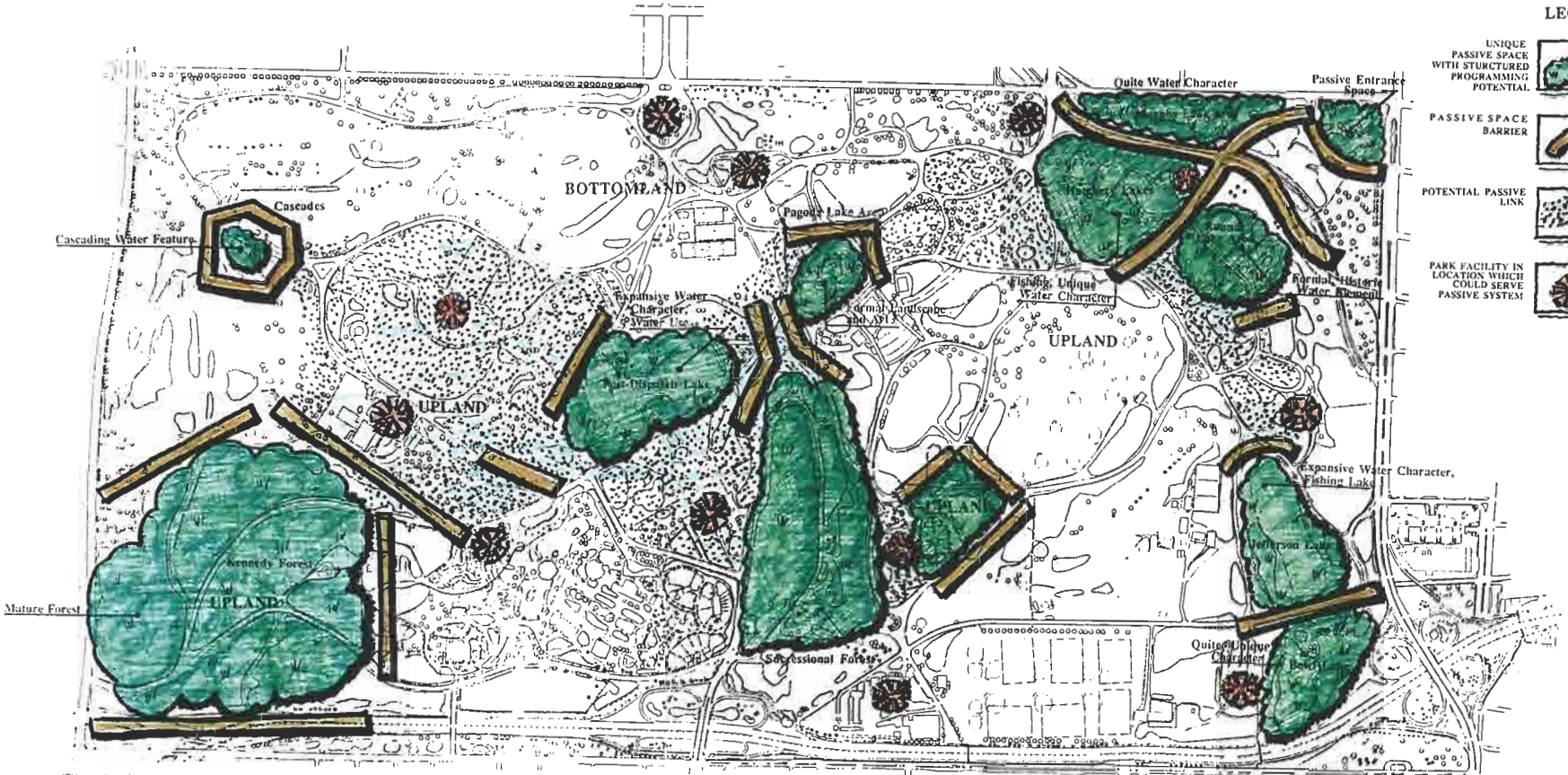
Movement is a critical component to any ecosystem, be it for humans, wildlife, water, or pollen. In order to allow free and hazard -free movement, barrier-free corridors are necessary. These corridors are critical to the use of park space both by humans, who wish to move about and experience the park via the path system, and by area wildlife which benefit from barrier-free corridors for migration and breeding. The passive open space system provides connections or corridors between the park's passive open spaces, its cultural institutions, and its active recreation.

In total, the passive open space system offers the potential for interactive programming between land uses and gives the park user access to the total park experience. Every effort should be made to develop and nurture partnerships with the Park's institutions that offer education programs on our natural resources (i.e., Zoo, Science Center) and with local nature and educational organizations whose members use the Park.

B. Summary of Existing Conditions

Existing fragmentation and barriers degrade the health of the Forest Park's vital natural systems. Fragmentation is detrimental to safe and convenient pedestrian movement, often creating dangerous road crossings, dead end paths, inaccessible spaces and isolated landscape elements. Fragmentation also can result in unhealthy environmental conditions, such as inbreeding, predation from aggressive exotic species, and a general lack of biodiversity. It is important to minimize this fragmentation to achieve an environmentally sound park, safe and enjoyable public recreation, including bike and pedestrian circulation, and improved wildlife habitat and migration corridors.

There are currently a few select sites used for events and picnics. These are sometimes over-used for a narrow range of outdoor activities and events. If conditions were improved in all open spaces, there would be a multitude of sites for year-round outdoor activities, reducing the burden on the existing sites and opening up vast opportunities for new and diverse outdoor experiences and events.



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Analysis by Design Team 1995

*Statistics from 7 city conservation study by Missouri Dept. of Conservation

- Wildlife, vegetation and humans exist in a mutually beneficial relationship.
  - -Wildlife is vegetation's natural pollinator and seed distributor when provided with corridors which allow movement through an ecosystem's many natural communities.
  - -Vegetation and its pollen and seed source provides food and cover for wildlife.
  - -Humans have the power to maintain or disrupt the natural balance. They also reap the benefits from a healthy ecosystem with improved air and water quality, reduced erosion and aesthetically pleasing natural settings.

GENERAL OBSERVATIONS

- Forest Park contains unique and potentially high quality passive green spaces which are fragmented and separated from other areas by physical infrastructure and land uses. An opportunity exists to link some of these passive spaces into a functional system.
- Structured programming in passive green spaces is the outdoor natural system's equivalent to cultural programming. There is generally a shortage of this programming which focuses on interpretive, educational and recreational experiences relating to the outdoors and natural systems.
- 67% of St. Louis area residents participate in birdwatching activities, 50% hike in the woods and 37% photograph nature. Opportunities for these activities close to home in Forest Park are limited.*
- First hand natural experiences, nature related recreation and environmental education opportunities have been reduced by a shrinking amount of forest and natural vegetation and the isolation of these areas.

1995 PASSIVE SPACE CHARACTER AND USE MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 2800

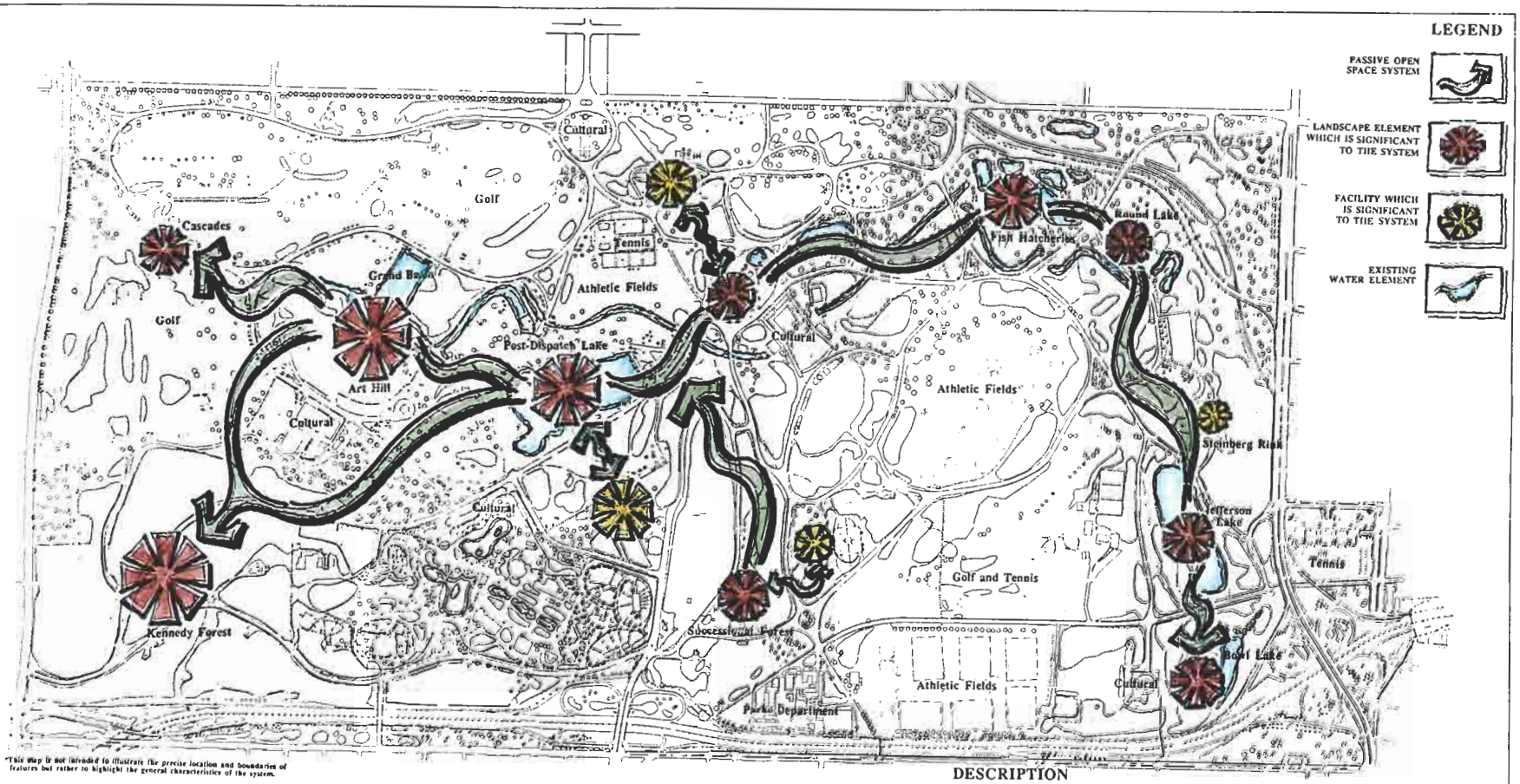
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

LEGEND

- PASSIVE OPEN SPACE SYSTEM
- LANDSCAPE ELEMENT WHICH IS SIGNIFICANT TO THE SYSTEM
- FACILITY WHICH IS SIGNIFICANT TO THE SYSTEM
- EXISTING WATER ELEMENT

DESCRIPTION

- Creates actual and perceptual connections which unite Kennedy Forest with Art Hill, Grand Basin, Post Dispatch Lake and ultimately Bowl Lake via passive open space corridors which link existing green spaces with natural, tree lined passageways, water elements, view corridors and linking pathways/trails.
- Provides an internal connection for perimeter active and cultural land uses and unifies diverse and fragmented open spaces along its path.
- Could provide passive green spaces and connecting paths for structured educational, interpretive and recreational programming and unique natural and cultural resources which would allow park users to better understand and appreciate the park's natural resources.
- Could provide the locations for outdoor activities such as bird watching, hiking and nature photography which are popular with St. Louis area residents.
- Would improve air and water quality by reducing carbon dioxide levels, erosion and surface water runoff while increasing oxygen levels and filtering airborne pollution.

DESIGN PRINCIPLE

Create a Passive Open Space System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

C. Design Principle

Create a passive open space system.

D. Design Recommendations

1. General Approach

The Forest Park Master Plan creates a passive open space system that forms the base or framework for all other park activities. By design, it surrounds Forest Park's ZMD institutions, park and service facilities, and active recreation entities, and creates a mutually beneficial relationship between them. It utilizes the Park's existing topography and vegetative character to create a diverse natural experience which keeps in balance with built features such as buildings and roads. Integral features of the system are the linear connected water system and the park's path system which are interwoven throughout the passive open space system and can be used to connect the many diverse landscapes into a cohesive, unified whole.

Specific design recommendations include:

- Provide the park user with the opportunity to conveniently circulate between all of the park's amenities and benefit from a total park experience that recognizes all existing ZMD institutions, park and service facilities, and active recreation entities are connected to the passive open space system and each other.

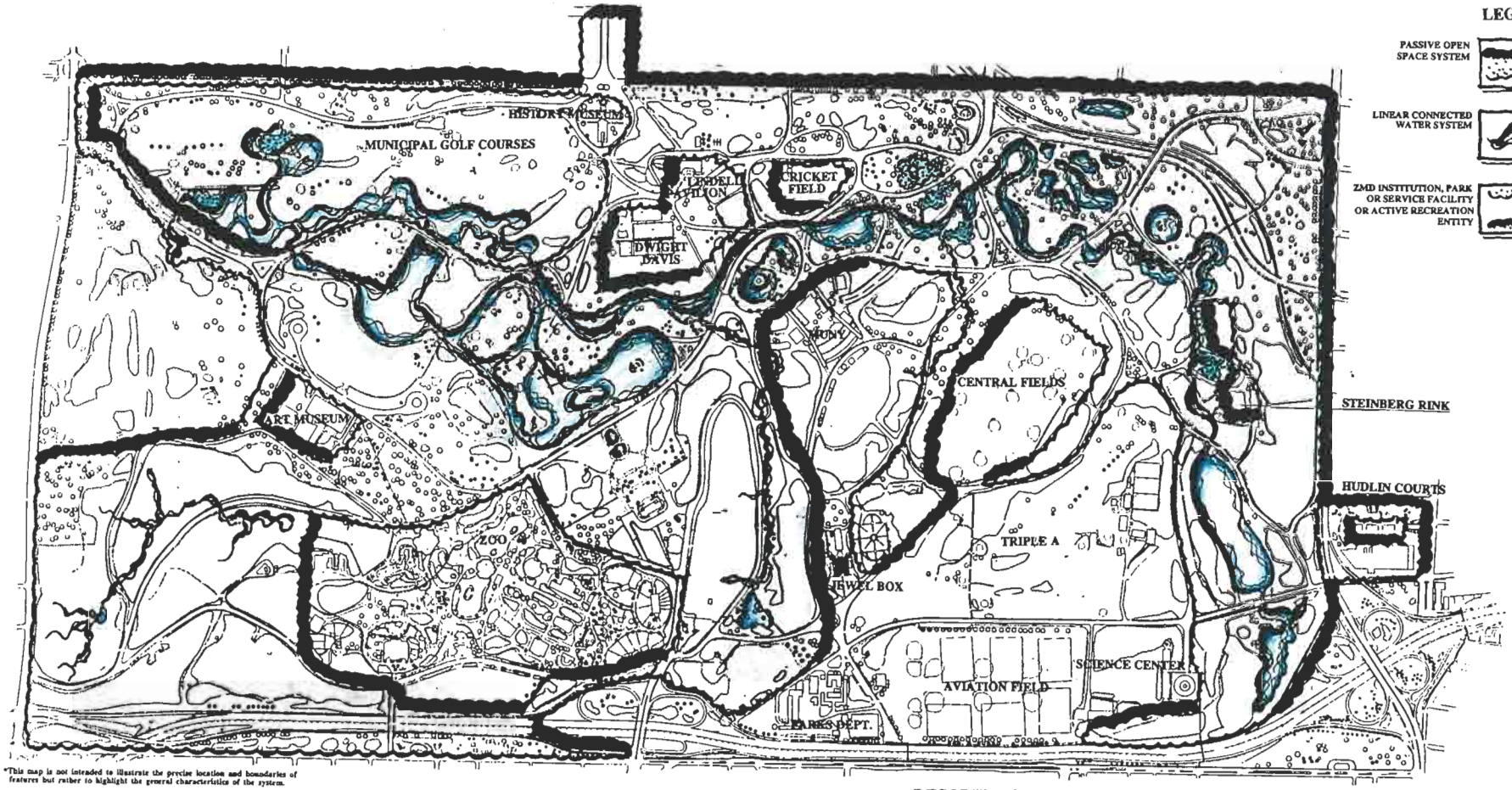
- Create a park-wide, linear connected water system as the connective thread that unifies the diverse qualities of the passive open space system.

- Create natural open space corridors as "outdoor classrooms" for educational and interpretive programming, offering first-hand opportunities to observe wildlife and plant species in their native element and interpret human impact on the corridor's natural systems.

- Create a variety of picnic grounds which vary in scale, character and usage based on surroundings and public demand.
  - Provide a range from small scale grounds with tables to large scale areas with shelters and open recreation space.
  - Provide a mix of forest settings and open, grassy, casual recreation areas.
  - Provide some grounds with formal shelters that are compatible with landscape setting and surrounding architectural character.

- Consider increased use of Forest Park's passive open space system for structured outdoor passive recreation which complements programming at existing ZMD institutions, park and service facilities, and active recreation entities.

- Utilize natural corridors to teach people about management practices that have been put in place to protect natural resources, such as no mowing, etc.



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DESCRIPTION

- A cohesive passive open space system forms the "spine" of the park and creates a mutually beneficial relationship between Forest Park's passive recreational uses and its ZMD institutions, park and service facilities, active recreation entities.
- The park-wide, linear connected water system creates the connective thread that unifies the diverse qualities of the passive open space system.
- All of the existing ZMD institutions, park and service facilities, active recreation entities are attached to the passive open space system and are thus connected to each other via this park wide system. This provides the park user with the opportunity to conveniently circulate between all of the park's amenities and benefit from the total park experience in a single visit.
- Forest Park's passive open space system has the potential to provide structured outdoor passive recreation which complements programming at existing ZMD institutions, park and service facilities, active recreation entities.

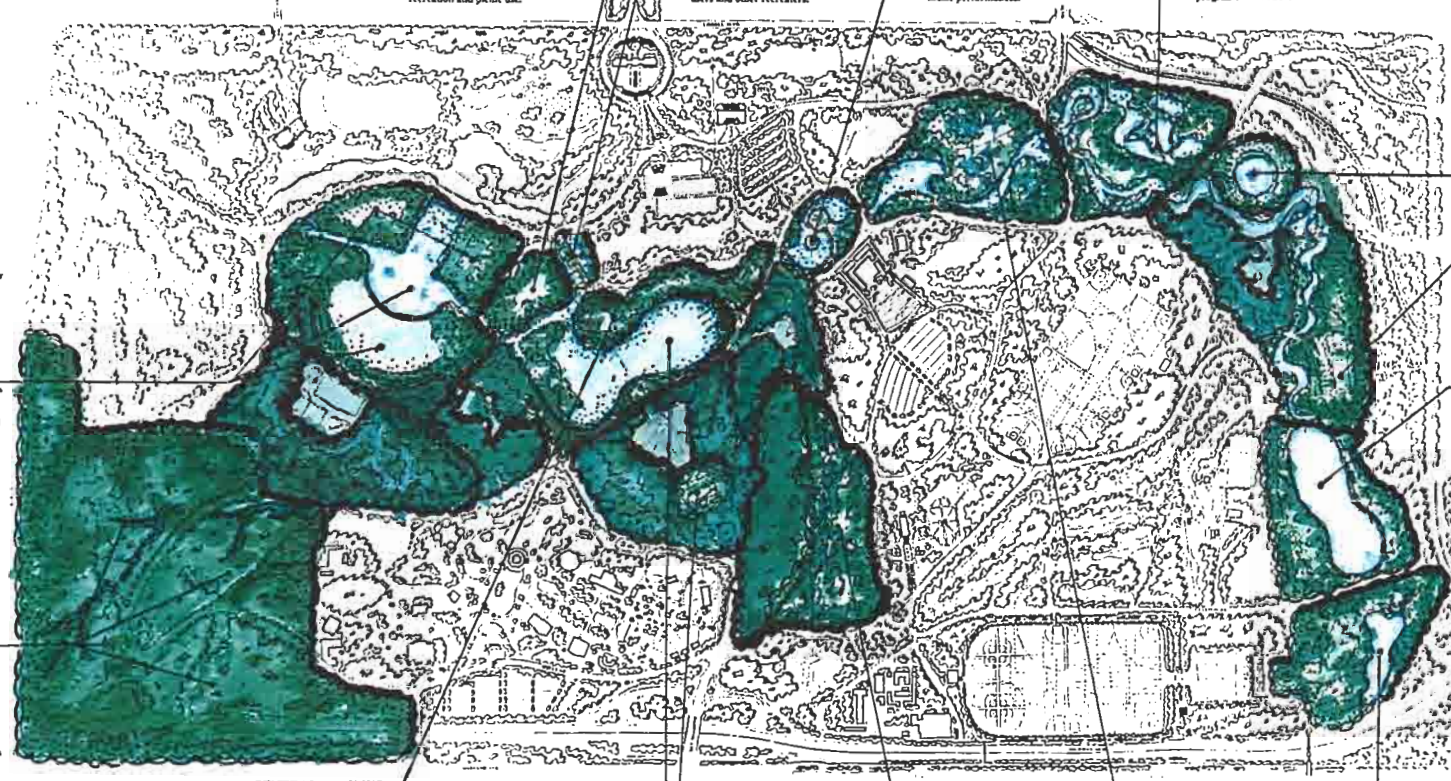
CONCEPT DIAGRAM
Passive Open Space System

- Create passive open space corridors to:
  - Reduce erosion and provide sediment control.
  - Help cleanse air and water.
  - Utilize trees and other plants to remove CO_2, CO and other toxic pollutants from the atmosphere while producing a net return of O_2.
  - Provide climate moderation in terms of summer cooling, wind control, etc.
  - Provide wildlife habitat and safe migration corridors.
  - Provide pedestrian and bike circulation systems.

- Coordinate path design with passive space features to maximize public contact.

- Upgrade and expand service and support facilities/amenities throughout the park for passive space users, including:
  - Security stations with personnel or security telephones.
  - Attended public toilets, showers and lockers.
  - Bike parking.
  - Park information and maps.
  - First aid amenities or personnel at major facilities.

- Consider providing two nature centers:
  - One in Kennedy Forest, offering forest nature trails and hiking areas and doubling as a bike path/trail amenity center for general park users. An agreement exists between the City and MODOC to create and operate this facility.
  - One at the Hatcheries building or Steinberg Rink, providing not only urban youth fishing programs, but nature interpretation programs for the surrounding lowland, water related landscapes, and managed public fishing in select lakes and lagoons. This center could also serve as the starting for the area's existing tree walk.



PICNIC ISLAND
- Recreate this large island by dredging filled-in surrounding lagoons and provide a variety of unstructured passive recreation and picnic use.

SPILLWAYS AREA
- Accentuate the character of existing stone outcroppings, emergent vegetation and spillways to create a unique and dramatic experience.
- Erect a small pavilion with support amenities to serve area picnickers, path users and other recreaters.

PAGODA LAKE
- Consider utilizing the recently restored Nathan Frank Bandstand for small public music performances.

HATCHERY LAKES
- Enhance this quiet, contemplative water area, connecting some water bodies while maintaining a mixture of small and medium size lakes which are divided by landscaped isthmuses.
- Continue to accommodate youth fishing programs and MODOC needs.

CASCADES
- Create a buffer from the adjacent golf course to create a link to the Forsyth entrance and integration of the Cascades into the passive open space system.
- Accentuate the Cascades as a dramatic visual experience to all who pass, whether by foot, bike or automobile.

ART HILL/GRAND BASIN AREA
- Relocate the area's five existing golf holes so Art Hill and Grand Basin can once again function as a grand, cohesive open space which accommodates unstructured passive recreation as well as potential larger public functions.
- Accentuate the formal, axial relationship between the Art Museum, Art Hill and Grand Basin which is unique to the park and offers a glimpse of the park's and city's grand history.
- Utilize the areas to the east and west of Grand Basin for a variety of uses including larger picnics, informal active recreation and unstructured passive recreation.

KENNEDY FOREST
- Improve aesthetic quality while allowing safe recreation and educational use.
- Support MODOC's plans to provide vegetative management and nature trail operation and supervision. Consider extending this agreement to cover the entire forest area.
- Provide a naturetrail center adjacent the Government Dr/Wells Dr. intersection, combining MODOC operational functions with support amenities for area bike and pedestrian path users.
- Create active and passive security measures to ensure public safety in isolated areas which are not accessed by public automobiles.
- Design paths to function as public trails as well as service and security access routes.

ROUND LAKE AREA
- Accentuate this historic formal water feature and its visually dramatic fountain. Improve the adjacent landscape to better accentuate the lake and views from adjacent areas.

STEINBERG RINK AREA
- Provide amenities to both passive and active recreation systems.
- Relocate parking to the south of the building where it will serve users of the passive open space system, active recreation and fishing programs at Jefferson Lake and area lagoons.
- Consider offering water-related outdoor education programs.

JEFFERSON LAKE
- Extend the naturalistic Triple A hillside vegetation across to the western edge of Jefferson Lake.
- Accentuate views to and across the water.
- Restore the existing paved edges and continue to accommodate youth fishing programs and MODOC needs.

CENTRAL ISTHMUS
- Create a linear isthmus between Post-Dispatch Lake and the linear water system which provides path links to the center of the park and along the linear water system.

POST-DISPATCH LAKE AREA
- Expanded this already expansive lake and accentuate views from adjacent landscapes, roads and World's Fair Pavilion.
- Provide a variety of edge treatments which encourage water edge recreation and relate to adjacent landscape character and public boating within the lake.
- Improve water links to Grand Basin to accommodate public boating.
- Create a water edge public plaza or "Green" at the base of Government Hill.

WORLD'S FAIR PAVILION
- Consider programming which offers additional services to passive open space system users as well as all park patrons.

SUCCESSIONAL FOREST
- Improve ecological and aesthetic quality while allowing safe recreation and educational use.
- Consider extending MODOC's Kennedy Forest vegetative management and nature trail agreement to cover this area.

UNION ENTRANCE AREA
- Provide paths and site amenities for casual passive recreation and picnicking. Accommodate one way Muny egress during their performance season.
- Create a unique entrance landscape in this highly visible location with a wetland or wet meadow which displays dramatic seasonal variations of color and texture.

BOWL LAKE
- Enhance the naturalistic character of this area and provide some structured passive programming.
- Cooperate with the Saint Louis Science Center and potentially the Central Institute for the Deaf to utilize the area for outdoor educational programming related to ecological exhibits contained within the museum and sensory experiences related to the Institute. Area could contain board-walks, scenic overlooks and interpretive signage.

Passive Space Recommendations

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 3200

November 18, 1995

2. PASSIVE OPEN SPACE SYSTEM COMPONENTS

Elements of the passive open space system can be generally classified as follows:

The Passive Open Space Spine

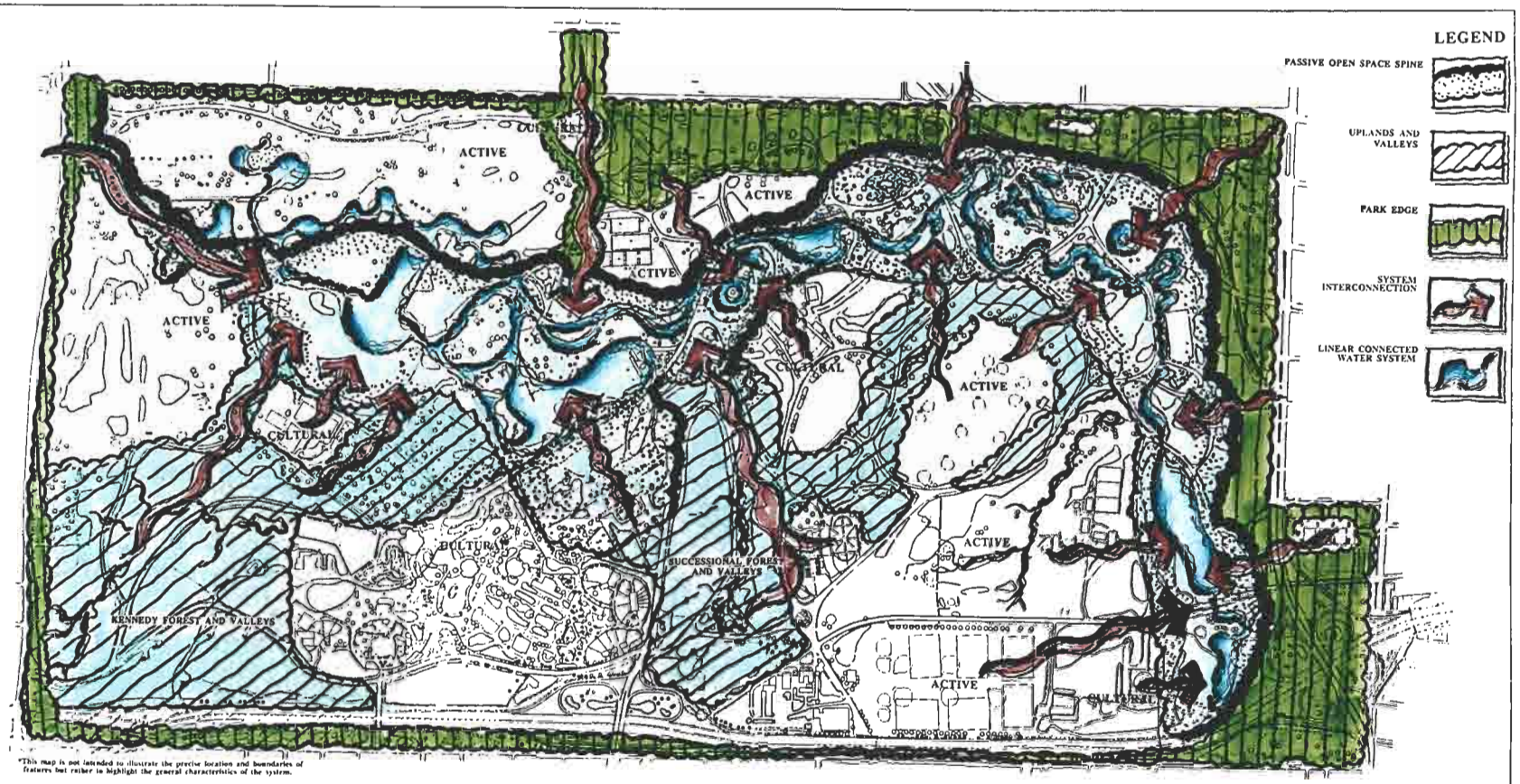
- The linear connected water system of lakes and lagoons
- The "Flat Nine" Municipal Golf Course edges
- Langenberg Field
- Cricket Field edges
- Connection to Missouri History Museum
- The Fish Hatchery Lakes
- Dwight Davis Tennis Center
- Steinberg Rink
- Connection to Saint Louis Zoo
- Art Hill
- Government Hill

The Uplands and Valley System

- Central Fields edges
- The Saint Louis Art Museum environs
- Kennedy Forest
- Successional Forest
- Triple A edges and valleys
- Cabanne House environs
- World's Fair Pavilion
- Saint Louis Science Center environs
- Murphy Lake
- The Muny environs
- The upland Municipal Golf Course edges and valleys

Park Edges

- Kingshighway edge
- Lindell edge
- Lindell Pavilion environs
- Skinker edge
- Oakland Ave edge
- Aviation Field edges



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- Components of the passive open space system can be generally classified as part of the Passive Open Space Spine, the Uplands and Valleys or the Park Edges.
- The Passive Open Space Spine contains many diverse landscapes, landmarks and water features which vary in character based on site specific qualities. The linear connected water system acts as a connective, unifying element of this diverse system.

CONCEPT DIAGRAM
Passive Open Space System Components

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 3200

June 6, 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

PASSIVE OPEN SPACE SPINE

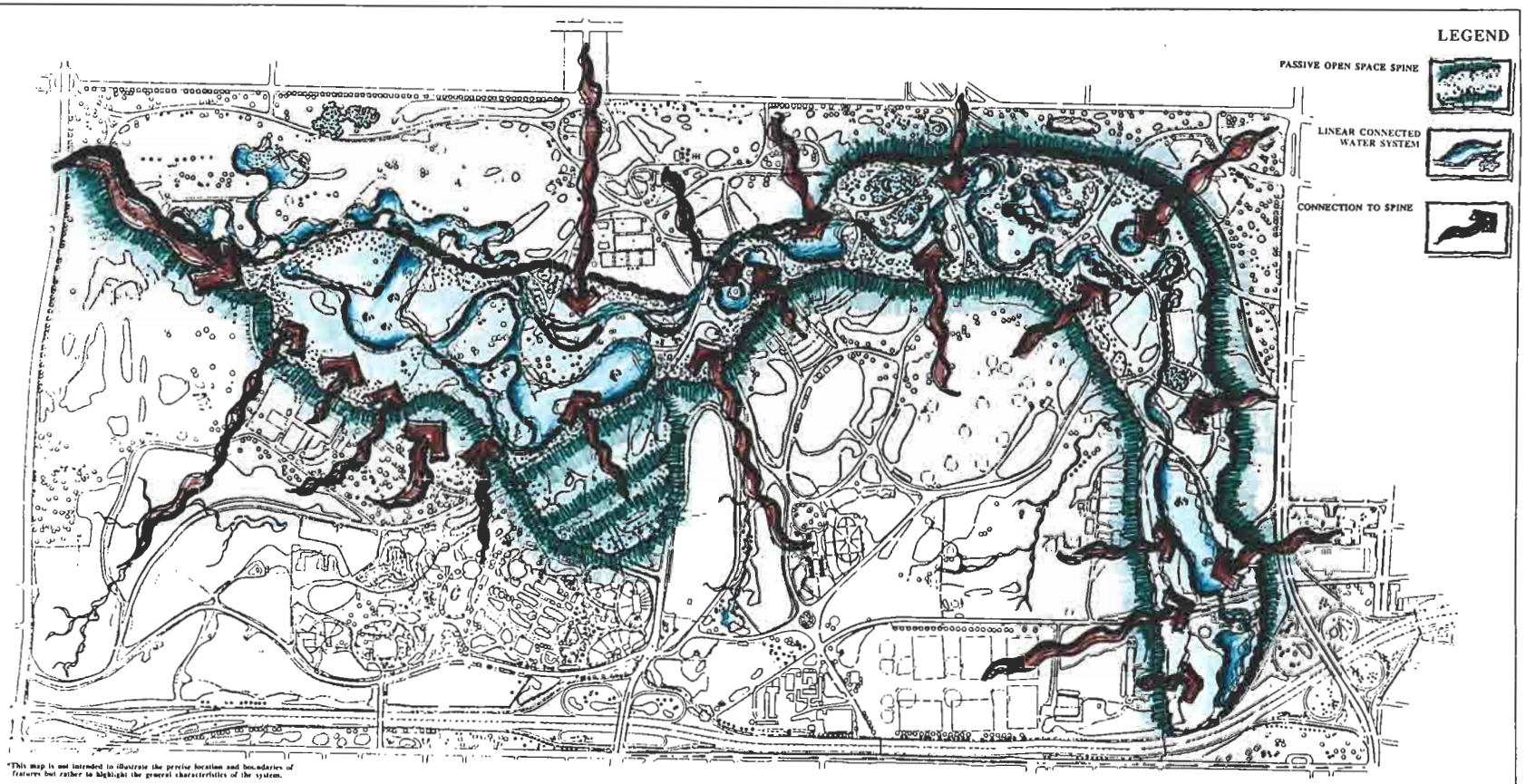
The "Passive Open Space Spine" is located in the Park's bottomlands and is physically defined by the rising topography of the bluff system. Both the bottomlands and bluffs follow the former route of River Des Peres prior to its burial in underground sewer tubes. The bottomlands and bluff systems contain many diverse landscapes, landmarks, and water features which vary in character based on site specific qualities. The linear connected water system acts as a connective, unifying element of this diverse system.

Specific design recommendations include:

- Accentuate the inherent qualities of the existing and historic bottomlands and bluff system which forms the "Passive Open Space Spine" of the park, connecting the diverse elements of the passive open space system as well as the park's active recreation entities, its cultural institutions, and its park facilities.

- Accentuate the spine's adjacent bluffs, uplands, and assorted landscapes, landmarks, and water features which heavily influence spatial character.

- Emphasize the linear connected water system's vital role in defining the character of most of the spine's spaces, influencing spatial character on a site specific level and unifying these diverse spaces on a park-wide level.



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- The Bottomlands and Bluff System forms the "Passive Open Space Spine" of the park, connecting the diverse elements of the passive open space system as well as the park's active recreation entities, its cultural institutions and its park facilities.
- This "Passive Open Space Spine" is physically defined by the park's bluff system which follows the former route of River Des Peres prior to its burial in underground sewer tubes.
- The park's bluffs and valleys often function as transitional space between the Passive Open Space Spine and the upland passive open spaces and park edges.

CONCEPT DIAGRAM
Passive Open Space Spine

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 600' 0 600 1600 2800

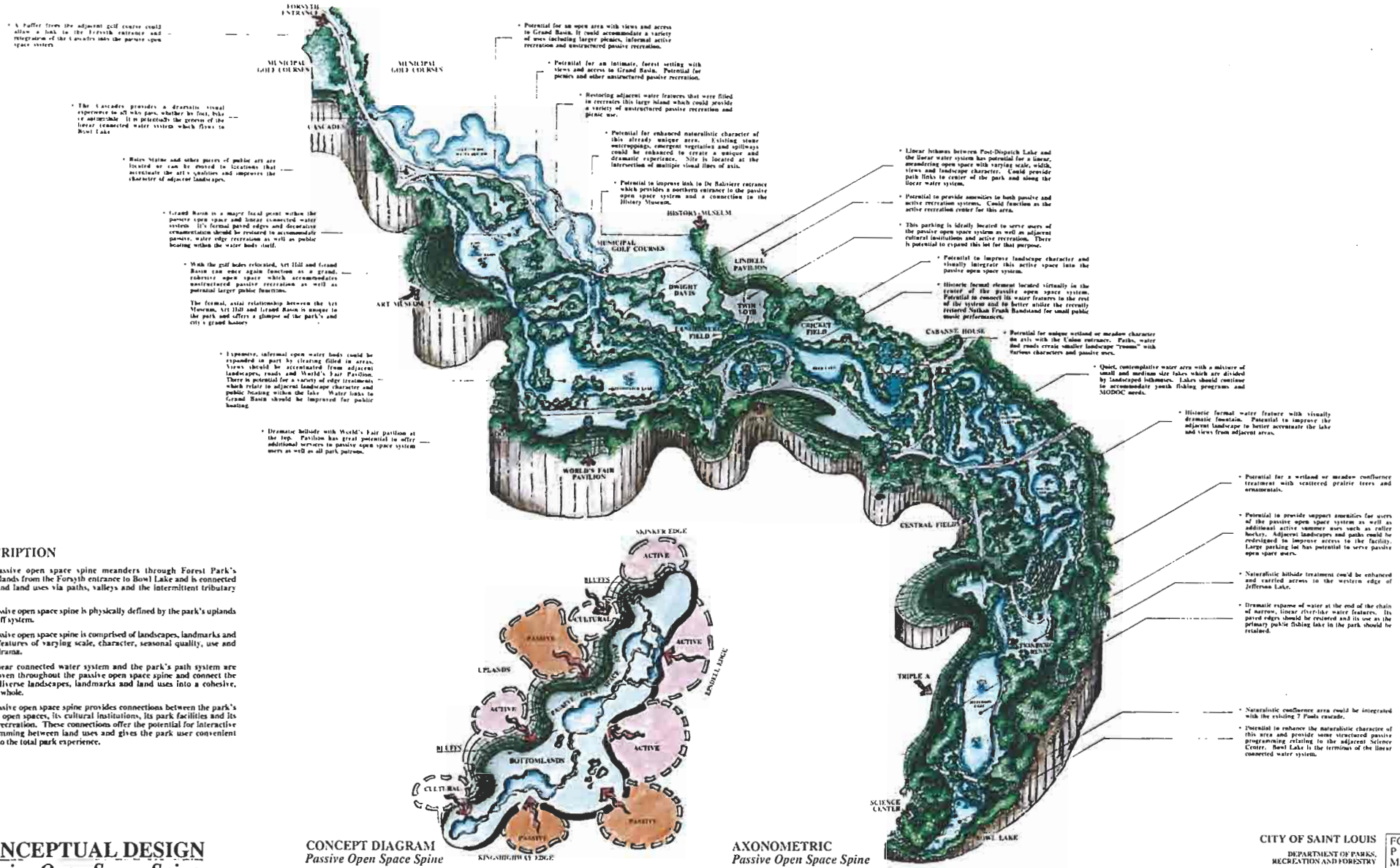
June 6, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



DESCRIPTION

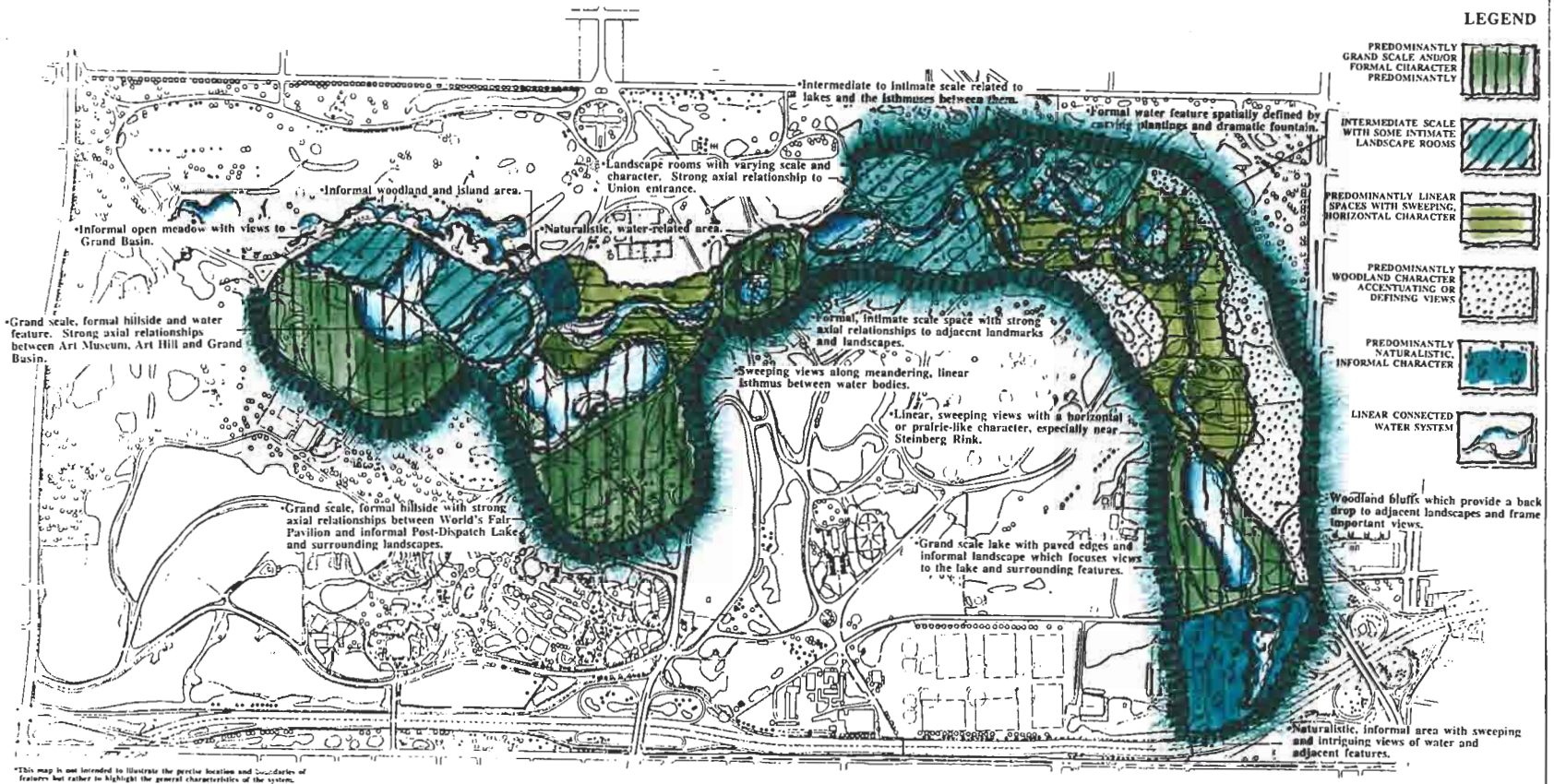
- The passive open space spine meanders through Forest Park's bottomlands from the Forsyth entrance to Bowl Lake and is connected to upland land uses via paths, valleys and the intermittent tributary system.
- The passive open space spine is physically defined by the park's uplands and bluff system.
- The passive open space spine is comprised of landscapes, landmarks and water features of varying scale, character, seasonal quality, use and visual drama.
- The linear connected water system and the park's path system are interwoven throughout the passive open space spine and connect the many diverse landscapes, landmarks and land uses into a cohesive, unified whole.
- The passive open space spine provides connections between the park's passive open spaces, its cultural institutions, its park facilities and its active recreation. These connections offer the potential for interactive programming between land uses and gives the park user convenient access to the total park experience.

CONCEPTUAL DESIGN
Passive Open Space Spine

CONCEPT DIAGRAM
Passive Open Space Spine

AXONOMETRIC
Passive Open Space Spine

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN DEPARTMENT



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- The Passive Open Space Spine is comprised of many unique landscapes, landmarks and water features with varying scale and character.
- The linear connected water system plays an vital role in defining the character of most of the spine's spaces, influencing spatial character on a site specific level and unifying these diverse spaces on a park-wide level.
- Spatial character of the spine's landscapes, landmarks and water features is heavily influenced by features which are adjacent to the spine, such as bluffs and uplands.

CONCEPT DIAGRAM
Passive Open Space Spine Character

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

June 6, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

THE UPLANDS AND VALLEY SYSTEM

The bluffs are dramatic hillside landscapes, typically utilized for passive recreation and viewing. The Muny, which utilizes a bluff for its amphitheater seating, is the exception.

The uplands and valley system is typically more intensely programmed for active recreation and park facilities. The heavily wooded and naturalized Kennedy Forest and the Successional Forest, with their canopy tree and understory vegetation, tributaries, and steep slopes, are the two primary exceptions.

The majority of the park's existing picnic grounds are located in the uplands, primarily in Kennedy Forest.

Specific design recommendations include:

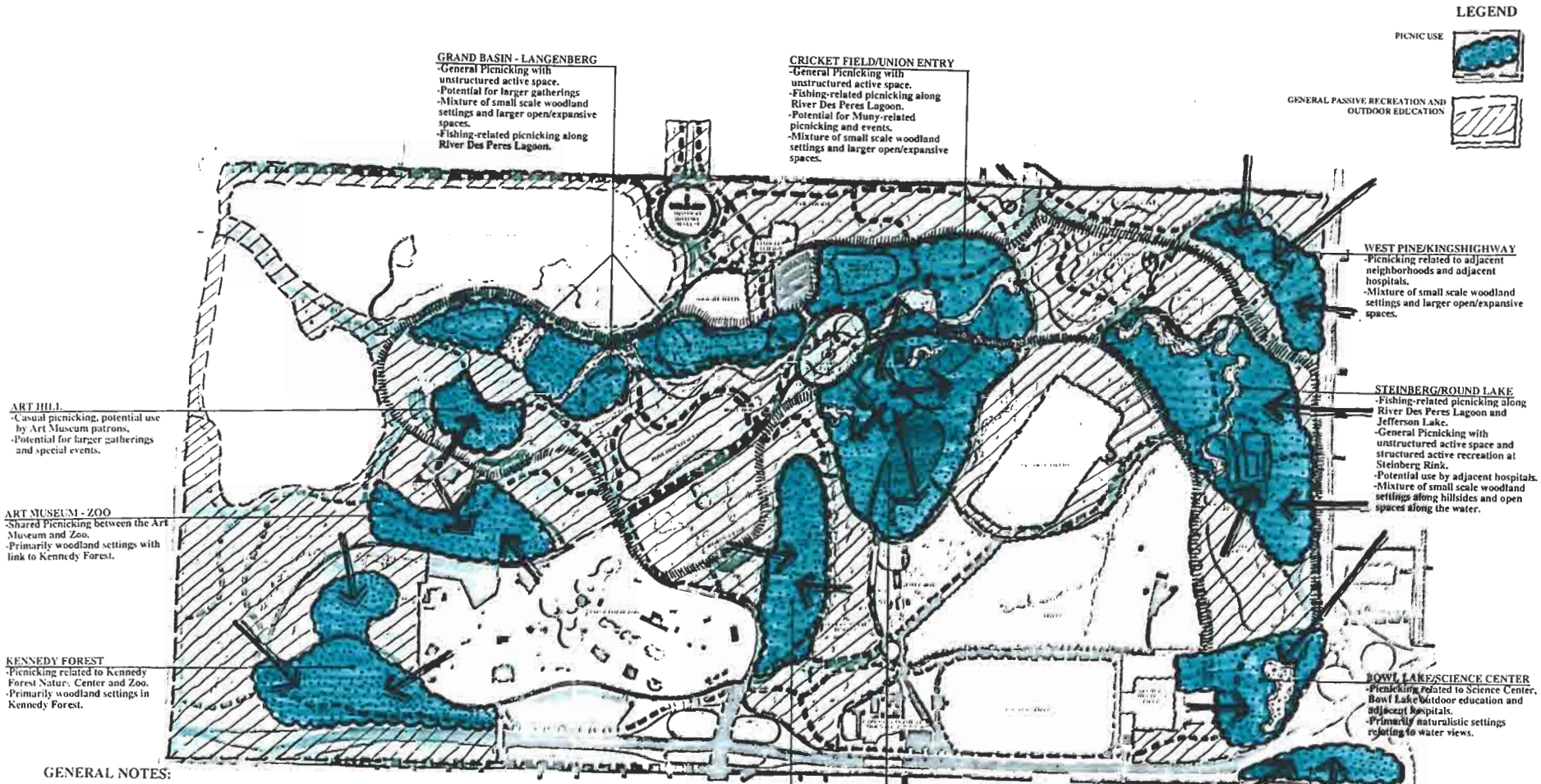
- Design the park's bluffs and valleys to function as transitional space between the Passive Open Space Spine and the upland passive open spaces and park edges.
- Encourage responsible upland programming and development which avoids steep slopes and valleys, delicate forest communities, unstable soils, and other physical limiting factors.
- Implement improvements at upland picnic grounds and other existing development which control soil compaction and subsequent erosion.
- Provide paths, overlooks, and seating areas which emphasize the dramatic views to and from the bluffs, uplands, and valleys.

PARK EDGES

The park edge system surrounds the park and provides neighborhood connections and recreation spaces.

Specific design recommendations include:

- Design park edges to improve neighborhood connections and passive use.
- Maintain existing and provide some new public amenities along park edges.
- Provide an appropriately wide buffer between active recreation and the residential edges adjacent to the park and allow casual passive recreation and gathering for area residents.
- Utilize the park edges for the majority of the dual path system (bike path with adjacent soft surface pedestrian/jogging path).



GENERAL NOTES:

Create a variety of picnic grounds which vary in scale, character and use based on surroundings and public demand.

- Provide a range from small scale grounds with tables to large scale areas with shelters and open recreation space.
- Provide a mix of forest settings and open grassy casual recreation areas.
- Provide some grounds with formal shelters and some without. Shelter design should be compatible with landscape setting and surrounding architectural character. (site specific unity with park-wide variety.)

Utilize natural open space corridors as "outdoor classrooms" for educational and interpretive programming. These corridors offer first hand opportunities to observe wildlife and plant species in their native element and interpret human impact on the corridor's natural systems.

Utilize natural corridors to offer opportunities to teach people about management practices that have been put in place to protect natural resources.(i.e., no mowing)

Consider increased use of Forest Park's passive open space system for structured outdoor passive recreation which complements programming at existing ZMD institutions, park and service facilities, active recreation entities.

Coordinate path design with passive space features to maximize public contact.

Upgrade existing and provide new service and support facilities/amenities throughout the park for passive space users. Provide the following where possible:

- Security stations with personnel or security telephones
- Attended public toilets, showers and lockers
- Bike parking
- Park information and maps
- First aid amenities (or personnel at major facilities)

Passive Space Use

E. Site Specific Recommendations

KENNEDY FOREST

- Improve aesthetic quality while allowing safe recreation and educational use.
- Support MODOC's plans to provide vegetative management and nature trail operation and supervision.
- Consider extending MODOC's agreement to cover the entire forest area.
- Provide a nature/trail center at/near the Government Drive/Wells Drive intersection, combining MODOC operational functions with support amenities for area bike and pedestrian path users.
- Create active and passive security measures to ensure public safety in isolated areas which are not accessed by public automobiles.
- Design paths to function as public trails as well as service and security access routes.

CASCADES

- Create a buffer from the adjacent golf course to create a link to the Forsyth entrance and integration of the Cascades into the passive open space system.
- Accentuate the Cascades as a dramatic visual experience to all who pass, whether by foot, bike or automobile.

ART HILL/GRAND BASIN AREA

- Relocate the area's five existing golf holes so Art Hill and Grand Basin can once again function as a grand, cohesive open space which accommodates unstructured passive recreation as well as potentially larger public functions.
- Accentuate the formal, axial relationship between the Art Museum, Art Hill, and Grand Basin, which is unique to the park and offers a glimpse of the park's and city's grand history.
- Utilize the areas to the east and west of Grand Basin for a variety of uses, including larger picnics, informal active recreation and unstructured passive recreation.

THE ISLAND

- Recreate this large island by dredging filled-in surrounding lagoons and provide a variety of unstructured passive recreation and picnic use.

SPILLWAYS AREA

- Accentuate the character of existing stone outcroppings, emergent vegetation and spillways to create a unique and dramatic experience.
- Erect a small pavilion with support amenities to serve area picnickers, path users, and other recreaters.

POST-DISPATCH LAKE AREA

- Expand the lake and accentuate views from adjacent landscapes, roads, and World's Fair Pavilion.
- Provide a variety of edge treatments which encourage water edge recreation and relate to adjacent landscape character and public boating within the lake.
- Improve water links to Grand Basin to accommodate public boating.
- Create a water edge public plaza or "Green" at the base of Government Hill.

WORLD'S FAIR PAVILION

- Consider programming which offers additional services to passive open space system users as well as all park patrons.

CENTRAL ISTHMUS

- Create a linear isthmus between Post-Dispatch Lake and the linear water system which provides path links to the center of the park and along the linear water system.

STEINBERG RINK AREA

- Provide amenities to both passive and active recreation systems.
- Relocate parking to the south of the building where it will serve users of the passive open space system, active recreation, and fishing programs at Jefferson Lake and area lagoons.
- Consider offering water-related outdoor education programs.
- Consider Steinberg Rink building as an education center for the open space spine.

PAGODA LAKE

- Consider utilizing the recently restored Nathan Frank Bandstand for small public music performances.

FISH HATCHERIES

- Enhance this quiet, contemplative water area, connecting some water bodies while maintaining a mixture of small and medium size lakes which are divided by landscaped isthmuses.
- Continue to accommodate youth fishing programs and MODOC needs.

UNION ENTRANCE AREA

- Provide paths and site amenities for casual passive recreation and picnicking.
- Accommodate one-way Muny egress during their performance season, if required.
- Create a unique entrance landscape in this highly visible location with a wetland or wet meadow which displays dramatic seasonal variations of color and texture.
- Restore the Union entrance bridge and ballustrades.

ROUND LAKE AREA

- Accentuate this historic formal water feature and its visually dramatic fountain.
- Improve the adjacent landscape to better accentuate the lake and views from adjacent areas.
- Upgrade the lake's edge treatment.

JEFFERSON LAKE

- Extend the naturalistic Triple A hillside vegetation across to the western edge of Jefferson Lake.
- Accentuate views to and across the water.
- Restore the existing paved edges and continue to accommodate youth fishing programs and MODOC needs.

BOWL LAKE

- Enhance the naturalistic character of this area and provide some structured passive programming.
- Cooperate with the Saint Louis Science Center and potentially the Central Institute for the Deaf to utilize the area for outdoor educational programming related to ecological exhibits contained within the museum and sensory experiences related to the Institute.

SUCCESSIONAL FOREST

- Improve ecological and aesthetic quality while allowing safe recreation and educational use.
- Consider extending MODOC's Kennedy Forest vegetative management and nature trail agreement to cover this area.

II. WATER AND SURFACE DRAINAGE SYSTEM

A. Overview

B. Summary of Existing Conditions

1. Regional Context
2. History
3. Existing conditions

C. Design Principle

D. Design Recommendations

1. General approach
2. Water character and spatial features
3. Functional requirements
4. Water quality control
5. Soil erosion control
6. Shorelines
7. Confluence areas or filtering marshes
8. Check Dams and Uplands Water Control Structures
9. Long-term options

E. Site Specific Recommendations

LIST OF DRAWINGS

ANALYSIS
Regional Surface Drainage
1874 Surface Drainage
1995 Surface Drainage
1995 Water Quality
1995 Water Spatial Character and Use

DESIGN
Design Principle - Connected, Linear, Water System
Linear Connected Water System
Water System and Passive Open Space Corridor
Water Use
Surface Drainage System Operation
Linear Connected Water System - Low Water Operation
Linear Connected Water System - High Water Operation
Major Subsurface Drainage Infrastructure
Water Quality and Erosion Control
Shoreline Treatments
Future Water System Improvements

A. Overview

Water has always been an important element of Forest Park and it will remain so under this Master Plan. The River Des Peres and its bottomlands, bluffs and uplands laid the foundation for today's park spatial and aesthetic character. Water defines and unifies the surrounding features. It is an essential element of the park's character and the park experience.

In designing recommendations for the park's water system, it is important to recognize that the ecological value of the park's land and water must be judged together. Water runs through and is a critical component to all spaces within the park's open space "spine." It defines the character of individual spaces and unifies the various landscapes. Water features can be seen as the "veins in the body of the landscape" and are vital components of that landscape.

The Master Plan includes a water restoration plan that is based on the natural topographical and existing spatial character of what was once a functioning natural river system. By returning the water in the park to where it naturally occurs, often where it was inappropriately removed, the Plan improves water quality, overall park drainage, and overall aesthetics.

B. Summary of Existing Conditions

1. Regional Context

Historically, Forest Park was part of a regional, naturally flowing river system known as the River Des Peres Watershed. Rainwater fell on the surrounding forests, savannahs, and shrub prairies of the area, providing needed moisture for the plants and animals. Excess water drained into the River Des Peres and finally into the Mississippi River.

2. History

Forest Park's original water system, the linear, meandering River Des Peres, was entombed in two underground concrete sewer tubes by 1930. The park's lakes are man-made features resulting from various periods of park design or during periodic flooding episodes.

3. Existing Conditions

- The existing water system is a spatially fragmented set of small lagoons or ponds that lacks visual as well as physical connection. Most of the water resources of the park are isolated, stagnant water bodies which have to be artificially supplied with city water to stay filled.

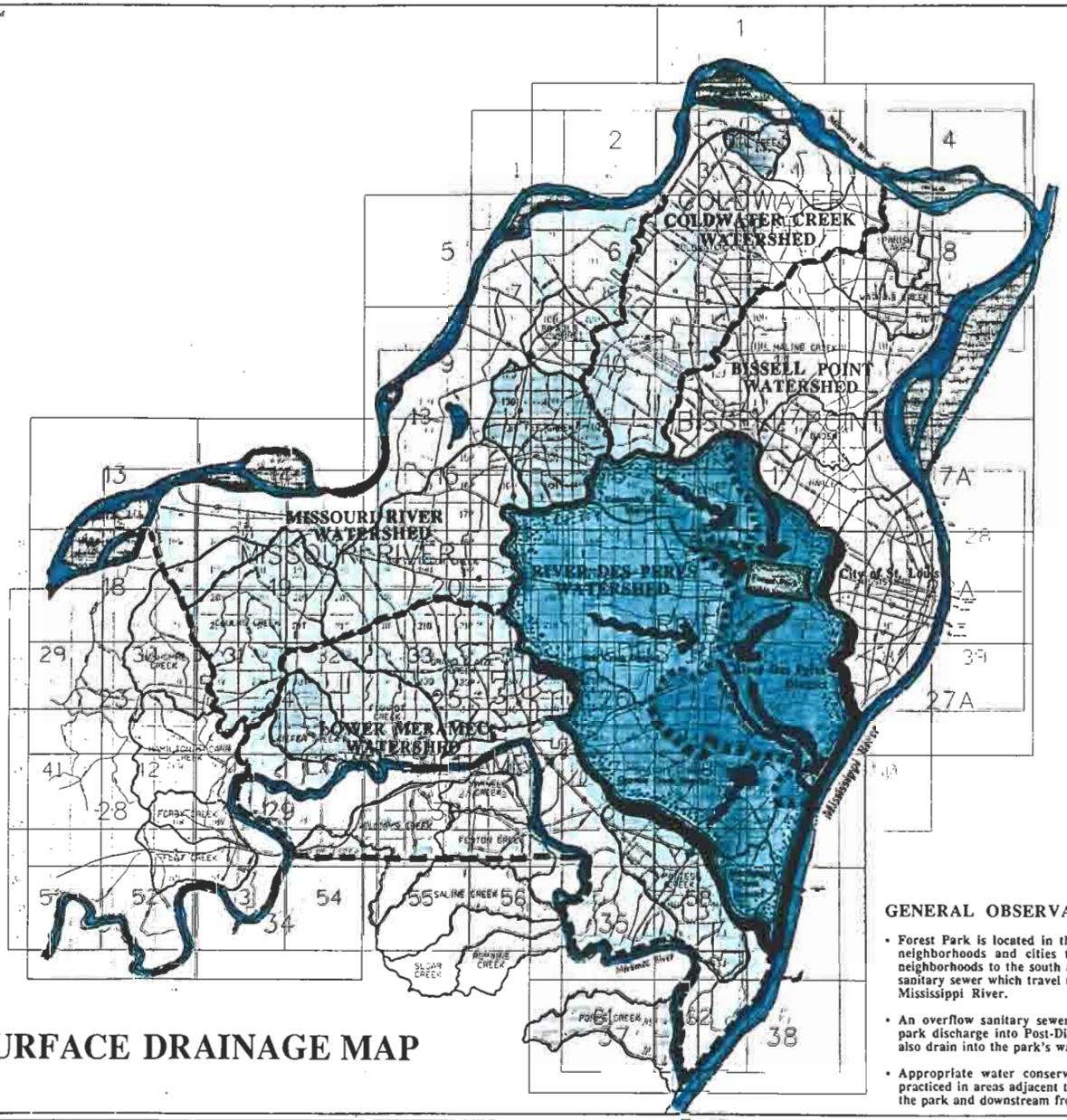
- The existing combination of surface drainage (lakes, ponds, lagoons, and tributaries) and subsurface infrastructure (sewers, catch basins) cannot adequately handle the park's drainage needs during typical and peak rainfall periods.

- Vegetation, which once absorbed much of the storm water runoff, has now been removed. Much of the present watershed is covered with grass, asphalt, or concrete. Water now runs quickly downhill to the lowlands of Forest Park. Ponding occurs in many areas.

*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Basemap supplied by Metropolitan Sewer District (MSD) 1995

*Analysis by Design Team 1995



REGIONAL SURFACE DRAINAGE MAP

GENERAL OBSERVATIONS

- Forest Park is located in the River Des Peres watershed which includes upstream neighborhoods and cities to the north and west of the park and downstream neighborhoods to the south and east. Much of this watershed drains into a regional sanitary sewer which travel underground through Forest Park and ultimately into the Mississippi River.
- An overflow sanitary sewer from the neighborhoods immediately south of Forest park discharge into Post-Dispatch Lake during heavy rainfall. Adjacent roadways also drain into the park's water system.
- Appropriate water conservation and stormwater management practices are not practiced in areas adjacent to and within the park. This impacts the water quality in the park and downstream from it.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 800' 0 400 1600 2800

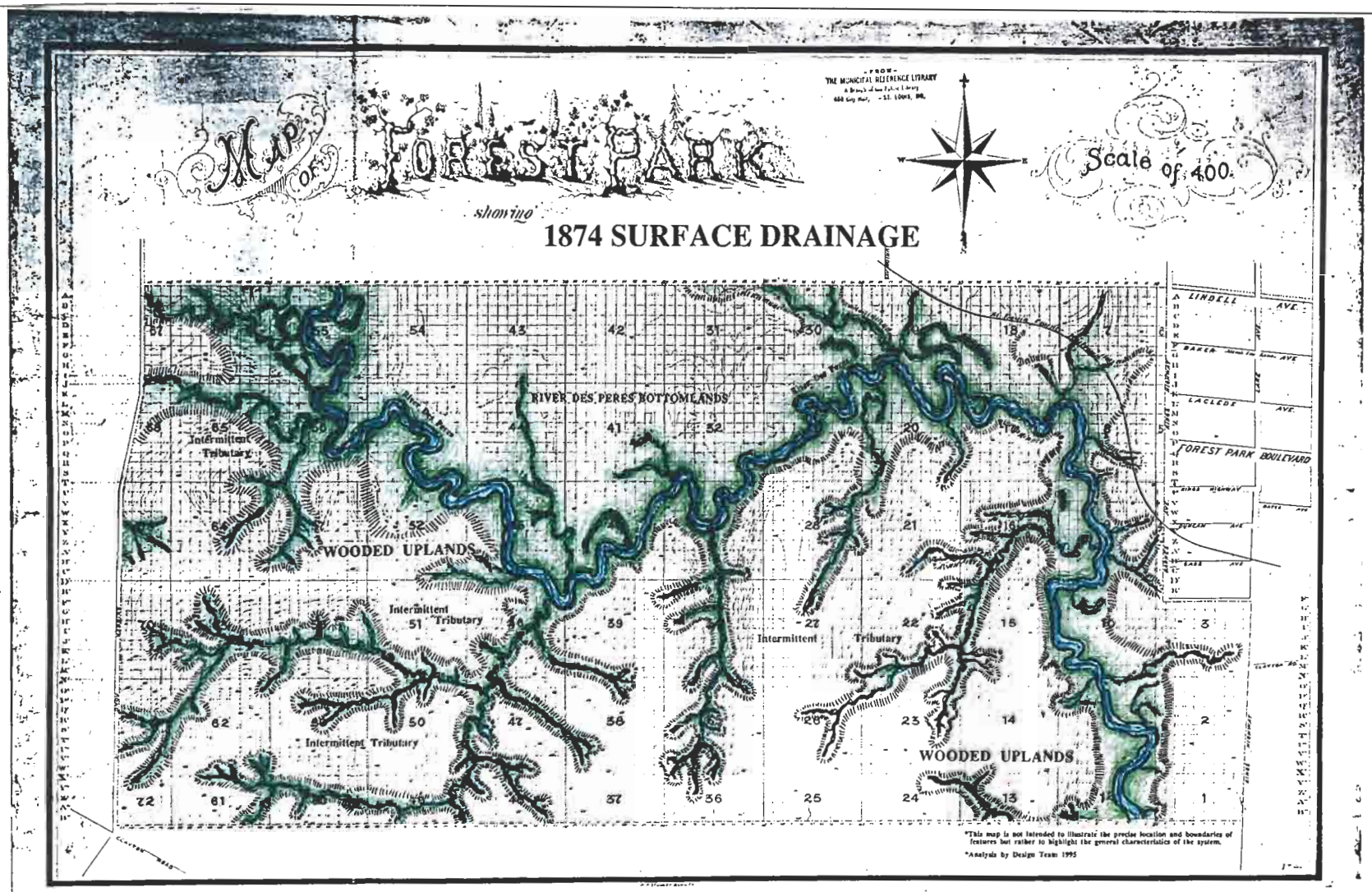
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



LEGEND

PRIMARY WATER ELEMENT

TRIBUTARY ELEMENT

GENERAL OBSERVATIONS

- The River Des Peres originally flowed through Forest Park on its way to the Mississippi River. It was fed by a series of intermittent tributaries which flowed down valleys from the uplands above. These tributaries only flowed when there was adequate rainfall.
- All water bodies were naturally occurring linear streams. Isolated water bodies occurred when droughts left only deep pools, in areas where ground water discharges kept the pools charged and in depressional areas that collected water.
- Flooding was a normal, periodic event.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2600

27 FEBRUARY 1995

CITY OF SAINT LOUIS

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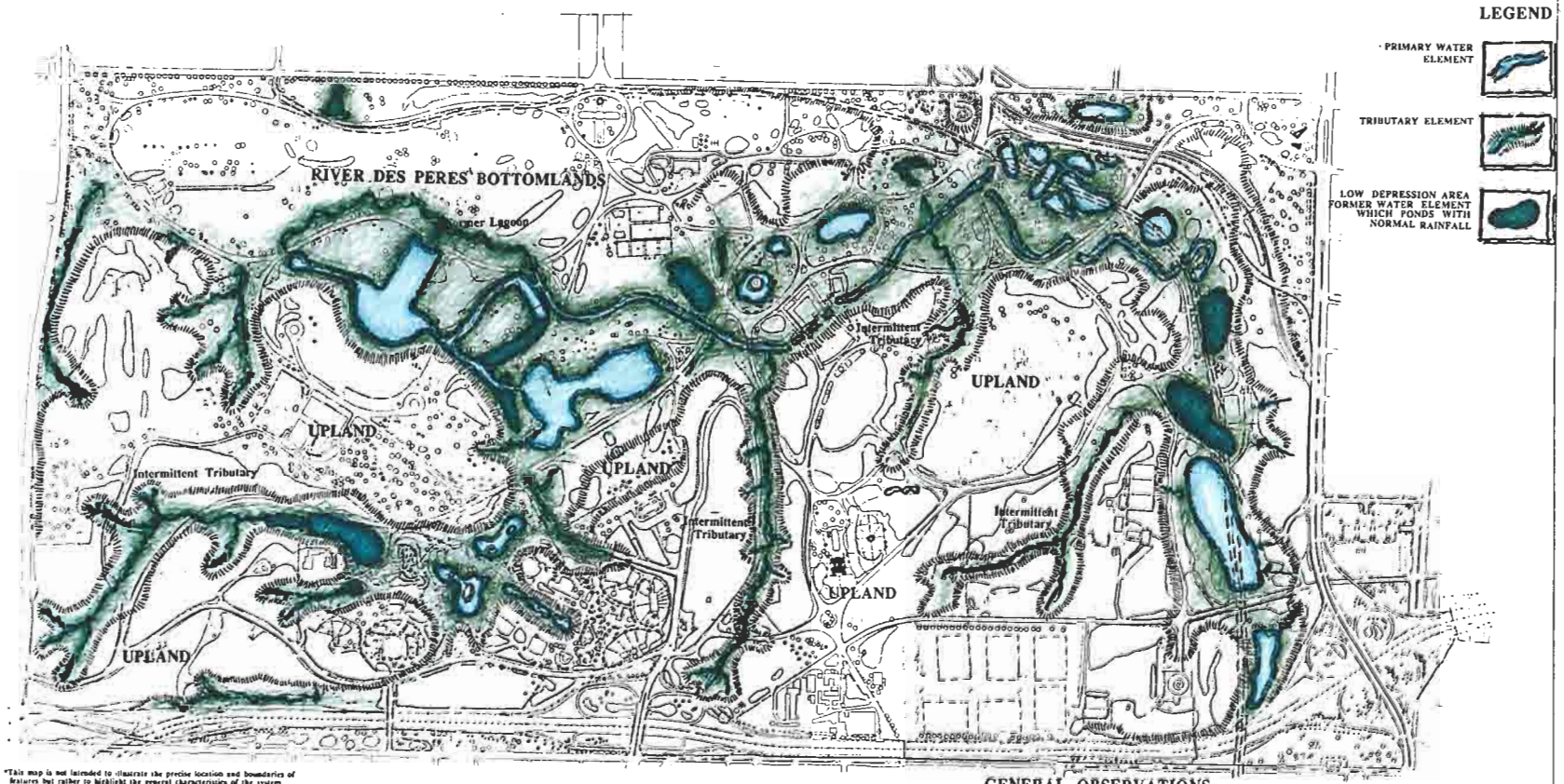
- River Des Peres, which once served as a conduit to the Mississippi, is confined to flowing through an underground tube.

- Water quality does not meet the Clean Waters Act. Based on periodic water tests conducted in the park in 1981 and "snapshot" water tests in 1995, the water resources of Forest Park are polluted.
  - ~ There is an odor problem at the overflow.
  - ~ Chlorine in the city water kills many aquatic invertebrate animals.
  - ~ Leaves and other nutrients which enter static waters quickly overload the system.
  - ~ Toxic algaecides are sprayed in the water.
  - ~ To maintain a manicured look and reduce maintenance, the banks are sprayed with herbicides, which further reduce the natural filtering process and accelerate bank soil erosion.
  - ~ Oil from automobiles and salt from deicing stress water inhabitants.
  - ~ Nutrients such as nitrogen, which are entering the lakes and ponds from point and non-point sources, are a major source of contamination.
    - Preventing the discharges from point sources, such as neighborhood sewage, from entering the park through the 72" combined sanitary sewer pipe at Post Dispatch Lake is critical.
    - Non-point sources of water pollution are harder to trace. They include road contaminants from faulty curbs, nutrients from golf course fertilizers, leaves blowing directly into lakes without being filtered by a strip of vegetation, soils eroding into the water without being filtered by vegetative strips along the banks, feces from dogs walked in the park, and from ducks and geese that are encouraged to use the park with closely mown grass and by misguided people who feed them.

- The current management practice is to spray the 5-foot edge of grass on the shoreline around water bodies with the herbicide Roundup. This practice reduces grass mowing along the shoreline, but it also kills all plant growth in this zone and results in an ugly brown ring throughout the Park.

C. Design Principle

Create a linear-connected water system.



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Analysis by Design Team 1995

GENERAL OBSERVATIONS

- The primary surface water drainage system is a mix of lagoons which generally follow the original River Des Peres course and lakes which are the product of assorted physical plans including the original 1876 plan and 1904 World's Fair plan.
- During the 1904 World's Fair the River Des Peres was temporarily buried in wooden channels. In 1930, after a brief return to surface flow, it was buried in two 29' wide, 23' high concrete sewer pipes which roughly followed the river course.
- Remnants of the original River Des Peres tributary system still exist and generally follow the valley system unless valleys have been altered or removed. This tributary system no longer reaches the old channel (existing lakes and lagoons).
- The topographic character of the original River Des Peres floodplain or bottomlands is largely intact and subsequently ponds during heavy rains.
- Some of the park's lakes and lagoons have been filled over the years while others, such as the fish hatcheries, retain a physical design for a use that no longer exists.

1995 SURFACE DRAINAGE MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

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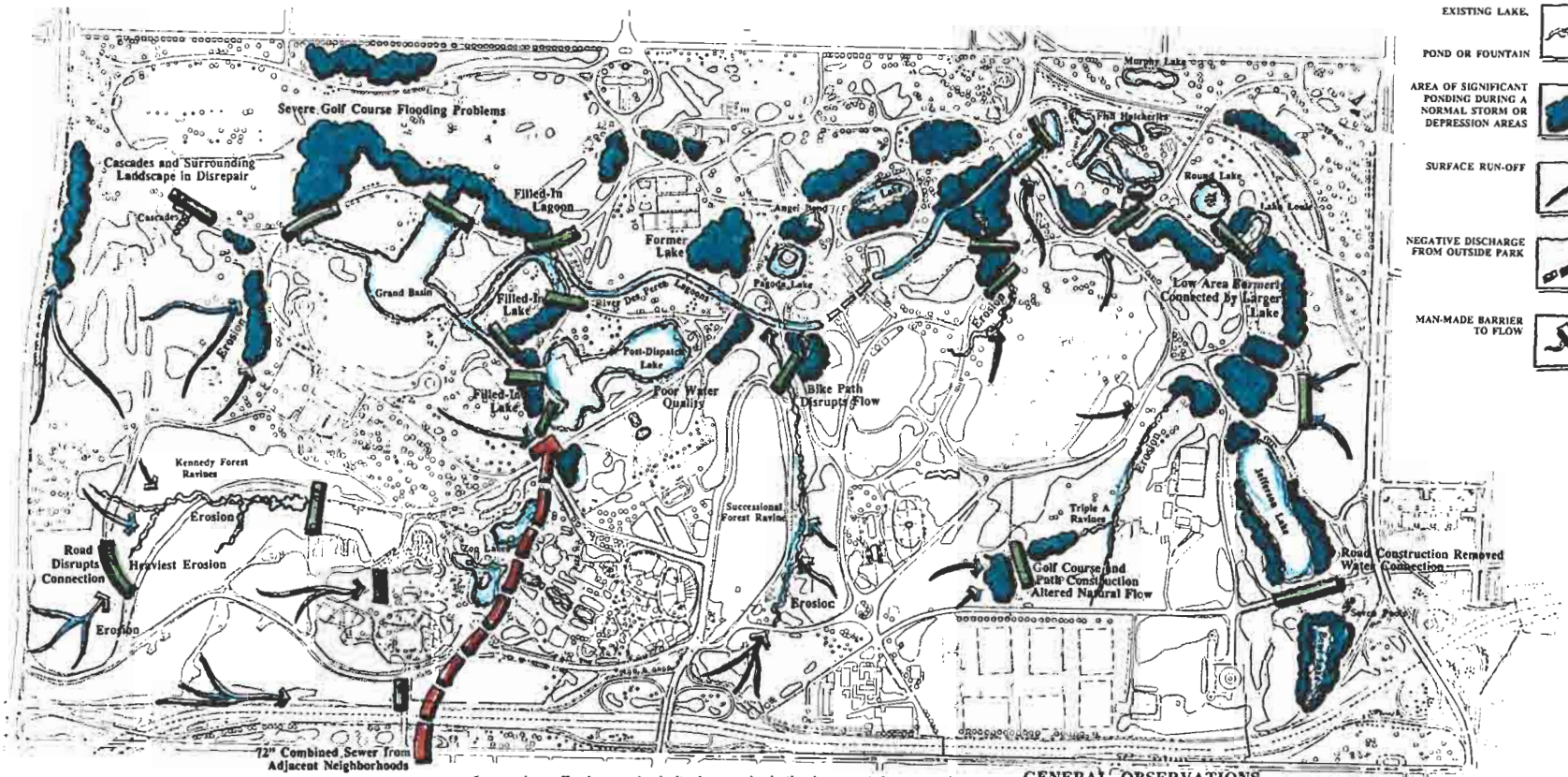
- Pesticides and other contaminants disrupt natural vegetation diversity necessary for a stable shoreline and emergent plant communities that provide biological balance by contributing food sources and means of nutrient uptake.



LEGEND

- EXISTING LAKE.
- POND OR FOUNTAIN
- AREA OF SIGNIFICANT PONDING DURING A NORMAL STORM OR DEPRESSION AREAS
- SURFACE RUN-OFF
- NEGATIVE DISCHARGE FROM OUTSIDE PARK
- MAN-MADE BARRIER TO FLOW

- Increased runoff volume and velocity due to urbanization have created more erosion aloog wooded valleys and sparcely vegetated areas.
- Erosion has accelerated in wooded valleys where pipe discharges concentrated runoff that otherwise would have been more dispersed.
- Sediment from erosion in upland woodlands and wooded valleys has degraded water quality with an increase in the amount of suspended solids in all lagoons and lakes.

WATER QUALITY NOTES:
- Water fowl feces problems in all major park water features.
- Leaf litter along lagoons has raised nitrate levels in water bodies.
- Breaks in lagoon flow have resulted in stagnation in some location.
- A 72" diameter combined overflow sewer from the neighborhoods immediately south of the park discharges sanitary materials into Post-Dispatch Lake during heavy rains. This line also carries overflow from the Zoo water fowl ponds into the lake.

EXISTING WATER QUALITY MAP

GENERAL OBSERVATIONS

- The topography of the original River Des Peres floodplain is largely intact and subsequently ponds with normal rainfall. Flooding occurs in areas once occupied by water features but since filled-in.
- Roads, parking lots and paths often disrupt natural surface flow, resulting in stagnation in many locations. Many paved areas lack proper surface run-off control.
- Erosion is occurring where in woodland areas and along intermittent creek tributaries which have been cleared of natural edge vegetation.
- Park-related construction has left some water elements isolated from the rest of the system.
- Responsible water conservation and stormwater management practices are not practiced in areas adjacent and within the park.
- The existing water system lacks adequate water movement, aeration and nutrient filtration and surface vegetation to handle the run-off and concentrations of heavy metals and sedimentation from adjacent land uses.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

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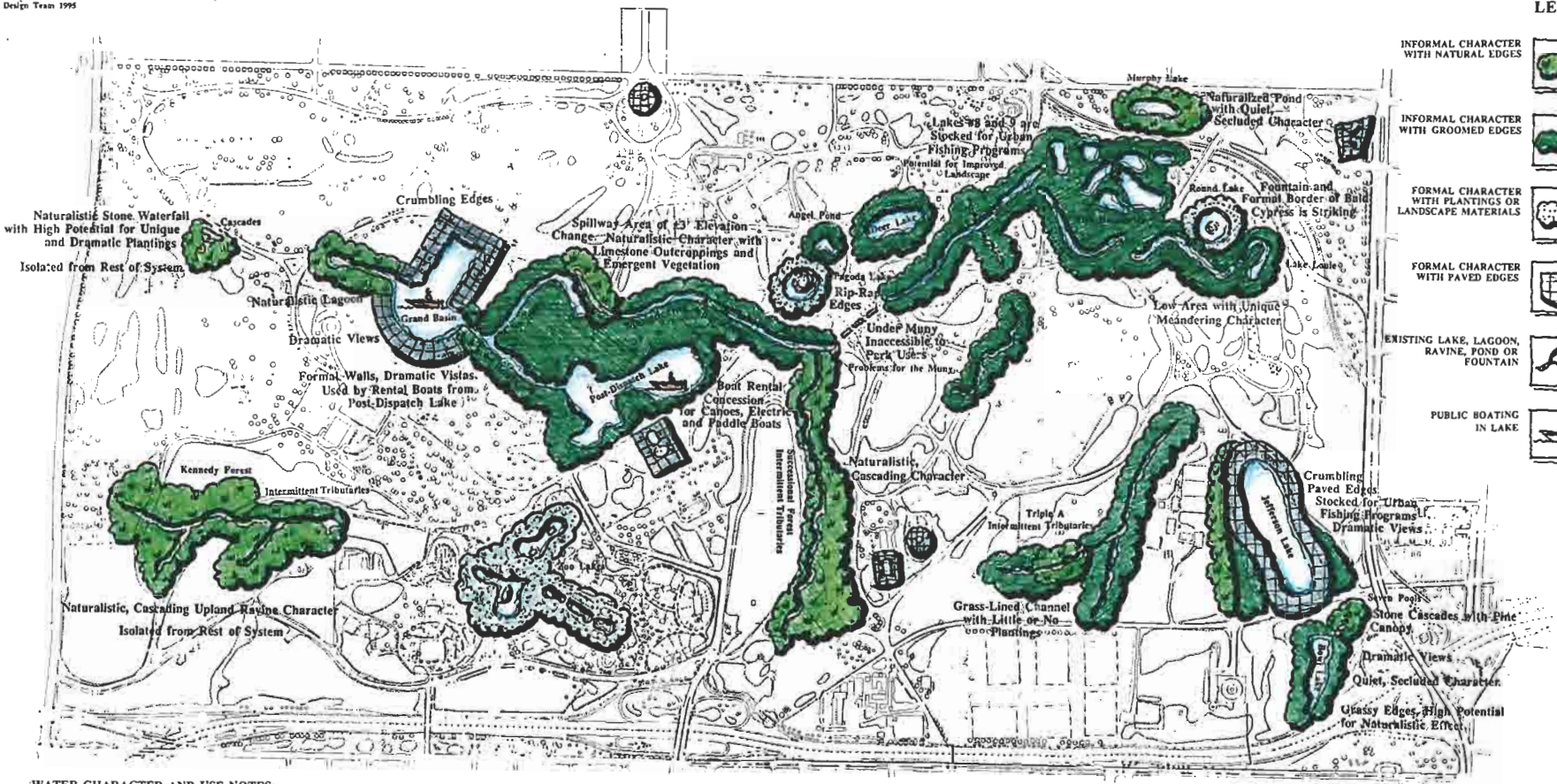
*Analysis by Design Team 1995



LEGEND

- INFORMAL CHARACTER WITH NATURAL EDGES
- INFORMAL CHARACTER WITH GROOMED EDGES
- FORMAL CHARACTER WITH PLANTINGS OR LANDSCAPE MATERIALS
- FORMAL CHARACTER WITH PAVED EDGES
- EXISTING LAKE, LAGOON, RAVINE, POND OR FOUNTAIN
- PUBLIC BOATING IN LAKE

WATER CHARACTER AND USE NOTES:

- Public fishing is allowed with State permit from the edges of all water bodies except the Fish Hatcheries.
- Boating is restricted to Post-Dispatch Lake and Grand Basin. Only canoes, electric and paddle boats rented from the Post-Dispatch Lake concession are allowed.

1995 WATER SPATIAL CHARACTER AND USE MAP

GENERAL OBSERVATIONS

- Forest Park's water system is a fragmented, linear, river-like system with a series of larger lakes and water features along its course. The lagoons roughly follow the original route of the River Des Peres.
- Most of the water system is channelized and grass-lined with little naturalistic ground vegetation along the edges.
- All of the formal paved water edges are crumbling and detract from visual character.
- Erosion and sedimentation is occurring along all water bodies, negatively affecting visual character and water quality.
- Fishing is a popular pastime for St. Louis area residents and opportunities exist to improve it within the park. Sediments currently threaten fish habitat and survival.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

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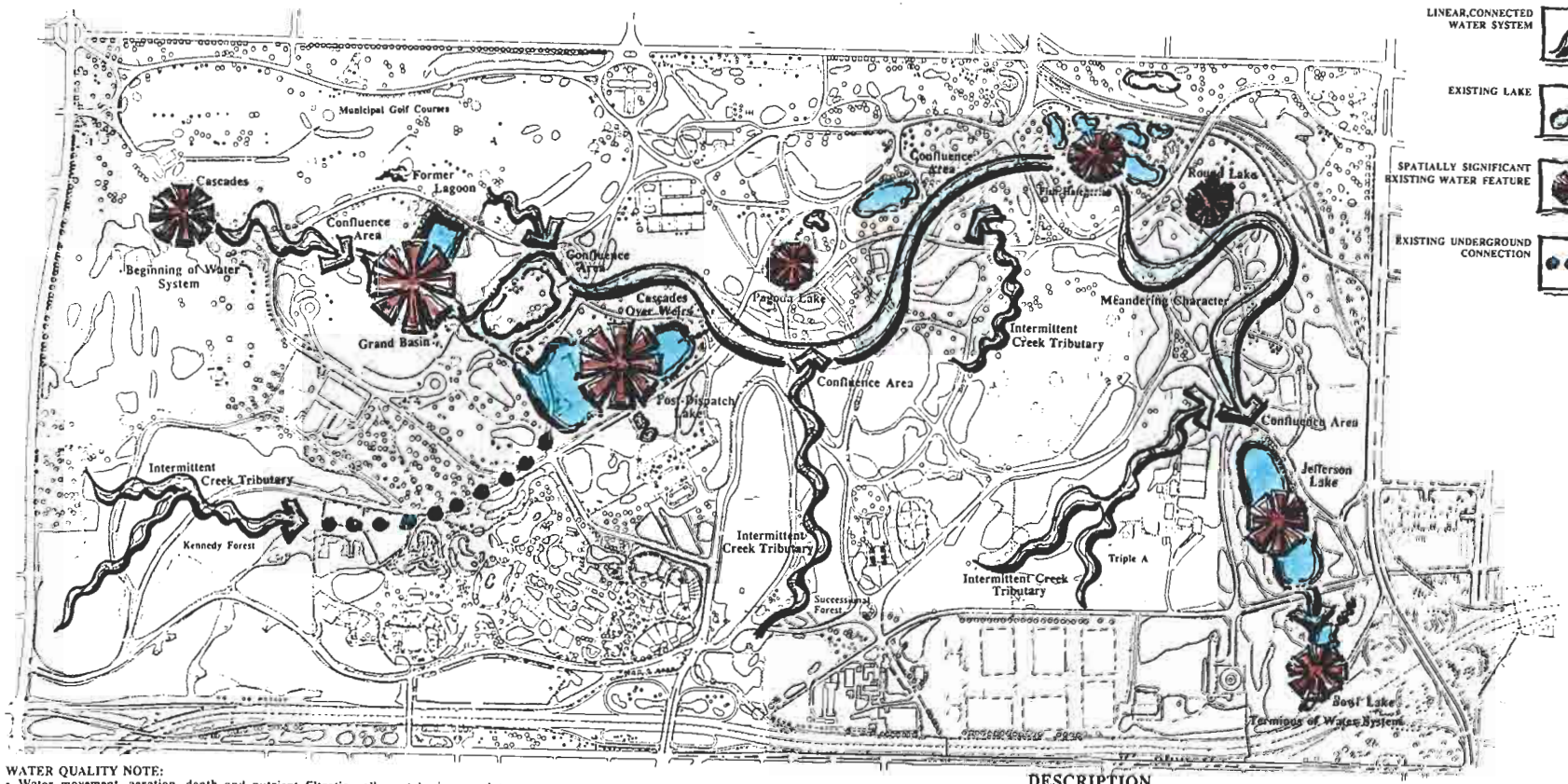


LEGEND

- LINEAR, CONNECTED WATER SYSTEM
- EXISTING LAKE
- SPATIALLY SIGNIFICANT EXISTING WATER FEATURE
- EXISTING UNDERGROUND CONNECTION

WATER QUALITY NOTE:

- Water movement, aeration, depth and nutrient filtration all must be increased to improve water quality. Upland erosion must also be controlled at the source to limit the amount of siltation.
- Runoff should be managed to maximize water use and reuse.

DESCRIPTION

- The park's water system should be redesigned to resemble its original linear river character which reconnects the existing, diverse water features.
- The linear water system should form a link from the Cascades to Bowl lake.
- The linear water system should be the unifying element which connects the park's diverse water features.
- The linear water system is fed by a series of intermittent creek tributaries which have unique characters of their own.
- The linear water system contains a series of unique confluence areas which act as transitional elements where diverse water features unite.
- The linear water system should increase the use of appropriate naturalistic edges which are compatible with adjacent land uses while maintaining important formal elements.

DESIGN PRINCIPLE

Connected, Linear Water System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

D. Design Recommendations

1. General Approach

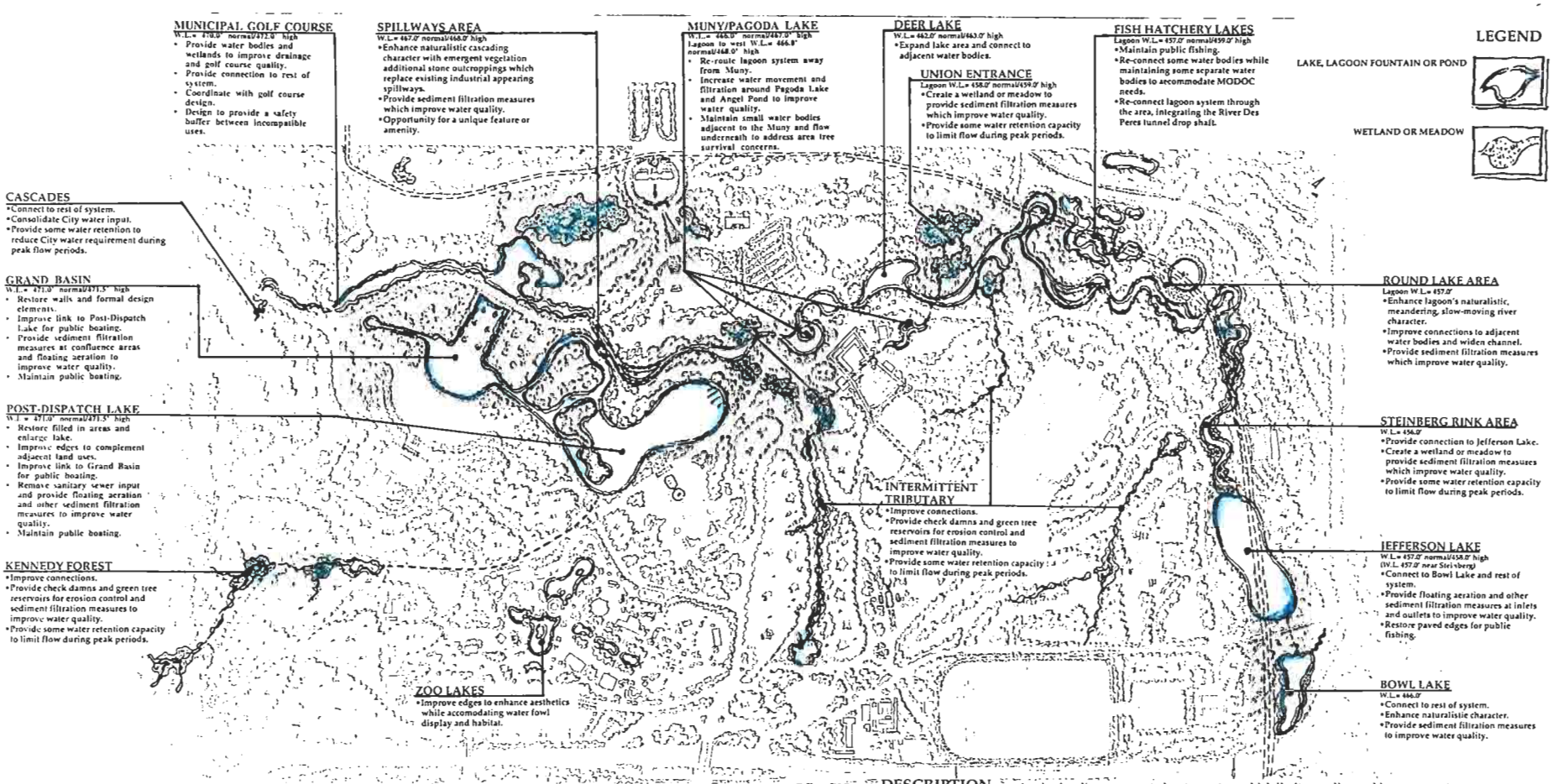
The recommendations presented here focus on one major objective: to rebuild and reconfigure the park's lakes and lagoons in a way that will recreate the positive qualities of the original river which occurred naturally in this area and which was long ago removed or buried. The resulting water system will provide more dramatic views and opportunities for passive recreation. Additional efforts will focus on improving the quality and livability of the water system, through pollution prevention and treatment, continual water movement, and reduced soil erosion. Long-term, consideration should be given to reestablishing the water links between Forest Park and the rest of the region via the River Des Peres.

The Master Plan's surface drainage system is designed to connect most of the Park's fragmented linear lagoons and larger lakes into a flowing, river-like water system which mimics the original linear, meandering River Des Peres route and includes a variety of water features with diverse and unique characters and uses. It will form a link from the Cascades to Bowl Lake. Ideally, it would also connect to the tributary system in Kennedy Woods. It will be fed by a series of intermittent tributaries and City water inputs, each containing its own unique character. Along its course will exist a series of unique confluence areas, which act as transitional elements where diverse water features unite, and where water cleansing occurs.

Functionally, it has been designed with flexibility to accommodate typical, low and heavy rainfall conditions. Water will flow from the Park's higher elevations in the northwest section to a low point near Steinberg Rink and Jefferson Lake. This represents a 16' change in elevation. As the water flows past edge vegetation, through confluence areas, down cascades, over spillways, and across small riffles, it is naturally filtered and aerated, improving overall water quality, park aesthetics and environmental health. Bubblers and fountains are used for additional aeration where needed. Wetlands and small upland water detention facilities are utilized to limit water flow during peak rainfall periods and slowly release it, reducing erosion and stream sedimentation. Existing depression areas, where ponding and erosion currently occur, are incorporated into the system. The system will continue to utilize the existing River Des Peres tunnel drop shaft, along with a new shaft at the low point near Steinberg Rink, to control water levels and water quality.

Aesthetically, the water system has been designed with a mix of grand scale lakes, sweeping bends, meandering linear lagoons, oxbows, wetlands, small ponds, and decorative fountains. There will be a variety of edge treatments ranging from naturalistic emergent vegetation to formal paved edge promenades. The water system will function as a unifying element of the passive open space system, accentuating land forms, views, and landmarks.

Water use will be determined on a site specific basis, including, but not limited to, public boating in Post-Dispatch Lake and Grand Basin, ecological education and wildlife viewing at Bowl Lake, Steinberg Rink area and along naturalistic lagoons, tributaries and ponds, organized public fishing in Jefferson Lake and the Hatcheries, and general passive use throughout the system. The water system design includes increased water connections for public boating, upgraded edge plantings for improved wildlife habitat, and aesthetics, boardwalks and viewing platforms to facilitate viewing and education and scattered deep water pockets to improve



DESCRIPTION

- A cohesive, linear connected water system which limits ponding and improves water quality, aesthetic quality of water features and adjacent land uses and improves environmental quality.
- A river-like water system which mimics the original linear, meandering River Des Peres and includes a variety of water features with diverse and unique characters and uses.
- A water system with increased water movement, aeration, sediment filtration and erosion control measures.
- A water system that accentuates the park's land forms, views and landmarks and acts as a unifying element of the passive open space system.
- A water system that is compatible with adjacent land uses and existing high quality landscapes and park features.

CONCEPT DESIGN PLAN

Linear Connected Water System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

November 18, 1995

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DEPARTMENT OF PARKS, RECREATION AND FORESTRY

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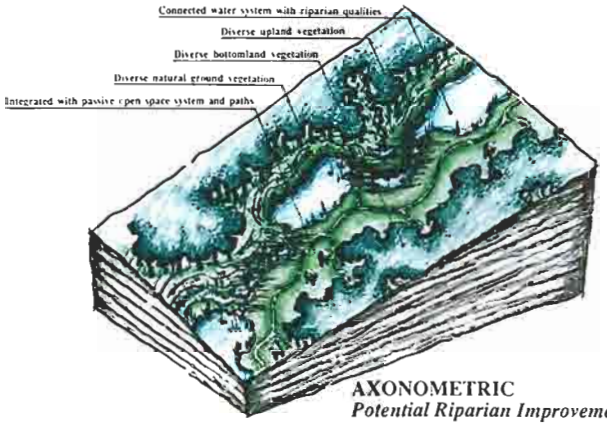
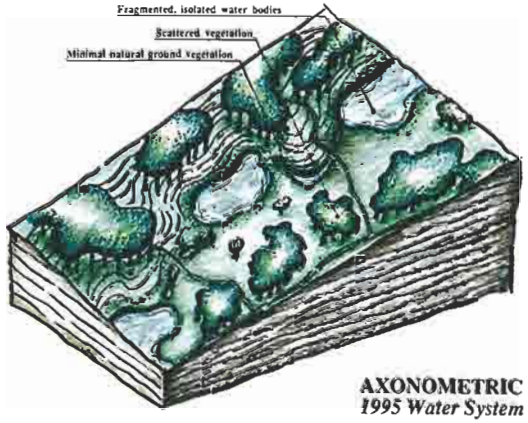


AXONOMETRIC
Potential Riparian Improvements

POTENTIAL IMPROVEMENTS

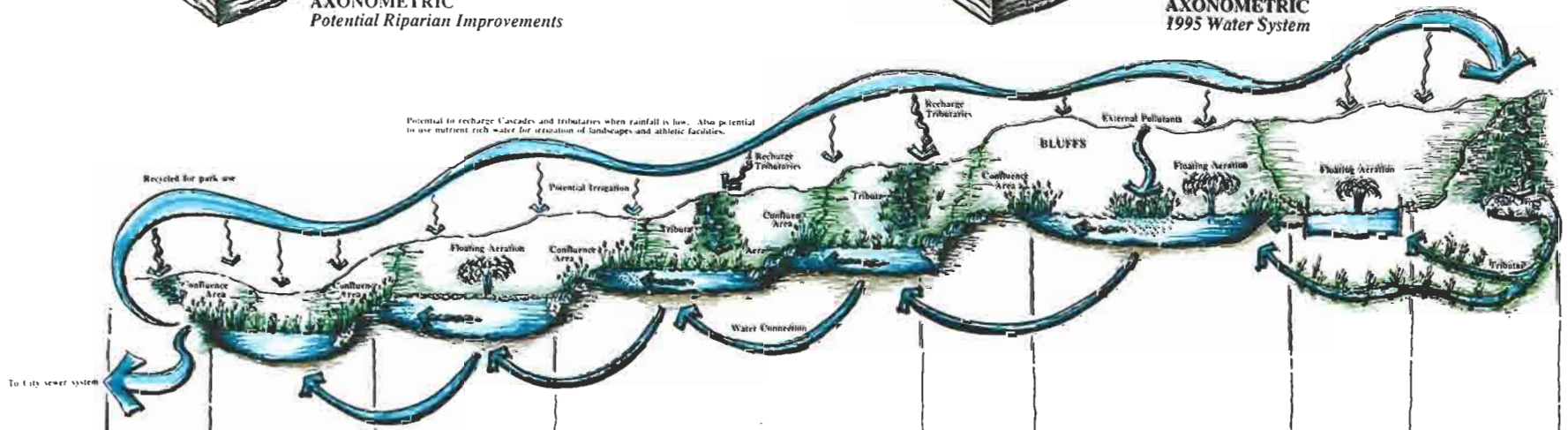
- Connected, linear water system with a riparian quality improves water and environmental quality while improving drainage.
- Cascades with natural edge plantings aerate water and filter pollutants before water and pollutants can travel downstream.
- Upland plantings can accentuate bluffs, protect slopes from erosion, and provide seasonal color and wildlife habitat.
- Bottomland plantings at lake and lagoon edges and transitions provide sediment filters, edge protection from erosion and wildlife habitat.
- Cascading effect of confluence/transitional areas and weirs aerates water and creates visual drama and variety.
- Bottomland plantings in former River Des Peres floodplain related to land forms and are better suited to the site for survival and long term health.
- Providing a coordinated system of water, land forms and passive open space system and paths increases recreational and aesthetic diversity for park users while providing numerous environmental benefits.



AXONOMETRIC
1995 Water System

EXISTING CONDITIONS

- Isolated and fragmented water bodies appear to function as a linear system but do not. Man made barriers impede surface water flow in valleys/tributaries.
- Appropriate water conservation and stormwater management are not practiced in and around the park.
- Road oil and salt, waterfowl and overflow sewage from adjacent neighborhoods degrade water quality. Poor water quality threatens fish habits and survival.
- Existing water bodies lack adequate water movement, aeration, filtration and surface vegetation which are all essential for proper water quality and the stability of adjacent landscapes.
- The combination of steep slopes, highly erodible soils and minimal natural ground vegetation exists in many areas of the park and poses potential erosion hazards.
- Today, most of the park is classified as developed land or mowed green space which offers little environmental benefit to humans or wildlife. Plantings are scattered and do not accentuate land forms.
- The vitality of the park's vegetative and wildlife communities is threatened by habitat fragmentation and lack of biodiversity.
- Passive open space and paths does not relate to water system and land forms and sometimes disrupts them.



SEVEN POOLS

- Cascading, naturalistic water source for Bowl Lake.
- Accentuated plantings within rock outcroppings

BOWL LAKE

- Naturalized edge and water plantings.
- Terminus of water system

JEFFERSON LAKE

- Mostly paved edge for fishing with naturalized water inlets and outlets.
- Floating aeration could improve water circulation and provide visual drama and variety.

RIVER DES PERES LAGOONS

- Weirs at elevation changes aerate water and provide visual drama and variety.
- Naturalized edges filter water pollutants, improve environmental quality, reduce erosion and increase visual diversity.
- Filtration and aeration occurs at confluence areas.

SPILLWAYS

- Cascading, spillway from higher elevation lake into lower elevation lagoons
- Accentuated existing limestone outcroppings.
- Edge and water vegetation filters pollutants from water, cascade aerates it.

POST-DISPATCH LAKE

- Pollutants from upland roads, land uses and adjacent neighborhoods must be controlled at the source.
- Pollutants which do enter the lake must be filtered before they leave the lake and travel downstream.
- Mix of edge treatments which are compatible with programmed lake uses.
- Floating aeration could improve water circulation and provide visual drama and variety.

GRAND BASIN

- Formal paved edges and detailing reflect historic character.
- Floating aeration could improve water circulation and provide visual drama and variety.

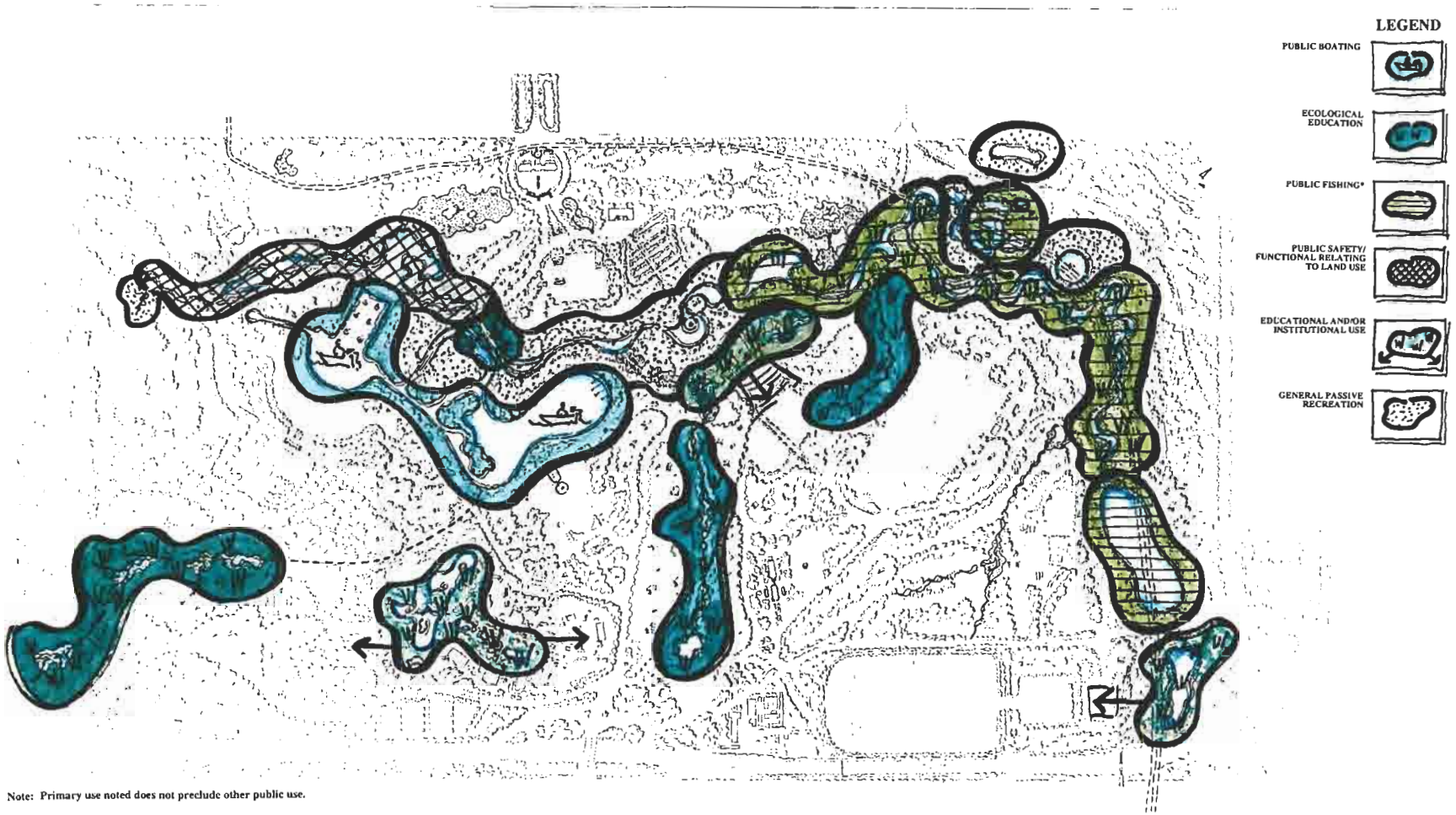
CASCADES

- Water originates at the Cascades
- Cascades are connected to Grand Basin and Post-Dispatch Lake via linear water features.
- Opportunity to consolidate city supplied water to a single source.

CONCEPTUAL DESIGN
Water System and Passive Open Space Corridor

SECTION (Looking South from Lindell)
Potential Riparian Improvements

*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.



Note: Primary use noted does not preclude other public use.

*Hatchery Lakes are operated by the Missouri Dept. of Conservation for urban youth fishing program. This use precludes general public fishing due to operational needs.

CONCEPTUAL DIAGRAM
Water Use

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

November 18, 1995

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FOREST PARK MASTER PLAN

winter fish survival, thereby increasing the potential for quality public fishing.

Looking to the future, this system is designed to be flexible with the ability to be modified to meet future clean water restrictions and reduced availability of city supplied water and downstream water treatment. The system could be reconfigured to form closed water loops which allow for water recycling or use for irrigation or other desired landscape uses.

2. Water Character and Spatial Features

- Design water bodies to reflect the flow dynamics and spatial qualities of a naturally occurring, meandering small river, accentuating features such as:
  - Oxbows
  - Width variations
  - Larger cascades
  - Sand bars and/or islands
  - Weathered outcroppings
  - Sweeping bends
  - Small riffles
  - Confluence areas and wetlands
  - Braided tributaries

- Design water features in sweeping curves and bends. Avoid straight lines and unnatural or tight curves unless part of a formally designed area. Provide a mixture of long and short views.

- Utilize the reflective properties of water features to add visual drama to surrounding landscapes, feature plantings, public art, and architecture.

- Accentuate naturally occurring water features, particularly in depressed areas which pond with normal rainfall and have no conflicting use.

- Utilize water features to define the spatial character and, where appropriate, the physical boundaries of a particular land use, such as the Municipal Golf Course.

- Utilize water for its audible qualities and its cooling properties, especially along paths, seating areas, and near park facilities.

- Emphasize the water system as a series of unique experiences with dramatic events and confluence areas along the way. Accentuate and highlight water "events," especially confluence areas and one-of-a-kind experiences or opportunities, such as:
  - The Cascades
  - Seven Pools
  - Post-Dispatch Lake
  - Round Lake
  - Bowl Lake
  - The Spillways
  - Grand Basin
  - Pagoda Lake
  - Jefferson Lake

- Create unique or special landscape treatments at cascades, weirs/riffles, spillways, and confluence areas which reflect surrounding landscape character, scale, and use.

- Design necessary retaining walls and edge structures to blend into surrounding landscapes, using native materials to create the impression of features created through natural processes.

- Emphasize the inextricable link between the park's water system and the passive open space spine.

- Locate new water features to minimize loss of healthy specimen trees, groves, other quality vegetation, and desirable land uses.

3. Functional Requirements

- Design and manage lakes and lagoons to be flexible, functioning as drains in times of flooding and retaining and improving landscape quality and wildlife diversity at all times.

- Implement a water system design that has the ability to reduce long-term maintenance and the need for other drainage and water input infrastructure.

- Increase overall ecological quality and alleviate problems downstream by holding and controlling flood waters.

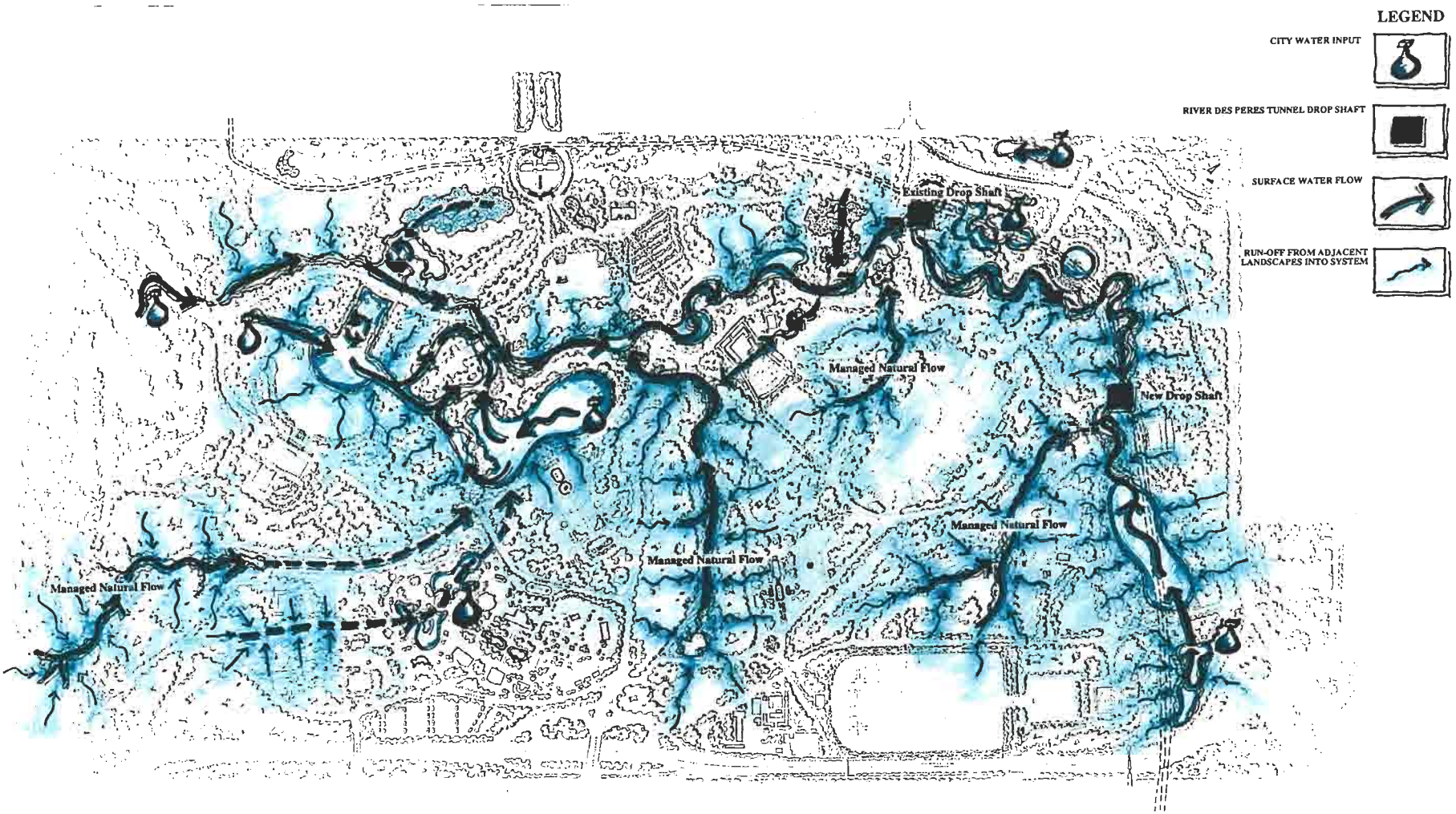
- Construct wetlands and/or wet meadows at key locations and confluence areas along the water system to provide the ability to limit the necessary size of water bodies on a daily basis while providing flood handling capacity, increased biodiversity, sediment filtration, and erosion control.

- Deepen and widen the lagoon system from Post Dispatch Lake to Jefferson Lake to offer more volume for natural cleansing of water pollutants, more biodiversity, and a much-desired fishery for city residents
  - Provide 3:1 slopes (top of bank to toe of bank) that have some natural functions and reduce water pollution
  - Dredge as necessary on a regular basis to maintain water quality, aquatic balance and designated water use.
  - Create a channel with an ideal average depth of 4 to 6 feet.
  - Create three deep-water pockets of up to 10 feet depth to avoid winter kill of fish in Deer Lake, the bend south of the fish hatcheries, and the stretch of lagoon from Round Lake to Steinberg Rink.
  - Construct aesthetically sensitive fishing platforms in areas where bank soil compaction is anticipated and near parking lots to allow access by fisherpeople who have disabilities.
  - Formulate an agreement with MODOC to stock and manage a bass/bluegill self-sustaining population in the lagoon between Deer Lake and the north end of Steinberg Rink

- Encourage maximum use of desirable surface water to charge the park's water bodies. Discourage unnecessary piping of water to city drainage infrastructure.

- Encourage removal of undesirable surface water from roadways, parking lots, maintenance areas, and animal yards to city drainage and water treatment infrastructure.

- Consider the following when designing islands in the spine or lagoon system, where deemed desirable and feasible:
  - Keep them narrow to avoid creating more waterfowl habitat and to keep the surrounding channel as deep as possible.
  - Construct them with an irregular configuration to create more underwater fish habitats.
  - Consider terraced, concrete or stone bulkheads on which plants can be stabilized or use vertical pilings concealed by vegetation such as weeping willows.



Surface Drainage System Operation

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

November 18, 1995

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ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

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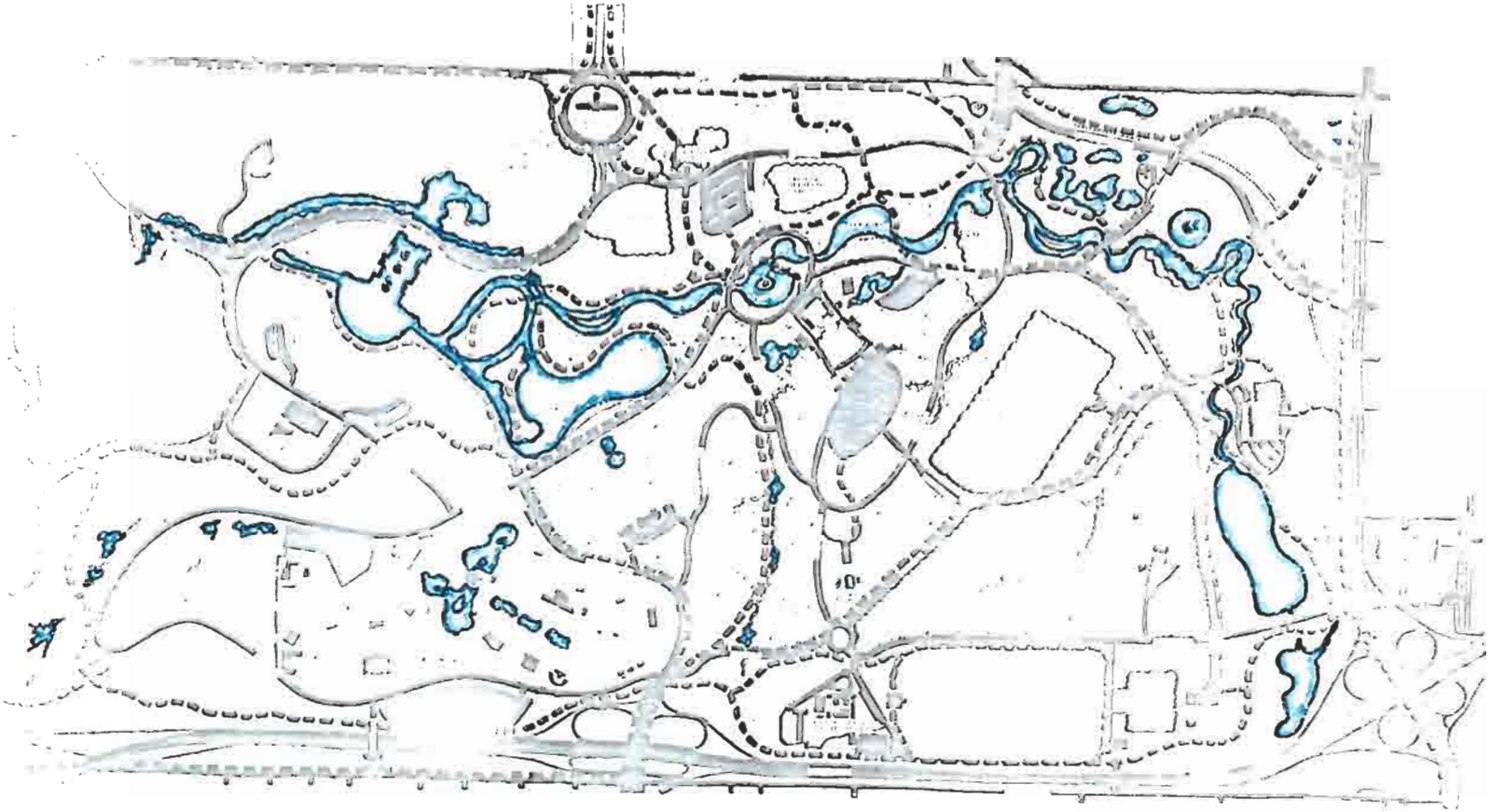


Low Rainfall and/or "Faucet Off/Drain Open" Operation

COMPOSITE CONCEPT DIAGRAM
Forest Park Master Plan

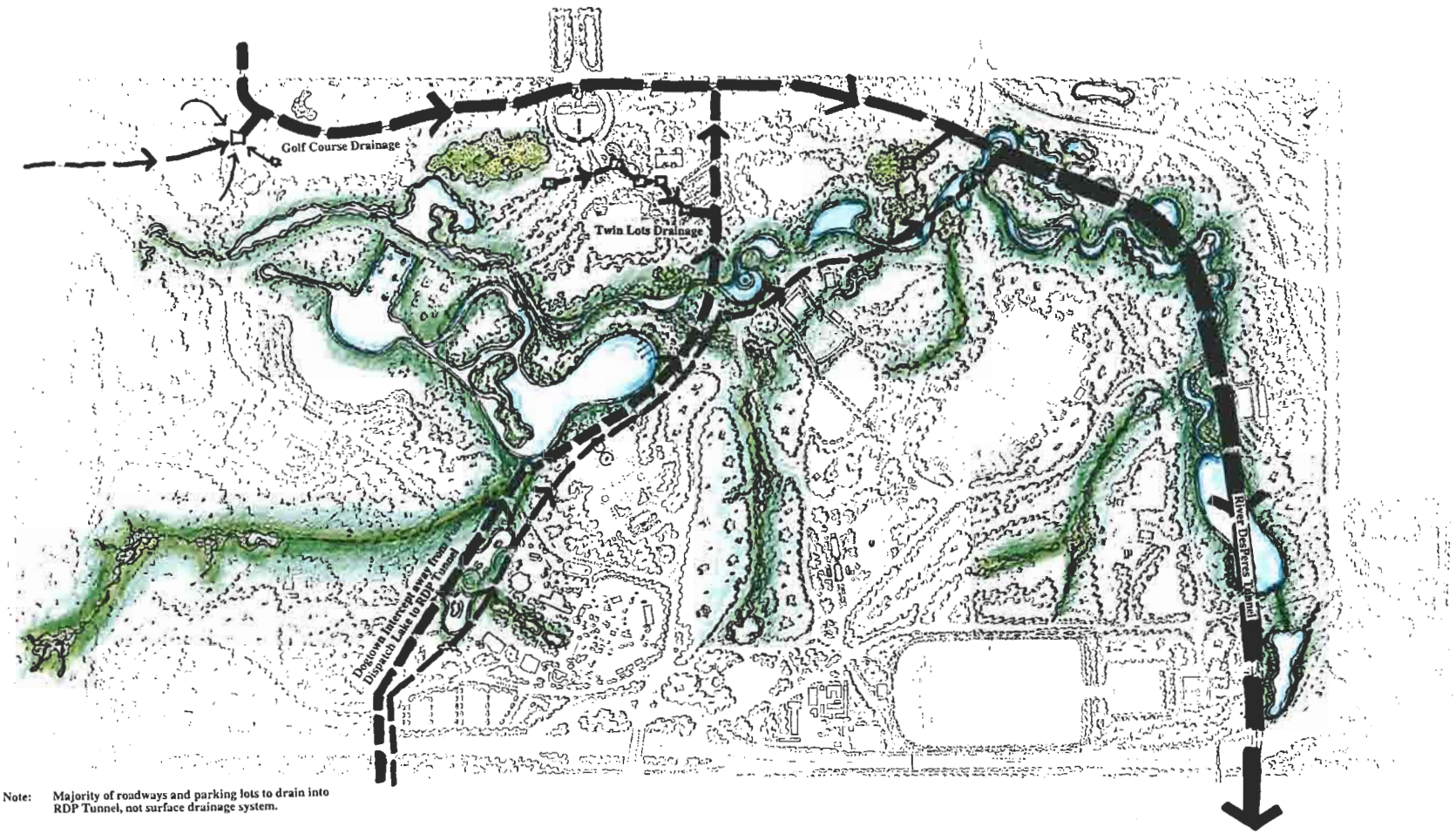
CITY OF SAINT LOUIS
FOREST PARK MASTER PLAN

CONCEPTUAL DIAGRAM
Linear Connected Water System - Low Water Operation

COMPOSITE CONCEPT DIAGRAM
Forest Park Master Plan

CITY OF SAINT LOUIS

CONCEPTUAL DIAGRAM
Linear Connected Water System - High Water Operation



Note: Majority of roadways and parking lots to drain into RDP Tunnel, not surface drainage system.

Major Subsurface Drainage Infrastructure

FOREST PARK MASTER PLAN

ST. LOUIS, MO

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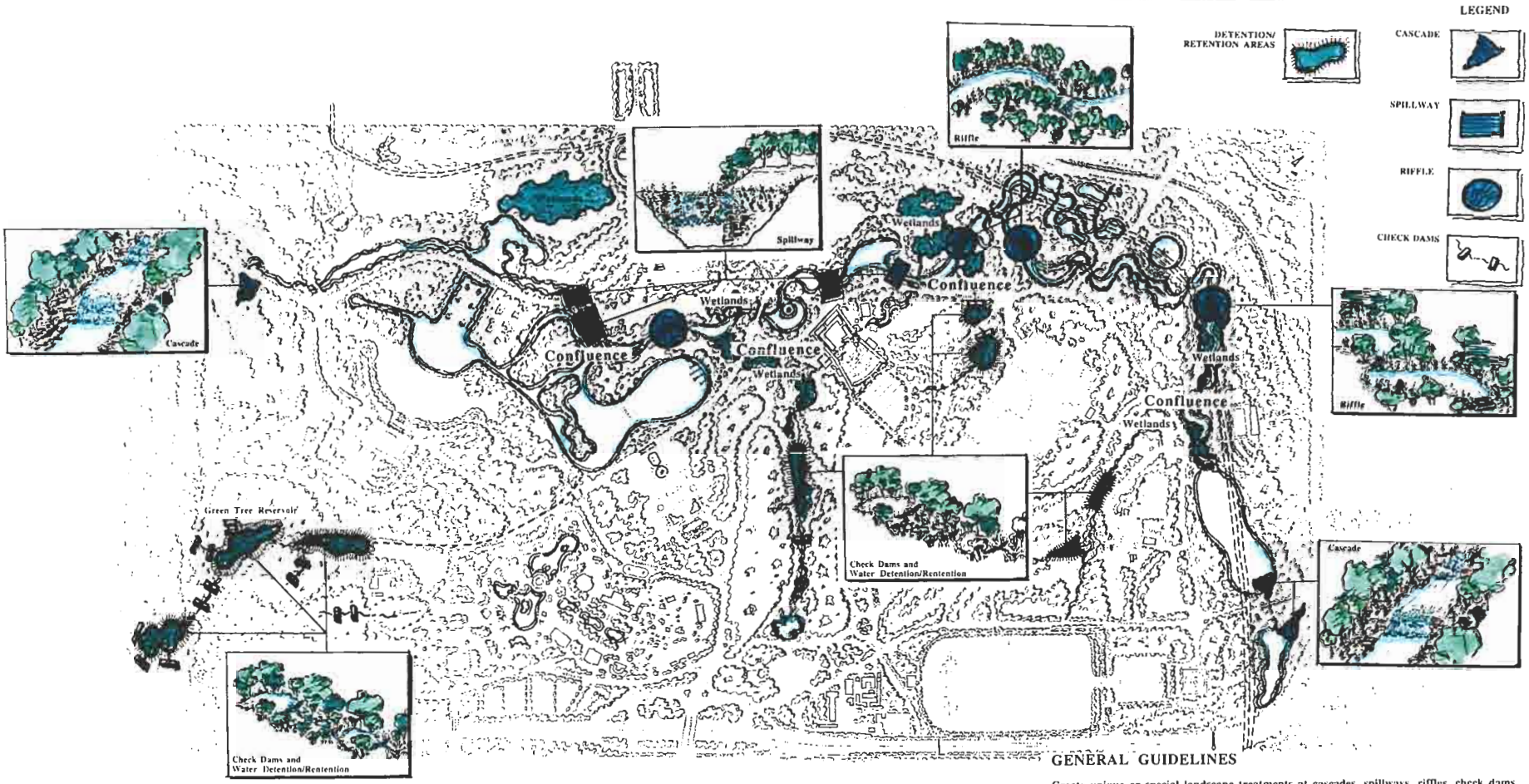
- Consider developing more fish habitats in the water near the base of the islands.

4. Water Quality Control

To make the park's water resources healthy again, efforts to combat water pollution can take two basic approaches — pollution prevention and pollution treatment/recycling. Economically and environmentally, pollution prevention is the preferred choice.

- To prevent water pollution:
  - Plant native species of vegetation to reduce the need for fertilizers and pesticides.
  - When fertilizer application is necessary, use only moderate amounts and use the proper kinds (organics, slow-release) during different seasons to promote absorption by targeted plants.
  - Do not use fertilizer on steeply sloped lands.
  - Minimize the use of pesticides by using integrated pest management whenever possible and avoiding broad spectrum pesticides.
  - Promote mass transit in the park to reduce vehicular and roadway pollutants.
  - Remove stormwater runoff from highways, streets and parking lots.
  - Establish and maintain confluence areas to filter out pollutants from tributaries entering the water spine.
  - Establish and maintain vegetative strips (riparian areas) around water bodies to filter out pollutants washed off the surrounding landscapes.
  - Discourage the current practice of mowing the grass very short, which stresses the plants, decreases groundwater recharge, and increases soil erosion.
  - Consider drilling a well to replenish the water spine rather than using chlorinated city water.
  - Allow only aluminum cans or refillable glass bottles in the park.
  - Develop and implement a plan to discourage waterfowl in the park by allowing vegetation to grow up, planting riparian areas, not building islands, creating access to existing islands for potential predators, and educating/fining people who feed them extensively.
  - Adopt pooper scooper laws to reduce pet feces contamination of water resources.
  - Establish and maintain a flow-through water system to reduce the likelihood of algal blooms and subsequent dependence on algaecides.
  - Inspect pipe fittings on underground and above ground storage fuel tanks regularly for leaks.
  - Stop discharges of raw sewage and other pollutants into Forest Park that result when sewer systems are overloaded by rainfall.
  - Stop stormwater runoff from "Dogtown," to remove many of the external sources of nutrients into the park's water system.
  - Establish and review/upgrade every three years procedures and compliance guidelines for the use of pesticides, algaecides, herbicides, fuels, deicing compounds, and other potentially harmful chemicals in Forest Park.
  - Maintain proper procedures and records in compliance with the Environmental Auditing Policy Statement of the EPA for pesticide use on golf courses.
  - Conduct proper training of golf course staff in the storage, mixing, applying, and disposal of pesticides.



DEFINITIONS

Cascades, Spillways and Riffles
All are devices which provide water with a means to drop in elevation. A cascade is a major change of elevation (more than 5'), a spillway (or weir) is an intermediate drop (1' to 5') and a riffle is a rough area in the water caused by underwaterlot at surface structures. All three aerate the water.

Check Dams
Check dams are grade stabilization structures used in gully channels or ditches to control down-cutting and overall greater channel stability.

Detention and Retention Structures
Detention and retention structures are stormwater runoff control devices used to buffer the increase in runoff due to urbanization or to simply hold back some runoff water to reduce erosion and flooding. Detention structures are designed to allow small storms to pass through, but hold back a portion of runoff from large storm events. Detention structures are designed to drain completely within a matter of hours. Retention ponds are similar structures except they have a permanent pool of water.

-Greentree Reservoir
Similar to both detention and retention structures, they are forest habitats that have been modified to allow for some water ponding to occur during the winter and early spring months of the year. From late spring to early fall, the area drains completely. During the remaining portion of the year the GTR may function like a retention pond.

Water Quality and Erosion Control

GENERAL GUIDELINES

Create unique or special landscape treatments at cascades, spillways, riffles, check dams, detention/retention areas, wetlands and confluence areas which reflect surrounding landscape character, scale and use.

Improve water quality by constructing water retention and/or detention structures at higher elevations in the intermittent tributaries to trap sediments and debris.

Create wetlands in upper channels and adjacent to existing larger ponds and lagoons which trap sediments and filter nutrients from runoff water. Develop pockets of wetland flowers.

Increase aeration of lagoon system to more effectively break down nutrients/other potential pollutants and help to avoid summer kill of fish by developing a system of drop structures, fountains, and underwater aerators or diffuse bubblers.

Develop a water quality monitoring program and utilize this data to determine the success of implemented water design measures and necessary modifications in the future.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 800 1600 2800

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ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

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- To treat polluted waters:
  - Construct water retention and/or detention structures at higher elevations in the intermittent tributaries to trap sediments and debris currently flushing into the lakes and lagoons.
  - Create wetlands in upper channel reaches and adjacent to existing larger ponds and channels (lagoons) to trap sediments and filter nutrients from runoff water.
  - Develop isolated pockets of wetland flowers by planting them on level banks or in shallow water and preventing them from spreading by creating steep slopes and/or deep water on both sides.
  - Develop a system of drop structures, fountains, and underwater aerators or diffuse bubblers to increase aeration of lagoons, break down nutrients/other potential pollutants more effectively, and help avoid summer kill of fish.
  - Locate large bubblers in the three deep water pockets and matrices of "alligator" hose with fine holes where tributaries enter the lagoon at the confluence areas
  - Develop a program to monitor water quality by periodically taking and analyzing water samples and benthos samples using biological indicators such as aquatic arthropods to help indicate water quality.
  - Utilize testing data to determine the success of implemented water design measures and make necessary modifications in the future.

5. Soil Erosion Control

- Reduce soil erosion and improve soil resources through structural erosion control practices, vegetative plantings, and alteration of landscape maintenance operations.

  - Stabilize wooded valleys by creating retention and/or detention structures to slow down runoff water and provide grade control and through the use of lesser grade control structures, such as "check slots," weirs, and pipes, which reduce "down cutting" or channel deepening.
  - Reduce sheet erosion, create a more diverse plant community, and provide a denser protective cover on the soil surface by providing additional vegetative plantings, establishing transition zones along woodland fringes, and raising mowing heights/reducing mowing frequency in densely shaded areas.
  - Control minor rill and gully erosion with low, broad berms (diversions) with controlled outlet structures (riprapped channels or piped outlets) which protect down slope areas.
  - Establish new paved pathways to reduce soil compaction along heavily used footpaths.
  - Create natural barriers to keep pedestrian traffic in designated areas and provide stability to eroding areas.
  - Restore curbing and storm drain inlets to park roads to minimize concentrated flows from roads and paved surfaces and to help prevent rilling and gullying.
  - Stabilize shorelines with moist soil and emergent wetland plants to increase plant diversity and water nutrient usage and to reduce soil erosion along the banks.
  - Ensure that any reconstruction or new construction that increases the amount of impervious surfaces in the Park is appropriately designed to accommodate related increases in stormwater runoff that stresses the Park's water system and increases soil erosion.

6. Shorelines

The goal of this category will be to provide a green, semi-manicured bank that will not grow up with very tall vegetation.

- Apply edge and other landscape treatments which are most appropriate for each water body's designated use and aesthetic character:
  - Mown or paved edges for fishing, viewing, touching the water or other recreation from water edges.
  - Naturalistic emergent and understory plantings for wildlife habitat, passive viewing and to deter edge recreation, such as fishing and hiking.
  - Stone outcroppings, boardwalks or viewing platforms in naturalistic areas to facilitate water access and recreation while protecting delicate plant communities and/or shoreline treatments
  - Dramatic massings of plantings to accentuate curves or to hide areas beyond the curve, creating the image of a larger scale water body.
  - Specimen trees and massings at the end of an axis
  - Evergreen plantings in areas of high winter use, such as skating.

- Minimize the areas of smooth bank edge treatments which are free of plants and debris that may look attractive to some but are not well suited for aquatic wildlife and sediment filtration.

- Minimize concrete or channelized stream banks which are poor wildlife habitats, and speed up flood waters, increasing the potential for downstream flooding, scouring and erosion.

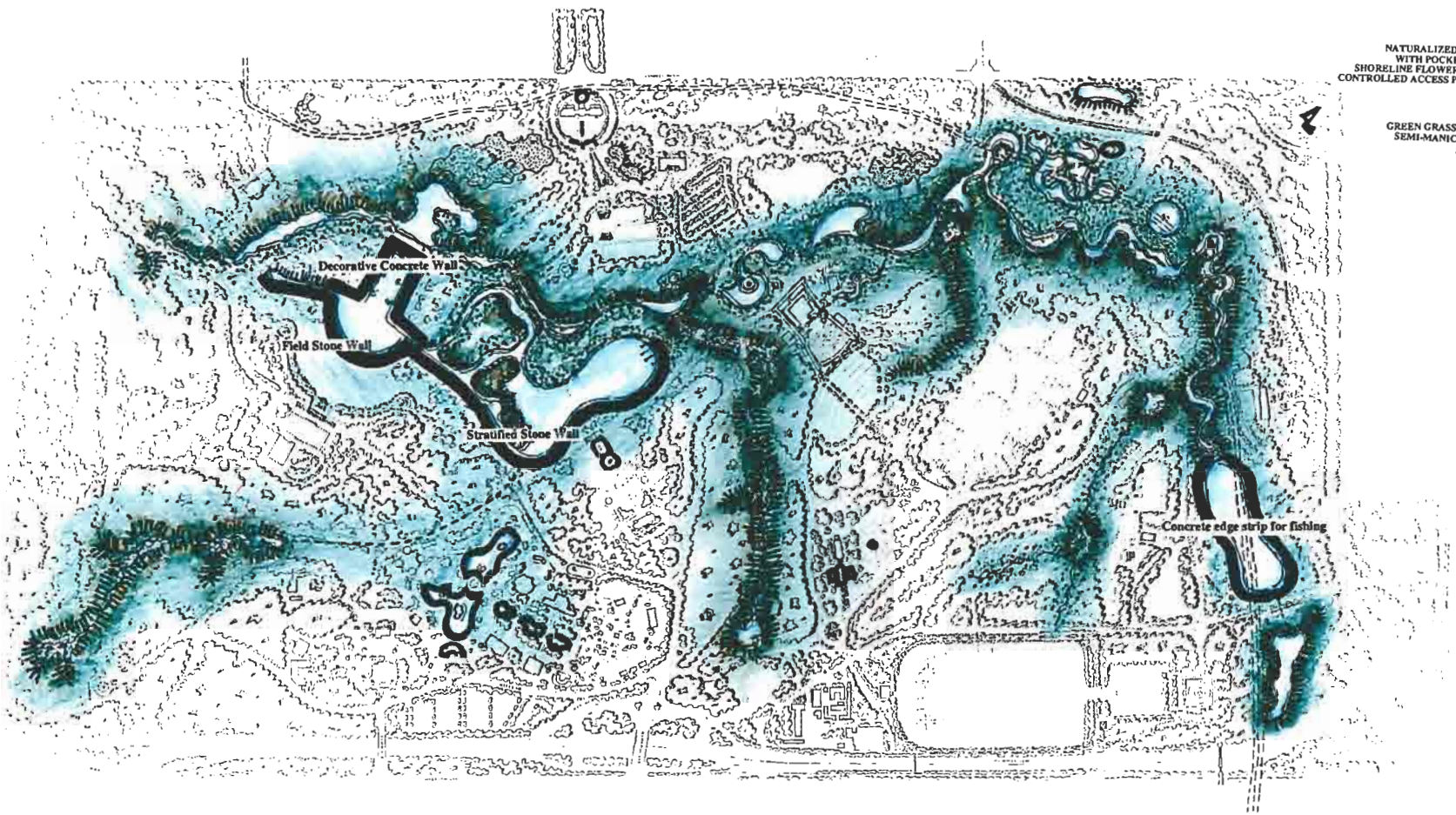
- Adhere to the following principles when designing shoreline treatments:
  - Select wetland species that will stabilize the shorelines and banks of the park's water bodies and filter solids and pollutants out of the park's water system
  - Select wetland plants that will tolerate a wide variety of urban conditions
  - Select plant species that will tolerate mowing, etc.
  - Emphasize planting of native vegetation
  - Select plants that increase spring flowering display for the park and provide a high aesthetic appeal (i.e., decorative foliage, fruit, etc.)
  - Avoid selecting plant species that are characteristically aggressive (i.e., spread rapidly by root suckers)
  - Increase the park biodiversity to reduce the chances for natural catastrophes caused by insects and diseases

- Provide a diversely planted shoreline along all water bodies in the park except the concrete wall banks of the Grand Basin, the Post-Dispatch Lake "Promenade" edge, and other banks where access to the water is important, such as for fishing the banks along Jefferson Lake.

- Utilize plants from the following species composition list in future shoreline designs:

  Green Grass-Like Semi-Manicured Strip
  - Frank's sedge (Carex frankii)
  - marsh spikerush (Eleocharis palustris)
  - tussock sedge (Carex scoparia)

  Pockets of Shoreline Flowers
  - arrowhead
  - iris (ex. blue flags Iris virginica & red-flag Iris fulva)



LEGEND

PAVED EDGE AND/OR WALL

NATURALIZED EDGE WITH POCKETS OF SHORELINE FLOWERS AND CONTROLLED ACCESS POINTS

GREEN GRASS-LIKE, SEMI-MANICURED STRIP

PARTIAL SHORELINE SPECIES COMPOSITION LIST

Green Grass-Like Semi Manicured Strip
- Franks sedge (carex frankii)
- Marsh spikerush (Eleocharis palustris)
- Tussock sedge (carex scoparia)

Pockets of Shoreline Flowers
- Arrowhead
- Cardinal Flower
- Iris (i.e. blue flags [Iris virginica] and red flag [Iris fulva])
- Monkey Flowers (i.e. Mimulus alatus and Mimulus ringens)
- Sweet Flag or calamus

Shoreline Treatments

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ST. LOUIS, MO

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November 18, 1995

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DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

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- monkey flowers (ex. Mimulus alatus & Mimulus ringens)
- sweet flag or calamus

7. Confluence Areas Or Filtering Marshes

The primary function of these confluence areas will be to improve the water quality of the flowing water system of the park. The plants, soil, and microorganisms found in these confluence areas filter out solids and break down water pollutants, thus improving the overall health of the park. Physically, these areas will generally be flat, with a slight gradient down to the lagoon. A berm will facilitate sediments and other pollutants to precipitate out before entering the lagoon. This berm will also temporarily pool some water.

- Adhere to the following principles when designing confluence areas or filtering marshes:
  - Select wetland species that will filter solids and pollutants out of the park's water system.
  - Select wetland plants that will tolerate a wide variety of urban conditions.
  - Select plant species that will tolerate mowing, burning, or temporary sediment banking to maximize management flexibility in the future.
  - Emphasize planting of native vegetation .
  - Select plants that increase spring flowering display for the park and provide a high aesthetic appeal (i.e., decorative foliage, fruit, etc.).
  - Avoid selecting plant species that are characteristically aggressive (i.e., spread rapidly by root suckers).
  - Increase the park biodiversity to reduce the chances for natural catastrophes caused by insects and diseases.

- Consider the following park locations for confluence areas or filtering marshes:
  - West of the Muny on the south bank of the lagoon and on Langenberg field area.
  - Near the junction of Union and Theater Drives east of the Muny.
  - On the 18-hole Municipal Golf Course southwest of the Missouri History Museum.
  - At the upper temporary pond on the Triple-A (9-hole) golf course.

- Utilize plants from the following species composition list in future confluence area designs (Organized according to soil moisture):

  Moist to Saturated Soil with No Standing Water
  - arrowhead; cinnamon fern
  - dark green bulrush (Scirpus atrovirens) (up to 5 feet tall)
  - fox sedge (Carex vulpinoidea)
  - Frank's sedge (Carex frankii)
  - iris (ex. blue flags Iris virginica & red-flag Iris fulva)
  - jewelweed or touch-me-nots
  - marsh spikerush (Eleocharis palustris)
  - monkey flowers (ex. Mimulus alatus & Mimulus ringens)
  - royal fern
  - sweet flag or calamus
  - switch grass (up to 5 feet tall)
  - tussock sedge (Carex stricta)
  - wool grass (Scirpus cyperinus) (up to 6 feet tall)

  Saturated to Wet Soil with Periodic or Permanent Standing Water
  - arrowhead

- dark green bulrush (Scirpus atrovirens) (up to 5 feet tall)
- fowl mannagrass
- fox sedge (Carex vulpinoidea)
- Frank's sedge (Carex frankii)
- iris (ex. blue flags Iris virginica & red-flag Iris fulva)
- marsh spikerush (Eleocharis palustris)
- monkey flowers (ex. Mimulus alatus & Mimulus ringens)
- pickerel weed (up to 5 feet tall)
- rice cutgrass (up to 5 feet tall)
- sweet flag or calamus
- tussock sedge (Carex stricta)
- water plantain; wild rice (up to 9 feet tall)
- wool grass (Scirpus cyperinus) (up to 6 feet tall)

8. Check Dams and Upland Water Control Structures

Water quality related planning for the lotic water spine of Forest Park requires that some consideration be given to stormwater runoff from adjacent upland areas. Of particular concern are the rate and method of delivery of the runoff water to the lakes and lagoon system. Under current conditions, stormwater is delivered to the water spine via stormwater sewers, wooded draws, and overland flows with few or no "checks" on flows or soil erosion in the draws. As part of the planning process, these water routing aspects were considered for possible improvement to enhance water quality, conserve water usage, and keep the lakes and lagoon system charged. Storm sewers are addressed in the infrastructure section of this document. This section is intended to provide some explanation and basic design considerations for check dams, detention and retention structures, and greentree reservoirs proposed for the wooded draws and Triple "A" Golf Course.

a. Check Dams

Check dams are grade stabilization structures used in gully channels or ditches to control down-cutting and ensure overall greater channel stability. Check dams are often utilized as a reasonably inexpensive method of managing erosion in areas where minimal impact on the land resources is desired. There are two general methods for locating these structures: 1) starting at the gully outlet and placing structures approximately 25-50 feet apart up the channel; or 2) placing a structure only at the headcuts or intermediary cuts in the channel. Headcuts are located where there are rather sudden 1-3 foot drops in the channel bed (sort of a small waterfall effect). Normally, headcuts are located at the upslope end of the gully and often somewhere between the ends of the gully.

There are several different types of structures to consider, depending on the level of control needed and the amount of area to be impacted. Examples of some possibilities are weirs, concrete or rock checkslots (flush or level with channel bed), rock dams shaped to be low in the center and curved downstream, and pipe or box culverts through paths or roads. The common feature of all these structures is the provision to allow water to pass over the structure and not around or under it.

b. Detention and Retention Structures

Detention and retention structures are stormwater runoff control devices used to buffer the increase in runoff due to urbanization or to simply hold back some runoff water to reduce erosion and flooding. Detention structures are designed to allow small storms to pass through, while holding back a portion of runoff from large storm events. Detention structures are designed to drain completely within a matter of hours. Retention ponds are similar structures, except they have a permanent pool of water. Typically, detention and retention ponds are on hillsides or small draws and not on large draws or streams.

c. Greentree Reservoir

Greentree reservoirs (GTR) in some aspects are similar to both detention and retention structures. GTRs are forest habitats that have been modified to allow for some water ponding to occur during the winter and early spring months of the year. From late spring to early fall, the area drains completely. During the remaining portion of the year the GTR may function like a retention pond. Special spillway consideration will be necessary to allow for altering water stages from no permanent water to a shallow, permanent pool while still providing for stormwater passage.

The principle benefits to a GTR are better mast production for wildlife, greater habitat diversity, better water quality, more water conservation, and less soil erosion.

Guidelines

- Install check dams to:
  - Reduce the velocity of stormwater runoff flows;
  - Control down-cutting in wooded draw channels (reduce gully erosion); and
  - Decrease sediment delivery to the lakes and lagoon system.

- Consider the following when designing and/or locating check dams:
  - Locate at headcuts and intermediary cuts in gullies or draw channels in Kennedy Forest and in the wooded draw between McKinley and Carr Lane Drives.
  - Construct these structures out of rot resistant wood, stone, rock, gabion, concrete, concrete rip rap bags (nylon reinforced paper bags of concrete ready-mix), cellular confinement systems (like Geo-web or comparable product), or similar materials.
  - Select materials to blend into the surroundings (make as natural looking as possible).
  - Install such that all channel flows pass through the structure and cannot get around it.
  - Make sure the downstream end or toe of the structure is stable.
  - Make sure the side walls or ends of the structure extends ten feet or more into stable soil on the banks of the channel.
  - Use non-woven geosynthetic fabrics behind and under the structure to prevent piping erosion through porous materials or through joints or seams in the structure.

- Install detention and retention structures to:
  - Reduce stormwater runoff flows;
  - Provide for extended draw down time of stored runoff water to reduce municipal water consumption for lake and lagoon recharge;
  - Reduce erosion in the wooded draws in Kennedy Forest and between McKinley and Carr Lane Drives;
  - Add new habitat and aesthetic features to Forest Park;
  - Filter sediment and debris from runoff water prior to entering lakes and lagoon system; and
  - Provide a for some groundwater recharge.

- Consider the following when designing and/or locating detention and retention structures :
  - Locate detention pond between fairways 4 and 5 in Triple "A" Golf Course.
  - Provide minimum 4-5 foot deep permanent pools in retention structures.
  - Discourage burrowing rodent activity in embankments by constructing berms and dams with 5:1 side slopes or rock riprap on the upstream face of the structure (the former preferred where possible).
  - Include staged outlet structures or spillways in retention to regulate water depth to allow for vegetation control or provide complete draw-down for maintenance purposes.
  - Design to allow for stored stormwater runoff to be drawn-down in as long a time period as possible (possibly up to 72 hours) after a rainfall event.
  - Provide spillway design to allow for sufficient free board needed to meet hydraulic requirements and safety guidelines.
  - Plan shoreline vegetation to meet aesthetic as well as erosion control functions in the golf course.
  - Provide a wet, flowering meadow planting in the detention structure between fairways 4 and 5.
  - Select vegetation from lists provided for lake and lagoon shoreline treatments and confluence area plantings to meet conditions and habitat needs for retention pond site(s) under consideration.

- Consider the following locations for detention and retention structures:
  - The wooded draw (valley) of Kennedy Forest.
  - In the draw between McKinley and Carr Lane Drives and in Triple "A" Golf Course.
  - West of Valley Drive and to the northwest of the intersection of Valley and Government Drive.
  - South of Government Drive and west of the Zoo's north parking lot.
  - South of the connecting drive between McKinley and Carr Lane Drives.
  - Between fairways 5, 8, and 9 in Triple "A" Golf Course.

- Install greentree reservoirs (GTR's) to:
  - Reduce stormwater runoff flows.
  - Reduce erosion in the wooded draws in Kennedy Forest.
  - Add new habitat and aesthetic feature to Forest Park.
  - Introduce additional tree species to Kennedy Forest.
  - Attract new wildlife species to Forest Park.
  - Filter sediment and debris from runoff water prior to entering lakes and lagoon system.
  - Provide for some groundwater recharge.

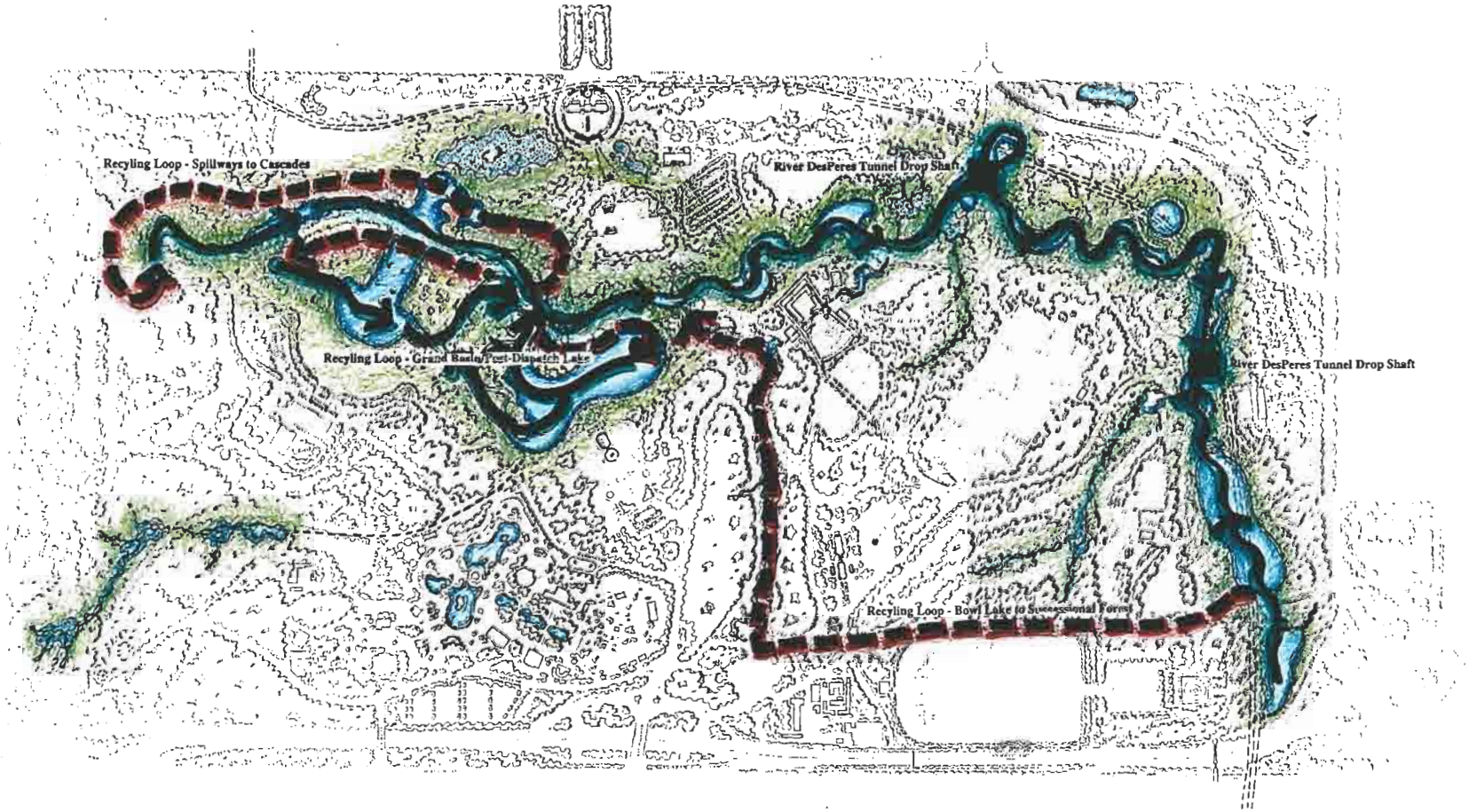
* Consider the following when designing and/or locating greentree reservoirs (GTR's):
    - Locate a GTR north of Government Drive at the road culvert pipe approximately near the middle of Kennedy Forest (consider designing the area planned as a retention structure to the west of Valley Drive as a GTR also).
    - Discourage burrowing rodent activity in the embankment by constructing any berm (or dam) that may be required with 5:1 side slopes or rock riprap (the former preferred if possible).
    - Redesign the culvert as a staged structure (Dos-ir valve) to allow for gradual flooding to the north of Government Drive for a period from October through early March.
    - Include staged outlet structures or spillways to regulate water depth or provide complete draw-down for maintenance purposes.
    - Provide spillway design to allow for sufficient free board needed to meet hydraulic requirements and safety guidelines.
    - Select vegetative species to tolerate the newly created wet condition and to replace trees that die (consult Missouri Department of Conservation for species selection).
    - Select herbaceous vegetation from lists provided for lake and lagoon shoreline treatments and confluence area plantings to meet conditions and habitat needs for the site.

9. Long-term Options

The following options should be considered to further improve the park's water system in the future:

1. Investigate the feasibility of recycling the water out of the lagoon system prior to its exiting through the two drop structures. Smaller recycling loops could be phased in for water reuse, thereby lessening demand for piped-in city water. These waters may be high in nutrients useful for other park purposes, such as golf course watering and fertilizing.

2. On a larger scale, utilize River Des Peres as a recreational/path link to the vast collection of city and county open space, eventually linking Forest Park with other city parks, the Mississippi River and Riverfront Trail, the Katy Trail and county parks.



Future Water System Improvements

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

November 18, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

E. Site Specific Recommendations

(W.L. = WATER LEVEL)

CASCADES

- Connect to the rest of the water system.
- Consolidate the area's city water input to this location.
- Provide some water retention capacity to reduce city water requirement during peak flow periods.

MUNICIPAL GOLF COURSE

W.L.= 470.0' normal/472.0' high

- Provide water bodies and wetlands to improve drainage and golf course quality.
- Connect to rest of water system.
- Coordinate with golf course design.
- Design to provide a safety buffer between golf course and other park uses.

GRAND BASIN

W.L.= 471.0' normal/471.5' high

- Restore walls and formal design elements.
- Improve link to Post-Dispatch Lake for public boating.
- Provide sediment filtration measures at confluence areas and aeration to improve water quality.
- Maintain public boating.

POST-DISPATCH LAKE

W.L.= 471.0' normal/471.5' high

- Restore filled in areas and enlarge lake.
- Improve edges to complement adjacent land uses.
- Improve link to Grand Basin for public boating.
- Remove sanitary sewer input and provide floating aeration and sediment filtration measures to improve water quality.
- Maintain public boating.

MUNY/PAGODA LAKE

W.L.= 466.0' normal/467.0' high.

Lagoon to west W.L.= 466.0' normal/468.0' high

- Provide additional lagoon system connecting Pagoda Lake and Angel Pond to increase water movement and filtration which improves water quality.
- Maintain small water bodies adjacent to the Muny and water flow underneath to address area tree survival concerns.
- Provide additional wetlands along Langenberg fields adjacent to the Twin Lots

FISH HATCHERY LAKES

Lagoon W.L.= 457.0' normal/459.0' high

- Maintain MODOC fishing clinics.
- Re-connect some water bodies while maintaining some separate water bodies to accommodate needs of fishing clinics.
- Re-connect lagoon system through the area, integrating the River Des Peres tunnel drop shaft.

DEER LAKE

W.L.= 462.0' normal/463.0' high

- Expand lake area and connect to adjacent water bodies.
- Provide some deep water pockets for winter fish survival

UNION ENTRANCE AREA
Lagoon W.L.= 458.0' normal/459.0' high

- Create a wetland or meadow to provide sediment filtration measures to improve water quality.
- Provide some water retention capacity to limit flow during peak periods.
- Provide some deeper water pockets for winter fish survival.
- Provide significant elevation change between lake and surrounding lagoons to deter upstream migration of certain fish species.

JEFFERSON LAKE
W.L.= 457.0' normal/458.0' high
(W.L. 457.0' near Steinberg)

- Connect to Bowl Lake and the rest of the water system.
- Provide aeration and sediment filtration measures at inlets and outlets to improve water quality.
- Restore paved edges for public fishing.

BOWL LAKE
W.L.= 466.0'

- Connect to rest of system via an underground pipe connection to Jefferson Lake.
- Enhance naturalistic character.
- Provide sediment filtration measures to improve water quality.
- Visually accentuate the Seven Pools.

STEINBERG RINK AREA
W.L.= 456.0'

- Provide a connection to Jefferson Lake.
- Create a wetland or wet meadow to provide sediment filtration measures to improve water quality.
- Provide some water retention capacity to limit flow during peak periods.

KENNEDY FOREST

- Improve connections to rest of water system.
- Provide check dams and green tree reservoirs for erosion control and sediment filtration measures to improve water quality.
- Provide some water retention capacity to limit flow during peak periods.

INTERMITTENT TRIBUTARIES (TYPICAL)

- Improve connections to rest of water system.
- Provide check dams and green tree reservoirs for erosion control and sediment filtration measures to improve water quality.
- Provide some water retention capacity to limit flow during peak periods.

ROUND LAKE AREA
Lagoon W.L.= 457.0'

- Maintain Round Lake.
- Enhance adjacent lagoon's naturalistic, meandering, slow-moving river character.
- Improve connections to adjacent water bodies and widen channel.
- Provide sediment filtration measures which improve water quality.

SPILLWAYS AREA
W.L.= 467.0' normal/468.0' high

- Enhance naturalistic cascading character with emergent vegetation.
- Replace existing spillways with additional, more attractive stone outcroppings.
- Provide sediment filtration measures to improve water quality.

- Pursue opportunity to include a unique feature or amenity in this area.

ZOO LAKES

- Improve edges to enhance aesthetics while accommodating water fowl display and habitat.
- Modify stormwater runoff from the Zoo to minimize nutrients from entering Post-Dispatch Lake.

III. LANDSCAPE AND SITE RELATIONSHIPS

A. Overview

B. Summary of Existing Conditions

1. Regional Context
2. History
3. Existing Conditions

C. Design Principles

D. Design Recommendations

1. General Approach
2. Typology of Landscapes
3. Plant Communities
4. Spatial Character and Quality
5. Public Use and Safety
6. Wildlife Habitats
7. Reforestation
8. Maintenance

E. Site Specific Recommendations

LIST OF DRAWINGS AND DIAGRAMS

ANALYSIS

1995 Regional Topography
1874 Topography
1874 Landscape
1995 Topography
1995 Slope
1995 Soils and Erosion
1995 Landscape Environmental Quality
1995 Wildlife Habitat Quality
1995 Spatial Character
1995 Views and Axis

DESIGN

Design Principle - Landforms Define Park Experience
Design Principle - Emphasize Site Relationships
Design Principle - Integrate Historically Significant Landmarks, Landscapes and Site Relationships
Landscape Recommendations
Vegetative Communities
Vegetative Community Section
Upland Vegetative Communities
Moist Bottomland Vegetative Communities
Wet Bottomland Vegetative Communities
Landscape Spatial Character

A. Overview

The landscape of Forest Park is representative of the region's landscape and topography which has been formed and altered over many years and supports the vast Mississippi River system. The River Des Peres once flowed above ground through Forest Park, but is now buried underground. Nevertheless, the river continues to have an impact on the park's spatial character. Its corridor has created a series of land forms that still define how the park is laid out and used. These land forms include:

- The historic flood plain of the River Des Peres.
- The low bottom lands in the northern and eastern sections of the park.
- The upland areas which drain into the bottom lands.
- The bluffs, which are transitional sloping hillsides between the bottom lands and uplands.
- The wooded valleys, which include some of the original intermittent tributaries of the River Des Peres which direct runoff water.

In developing a landscape design for the park, it is important to recognize these natural and historical land definitions and seek to enhance and highlight, rather than hide or try to overcome them. Historically, the major park facilities and architecture have been located and designed to accentuate or make use of the Park's topography. The spatial design of this plan seeks a balance between built and natural features and attempts to accentuate the inherent qualities of each. Views and axes between park facilities and landscapes were carefully analyzed and designed to attain maximum visual harmony. Site design, not independent landscape and architectural design, was stressed at all times.

Originally designed as an English Romantic park with open, flowing spaces and diverse environs, Forest Park today retains much of that character, especially in the eastern half of the park. Some features, however, have been modified to meet present day needs. This plan retains the original landscape character while introducing new midwestern or "Prairie Style" landscapes in appropriate locations throughout the park.

This design plan addresses both the formal and informal landscape features in the park, integrating them more closely to create "experiences" for the visitor that encourage park exploration. Using plantings, vistas, edge treatments, seasonal color, and other sensory qualities, the planners hope to return the park to its original design state: largely informal with occasional touches of dramatic formality.

The plan also addresses landscape issues from the perspective of public use and safety, maintenance of appropriate wildlife habitats, and ease and effectiveness of overall park maintenance.

B. Summary of Existing Conditions

1. Regional Context

Forest Park is the largest park in the region. While its topographic character is one of the primary spatial and aesthetic elements of the area, there is no predominant landscape "theme" in Forest Park.

Forest Park plays a significant role as a stop for migrating birds along the Mississippi River flyway.

2. History

Historically, the land that is now Forest Park was a transition area between upland forests south of River Des Peres and the shrubby bottom land with interspersed prairies to the north. This vegetative transition, along with the River Des Peres flood plain, created much of the spatial diversity that we see today.

Forest Park was originally designed as an English Romantic park with open, flowing spaces and diverse environs. Forest Park today retains much of that character, especially in the eastern half of the park. Many of the spaces envisioned in the original 1876 plan and 1904 World's Fair plan remain in some capacity, with a range of modified/contemporary uses. The park's topography is largely the result of the original configuration of River Des Peres prior to its burial into concrete sewer tubes.

3. Existing Conditions

Forest Park's landscape is aesthetically diverse, displaying a mix of grand meadows or grassy open spaces, intimate rooms, linear ribbons, formal open spaces and axes, aquatic and riparian environments, and naturalistic woodland and successional forest settings. However, much of the park lacks spatial definition and all-season visual drama. Without adequate amounts of habitat, "area sensitive" species suffer from inbreeding, roadside deaths and increased competition and predation from aggressive exotic species.

Most of the current tree planting, including the very positive memorial tree program, occurs in an ad-hoc manner with no coordinated plan to guide tree placement. Some of the park's plantings, in particular the conifers, are located in inappropriate locations in terms of site moisture, orientation, and use. Generally, the park is void of ornamental trees, shrubs, and diverse ground cover plantings which are necessary to provide healthy and diverse plant communities and aesthetic variety.

Forest Park contains numerous site relationships among its landscapes and its architecture. Major park facilities and architecture have historically been located and designed to accentuate or make use of the Park's topography. Dramatic views and axes between park facilities and landscapes were always stressed in past designs and many remain today.

*Basemap supplied by St. Louis County Dept. of Planning 1994

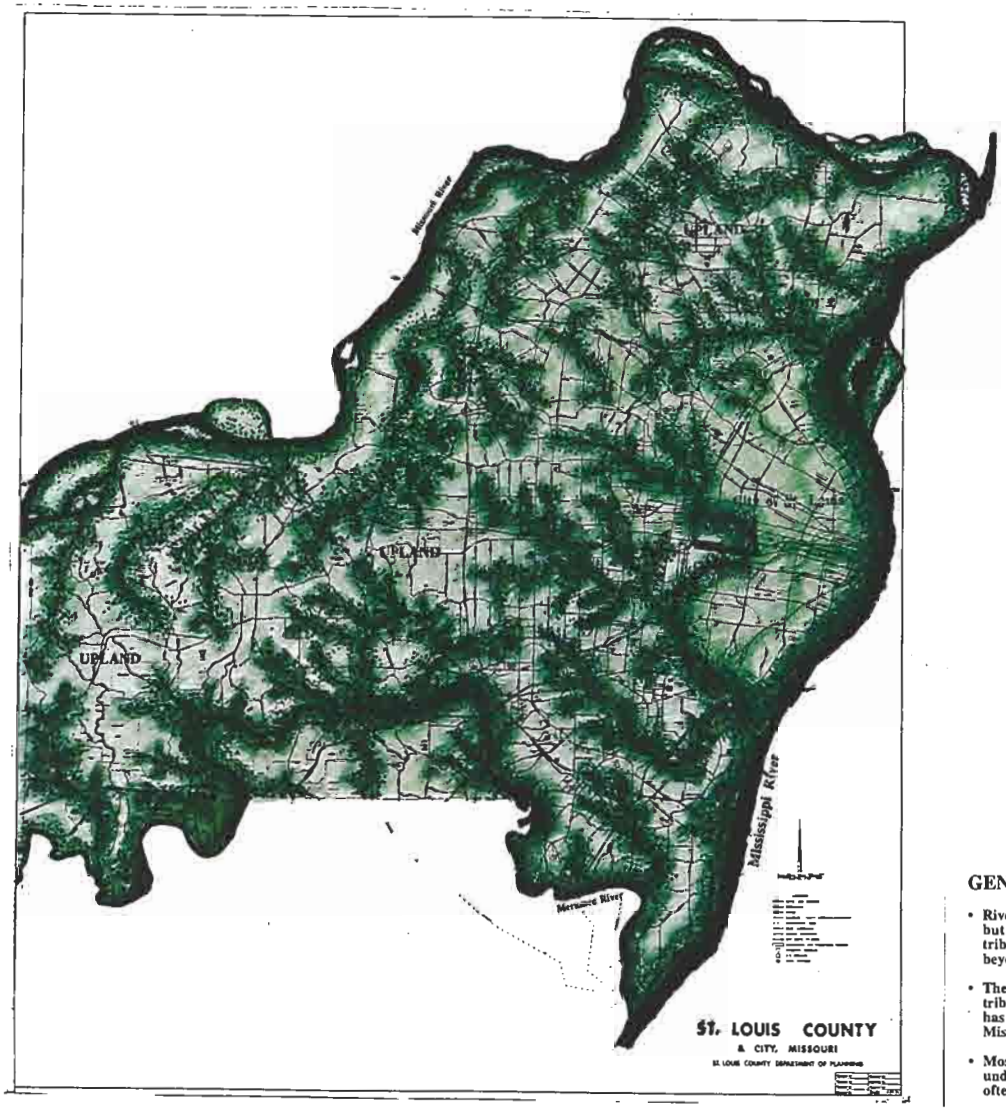
*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Analysis by Design Team 1995

LEGEND

TRIBUTARY AND/OR VALLEY

UPLAND



1995 REGIONAL TOPOGRAPHY MAP

GENERAL OBSERVATIONS

- River Des Peres, which once flowed above ground through Forest Park but is now buried underground, is part of the Mississippi River tributary system and accommodates a watershed which extends well beyond the park's boundaries.
- The topographic character of Forest Park, including its uplands, bluffs, tributaries and valleys, is representative of a regional topography which has been formed and altered over many years and supports the vast Mississippi River tributary system.
- Most of the Mississippi River's tributary system has been diverted to underground infrastructure within the City of St. Louis boundaries but often retain characteristic topographic character.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

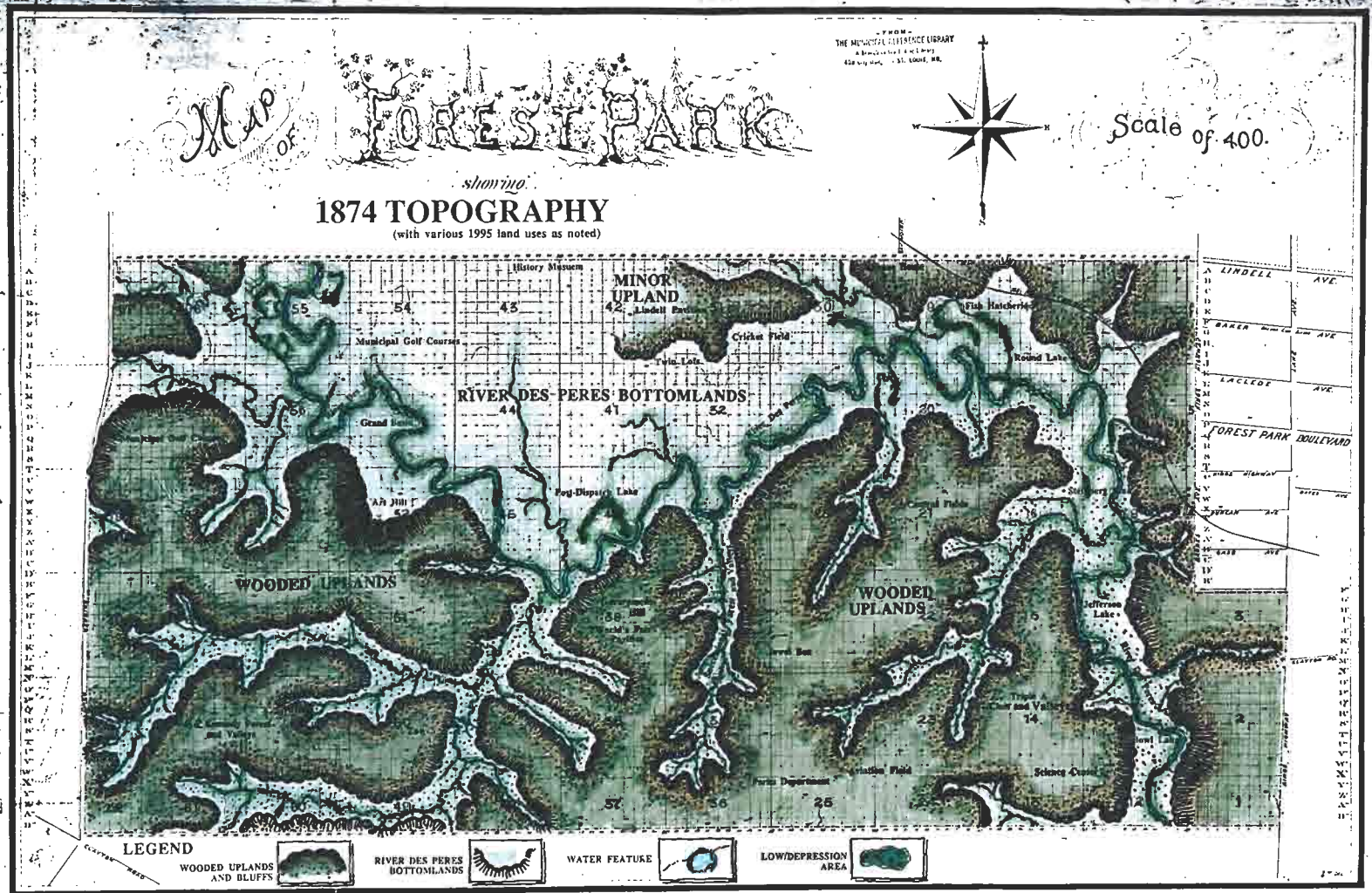
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



*Analysis by Design Team 1995
*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

GENERAL OBSERVATIONS

- The original topography was moderately rolling hills and valleys with a nearly level to gently undulating bottom land or flood plain.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

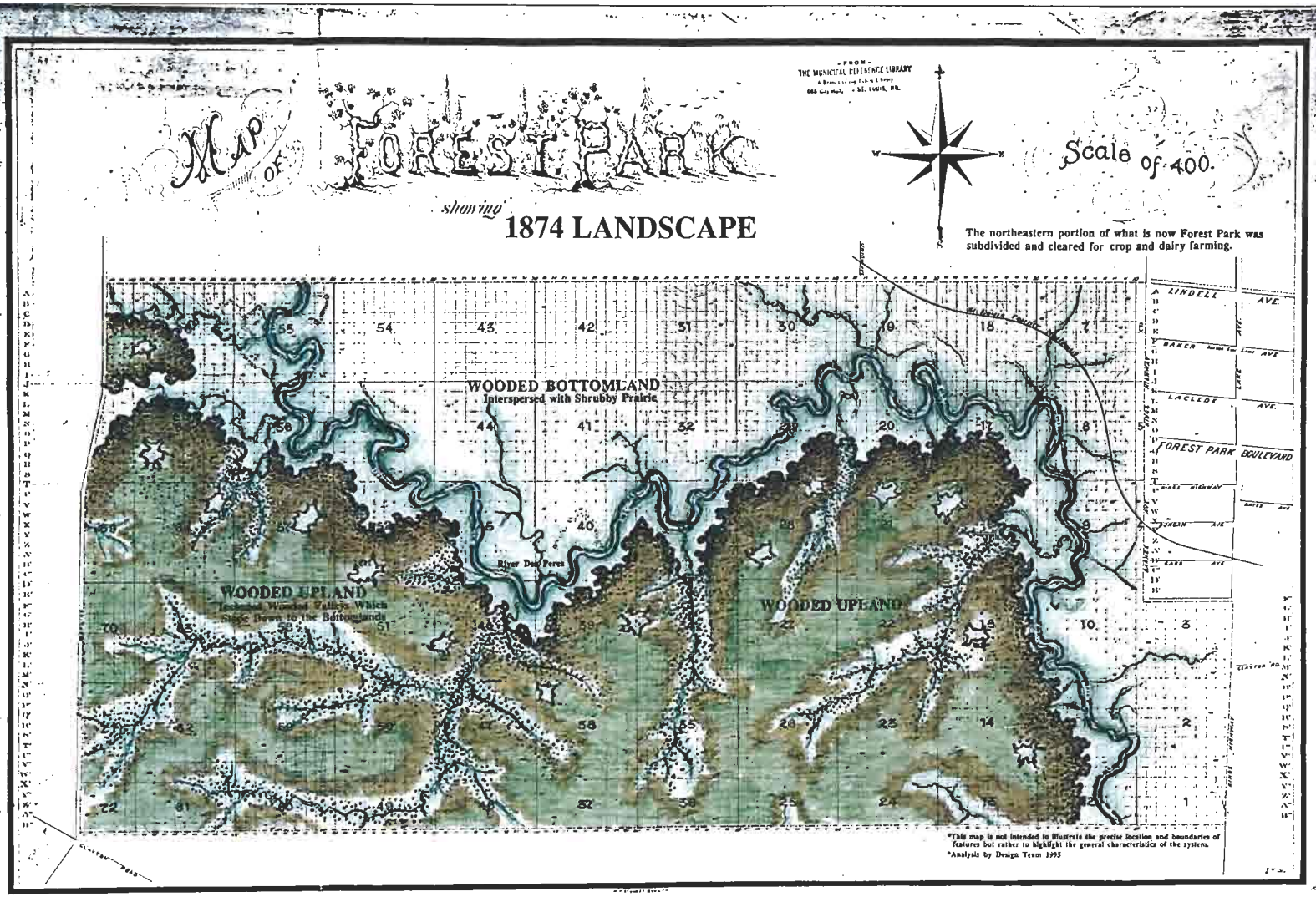
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



GENERAL OBSERVATIONS

- The city was approximately 40% forested and 60% prairie in pre-settlement time. The area east and north of Forest Park (the original River Des Peres Water Corridor) was primarily prairie while west and south of River Des Peres was woodland.
- The River Des Peres defined much of the vegetation and land forms at the time of Forest Park's creation.
- Internationally, for thousands of years, woodlands along the Mississippi River flyway have been used as a source of food and cover by migrating birds.
- Woodland vegetation was natural and adapted to the site (soils, slope and groundwater) and to the climate (temperature, rainfall, etc.).
- Woodland vegetation furnished habitat for many species of wildlife, a sediment filter, soil stabilization and a stormwater sponge.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

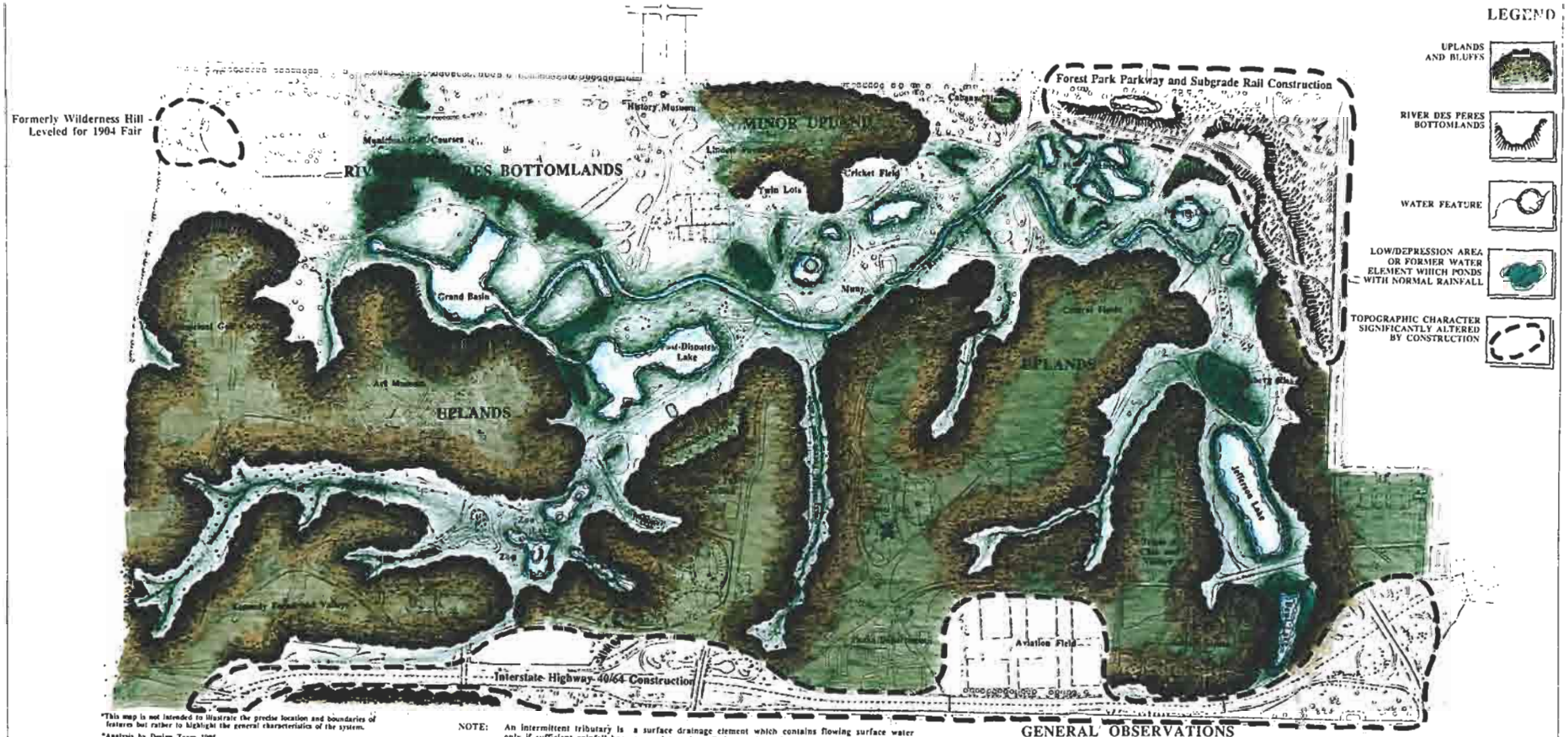
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



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*Analysis by Design Team 1995

NOTE: An intermittent tributary is a surface drainage element which contains flowing surface water only if sufficient rainfall has occurred to "charge" the area's surface or groundwater systems.

GENERAL OBSERVATIONS

- Much of the park's original topographic character still remains and now supports a variety of contemporary land uses including active and passive recreation. Many of the uplands are no longer wooded due to these contemporary uses.
- Many of the park's roads and path are not designed or located to complement existing topography and land forms, resulting in erosion, divided spaces and poor landscape quality.
- Water tends to collect in depressional areas. Surface ponding often occurs in former river, lake and intermittent tributary locations which have been filled or diverted.
- Major construction efforts associated with the 1904 World's Fair, major transportation projects, changing land uses and other related park planning have altered the topographic character in various locations throughout the park.
- Art Hill basically retains the topographic character envisioned in the 1876 Plan except for minor grading on the north side to provide a smooth slope to Grand Basin.

1995 TOPOGRAPHY MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

"This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

"Base Drawing Courtesy of Forest Park Forever & Kelly/Yarnell Landscape Architects." Analysis by Design Team 1995

- Decreases in dense understory vegetation have led to increased soil erosion, particularly on slopes >5%. Dense tree lined slopes with short mowed grasses cannot "check" runoff flows as well as dense, natural understory vegetation or a properly maintained shade tolerant grass mix or ground cover for high foot traffic areas.

1995 SLOPE MAP

LEGEND

STEEP SLOPES OVER 10%

GENERAL OBSERVATIONS

- The most severe slopes in the park are remnants of the original bluff and wooded valley system associated with the original River Des Peres. With much of the diverse natural vegetation removed, they contain the most serious erosion problems inthe park. This causes a series of problems including siltation of the park's surface water system.
- Steep slopes provide an opportunity for dramatic views, building siting and wildlife habitats however they are also potential erosion locations and must be carefully designed.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE 1" = 400' 0 400 1600 2800

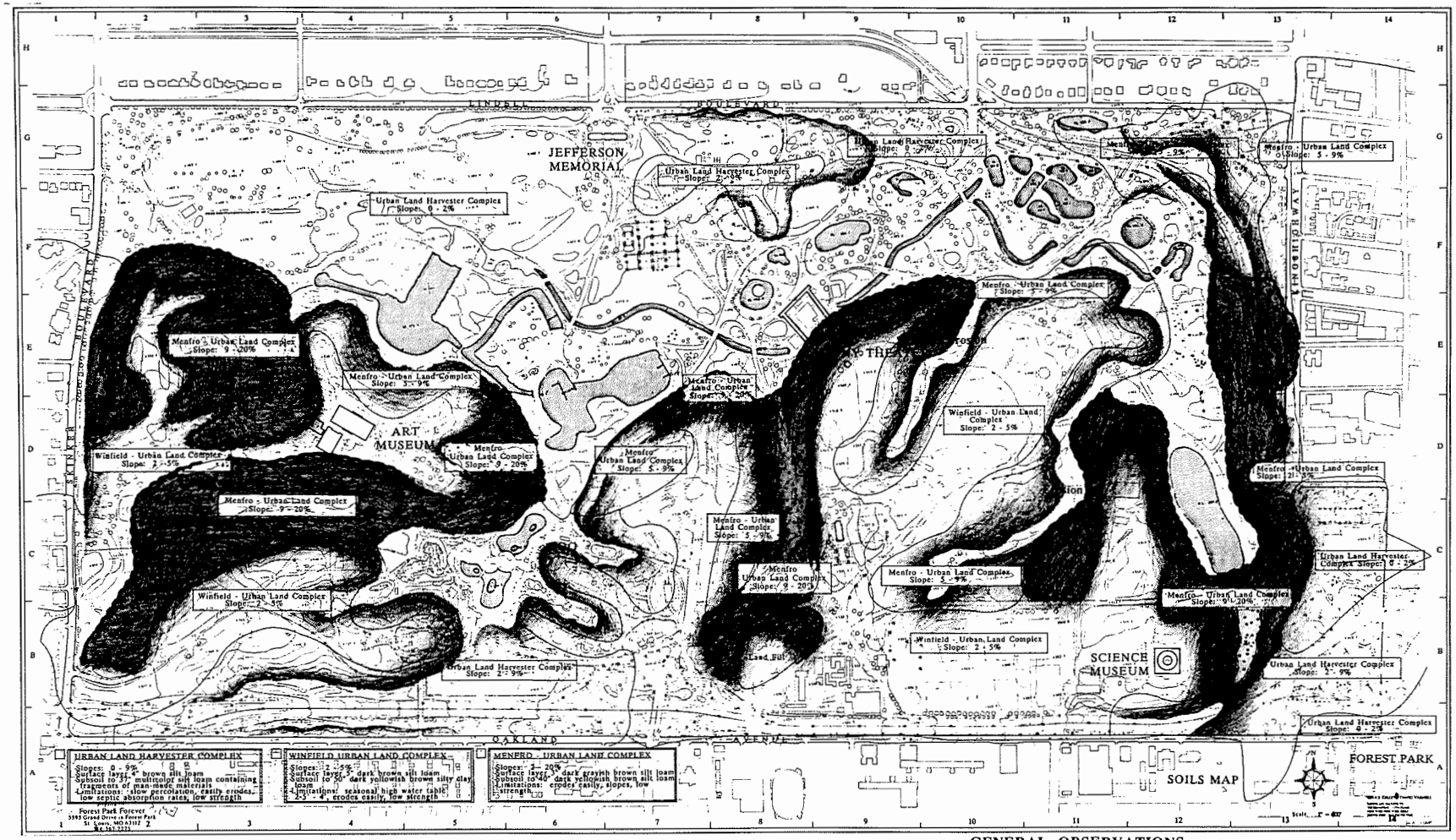
27 FEBRUARY 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Base Drawing Courtesy of Forest Park Forever & Kelly/Farrell Landscape Architects. Analysis by Design Team 1995

- Steep slopes and water edges which lack proper vegetative stabilization pose the greatest danger of erosion and subsequent siltation of the water system. Much of Forest Park suffers from this condition.
- High foot traffic areas such as path fringes and desire line paths have left sparsely vegetated, compacted soils that are more vulnerable to erosion.

1995 SOILS AND EROSION MAP

LEGEND

COMBINATION OF STEEP SLOPES AND HIGHLY ERODABLE, UNSTABLE SOILS WHICH POSE POTENTIAL AND EXISTING EROSION PROBLEMS

GENERAL OBSERVATIONS

- Most of the park's steepest slopes also contain the most highly erodible and unstable soils. Soils found on upland ridges, side slopes and valleys are highly erodible. Stability decreases as slope steepness increases.
- The erosion potential from the combination of highly erodible, unstable soils and steep slopes has implications on land use and development, vegetation selection and infrastructure design and location.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' (0, 400, 1600, 2800)

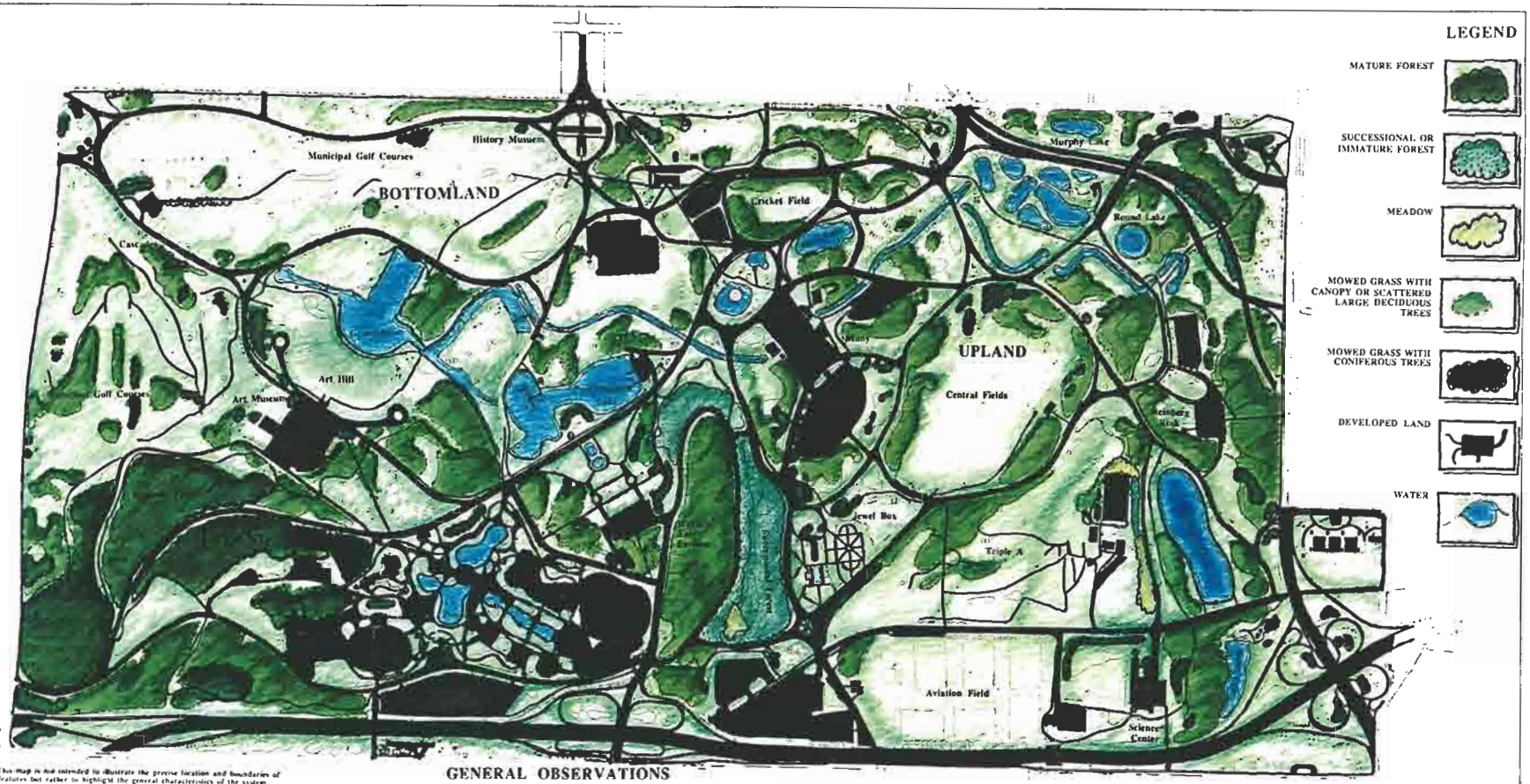
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



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*Analysis by Design Team 1995

1995 LANDSCAPE ENVIRONMENTAL QUALITY MAP

GENERAL OBSERVATIONS

- Roughly 90% of Forest Park is developed land or mowed green space which offers little wildlife value, does not help control soil erosion or stormwater runoff and provides minimal environmental benefit.
- The quality of Kennedy Forest suffers from past burning and logging and presently from trampling/soil compaction, a proliferation of aggressive exotic species which displace native vegetation, unnatural road intrusions that fragment the forest ecosystem and a general loss of biodiversity. The amount of true forest in the park (primarily Kennedy Forest) has been reduced from ±30% to ±6% (±80 acres).
- The importance of the natural landscape systems has not been established because these systems have generally not been inventuried, evaluated, stabilized or improved.
- Vegetative communities require space to grow and change. They need connections to the diverse seed and pollen source of other communities to remain healthy and diverse. The park's natural vegetation and wildlife communities are in danger of becoming inbred pockets of what was once a diverse and healthy natural system.
- The park's vegetative cover is classified as follows:

Mature Forest	*Characterized by four layers or categories of vegetation, dominated by many large canopy trees over 30' tall with scattered understory trees (10'-30' tall), scattered patches of shrubs (2'-10' tall) and unmowed ground layer characterized by spring ephemeral woodland wildflowers.*
Successional or Immature Forest	*Few scattered canopy trees over 20' tall, dominated by a mixture of young trees from 5'-10' tall and shrubs 2'-10' tall and unmowed ground layer of grass and/or herbaceous plants.*
Meadow	*Few scattered shrubs and young trees, dominated by unmowed ground layer primarily consisting of perennial and annual meadow flowers and herbaceous plants.*
Mowed Grass with Deciduous Trees	*Grass mowed/maintained at 6" or less, characterized by deciduous trees 20' or more in height with scattered trees and occasional canopy closure of more than 25%.*
Mowed Grass with Coniferous Trees	*Grass mowed/maintained at 6" or less, characterized by coniferous trees 20' or more in height with over 25% canopy closure.*
Developed Land	*Dominated by concrete, asphalt and other impervious surfaces. Scattered patches of flowers, shrubs and trees. Includes formalized plantings/gardens and foundation plantings along buildings and fences.*

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2400

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

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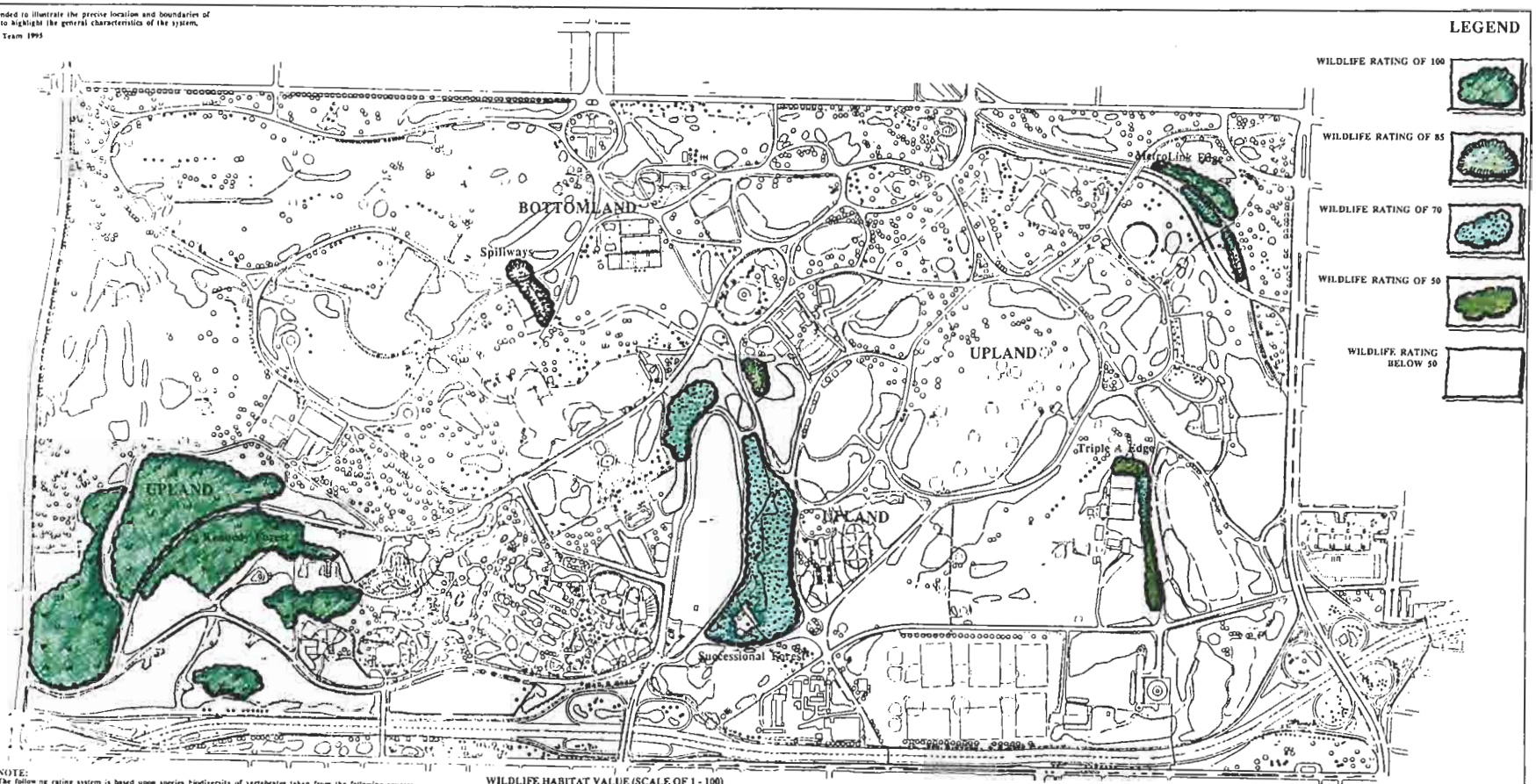
*Analysis by Design Team 1995



NOTE:
The following rating system is based upon species biodiversity of vertebrates taken from the following sources --

1. Animal Habitat Relations Handbook published in March, 1986 by Missouri Dept. of Conservation (MODOC) and the USDA Forest Service Rolla Office.
2. Habitat Summary of Species Known to Occur in St. Louis County and the Natural Heritage Database administered by MODOC and downloaded March, 1994.
3. Survey of Fish Populations of Forest Park Lakes by Prof. Nevio Aspinwall of St. Louis University in Oct. 1950.)
4. Personal observations and estimations by Design Team, 1995.

GENERAL OBSERVATIONS

The following wildlife habitat value numbers represent the relative diversity that various types of vegetation furnish to vertebrate wildlife species. (This system does not represent relative values of urban greenspace which are primarily based upon aesthetic interpretations which vary widely.)

1995 WILDLIFE HABITAT QUALITY MAP

WILDLIFE HABITAT VALUE (SCALE OF 1 - 100)

1 Developed landscape of buildings, etc. with possible nest/roost sites for pigeons and house sparrows.

5 Regularly mowed grasslands with foraging sites for geese, ducks and robins.

15 Lakes with mowed grass banks with limited habitats for fish, turtles and waterfowl.

25 Regularly mowed grass with large trees with over 25% canopy closure. Provides habitat for songbirds and other arboreal species.

50 Meadow dominated by annuals, some perennials and other herbaceous growth for small mammals, song birds, butterflies and other wildlife that feed on nectar and pollen.

70 Successional or immature upland forest dominated by shrubs and tree saplings. Provides a transitional mixture of shrubs and young tree habitats.

85 Marsh with moist/saturated soils and diverse mixture of emergent aquatic shores plants that provide breeding habitats for fish, frogs and turtles. Provides furaging habitat for herons, egrets, etc.

100 Mature upland forest with dense understory -- relatively high plant and animal diversity due to different layers of vegetation.

- Most of the park is classified in the lower value classifications of 1 and 5.
- The few areas which are classified in the upper values of 50 and 100 are not adequately connected to each other, resulting in habitat islands.
- Roughly 80% of St. Louis City is developed land and only 0.9% (±412 acres) is forested. Kennedy Forest is an oasis for migrating songbirds using the Mississippi River flyway.
- Overall, existing wildlife habitats have been degraded and fragmented within the park. Terrestrial wildlife species need vegetative corridors and linkages for daily and seasonal movement to maintain vitality.
- No comprehensive, year-long wildlife inventories of small mammals, amphibians and reptiles have been conducted in the park.
- Most of the water elements are classified as a 15, offering minimal fish and wildlife habitat. Closely mown grass around water resources compounds urban waterfowl problems such as geese and ducks and excludes egrets, herons, frogs, toads, turtles and other diverse and desirable wildlife which favor more natural vegetation.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

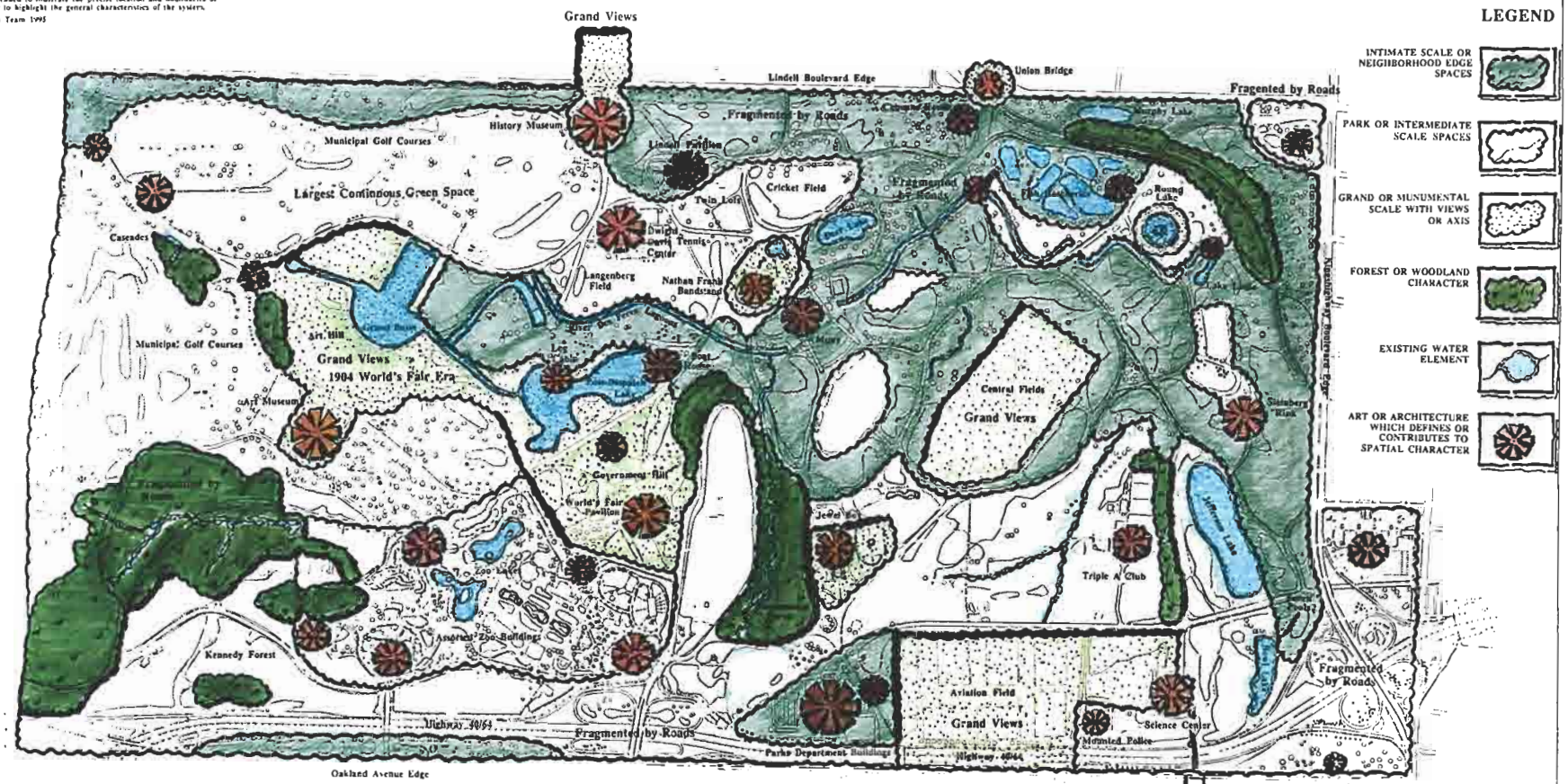
DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Analysis by Design Team 1995



NOTE: The Zoo contains a mix of intimate and park scale spaces with a variety of contributing buildings and water elements. It also contains artificially created exhibit spaces which display character not seen elsewhere in the park.

GENERAL OBSERVATIONS

- Spatial diversity is adequate yet many of these spaces lack proper spatial definition or have been fragmented by roads, parking lots or improperly located paths.
- There are a number of largely intact grand spaces, some from the 1904 World's Fair era, which need to be enhanced.
- There are few large expanses of continuous green space outside of the golf courses.
- Water defines or contributes to the character and conneets many diverse spaces.
- Art and Architecture defines or contributes to the character of many spaces and often receives its own character from surrounding landscapes and buildings.
- Many spaces either support or are the product of grand views and axis.
- There are many abrupt and awkward transitions between spaces of different character.

1995 SPATIAL CHARACTER MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 800 1600 2800

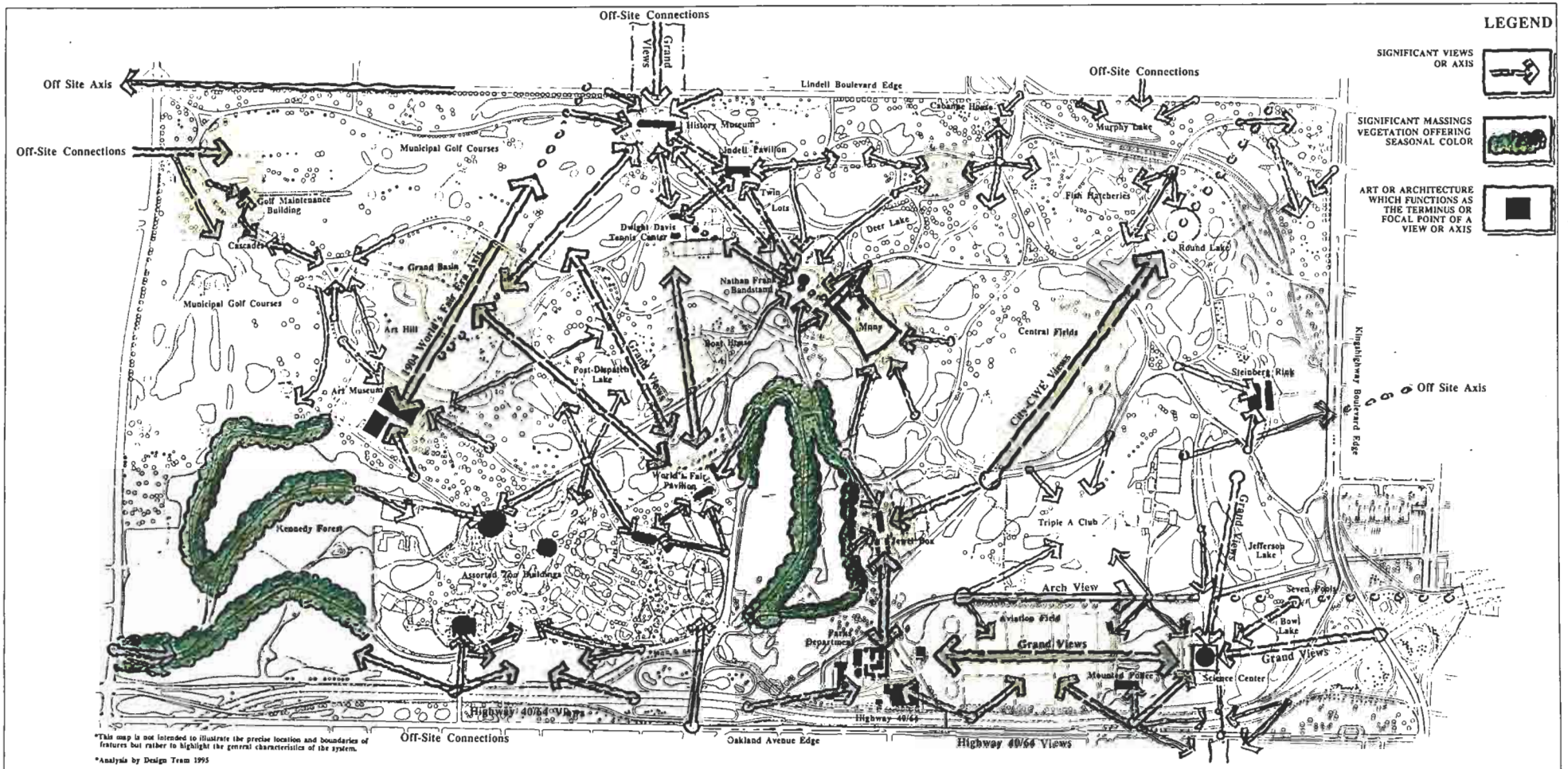
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



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*Analysis by Design Team 1995

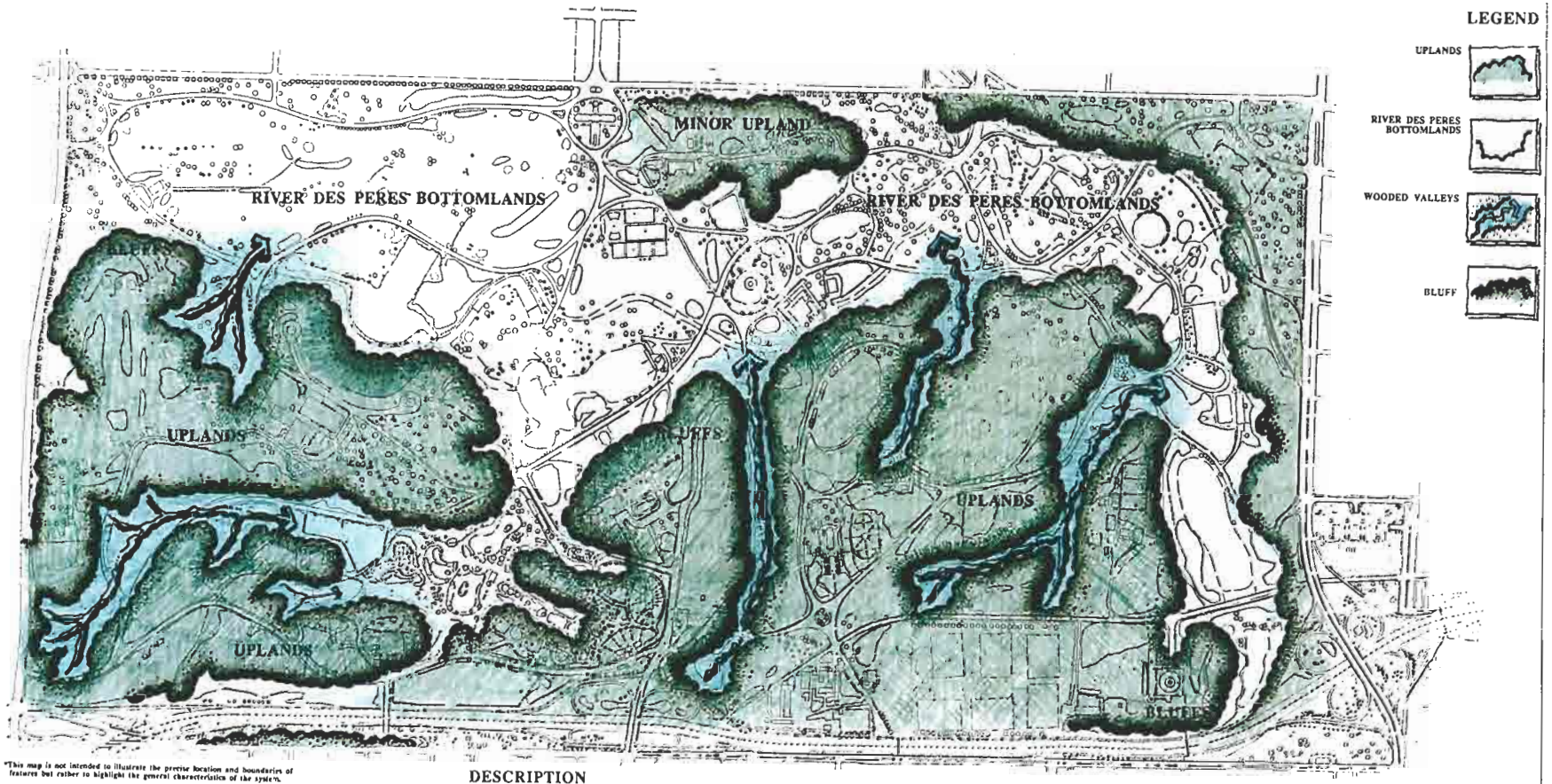
GENERAL OBSERVATIONS

- Many of the Forest Park's most significant landscapes lie within or are the product of visual axis between art and architecture.
- Some views and axis remain from the original 1876 Plan and 1904 World's Fair era.
- The highway 40/64 corridor contains significant positive and negative views which are seen by thousands of motorists daily.
- Many of the park's significant views and axis depend on art and infrastructure as the terminus or as contributing features.

1995 VIEWS AND AXIS MAP

C. Design Principles

- Emphasize land forms to define park experience.
- Emphasize site relationships.
- Integrate historically significant landmarks, landscape and site relationships.



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- Site planning should respect and accentuate the character of the River Des Peres Bottomlands, Uplands, Bluffs and Wooded Valleys.
- Site planning should utilize design approaches which are most suitable for each particular landform.
- The park's original River Des Peres corridor created a series of land forms which define the spatial character of the park. They are defined as follows:

River Des Peres	*River Des Peres was buried underground but its historic floodplain Bottomlands still remains as the low flat areas in the northern and eastern sections of the park.*
Uplands	*Higher elevations which once drained into the River Des Peres Bottomlands.*
Bluffs	*Transitional, sloping hill faces between the Bottomlands and Uplands above.*
Wooded Valleys	*Some of the original intermittent tributaries of River Des Peres which direct runoff water flow down from the Uplands to the River Des Peres Bottomlands below.*

- Where possible, steep slopes in excess of 10% should be left as natural areas and as passive recreation areas due to erosion hazards and development limitations.

DESIGN PRINCIPLE
Land Forms Define Park Experience

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

27 FEBRUARY 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

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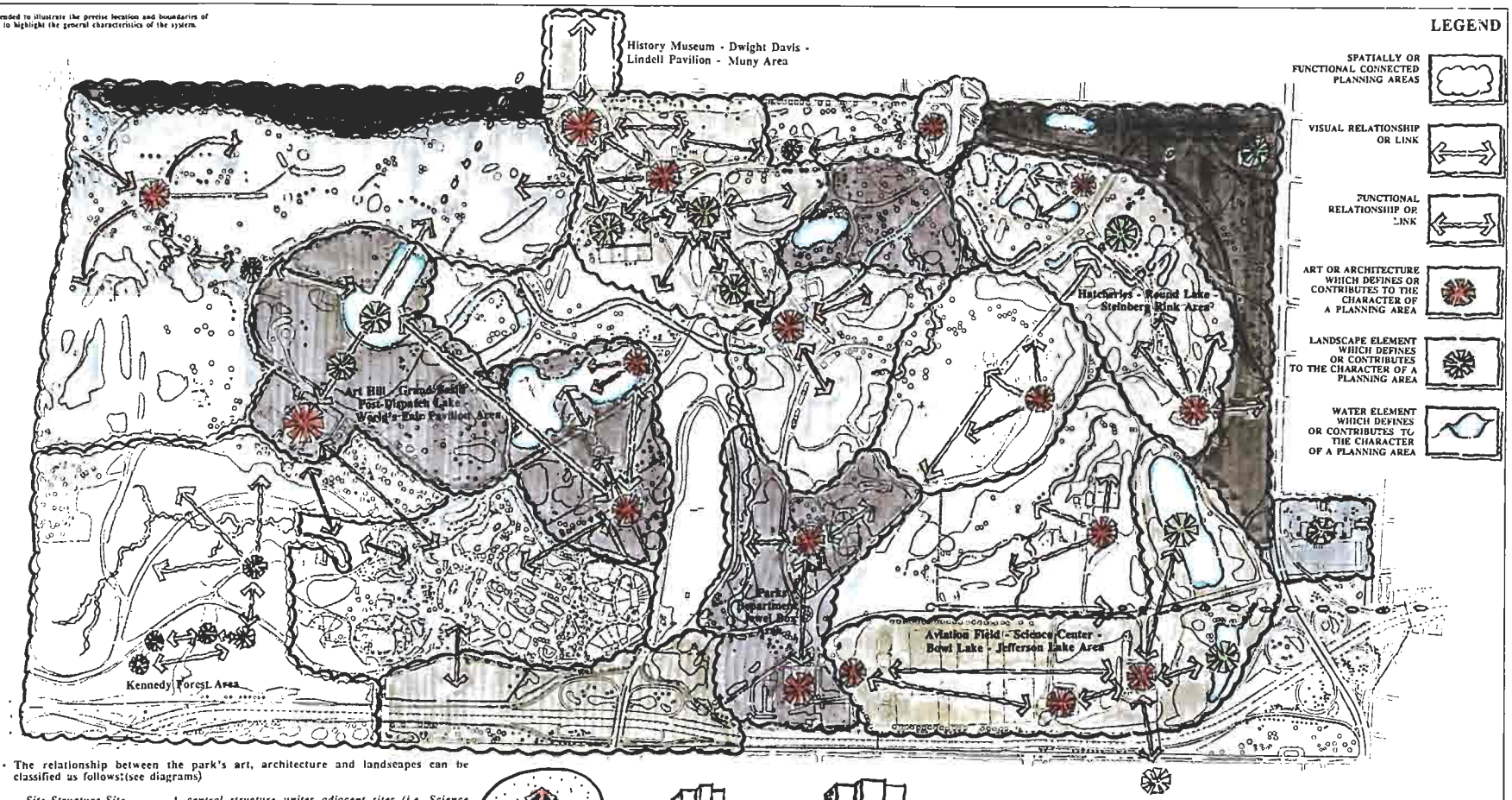


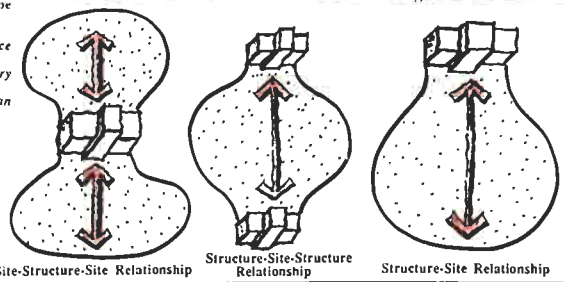
LEGEND

- SPATIALLY OR FUNCTIONAL CONNECTED PLANNING AREAS
- VISUAL RELATIONSHIP OR LINK
- FUNCTIONAL RELATIONSHIP OR LINK
- ART OR ARCHITECTURE WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA
- LANDSCAPE ELEMENT WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA
- WATER ELEMENT WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA

- The relationship between the park's art, architecture and landscapes can be classified as follows:(see diagrams)

Site-Structure-Site	*A central structure unites adjacent sites (i.e. Science Center-Bowl Lake-Archery Range relationship).*
Structure-Site-Structure	*A central site unites adjacent structures (i.e. History Museum-Lindell Pavilion relationship).*
Structure-Site	*A single structure and associated site function as an independent unit.*(Art Hill-Art Museum)

DESIGN PRINCIPLE
Emphasize Site Relationships



DESCRIPTION

- Sites containing art, architecture and landscapes should be linked together through a series of spatial and functional relationships. Clusters of individual sites often have spatial and/or functional relationships as well.
- Sites with spatial or functional connections should be treated as continuous, composite planning areas.
- Site design within planning areas should enhance their spatial and functional connections.

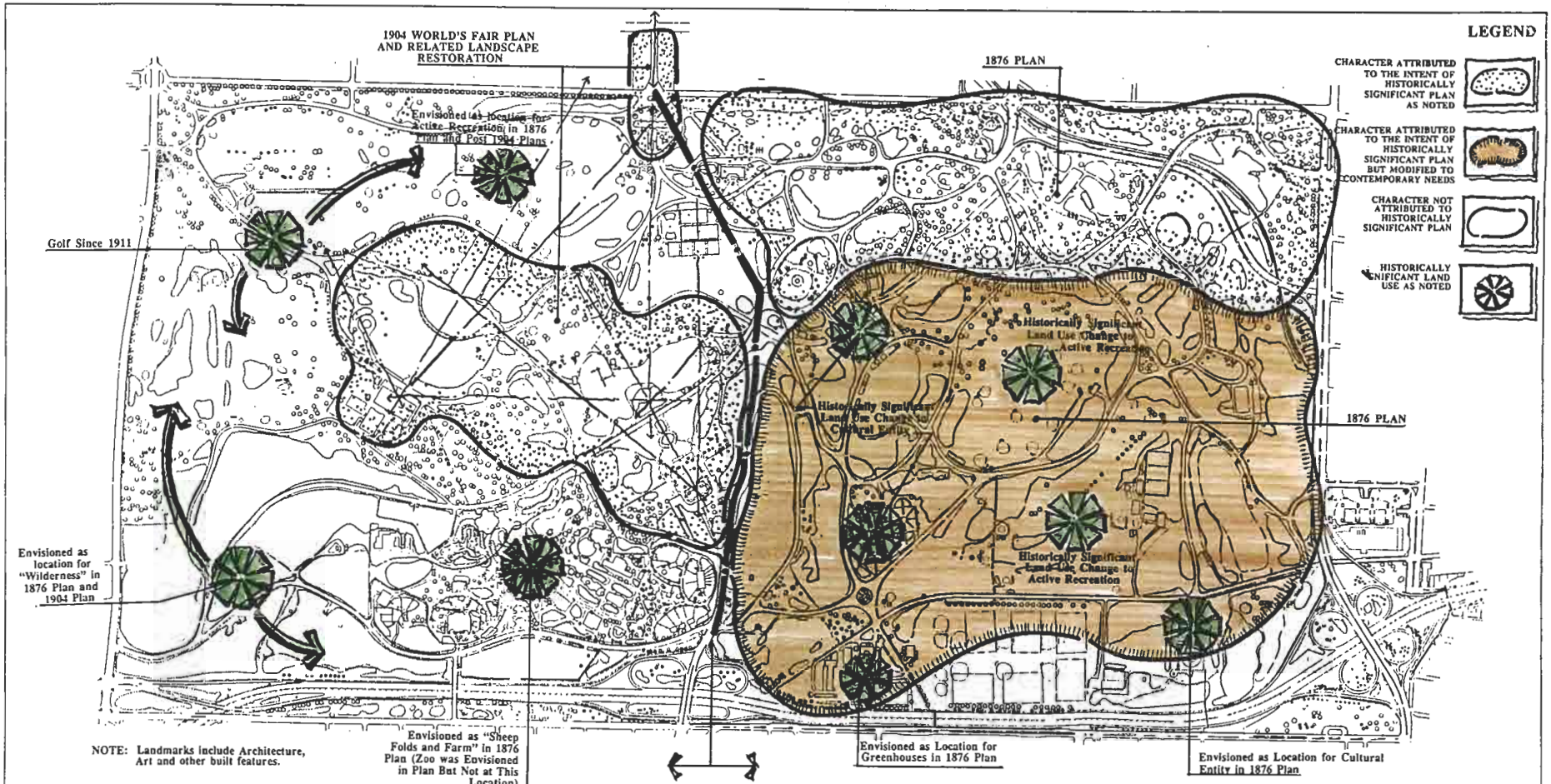
FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



DESIGN PRINCIPLE

Integrate Historically Significant Landmarks, Landscapes and Site Relationships

DESCRIPTION

- The park currently contains many historically significant landmarks, landscapes and site relationships which were inspired by the original 1876 plan, the 1904 World's Fair and related landscape restoration and other historically significant designs. Future design and management should respect these elements while considering appropriate contemporary uses which occupy these locations today.
- Historic landmarks, landscapes and site relationships should be viewed as equally important elements in future design and management.
- It is important to note that virtually every historically significant landmark, landscape and site relationship in the park has been modified to accommodate contemporary needs.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2000

27 FEBRUARY 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

D. Design Recommendations

1. General Approach

When determining a landscape plan for the park two factors should be considered.

The first and most general consideration is the "aesthetic type" or typology of landscape that is appropriate in any given location of the park. This typology is based upon the park's history and landscape tradition, current trends in park design and existing conditions. This is overlaid with the second factor, the functional considerations of landscape (i.e., what is the most appropriate plant community given the site's topography and soil condition). These two factors must be equally weighed in order to achieve hardy vegetation with the desired visual effect.

The typology and plant community factors are modified and made site specific when other factors such as spatial character and quality, public safety, land uses, wildlife, and maintenance are taken into account.

The recommendations presented here focus on one major objective: to rebuild and reconfigure the park's landscapes in a way that will build upon the positive aspects of well designed and functioning spaces while providing new and exciting spaces with character and potential uses not currently present in Forest Park. The park's existing informal, largely "English Romantic Style" designed landscapes will be accentuated along with the addition of new midwestern or "Prairie Style" landscapes, particularly along the water system and bottomlands, the Steinberg Rink area, Central Isthmus, and the Lindell edge east of Lindell Pavilion. The existing formally designed spaces of the Art Hill-Grand Basin and Government Hill areas will be accentuated, along with the addition of a highly formal treatment of Aviation Field.

The resulting landscape system will provide more dramatic views, more seasonal flower and leaf displays, improved biodiversity and general environmental health, and increased opportunities for passive recreation. Suggested plant species also aim to create a landscape which is better suited to site specific conditions and therefore requires less maintenance. Coordination with design solutions for the water system will also improve the quality and livability of the landscape system through pollution prevention and reduced soil erosion.

Aesthetically, Forest Park's landscapes have been designed with a mix of grand scale open meadows, sweeping bends, meandering linear spaces and intimate landscape rooms. There will be a variety of aesthetic treatments, ranging from naturalistic emergent vegetation to formal alées of trees. Throughout the landscape system, the water system will function as a unifying element.

As park users travel from Kennedy Forest to Bowl Lake, they will encounter a broad spectrum of vegetative communities and spatial experiences. Beginning in a mature upland forest, they will traverse the bluff system, which remains from the original River Des Peres before it was buried underground down to the River Des Peres bottomlands - the river's old flood plain. While following the bottomlands, they will encounter the formally designed Art Hill-Grand Basin area with its promenades and dramatic seasonal color displays. From Grand Basin, they will experience The Spillways — a naturalistic setting of cascading waters, stone outcroppings, and emergent vegetation. Across the lagoon they will find

The Clearing, a dramatic circular outdoor room with views of Government Hill and a "council ring" sculptural seating area at the center. As they travel down the linear, prairie style Central Isthmus, they will experience its sweeping views and horizontal plantings which lead the eye to the new Post-Dispatch Lake boathouse, virtually at the center of the park.

After a brief rest at the boathouse, park users can experience the formally designed Pagoda Lake area and the wetlands of the Union Entrance area. As the journey continues, they encounter the Hatchery Lakes area and the new Oxbow Lake. They will pass the dramatic Round Lake area with its semi-circle of bald cypress and the area's new flowering ornamental plantings, which welcome the park user into the prairie style Steinberg Rink area and its wetlands, horizontal plantings, and prairie river. From here they will pass the expansive Jefferson Lake, with its crabapple groves and finally arrive at Bowl Lake and Seven Pools, with their naturalistic edge plantings, crabapple groves, and nature trails.

To assure a vegetative legacy for future generations, the Master Plan contains an extensive reforestation program which recommends 7,500 new plantings and provides adequate maintenance budgets and equipment to ensure long term health. Biodiversity, consisting of many different plant species, is recommended to avoid mass vegetative loss due to disease or climatic conditions. A variety of plant size and age is also recommended to assure maximum age and spatial diversity.

2. Typology of Landscapes

There are two basic types of landscapes in Forest Park: formal and informal. Both formal and informal landscapes can be further defined as large, intermediate, small, or linear.

The park contains all of these various landscape types, which must be unified through the design of transitional areas or by common elements. These transitional areas should be designed to achieve the following:

- Continuity of space, regardless of roads, paths, or other barriers or disruptions.
- Smooth transitions with occasional dramatic or abrupt changes where appropriate.
- Visual links between distinctly separate spaces and adjacent landscapes via vistas and open visual corridors, creating a park with many diverse, yet unified and connected spaces. This creates site specific variety yet overall park unity.
- A variety of dynamic places, created through the design of the edges of spaces, land uses, plant communities, roads and paths, transitions between vegetation types, light and shade conditions, and land use change.

Formal Landscapes

Forest Park was designed as a romantic, informal park with occasional touches of formality. As envisioned in the original plan, the formal landscapes create "diamonds in the rough" when used to punctuate larger, organic, informal settings. These formal landscapes are unique to Forest Park and should remain and be upgraded. They include:

Grand-scale Formal Landscapes:
- Grand Basin
- Art Hill
- Government Hill
- Aviation Field

Intermediate- to Small-scale Formal Landscapes:
- Pagoda Lake
- Round Lake
- Jewel Box Gardens

Most of Forest Park's formal landscapes are situated within informal surroundings, creating dramatic surprises when one encounters them. This element of surprise must be accentuated in the transitional spaces between the formal and informal landscapes.

Specific design recommendations for formal landscapes include:

- Accentuate highly regular large-scale formal landscapes with multi-level, ornamental plantings for edge definition. These should be consistent with spatial and historic character, site context, and the overall design of the particular space.

- Utilize straight line axes as well as dramatic curves and circles when designing formal landscapes.

- Emphasize simplicity and cost effectiveness in order to maintain formal or highly regular landscapes with current low level maintenance budgets.

Informal Landscapes

The majority of Forest Park is a tapestry of informal landscapes with irregular forms and edges. Most are intermediate to small scale landscapes, highlighted by canopy trees and grassy meadows, naturalistic settings, and woodland areas. One example of this type of informal area would be the Cricket Field. Other informal landscape areas may be much larger, grand-scale landscapes, such as Central Field, Triple A Golf Course, or the Municipal Golf Course upland holes. Finally, there are also a number of linear scale informal landscapes, which include Lindell Edge: DeBaliviere to Union, Langenberg Field, Central Isthmus, Steinberg Area, and spaces which follow the lagoon system.

Design recommendations for these various informal spaces include:

- Accentuate highly regular large-scale informal landscapes with multi-level, ornamental plantings for edge definition. These should be consistent with spatial and historic character, site context, and the overall design of the particular space.

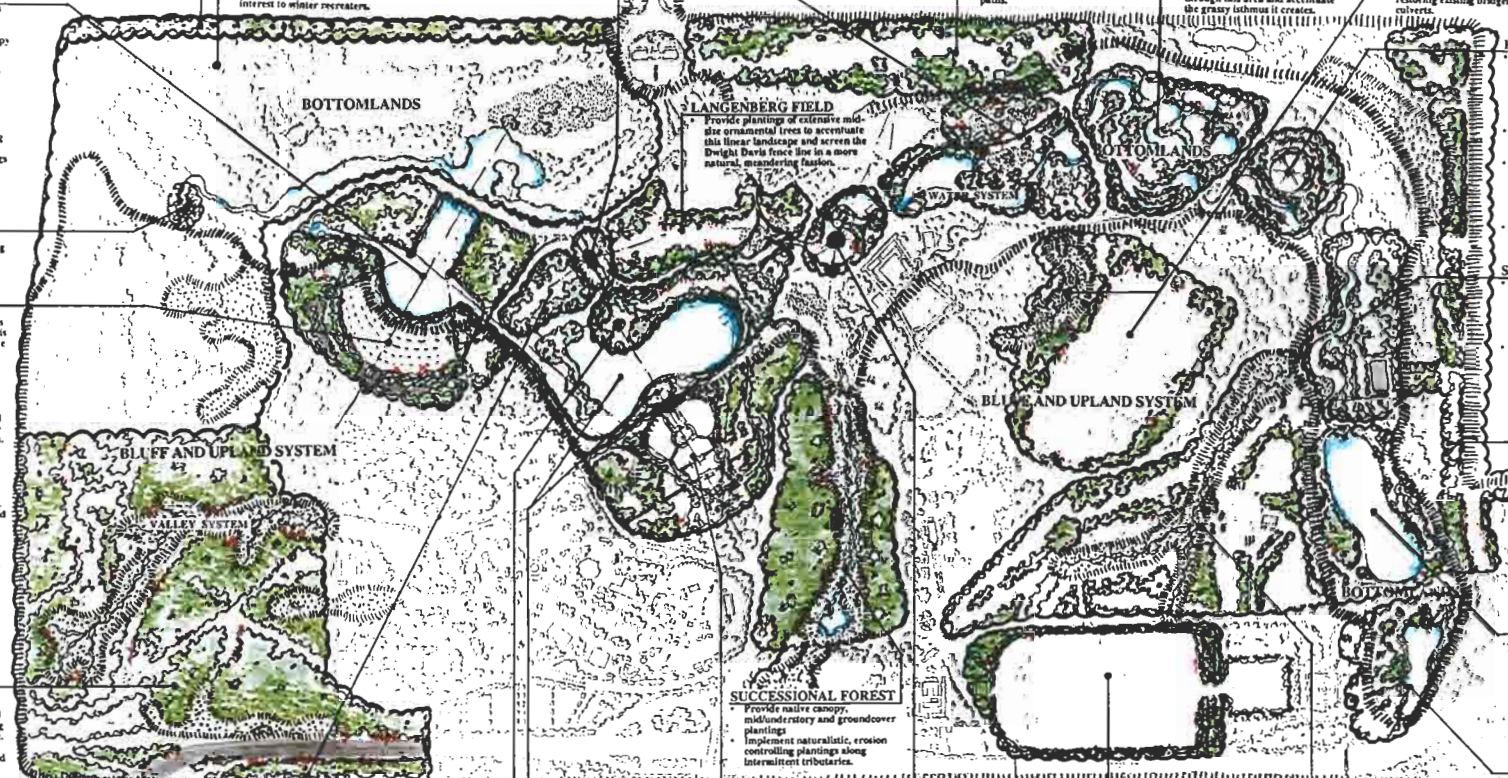
- Design linear landscapes in sweeping curves and bends, avoiding straight lines and unnatural or tight curves unless part of a formally designed area.

- Connect and unify many diverse spaces by creating visual open, linear corridors, some of which parallel the water system.

- Create edge definition for linear landscapes through multi-level plantings, paths and water features.

- Visually constrict or "pinch" spaces at key locations to provide spatial diversity and to create the visual illusion of limitlessness along linear landscapes.

- Select plantings for road and path edges which reflect park location and associated plant composition (i.e., informal bottom land plantings for a road/path through an informal bottom land area).
  - Avoid applying a single road or path planting "theme" for the entire park.
  - Utilize trees with a high branching angle to provide adequate clearance for circulation.
  - Reduce the scale and height of path edge plantings to match the more intimate human scale as opposed to the larger scale required for automobiles and buses.



LINDELL EDGE - SKINKER TO DE BALIVIERE
- Maintain the existing alee of trees along Lindell, replacing missing trees where necessary.

MUNICIPAL GOLF COURSES
- Enhance water bodies, wetlands and valleys.
- Redesign the bottomlands to create unique landscape character which aesthetically relates to surrounding topography and water features.
- Provide a landscape terminus to the Art Hill/Grand Basin visual axis.
- Increase the use of evergreen plantings to accentuate uplands and hillsides and to provide visual interest to winter recreaters.

SPILLWAYS AREA
- Enhance the naturalistic cascading character with emergent vegetation and additional stone outcroppings which replace existing industrial appearing spillways.
- Provide naturalistic shoreline plantings which improve water quality, aesthetics and provide wildlife habitat.

UNION ENTRANCE AREA
- Create a unique entrance landscape in this highly visible location with a wetland or wet meadow which displays dramatic seasonal variations of color and texture. Accentuate this wetland with scattered canopy and flowering ornamental trees.

LINDELL EDGE - DE BALIVIERE TO UNION
- Highlight this linear landscape with extensive mid-size ornamental trees which display a more horizontal character.
- Reconfigure inappropriately placed plantings located to the south of the Daughters of the Confederacy monument to frame views and provide visual linkages with surrounding landscapes, roads and paths.

HATCHERIES AREA
- Accentuate the existing informal landscape character around the reconfigured lakes.
- Provide plantings that frame some views from Forest Park Parkway and MetroLink while buffering noise and negative views from the lake area in areas closest to the roadway.
- Provide informal shoreline plantings along the lagoon as it runs through this area and accentuate the grassy isthmus it creates.

CENTRAL FIELDS
- Install informal perimeter plantings with shade trees and mid/understory plantings of flowering ornamentals to minimize visual impact of backstops and dirt infields while framing grand scale, expansive open green space.
- Improve the quality of the adjacent braided stream tributary with naturalistic edge plantings and occasional rock outcroppings, restoring existing bridges and culverts.

GRAND BASIN AREA
- Flank the basin and accentuate its grand pedestrian avenues with formal rows of flowering ornamental trees, backed by canopy trees which relate to surrounding landscapes. Utilize trees with a high branching pattern to provide head clearance for pedestrian circulation.
- Create an informal open picnic meadow west of the basin with views to Grand Basin, Art Hill, Bates Monument and surrounding landscapes.
- Provide more naturalistic plantings in appropriate areas of adjacent lagoons.

CASCADES
- Install lush understory plantings suitable for this moist, north facing shady slope.

ART HILL AREA
- Provide ornamental tree plantings and paths at the east and west sides of the hill which spatially define this grand scale formal space and frame dramatic views.
- Mow the grassy hill in a way that creates horizontal light and dark green bands when viewed from Grand Basin.
- Create spaces to the east and west of the hill which are more informal than the central hill, relating to the lagoons which travel through them. Consider utilizing seasonal wildflowers and/or other showy groundcover in these areas.
- Configure plantings to frame the Art Museum when viewed from Grand Basin or the base of the hill. Plant the sweeping promenades and overlooks at the hill's crest with flowering ornamental, canopy and evergreen trees.
- Increase evergreen and upland forest plantings which relate to the area's winter use, form a green backdrop to seasonal color of ornamental plantings and to give the impression of a change of vegetation as one moves higher in elevation from the bottomlands to the uplands.

KENNEDY FOREST
- Provide native canopy, mid/understory and groundcover plantings which improve ecological and aesthetic quality while allowing safe recreation and educational use. Support MODOC's plans to provide vegetative management and nature trail operation and supervision.
- Install plantings along area roads and highway 64/40 which reduce the visual and audible impact on park users while providing dramatic visual effects for passing motorists.
- Implement naturalistic, erosion controlling plantings along intermittent tributaries.

LANGENBERG FIELD
- Provide plantings of extensive mid-size ornamental trees to accentuate this linear landscape and screen the Dwight Davis fence line in a more natural, meandering fashion.

ROUND LAKE AREA
- Accentuate the existing semi-circular planting of Bald Cypress trees which surround the east side of the circular lake with similar plantings to the west, adding an additional layer of flowering ornamental trees.
- Redesign the existing lagoon to mirror the shape of Round Lake and the plantings to its west.
- Re-align the path to take users from a constricted tree lined setting south of the lake to the dramatic, open views of Round Lake and its fountain as one travels north from Steinberg Rink.
- Accentuate views from automobiles using Grand Dr., framing views with vegetation.

STEINBERG RINK AREA
- Install predominantly mid-size ornamental trees which display a more horizontal character which relates to surrounding landscape character and Steinberg Rink architecture.
- Create the effect of a "Prairie River" in this portion of the water system, with scattered wetlands/wet meadows and naturalistic shoreline plantings. Consider creating nature trails/boardwalks through these sensitive landscapes.

KINGSHIGHWAY EDGE
- Restore and uplight the existing alee of trees and add an additional row of flowering ornamentals to the sidewalk edge and medians.
- Improve landscaping and overall spatial character of the triangle plaza at Lindell and Kingshighway.
- Provide dramatic flowering ornamental plantings which accentuate the sweeping, curvilinear paths which link the new Children's Place pedestrian plaza with Steinberg Rink. Provide flowering ornamental and seasonal perennial/annual flowering displays in the plaza itself.

JEFFERSON LAKE AREA
- Create a Crabapple grove along the grass embankment along the east side of Jefferson Lake.
- Extend the naturalistic, successional landscape character currently present along the eastern edge of Triple A to the west side of the lake.
- Enhance the dramatic cascading water input at the south end of the lake with lush, cascading vegetation.

BOWL LAKE AREA
- Create a "Crabapple grove" along the highly visible east embankment of Bowl Lake, accentuating this with spot masses of evergreen plantings and flowering meadow ground treatments.
- Construct an earthen berm at the southern end of the lake along the Highway 64/40, with evergreen and flowering ornamentals to visually define the space, screen undesirable views of traffic and dilute extensive Hwy. 64/40 noise.
- Create a unique water outfall at the north end of the lake.
- Accentuate Seven Pools with appropriate understory plantings typical of a south facing glade.
- Accentuate the plantings which define the lake's bend and make it appear much larger than it really is.
- Provide naturalistic shoreline plantings and possibly boardwalks and overlooks.

SUCCESSIONAL FOREST
- Provide native canopy, mid/understory and groundcover plantings
- Implement naturalistic, erosion controlling plantings along intermittent tributaries.

PICNIC ISLAND
- Create an informal woodland of canopy trees and scattered ornamentals.
- Provide dramatic water edge plantings while maintaining an open grassy central portion for public use and visual corridor.

CENTRAL ISTHMUS AND CLEARING
- Provide edge plantings of canopy trees, flowering ornamentals and mid/understory vegetation. Locate plantings to highlight the sweeping linear landscape and create intrigue with open spaces which appear to vanish around the bend of water or vegetation. Utilize extensive mid-size ornamental trees which display a more horizontal character.
- Locate an open, circular grassy room "The Clearing", surrounded by canopy trees and select ornamental mid-story trees. Locate a large circular stone seating or "Council Ring" (approx. 40' diameter) in the center.

POST-DISPATCH LAKE AREA
- Utilize plantings, public art and site furnishings to focus the eye on dramatic views, historic axes, water reflections and area architecture.
- Accentuate "The Promenade" with flowering ornamental trees in the hillside behind the pathway, utilizing trees with a high branching pattern to provide head clearance for pedestrian circulation.
- Locate plantings around the Jahn monument to frame views and provide visual linkages with surrounding landscapes and paths.
- Accentuate the dramatic pedestrian plaza with flowering ornamental trees and decorative site furnishings.

GOVERNMENT HILL
- Supplement the existing mature evergreen plantings with additional ones, fronted by flowering ornamental trees and shrubs.
- Restore this historic landscape with ornamental plantings, restored pavement and stairs, seating and lighting. Restore some of the formal floral displays which once adorned the hillside.
- Accentuate and spatially define small sub-spaces or rooms to the east and west of the central hill. Consider placement of public art and other small scale site furnishings in these locations.

PAGODA LAKE AREA
- Install formal decorative plantings of canopy trees, conifers, flowering ornamentals, groundcovers and perennial plantings along with appropriate site furnishings to highlight this space as the center of the park.
- Utilize plantings and site furnishings to accentuate visual axes from adjacent roads, paths and between area public art.
- Install dramatic seasonal plantings on the bandstand island. Protect plantings from nuisance waterfowl by installing a bridge, either permanent or event based, to allow island access for natural predators.

AVIATION FIELD
- Install formal perimeter plantings with regularly spaces shade trees and mid/understory plantings or flowering ornamentals to minimize visual impact of backstops and dirt infields and diffuse some traffic noise while framing grand scale, expansive open green space. Replace missing trees from the existing highly regular plantings.

TRIPLE A CLUB
- Accentuate valleys and uplands with trees and shrubs which display dramatic seasonal color and control erosion. Utilize a mixture of upland and bottomland species.
- Replacing the existing barberry border hedge with more appropriate, multi-level plantings of low shrubs, flowering ornamental midstory trees and canopy trees which accentuate the Clayton Road streetscape. Utilize plantings which discourage random pedestrian access to the golf course.
- Increase evergreen plantings to accentuate uplands and hillsides and to provide visual interest to winter recreaters.

CONCEPTUAL DIAGRAM
Landscape Recommendations

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1" = 400' (0, 400, 1600, 2800)

November 18, 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

3. Plant Communities

A natural approach to landscaping is best accomplished by determining what plant communities originally existed on a site, selecting the desirable plant species from that community (and/or other similar species), preparing the site for rehabilitation, and then replanting. This approach reduces maintenance costs and susceptibility to disease and pest infestation. This approach can be applied to the different height levels or size components of the landscape (such as the ground level, shrub level or tree level) or can involve a mixed, multi-level approach.

- Implement a natural design approach which:
  - Emphasizes planting of native vegetation to reduce maintenance costs and susceptibility to disease and pest infestation.
  - Utilizes trees and shrubs that enhance the fall color display.
  - Utilizes trees and shrubs that increase spring flowering display.
  - Utilizes trees, shrubs, and herbaceous species that have a high aesthetic appeal (ex. decorative foliage, fruit, etc.).
  - Avoids selecting plant species that are characteristically aggressive (for example, spread rapidly by root suckers).
  - Increases the park's biodiversity to reduce the chances for natural catastrophes caused by insects and diseases (According to the park tree inventory, 31% of the trees surveyed in the park belong to five tree species and 58% belong to 15 tree species.).
  - Increases wildlife habitat for aesthetically-pleasing species such as songbirds and butterflies.
  - Increases the vitality of the park's evergreen tree component — primarily coniferous trees (Although over 20% of the trees surveyed in the park are conifers, a majority of these trees are in decline, suffering from pest damage).
  - Select plant species that will stabilize steep banks and reduce soil erosion.

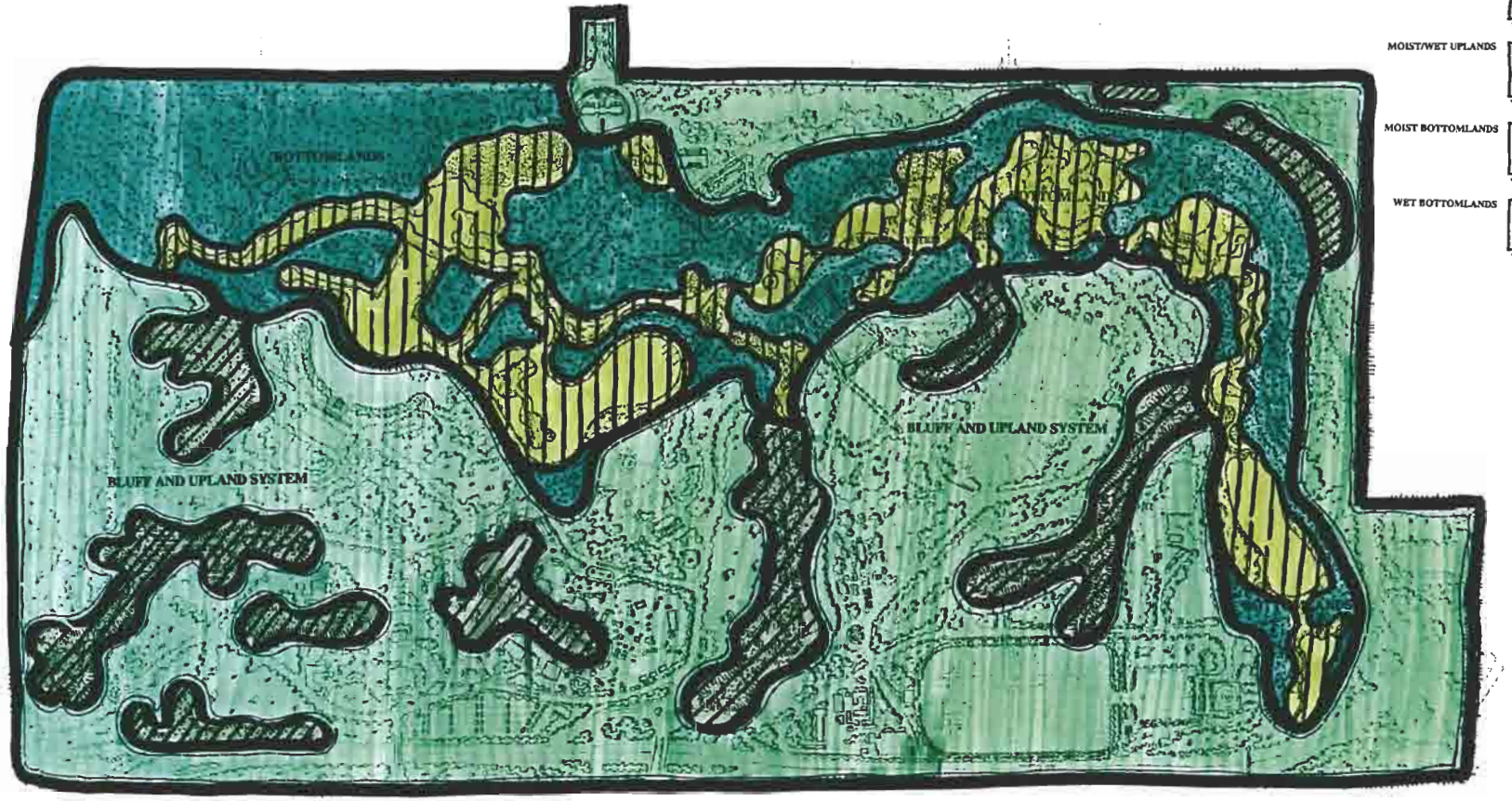
- Utilize plantings which are typical of a particular site's topographic character, soil and geological qualities, drainage, slope orientation, light/shade requirements, wind, and element tolerance.

- Establish trees and shrubs of similar species and varying sizes in arrangements or communities over large geographic areas to achieve a naturalistic character and ensure future age and size diversity.

- Plant steeply sloped areas with trees, shrubs and ground cover/perennials to reduce foot traffic, resulting soil erosion, and the need to mow while providing dramatic seasonal vegetative displays.

- Relocate plantings at a young age, whenever possible and dictated by land use decisions, to improve the survival rate of these trees and reduce the need to provide new plantings elsewhere.

- Utilize plants from the following species composition list in future landscape designs (organized according by size and topography/site moisture categories):



LEGEND

- DRY UPLANDS, PLATEAUS, BLUFFS AND RIDGES
- MOIST/WET UPLANDS
- MOIST BOTTOMLANDS
- WET BOTTOMLANDS

GENERAL GUIDELINES

Establish trees and shrubs of similar species in arrangements or "communities" over large geographic areas to achieve a naturalistic character. Plant trees of varying size to enhance this effect and ensure future age and size diversity.

Utilize plantings which are typical of a particular site's topographic character, soil and geological qualities, drainage, slope orientation, light/shade requirements, wind and element tolerance, etc.

Emphasizes planting of native vegetation to reduce maintenance costs and susceptibility to disease and pest infestation.

Consider the following:

- Utilizes trees and shrubs that enhance the Park's fall color display.
- Utilizes trees and shrubs that increase the Park's spring flowering display.
- Utilizes trees, shrubs, and herbaceous species that have a high aesthetic appeal (ex. decorative foliage, fruit, etc.).
- Avoids selecting plant species that are characteristically aggressive (ex. spread rapidly by root suckers).
- Increases the Park biodiversity to reduce the chances for natural catastrophes caused by insects and diseases (According to the Park tree inventory, 31% of the trees surveyed in the Park belong to 5 tree species and 58% belong to 15 tree species.).
- Increases wildlife habitat for aesthetically-pleasing species such as songbirds and butterflies.
- Increases the vitality of the Park's evergreen tree component--primarily coniferous trees.
- Select plant species that will stabilize steep banks and reduce soil erosion.

Vegetative Communities

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

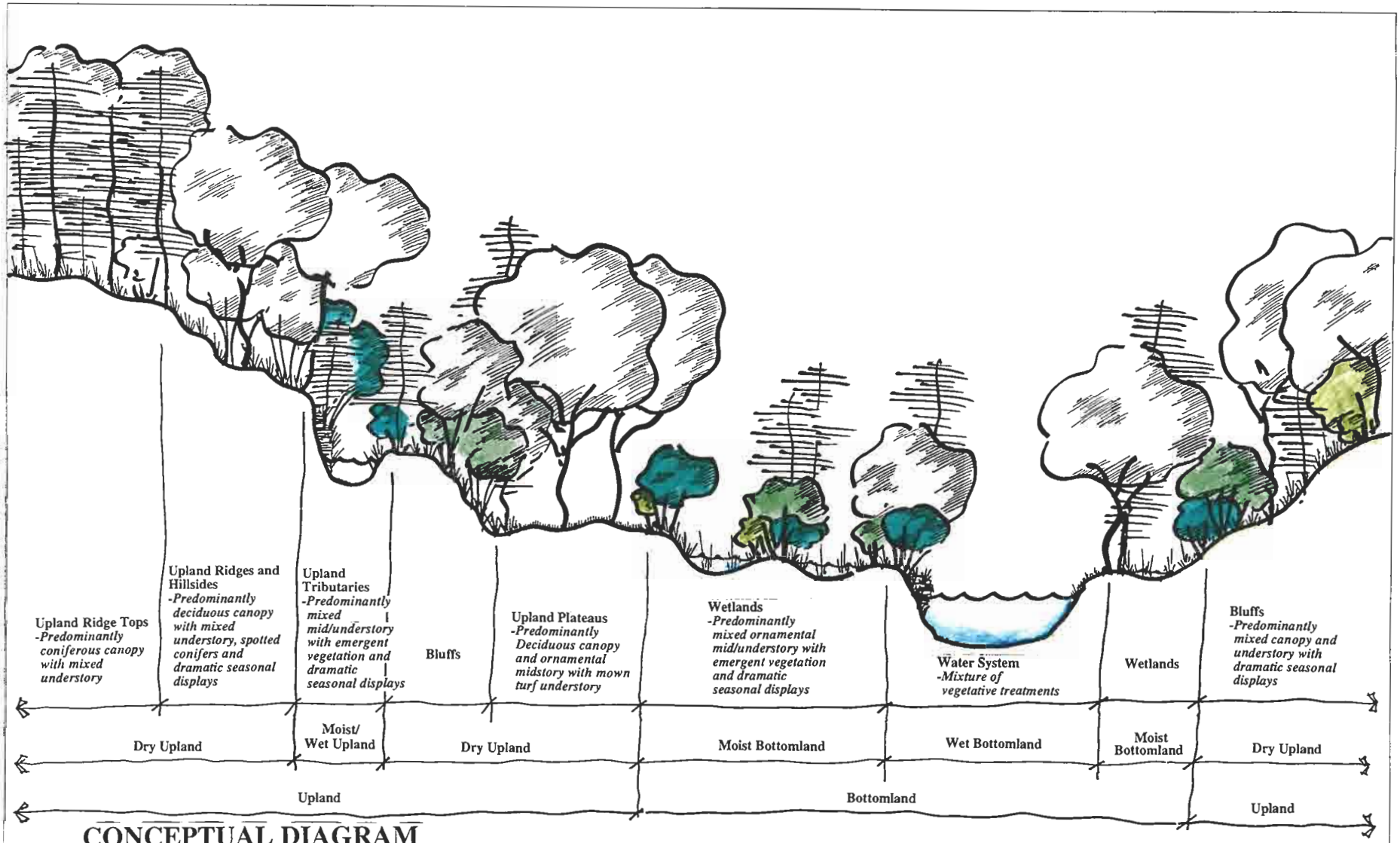
November 18, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



CONCEPTUAL DIAGRAM
Vegetative Community Section

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

Dry Upland Plant Species

Large Tree Category (30 feet tall or more)

- American beech
- bitternut hickory
- black cherry
- black or sour gum
- green ash
- mockernut hickory
- persimmon
- pignut hickory
- red maple
- sassafras
- shagbark hickory
- shellbark hickory
- sugar maple
- sweet gum*
- white ash

Small Tree & Large Shrubs (10 to 30 feet tall)

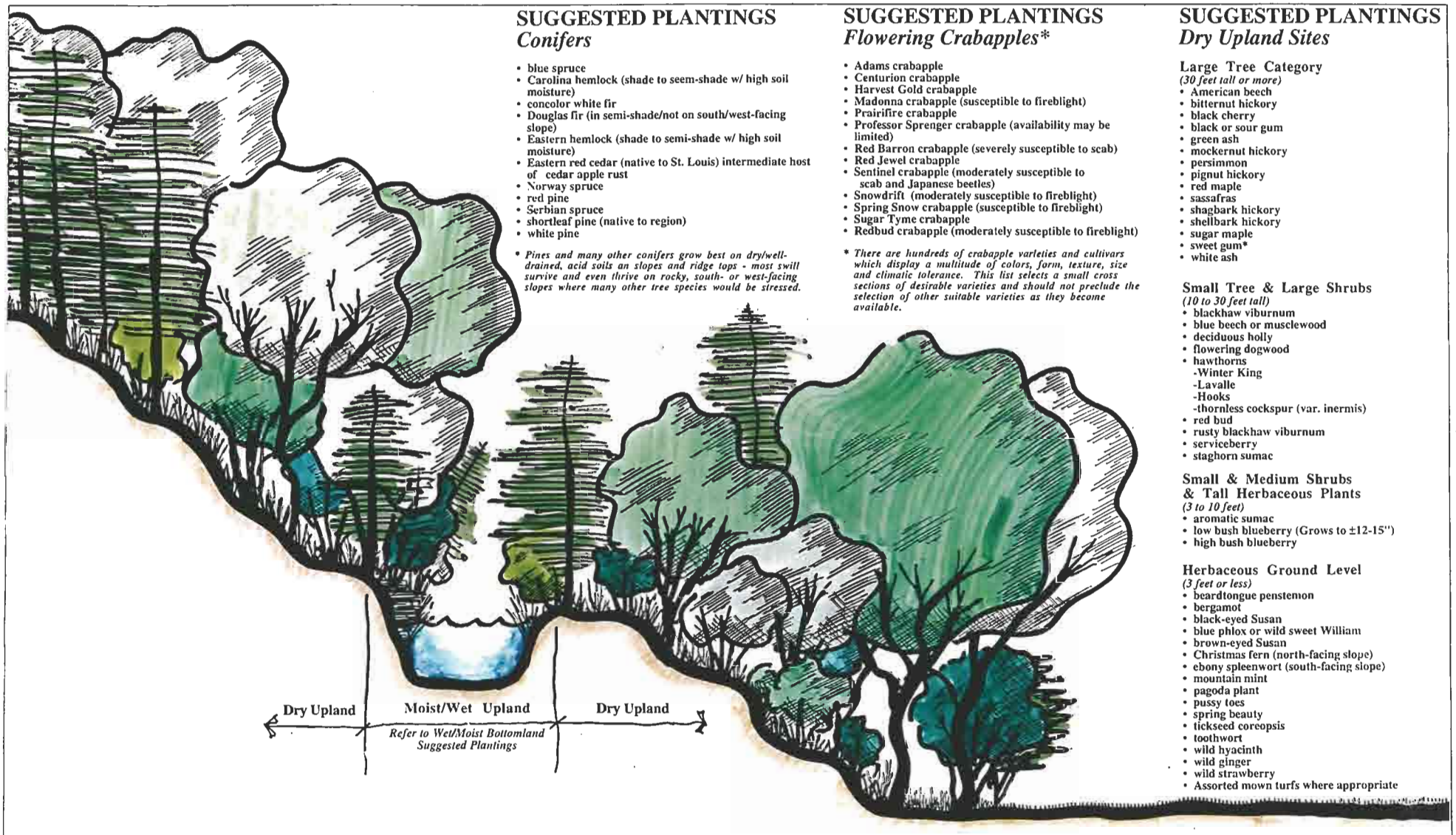
- blackhaw viburnum
- blue beech or musclewood
- deciduous holly
- flowering dogwood
- hawthorns
  - -Winter King
  - -Lavalle
  - -Hooks
  - -thornless cockspur (var. inermis)
- red bud
- rusty blackhaw viburnum
- serviceberry
- staghorn sumac

Small & Medium Shrubs & Tall Herbaceous Plants (3 to 10 feet)

- aromatic sumac
- low bush blueberry (grows only about 12-15" tall)
- high bush blueberry

Herbaceous Ground Level (3 feet or less)

- beardtongue penstemon
- bergamot
- black-eyed Susan
- blue phlox or wild sweet William
- brown-eyed Susan
- Christmas fern (north-facing slope)
- ebony spleenwort (south-facing slope)
- mountain mint
- pagoda plant
- pussy toes
- spring beauty
- tickseed coreopsis
- toothwort
- wild hyacinth
- wild ginger
- wild strawberry



SUGGESTED PLANTINGS
Conifers

- blue spruce
- Carolina hemlock (shade to seem-shade w/ high soil moisture)
- concolor white fir
- Douglas fir (in semi-shade/not on south/west-facing slope)
- Eastern hemlock (shade to semi-shade w/ high soil moisture)
- Eastern red cedar (native to St. Louis) intermediate host of cedar apple rust
- Norway spruce
- red pine
- Serbian spruce
- shortleaf pine (native to region)
- white pine

* *Pines and many other conifers grow best on dry/well-drained, acid soils an slopes and ridge tops - most swill survive and even thrive on rocky, south- or west-facing slopes where many other tree species would be stressed.*

SUGGESTED PLANTINGS
*Flowering Crabapples**

- Adams crabapple
- Centurion crabapple
- Harvest Gold crabapple
- Madonna crabapple (susceptible to fireblight)
- Prairifire crabapple
- Professor Sprenger crabapple (availability may be limited)
- Red Barron crabapple (severely susceptible to scab)
- Red Jewel crabapple
- Sentinel crabapple (moderately susceptible to scab and Japanese beetles)
- Snowdrift (moderately susceptible to fireblight)
- Spring Snow crabapple (susceptible to fireblight)
- Sugar Tyme crabapple
- Redbud crabapple (moderately susceptible to fireblight)

* *There are hundreds of crabapple varieties and cultivars which display a multitude of colors, form, texture, size and climatic tolerance. This list selects a small cross sections of desirable varieties and should not preclude the selection of other suitable varieties as they become available.*

SUGGESTED PLANTINGS
Dry Upland Sites

Large Tree Category
(30 feet tall or more)
- American beech
- bitternut hickory
- black cherry
- black or sour gum
- green ash
- mockernut hickory
- persimmon
- pignut hickory
- red maple
- sassafras
- shagbark hickory
- shellbark hickory
- sugar maple
- sweet gum*
- white ash

Small Tree & Large Shrubs
(10 to 30 feet tall)
- blackhaw viburnum
- blue beech or musclewood
- deciduous holly
- flowering dogwood
- hawthorns
  - -Winter King
  - -Lavalle
  - -Hooks
  - -thornless cockspur (var. inermis)
- red bud
- rusty blackhaw viburnum
- serviceberry
- staghorn sumac

Small & Medium Shrubs & Tall Herbaceous Plants
(3 to 10 feet)
- aromatic sumac
- low bush blueberry (Grows to ±12-15")
- high bush blueberry

Herbaceous Ground Level
(3 feet or less)
- beardtongue penstemon
- bergamot
- black-eyed Susan
- blue phlox or wild sweet William
- brown-eyed Susan
- Christmas fern (north-facing slope)
- ebony spleenwort (south-facing slope)
- mountain mint
- pagoda plant
- pussy toes
- spring beauty
- tickseed coreopsis
- toothwort
- wild hyacinth
- wild ginger
- wild strawberry
- Assorted mown turfs where appropriate

* *sweet gum not recommended in grass/turf areas where ball-shaped fruits accumulate and knobby/shallow root system causes mowing problems*

Upland Vegetative Communities

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 2800

November 18, 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

Moist Upland Plant Species

Large Tree Category (30 feet tall or more)

- bald cypress (deciduous conifer)
- black or sour gum
- burr oak
- butternut
- dawn redwood (deciduous conifer)
- green ash
- Nuttall's oak
- persimmon
- red maple
- river birch
- sugar maple
- swamp white oak
- sweet gum*
- white ash
- willow oak

Small Tree & Large Shrubs (10 to 30 feet tall)

- blackhaw viburnum
- blue beech or musclewood
- deciduous holly
- witchhazel

Small & Medium Shrubs & Tall Herbaceous Plants (3 to 10 feet)

- aromatic sumac
- buttonbush
- pointed broom sedge (Carex scoparia)
- silky dogwood
- summersweet clethra
- vernal witchhazel or cultivars such as Carnea, Christmas Cheer, or Squib
- Virginia sweetspire

Herbaceous Ground Level (3 feet or less)

- bluebells or mertensia
- celandine poppy
- columbines
- false Solomon's seal
- foamflower
- impatiens or touch-me-nots
- Jacob's ladder
- maidenhair fern
- phloxes
- Solomon's seal
- spring beauties
- trillium
- trout lily
- turtleheads
- violets
- wild geranium

SUGGESTED PLANTINGS
Wetlands/Wet Marshes

Moist to Saturated Soil with No Permanent Standing Water

- arrowhead
- cinnamon fern
- dark green bulrush (Scirpus atrovirens) (up to 5 feet)
- fox sedge (Carex vulpinoidea)
- Frank's sedge (Carex frankii)
- iris (ex. blue flags Iris virginica & red-flag Iris fulva)
- jewelweed or touch-me-nots
- marsh spikerush (Eleocharis palustris)
- monkey flowers (ex. Mimulus alatus & Mimulus ringens)
- royal fern
- sweet flag or calamus
- switch grass (up to 5 feet tall)
- tussock sedge (Carex stricta)
- wool grass (Scirpus cyperinus) (up to 6 feet tall)

SUGGESTED PLANTINGS
Moist Sites

Large Tree Category
(30 feet tall or more)

- bald cypress (deciduous conifer)
- black or sour gum
- burr oak
- butternut
- dawn redwood (deciduous conifer)
- green ash
- Nuttall's oak
- persimmon
- red maple
- river birch
- sugar maple
- swamp white oak
- sweet gum*
- white ash
- willow oak

Small Tree & Large Shrubs
(10 to 30 feet tall)

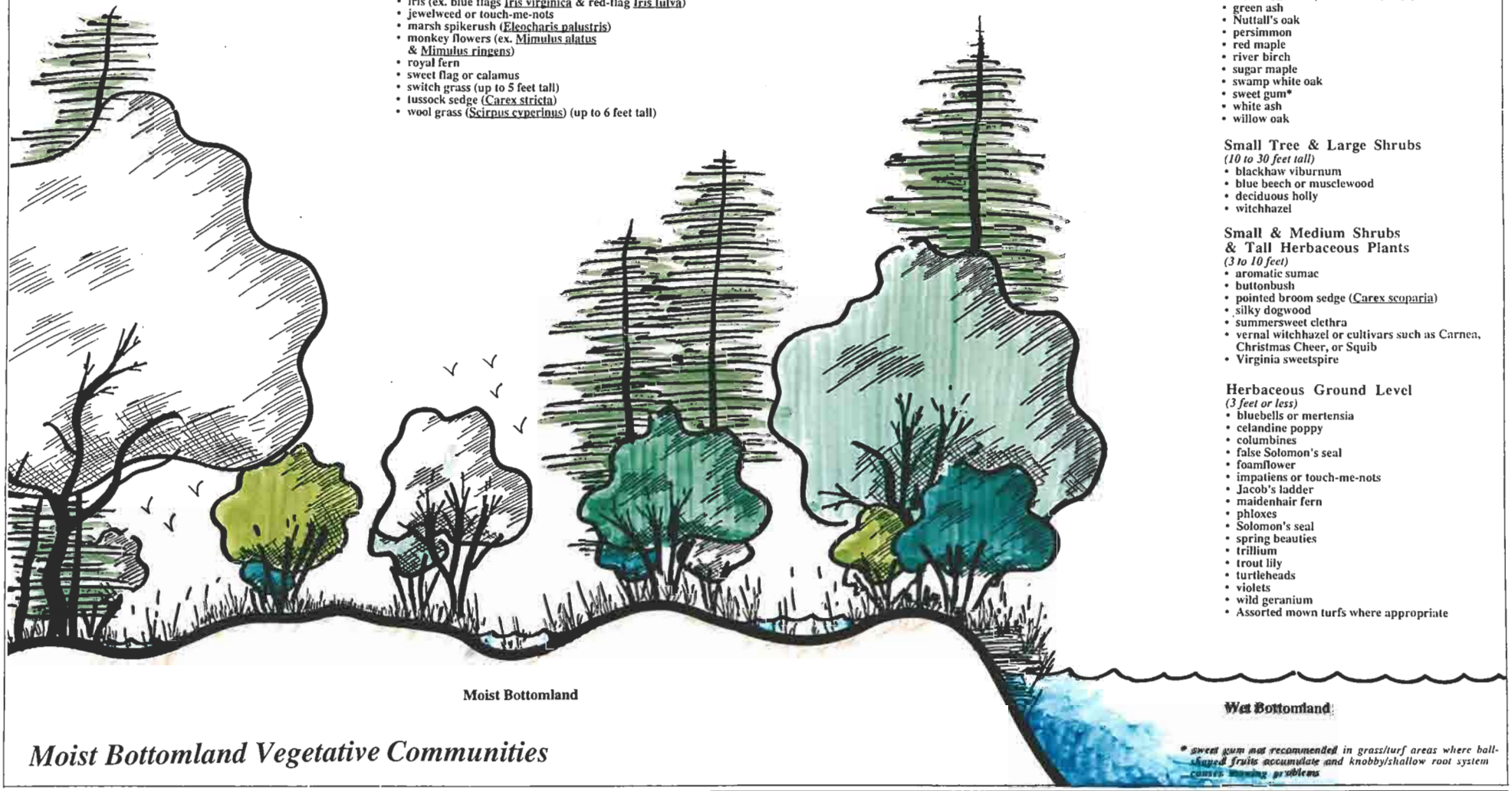
- blackhaw viburnum
- blue beech or musclewood
- deciduous holly
- witchhazel

Small & Medium Shrubs & Tall Herbaceous Plants
(3 to 10 feet)

- aromatic sumac
- buttonbush
- pointed broom sedge (Carex scoparia)
- silky dogwood
- summersweet clethra
- vernal witchhazel or cultivars such as Carnea, Christmas Cheer, or Squib
- Virginia sweetspire

Herbaceous Ground Level
(3 feet or less)

- bluebells or mertensia
- celandine poppy
- columbines
- false Solomon's seal
- foamflower
- impatiens or touch-me-nots
- Jacob's ladder
- maidenhair fern
- phloxes
- Solomon's seal
- spring beauties
- trillium
- trout lily
- turtleheads
- violets
- wild geranium
- Assorted mown turfs where appropriate



** sweet gum not recommended in grass/turf areas where ball-shaped fruits accumulate and knobby/shallow root system causes mowing problems*

Moist Bottomland Vegetative Communities

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

November 18, 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

BOTTOMLAND PLANT COMMUNITIES

Moist Bottomland Plant Species

Large Tree Category (30 feet tall or more)
- bald cypress (deciduous conifer)
- black or sour gum
- burr oak
- butternut
- dawn redwood (deciduous conifer)
- green ash
- Nuttall's oak
- persimmon
- red maple
- river birch
- sugar maple
- swamp white oak
- sweet gum*
- white ash
- willow oak

Small Tree & Large Shrubs (10 to 30 feet tall)
- blackhaw viburnum
- blue beech or musclewood
- deciduous holly
- witchhazel

Small & Medium Shrubs & Tall Herbaceous Plants (3 to 10 feet)
- aromatic sumac
- buttonbush
- pointed broom sedge (Carex scoparia)
- silky dogwood
- summersweet clethra
- vernal witchhazel or cultivars such as Carnea, Christmas Cheer, or Squib
- Virginia sweetspire

Herbaceous Ground Level (3 feet or less)
- bluebells or mertensia
- celandine poppy
- columbines
- false Solomon's seal
- foamflower
- impatiens or touch-me-nots
- Jacob's ladder
- maidenhair fern
- phloxes
- Solomon's seal
- spring beauties
- trillium
- trout lily
- turtleheads
- violets
- wild geranium

Wet Bottomland Plant Species

Large Tree Category (30 feet tall or more)

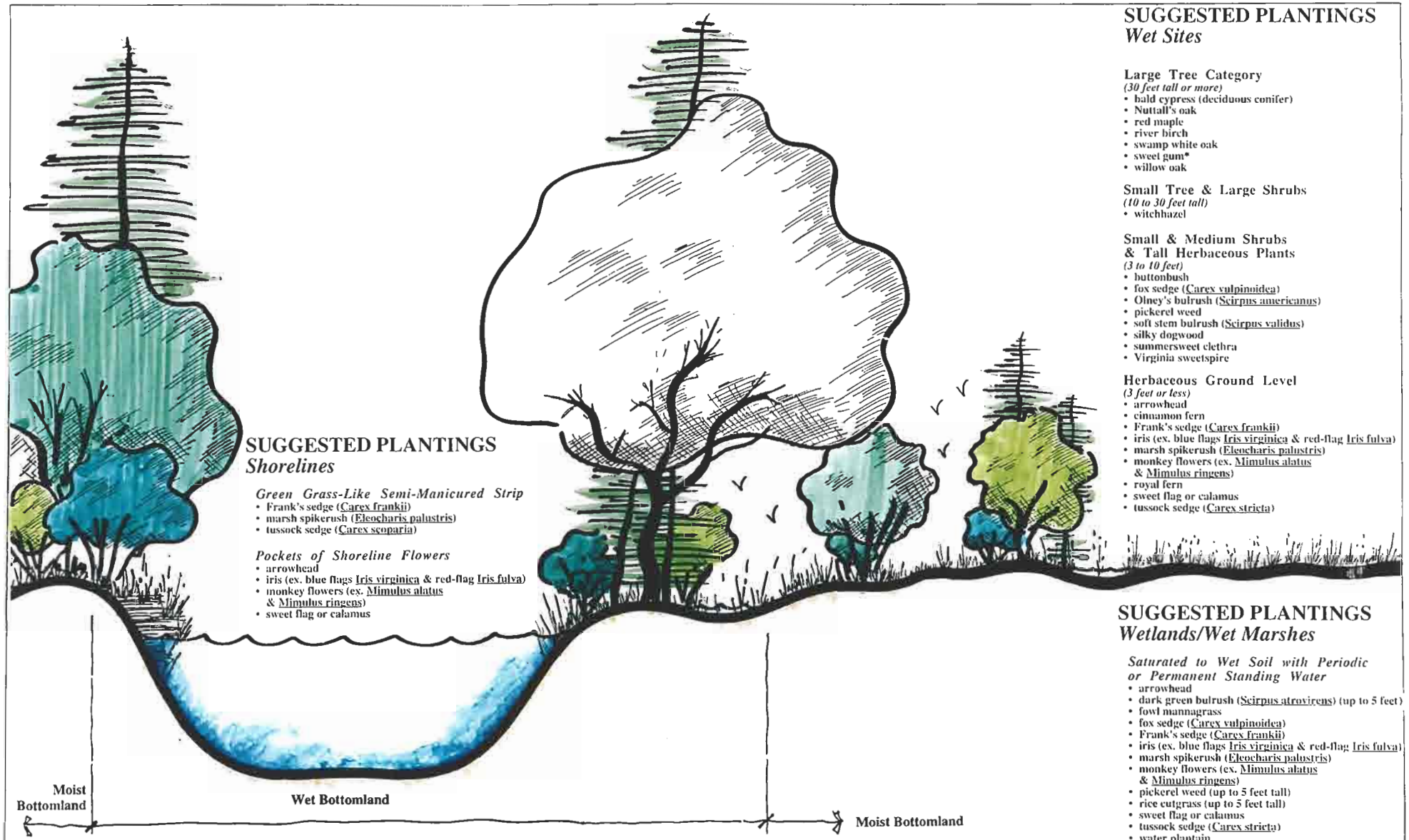
- bald cypress (deciduous conifer)
- Nuttall's oak
- red maple
- river birch
- swamp white oak
- sweet gum*
- willow oak

**sweet gum not recommended in grass/turf areas where ball-shaped fruits accumulate and knobby/shallow root system causes mowing problems*

Small Tree & Large Shrubs (10 to 30 feet tall)
- witchhazel

Small & Medium Shrubs & Tall Herbaceous Plants (3 to 10 feet)
- buttonbush
- fox sedge (Carex vulpinoidea)
- Olney's bulrush (Scirpus americanus)
- pickerel weed
- soft stem bulrush (Scirpus validus)
- silky dogwood
- summersweet clethra
- Virginia sweetspire

Herbaceous Ground Level (3 feet or less)
- arrowhead
- cinnamon fern
- Frank's sedge (Carex frankii)
- iris (ex. blue flags Iris virginica & red-flag Iris fulva)
- marsh spikerush (Eleocharis palustris)
- monkey flowers (ex. Mimulus alatus & Mimulus ringens)
- royal fern
- sweet flag or calamus
- tussock sedge (Carex stricta)



SUGGESTED PLANTINGS
Shorelines

Green Grass-Like Semi-Manicured Strip
- Frank's sedge (Carex frankii)
- marsh spikerush (Eleocharis palustris)
- tussock sedge (Carex scoparia)

Pockets of Shoreline Flowers
- arrowhead
- iris (ex. blue flags Iris virginica & red-flag Iris fulva)
- monkey flowers (ex. Mimulus alatus & Mimulus ringens)
- sweet flag or calamus

SUGGESTED PLANTINGS
Wet Sites

Large Tree Category
(30 feet tall or more)
- bald cypress (deciduous conifer)
- Nuttall's oak
- red maple
- river birch
- swamp white oak
- sweet gum*
- willow oak

Small Tree & Large Shrubs
(10 to 30 feet tall)
- witchhazel

Small & Medium Shrubs & Tall Herbaceous Plants
(3 to 10 feet)
- buttonbush
- fox sedge (Carex vulpinoidea)
- Olney's bulrush (Scirpus americanus)
- pickerel weed
- soft stem bulrush (Scirpus validus)
- silky dogwood
- summersweet clethra
- Virginia sweetspire

Herbaceous Ground Level
(3 feet or less)
- arrowhead
- cinnamon fern
- Frank's sedge (Carex frankii)
- iris (ex. blue flags Iris virginica & red-flag Iris fulva)
- marsh spikerush (Eleocharis palustris)
- monkey flowers (ex. Mimulus alatus & Mimulus ringens)
- royal fern
- sweet flag or calamus
- tussock sedge (Carex stricta)

SUGGESTED PLANTINGS
Wetlands/Wet Marshes

Saturated to Wet Soil with Periodic or Permanent Standing Water
- arrowhead
- dark green bulrush (Scirpus atrovirens) (up to 5 feet)
- fowl mannagrass
- fox sedge (Carex vulpinoidea)
- Frank's sedge (Carex frankii)
- iris (ex. blue flags Iris virginica & red-flag Iris fulva)
- marsh spikerush (Eleocharis palustris)
- monkey flowers (ex. Mimulus alatus & Mimulus ringens)
- pickerel weed (up to 5 feet tall)
- rice cutgrass (up to 5 feet tall)
- sweet flag or calamus
- tussock sedge (Carex stricta)
- water plantain
- wild rice (up to 9 feet tall)
- wool grass (Scirpus cyperinus) (up to 6 feet tall)

Wet Bottomland Vegetative Communities

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

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URBAN DESIGN

FOREST PARK MASTER PLAN

4. Spatial Character and Quality

a. Borrowed Landscapes

Forest Park is vast when compared to other City parks, but still not of the scale to offer grand, endless views and vistas without the use of some "visual tricks" to create the illusion of a much larger scale.

- Design water bodies and landscapes to meander and bend around landforms and vegetation to create the illusion of limitlessness and mystery and entice the park user to explore further, hoping to find a unique element or space "around the bend."

- Utilize multi-stem varieties of trees and shrubs, as well as cascading plantings in locations along the water system, to emphasize this large-scale illusion effect.

- Utilize "borrowed landscapes" to create the impression of much larger and dramatic space (i.e., Central Fields with view of CWE, Government Hill view of much of the park).

b. Scale and Variety

- Ensure balance and variety of spatial character, scale and visual drama in the park by providing a mixture of grand open spaces, linear landscapes, intimate landscape rooms, formal vistas and open spaces, woodland settings, informal naturalistic open spaces, specialty landscapes of evergreens, flowering trees, and wildflowers, and landscapes whose character changes with every season.

- Maintain the park's grand-scale, expansive spaces and visually accentuate them with multi-level ornamental edge plantings to improve spatial definition and to provide a visual backdrop for grassy fields and open water. These include:

Central Fields	Aviation Field
Cricket Field	Art Hill
Grand Basin	Post-Dispatch Lake
Jefferson Lake	Bowl Lake

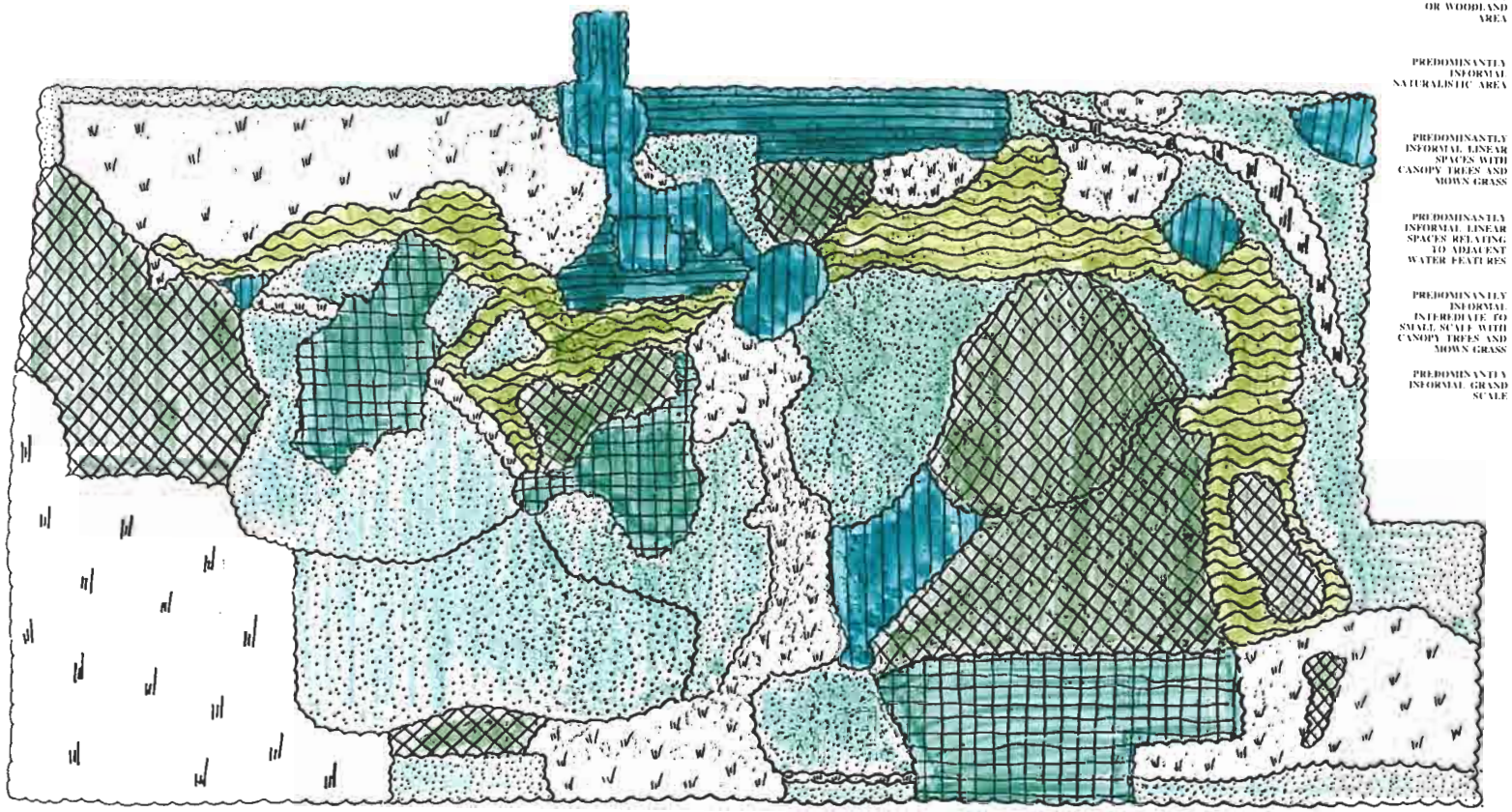
c. Views, Vista's and Focal Points

- Accentuate openings, vistas and visual corridors with unique plantings which display dramatic seasonal character or create a unique spatial experience by framing views, drawing the eye and possibly the park user into the space beyond.

- Place dramatic features (landscape elements, specimen trees, public art or architecture) at the ends of vistas or around the bend of landforms or vegetation to entice and reward landscape exploration.

- Place occasional surprise features, such as a natural spring, rock outcropping, public art, interpretive signage, or relic, in locations which reward landscape exploration and expand the learning experience of park use.

- Accentuate selective openings or clearings in closed mature forest settings where there is little or no regeneration taking place to allow for natural reforestation or to re-plant indigenous forest species. Increase



LEGEND

- PREDOMINANTLY INFORMAL FOREST OR WOODLAND AREA
- PREDOMINANTLY INFORMAL NATURALISTIC AREA
- PREDOMINANTLY INFORMAL LINEAR SPACES WITH CANOPY TREES AND MOWN GRASS
- PREDOMINANTLY INFORMAL LINEAR SPACES RELATING TO ADJACENT WATER FEATURES
- PREDOMINANTLY INFORMAL INTERMEDIATE TO SMALL SCALE WITH CANOPY TREES AND MOWN GRASS
- PREDOMINANTLY INFORMAL GRAND SCALE
- PREDOMINANTLY FORMAL INTERMEDIATE TO SMALL SCALE
- PREDOMINANTLY FORMAL GRAND SCALE

General Guidelines

Provide balanced and diverse spatial character, scale and visual drama with a mix of:

- Grand open spaces
- Linear landscapes
- Intimate landscape rooms
- Formal vistas and open spaces
- Woodland settings
- Informal naturalistic open spaces
- Specialty landscapes of evergreens, flowering trees, wildflowers, etc.
- Landscapes whose character changes with every season.

Highlight seasonal color displays such as Spring flowers, Fall leaf color and Winter berry display, bark color and evergreen plantings along all roadways and paths and in highly visible open spaces, woodland settings and hillsides.

Increase the use of flowering ornamentals and other specimen trees selected for unique aesthetic characteristics (fall color, bark character, etc.) throughout the park.

Increase evergreen plantings to emphasize park entrances, hilltops, ridges or other marquee sites, as green backdrop to flowering ornamentals and fall color, as winter windbreaks for park facilities, as visual/audible buffers and screensemphasize. Increase evergreens in areas of high winter use.

NOTE: Broad, zonal spatial character is highlighted on this map. This does not preclude variations at a more detailed, site specific level.

Landscape Spatial Character

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 600' 0 600 1600 2800

November 18, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

visual diversity and quality with flowering ornamentals, trees and other appropriate plantings indigenous to this forest setting.

d. Site Relationships

- Install plantings which are compatible with architecture and public art and accentuate their particular spatial qualities.

- Provide marquee plantings and landscape effects at the termini of city streets which end at the park's perimeter. Consider use of public art and site furnishings to accentuate this effect.

e. Disruptions to Existing Landscape Features

- Relocate or remove plantings which disrupt visual axes, hide important park elements or compromise the design intent of a particular space (i.e., plantings in the center of an historic meadow).

- Prohibit the use of trees for signage placement, utility lines, and fence posts.

f. Screening

- Install plantings which screen or soften the visual effect of rigid site elements, such as tennis courts, parking lots, utility boxes, and maintenance structures.

- Implement plantings which minimize the noise and negative visual impact of Highway 64/40 and other major roadways and transportation systems.

g. Park Entrances

- Create a variety of park entrance effects which reflect site context, park location, and associated plant composition.

- Avoid applying a single design "theme" for all entrances.

- Utilize entrance/welcoming signage, public art, and site furnishings as visual punctuation.

- Design the entrance's scale to fit mode of entry (automobile, pedestrian, bike, transit).

h. Seasonal Color

- Highlight seasonal color displays such as Spring flowers, Fall leaf color and Winter berry displays, bark color, and evergreen plantings along all roadways and paths and in highly visible open spaces, woodland settings, and hillsides.

- Punctuate certain park locations with a greater level of attention to seasonal color displays, including:
  - Government Drive - McKinley to Wells
  - Wells Drive - Skinker to Tamm
  - McKinley Drive - Wells to Theater
  - Faulkner Drive
  - Highway 64/40 and Forest Park Parkway
  - Concourse Lane - McKinley to Washington

- Washington Drive
- Lagoon Drive - Skinker to Fine Arts
- Fine Arts Drive
- Kingshighway edge
- Government Hill and Post-Dispatch Lake
- Art Hill and Grand Basin
- Bowl Lake
- Jefferson Lake
- Hatchery Lakes area
- Round Lake area
- The Union entrance wetland area
- Pagoda Lake and the hillsides around the Muny
- Aviation and Central Athletic Fields
- Kennedy Forest and the Successional Forest
- The Zoo grounds

i. Sensory Qualities

- Increase the use of pleasantly fragrant plantings, particularly near paths, seating areas and park facilities.

- Increase the use of plantings which provide audible qualities, such as trembling leaves, rattling conifer cones, and seed pods.

- Minimize closely-mowed grass along shorelines and islands which increase waterfowl usage and subsequently create odor from waterfowl feces.

5. Accent and Specialty Planting

a. General

- Utilize evergreen plantings:
  - To emphasize park entrances or other marquee sites.
  - To offer a green backdrop to flowering ornamentals and fall color.
  - To highlight public art.
  - As winter windbreaks for park facilities.
  - As visual/audible buffers and screens.
  - In areas of high winter use.
  - To emphasize hilltops and ridges.
  - For wildlife habitat.

- Utilize flowering ornamentals and other specimen trees selected for unique aesthetic characteristics (fall color, bark character):
  - To spatially define and accentuate large open spaces (both informal and formal), linear landscapes, pedestrian paths and promenades, dramatic roadway bends and vistas, water features, park entrances, and forest openings.
  - As unifying transitional elements and along paths, park roadways, Highway 64/40, Forest Park Parkway, and MetroLink.
  - As colorful punctuation to highly visible hillsides, valleys, or other open spaces and water features.
  - As dramatic settings for public art and architecture.
  - For wildlife food source.
  - Near seating and public gathering spaces.

- Provide flowering meadows (mixtures of native and cultivated flowers growing to a height of around three feet that offer spectacular landscape

color while needing little maintenance during the growing season) at unique points in the park, including:
- Along the Highway 40 corridor.
- Roadway accesses to the park.
- Open area between Parks Department's large dirt mound and the Hampton Road entrance.
- Along the gentle slopes along the Forest Park Expressway.
- Slope east of Bowl Lake.
- Slopes west of the Muny Opera.

- Implement a more naturalistic vegetative design:
  - On the steep slope southwest of Post Dispatch Lake.
  - On the steep slope west of Faulkner Drive along Triple A.
  - Along lagoon banks east and west of Grand Basin, opposite and behind walkways.
  - On the islands of the lagoon system.
  - On the slope east of Bowl Lake (This area should also be considered as a potential flowering meadow).
  - On the slopes west of the Successional Forest.

b. Evergreen Trees

- The majority of the Park's evergreen trees (primarily coniferous evergreens/conifers) appears to be in the mature to over-mature age classes. Additionally, several stands of these have not been planted in ideal habitats. Therefore, many of the Park's evergreens are not only susceptible to disease, but are in fact suffering from fungal and nematode infestations. Because of these reasons, many of the stands of pines in Forest Park are in serious decline.

Guidelines
- Upgrade the Park's evergreen component by:
  - Increasing the vitality of the park's coniferous tree component (although over 20% of the trees surveyed in the park are conifers, a majority of these trees are in decline, suffering from pest damage.)
  - Locating future conifer plantings in favorable habitats. (Pines and many other conifers grow best on dry/well-drained, acid soils on slopes and ridge tops. Most species of conifers will survive and even thrive on rocky, south- or west-facing slopes where many other tree species would be stressed.)
  - When feasible, strive to plant conifers in groves to reduce maintenance, provide visual screens, furnish year round green vegetation for the park, and increase habitat for songbirds, such as pine siskins and evening grosbeaks

- Utilize plants from the following conifer species composition list in future landscape designs:
  - blue spruce
  - Carolina hemlock (shade to seem-shade w/ high soil moisture)
  - concolor white fir
  - Douglas fir (in semi-shade/not on south/west-facing slope)
  - Eastern hemlock (shade to semi-shade w/ high soil moisture)
  - Eastern red cedar (native to St. Louis) intermediate host of cedar apple rust
  - Norway spruce
  - red pine
  - Serbian spruce
  - shortleaf pine (native to region)
  - white pine

c. Flowering Crabapples

- Flowering crabapples provide a dramatic seasonal display rarely matched in the landscape but they do suffer from some treatable ailments which demand attention to maintain park-wide vitality. Cedar apple rust is a fungus that significantly impacts crabapples. Fungal spores from cedar trees can be transported to crabapples via the wind, insects, birds, and dirty pruning shears. Even if there were no cedars in the park, cedars in the surrounding neighborhoods are still a source of infection for crabapple trees in the park. Some of the newer varieties have a reduced susceptibility to this rust. However, most foresters recommend two or three fungicide applications per year to crabapples.

Guidelines

- Utilize plants from the following crabapple species composition list* in future landscape designs:
  - Adams crabapple
  - Centurion crabapple
  - Harvest Gold crabapple
  - Madonna crabapple (susceptible to fireblight)
  - Prairiefire crabapple
  - Professor Sprenger crabapple (availability may be limited)
  - Red Barron crabapple (severely susceptible to scab)
  - Red Jewel crabapple
  - Sentinel crabapple (moderately susceptible to scab and Japanese beetles)
  - Snowdrift (moderately susceptible to fireblight)
  - Spring Snow crabapple (susceptible to fireblight)
  - Sugar Tyme crabapple
  - Redbud crabapple (moderately susceptible to fireblight)

- *There are hundreds of crabapple varieties and cultivars which display a multitude of colors, form, texture, size and climatic tolerance. This list selects a small cross sections of desirable varieties and should not preclude the selection of other suitable varieties as they become available.*

d. Flowering Meadows

- Flowering meadows are mixtures of native and cultivated flowers growing to a height of around 3 feet that offer spectacular landscape color while needing little maintenance during the growing season. Whereas the composition of annuals and perennials can vary widely, annual meadows require less maintenance and are more reliable to give continual color throughout the growing season. To maximize color show, annual meadows should be replanted every year. Because color schemes can be tailored to meet different themes each year and seed availability can vary, no species composition will be listed. Flowering meadows require full sun and do not do well in shaded or semi-shaded environments. Proper site preparation can greatly influence the success of this type of landscape.

Guidelines

- Adhere to the following guidelines when planning flowering meadows:
  - Emphasize planting of natives and cultivated flowers which have a long flowering period.
  - Select flower species that have a high aesthetic appeal (large petals decorative foliage, etc.).

- Ensure proper site preparation and elimination of opportunistic weeds such as fescue 31, plantain, dandelions, and crab grass to ensure establishment of flowering meadows.
- Plant annuals every year to maximize the intensity of flowering meadows.
- Avoid selecting plant species that are characteristically aggressive (spread rapidly by root suckers).
- Increase the park biodiversity to reduce the chances for natural catastrophes caused by insects and diseases.
- Select flowers that are good nectar sources (have the most desirable physical characteristics for butterflies and hummingbirds.
- Utilize woody plants rather for stabilization of steep slopes because of deeper root systems.
- Mowed the meadow at a high level during winter dormancy to increase aesthetics.

6. Public Use and Safety

- Use plant material in a way that will not adversely affect park functions.

- Locate armed (thorns, etc.) or mildly toxic plantings away from high use public areas where they can be viewed but not easily accessed.

- Avoid highly toxic plantings.

- Discourage criminal activity by choosing and arranging plantings to minimize areas for hiding:
  - Situate densely planted areas away from paths and seating areas.
  - Utilize multi-stem "clump" varieties of ornamental trees instead of densely planted shrubs to create a more naturalistic wooded effect rather than visually impenetrable banks of vegetation.
  - Consider subtle landscape lighting of naturalistic areas along pathways.

7. Wildlife Habitats

- Design and locate specific vegetative communities throughout the park which provide all season habitat, cover and food for desired park wildlife and furnish vegetated linkages or corridors between these communities.

- Implement measures to control terrestrial, aerial and aquatic nuisance wildlife.

- Maintain some dead trees and down dead wood to provide wildlife habitat, considering the issue of public safety and landscape context when determining location.

8. Reforestation

- Estimates for how many new trees the Park could reasonably accommodate range from 5,000 to 10,000 according to various urban foresters. The master plan proposes a middle number of 7,500 trees.

- Provide an additional maintenance crew of four people to maintain additional trees due to reforestation.

- Implement selected thinning of existing tree species and increase biodiversity by planting other native tree species in the Successional Forest.

- Begin moving and watering trees which will be relocated due to the Plan's proposals, such as the new golf holes along Grand Drive.

- Update the existing tree survey and periodically update new tree plantings and dead tree removals.

9. Maintenance

- Implement design measures to make landscapes more cost effective:
  - Avoid monoculture or the repeated planting of single species to reduce the impact of mass die-off of a single species from disease (i.e. American Elm streetscapes lost to Dutch Elm Disease) or climatic reasons (Bradford Pears lost to ice and wind damage).

- Utilize multiple species with a common character (i.e. height, branching, form, color, etc.) to achieve the same visual effect with a more limited risk of mass die-off.
- Introduce new species which do not compromise existing aesthetic effects when retrofitting an existing diseased or declining single species landscape.
- Replace trees lost to disease or decline with an identical planting if no other species can accomplish the existing visual effect.
- Establish a maintenance/replacement endowment to cover the long-term, high maintenance costs associated with frequent replacement.
- Back the formal row(s) of trees or ornamentals with clusters of informal trees to avoid the "missing tooth" in a highly regular row of trees due to the death of single or spotted trees.

- Maintain accurate records and monitor chemicals used in the park, in particular on the golf courses, that could adversely affect the water system and overall park environmental quality.

Update the current Parks Department maintenance manual according to the following guidelines:

- Anything is possible regarding grounds maintenance. Any effect and quality can be obtained for any area of Forest Park even if the area is already planned, designed, and installed. The long term presentation and evolution of the landscape of Forest Park will depend on the annual and daily decisions made by grounds maintenance personnel. The grounds maintenance manual is a necessary document for those personnel to reference in order to plan and execute the work needed to improve and maintain the park's conditions. It must provide general goals for the various areas of the park's landscape and detailed information on the whos, whats, whens, wheres and hows necessary to meet those goals. In short it should be a general reference tool for all grounds maintenance staff.

- As it now exists, the current manual provides very general, dated guidelines on grounds management and needs to be completely overhauled to make it consistent with contemporary horticultural and grounds maintenance practices. The complicated setting for which the manual is written actually requires a much more in-depth, detailed treatment of the subject in order for the manual to be an effective tool for landscape maintenance personnel.

- Accomplish the following goals prior to writing a new detailed maintenance manual for Forest Park:
  - Select shrubs and trees from the approved species lists outlined in this document, which favor native species over cultivated species due to better climatic adaptation less required maintenance.
  - Provide proper care for shrubs and trees prior to planting and ensure that they are correctly planted (physically in the ground).
  - The planted shrubs and trees must be located in the proper habitat.
  - The maintenance staff should be properly trained to carry out maintenance procedures, have the necessary equipment, and have been assigned enough time to do the procedure correctly.

Specific recommendations for the development of a new grounds maintenance manual are as listed below:

- Include a section in the manual that briefly defines the overall plan for the landscape.
- Add a section on record keeping to document planning decisions, what works and what does not, pesticide applications, and other routine operations functions.
- Provide a section on job descriptions, qualifications and training to insure that staff performing grounds maintenance meets a minimum standard and level of competency to perform their assigned tasks.
- Provide a section to outline minimum equipment operations and maintenance standards and policies. Basically information pertains to what equipment can be used and by who (minimum training needed by staff before they can use any particular equipment). It also should address minimum maintenance intervals and persons responsible. Equipment operation instructions should be copied and placed in this section.
- Provide a section on safety and emergency policy and procedures. The guidelines should provide information on what to do and document in the event of an accident or pesticide spill. Minimum safety equipment and precautions for all situations also should be provided. This section should include material safety data sheets for all chemical products used.
- Reorganize the manual by vegetative cover type or communities. Some possible examples include annual and perennial beds, turf, forest, woody vegetation, natural vegetation, and flowering meadows. Address the specific landscape maintenance functions, such as watering, pruning, and fertilizing under each vegetative area. This type of presentation will be easier to use since all information on a vegetative community will be in one section of the manual.
- Clearly define each land use area or vegetative community in Forest Park in terms of characteristics as they pertain to overall vegetation and use objectives for that area. This will provide a framework for sound planning decisions.
- Include a section on the basics of pesticide and fertilizer usage. The principles of Integrated Pest Management should be outlined and encouraged in this section. (Specific needs for pest management should be addressed under each set of vegetative community guidelines.) This section should include tables for proper pesticide and fertilizer applications. Examples include, but are not limited to: conversion tables from pounds to ounces or other units of measure, wet to dry units of measure, formulas for calculating sizes of areas, and coverage rates of topsoil and various mulches. This section should include current copies of commonly used pesticides and other products.
- Application guidelines in the section on pesticide and fertilizers should clearly define appropriate timing with respect to season and weather conditions. Specifically, there should be statements to discourage applications on windy days and when rain is expected with in 24-48 hours. All products or chemicals that require "watering in" should be done by controlled watering or irrigation at a rate that will not cause runoff. Rainfall never should be relied on to "water-in" fertilizers or pesticides, since there is no control over the amount or rate of water delivery in a natural event. This should be briefly repeated in each section discussing specific vegetative communities.
- Drop all blanket fertility, lime, and pesticide recommendations. These recommendations should be made based on soil tests and noted pest problems in relation to the plant community. A

professional arborist or horticulture specialist should be consulted for these recommendations.

- Each vegetative community subsection should address the specific needs of each area. At a minimum, each section should address soil conditions and amendments, fertility, planting and seeding rates to replace damaged or lost vegetation (for what the grounds maintenance personnel may have responsibility for doing if not contracted out), pest control and watering. Other maintenance functions may need to be described as well depending on specific cultural requirements of each community.

Regarding annual and perennial beds:

- Include sections on soil conditions and amendments, fertilizing, planting and seeding, watering, and controlling pest.
- Include soil guidelines for obtaining a fertile, friable loam or silt loam soil. Organic amendments should specify the types acceptable, source, and degree to which it is free of pest problems. Inert amendments, like sand, perlite, and Turface should be of sufficient quantity to improve soil properties. The minimum volume of these amendments should be the same as the volume of soil to be worked when plenty of organic matter is added as well.
- Provide adequate planting instructions and tables to allow for annual plantings or reliable replacement of vegetation if necessary.
- Add a guideline specifically outlining that fertility and pH adjustments be made based on a reliable, composite soil test done by a professional horticulture specialist or soil scientist. Lime or sulfur rates to adjust soil pH should be made on soil test and needs of the particular plants in the bedding area. Specific recommendations should be calculated using target pH and cation exchange capacity. This should be done by a professional horticulturist. Generalized tables should be avoided.
- Make all fertilizer and lime or sulfur recommendations in pounds per 100 square feet. Recommendations for applications of nitrogen and/or complete fertilizers for minor increases in cultural intensity should be determined by a certified horticulture specialist and not generalized.
- Include watering guidelines that promote water conservation. Water requirements will be determined by cultural intensity and weather conditions. Generally, the standard rule of one inch of water per week will be sufficient except in the hottest, driest period of summer. Guidelines for additional water needs should be based on anticipated stress and visual quality requirements, not necessarily any prescribed time interval. Maximum water application, generally, should not exceed 1.5 inches per week, but may be done as split applications. All irrigation water should be applied at rates comparable to the soil percolation rate (0.2-0.6 inches per hour) and applied anytime of day except evening. Irrigation systems should be flexible in timing and application to allow for manual overrides. Irrigation systems should be set to water only the bedding areas and not walks, roads, parking lots or other paved surfaces.
- Center all pesticide guidelines on Integrated Pest Management (IPM). Pesticides should only be used as a last resort when cultural practices fail to deliver the desired result. The actual pesticide used should be determined by a professional horticulturist and a licensed pesticide applicator. Guidelines for selection should include identifying the target pest, plant

community to be protected, and environmentally sensitive issues and taking the appropriate safeguards to insure environmental integrity.

Regarding turf areas:

- Include sections on soil conditions and amendments, mowing, planting and seeding, fertilizing, watering, aerating, controlling thatch, and controlling pests.
- Divide turf areas into two management levels; low and high. Low maintenance areas are adjacent to forested areas and removed areas (away from institutional features). High maintenance areas include entrance ways, areas immediately adjacent to the cultural institutions, and athletic fields. Golf course turf management should be left to the golf course superintendent or head greens-keeper.
- Include soil guidelines to meet the needs of the turf area in question. Greens, tee boxes, and fairways have special requirements different from regular turf areas. Soil modifications for the golf courses should be made by a professional golf course architect or greens-keeper. Amendments for most turf areas in Forest Park will not be required, except for special high traffic areas. Each of these areas should be planned separately by a professional horticultural or turf specialist. Amendments for high traffic areas must resist compaction. These amendments should consist of a medium to coarse angular material (sand, Turface or similar material) and make up at least 65-70% or more of the resulting soil mix.
- Seedbeds for turf areas should be similar to those used for other planted areas (worked 6 inches deep to make firm, friable soil). Amendments are not usually practicable, but the topsoil should be re-spread over a newly graded area. Topsoil added to a compacted subsoil should have half the topsoil layer incorporated into the subsoil to create a transition zone between layers. Seed bed preparation is not required if the topsoil is present and the area is to be slit seeded into the existing, dead vegetation.
- Include planting specifications to permit seed and sod to be used as appropriate for the needs of a given area. Seeding rates should depend on grass species and desired level of cultural intensity. Mixes and blends should be developed to broaden turf pest resistance and provide for a durable, uniform turf. Sod, if used, should be uniform and in good condition, free of environmental and pest related stresses. No disease or weed problems should be apparent. Specific seed and/or sod guidelines for the various areas should be developed by a professional horticulturist or turf specialist.
- Include mowing guidelines that are based on management objectives and reflect low and high maintenance regimes. No more than one third of the leaf blade should be removed in a single mowing operation. Cool season grasses should not be mowed shorter than two inches in any season and summer mowing should be 3.5-4 inches in summer. (High maintenance areas can be three inches if appropriate adjustments are made in the watering regime.) Shady areas should never be cut shorter than three inches. Warm season grasses should be mowed according to maintenance objective, but generally one inch on average. Taller mowing should be done in the fall for better winter hardiness. More specific needs and guidelines should be developed by a professional horticulture or turf specialist.

- Develop fertilization guidelines based on planned maintenance level, turf species and soil test results. Sampling and lab analysis should be done by a professional horticulturist or soil scientist. Fertilizer recommendations should be expressed as a rate in pounds per 1000 square feet. Adjustments to pH, lime or sulfur, should only be applied according to soil test results and by an appropriate professional to meet the objectives of the turf area. Soil sampling and testing should be set at four-year intervals.
- Routine fertilizer application schedules in common practice in the turf industry should first consider soil tests and management levels for each turf area. Low maintenance turf should have fertilizer applications twice in the fall with no spring applications (cool season grass) and twice in the summer (warm season grass). High maintenance turf should be fed no more the three times in the fall and once in mid- to late-spring (cool season grass) and three or four times during late spring through summer (warm season grass). Each application should not exceed one pound of nitrogen per 1000 square feet. Specific timing should be determined by a horticulture specialist and in accordance with weather conditions.
- Watering specifications should be based on low or high management regime. The basic rule of one inch of rainfall per week will be sufficient for the low maintenance and many high maintenance areas. There will be some areas that additional water applications may be appropriate. The guidelines on timing and amounts should be determined by a professional based the site, turf species, weather conditions, and use of the area.
- Include watering guidelines that promote water conservation. All irrigation water should be applied at rates comparable to the soil percolation rate (0.2-0.6 inches per hour) and applied anytime of day except evening. Irrigation systems should be flexible in timing and application to allow for manual overrides. Irrigation systems should be set to water only the turf areas and not walks, roads, parking lots, or other paved surfaces.
- Aeration specifications should determine the depth, method, and frequency. General aeration should be four to six inches deep and done by a method that removes soil such as coring. Frequency should be determined by traffic and amount of compaction. General low maintenance areas may not need aeration or possibly once every two or three years. High maintenance areas may be aerated annually to several times a year. Timing should be based on the type of grass. Cool season grasses should be done in the fall and warm season grasses should be done in the spring. Other times and other specifics involving aeration should be determined by a professional horticulturist.
- Include thatch control guidelines that maintain not more than a half inch of thatch accumulation. Methods of removal and timing should be included in these specifications. Thatch removal operations or maintenance operations (aeration) should be done in the fall (cool season grasses) and spring (warm season grasses).
- Center all pesticide guidelines on Integrated Pest Management (IPM). Pesticides should be used only as a last resort when cultural practices fail to deliver the desired result. The actual pesticide used should be determined by a professional horticulturist and a licensed pesticide applicator. Guidelines for selection should include identifying the target pest, plant community to be protected, and environmentally sensitive issues

and taking the appropriate safeguards to insure environmental integrity.

- Pesticide applications should be avoided for all pond and lagoon shorelines. More appropriate vegetation should be established along pond and lagoon shorelines to avoid the need to use herbicides in these locations. Plants should be selected from the approved plant materials list in the Forest Park Master Plan and be compatible with the vegetative community around the shoreline area.
- All general, routine pesticide application schedules should be avoided. Only need based applications should be done and only if cultural methods become inadequate.

- Map all Park landscapes by the level and type of maintenance that is required, including irrigation, special management practices (flooding/burning)

- Provide educational signage and extensive public notice in advance of any experimental or modified maintenance practices such as long grass meadows, etc.

Regarding watering of shrubs and trees:

- Newly planted trees need more watering than established trees; however, this is dependent upon species, location, soils, weather, etc. The first year is the most important.
- Although the general guideline of insuring 1" of water during a 7-day period can be used as standard for established woody vegetation (generally over 3 years old), the best rule of thumb is to maintain adequate field moisture around the plant. The soil around the shrubs and trees should be physically checked to maintain moisture in the upper 8-10 inches of soil where the majority of roots/rootlets are located.
- Balled & burlapped (B&B) planted stock should be watered for longer times to help insure deep penetration of the water to the entire root ball. Delivery rate should not exceed soil percolation rate (2/10 to 6/10 of an inch per hour).
- Container-planted stock should be watered more lightly and more frequently than B&B stock because the medium that originally surrounded the roots tends to dry out more quickly than the soil surrounding the B&B plants.
- Plants need adequate field moisture year round. The statement in the present maintenance manual that decreasing the amount of water in early fall will enrich fall color is incorrect.

Regarding fertilizing and maintaining optimal pH for shrubs and trees:

- In areas where the turf and trees are interspersed, if the turf is fertilized, the trees end up being fertilized as well.
- Some species do not require any fertilization. Native species generally do not need as much fertilization as cultivars; however, this is dependent upon species, location, soils, weather, etc.
- The need for fertilization should be determined by a professionally conducted/analyzed soil test.
- If fertilization is deemed necessary, use these guidelines:
  -Shallow broadcasting is preferred over deep feeding.
  -Split application is preferred over once-a-year.
  -A professional arborist (or horticultural specialist) should develop the rate of application, the NPK ratios, etc.
- Compost/mulch around any/all trees. This mimics natural forest conditions.

- Different species have different optimal pH ranges. The statement in the present maintenance manual that conifers prefer a neutral pH is incorrect. Conifers typically prefer an acidic soil. Elemental sulfur or iron sulfate should be applied if soil needs increased acidity. (Read label directions for toxicity risk.)

Regarding pruning and shaping of shrubs and trees:

- Avoid the broad, "cookbook" generalizations contained in the present maintenance manual (i.e. "deep wounds or pruning cuts of one inch or greater should be dressed with tree paint or orange shellac"). A professional arborist should develop a separate pruning plan for different woody species living under different conditions on various sites.

Regarding pesticides:

- Natives tend to need less spraying of pesticides than cultivars. Again, professional arborists/certified pesticide applicator should assess need, develop application rates and schedule times according to the latest information about Integrated Pest Management (IPM). IPM involves blending many approaches, including natural controls which generally have less impact on natural systems. Proposed crabapple groves will require fungicide spraying at least twice a year.

Regarding flowering meadows:

- These areas should be off-limits to regular mowing. However, to better define this feature, the turf surrounding the meadow should be consistently mowed with smooth, flowing edges (not straight-edged borders) to accentuate its meadow character.
- To increase aesthetics, the meadow should be mowed at a high height level during the late fall or early winter.

E. Site Specific Recommendations

ART HILL/GRAND BASIN AREA

- Provide ornamental tree plantings and paths at the east and west sides of the hill to spatially define this grand scale formal space and frame the dramatic views up the hill to the Art Museum and down towards Grand Basin.
- Mow the grassy hill in a way that creates horizontal light and dark green bands when viewed from Grand Basin.
- Create spaces to the east and west of the hill which are more informal in character and relate to the lagoons, and consider utilizing seasonal wildflowers and/or other showy ground cover in these informal areas.
- Configure landscaping to frame the Cass Gilbert Art Museum building when viewed from Grand Basin or the base of the hill.
- Provide sweeping pedestrian promenades at the hill crest which terminate at scenic overlooks near the existing circular parking areas.
- Surround the promenade and overlooks with flowering ornamental, canopy and evergreen trees, ornamental lighting, benches and possibly public art and/or historically informational interpretive material relating to the 1904 World's Fair.
- Provide major evergreen and upland forest plantings which relate to the area's winter use and give the impression of a change of vegetation as one moves higher in elevation from the bottomlands to the uplands.
- Flank the basin and accentuate its grand pedestrian avenues with formal rows of lighting and flowering ornamental trees, backed by canopy trees which relate to surrounding landscapes.
- Utilize trees with a high branching pattern to provide head clearance for pedestrian circulation.
- Improve the areas immediately adjacent to the basin for picnics, special events and other public passive recreation.
- Create an informal open meadow west of the basin with views to Grand Basin, Art Hill, Bates Monument and surrounding landscapes.
- Provide more naturalistic plantings in appropriate areas of adjacent lagoons.

POST-DISPATCH LAKE AREA

- Utilize plantings, public art, and site furnishings in ways to focus the eye on the dramatic seasonal color, historic axes and architecture, and water reflections.
- Maintain the lake's unpaved edges on the north side of the lake and provide a paved, 15'-wide pedestrian promenade, "The Promenade," with a stratified stone wall along the south side, linking Grand Basin with the boathouse.
- Emphasize "The Promenade" with flowering ornamental trees, utilizing trees with a high branching pattern to provide head clearance for pedestrian circulation.
- Create a dramatic pedestrian plaza with terraced water edge seating, flowering ornamental trees, and decorative site furnishings at the terminus of Government Hill, across from the fountain area.
- Create a naturalistic vegetative effect on the small islands in the southwest corner of the lake, utilizing ornamental mid- and understory plantings and diverse shoreline plantings.

CENTRAL ISTHMUS/THE CLEARING

- Accentuate the central isthmus between Post-Dispatch Lake and River Des Peres Lagoon with edge plantings of canopy trees, flowering, mid-size ornamentals and mid/understory vegetation, located to highlight the

sweeping linear landscape and create intrigue with open spaces which appear to vanish around the bend of water or vegetation.

- Locate an open, circular grassy clearing or room, "The Clearing," surrounded by canopy trees and select ornamental mid-story trees, with a large circular stone seating or "Council Ring" (approx. 40' diameter) in the center to serve as a terminus to surrounding axes and a node of destination within the central isthmus.

GOVERNMENT HILL

- Supplement the existing mature evergreen plantings along the east and west sides of the hill with additional evergreen plantings fronted by flowering ornamental trees and shrubs.
- Restore this historic landscape with ornamental plantings, repaired pavement and stairs, seating and lighting.
- Restore some of the formal floral displays which once adorned the hillside.
- Accentuate and spatially define small sub-spaces or rooms to the east and west of the central hill and consider placement of public art and other small scale site furnishings in these locations.

CASCADES

- Install lush understory plantings suitable for this moist, north-facing shady slope.

SPILLWAYS AREA

- Enhance the naturalistic cascading character with emergent vegetation and additional stone outcroppings which replace existing industrial appearing spillways.
- Provide naturalistic shoreline plantings which improve water quality, aesthetics and provide wildlife habitat.

THE ISLAND

- Create an informal woodland and island area once Post-Dispatch Lake is restored and enlarged.
- Provide dramatic water edge plantings while maintaining an open grassy central portion for public use and visual corridor.

PAGODA LAKE AREA

- Provide additional lagoon system connecting through Pagoda Lake and Angel Pond to Deer Lake.
- Maintain small water bodies adjacent to both sides of the Muny and maintain flow through the existing tunnel beneath the theater to ensure moisture for area trees.
- Install formal decorative plantings of canopy trees, conifers, flowering ornamentals, ground covers, and perennial plantings along with appropriate site furnishings.
- Utilize plantings and site furnishings to accentuate visual axes from adjacent roads, paths, Twin Lots, and between area public art.
- Increase water movement and filtration around Pagoda Lake and Angel Pond to improve water quality.
- Install dramatic seasonal plantings on the bandstand island.
- Install two new bridges in the Angel Pond and Deer Lake area.
- Install a bridge, either permanent or event based, to allow island access.

UNION ENTRANCE AREA

- Create a unique entrance landscape in this highly visible location with a wetland or wet meadow which displays dramatic seasonal variations of color and texture.

- Accentuate this wetland with scattered canopy and flowering ornamental trees.

FISH HATCHERIES AREA
- Accentuate the existing informal landscape character around the reconfigured lakes.
- Provide plantings that frame some views from Forest Park Parkway and MetroLink while buffering noise and negative views from the lake area in areas closest to the roadway.
- Provide informal shoreline plantings along the lagoon as it runs through this area, accentuating the grassy isthmus which is created between the lagoon and the hatchery lakes.

ROUND LAKE AREA
- Accentuate the existing semi-circular planting of bald cypress trees which surround the east side of the circular lake with similar plantings to the west, adding an additional layer of flowering ornamental trees.
- Redesign the existing lagoon to mirror the shape of Round Lake and the plantings to its west.
- Re-align the path to take users from a constricted tree lined setting south of the lake to the dramatic, open views of Round Lake and its fountain as one travels north from Steinberg Rink.
- Accentuate views from automobiles using Grand Drive, framing views with vegetation.

STEINBERG RINK AREA
- Design the area's landscape with predominantly mid-size ornamental trees which display a more horizontal character which relates to surrounding landscape character and Steinberg Rink architecture.
- Create the effect of a "Prairie River" in this portion of the water system, providing some wetlands/wet meadows which can be allowed to fill in times of peak rainfall and control water levels and erosion elsewhere in the park while providing a unique and ecologically sound landscape.
- Consider creating nature trails/boardwalks through these sensitive landscapes.

JEFFERSON LAKE AREA
- Create a crabapple grove along the highly visible grass embankment along the east side of Jefferson Lake.
- Create a dramatic cascading water input at the south end of the lake, utilizing water from Bowl Lake and enhance this feature with lush, cascading vegetation, and accentuate this highly visible feature.
- Extend the naturalistic, successional landscape character currently present along the eastern edge of Triple A to the west side of the lake.

BOWL LAKE AREA
- Create a unique, naturalistic and intimate landscape setting for Bowl Lake and its environs.
- Create a crabapple grove along the highly visible east embankment of Bowl Lake, accentuating this with spot masses of evergreen plantings and flowering meadow ground treatments.
- Create an earthen berm at the southern end of the lake along the Highway 64/40, with evergreen and flowering ornamentals to visually define the space, screen undesirable views of traffic and dilute extensive Highway 64/40 noise.
- Create a unique water outfall at the north end of the lake where water will vanish from the lake and be piped to Jefferson Lake.
- Accentuate the Seven Pools area with appropriate understory plantings and pedestrian path access.

- Restore the existing stone bridge.
- Accentuate the plantings near the south end of the lake which obscure the terminus of the lake, making it appear much larger than it really is.
- Provide naturalistic shoreline plantings to improve water quality while improving aesthetics and wildlife habitat.

KENNEDY FOREST
- Install native canopy, mid/understory and ground cover plantings and other site improvements which improve the Forest's ecological and aesthetic quality while allowing safe recreation and educational use.
- Support MODOC's plans to provide vegetative management and nature trail operation and supervision.
- Install plantings along area roads and Highway 64/40 which reduce the visual and audible impact on park users while providing dramatic visual effects for passing motorists.
- Implement naturalistic plantings along the area's intermittent tributaries which provide erosion control and sediment filtration measures to improve the park's water quality.

OAKLAND EDGE: HAMPTON TO SKINKER
- Consider allowing the wooded slope west of Tamm to revegetate or re-establish understory vegetation to reduce soil erosion.

SUCCESSIONAL FOREST
- Improve ecological and aesthetic quality while allowing safe recreation and educational use.
- Provide native canopy, mid/understory and ground cover plantings.
- Implement naturalistic, erosion controlling plantings along intermittent tributaries.

LANGENBERG FIELD
- Provide plantings of extensive mid-size ornamental trees to accentuate this linear landscape and to surround the athletic fields.
- Screen the Dwight Davis fence line in a more natural, meandering fashion.
- Provide naturalistic shoreline plantings to improve water quality while improving aesthetics and wildlife habitat.
- Provide wetlands area to improve water quality.

AVIATION FIELD
- Install formal perimeter plantings with regularly spaced shade trees and mid/understory plantings or flowering ornamentals to minimize the visual impact of backstops and dirt infields and diffuse some traffic noise while framing grand scale, expansive open green space.
- Replace missing trees from the existing highly regular plantings.

CENTRAL FIELDS
- Install informal perimeter plantings with shade trees and mid/understory plantings of flowering ornamentals to minimize visual impact of backstops and dirt infields while framing grand scale, expansive open green space.
- Improve the quality of the adjacent braided stream tributary with naturalistic edge plantings and occasional rock outcroppings, restoring existing bridges and culverts.

MUNICIPAL GOLF COURSES
- Provide water bodies and wetlands to improve drainage, golf course quality, and area aesthetics.

- Redesign the bottomlands significantly, creating unique new holes and landscape character which aesthetically relates to surrounding topography and water features.
- Provide a landscape terminus to the Art Hill/Grand Basin visual axis.
- Increase the use of evergreen plantings to accentuate uplands and hillsides and to provide visual interest to winter recreaters.
- Utilize plantings which discourage random pedestrian access to the golf course.
- Manage the grounds to minimize potential pollutants from entering the Park's water system.
- Consider increased use of naturalized plantings where appropriate to reduce maintenance costs and soil loss and to filter potential pollutants before water runoff from the courses enters the water system.
- Maintain accurate records and monitor chemicals used on the golf courses, that could adversely affect the water system and overall park environmental quality.

TRIPLE A CLUB

- Accentuate the area's valleys and uplands with upland and bottom land species trees and shrubs which display dramatic seasonal color while reducing erosion and water "downcutting" in valleys.
- Improve the edge plantings by replacing the existing barberry hedge with more appropriate, multi-level plantings of low shrubs, flowering ornamental midstory trees and canopy trees which accentuate the Clayton Road streetscape.
- Utilize plantings which discourage random pedestrian access to the golf course.
- Increase the use of evergreen plantings to accentuate uplands and hillsides and to provide visual interest to winter recreaters.
- Manage grounds to minimize potential pollutants from entering the Park's water system.
- Maintain accurate records and monitor chemicals used on the course that could adversely affect the water system and overall park environmental quality.
- Consider utilizing naturalized plantings where appropriate to reduce maintenance costs and soil loss and to filter potential pollutants before water runoff from the course enters the water system.

LINDELL EDGE: DEBALIVIERE TO UNION

- Redesign plantings around the Daughters of the Confederacy monument to frame views and provide visual linkages with surrounding landscapes, roads and paths.
- Create an overlook plateau around the Daughters of the Confederacy monument which sits in the center of a dramatic linear landscape paralleling Lindell Boulevard from the History Museum to Cabanne House.
- Utilize extensive mid-size ornamental trees which display a more horizontal character.

LINDELL EDGE: SKINKER TO DEBALIVIERE

- Maintain the existing alée of trees along Lindell, replacing missing trees where necessary.

KINGSHIGHWAY EDGE

- Restore and uplight the existing alée of trees along Kingshighway, adding an additional row of flowering ornamentals to the sidewalk edge and medians to improve the aesthetics and perceived safety of the entire Kingshighway length along the eastern park edge.

- Create landscaped termini to street parking areas at major intersections and pedestrian crossings to achieve improved aesthetics, unique entrance character.
- Improve landscaping and the overall spatial character of the triangle plaza at Lindell and Kingshighway as a major pedestrian entry experience.
- Provide dramatic flowering ornamental plantings which accentuate the sweeping, curvilinear paths which link the new Children's Place pedestrian plaza with Steinberg Rink.
- Provide flowering ornamental and seasonal perennial/annual flowering displays in the plaza itself.

IV. ACTIVE SPACE SYSTEM

A. Overview

B. Summary of Existing Conditions

C. Design Principle

D. Design Recommendations

1. General Approach
2. Athletic Fields and Facilities
3. Golf Courses
4. Path System

E. Site Specific Recommendations

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1995 Active Space
1995 Golf Quality

DESIGN

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Primary Spring/Summer Active Space Recreation Areas
Primary Fall Active Recreation Areas
Primary Winter Active Recreation Areas
Park-Wide Golf System
Golf Related Land Use Implications
Golf Scheme - Option A
Golf Scheme - Option B
Composite Path System

A. Overview

A significant amount of Forest Park's land is dedicated to active recreation uses. The largest single uses include the Municipal and Triple A golf courses, ballfields at Central and Aviation Fields, and rugby fields at Langenberg Field. The amount of the park dedicated to these uses appears to be appropriate given the demand by park users. At the same time, however, better use could be made of these spaces by reconfiguring and reprogramming certain areas to increase the number of multi-use active spaces and support facilities.

Attention also needs to be given to resolving the numerous conflicts that exist between active space and other park uses. This is most noticeable in the Art Hill/Grand Basin area, where five existing golf holes conflict with the desire to recreate a formal, passive use space throughout this area. Several redesigns of the Municipal Golf Course have been proposed to eliminate this conflict. A final decision will be made through ongoing discussions between the Forest Park Advisory Board and interested groups.

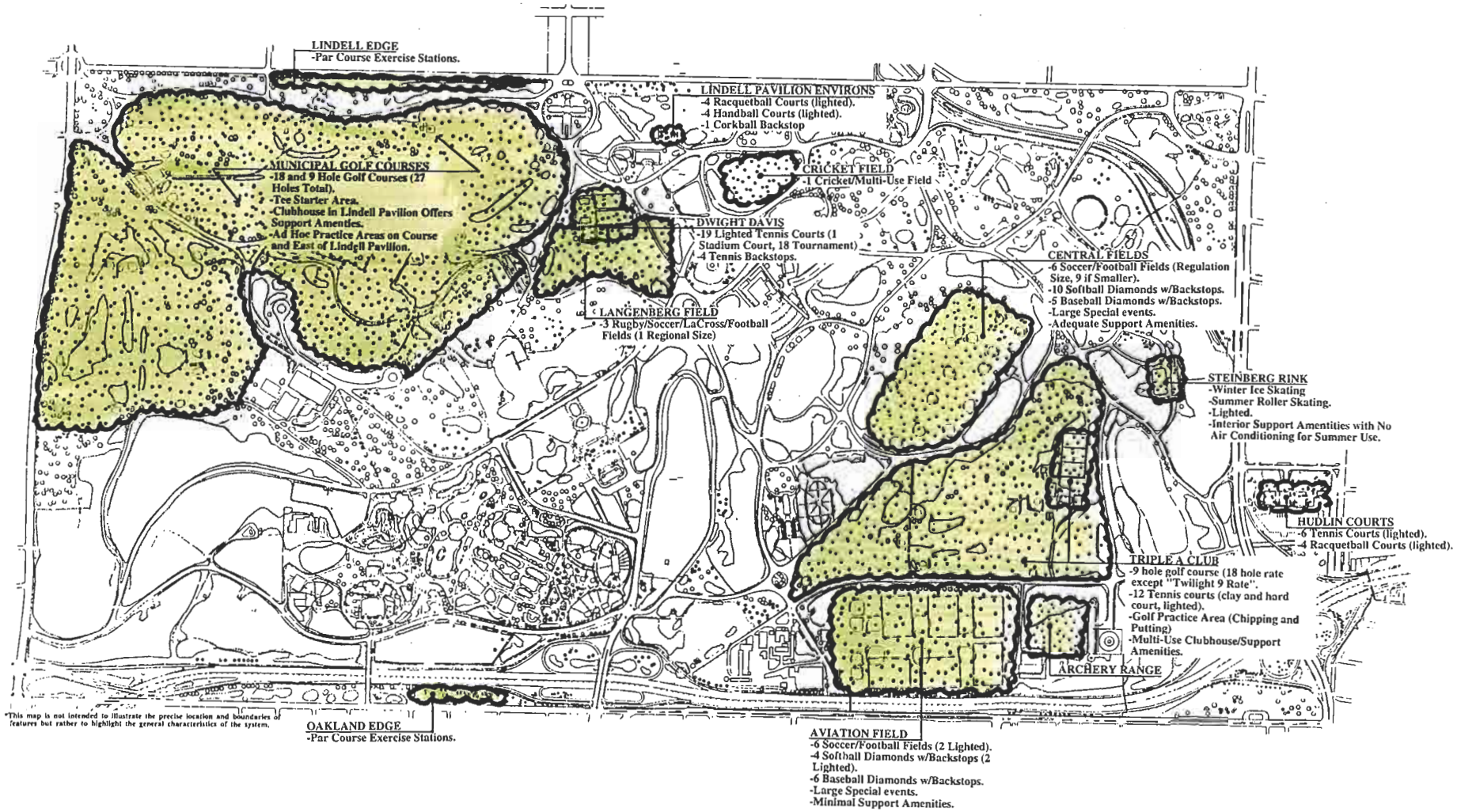
B. Summary of Existing Conditions

The park's recreational programming is devoted primarily to spring, summer, and fall activities. There currently exists little, if any, programming or support facilities for winter active recreation with the exception of Steinberg Skating Rink.

The park's athletic facilities are not necessarily designed and programmed for use by the greatest number of park visitors. Few of the facilities are lighted for evening use, even though the majority of ballfield demand is for weekday evening hours. There are also few areas of unprogrammed active recreation space in the park where a user can gain access to a field for the day without a permit on a first come, first served basis. The majority of the park's ballfields are permitted for daytime weekend use, but have been observed over a two-year period to go unused by those permit holders most of the time.

Current ballfield designs provide little benefit in terms of operational flexibility, environmental quality, participant and viewer comfort/convenience, and aesthetic character.

- Backstops and dirt infields break up visual and environmental continuity.
- Fields are not oriented to utilize existing sloped edges and shade trees for viewing areas.
- Backstops down the center of fields limit flexible programming.



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

ANALYSIS DIAGRAM
Existing Active Space System

FOREST PARK MASTER PLAN

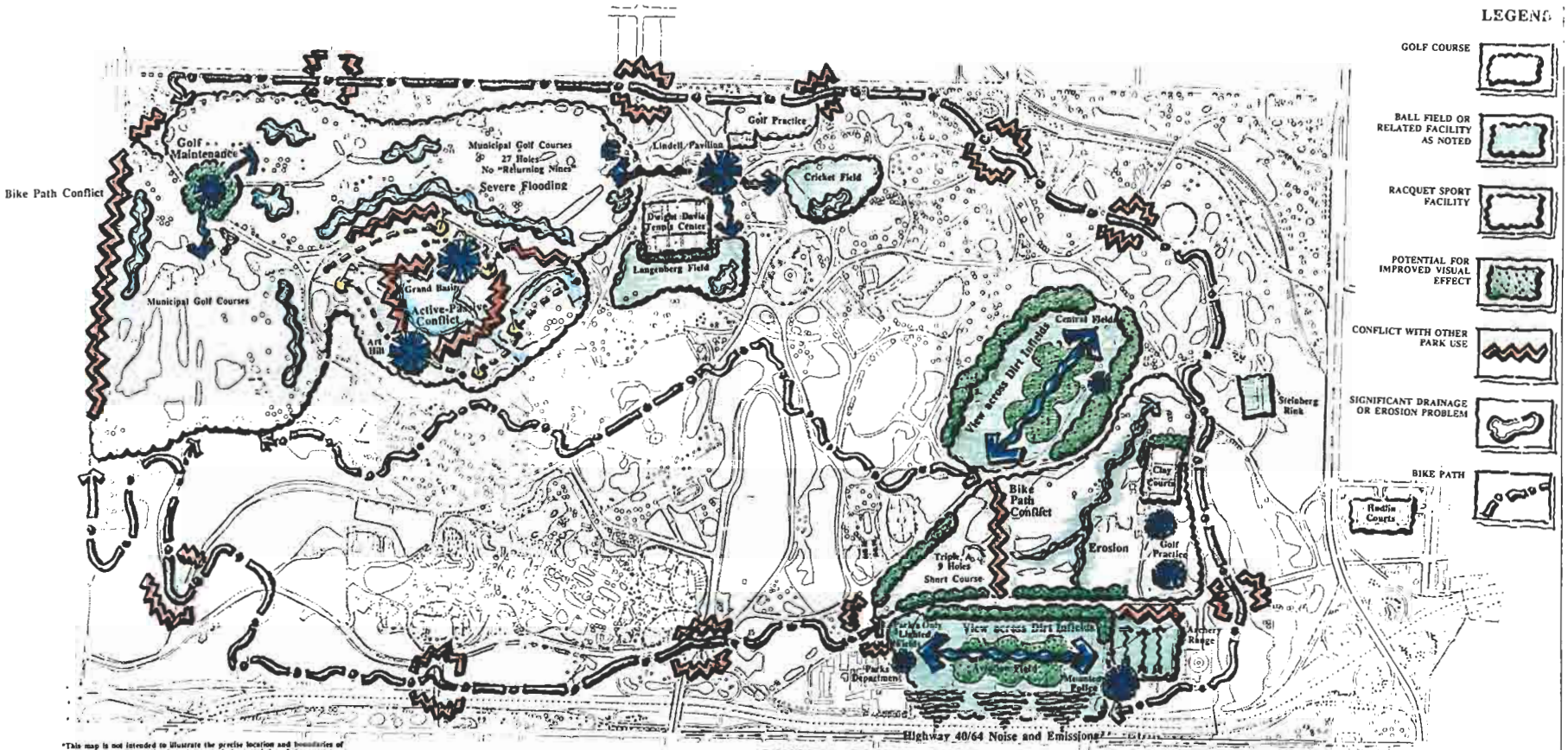
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2000

29 August 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.
*Analysis by Design Team 1995

GENERAL OBSERVATIONS

- There are numerous conflicts between active space and other park uses.
- Severe ponding and erosion occurs on many active spaces.
- Utility covers, fire hydrants and sewer inlets are detrimental to safety in many areas.
- There is an opportunity to increase the number of multi-use active spaces and support facilities.
- Several facilities lack adequate access.
- There is an opportunity to improve the visual effect, safety and programming efficiency in some active spaces.
- Some active spaces and support facilities are near, but not adequately served by the bike path.
- Some forms of active recreation adversely impact the park's natural systems and require creative approaches to minimize these impacts.

1995 ACTIVE SPACE MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

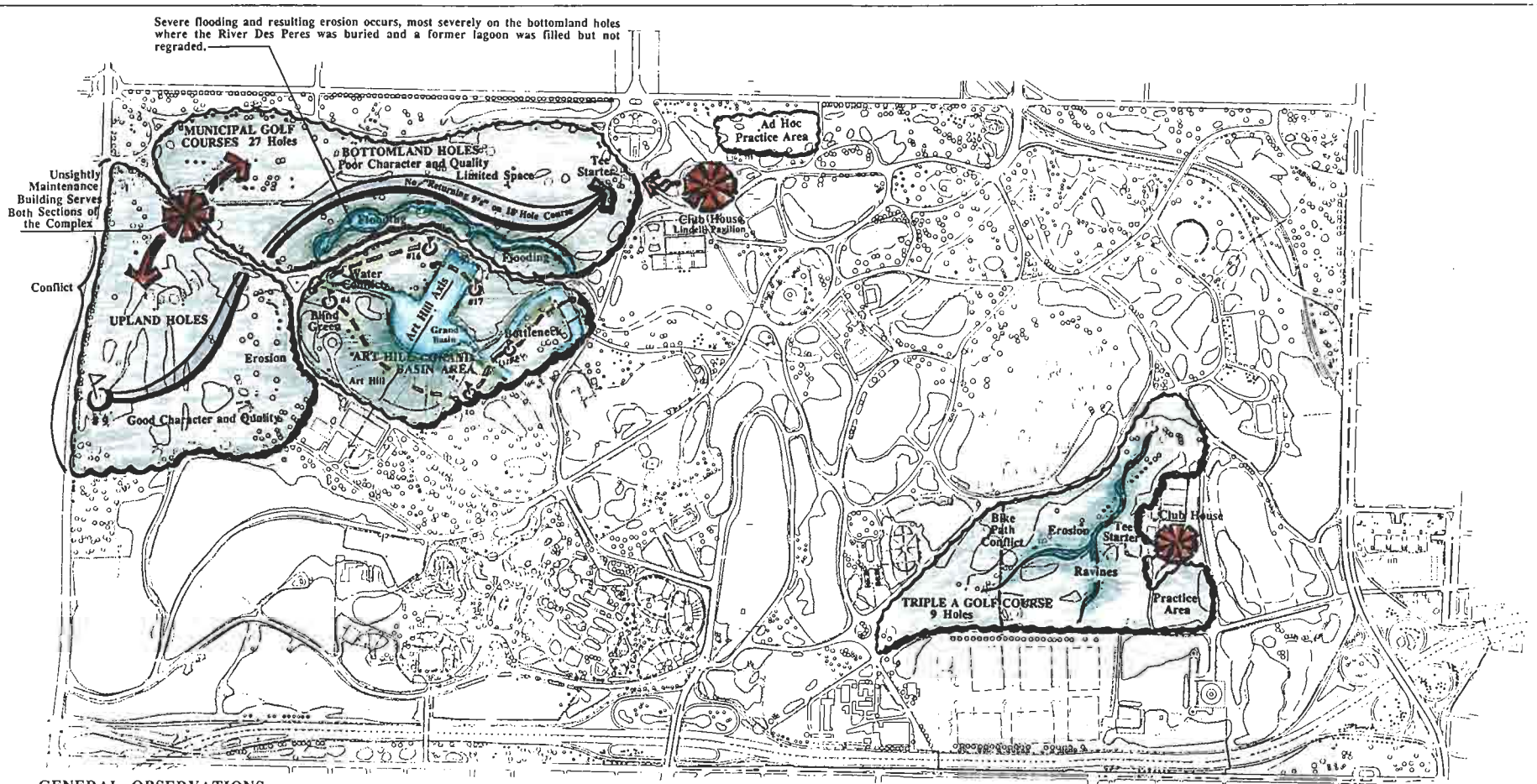
DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

Forest Park contains 36 holes of golf in total, which occupy approximately 295 acres. The existing courses are short and tight by today's standards, with little space for separation between holes. Fees are inexpensive when compared to other area courses. Lindell Pavilion is open to all, but is not centrally located to best serve the courses. There are opportunities to improve both the Municipal and Triple A golf courses from the perspective of golf quality, physical condition, and interaction with other land uses. Errant golf shots cause conflicts with bike path users, automobiles, pedestrians and adjacent land uses inside and outside of the park.

Ideally, each nine hole segment of a golf course returns to the club house, allowing nine hole or 18 hole rounds to be conveniently accommodated on any segment. There are no "returning nines" on the 18 hole course, meaning that a golfer wishing only to play nine holes on this course does not end play near the club house but rather at the furthest location from it. This is an inflexible use of the existing course.



GENERAL OBSERVATIONS

MUNICIPAL COURSES

- The existing courses are short and tight by today's standards with little space for separation between holes. Fees are inexpensive when compared to other area courses. Lindell Pavilion is open to all public but not centrally located to best serve the courses.
- The courses are divided into the "Bottomland Holes" and "Upland Holes". The upland holes are generally well designed with an interesting character and require mostly rehabilitation and modernization of facilities. The bottomland holes are tight and lack character and diversity.
- All holes require upgrade of greens to meet USGA standards. All holes require redesigned, multiple tees to provide diversity of golf experience and to provide for different level and age of players.
- The Art Hill - Grand Basin area contains 5 golf holes which all have problems from both a golf and general park use perspective. Hole #17 which crosses Grand Basin is a golfer's favorite due to its water character and dramatic Art Hill axis location. These qualities also make it a favorite for other park users resulting in conflict.
- If 27 holes are to be accommodated after relocation of the 5 Art Hill - Grand Basin holes, some additional land is needed to accomodate these holes. This does not imply an increase in the total area devoted to golf, rather a change in boundaries.
- Ideally, each 9 hole segment of a golf course returns to the club house, allowing 9 hole or 18 hole rounds to be conveniently accommodated on any segment. There are no "returning 9's" on the 18 hole course, meaning that a golfer wishing only to play 9 holes on this course does not end play near the club house but rather at the furthest location from it. This is an inflexible use of the existing course.

TRIPLE A

- Short course which caters to older users. Rolling topography, ravines and valleys are dramatic but young, sparse vegetation does not properly accentuate character.
- Annual fee for members as well as daily fee for guests. Fee is for 18 hole play, not 9 holes. Fees are inexpensive when compared to other area courses. Practice green and chipping area available.
- Clubhouse with showers, lockers, pro shop and restaurant available to members only.

GENERAL

- In total, Forest Park contains 36 holes of golf which occupy ±295 acres.
- Errant golf shots cause conflicts with bike path users, automobiles, pedestrians and adjacent land uses inside and outside of the park, particularly along Skinker Road.

1995 GOLF QUALITY MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

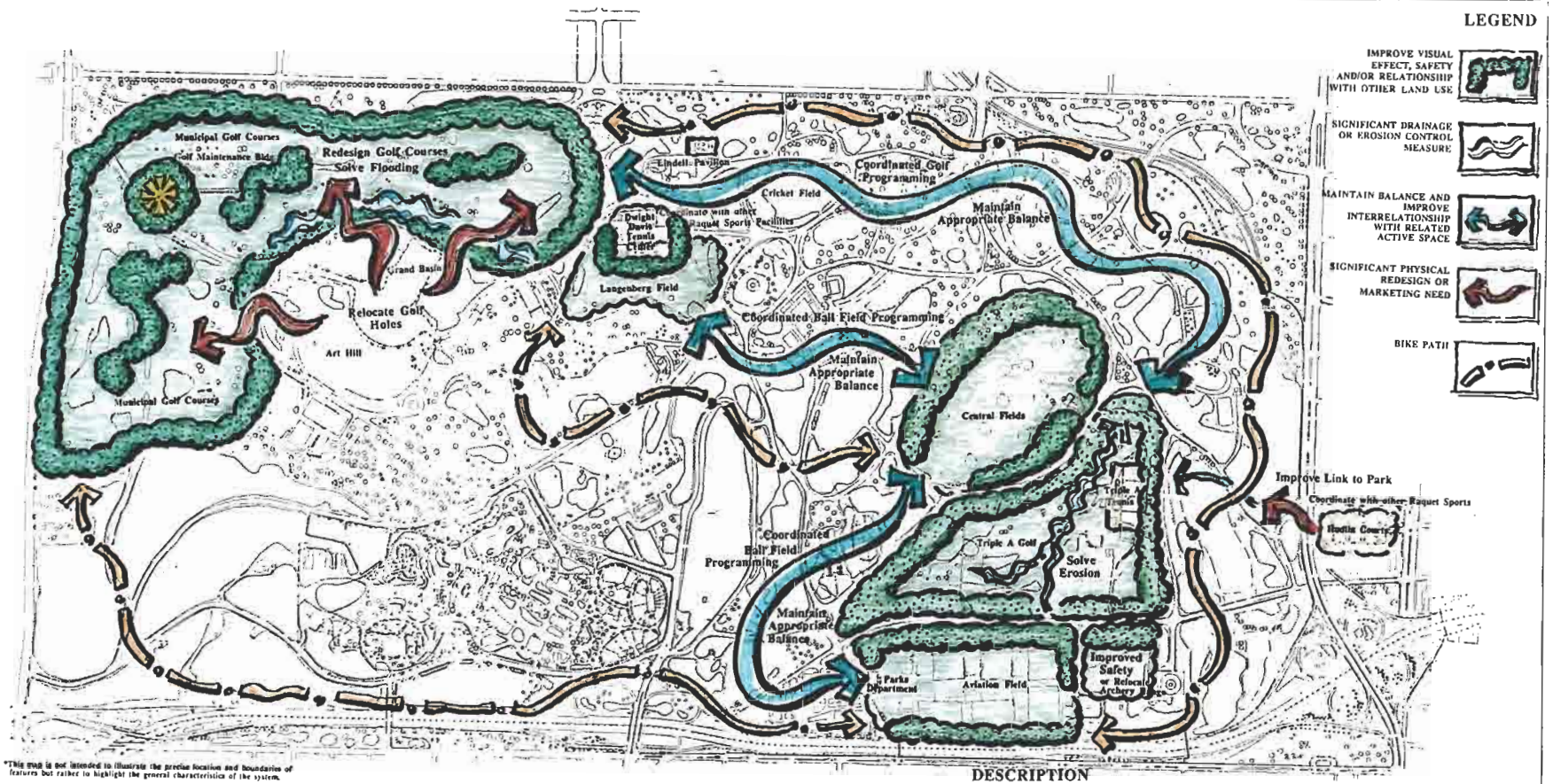
C. Design Principle

Create active space systems.

D. Design Recommendations

1. General Approach

- Design or retrofit all active recreation facilities to meet contemporary standards of design.
- Design athletic fields to meet typical daily and seasonal programming needs.
- Create multiple use, unstructured/non-permit active spaces to allow casual active recreation, such as informal ball games and Frisbee, as well as traditional permitted active recreation, such as soccer and lacrosse, during peak periods on designated permit fields.
- Create a landscape that is aesthetically pleasing during inactive periods as well as functional during uses for game participants and spectators.
- Manage active spaces with common programming as systems which maintain the current balance of activities while serving park users and respecting the park's natural systems.
- Redesign and program overused spaces to reduce physical damage from overuse.
- Redesign some active spaces to achieve the best land use mix and interrelationship.
- Improve the visual effect of all active use spaces so as to relate better to the surrounding park character.
- Increase edge plantings to minimize the visual impact of backstops and dirt infields while framing grand scale, expansive, open, green space.
- Develop solutions to drainage and erosion problems that are compatible with the water and passive open space system principles.
- Do not allow new golf holes to be located south of the existing Municipal Course boundary adjacent to Valley Drive.



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- Forest Park's active spaces which have common programming (i.e. Aviation and Central Fields) should be designed and managed as systems which maintain the current balance of activities while locating and designing them to best serve park users and respect the park's natural systems.
- The park's active space systems should maintain existing, appropriate multiple use spaces and support facilities while encouraging new ones where appropriate. Oversubscribed spaces should be redesigned and programmed to reduce physical damage from over use.
- Some active spaces should be redesigned to achieve the best land use mix and interrelationship. The visual effect of all active use spaces should be improved to better relate to surrounding park character.
- The bike path should be designed to best serve and interact without conflict with other park uses including pedestrian paths and roads.
- Solutions which correct major drainage and erosion problems should be compatible with water and passive open space system principles.

DESIGN PRINCIPLE
Create Active Space Systems

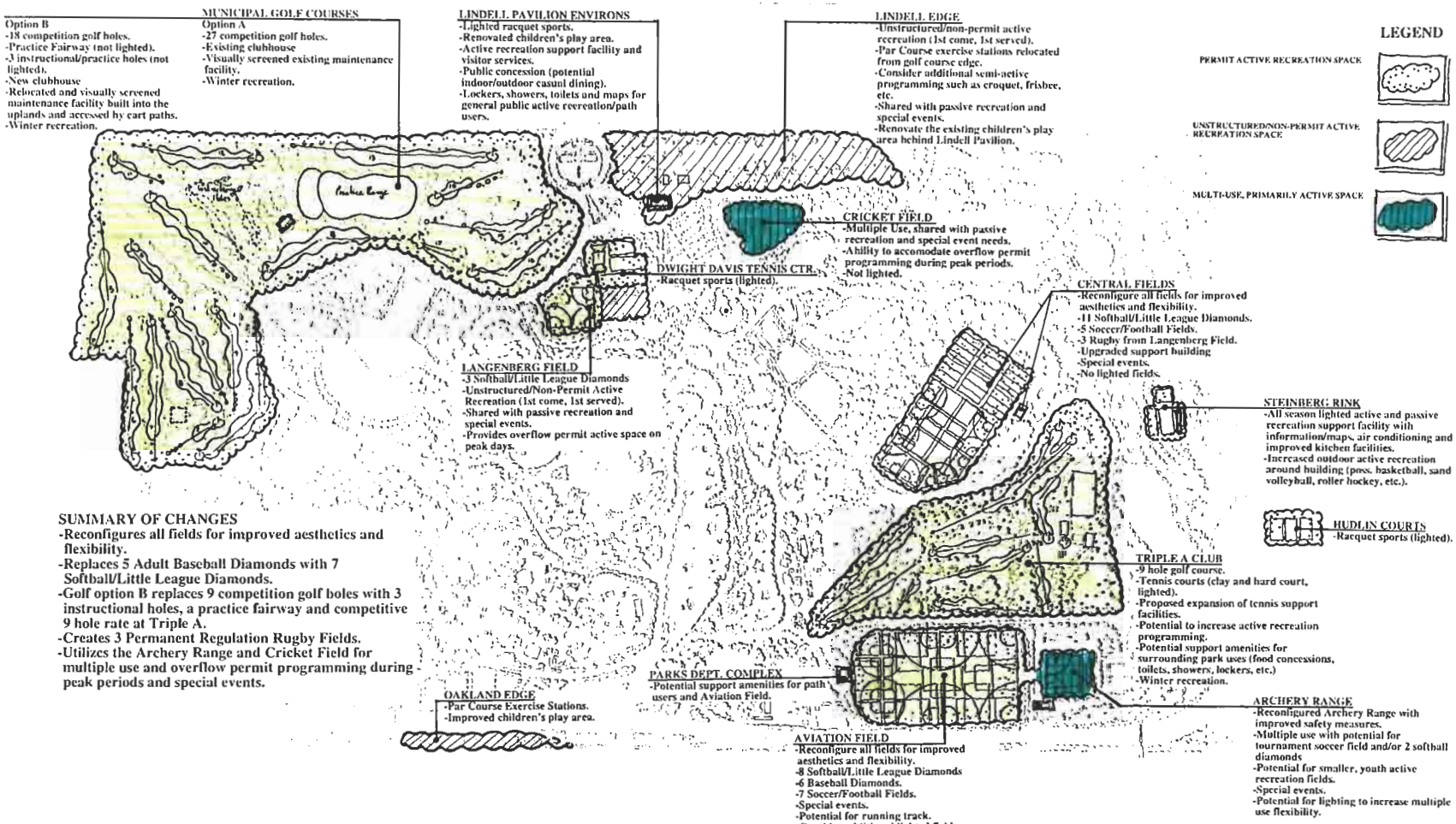
FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1" = 600' 0 600 1600 2600

11 MARCH 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



SUMMARY OF CHANGES
-Reconfigures all fields for improved aesthetics and flexibility.
-Replaces 5 Adult Baseball Diamonds with 7 Softball/Little League Diamonds.
-Golf option B replaces 9 competition golf holes with 3 instructional holes, a practice fairway and competitive 9 hole rate at Triple A.
-Creates 3 Permanent Regulation Rugby Fields.
-Utilizes the Archery Range and Cricket Field for multiple use and overflow permit programming during peak periods and special events.

ACTIVE RECREATION DEMAND	SPRING	SUMMER	FALL	WINTER
Golf	*Primary*	*Primary*	*Primary*	*Minimal*
Softball/ Baseball	*Primary*	*Primary*	*Minimal*	*None*
Soccer	*Primary Women's*	*Primary Women's*	*Primary Men's*	*None*
Football	*None*	*None*	*Primary*	*Primary*
Rubgy	*Primary*	*Primary*	*Primary*	*Minimal*

Proposed Active Space System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 2800

November 18, 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

2. Athletic Fields and Facilities

Forest Park's athletic fields and facilities include:

- Aviation Field
- Archery Range
- Lindell Edge Par Course
- Triple A Club
- Dwight Davis Tennis Center
- Cricket Field
- Central Fields
- Langenberg Field
- Lindell Pavilion
- Steinberg Rink
- Hudlin Courts
- Oakland Edge Par Course

Specific recommendations include:

- Permit section needs to encourage weekend and daytime use of ballfields, either by marketing strategies, such as lower rates for daytime use, or by attracting new users, such as youth leagues, which prefer these hours.

- Provide public amenities to the areas around ball field clusters to make them more family oriented and more attractive to park users.
  - Add all-season toilets.
  - Add attended lockers, showers, and changing areas.
  - Develop children's play areas.
  - Provide picnic grounds and/or pavilions, especially surrounding Central Fields.

- Redesign athletic facilities for greater operational flexibility, environmental quality, participant and viewer comfort/convenience, and aesthetic character.

- Post permit information at all athletic fields to clarify assignments and allow for casual non-permit use of open fields.

- Position backstops and dirt infields against the tree-lined edges, leaving a green swath down the center which is more flexible for field games and special events.

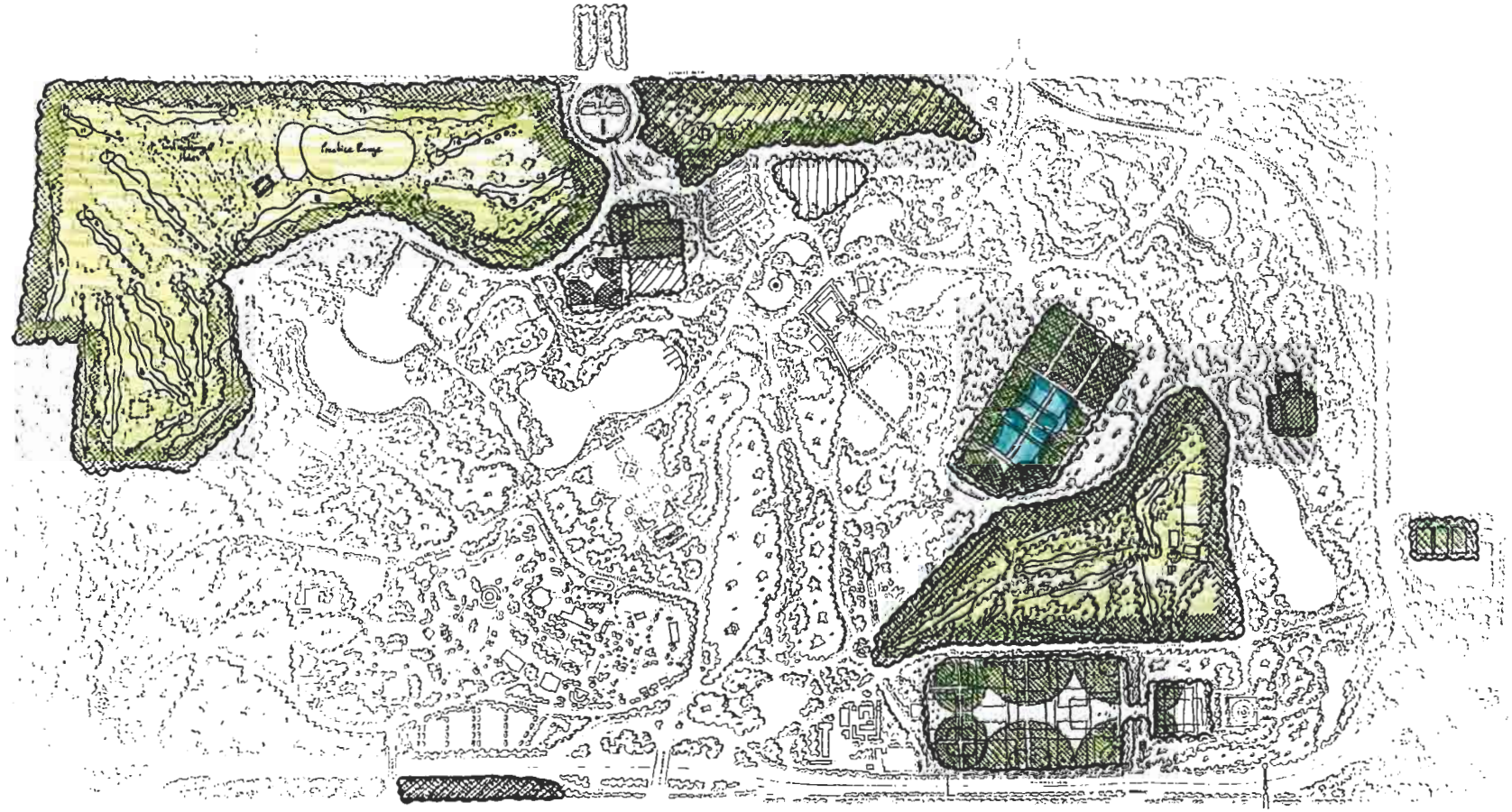
- Leave center green swaths on athletic fields unprogrammed in off seasons to enhance environmental benefits.

- Provide spectator and participant viewing areas around the perimeter ballfields beneath trees and on sloped areas at Aviation Field to bring them nearer to the action.

- Provide adequate safety zones of separation between athletic fields which meet current design standards.

- Accommodate and encourage winter active recreation by providing adequate support facilities and amenities.

- Consider lighting of parts of the Archery Range and Aviation Fields for increased nighttime use.



ACTIVE RECREATION DEMAND	SPRING	SUMMER
Golf	*Primary*	*Primary*
Softball/ Baseball	*Primary*	*Primary*
Soccer	*Primary Women's*	*Primary Women's*
Football	*None*	*None*
Rubgy	*Primary*	*Primary*

Primary Spring/Summer Active Space Recreation Areas

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

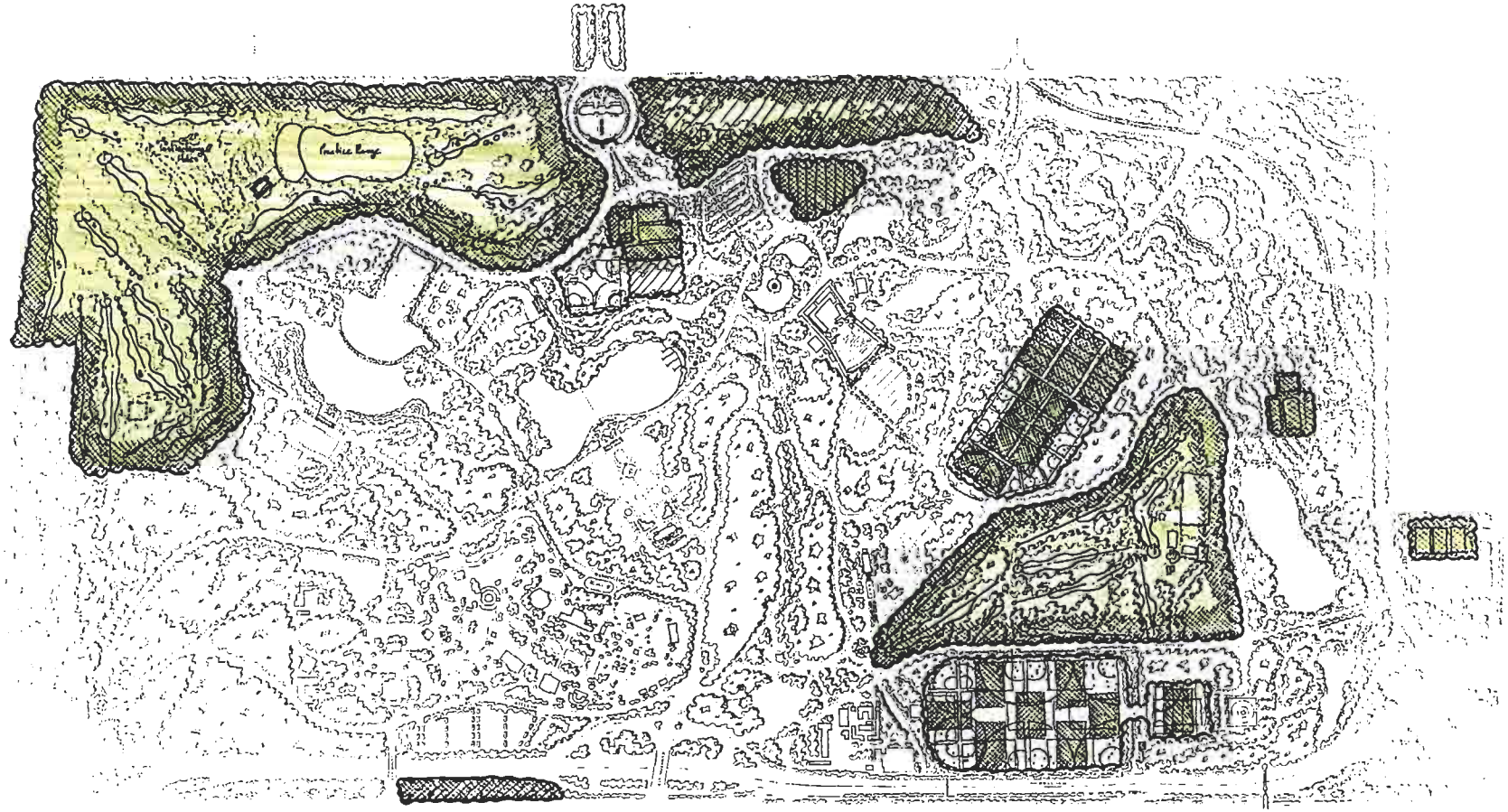
November 18, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



ACTIVE RECREATION DEMAND	FALL
Golf	*Primary*
Softball/ Baseball	*Minimal*
Soccer	*Primary Men's*
Football	*Primary*
Rubgy	*Primary*

Primary Fall Active Recreation Areas

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

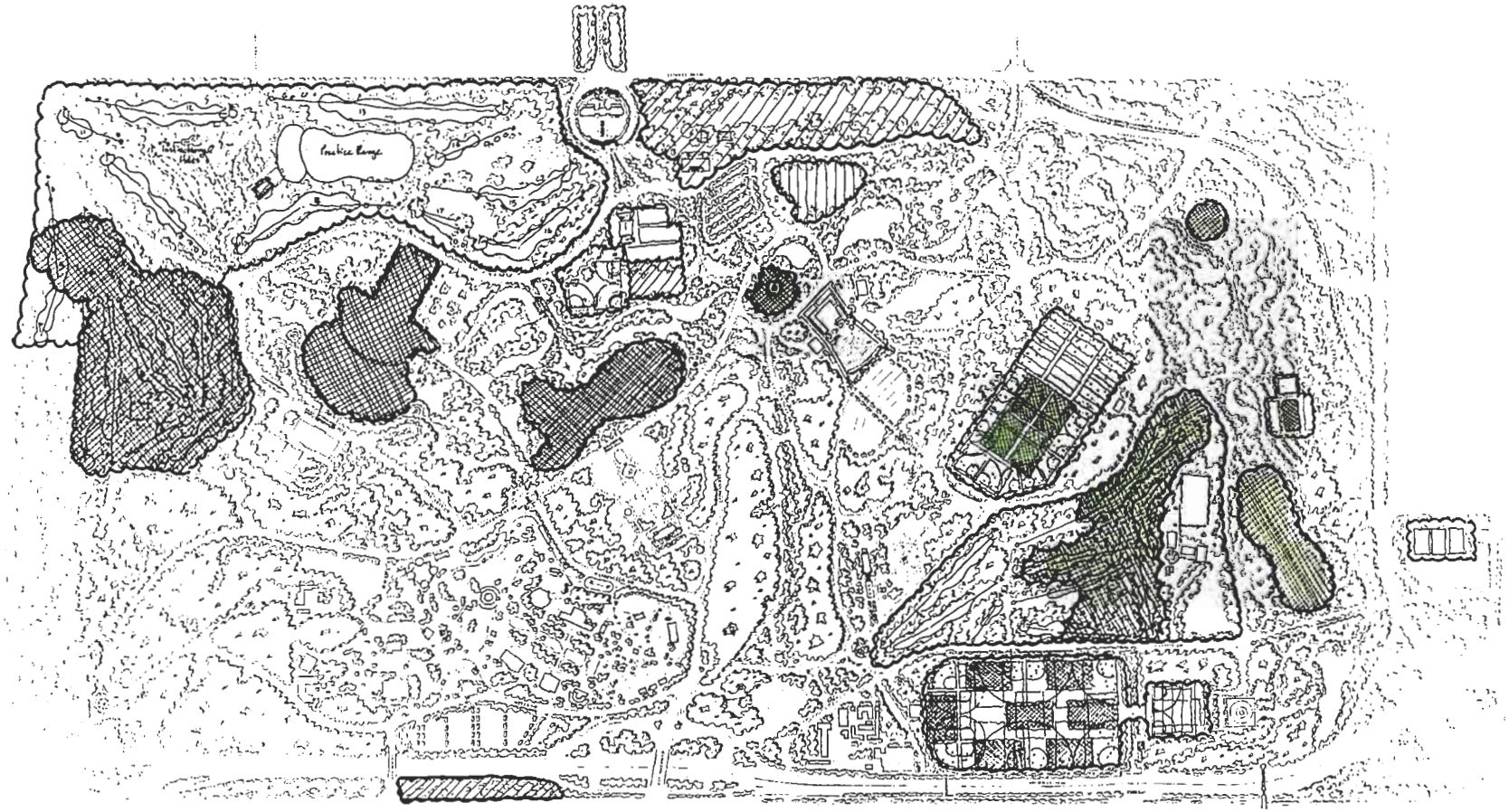
November 18, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



ACTIVE RECREATION DEMAND	WINTER
Golf	*Minimal*
Softball/ Baseball	*None*
Soccer	*None*
Football	*Primary*
Rubgy	*Minimal*

Primary Winter Active Recreation Areas

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

November 18, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

3. Golf Courses

a. Municipal Courses

The Municipal Courses are divided into the "Bottom Land Holes" and "Upland Holes.". The upland holes are generally well designed with an interesting character and require mostly rehabilitation and modernization of facilities. The bottom land holes are tight and lack character and diversity.

Two proposals have been offered for the redesign of the Municipal Courses. Both proposals require the relocation of five golf holes away from the Art Hill/Grand Basin to create open space for passive recreation. The two proposed options are:

Option A

- Provide 27 competition golf holes
  - One 18 hole course
  - One 9 hole course.
- Continue to utilize Lindell Pavilion as the clubhouse.
- Relocate and/or visually screen the golf maintenance facility.

Option B

- Provide 18 competition golf holes with returning nines to the clubhouse.
- Provide a practice fairway/driving range (not lighted).
- Provide 3 instructional/practice holes (not lighted).
- Provide a new centrally located clubhouse.
- Relocate and visually screen the golf maintenance facility into the uplands and accessed by cart paths.

If 27 holes are to be accommodated after relocation of the Art Hill/Grand Basin holes, some additional land is needed to accommodate these holes. This does not imply an increase in the total area devoted to golf, but rather a change in boundaries.

Specific recommendations for the Municipal Courses include:

- Upgrade greens on all holes to meet contemporary standards.

- Meet contemporary standards which typically include greater spacing between holes, multiple tees for different levels of expertise, and educational/instructional facilities.

- Provide water bodies and wetlands to improve drainage and golf course quality.

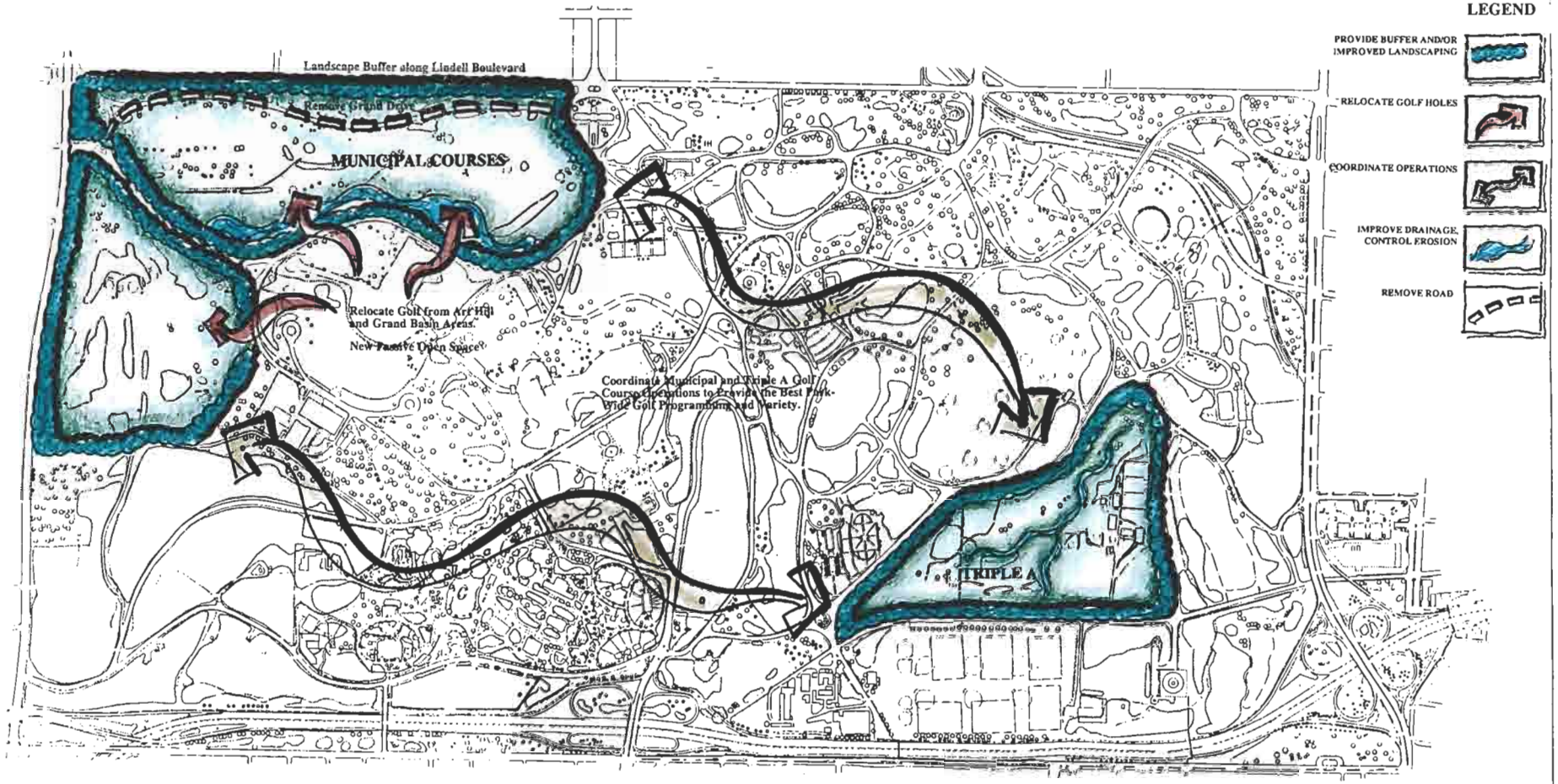
- Increase hole spacing and perimeter buffers to improve safety for golfers and surrounding park users.

- Improve operational flexibility and efficiency.

- Improve environmental quality and aesthetics.

- Reduce conflicts with surrounding land uses.

- Retain the majority of the existing upland holes which have a desirable golf quality and character.



DESCRIPTION

- The Municipal and Triple A golf courses must operate as a cooperative park-wide golf system which provides the maximum variety of golf experiences to all park users and avoids duplicate operations when possible.
- The Municipal Golf Course redesign relocates golf from the Art Hill and Grand Basin area, corrects major drainage problems, buffers golf from adjacent land uses and improves golf experience for its patrons. The existing boundaries must be altered to achieve this program.
- The Municipal Golf Courses can be configured as a 27 hole operation with the existing club house or as a 18 hole operation with a practice range, three practice/instructional holes and a new club house. All redesign options remove Grand Drive between the Forsyth entrance and the DeBaliviere entrance.
- Proper design of the Municipal Golf Courses' water system will provide the link from Cascades to the rest of the water system and will improve golf course quality and aesthetics.
- Removing golf from the Art Hill and Grand Basin areas opens the areas for passive recreation.

Park-Wide Golf System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

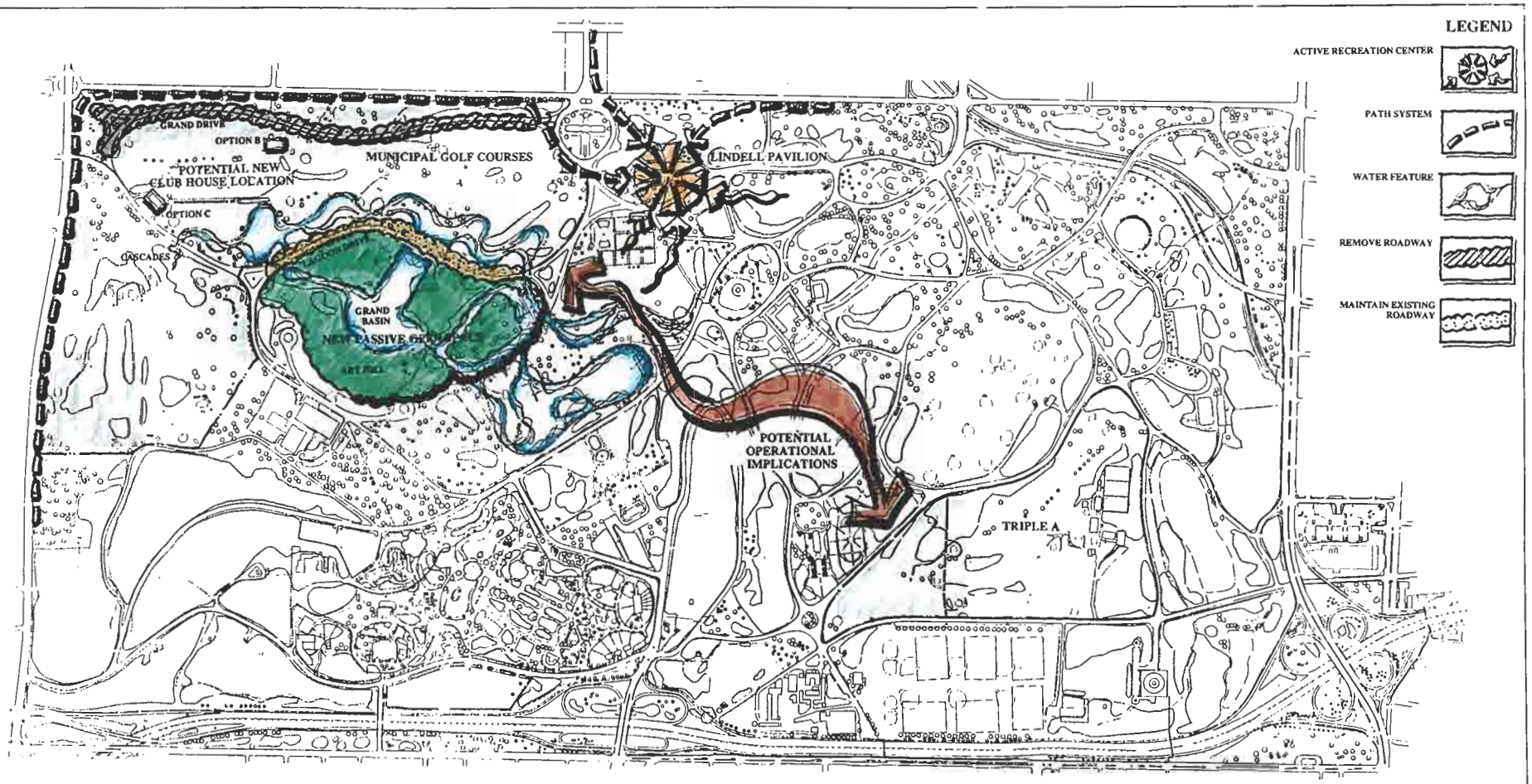
SCALE: 1"= 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



DESCRIPTION

- In all golf course proposals, the five golf holes around Art Hill and Grand Basin are relocated to free the area for passive recreation. This is the key to a cohesive, park-wide passive open space system. Art Hill and Grand Basin can then be linked to Post-Dispatch Lake to form the heart of the system.
- Relocating the club house away from Lindell Pavilion offers the added potential to create an active recreation center at Lindell Pavilion which can serve surrounding active uses, as well as passive recreation, in the northern section of Forest Park.
- Removing Grand Drive and the University Circle entrance eliminates a number of dangerous and confusing bike path-roadway crossings and creates a more user friendly bike path along the perimeter of the park.
- Keeping Lagoon Drive maintains a popular roadway for viewing and accessing the new passive space at Grand Basin and Art Hill by automobile and creates a safety buffer between the area's passive recreation and errant golf shots.
- The golf course's new water system not only improves the quality of the golf course but also creates a connection from the Cascades to the rest of the water system which increases water movement and quality. This quantity of water, in the past viewed as "private lakes" for golfers only, is greatly offset by the open access to Grand Basin.
- Changes to the Municipal courses may require operational changes at Triple A to provide the best park-wide golf experience to the park's patrons.

CONCEPT DIAGRAM
Golf-Related Land Use Implications

FOREST PARK MASTER PLAN

ST. LOUIS, MO

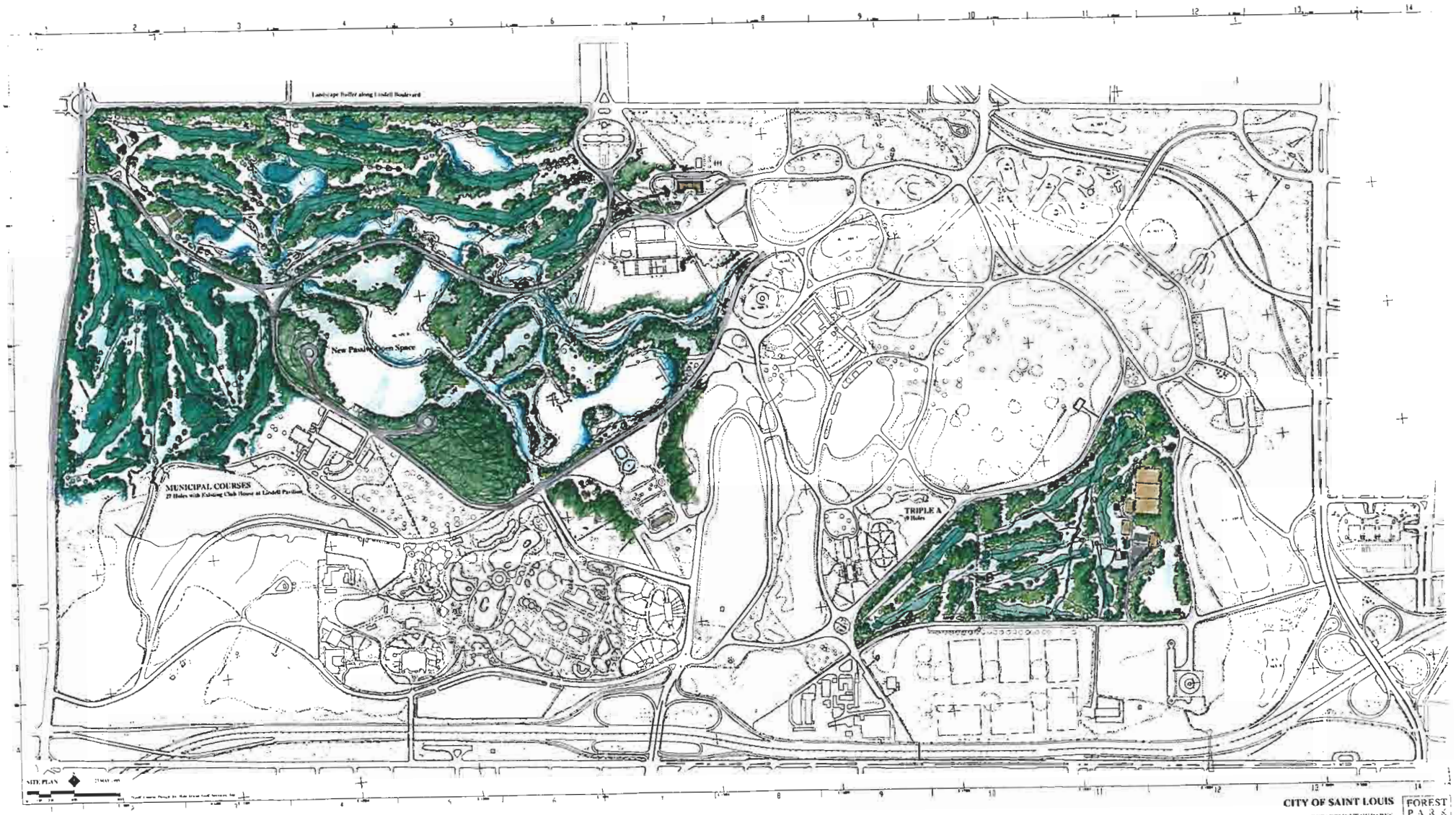
SCALE: 1"= 800' 0 800 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



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ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN DEPARTMENT

FOREST PARK MASTER PLAN

CONCEPT DESIGN PLAN

Park-Wide Golf System - Option A

CONCEPT DESIGN PLAN
Park-Wide Golf System - Option B

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN DEPARTMENT

FOREST PARK MASTER PLAN

- Redesign the bottomlands to create unique new holes and landscape character which aesthetically relate to surrounding topography and water features.

- Utilize planned water features to provide a safety buffer between golf holes and surround passive recreation and paths along Lagoon Drive.

- Improve aesthetics or relocate the existing maintenance building to a visually unobtrusive hillside location, built into the slope and accessed by cart paths.

b. Triple A

Triple A is a short 9-hole course which caters to older users. Its rolling topography, ravines, and valleys are dramatic, but its young, sparse vegetation does not properly accentuate character. 18 holes are accommodated by using alternate tees and greens. The club charges an annual fee for members as well as a daily fee for guests. The fee is for 18 hole play, not nine holes. 18 hole fees are inexpensive when compared to other area courses. The clubhouse has showers, lockers, a pro-shop, and a restaurant, which are only available to members.

Depending on the outcome of the efforts to redesign the Municipal Courses, the Triple A course is viewed as a suitable alternative for seniors and other 9-hole golfers who require a short and inexpensive course to play.

Specific recommendations for Triple A include:

- Provide a 9-hole golf rate.

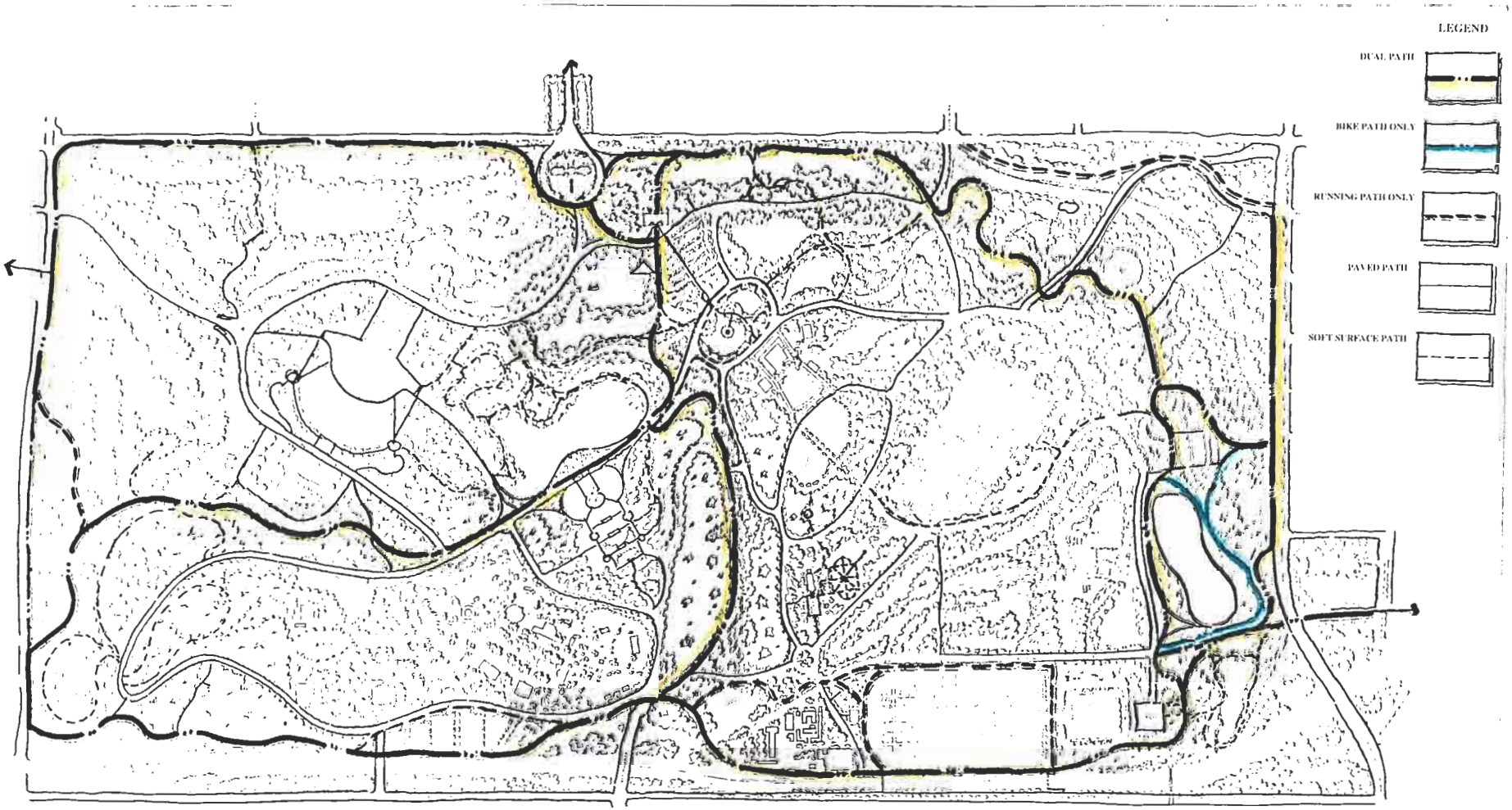
- Provide a seniors rate for golf.

- Increase marketing of golf, tennis and park support facilities to the general public and park users.

- Provide significant quantities of bike parking to serve path users.

4. Path System

See Section no. 6 "Access, Circulation and Parking"



Composite Path System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 600' 0 600 1600 2200

18 NOVEMBER 1975

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

E. Site Specific Recommendations

AVIATION FIELD

- Reconfigure all fields for improved aesthetics and flexibility.
- Provide eight softball/little league diamonds.
- Provide six baseball diamonds.
- Provide seven soccer/football fields.
- Continue to accommodate special events.
- Consider providing a running track.
- Consider additional lighted fields.
- Increase vegetation along Highway 64/40 to dilute automobile noise and filter airborne pollutants.
- Re-route the bike path to the south of the fields, along Highway 64/40.

CENTRAL FIELDS

- Reconfigure all fields for improved aesthetics and flexibility.
- Provide 11 Softball/Little League diamonds.
- Provide five Soccer/Football fields.
- Relocate three rugby fields from Langenberg Field.
- Upgrade existing building to serve as an active recreation support facility with attended showers, lockers, toilets, and, potentially, a small concession.
- Continue to accommodate special events.
- Maintain as unlighted fields.

ARCHERY RANGE

- Reconfigure Archery Range, removing one or two bays and adding improved safety measures to reduce potential injury to other park users.
- Design for multiple use with potential for tournament soccer field and/or two softball diamonds
- Consider providing smaller, youth-oriented active recreation fields.
- Continue to accommodate special events.
- Consider lighting to increase multiple use flexibility.

LANGENBERG FIELD

- Provide two multi-use athletic fields.
- Provide unstructured/non-permit active recreation (1st come, 1st served).
- Design to accommodate overflow permit use from other active spaces on peak days, while accommodating passive recreation and special events.

LINDELL EDGE: DEBALIVIERE TO UNION

- Provide unstructured/non-permit active recreation (1st come, 1st served).
- Relocate the Par Course exercise stations here from the Lindell Boulevard golf course edge.
- Consider additional semi-active programming such as croquet or Frisbee golf while accommodating general passive recreation.

LINDELL PAVILION ENVIRONS

- Maintain existing lighted racquet sports.
- Renovate the existing children's play area behind Lindell Pavilion.
- Program as an active recreation support services facility.
- Provide a public concession with potential indoor/outdoor casual dining.
- Provide attended public lockers, showers, and toilets.
- Provide maps for general public active recreation/path users.

PARKS DEPARTMENT COMPLEX

- Consider providing support amenities for adjacent athletic fields and path users.

MOUNTED POLICE HANGAR

- Retain current use and renovate the Mounted Police Station.
- Consider long-term relocation of the Mounted Police to another park site and reprogramming of the site for indoor active recreation, such as basketball, volleyball, tennis and rock climbing.

MUNICIPAL GOLF COURSES

Option A

- Relocate five existing holes from the Art Hill/Grand Basin area.
- Remove Grand Drive from the Forsyth Boulevard entrance to DeBaliviere.
- Improve drainage.
- Reduce conflicts with surrounding land uses.
- Provide 27 competition golf holes:
  - One 18 hole course.
  - One nine hole course.
- Continue to utilize Lindell Pavilion as the clubhouse.
- Relocate and/or visually screen the golf maintenance facility.
- Continue to accommodate winter recreation.

Option B

- Relocate five existing holes from the Art Hill/Grand Basin area.
- Remove Grand Drive from the Forsyth Boulevard entrance to DeBaliviere.
- Improve drainage.
- Reduce conflicts with surrounding land uses.
- Provide 18 competition golf holes with returning nines to the clubhouse.
- Provide a practice fairway/driving range (not lighted).
- Provide three instructional/practice holes (not lighted).
- Provide a new centrally located clubhouse.
- Relocate and visually screen the golf maintenance facility into the uplands, accessed by cart paths.
- Continue to accommodate winter recreation.

TRIPLE A CLUB

- Encourage operation as a nine hole golf course with both nine and 18 hole rates.
- Maintain existing lighted and unlighted clay and hard tennis courts.
- Proposed expansion of tennis support facilities.
- Consider increased active recreation programming.
- Provide support amenities, such as food concessions, toilets, showers, and lockers, for surrounding park uses.
- Accommodate winter recreation.

STEINBERG RINK

- Maintain existing ice and roller skating.
- Increase outdoor active recreation around building.
- Operate as an all-season, lighted, active and passive recreation support facility with information/maps, air conditioning, and improved kitchen facilities to serve surrounding recreation and path users and potentially hospital complex employees.

DWIGHT DAVIS TENNIS CENTER

- Provide landscaping to integrate the facility into its surroundings.
- Maintain existing lighted racquet sports facilities.
- Provide significant quantities of bike parking to serve path users.

HUDLIN COURTS

- Barnes Hospital to continue to maintain lighted racquet sports facilities and children's play areas.

CRICKET FIELD

- Operate as a multiple use facility, shared with passive recreation and special event needs.
- Provide the ability to accommodate overflow permit programming during peak periods.
- Maintain as unlighted.

OAKLAND EDGE: HAMPTON TO SKINKER

- Maintain the existing Par Course Exercise Stations.
- Improve children's play areas.

V. ART, ARCHITECTURE, AND INFRASTRUCTURE

A. Overview

B. Summary of Existing Conditions

1. Park Facilities
2. Public Art
3. Architecture and Site Furnishings
4. Infrastructure

C. Design Principles

D. Design Recommendations

1. General Approach
2. Typology of Design Traditions
3. Architectural Styles
4. Building Design
5. Building Function and Use
6. Bridges and Culverts
7. Public Art
8. Roads & Paths
9. Site Furnishings
10. Utilities

E. Site Specific Recommendations

LIST OF DRAWINGS

ANALYSIS

History Composite
1882 Roads and Infrastructure
Building Analysis - Fish Hatchery
Building Analysis - Lindell Pavilion
Building Analysis - Log Cabin
Building Analysis - Police Stables
Building Analysis - Steinberg Memorial Ice Rink
Building Analysis - Worlds Fair Pavilion
Building Analysis - Parks Maintenance Complex
1995 Park Infrastructure and Utilities

DESIGN

Design Principle - Integrate Historically Significant Landmarks, Landscapes and Site Relationships
Design Principle - Emphasize Site Relationships
Design Principle - Multi-Functional Zones with Shared Facilities
Design Principle - Coordinated Infrastructure Replacement and Underground Utility Corridors
Proposed Park Facilities
Proposed ZMD Facilities and Cultural Institutions
Proposed Service and Support Facilities

A. Overview

Forest Park displays a wide and diverse range of public art, architecture, and infrastructure which adds to the unique nature of the park and its ambiance. The Master Plan acknowledges the value of these cultural amenities and seeks to maintain and enhance existing styles through the establishment of design and maintenance standards which are specific to the park. Emphasis will be placed on repairing and maintaining existing infrastructure and ensuring that the design and architectural qualities of new park elements are consistent with neighboring styles and landscaping.

From an architectural perspective, the prime objective is to maintain the distinctive character, quality of construction, and individual architectural integrity of each building structure within Forest Park. While there is no one prevalent architectural style nor a dominant material, there is a sense of scale, richness of detail, and quality of construction. These qualities create a strong overall image within Forest Park.

B. Summary of Existing Conditions

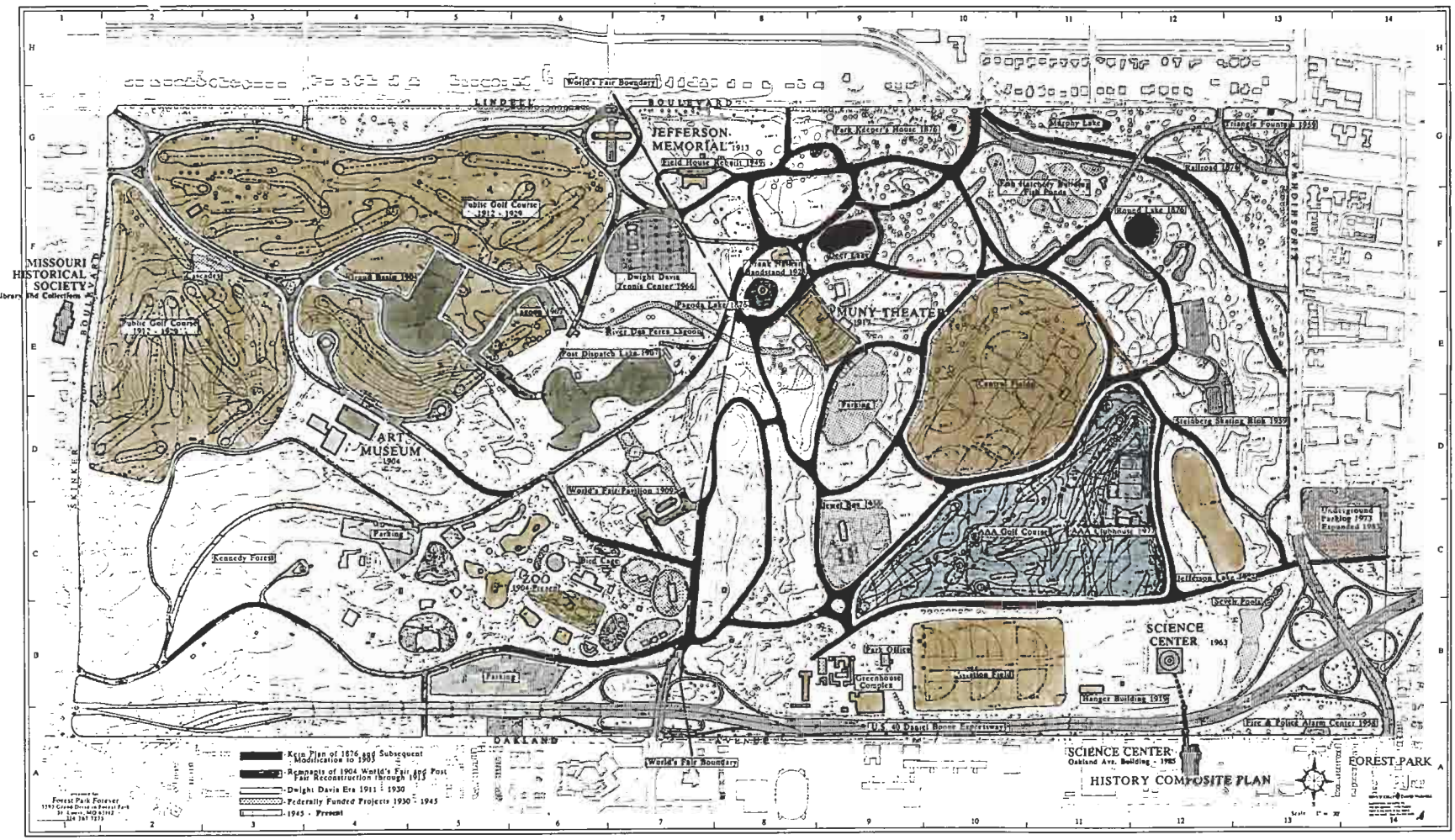
1. Park Facilities

Forest Park contains a diverse tapestry of public art and architecture which has evolved over many years and reflects many styles and influences. There is no predominant architectural "theme" in the park.

Forest Park has always been envisioned as an urban park with cultural amenities. It is important to note that the original 1876 Plan contained provisions for cultural institutions — a zoo and an aquarium. Within twenty years, plans for an Art Museum were also in progress. Thus, cultural institutions and other facilities have been a part of the Forest Park "experience" as long as the park has existed. In general, the institutions are in good shape (the Art Museum's need for structural strengthening to protect it against earthquake damage being the primary exception). However, few of the buildings and facilities in the park are currently ADA accessible, a situation which must be addressed as changes and improvements are made.

One significant deficiency in the park's mix of facilities is that there are few recreational areas in Forest Park dedicated exclusively to youth, with the exception of the Children's Zoo and three small playgrounds. Playgrounds are not provided along the neighborhood edge of the park, except on Oakland Avenue, nor are they provided near athletic fields or cultural or recreational facilities, other than the one at Lindell Pavilion. Some of the park's comfort stations are also poorly located to serve daily park needs. Two are permanently closed to the public. All are closed in winter.

The park's existing service and support facilities also have some historic and architectural merit, but they too are in need of repair or replacement. The Parks Department complex is aesthetically poor. It serves not only Forest Park, but the city's central corridor and its entire fueling needs. As such, the complex includes facilities which might be better located outside the park.



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

HISTORY COMPOSITE

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 600' 0 400 1600 2400

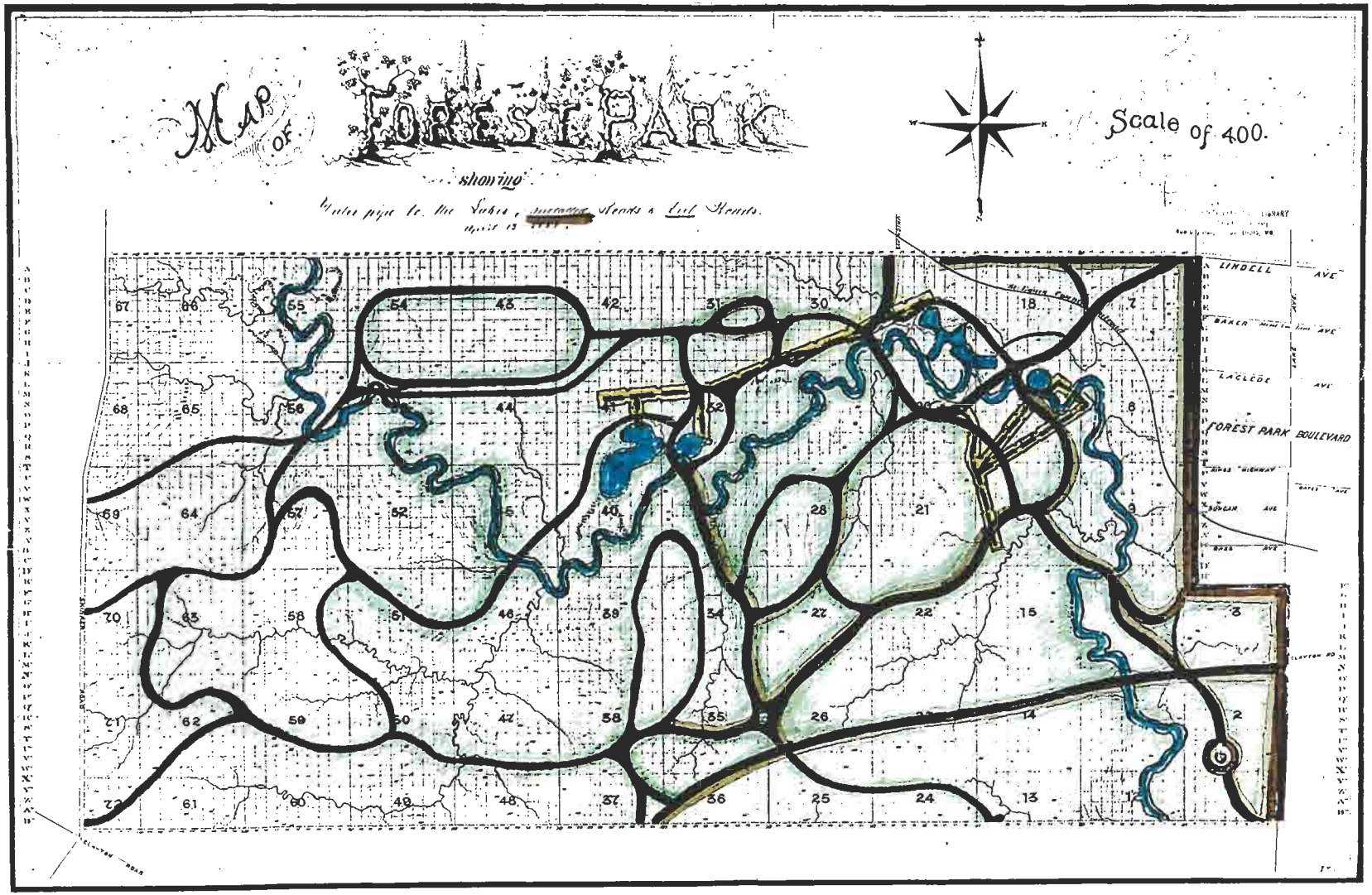
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



1882 ROADS AND INFRASTRUCTURE MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 800 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

2. Public Art

Public art in Forest Park suffers from the absence of a comprehensive placement plan and a lack of adequate maintenance. Many of the park's monuments, statues, and other public art are in need of maintenance or restoration. The landscape settings for much of the public art is in poor physical condition and does not properly accentuate art pieces. Some art pieces are improperly located and should be relocated to more appropriate park settings.

3. Architecture and Site Furnishings

Forest Park contains several buildings of historical value and architectural merit. The condition of these buildings, however, varies with ownership. There are no park-wide guidelines for maintenance of these facilities, nor any system in place to monitor and enforce adequate maintenance.

Site furnishings in Forest Park also suffer from poor maintenance and the lack of a comprehensive placement plan. Much of the decorative architectural ornamentation around buildings, water bodies, and park entrances is in disrepair or missing. Many of the park's benches and seating areas are in a similar situation. There is currently no pedestrian scale lighting in the park. Cobra head street fixtures predominate. There is generally a lack of well-functioning drinking fountains in the park. While there is currently a very positive memorial bench program, no coordinated plan exists to guide the placement of these benches.

4. Infrastructure

The infrastructure in Forest Park, particularly the sewers, roads, and bridges, is in serious disrepair and will require significant investment to bring it up to modern standards for safety, functionality and aesthetics.

The majority of existing utilities are outdated. There is generally a lack of order and coordination regarding utility location.

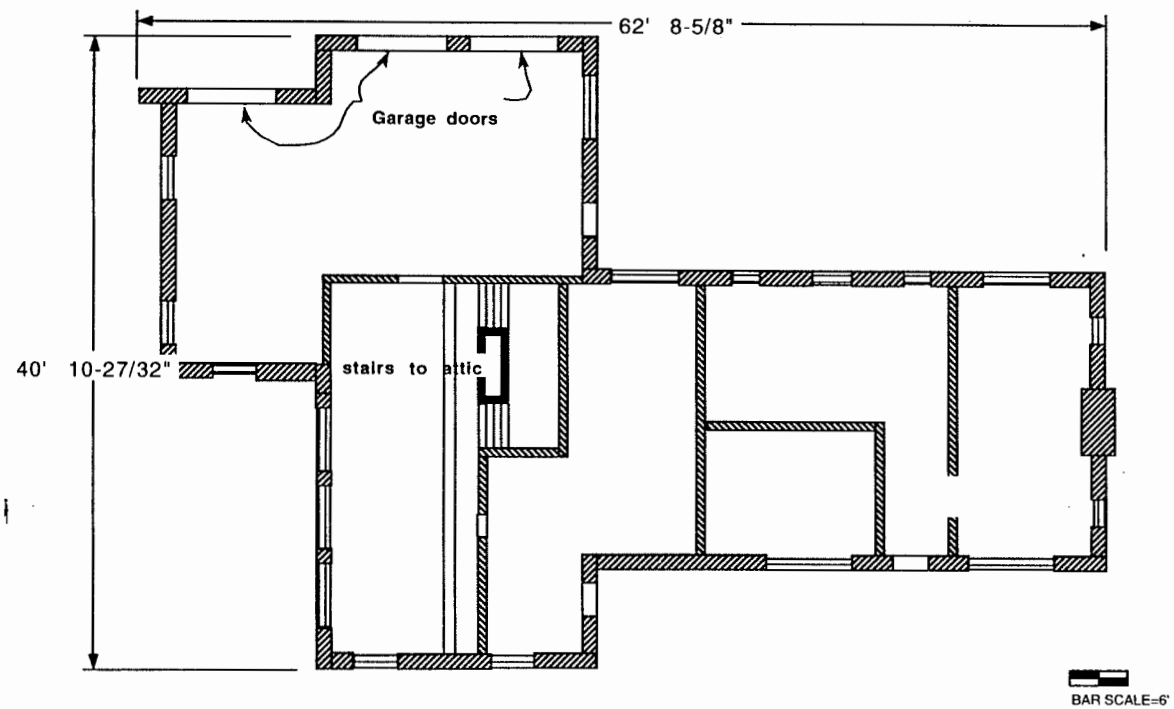
Catchbasins and underground sewer systems, most of which are more than 60 years old, need to be repaired or replaced. Currently, combined sanitary sewer overflow discharges into the park's water bodies, creating an unhealthy situation for wildlife and park visitors alike. Responsibility for maintenance of the sewer system is currently being debated by the Parks Department and the Metropolitan Sewer District.

Existing roadways are basically the original dirt and gravel tracks which have been repeatedly resurfaced over the years. Continuing deterioration, caused by water run-off, flooding, and heavy traffic use, results in frequent pavement buckling, potholes and other hazardous situations.

The park's bridges are similarly deteriorated and need to be repaired or replaced. Appropriate lighting currently exists only on roadways and parking lots and needs to be increased in these and other areas.

FISH HATCHERY PLAN

1,587 sq. ft.



General Notes:

- -Needs new HVAC system, current operates on fuel oil.
- -Needs electrical system upgrade.
- -Minor roof repairs needed.
- -Two garage doors on east side of structure possible handicap access.
- -Attic could be possibly renovated to house several small offices.
- -ADA upgrades needed.

Site Description

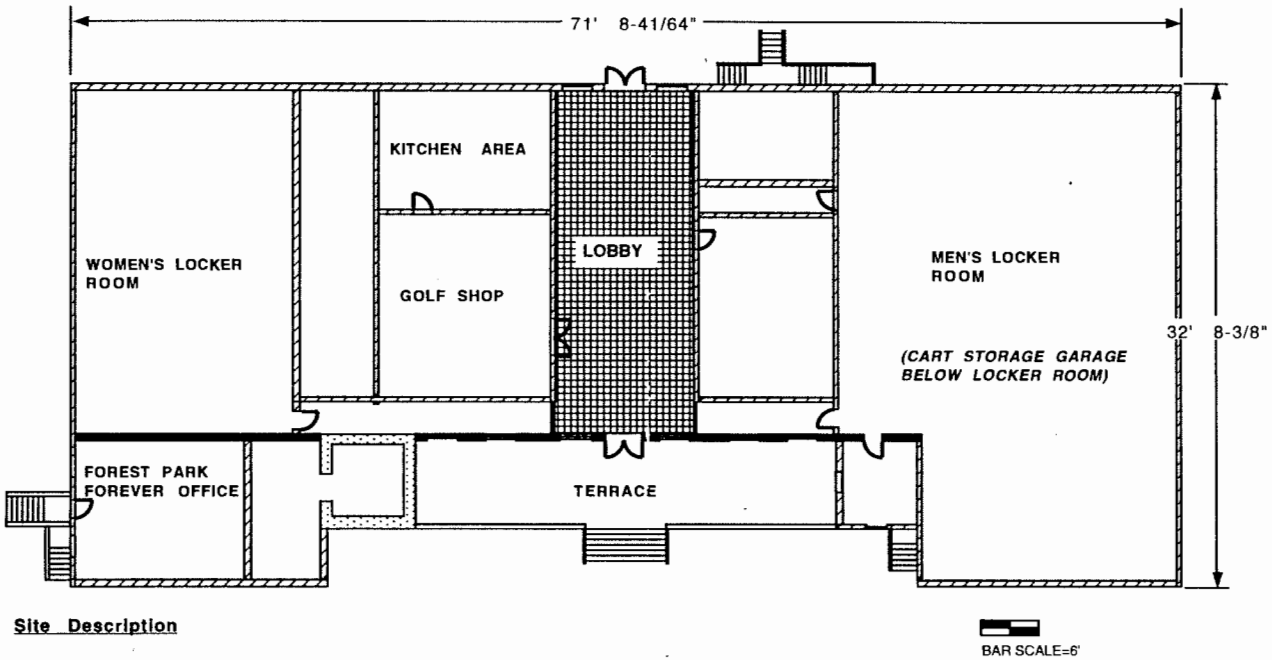
The Fish Hatchery, a 1587 sq. ft. stone structure with a slate roof, is accessed by a driveway off Grand Drive, and has dedicated parking for employees. It is adjacent to a bike path and the Hatchery Lakes. It is currently being used by Recreation Division - Operation Teamwork.

Existing Structural/Mechanical/Electrical Systems

The inadequate systems at the Hatchery include the HVAC system, which currently operates on fuel oil, and insufficient electrical service. There is some roof damage and the facility is not ADA compliant. The building has a 966 sq. ft. attic that can be renovated for office space.

LINDELL PAVILLION

19,740 sq. ft.



General Notes:

- Expensive maintenance cost $40,000/yr.
- Boiler repairs $4,000/yr.
- Electricity system needs upgrade; current system very inefficient.
- Some exterior patching needed.
- Several window replacements needed.
- Interior needs painting.
- Needs ADA upgrade.

Site Description

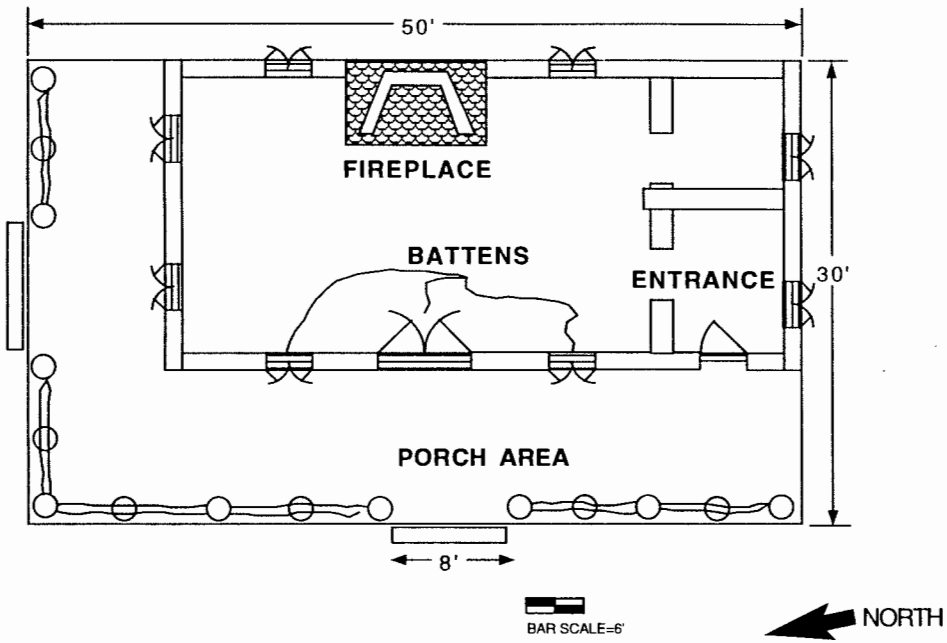
The Lindell Pavilion is used to house the golf Pro shop, and carts. The north side (rear) of the building has a small parking lot that is shared by the nearby sports facilities (racquetball, etc.), and there is ample parking on the Twin Lots. The north side is landscaped and is the beginning of the golf path and there are also picnic facilities, bike paths and a playground in the immediate area making it a high use building. There are restrooms with showers. A vending area is in the central hall of the pavilion and the Pro shop has a small food service area.

Existing Structural/Mechanical/Electrical Systems

The Pro shop was renovated in 1987. The rest of the facility is in major disrepair. Maintenance cost to the pavilion are over $40,000 per year. The electrical system has not met the needs of the facility and has been retrofitted several times (environmentally unfriendly, gas powered golf carts are now being used due to insufficint power). The boiler is outdated and in constant need of repair. The bathrooms are insufficient and unsightly and the plumbing is long outdated. ADA modifications must be made. Windows and exterior stucco and concrete are damaged. The roof leaks, and the clock tower is damged. The parking lot needs repaving.

LOG CABIN

2,142 sq.



General Notes:
- Proposed relocation of facility.
- Brick fireplace.
- Foundation has addition to original to section, may make it difficult to move.

Site Description

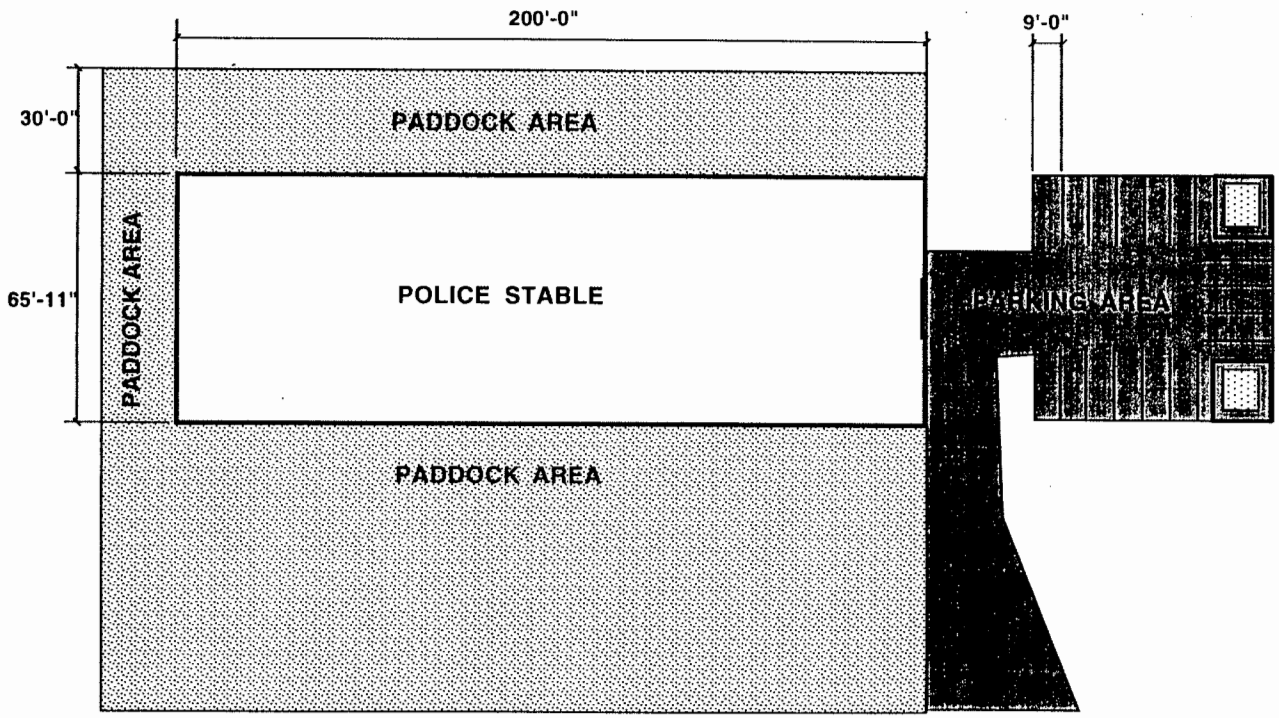
The Log Cabin is located North of the Boat House. It has no vehicle access and is currently being used as the Headquarters for the Forest Park Bait Casting Club. It is not currently utilized as a Park attraction.

Existing Structural/Mechanical/Electrical Systems

The Log Cabin is a soundy constructed facility mounted on a foundation wall. It has no utilities, and does not meet ADA requirements.

POLICE STABLES

13,200 sq.



Notes:

- -No fire protection or sprinkler system.
- -Poor ventilation in stable area.
- -Existing lighting need to be upgraded.
- -North and south paddock areas need civil improvements.
  - -Poor drainage system leads to water settling in middle of parking lot.
- -Facility needs siding and some window replacements.

BAR SCALE

Site Description

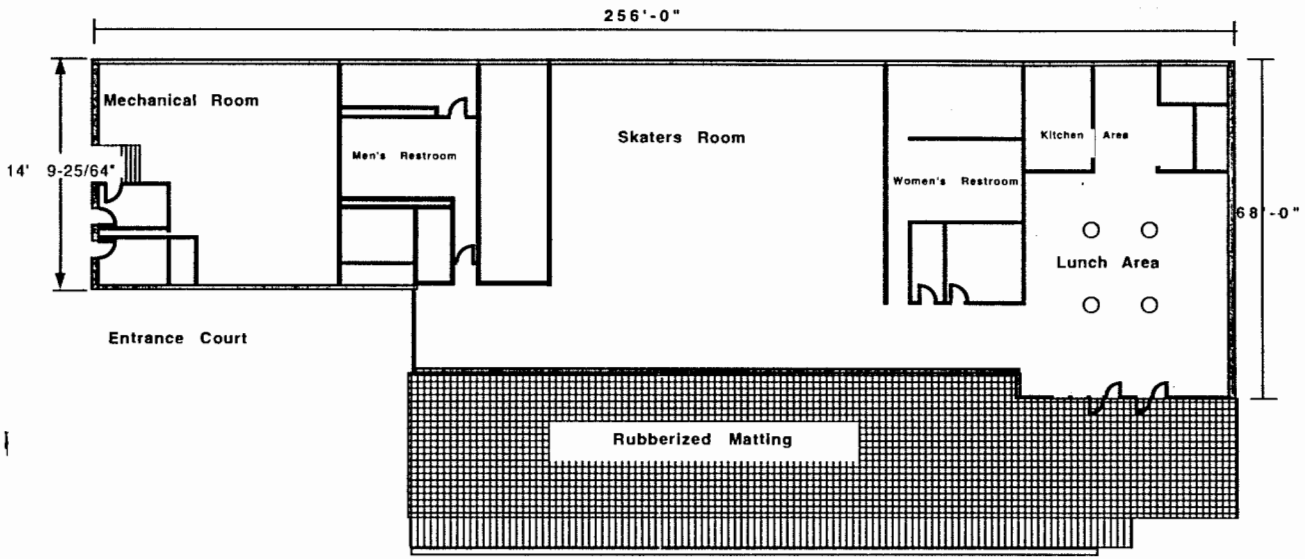
The Police Stables at Forest Park is the home of the St. Louis City Mounted Police. It encompasses a 13,200 sq. ft. area and has an adjacent parking lot. The linear access road is closed to the public that is also used for parking vehicles and horse trailers.

Existing Structual/Mechanical/Electrical Systems

Currently, the stables are fuctional, but inefficient due to the buildings adaptive reuse of an old airplane hanger. There is no fire protection system.n place. Poor ventilation and lighting in the stable area create an intolerable working environment. Drainage systems in the North and South paddock currently flow into the parking lot, creating potential damage to the pavement. The facility itself has damged siding.

STEINBERG MEMORIAL ICE RINK

19,456 sq. ft.



General Notes:

- -Facility had new roof installed April 1995.
- -Building has no air conditioning or ceiling fans.
- -Rubberized matting around rink needs replacement.
- -Restrooms needs ADA upgrades.
- -Concrete around rink needs replacing.
- -Mechanical room uses 40 year old ice producing compressor chiller system designed to utilie R-12 coolant, phased out January 1995.
- -Cooling tower installed 1957, has been utilized beyond its life expectancy.
- -Refrigerant unit contains 4000 lbs. of R-12, environmental hazard.

BAR SCALE=6'

NORTH

Site Description

The Steinberg Memorial Ice Rink is a 19,456 sq. ft. facility, built in the late 50's. It consist of the skating rink and main building flanked by concrete which is partially covered with rubber matting. Parking is provided onadjacent lots (employee parking in south lot). There is a central bench/locker ara, a lunchroom with snack counter, bathrooms (w/showers), office, first aid station and mechanical room.

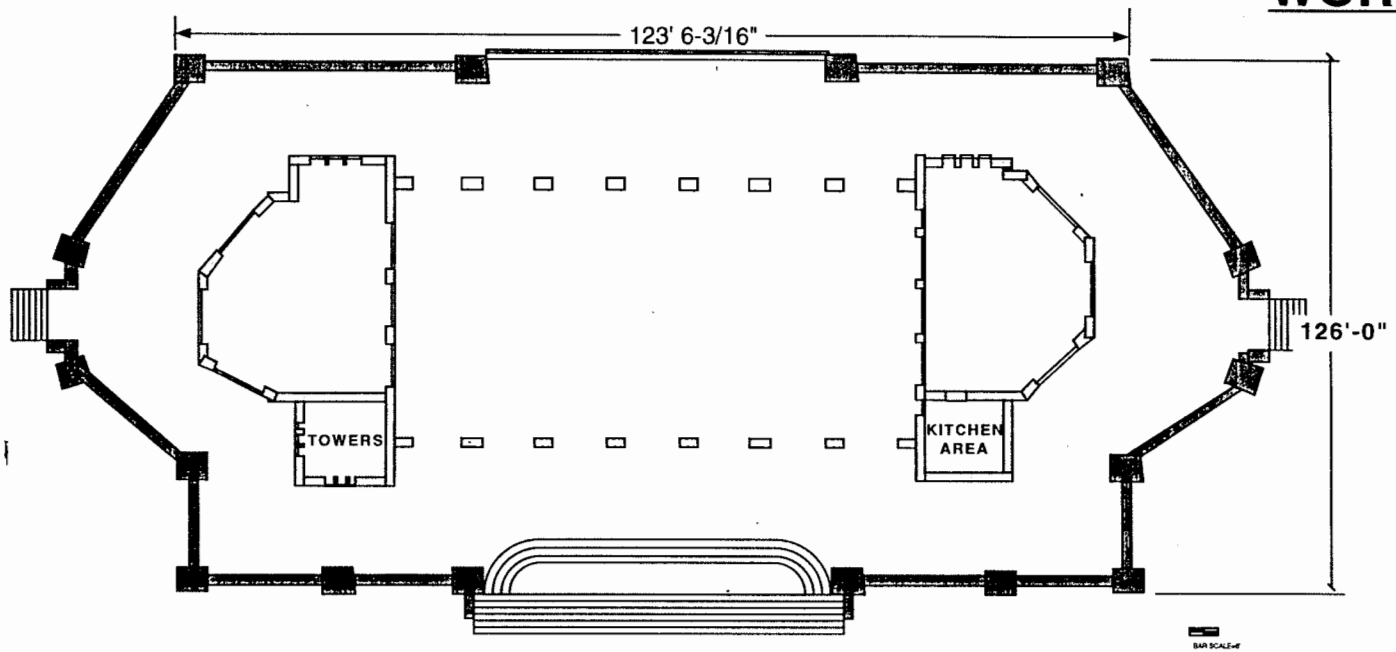
Existing Structural/Mechanical/Electrical Systems

The main building has received some updates (new roof 4/95), but is in need of mechanical and ADA upgrades. The area surrounding the rink is in disrepair. The concrete is uneven and crumbling, many of the rubber mats are torn, and the fencing is damaged in some areas. Water runoff from the top of the hill poses a problem for the roof.

The rink utilizes a 40 year old compressor-chiller system that uses R-12 coolant. R-12 use was phased out in January 1995. The refrigerant unit now contains 4000 pounds of R-12 which is considered an environmental hazard. The cooling tower was installed in 1957 and has been utilized beyond the life expectancy. Currently, the buildings have no air conditioning or ceiling fans which limits summer usage to early morning and late evening skating sessions. The cooling tubes below the rink will need to be replaced. Electrical systems are adequate at this time, but updates may be repaired with additional load of AC and new cooling system.

WORLDS FAIR PAVILION

24,408 sq. ft.



General Notes:

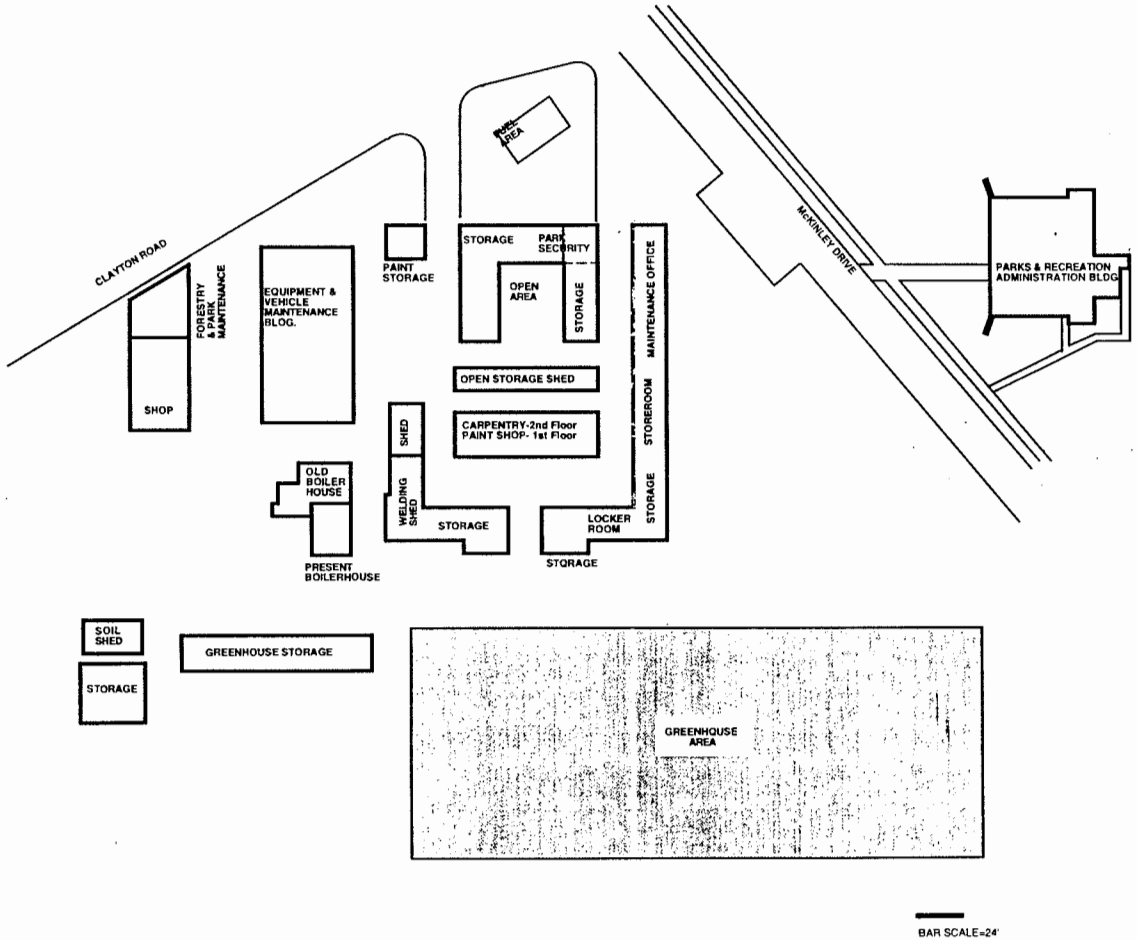
- -Fascia boards and guttering in bad condition.
- -Surface stucco needs patching.
- -Claytile roof needs replacing
- -Restrooms on ground level in bad condition.
- -Kitchen needs all new equipment.
- -Stairs in towers need repair.
- -Extensive concrete repairs needed.
- -Pavilion ceiling in need of repair.
- -Existing kitchen requires new HVAC, plumbing and electrical upgrade.

Site Description

The Worlds Fair Pavilion incorporates a 24,408 sq. ft. area. On its perch atop Government Hill, overlooking the Post-Dispatch Lake, the pavilion provides one of the most spectacular views in Forest Park. The pavilionis used for public events and has a small kitchen area with a large refrigerator (questionable usage) and a sink, but no other equipment. The toilet facilities and towers are not in use. Parking is provided on the rear lot (restricted parking along Government Hill), and there is only one open vehicle entry point to the facility. Also, the road is one way, which lends to difficult access and therefore, not a high use building for the general park user.

Existing Structural/Mechanical/Electrical Systems

Although structurall sound, the pavilion has some damge throughout. The concrete, stucco and ceiling are damaged. Roof tiles are missing, fascia and guttering are in disrepair, there are no downspouts, creating damage to theexterior and foundation.
Both towers have water damage. Walkwas, parking lot and the stairs have damage. The kitchen equipment, HVAC and electrical system are putdated and not sufficient if more than current usage is planned.



Notes:

Parks & Recreation Office (11,000 sq. ft.)- ADA upgrades needed throughout office.
-Various aestethic changes recommended by staff.
-Office currently houses 25 personnel, approx. 440 sq. ft. per person.

Maintenance Office/Storage Facility (7,750 sq. ft.)
- Office supply, parts store, concrete, and metal fencing storage
- Guttering on building loosed and missing parts
- Fascia rotted and missing peices
- Several downspouts missing
- Exterior wood doors and jambs need replacement
- Metal doors and window bars corroded
- Exterior walks badly cracked
- Flat roof areas leaking
- Exterior requires patching

Open Storage Shed Building (2,200 sq. ft.)
- Exterior wood badly cracked & weather damaged

Carpentry & Paint Shop Building (3,520 sq. ft.)
- Exterior wood doors in poor shape, need replacement.
- Minor exterior patching needed

Park Security (6,780 sq. ft.)
- Facility needs new roof.
- Guttering and facia needs new roof (claytile)
- Exterion patching necessary

City Refuel Area
- One of three refuel areas for City Vehicle
- Two Pumps, unleaded and diesel
- 499,032 gallons pumped 6/94 to 6/95
- 272,901 unleaded & 226,131 diesel

Paint Storage Facility Building (750 sq. ft.)
- Building in good shape

New Shop Maintenance Building (9,782 sq. ft.)
- Equipment and vehicle maintenance
- Building in sound condition

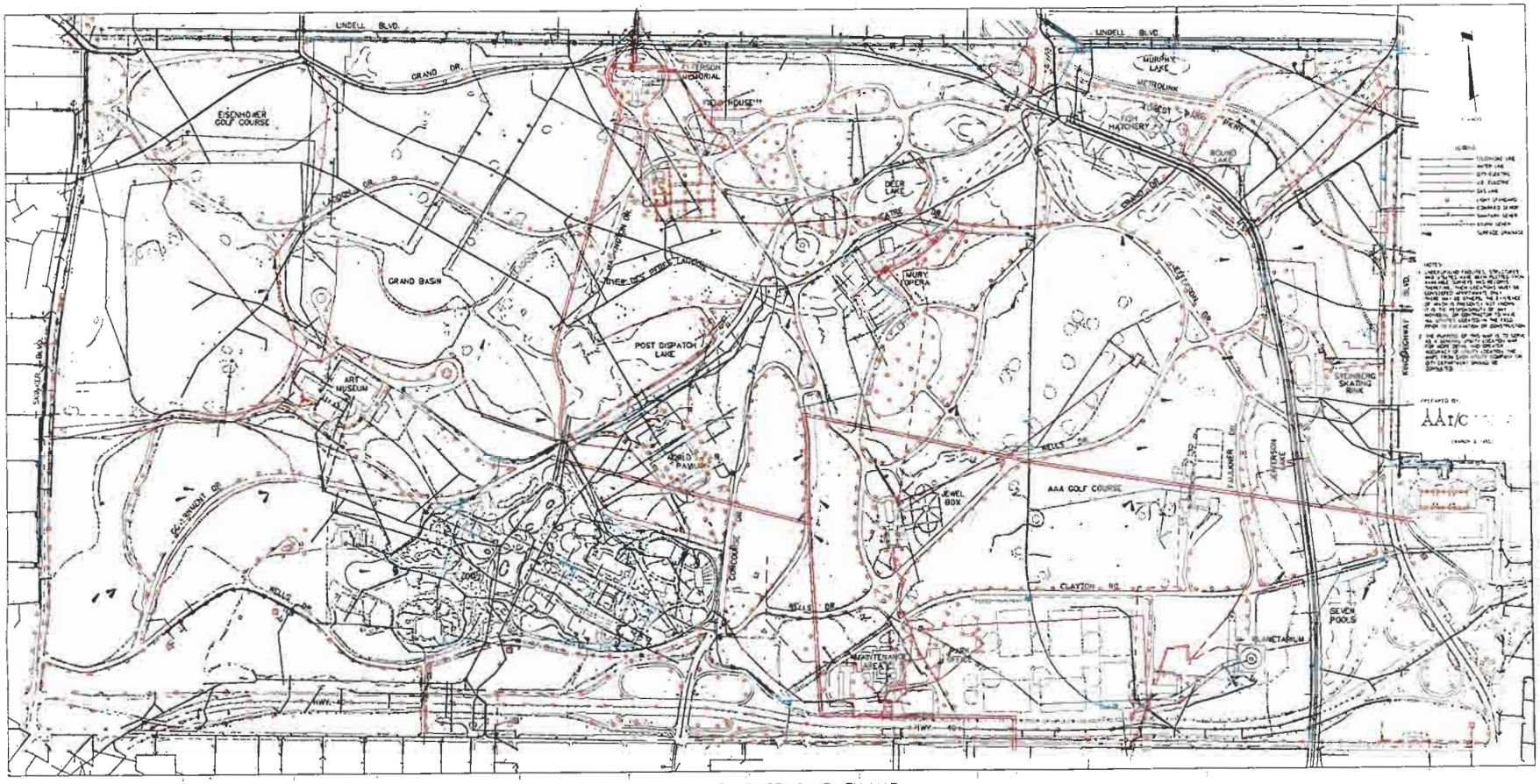
Forestry and Park Maintenance
- Forestry and Park maintenance office
- Facility in good shape

Boiler House Area (2,325 sq. ft.)
- Exterior brick dilapidated
- Wood window frames decayed
- Ashpalt paving needs patching
- Window replacement needed

Greenhouse Storage Building (1,800 sq. ft.)
- Plastic plant container storage
- Brick exterior largely needs tuckpointing

PARK MAINTENANCE COMPLEX

Scale: 1"=40'



FOREST PARK EXISTING UTILITY MAP

1995 PARK INFRASTRUCTURE AND UTILITIES MAP

GENERAL OBSERVATIONS

- There is generally a lack of order and coordination regarding utility location.
- The majority of existing utilities are outdated.
- Parks Dept. currently maintains sewers which are not within MSD jurisdiction.
- Combined sanitary sewer overflow discharges into water bodies.
- Catchbasins and underground sewer systems are in disrepair.
- Stormwater ponding occurs in certain areas of the park.
- Existing roadways are basically the original dirt/gravel and resurfaced roads.
- The condition of bridges vary from poor to excellent.
- Street lighting is basically limited to roadways and parking lots.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

C. Design Principles

- Integrate historically significant landmarks, landscape and site relationships.
- Emphasize site relationships.
- Create multi-functional zones with shared facilities.
- Emphasize coordinated infrastructure replacement and create underground utility corridors.

D. Design Recommendations

1. General Approach

The general philosophy is that all art, architecture and infrastructure should be understood to be "Civic Art" placed in a landscape. This implies that the buildings and infrastructure are not purely utilitarian structures. Each structure, regardless of its function, should be of a high design quality and respectful of its role and relationship in the surrounding landscape. With regard to this relationship between the architecture and landscape, there are two design traditions or typologies within Forest Park: a formal and informal tradition. It is of critical importance that this relationship between architecture and landscape be the over-riding design concern for any addition, preservation/maintenance or modification of existing buildings and landscapes; and/or of new buildings or landscapes.

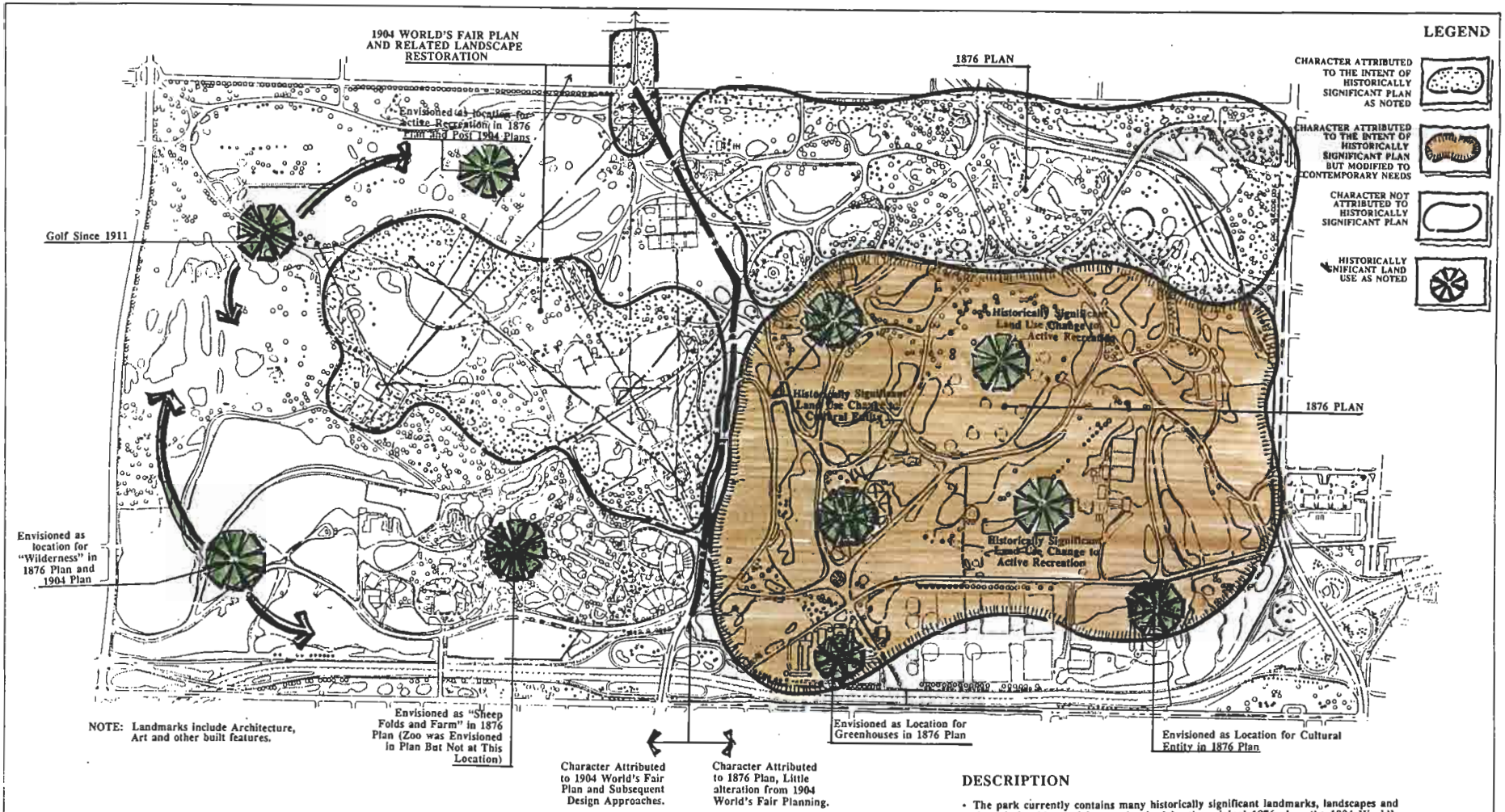
The general objective is to rehabilitate, modify or add to the existing architecture, art, and infrastructure in a manner which preserves its historic and aesthetic significance and relationship to the landscape and site while fulfilling its functional requirements. In the case of historically significant art, architecture, and infrastructure, necessary research and documentation of the original design must be undertaken and the original design intent must be explicitly taken into account in the development of any modification or restoration. Additions to any architecturally significant buildings must preserve, to the extent possible, the original design intent of the structure and be compatible with the building's proportions, ornament, and materials and finishes. In the case of the general maintenance of historically significant architecture, this should involve preserving the historical architecture and possibly restoring any lost architectural features and finishes.

Any modifications to other non-significant buildings should be within the spirit and tradition of the original design, in order to ensure a compatible relationship.

In the case of new art, architecture, and infrastructure, close attention must be paid to the existing site relationships, adjacent architecture, and the proposed design intentions of the Master Plan.

The following policies should be included in the design considerations:

- Respect the existing diverse character of public art and architecture in future designs.



NOTE: Landmarks include Architecture, Art and other built features.

DESIGN PRINCIPLE

Integrate Historically Significant Landmarks, Landscapes and Site Relationships

DESCRIPTION

- The park currently contains many historically significant landmarks, landscapes and site relationships which were inspired by the original 1876 plan, the 1904 World's Fair and related landscape restoration and other historically significant designs. Future design and management should respect these elements while considering appropriate contemporary uses which occupy these locations today.
- Historic landmarks, landscapes and site relationships should be viewed as equally important elements in future design and management.
- It is important to note that virtually every historically significant landmark, landscape and site relationship in the park has been modified to accommodate contemporary needs.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

27 FEBRUARY 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

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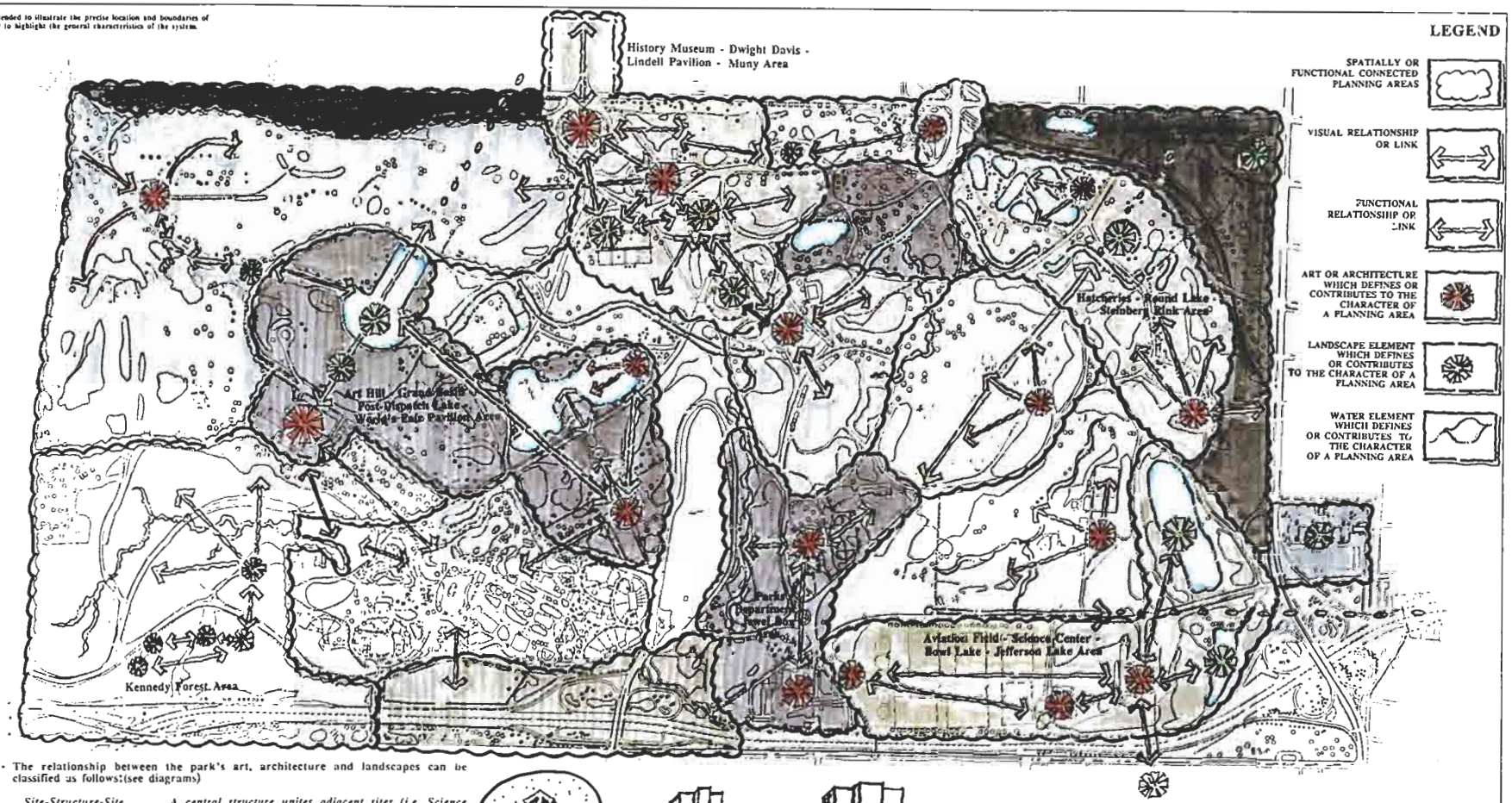


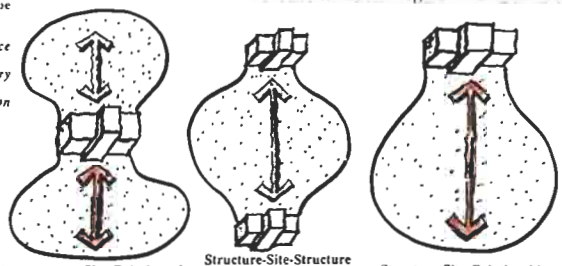
LEGEND

- SPATIALLY OR FUNCTIONAL CONNECTED PLANNING AREAS
- VISUAL RELATIONSHIP OR LINK
- FUNCTIONAL RELATIONSHIP OR LINK
- ART OR ARCHITECTURE WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA
- LANDSCAPE ELEMENT WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA
- WATER ELEMENT WHICH DEFINES OR CONTRIBUTES TO THE CHARACTER OF A PLANNING AREA

- The relationship between the park's art, architecture and landscapes can be classified as follows:(see diagrams)

Site-Structure-Site	*A central structure unites adjacent sites (i.e. Science Center-Bowl Lake-Archery Range relationship).*
Structure-Site-Structure	*A central site unites adjacent structures (i.e. History Museum-Lindell Pavilion relationship).*
Structure-Site	*A single structure and associated site function as an independent unit.*(Art Hill-Art Museum)

DESIGN PRINCIPLE
Emphasize Site Relationships



Site-Structure-Site Relationship — Structure-Site-Structure Relationship — Structure-Site Relationship

DESCRIPTION

- Sites containing art, architecture and landscapes should be linked together through a series of spatial and functional relationships. Clusters of individual sites often have spatial and/or functional relationships as well.
- Sites with spatial or functional connections should be treated as continuous, composite planning areas.
- Site design within planning areas should enhance their spatial and functional connections.

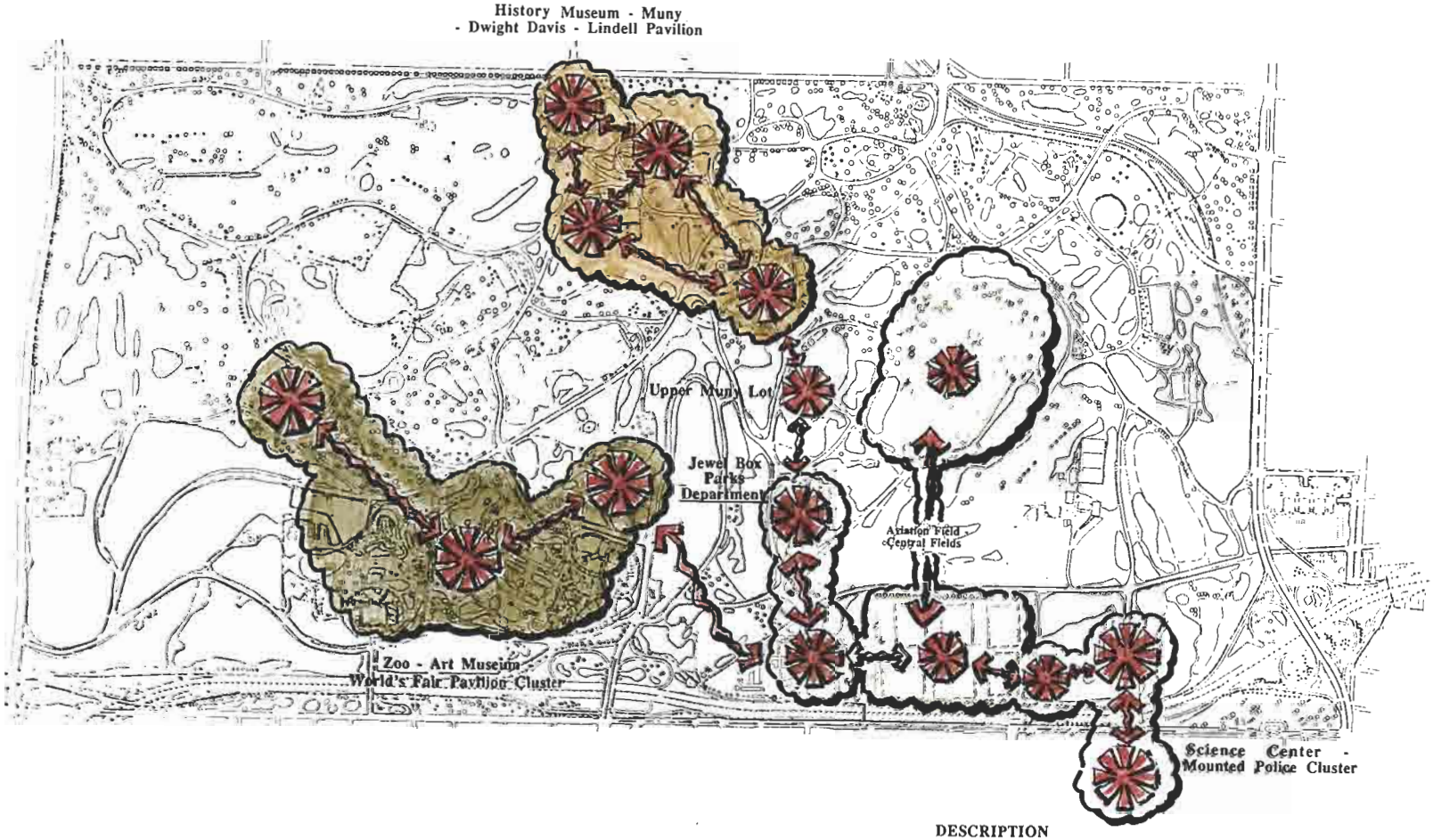
FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



DESIGN PRINCIPLE

Multi-Functional Zones with Shared Facilities

DESCRIPTION

- Many park entities have functional relationships which require cooperation and coordination to best meet their functional requirements. If these requirements are addressed individually, rather than in groups, the park will suffer from piecemeal development.
- Many park facilities and infrastructure elements are located between park entities with similar needs and could be programmed to serve multiple purposes and users.
- The impact of meeting all the needs of each park entity can be reduced if all entities work together and share common facilities and infrastructure.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

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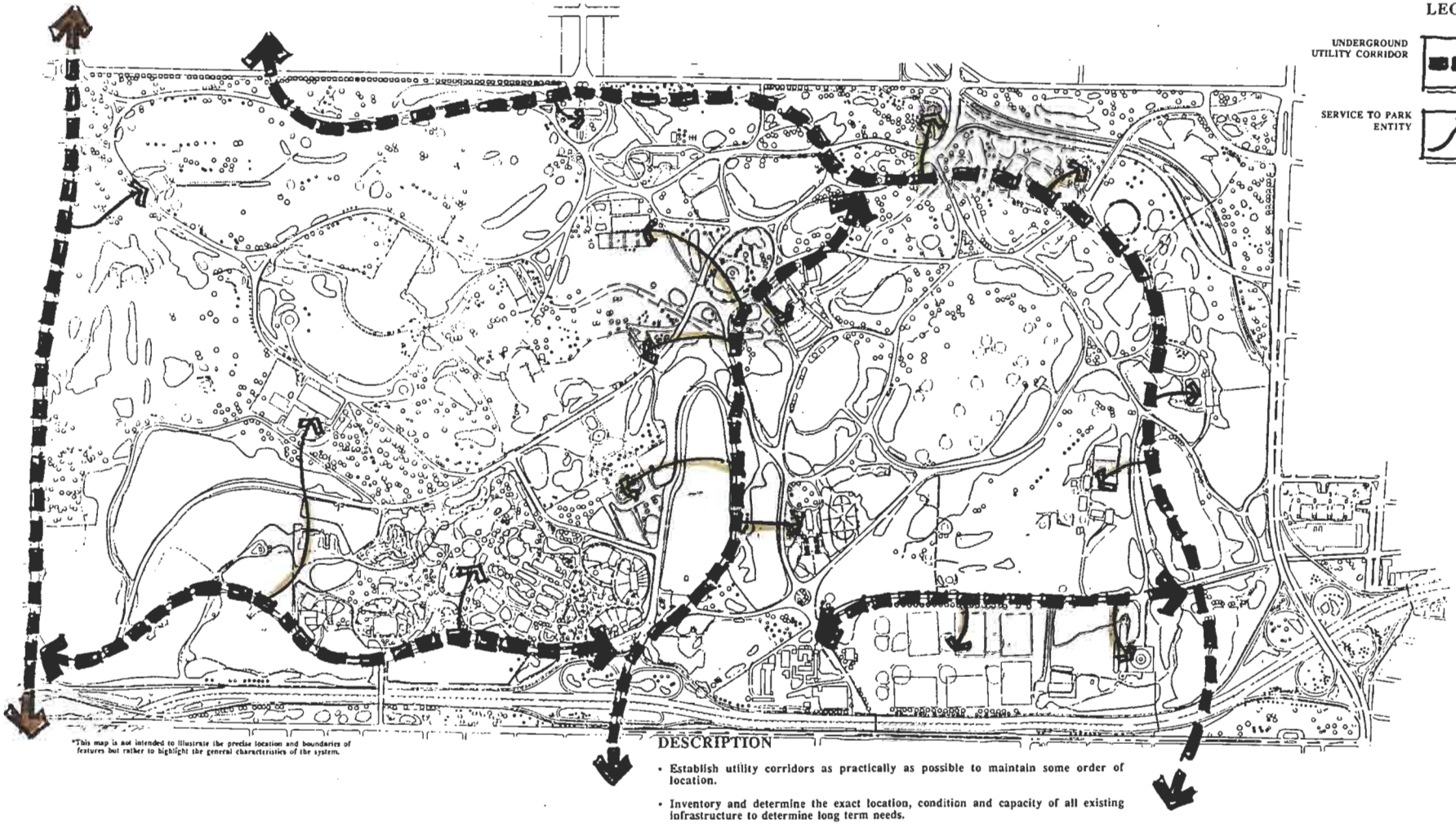
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESCRIPTION

- Establish utility corridors as practically as possible to maintain some order of location.
- Inventory and determine the exact location, condition and capacity of all existing infrastructure to determine long term needs.
- Transfer responsibility of park-maintained sewers to MSD.
- Eliminate combined sanitary sewer flow to existing water bodies.
- Coordinate planned infrastructure repairs and construction with proposed landscape and other park repairs to minimize disruption and redundant construction.
- Reconstruct roadways, parking lots and paths to current city design standards.
- Repair or replace bridges in poor condition.
- Provide appropriate lighting along roads, parking lots, interior walkways and bicycle paths.

DESIGN PRINCIPLE

Coordinated Infrastrucure Replacement and Underground Utility Corridors

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

- Create the effect of site specific unity with park-wide variety in all design and construction, wherever possible.
- Inventory and determine the exact location, condition, and capacity of all existing infrastructure to identify long-term needs.
- Coordinate planned infrastructure repairs and construction with proposed landscape and other park repairs to minimize disruption and redundant construction.

B. Typology of Design Traditions

In Forest Park there are two typical or easy identifiable design traditions represented - the classical/formal tradition and the romantic/informal tradition. These design traditions emphasize certain relationships between the architecture and landscape. In some cases these traditions have been mixed to form unique hybrids and site specific design approaches.

- *Classical /Formal Tradition*

  The formal design tradition evolved from the classical architecture and landscape of Europe. It was epitomized in America by the City Beautiful movement at the end of the 19th century. The increasing industrialization and urbanization of the city led to a yearning for order, stability and beauty commensurate with the unrestrained optimism towards the new century. Public buildings became civic palaces—large, dignified compositions, with an orderly classical facade, were considered appropriate vocabulary to symbolize civic virtue and dignity. The building was usually the focal point of an equally formal landscape feature, often the terminus of a landscaped avenue, terrace or vista. The 1904 Worlds Fair in Forest Park is exemplary of the City Beautiful movement. This tradition has often been continued in contemporary civic architecture, with impressive buildings that are prominently sited and of large scale design.

  Formal architectural styles represented in Forest Park include: Beaux Arts, Neoclassicism, Art Moderne; and the Modern styles of Neo-Expressionism and Neo-Formalism. The formal landscape tradition is represented in the Grand Basin area, the park entrance at Union Boulevard and DeBaliviere entrance at the Jefferson Memorial

- *Romantic or Informal Tradition*

  The Informal architectural and landscape discipline resulted from the Romantic movement of the mid 19th century, which first appeared in residential design. In contrast to the formal tradition, where the intent was to impress a spectator by confronting them with buildings of overwhelming scale and ornament, and axial landscapes, the Romantic or informal tradition sought to evoke an emotional response of sentiment or nostalgia by historic or exotic references. The buildings generally have a more human scale, a variety of materials and textures, and their relationship with the spectator is more intimate and personal. In general, these buildings are sited to blend within the surrounding landscape; no designed approaches lead to these buildings; they are happened upon them as a surprise.

  Architectural styles prevalent in the Romantic Tradition in Forest Park include: Second Empire, Spanish Colonial Revival, Arts and Crafts and rustic design. The informal landscape tradition is represented in the eastern portion of the lake and lagoon system.

1. Architectural Styles

Forest Park includes a diversity of architectural styles and building types. The documentation of the existing buildings was included as part of the analysis of park facilities based upon architectural styles. The following is a brief explanation of the most common architectural styles found in Forest Park with examples.

Second Empire

The defining element of the Second Empire style is the use of a Mansard roof, usually covered with decorative slate shingles. Windows are tall and narrow, often grouped in pairs; cornices are prominent and bracketed.

Cabanne House (Park Keeper's House), 1875 by J. H. McNamera
This is the oldest remaining building in Forest Park, and the only surviving architectural element of the original Master Plan.

Beaux Arts:

The popularity of Beaux Arts design was enhanced by the buildings of the Chicago Exposition in 1893 and reinforced by the 1904 World's Fair in St. Louis. The Beaux Arts style was defined by large and grandiose compositions with an exuberance of ornamentation applied to an orderly arrangement of forms. Cornices, parapets, string courses and openings were delineated with a variety of columns, pilasters, entablatures and statuary.

Art Museum, 1904 by Cass Gilbert
Municipal Opera, 1925 by Tom P. Barnett and others
Nathan Frank Bandstand, 1925 by Heffensteller, Hirsch and Watson

Neoclassicism:

Existing at the same time with Beaux Arts style, Neo-Classicism produced buildings of monumental proportions with porticos and columned arcades, but substituted large expanses of smooth surface for the decorative embellishment of the Beaux Arts style

Jefferson Memorial, 1911-13 by Isaac Taylor
Municipal Theater, 1917 by Tom P. Barnett and others

Arts and Crafts:

The Arts and Crafts style emphasizes the use of natural materials in simplified forms. Exposed roof rafters, simple brackets and decorative multi-light windows are hallmarks of the style.

Workshops and Stable (Parks Garage), 1918

Spanish Colonial Revival/Mission Revival:

This style derived from 17th century Spanish missions of the southwest, and was developed out of a disillusionment with earlier 19th century revival styles based upon European precedents. Low-pitched red tile roofs, with shaped parapets and stuccoed wall surfaces with an absence of sculptural ornament mark the style.

World's Fair Pavilion, 1909-10 by Henry Wright
Field House and Restaurant, 1927, reconstructed 1949 (the tower is a remnant of the Lindell Streetcar Pavilion, 1892, which burned in 1925.)

Art Moderne:

The Moderne style is characterized by studied geometrical forms whose surfaces are embellished by flat, stylized decoration and sensuous ornament.

The Jewel Box, 1936 by William Becker

Rustic

This romantic architectural style, favored for park buildings throughout the Depression era, attempts to duplicate vernacular folk buildings of America's frontier period. The prominent characteristics are its extremely intimate scale, and an unsophisticated design through the use of local materials, and simulated hand-crafting.

Baitcasting Clubhouse, 1938-39
Fish Hatchery Building, 1938-39
Comfort Stations, ca. 1938-39

Neo-Expressionism:

This contemporary style presented a sculptural effect of streamlined shapes with contracting concave and convex surfaces. The design of the building was an intentional reflection of its purpose and function.

McDonnell Planetarium, 1963 by Hellmuth, Obata and Kassabaum
Fire and Police Alarm Center, 1958

Neo-Formalism:

Another contemporary architectural style based upon a skeletal box construction enclosed by a regular, symmetrical surface of decorative elegance.

Steinberg Rink, 1957 by Frederick Dunn and Frank Hamig
Parks, Recreation and Forestry Office Building, 1960 by Rathman, Koelle and Carroll.

Industrial

Reflecting no architectural style in particular, the design of these buildings is a result primarily of their function. Little or no ornamentation, simple surface treatments; choice of materials, openings, roof design and scale are utilitarian in concept.
Hangar Building (Mounted Police Stable), 1919

3. Building Design

The intention of these guidelines is to maintain the distinctive character; quality of construction, and individual architectural integrity of each building and structure within Forest Park. While there is no one prevalent architectural style nor dominant material, there is a sense of scale, richness of detail, and quality of construction. These qualities create a strong overall image for Forest Park. Notwithstanding the architectural style or the design tradition, buildings should adhere to the following general design guidelines:

- All architectural improvements on buildings listed on the National Register of Historic Places must adhere strictly to the Secretary of the Interior's Standards for Historic Preservation Projects.

- All architectural improvements and new buildings should be high quality and emphasize craftsmanship, detail, and permanency of material

- All design proposals for new buildings close to historic buildings or additions to existing historic buildings should adhere closely to established historic design themes, overall form, scale, proportions, solid-to-void relationship, and materials.

- Missing historic elements should be reconstructed wherever possible.

- All exterior building modifications should preserve, restore, or respect the original design themes wherever possible or appropriate.

- All exterior modifications to non-historic buildings or new buildings should increase their visual compatibility with surrounding architecture and landscape.

- All buildings should reflect that for the most part they are seen "in the round." Equal care for all design detail, ornamentation, and space articulation should be taken with all exterior elevations.

- All loading docks, maintenance areas, and refuse dumpsters should be located within buildings or screened from public views.

- All mechanical screens, ducts, intakes, and exhausts should not significantly alter exterior elevations or be visually incompatible with the surrounding landscape.

- All mechanical screens, ducts, intakes, and exhausts should be screened from public view.

- All exterior colors should harmonize with surroundings.

- No reflective glass should be used.

- All signage attached to buildings should kept to the minimum and be compatible with the design.

- New or moved buildings shall be positioned on their site so that building masses are complementary to the landscape and any adjacent existing buildings.

- The aesthetic integrity of internal and external architecture and site relationships should be maintained in compliance with A.D.A. guidelines.

- As part of any maintenance and preservation, reconstruction, addition, or demolition plan for any building, a detailed overall assessment and inventory of that building, any ornamentation, and site relationships should be conducted together with research on the original design, previous design proposals, and construction in that area.

- Plans for any new buildings should include a detailed overall assessment and inventory of the existing and proposed site relationships, a demonstration of how the design proposals reflect the master plan requirements, and research on any previous design proposals and construction in that area.

- A park architectural history archive should be established.

- All buildings should be preserved and maintained in good condition.

- These guidelines shall not be construed to prevent the ordinary maintenance or repair of any work of art, architecture, or infrastructure which does not involve a change in design, material, color, or outward appearance of any structure. Small routine maintenance and repairs are necessary to prevent deterioration of building or landscaping elements. Routine maintenance is delineated by these guidelines and does not require approval of the Forest Park Board.

4. Building Function and Use

All buildings must function as ecologically sensitive and energy efficient buildings. It should be the objective of any new building, or modifications or additions to an existing building that they are designed according to the highest and most contemporary standards of ecologically and environmentally responsible building. Buildings can and should contribute to the ecology and natural systems of the park.

In addition, the buildings should adhere to the following general use guidelines:

- The building and premises shall be utilized only for the uses permitted in the lease agreement or outlined in the Master Plan.

- Preserve existing building footprint wherever possible by increasing the efficiency of interior floor plans.

- Wherever possible, locate administrative and storage space off-site in order to increase exhibit space within existing building footprints.

- Explore the creation of shared use facilities.

- Explore programming relationships to the adjacent landscapes. Increase the use of the outdoor rooms in the landscape.

- Encourage the cultural institutions and other park facilities to view Forest Park as an outdoor educational room.

- Encourage institutions and organizations to expand their hours to include traditional off-peak hours and seasons to increase accessibility to educational and recreational opportunities while not burdening the park.

- All park facilities should coordinate their special events and annual calendars to maximize use of the shared facilities and minimize inconveniences.

5. Bridges and Culverts

Specific guidelines concerning bridges and culverts include:

- Repair or replace bridges that are in poor condition.

6. Public Art

Public Art has always been an important component of the experience of Forest Park and should be continued and improved. Initially, there must be a comprehensive assessment and detailed analysis of the condition of existing public art. Priority should be given to the retention and maintenance of existing public art. The Plan has identified a number of locations for major pieces of new public art. These pieces of public art should be within the tradition of the site design and adjacent architecture. Further opportunities for public art should be identified only after careful study of the role of public art in Forest Park, taking into the account that all structures in the park should be seen as "Civic Art."

The following locations have been identified as sites for new public art:

- The Clearing
- Grand Basin area
- Art Hill overlooks
- Triangle south of History Museum
- Area west of Lindell Pavilion
- Children's Plaza

Specific guidelines concerning public art include:

- Develop an Art Program.

- Allow for temporary installations.

- Repair deteriorated statues, monuments and other public art as necessary.

- Upgrade the landscape settings around all public art as necessary.

- Relocate improperly placed art pieces to more appropriate park settings.

7. Roads & Paths

Specific guidelines concerning roads and paths include:

- Reconstruct all roadways to meet contemporary design and construction standards

- Reconstruct new parking lots and paths to current city design standards.

8. Site Furnishings

Specific guidelines concerning site furnishings include:

- Design site furnishings to vary by park location with similarities on a smaller, site specific scale, such as similar picnic shelters near Kennedy Forest which differ from those elsewhere in the park.

- Design site furnishings to fit their architectural, landscape, and historic context (i.e. rustic shelters in woodland settings).

- Discourage the use of "fake historic" site furnishings in favor of site furnishings which reflect the design period of a particular site or structure (i.e., contemporary fixtures around new structures).

- Recast historic site furnishings in a manner consistent with the original design (or design intent if never implemented) if adequate documentation exists regarding detailing, materials, and color.

- Utilize contemporary, state-of-the-art construction methods and materials to ensure long term durability and function.

- Consider existing spatial character, form, color, texture, and materials as important design components and select colors for paint, site furnishings, architecture, materials, and play ground equipment that are compatible with surrounding landscapes.

- Consider a variety of landscape lighting methods, including uplighting vegetation, water lighting, foot level lighting of paths, as well as traditional overhead and bollard fixtures.

- Design and locate all items of street furniture in a manner compatible and harmonious with the style and landscape setting.

- Ensure the style of all free-standing light standards on any site is compatible with the period design of the site.

9. Utilities

Specific guidelines concerning utilities include:

- Consider lighting additional building exteriors to enhance appearance.

- Place all new utilities underground and in utility corridors, wherever possible, to maintain some order of location.

- Transfer responsibility of park-maintained sewers to MSD.

- Eliminate combined sanitary sewer flow to existing water bodies.

- Provide appropriate lighting along roads, parking lots, interior walkways, and bike paths.

- In the detail design phase, take into account the need for regional and neighborhood utilities.

FLY CASTING LOG CABIN
- Consider adaptive re-use or relocation to Kennedy Forest or the Bowl Lake area if feasible.

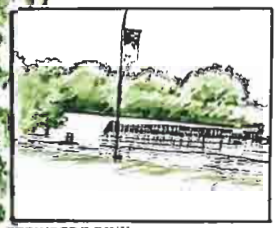
LINDELL PAVILION
- Recreation support facility and visitor services, such as: park maps, park literature, etc...
- Public concessions
- Potential indoor/outdoor casual dining.
- Lockers, showers, toilets and maps for general public active recreation/path users.
- Provide significant quantities of bicycle parking to serve path users.

CABANNE HOUSE
- Visitor amenities and public rentals through Saint Louis Ambassadors.

WEST PINE PARK FACILITY
- Upgrade or demolish & rebuild the currently inactive comfort station near the Kingshighway - West Pine entrance.
- This park facility should provide park information/maps, secure attended public toilets, and potentially a small concession.
- Consider providing a small parking area adjacent to the building (±30 cars), if it meets the park wide criteria of no-net-loss-of-open-space.

MUNICIPAL GOLF COURSES
- If a new club house is constructed it should be a modest club house containing a small pro-shop, food concession, locker rooms/showers, operational facilities and golf cart storage in a sublevel beneath the main clubhouse area.
- Relocated functions from the existing maintenance to a new building hidden in the hillside. Demolish the existing maintenance structure

HATCHERIES BUILDING
- Utilize as the base for MODOC youth fishing programs with public toilets, equipment storage, staging for the disabled and dedicated youth fishing ponds.
- Accommodate all-season active and passive recreation support needs.
- Maintain Operation Teamwork personnel, if space permits, and coordinate city-wide youth programming functions with those of MODOC.
- Consider coordinating nature-related education in this area with MODOC, using the Hatcheries building as a staging and classroom center.



SPILLWAYS AREA
- Construct a small pavilion that serves the internal trail system, Grand Basin/Art Hill area, Langenberg Field and the passive open space spine.
- Consider providing toilets, information/maps and potentially a small concession.

BOATHOUSE
- Demolish the existing buildings and provide a new boathouse in the current location, which accentuates the area's architectural character and landscape context. Structure should conform to the lake's shape and provide views in all directions. Consider providing a food concession with outdoor eating/viewing areas to serve boaters and area path users. It could also serve winter ice skaters and trail users.

STEINBERG RINK
- Improve the building design, to function as an all-season facility, adding air-conditioning, upgrading kitchen facilities and general improvements for ADA compliance.
- Consider increased active recreation.
- Consider uses that relate to the adjacent BJC hospital complex and its employees. There is potential to offer a children's day camp, which offers active recreation and outdoor education and recreation for area youth, potentially coordinated with area MODOC and Operation Teamwork programs.
- Use the roof of Steinberg Rink for an observation deck and children's play area.

KENNEDY FOREST NATURE AND TRAIL CENTER
- Expedite the Missouri Dept. of Conservation nature center and nature trailhead facility.
- This facility should be a small trail support center for park paths with information/maps, concessions, attended toilet facilities and a potential first aid and security station.

CENTRAL FIELDS BUILDING
- Upgrade building functions to serve as an active recreation support facility with attended locker, shower and toilet facilities and potentially a small concession.

TRIPLE A CLUB
- Provide a 9 hole rate.
- Provide a senior rate.
- Increase marketing of golf, tennis and park support facilities (food concessions, toilets, showers, lockers, etc.) to the general public and park users.
- Provide significant quantities of bicycle parking to serve path users.

WORLD'S FAIR PAVILION
- Increase usage by providing a flexible, all-season and affordable facility with improved food service, public toilets and visitor amenities. Consider seasonal architectural solutions that will allow winter use, while providing open air Spring, Summer and Fall use.
- Increase revenue generating special event uses, especially in the evenings.
- Accentuate the scenic overlooks at the sides of the building and throughout Government Hill.
- Improve ADA accessibility from the surrounding landscapes, in particular to the zoo.

PARKS DEPT. COMPLEX
- Consolidate service entities by limiting activities to those which are essential to Forest Park.
- Reduce the size of the existing dirt hill and convert it to passive recreation.
- Re-route the bike path south of the complex, along Highway 64/40 to alleviate dangerous road crossings.
- Improve overall aesthetics and building maintenance.
- Provide new recreational support facility adjacent to the administrative building to serve Aviation Field.

MOUNTED POLICE HANGAR
- Retain the current use and renovate the Mounted Police Station
- Consider the relocation, in the long-run, of the Mounted Police to another site in the park and re-program the existing site.

PROPOSED PARK FACILITIES

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 600' 0 600 1200 2400

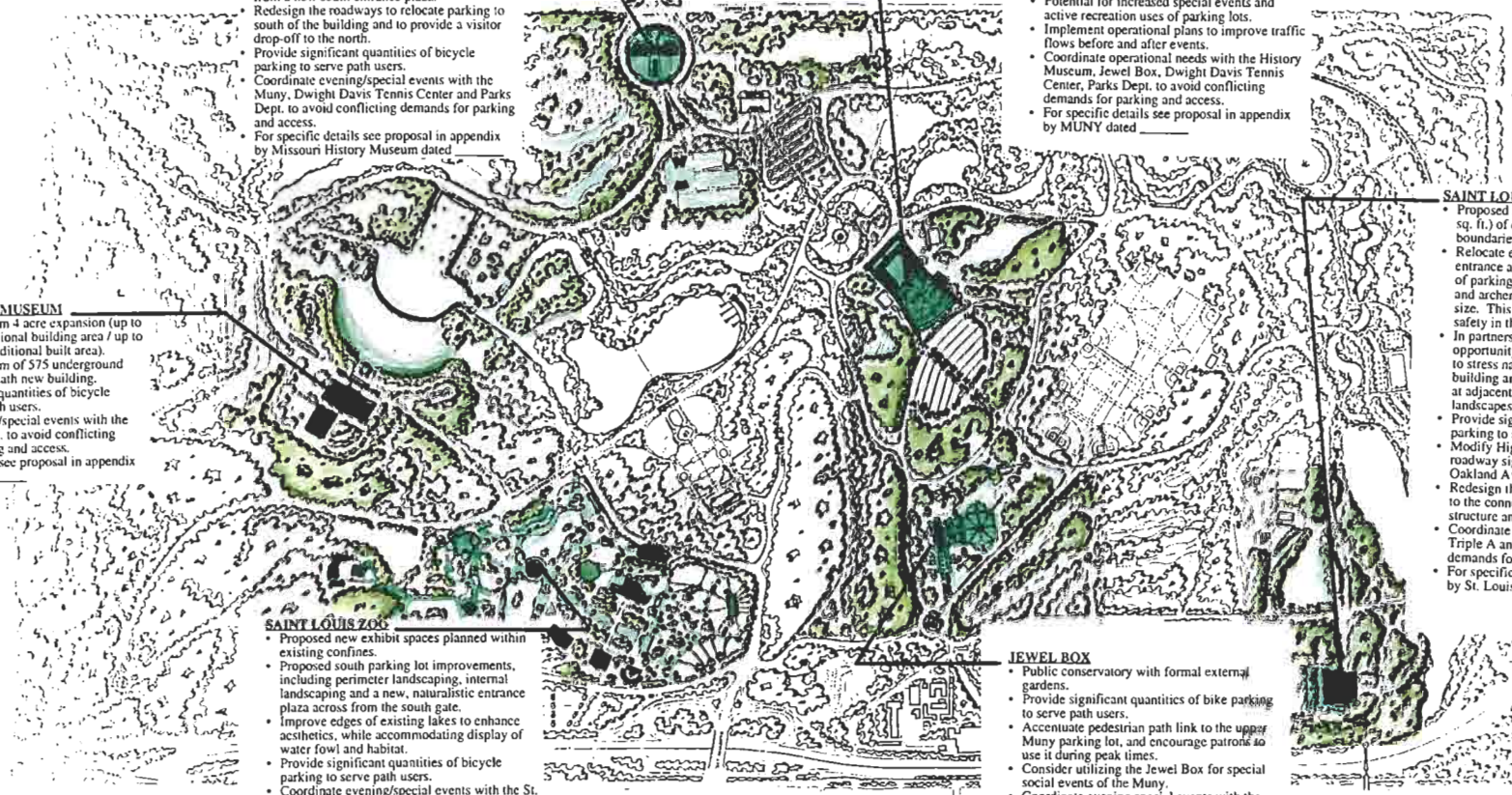
18 NOVEMBER 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



MISSOURI HISTORY MUSEUM
- Proposed expansion of approx. 70,000 s.f. of exhibit and visitor amenities space within existing lease boundaries (up to ___ acre additional building area / up to ___ acre additional built area).
- Proposed shared use of Twin Lots for additional parking with improved sitelines from a new south entrance plaza.
- Redesign the roadways to relocate parking to south of the building and to provide a visitor drop-off to the north.
- Provide significant quantities of bicycle parking to serve path users.
- Coordinate evening/special events with the Muny, Dwight Davis Tennis Center and Parks Dept. to avoid conflicting demands for parking and access.
- For specific details see proposal in appendix by Missouri History Museum dated _____

MUNY
- Proposed interior improvements for patron safety and comfort. Also, providing technical improvements for shows.
- Potential for increased use throughout spring, summer and fall (for special events in theatre, adjacent pavilions and surrounding open spaces).
- Potential for increased special events and active recreation uses of parking lots.
- Implement operational plans to improve traffic flows before and after events.
- Coordinate operational needs with the History Museum, Jewel Box, Dwight Davis Tennis Center, Parks Dept. to avoid conflicting demands for parking and access.
- For specific details see proposal in appendix by MUNY dated _____

SAINT LOUIS SCIENCE CENTER
- Proposed small underground expansion (___ sq. ft.) of exhibit space within existing lease boundaries.
- Relocate existing off-street parking from entrance and provide an additional __ number of parking spaces between the existing parking and archery range, which has been reduced in size. This improves access, circulation and safety in the area.
- In partnership with Parks Dept. explore the opportunity to modify programming, in order to stress natural sciences in the Forest Park building and possibly offer outdoor education at adjacent Bowl Lake and surrounding landscapes.
- Provide significant quantities of bicycle parking to serve path users.
- Modify Highway 64/40 and surrounding roadway signage to direct patrons to the Oakland Avenue facility.
- Redesign the Highway 64/40 hillside adjacent to the connecting bridge to accentuate the structure and solve hillside structural problems.
- Coordinate evening/special events with the Triple A and Parks Dept. to avoid conflicting demands for parking and access.
- For specific details see proposal in appendix by St. Louis Science Center dated _____

SAINT LOUIS ART MUSEUM
- Proposed a maximum 4 acre expansion (up to 7055 or 2.8 ac. additional building area / up to ___ or ___ acre additional built area).
- Proposed a maximum of 575 underground parking spaces beneath new building.
- Provide significant quantities of bicycle parking to serve path users.
- Coordinate evening/special events with the Zoo and Parks Dept. to avoid conflicting demands for parking and access.
- For specific details see proposal in appendix by FPAC dated _____

SAINT LOUIS ZOO
- Proposed new exhibit spaces planned within existing confines.
- Proposed south parking lot improvements, including perimeter landscaping, internal landscaping and a new, naturalistic entrance plaza across from the south gate.
- Improve edges of existing lakes to enhance aesthetics, while accommodating display of water fowl and habitat.
- Provide significant quantities of bicycle parking to serve path users.
- Coordinate evening/special events with the St. Louis Art Museum and Parks Dept. to avoid conflicting demands for parking and access.
- For specific details see proposal in appendix by St. Louis Zoo dated _____

JEWEL BOX
- Public conservatory with formal external gardens.
- Provide significant quantities of bike parking to serve path users.
- Accentuate pedestrian path link to the upper Muny parking lot, and encourage patrons to use it during peak times.
- Consider utilizing the Jewel Box for special social events of the Muny.
- Coordinate evening special events with the Muny and Parks Dept. to avoid conflicting demands for parking and access.

General Notes:
- There is adequate parking space available for the typical number of park users during daily & evening activities. However, special events that attract larger numbers of people and traffic will require coordination among Park Institutions to optimize the use of parking areas.

PROPOSED ZMD FACILITIES & CULTURAL INSTITUTIONS

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 3200

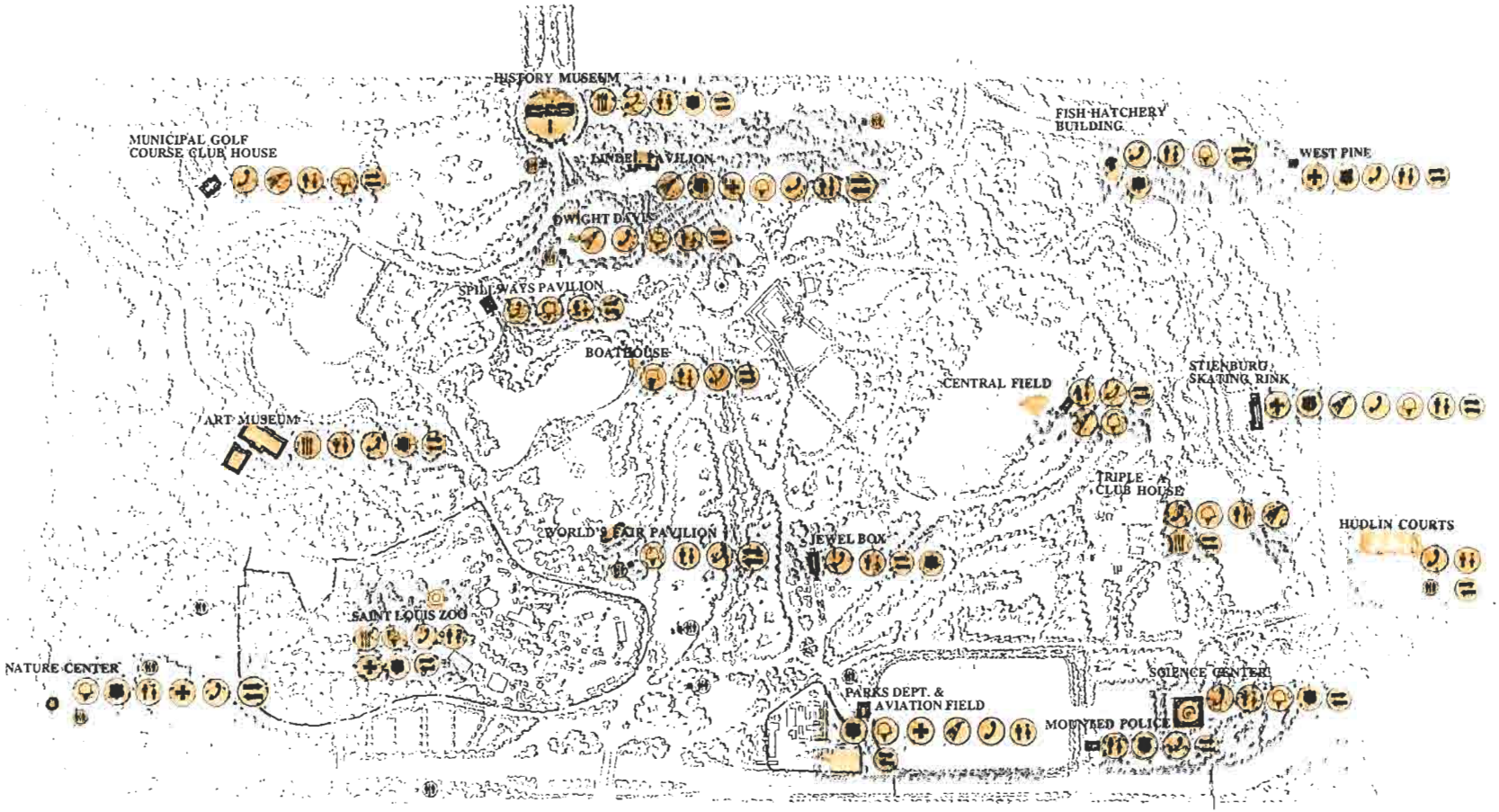
18 NOVEMBER 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



PROPOSED SERVICE AND SUPPORT FACILITIES

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

November 18, 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

E. Site Specific Recommendations

SAINT LOUIS ART MUSEUM

- The Art Museum proposes an expansion on up to four additional acres over the next 50 years, including up to 575 underground parking spaces beneath any new building.

SAINT LOUIS ZOO

- The Zoo proposes to modify its existing exhibit space within its existing lease boundaries.
- Implement proposed south parking lot improvements, including perimeter landscaping, internal landscaping, and a new, naturalistic entrance plaza across from the south gate.

MISSOURI HISTORY MUSEUM

- The History Museum proposes an expansion of exhibit and visitor amenities space within existing lease boundaries

SAINT LOUIS SCIENCE CENTER

- The Science Center proposes a small underground expansion of exhibit space within existing lease boundaries.
- Redesign the Highway 64/40 hillside adjacent to the connecting bridge to accentuate the structure and solve hillside structural problems.

MUNY

- The Muny proposes interior improvements for patron safety and comfort and technical enhancements for shows.

JEWEL BOX

- Operate as a public conservatory with formal external gardens.

WORLD'S FAIR PAVILION

- Increase use as a flexible use, all-season, affordable facility with improved food service, public toilets, and visitor amenities.
- Improve ADA access from surrounding landscapes, in particular to the zoo.

LINDELL PAVILION

- Maintain as is or convert to active recreation support facility, with visitor services such as park maps, park literature, public concessions, potential indoor/outdoor casual dining, lockers, showers, and toilets.

STEINBERG RINK

- Upgrade the building to function as an all-season facility, with air conditioning, upgraded kitchen facilities, and general ADA compliance improvements.
- Use the roof of Steinberg Rink for an observation deck and children's play area.

BOATHOUSE

- Replace the existing buildings with a new boathouse, in the current location, which accentuates the area's architectural character and landscape context, conforms to the lake's shape, and provides views in all directions.
- Consider providing a food concession with outdoor eating/viewing areas to serve boaters, area path users, winter ice skaters and trail users.

CABANNE HOUSE
- Continue to provide visitor amenities and public rental through Saint Louis Ambassadors.

FLY CASTING CABIN
- Consider adaptive re-use or relocation to Kennedy Forest or the Bowl Lake area, if feasible.

PARK DEPARTMENT COMPLEX
- Consolidate service entities by limiting activities to those which are essential to Forest Park.
- Reduce the size of the existing dirt hill or convert it to passive recreation.
- Improve overall aesthetics and building maintenance.
- Provide a new recreational support facility adjacent to the administrative building to serve Aviation Field.

MOUNTED POLICE HANGAR
- Retain the current use and renovate the Mounted Police Station.
- Consider long-term relocation of the Mounted Police to another site in the park and re-program the existing site.

CENTRAL FIELDS BUILDING
- Upgrade building functions to serve as an active recreation support facility with attended locker, showers, and toilet facilities and a potential small concession.

HATCHERIES BUILDING
- Utilize as the base for MODOC youth fishing programs with public toilets, equipment storage, staging for the disabled, and dedicated youth fishing ponds.
- Accommodate all-season active and passive recreation support needs.
- Consider using the Hatcheries building as a staging and classroom center for nature-related education in cooperation with MODOC.

SPILLWAYS AREA
- Construct a small pavilion to serve the internal trail system, Grand Basin/Art Hill area, Langenberg Field, and the passive open space spine with toilets, information/maps, and, potentially, a small concession.

MUNICIPAL GOLF COURSES
- Construct a modest new club house (if this redesign option is selected), containing a small pro shop, food concession, locker room/showers, operational facilities, and golf cart storage in a sublevel beneath the main clubhouse area.
- Relocate functions from the existing maintenance structure to a new building hidden in hillside.
- Demolish the existing maintenance structure.

KENNEDY FOREST NATURE AND TRAIL CENTER
- Expedite the Missouri Department of Conservation's nature center and nature trailhead facility.
- Provide support services, such as information/maps, concessions, attended toilet facilities, and, potentially, a first aid and security station for park path users.

WEST PINE PARK FACILITY

- Renovate or replace the comfort station near the Kingshighway-West Pine entrance as a park support center with park information/maps, secure attended public toilets, and, potentially, a small concession.

COMFORT STATIONS

- Upgrade the buildings to function for all-seasons and provide general ADA compliance improvements.

VI. ACCESS, CIRCULATION AND PARKING

A. Overview

B. Summary of Existing Conditions

C. Design Principle

D. Design Recommendations
1. General Approach
2. Roads
3. Interstate Highway 64/40
4. Parking
5. Transit
6. Paths
7. Public Use and Safety
8. Americans with Disabilities Act Guidelines
9. Long-term opportunities

E. Site Specific Recommendations
1. Roads, Parking & Transit
2. Paths

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Master Plan Parking
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Dual Path System
Path System

A. Overview

With more than 10 million visitors to Forest Park every year, it is essential that the park maintain an adequate and comprehensive access system to assist visitors in reaching the sites to which they wish to go. While elimination of motor vehicles within the park boundaries would be a lofty goal from a naturalistic viewpoint, given the number and diverse nature of park activities and attractions, it is, in practice, impossible. Instead, design of the park's roads and paths should focus on ensuring that only those roads which are functional and necessary remain, and that any road or path in the park be designed and maintained to blend into the surrounding landscape, causing the least visual and physical disruption as possible. Reduction of commuter traffic through the park will also be encouraged.

The park generally functions as a series of six "Access Zones," which serve the park's major park activity zones or attractions. These are currently served in some capacity by automobile access and parking, paths, and, in most cases, mass transit.

A key objective of this plan is to identify roads which are not needed and to return those areas to green space or pedestrian/bike paths. Similarly, roads and paths which fragment continuous landscapes should be removed or redesigned so as not to interfere with the visitor's ability to experience the natural aspects of the park.

This plan also recognizes the need to provide adequate parking for visitors. The net effect of changes proposed herein is to maintain approximately the same number of parking spaces within the park while substituting some off-street parking for on-street parking. Efforts will also be made to enhance the aesthetic qualities of parking lots.

Forest Park's path system, which currently accommodates runners, walkers, bike riders, and in-line skaters, is inadequate and potentially dangerous. The Plan proposes to develop, where possible, a dual path system to provide separate paths for runners/walkers vs. bikes and skaters. Wherever possible, paths will also be reconfigured to minimize potential intersections with roadways.

Long-term, the plan encourages efforts to link the park to regional transit systems such as MetroLink in order to reduce the number of vehicles which enter the park each year.

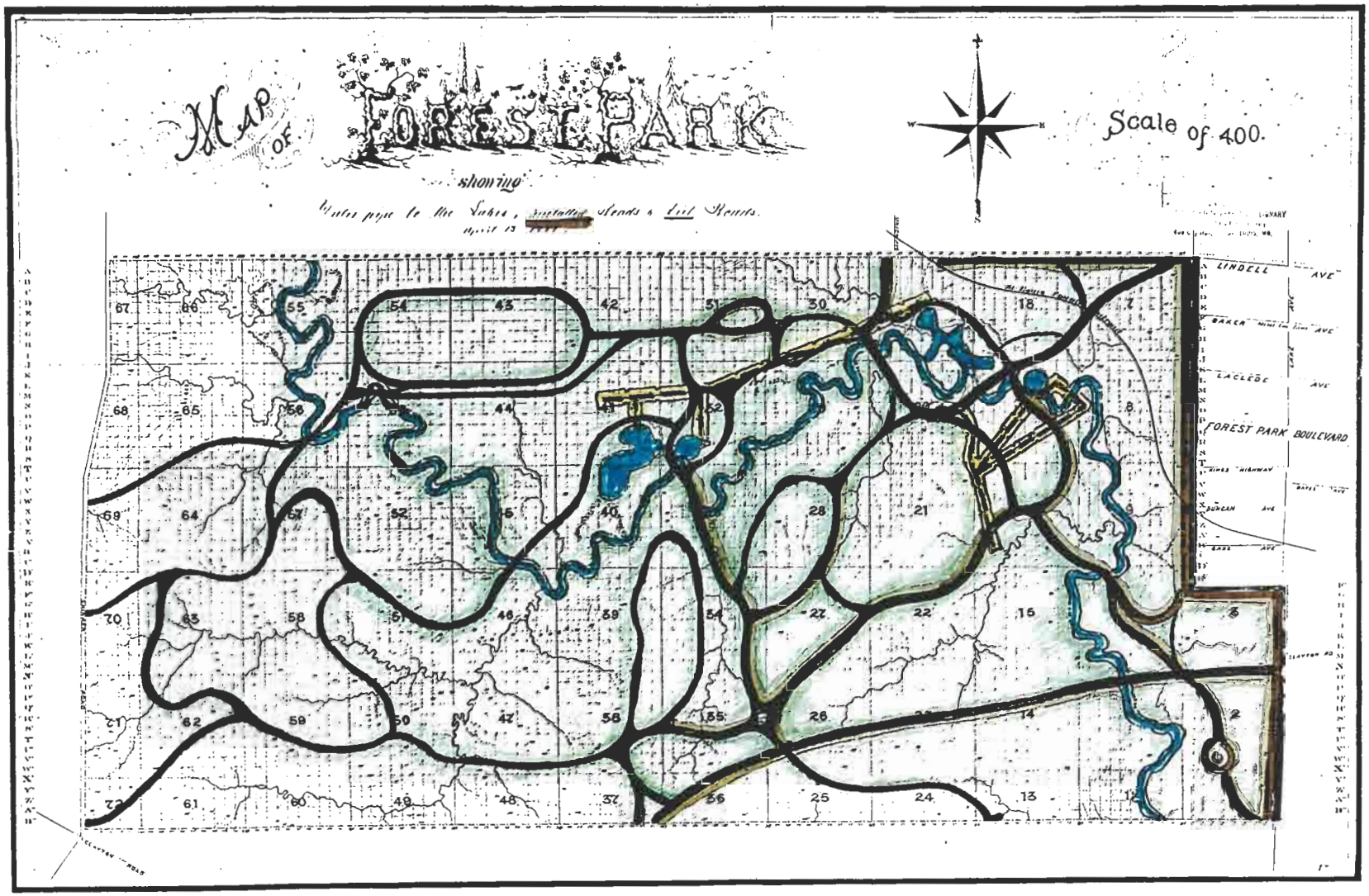
B. Summary of Existing Conditions

Forest Park contains a large number of roads and paths which have been in existence for many years or which have been added more recently without the benefit of an overall system plan. As a result, the existing system is often redundant and confusing and does not necessarily direct the visitor to his or her destination in the most efficient manner. Overall, the park has too many roads, which invite frequent use by commuters as well as park visitors. Commuter traffic patterns typically run north to south, between Hampton and Union, and southwest to northeast, between Skinker-Wells and West Pine. Forest Park is also served by Bi-State bus and light rail service, which links the park to many of the city's neighborhoods, as well as cities throughout the St. Louis region.

The park is served by the ShuttleBug, which provide internal transit between most of the park's major attractions and provides links to the immediately adjacent neighborhoods and land uses northwest of the park.

There is currently adequate park-wide parking in Forest Park, but on a site-specific basis it is not properly located to serve many individual park entities. Better shared use of existing lots, facilitated by an improved road, signage, and park transit system, would alleviate much of the problem. On-street parking, while not preferable, is necessary to handle the volume of park users and traffic until some other long-term parking solution can be found. Most existing parking lots are unsightly, with little or no landscaping.

The path system in the park, while extensive, is plagued by overcrowding from multiple, often conflicting user groups and by frequent intersections with roadways or other park uses where path users may be at a distinct disadvantage. Path crossings at roadways are poorly marked, with poor sight lines due in part to parked cars and inappropriately placed directional signage. In some areas of the park, paths are inappropriately located to their surroundings, failing to link effectively with park facilities and creating barriers and fragmenting the landscape through which they pass. In addition, the path system does not link effectively with the regional transportation networks. The existing soft surface jogging path is poorly maintained and incomplete.



1882 ROADS AND INFRASTRUCTURE MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

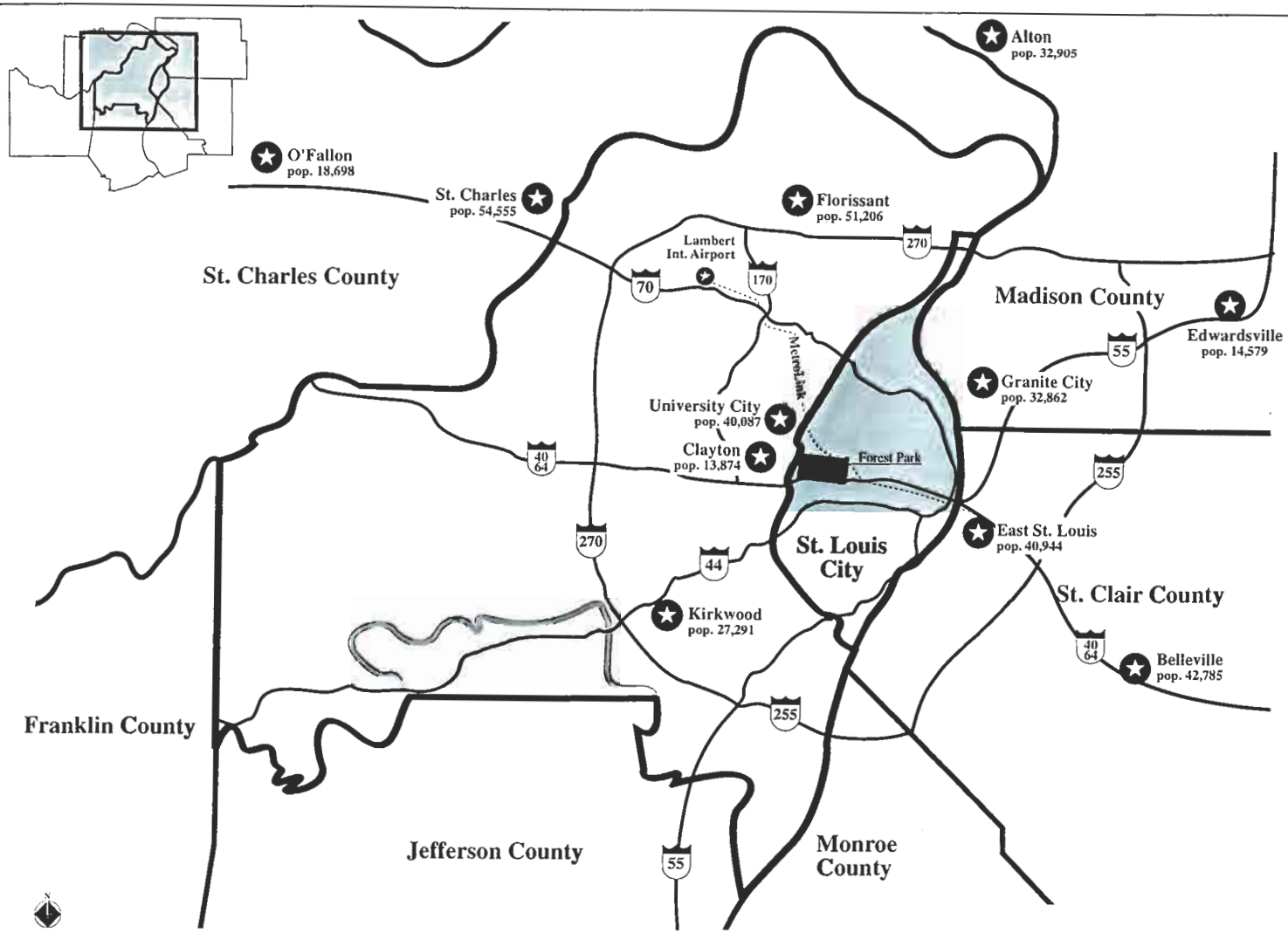
SCALE: 1"=400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



Figures Courtesy of East-West Gateway Council

• Forest Park is served by the region's interstate highway and transit system. Within its boundaries it accomodates Interstate Highway 40/64 and MetroLink, the region's light rail system. This allows easy access to most of the 2.4 million residents of the metropolitan area but also places a physical burden on the park.

REGIONAL ACCESS AND CIRCULATION MAP

*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

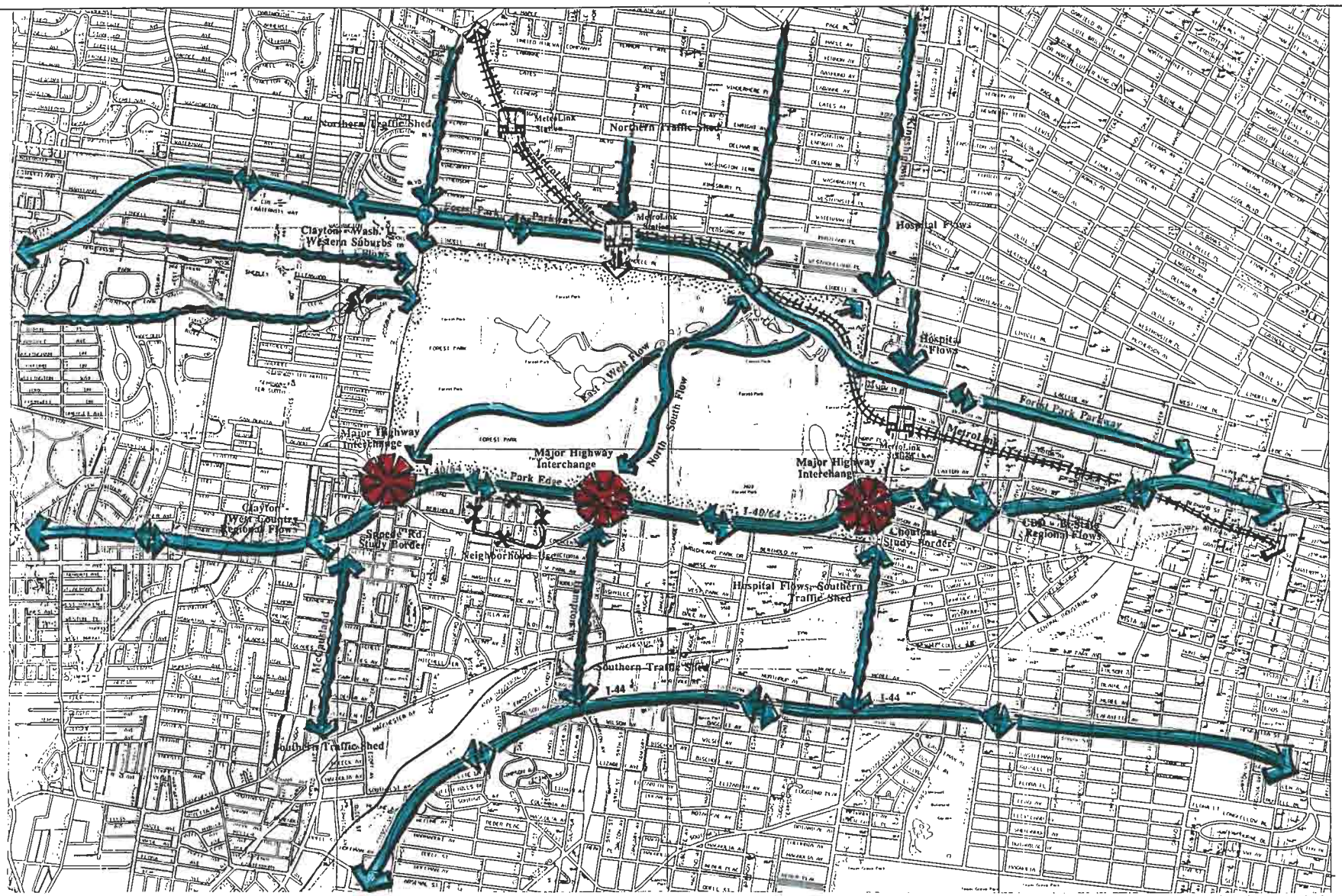
27 FEBRUARY 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



REGIONAL ACCESS IMPLICATIONS MAP

*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Analysis by Design Team 1995

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"=1/2 MILE

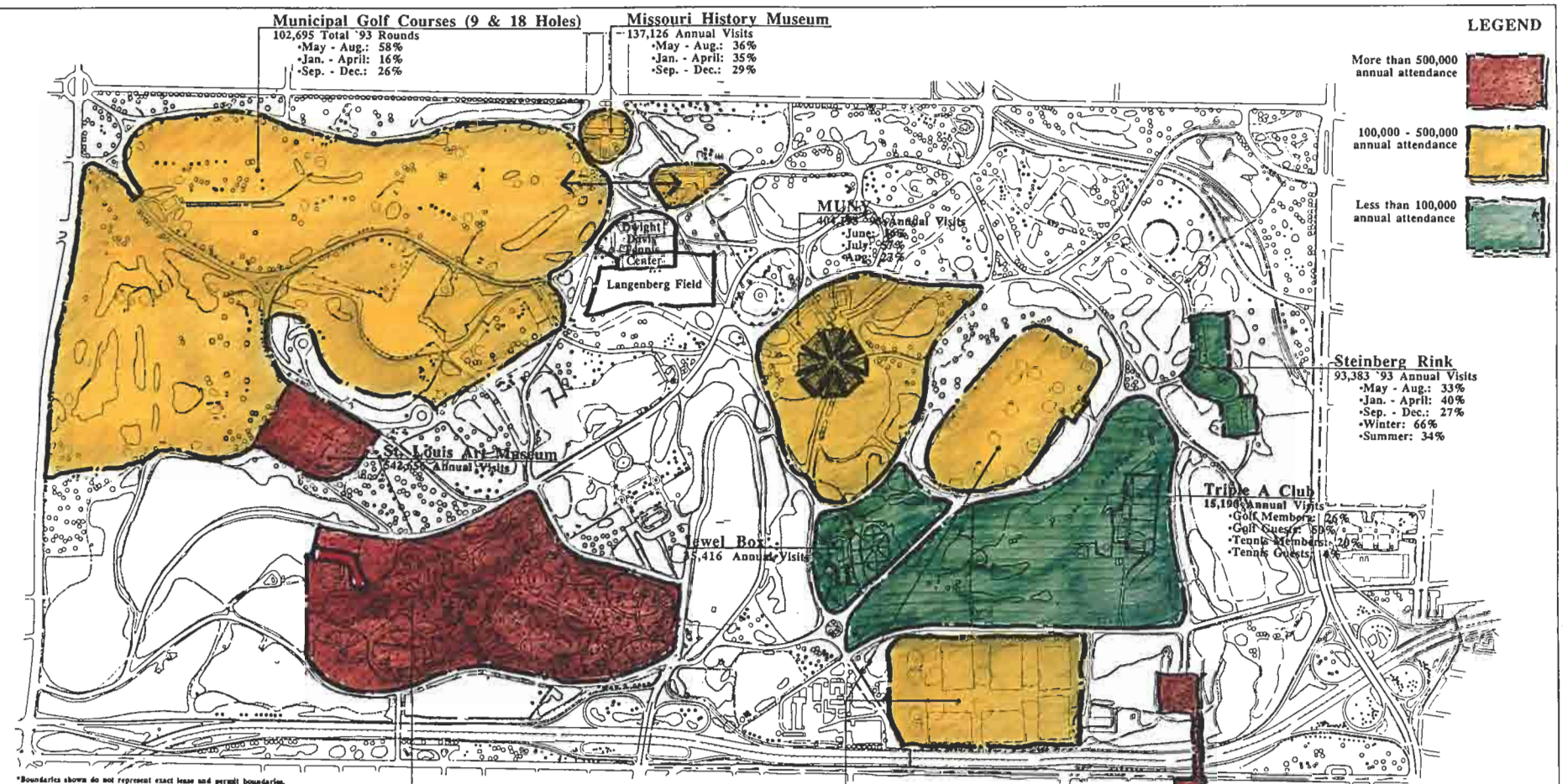
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



1993-4 VISITATION FOR MAJOR PARK ATTRACTIONS

* The MUNY can be classified as either a special event or as a daily event. This has design and management implications either way it is classified.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

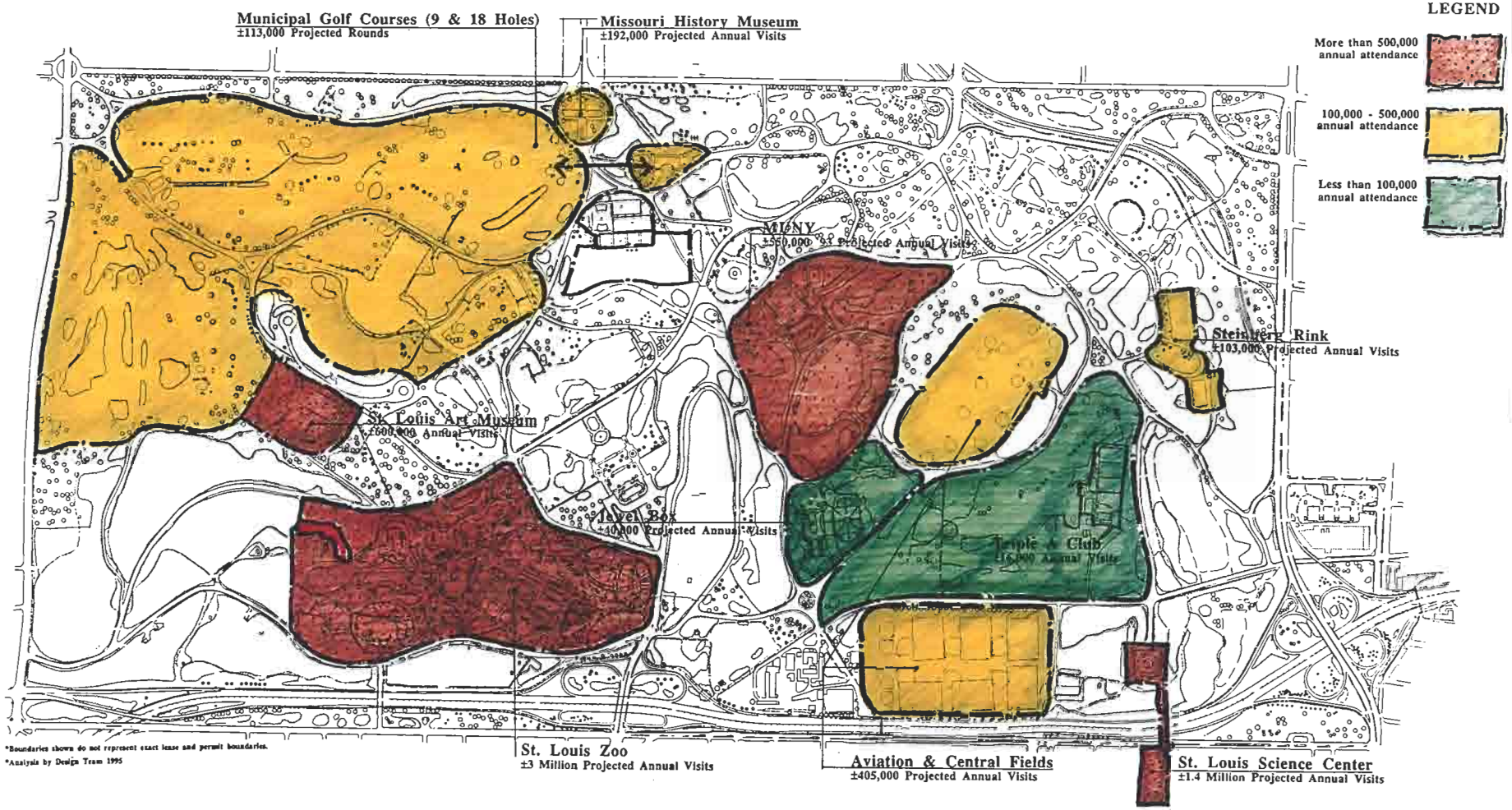
27 FEBRUARY 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



*Boundaries shown do not represent exact lease and permit boundaries.

*Analysis by Design Team 1995

PROJECTED 2004 VISITATION FOR MAJOR PARK ATTRACTIONS

*Projected Attendance Figures based data from "Forest Park Transportation Analysis" by L. E. Haefner Enterprises, Inc. Park entities were interviewed to obtain their growth objectives. The following assumptions were made:

- All attractions are projected to increase by 1% annually unless noted otherwise. This is consistent with other cultural facilities in the region.
- The Zoo does not anticipate or wish to grow beyond their current 25,000 visitation per day volume.
- The Science Center projected increase is 2% annually.
- The Art Museum projected increase is 4% annually.
- The Muny is currently operating on a 8,600 visitations per night level. Projections assume 11,600 visitations per night.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

27 FEBRUARY 1995

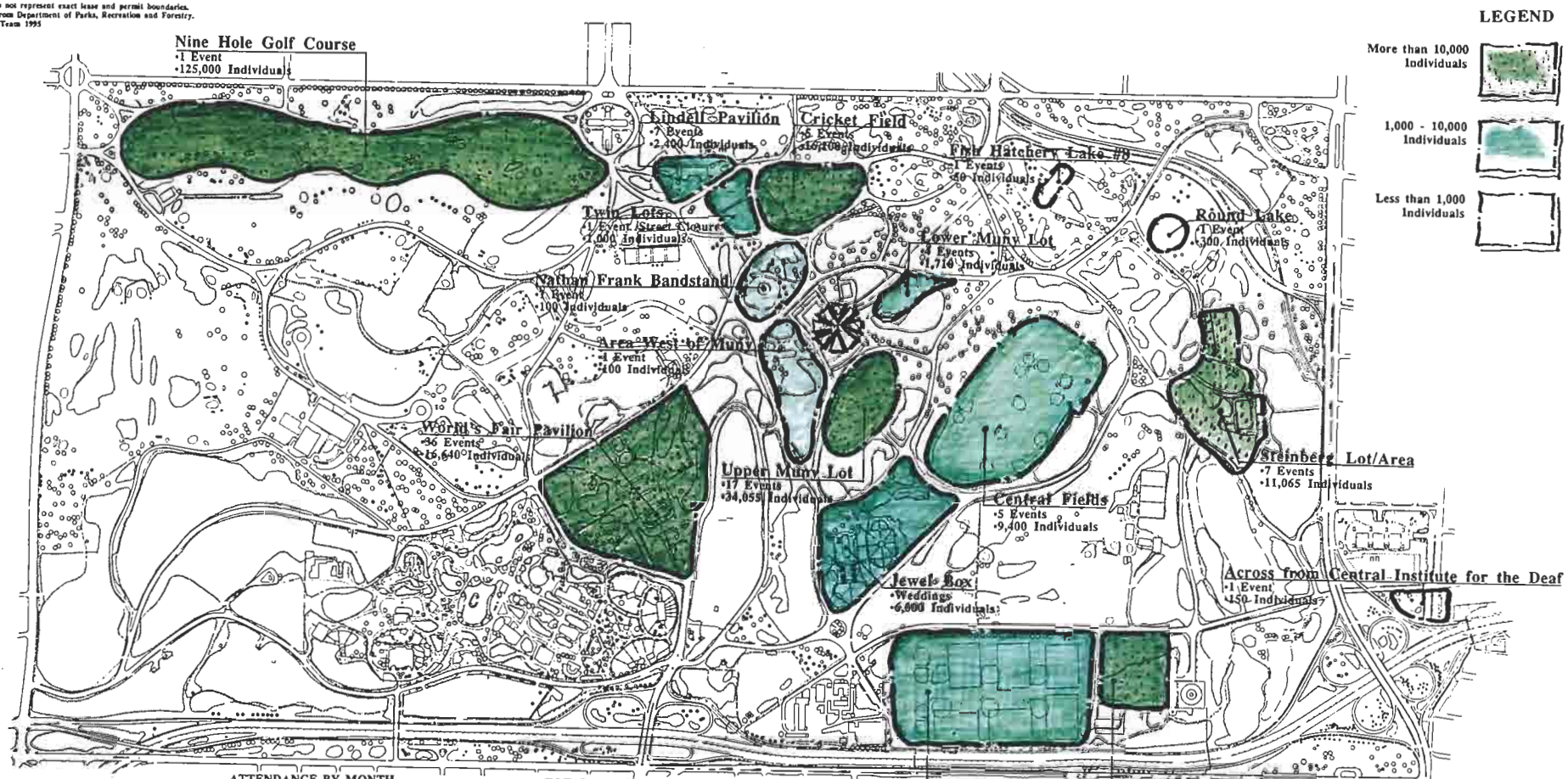
CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

*Boundaries shown do not represent exact lease and permit boundaries.
*Attendance figures from Department of Parks, Recreation and Forestry.
*Analysis by Design Team 1995



Roads and Paths
•19 Events
•9,235 Individuals

ATTENDANCE BY MONTH

JANUARY	4 Events	1,350 Individuals
FEBRUARY	5 Events	1,260 Individuals
MARCH	5 Events	2,450 Individuals
APRIL	19 Events	39,375 Individuals
MAY	22 Events	12,440 Individuals
JUNE	18 Events	18,420 Individuals
JULY	15 Events	7,910 Individuals
AUGUST	18 Events	3,790 Individuals
SEPTEMBER	18 Events	131,000 Individuals
OCTOBER	21 Events	20,550 Individuals
NOVEMBER	3 Events	665 Individuals
DECEMBER	5 Events	2,350 Individuals

TOTAL 1994 SPECIAL EVENTS ATTENDANCE:
153 Events - 241,560 Individuals

1994 SPECIAL EVENTS VISITATION MAP

1994 Attendance from Special Events

GENERAL OBSERVATIONS

- All but one event (excluding roads and paths) occur in the eastern half of the park.
- The peak period for special events corresponds with the peak period for athletic field, ZMD institutional and park facility use which produces related traffic flow problems.
- The most frequently used facilities, the Archery Range and World's Fair Pavilion, were used 38 and 36 days respectively. This is little more than one month of the year.
- The MUNY can be classified as either a special event or as a daily event. This has design and management implications either way it is classified.

FOREST PARK MASTER PLAN

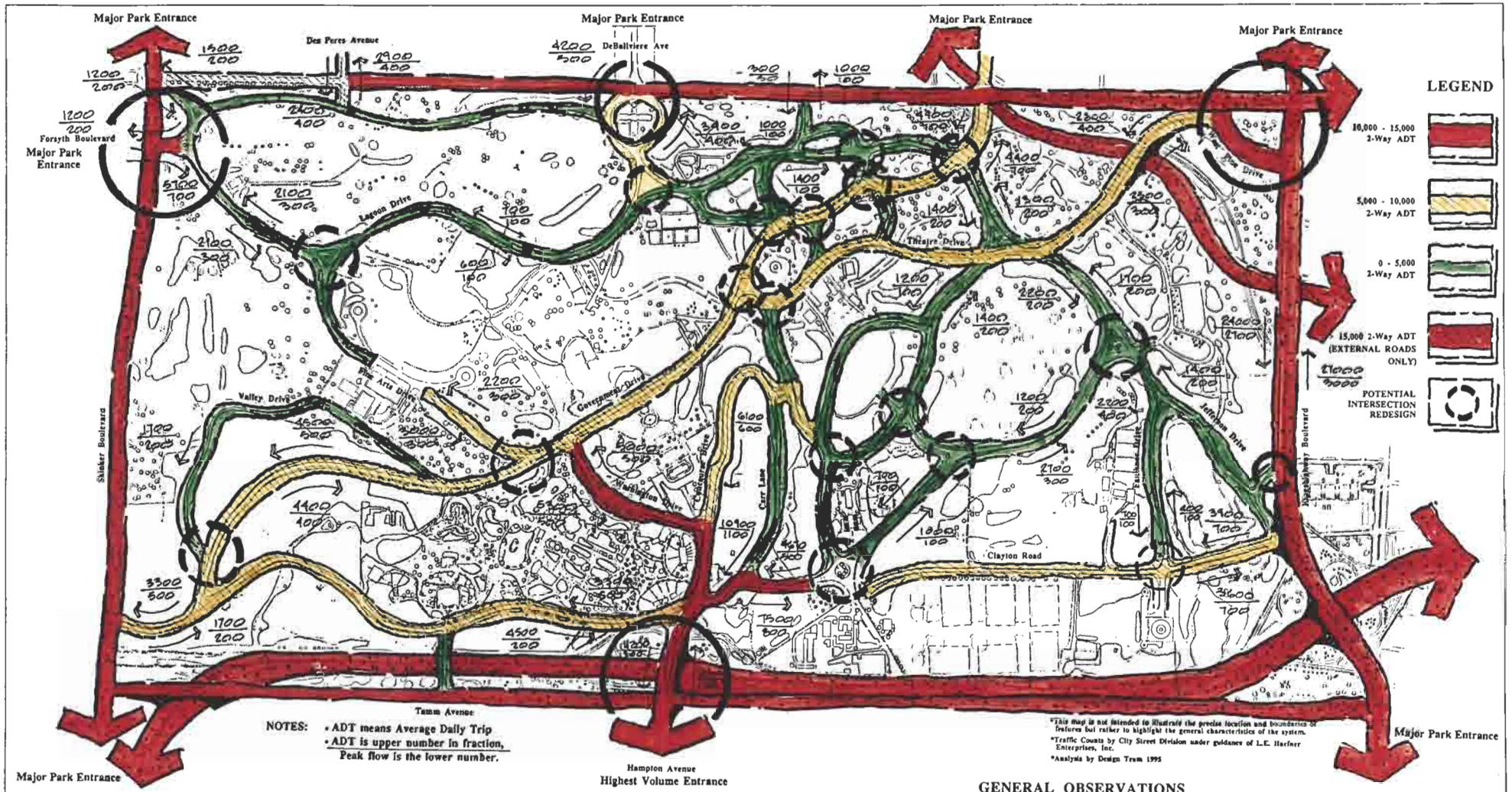
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

27 FEBRUARY 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



NOTES:
- ADT means Average Daily Trip
- ADT is upper number in fraction, Peak flow is the lower number.

*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.
*Traffic Counts by City Street Division under guidance of L.E. Harfner Enterprises, Inc.
*Analysis by Design Team 1995

The existing ADT's for Oakland Ave. near the Tamm Bridge appear to underrepresent existing traffic volumes and therefore should be estimated at approx. 12,000 two way ADT.

1994 AUTOMOBILE TRAFFIC VOLUME MAP

GENERAL OBSERVATIONS

- Commuter traffic patterns typically run north to south (between Hampton and Union) and southwest to northeast (between Skinker-Wells and West Pine).
- Highway 40/64, Kingshighway and Skinker are at or near capacity.
- Many park intersections are in need of redesign due to poor sight distances or geometric ambiguity and excess dead space.

FOREST PARK MASTER PLAN

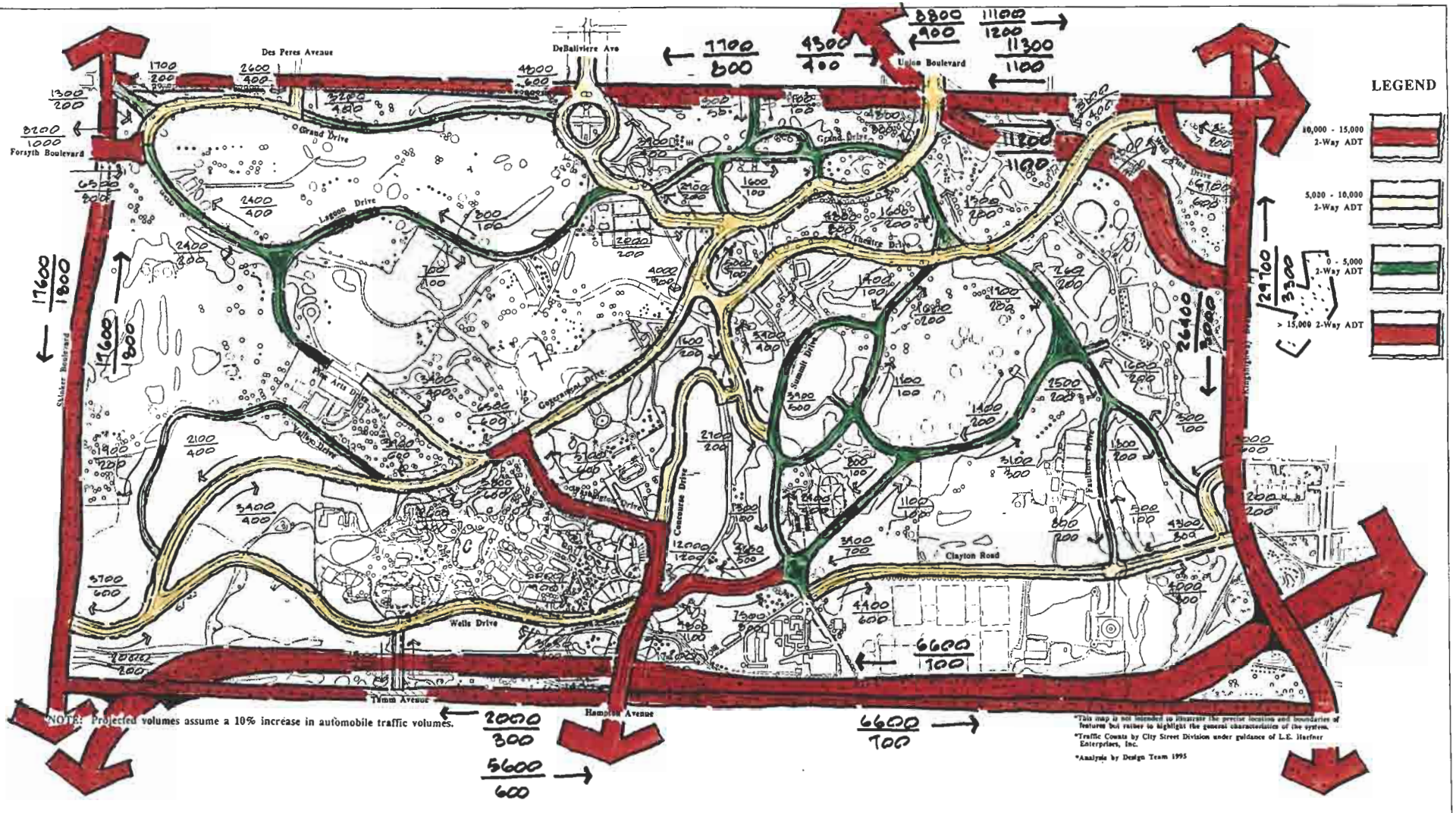
ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



The projected ADT's for Oakland Ave. near the Tamm Bridge are based upon the existing ADT's which appear to underrepresent existing traffic volumes. Projected ADT's should be estimated at approx. 14,000 two way ADT.

PROJECTED 2004 AUTOMOBILE TRAFFIC VOLUME MAP

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

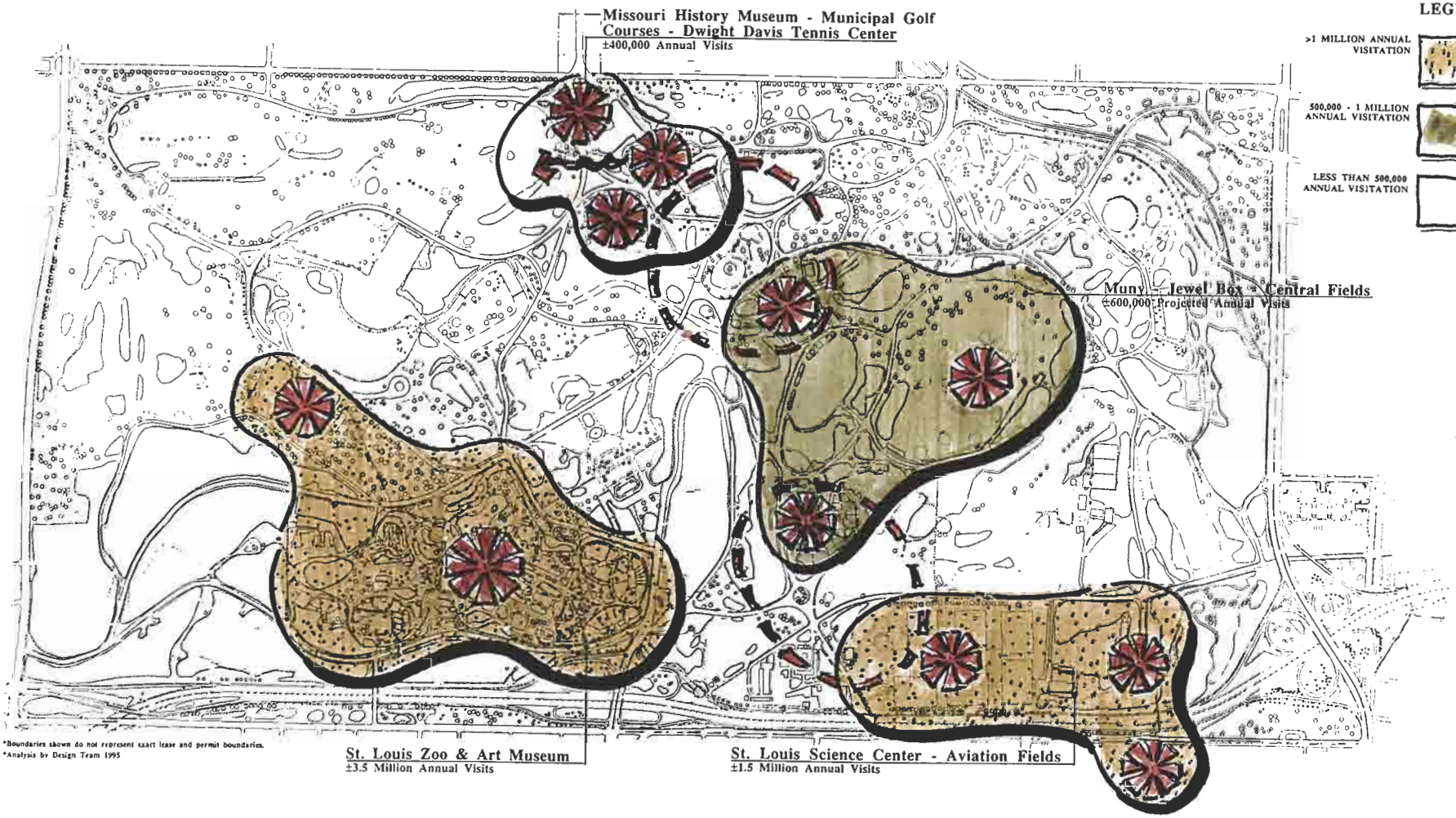
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



*Boundaries shown do not represent exact lease and permit boundaries.
*Analysis by Design Team 1995

1995 MAJOR ACTIVITY ZONES MAP

GENERAL OBSERVATIONS

- Forest Park's most visited attractions are located in four "Activity Zones" which all contain a cultural amenity and typically an active recreation facility.
- Three of the four major activity zones are accessed primarily via the Hampton Avenue park entrance.
- There is an interrelationship between activity zones which must be addressed in planning, design and management.

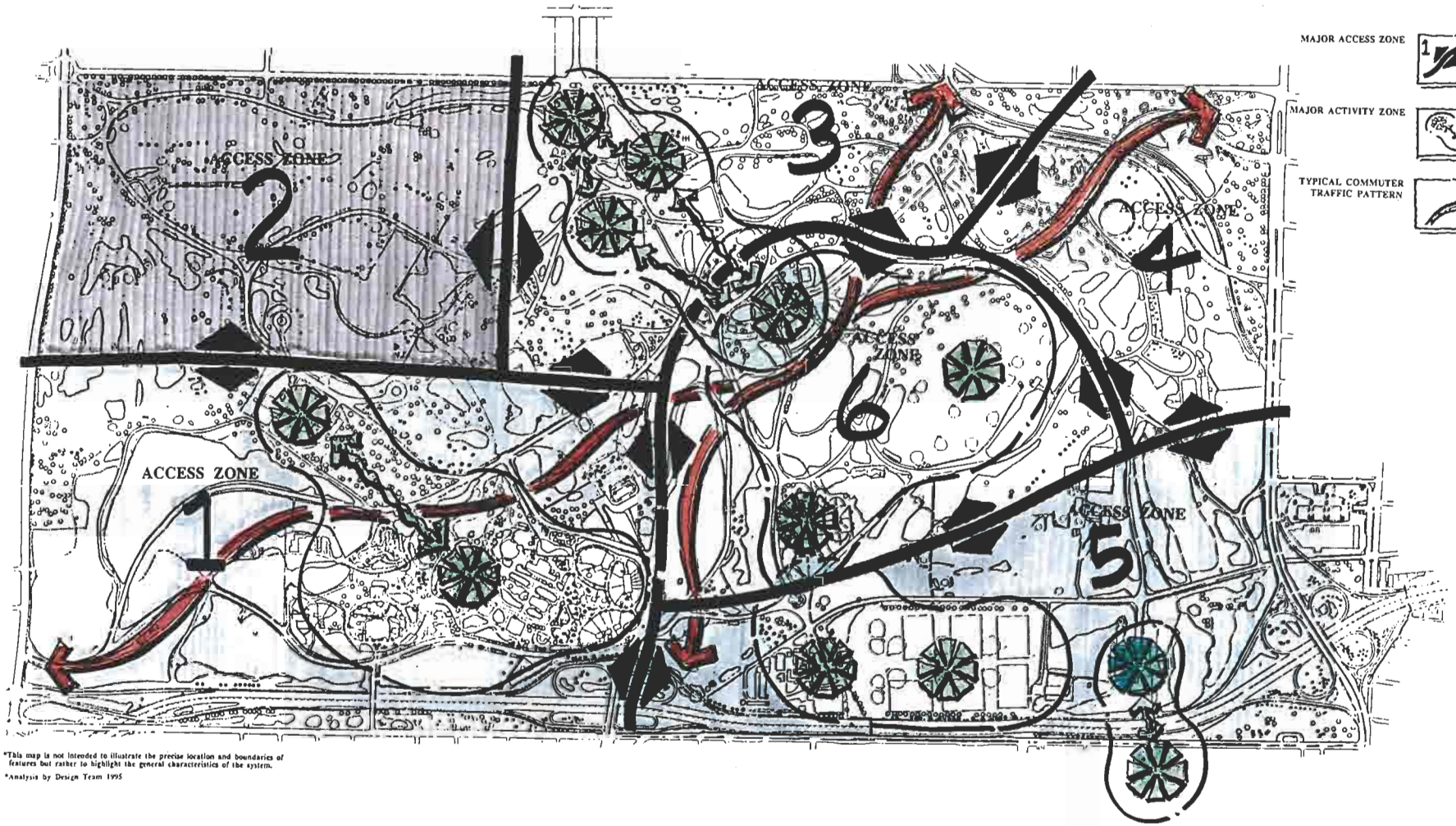
FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"= 600' 0 400 1600 2800

11 MARCH 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

*Analysis by Design Team 1995

1995 MAJOR ACCESS ZONES AND PARK CIRCULATION MAP

GENERAL OBSERVATIONS

- Commuter traffic patterns typically run north to south (between Hampton and Union) and southwest to northeast (between Skinker-Wells and West Pine).
- The park generally functions as a series of six "Access Zones" which serve the park's major park activity zones or attractions. These are currently served in some capacity by automobile access and parking, paths and in most cases mass transit.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

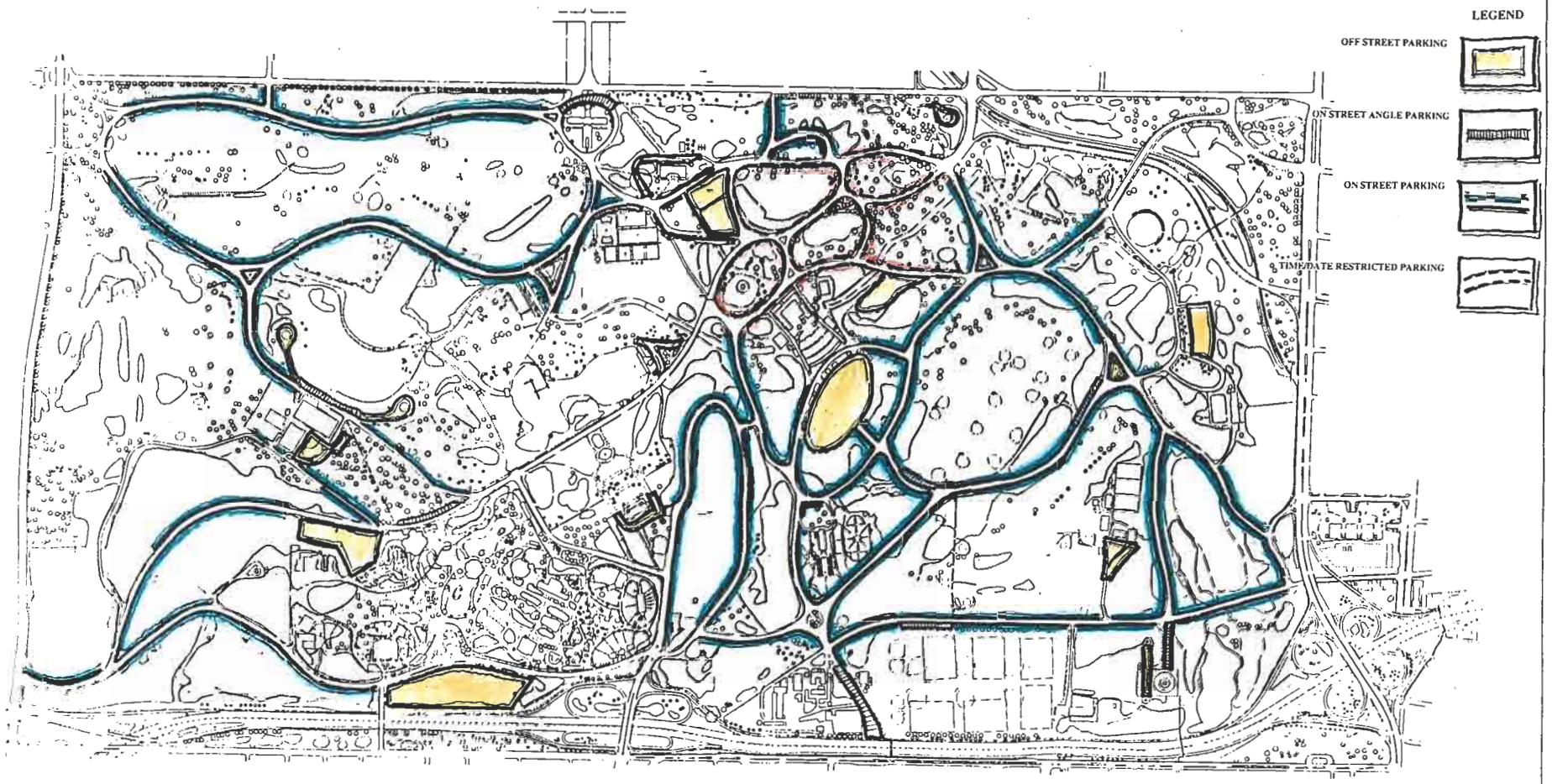
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



	OFF STREET	ON STREET	TOTAL
EXISTING	±3,790	±4,010	±7,800

NOTES: On street parking was calculated by measuring the total street length in the Park, subtracting out restricted parking areas and dividing the net length by 22' (the typical length of one parallel street space).

ANALYSIS DIAGRAM
Existing Parking

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400'

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

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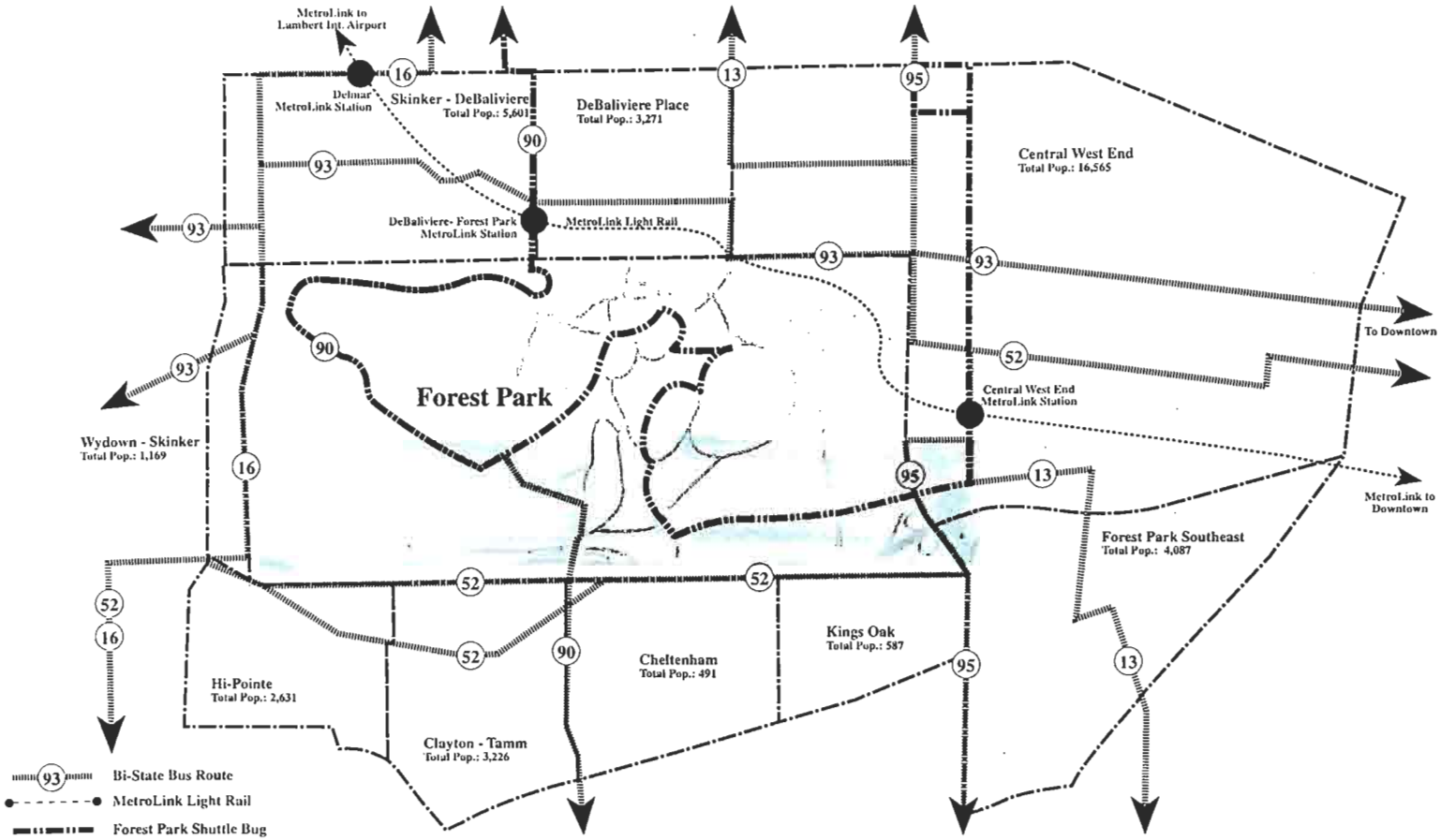
*Analysis by Design Team 1995



1995 TRANSIT MAP

GENERAL OBSERVATIONS

- Forest Park is served by Bi-State bus and light rail service which links the park to many of the City's neighborhoods as well as cities throughout the St. Louis metropolitan area.
- The park is served by the ShuttleBug which provides internal transit between most of the park's major attractions and provides links to the immediately adjacent neighborhoods and land uses northwest of the park.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 600 1600 2800

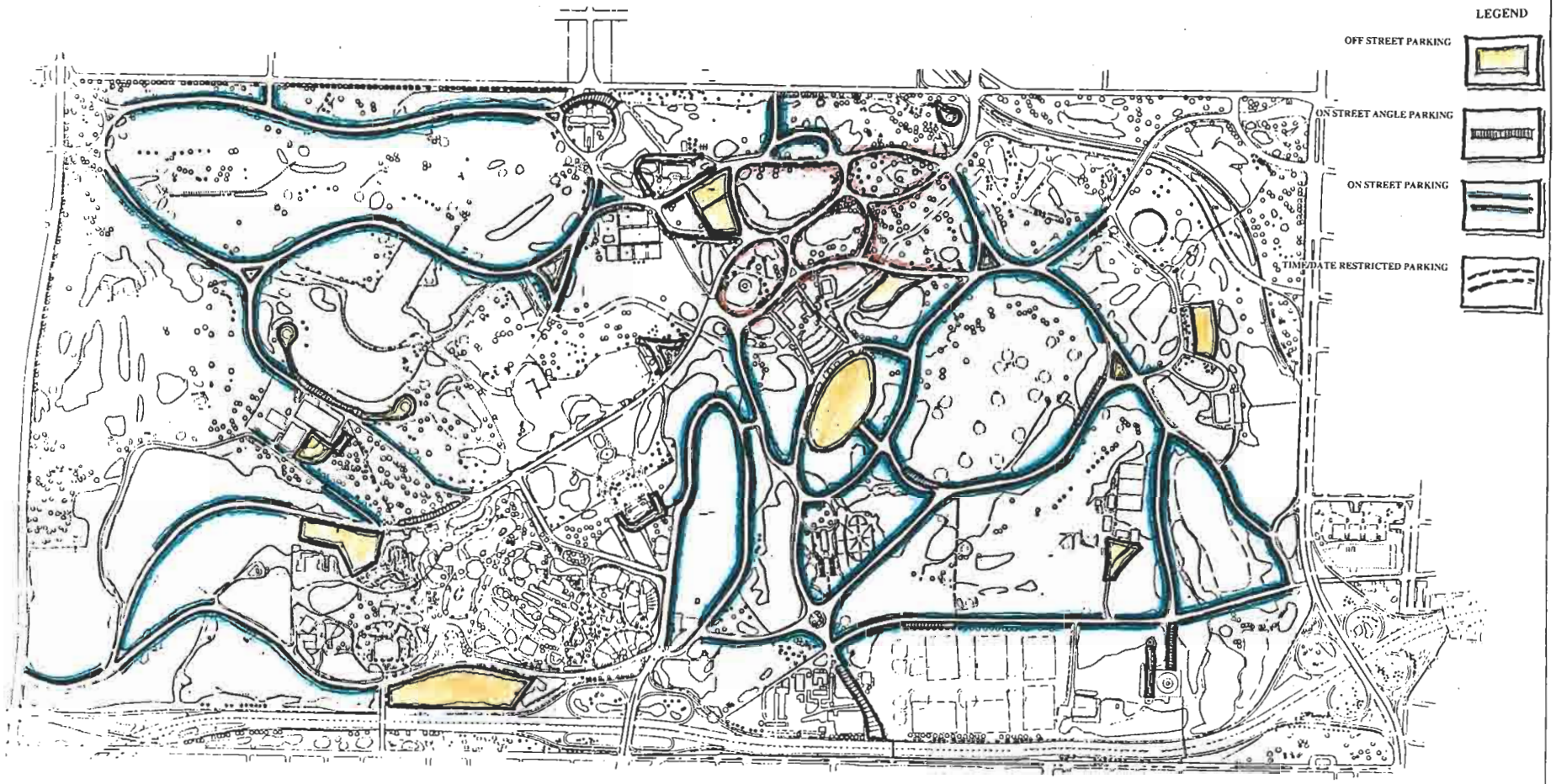
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



	OFF STREET	ON STREET	TOTAL
EXISTING	±3,790	±4,010	±7,800

NOTES: On street parking was calculated by measuring the total street length in the Park, subtracting out restricted parking areas and dividing the net length by 22' (the typical length of one parallel street space).

ANALYSIS DIAGRAM
Existing Parking

FOREST PARK MASTER PLAN

ST. LOUIS, MO

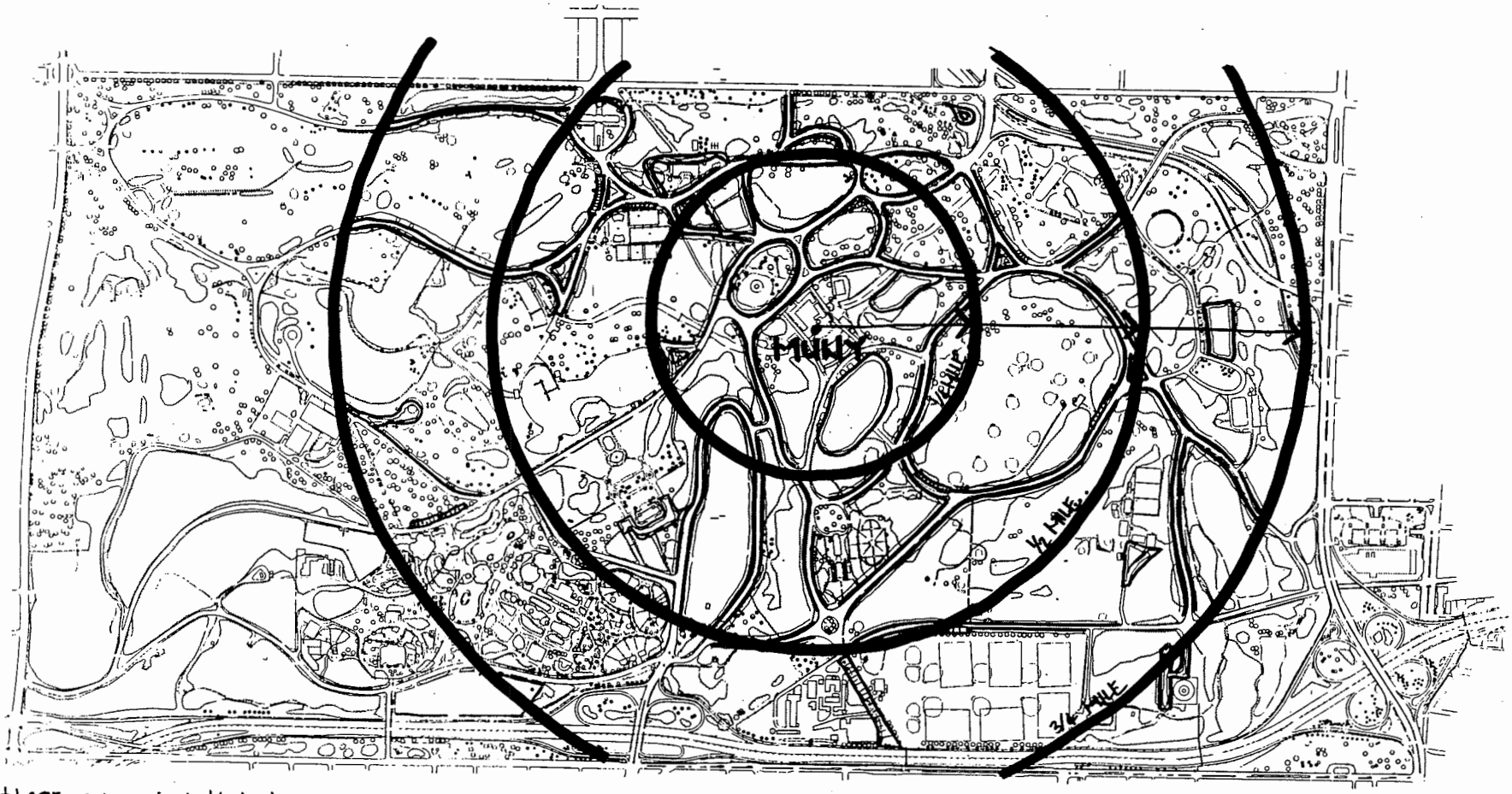
SCALE: 1"= 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



±1,895 CARS W/IN 1/4 MILE
±3,807 CARS W/IN 1/2 MILE
±5,025 CARS W/IN 3/4 MILE

NOTE: Parking for a normal to highly attended Muny event typically occurs within the 1/4 and 1/2 mile radii shown on this drawing. Only on rare occurances do patrons utilize parking outside of 1/2 mile.

ANALYSIS DIAGRAM
Existing Muny Parking

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2000

18 NOVEMBER 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

C. Design Principle

- Create multi-functional zones with shared facilities.

- Create a multi-modal, distributed access system.

D. Design Recommendations

1. General Approach

The design of Forest Park's access, circulation and parking system concentrates on two key considerations: functionality and aesthetics. From a functional perspective, roads and paths are designed to provide visitors with a convenient and direct route to their destinations. Clarity (the ease of getting from point A to point B), legibility (the ability to read and quickly understand signage and directions) and capacity (the ability to handle anticipated traffic volumes) are equally important to this Plan.

Aesthetically, this Plan seeks to provide a variety of circulation options that allow the visitor to interact with the park. The addition of site furnishings, ornamental plantings, and other amenities throughout the system will further the integration of the path system with surrounding landscapes and facilities.

Consideration must also be given to how the park's systems link to regional, area and neighborhood roads and entrance ways. Entering the park from any access point should allow the visitor to quickly assimilate themselves into the park experience. At the same time resolution of the park's access and circulation issues should only be made in concert with neighboring areas, so those issues are truly resolved and not merely passed on to the park's neighbors.

General design recommendations include:

- Create a convenient, coordinated, multi-modal approach to meet the needs of park patrons who wish to go to and between park destinations.

- Reduce patron use of the Hampton entrance as the major park entrance by emphasizing other entrances.

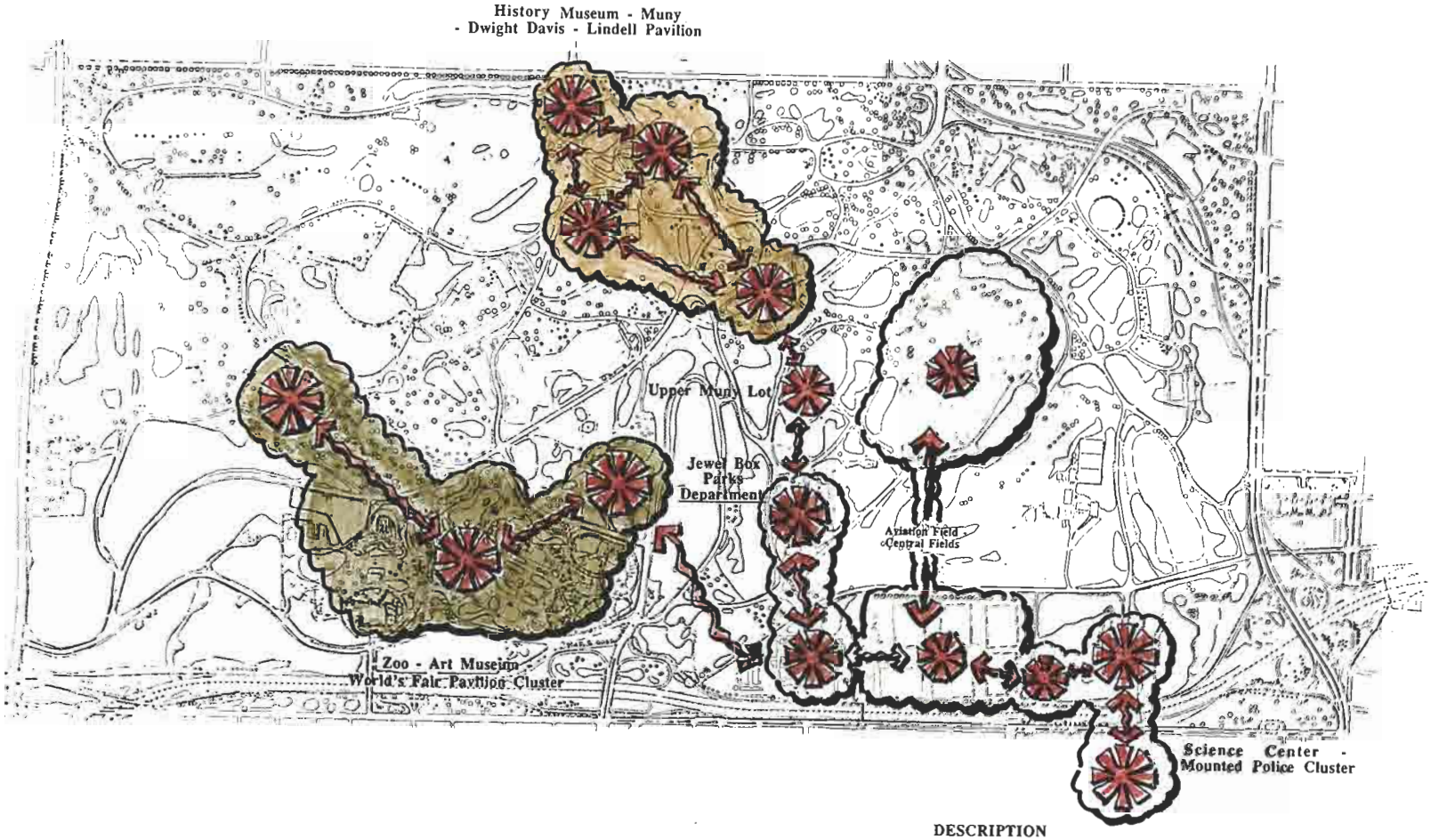
- Establish "Access Zones" which share facilities and infrastructure among neighboring park destinations.

- Minimize use of the park as a rush hour commuter route.

- Integrate park traffic systems with other park sites, destinations, and systems.

- Set realistic speed limits within the park, in consultation with enforcement officials and based on study data.

- Participate with the Missouri State Highway and Transportation Department on the forthcoming analysis of Highway 64/40 in the vicinity of Forest Park.



DESIGN PRINCIPLE

Multi-Functional Zones with Shared Facilities

DESCRIPTION

- Many park entities have functional relationships which require cooperation and coordination to best meet their functional requirements. If these requirements are addressed individually, rather than in groups, the park will suffer from piecemeal development.
- Many park facilities and infrastructure elements are located between park entities with similar needs and could be programmed to serve multiple purposes and users.
- The impact of meeting all the needs of each park entity can be reduced if all entities work together and share common facilities and infrastructure.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 400' 0 400 1600 2800

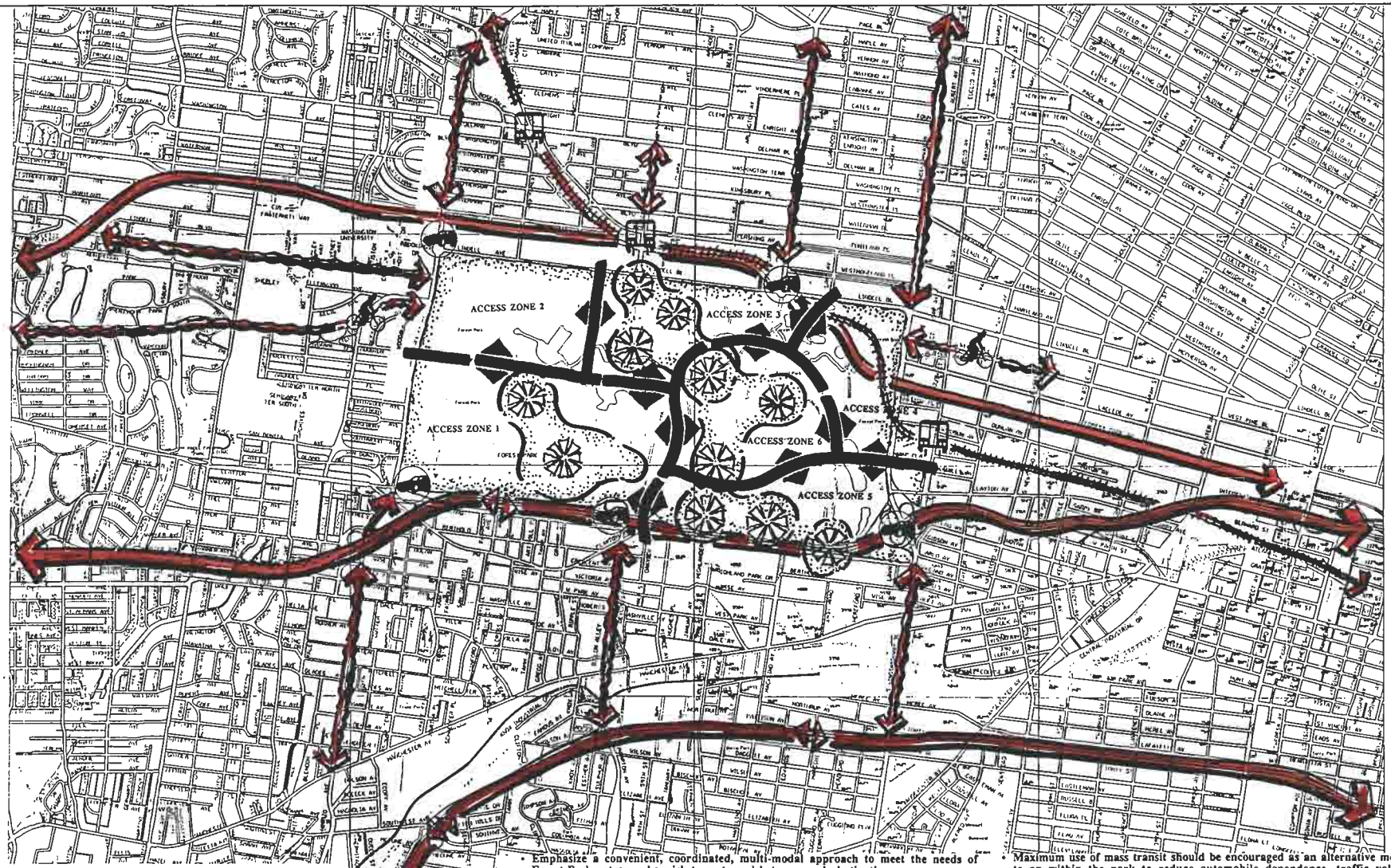
11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



*This map is not intended to illustrate the precise location and boundaries of features but rather to highlight the general characteristics of the system.

DESIGN PRINCIPLE

Multi-Modal, Distributed Access System

DESCRIPTION

- Emphasize a convenient, coordinated, multi-modal approach to meet the needs of Forest Park patrons who wish to go to and between park destinations.
- Emphasize a balanced use of appropriate park entrances rather than the currently overburdened Hampton Avenue entrance.
- Some major destinations which are in close proximity to each other should be handled as "Access Zones" which share facilities and infrastructure. Access zones are more easily accommodated than are all destinations independently.
- Use of the park as a rush hour flow commuter system should be minimized to reduce congestion, improve air quality and maximize activity in the park by the park user.
- Maximum use of mass transit should be encouraged as an alternative means of travel to an within the park to reduce automobile dependence, traffic volumes and to improve air quality.
- Surface traffic flow, transit and parking sites should be integrated spatially and functionally as a system with park activities.
- Realistic speed limits in the park should be set, in consultation with enforcement officials and based on study data.
- Dialogue should be established with the Missouri State Highway and Transportation Department regarding the forthcoming alternatives analysis of I-64-40

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 1/2 MILE

11 MARCH 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

2. Roads

Forest Park's roads should be designed as a hierarchical system that reflects the combination of functional and aesthetic needs. Park roadways are defined and accordingly designed in different ways.

General Approach

- Remove roads which fragment cohesive landscapes and continuous vegetative communities.

- Maintain existing roads, if needed, by selecting those which divide dissimilar or incompatible uses.

- Accommodate the volume of traffic and number of lanes needed to handle the traffic flows.

- Accommodate necessary curb parking.

- Design roads as scenic routes with views of prominent park features that:
  - Reflect the character of the landscape that they travel through.
  - Frame views of desirable features and away from undesirable ones.
  - Provide a means to access and view park landscapes, public art, and architecture.

- Design roads in sweeping curves and bends, avoiding straight lines and unnatural or tight curves unless part of a formally designed area.

- Provide a mixture of long and short views.

Parkways

Parkways are typically designed from a functional perspective to handle higher speed limits and large traffic volumes. They have multiple lanes in each direction, planted or barrier medians, typically no on-street parking, and lighting and sight distances appropriate for higher designed speed. Aesthetically, parkways often include planted medians when space permits, decorative light fixtures, and canopy tree/ornamental plantings.

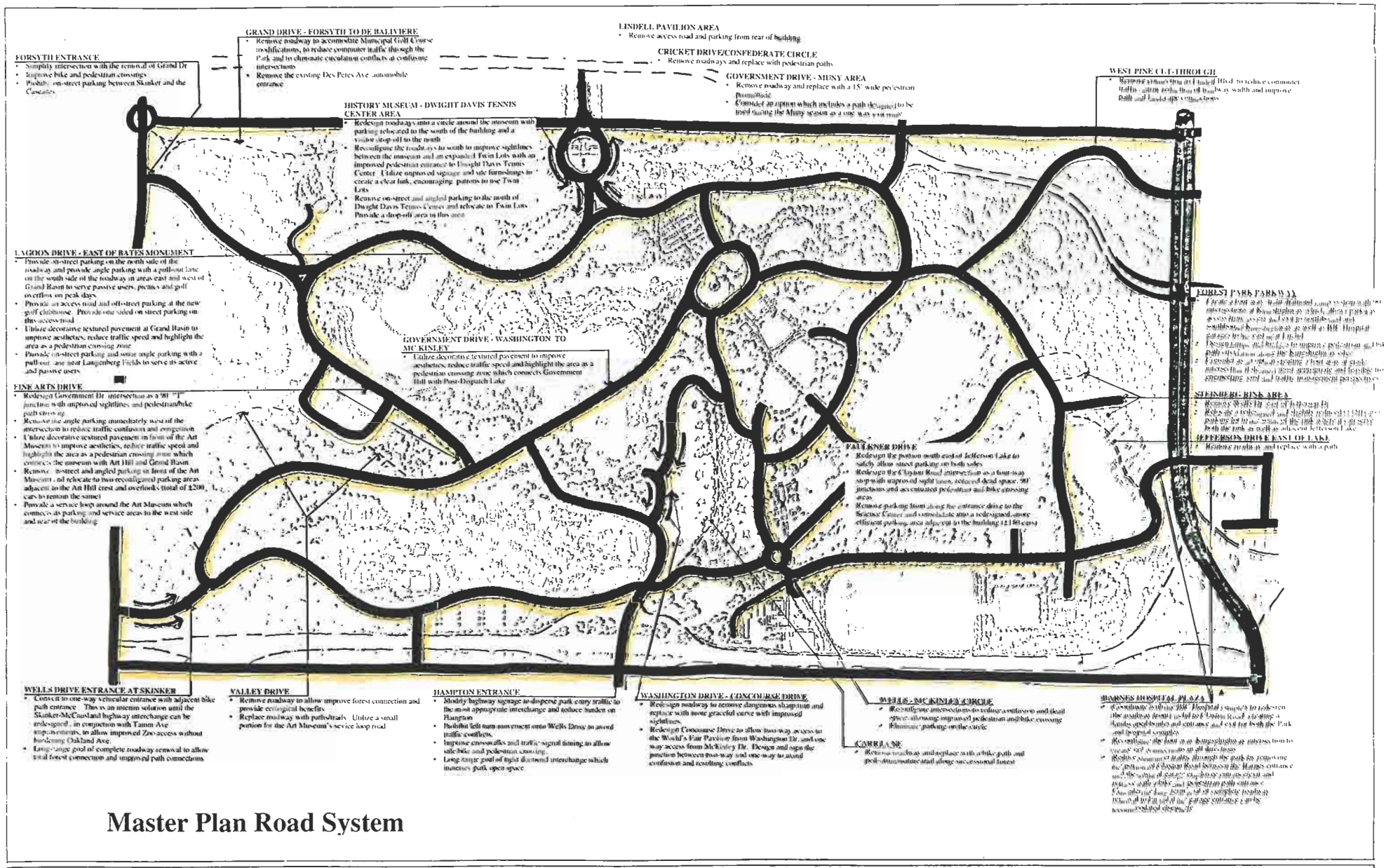
Forest Park Parkway is the park's only true parkway, although Highway 64/40 could be considered a parkway too. Recommended changes for the parkway include:

- Improve plantings, park signage, and lighting.

- Continue the planted medians which exist east and west of the park through the park section where possible.

- Accentuate park connections or ramps at Kingshighway and Union with site furnishings and plantings to highlight these areas as park entrances.

- Make aesthetic improvements to Highway 64/40 that are compatible with the State Highway Department's standards for safety, much of which is already contained in the Parks Department's ISTEA grant proposal to improve plantings along the northern highway edge.



Master Plan Road System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

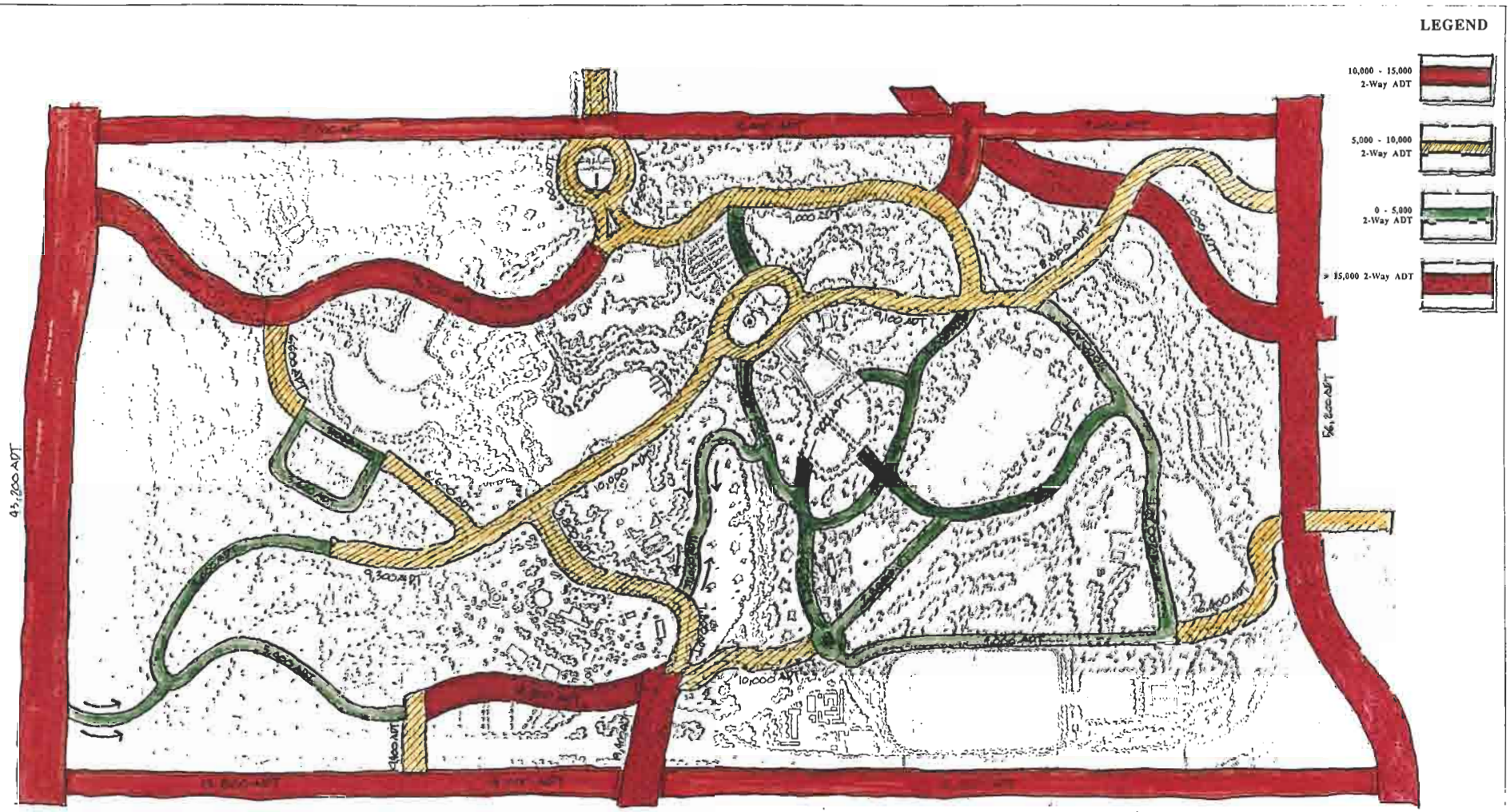
18 NOVEMBER 1993

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



Master Plan Traffic Volumes

FOREST PARK MASTER PLAN

ST. LOUIS, MO

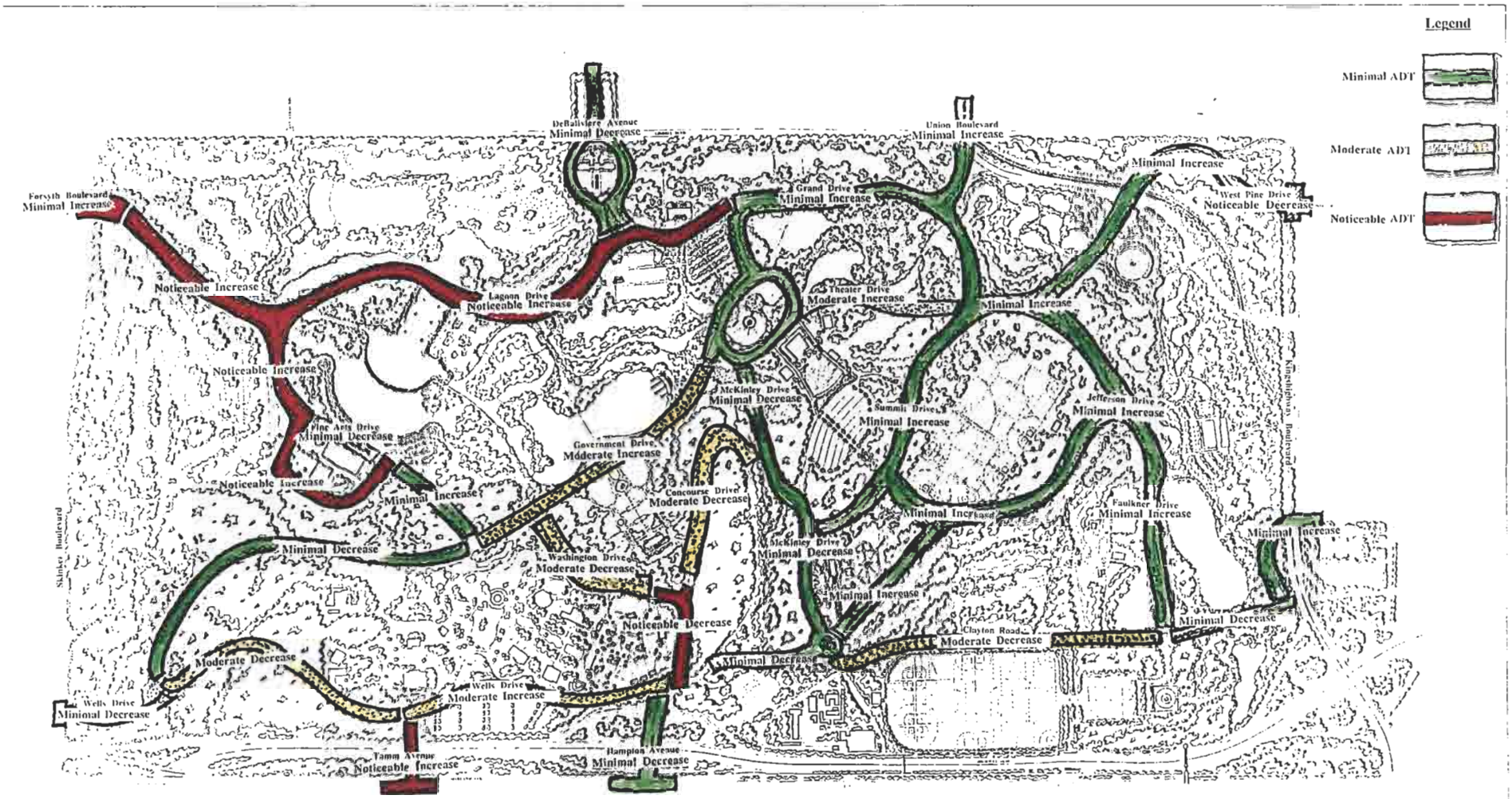
SCALE: 1" = 400' 0 400 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



IMPLICATIONS OF AUTOMOBILE TRAFFIC VOLUMES

Legend

Minimal	0-3,000	ADT
Moderate	3,000-6,000	ADT
Noticeable	6,000 +	ADT

*Note: ADT = Average Daily Traffic

FOREST PARK MASTER PLAN

ST. LOUIS, MO

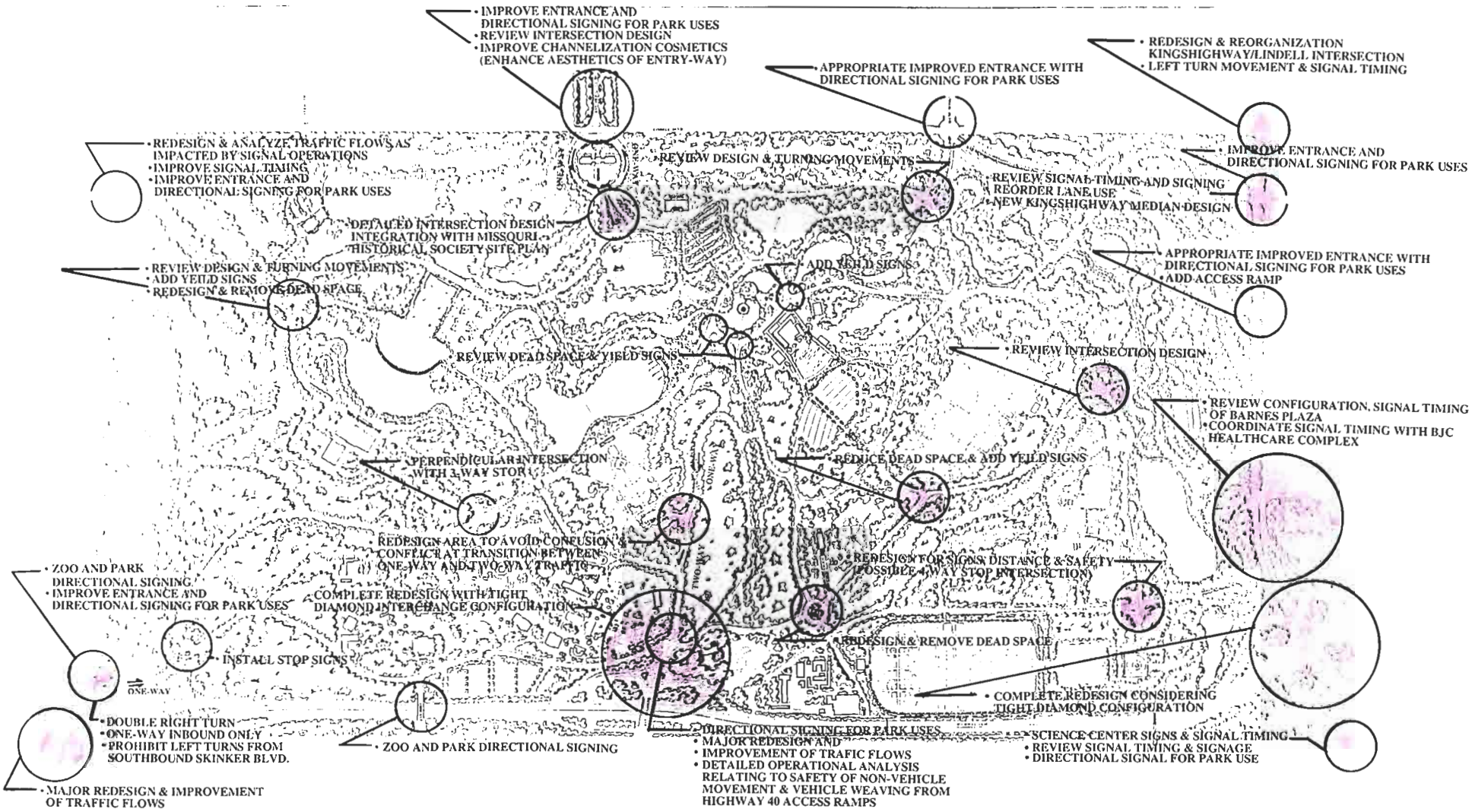
SCALE: 1" = 400'

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



TRAFFIC OPERATION COMMENTS

GENERAL NOTES
- The next phase is a detailed geometric design and traffic signal operations analysis.
- The detailed analysis will require manual traffic counts.
- Dead Space refers to excess maneuvering room for vehicles.

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 600'

18 NOVEMBER 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

Boulevards

Boulevards are grand scale streets which typically have planted medians, decorative lighting and site furnishings, and canopy tree/ornamental plantings/planters. Forest Park's boulevards should contain these features wherever possible and appropriate.

The following roadways are classified as boulevards and should be designed accordingly:

-Kingshighway Boulevard
-Lindell Boulevard
-Skinker Boulevard
-Oakland Blvd.
-Entries at Forsyth, DeBaliviere, Union, West Pine and Hampton

Specific recommendations for boulevards include:

- Provide park entrance signage and decorative pavement at key portions of roadways, important intersections, and crosswalks.

- Avoid on-street parking along entrance boulevards, but encourage it along appropriate portions of border boulevards to access park edges.

- Coordinate with the City Streets Department to extend park boulevard treatments beyond park boundaries where possible and appropriate.

Avenues

Avenues are the more heavily used, park-wide circulation routes within the park and are typically designed with canopy trees and sidewalks along their edges. They are typically of a grand scale, focusing on dramatic vistas and expansive views. Avenues include:

-Lagoon Drive
-Fine Arts Drive
-Grand Drive
-Wells Drive
-Washington Drive
-Clayton Road
-McKinley Drive
-Government Drive.

Specific recommendations for avenues include:

- Determine appropriateness of on-street parking on a site-by-site basis.

- Apply decorative landscaping, site furnishings, and pavements to key portions of roadways, important intersections, and crosswalks when compatible with site context.

- Consider use as on-street bike routes which link to regional path systems.

Drives

The remainder of the park's roadways are classified as drives. These will receive a variety of site specific streetscape treatments. Drives are typically more intimately scaled, focusing on scenic vistas and forest settings. On-street parking and sidewalks should be determined for all drives on a site-by-site basis.

Access/service roads

Access/service roads should be designed to be visually unobtrusive and should not encourage public vehicular use. Soft surfaces should be considered, with minimal roadway widths. Some of the park's paths, particularly near the Municipal Golf Courses and Kennedy Forest, will be designed to accommodate security patrols and service vehicles.

3. Interstate Highway 64/40

Interchanges

- Collaborate with the Highway Department and future highway planning efforts to create design solutions which reduce the amount of park land occupied and fenced for traffic lanes and right-of-ways.

- Coordinate with the Highway Department to implement signage improvements which direct park patrons to the most appropriate interchange for their park destination.

- Improve the aesthetic character of highway interchanges, implementing plantings, signage, and site furnishings appropriate for major park entrances.

Highway Right-of-Way and Edges

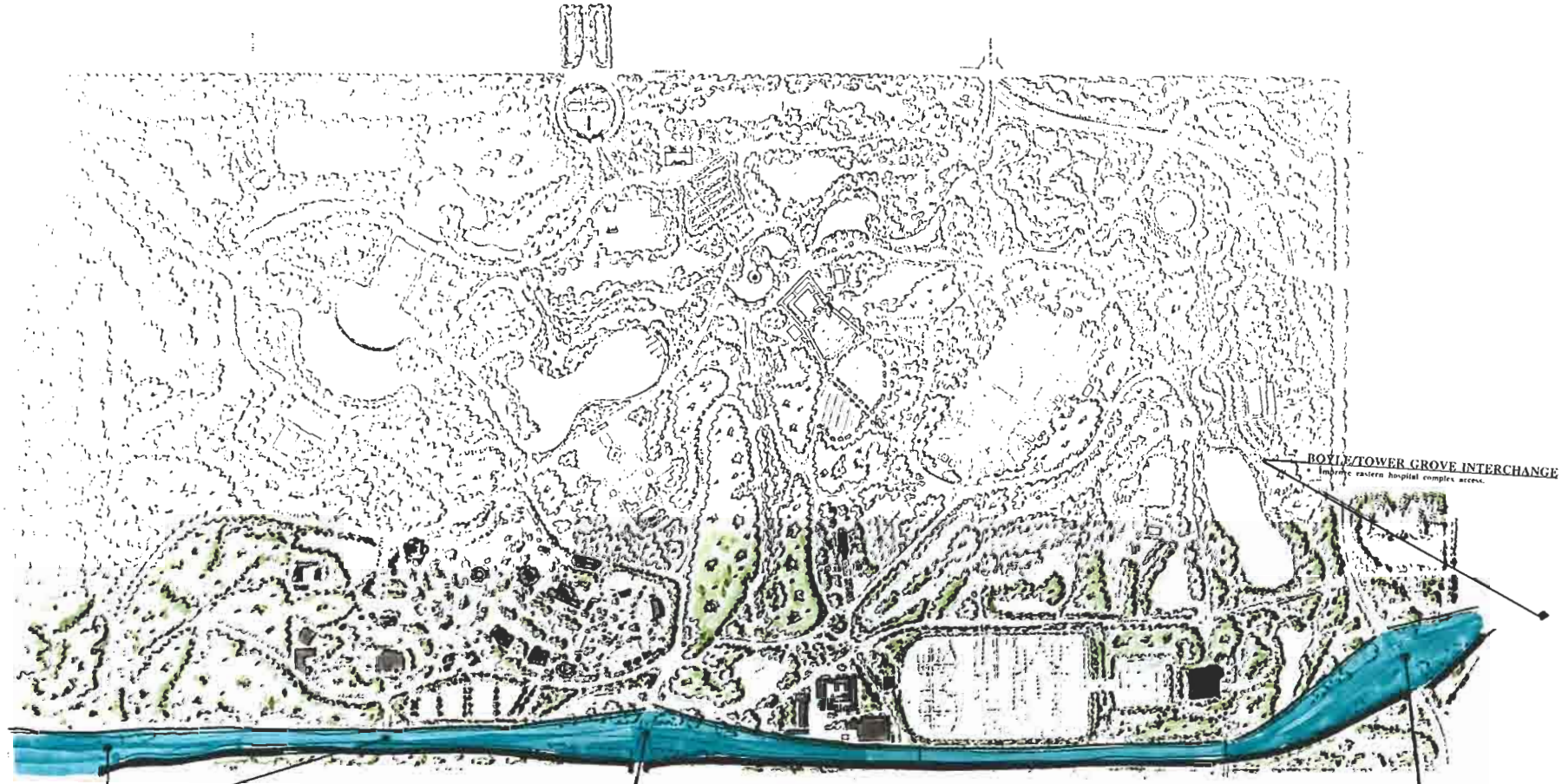
- Implement landscape improvements along the highway right-of-way and fence line which are compatible with surrounding landscapes, to better blend the highway into its park environs.

- Implement landscape improvements which reduce negative visual and audible effects of the highway, yet frame desirable views for highway motorists.

Regional Context

- Collaborate with the Highway Department and future highway planning efforts to extend the park's highway landscape improvements beyond the park, visually linking the park with downtown and areas to the west.

- Collaborate with the Highway Department and future highway planning efforts with regard to existing or planned interchanges which are adjacent to or affecting the park.



BOYLE/TOWER GROVE INTERCHANGE
- Improve eastern hospital complex access.

TAMM to McCAUSLAND
- Induce usage to spread park entry traffic from west & south
- Investigate design solutions that will reduce use of open space in Park

HAMPTON INTERCHANGE
- Reduce usage as primary park entrance.
- Investigate design solutions that will reduce use of open space in Park.
- Long range goal of tight diamond interchange, which will increase park's open space.

KINGSHIGHWAY INTERCHANGE
- Reduce congestion and level of saturation.
- Investigate design solutions that will reduce the use Park's open space.
- Modify highway signage to direct Science Center traffic to Oakland Avenue Facility.
- Coordinate with proposed Boyle/Tower Grove Interchange to improve eastern portion of hospital complex access, reducing hospital commuter traffic through the park.
- Long range goal of a tight diamond interchange which increases park open space. This allows improved traffic movements on Kingshighway, including complete left turn access to the park from northbound Kingshighway and simplified access to medical complex.

HIGHWAY 64/40 IMPROVEMENTS

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2000

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

4. Parking

- Design parking lots to play a visually subordinate, yet functionally supportive role for the park's landmarks and landscapes.

- Increase patron awareness of parking areas through signage, paths, and landscaping which directs them to the most appropriate lot for their particular destination.

- Place all new facility-related off-street parking behind or to the side of a building structure or underground.

- Consider relocating inappropriately placed parking to areas behind or to the side of a building structure, with the exception of Centrally located lots such as Twin Lots and the Upper Muny lot that can serve multiple facilities.

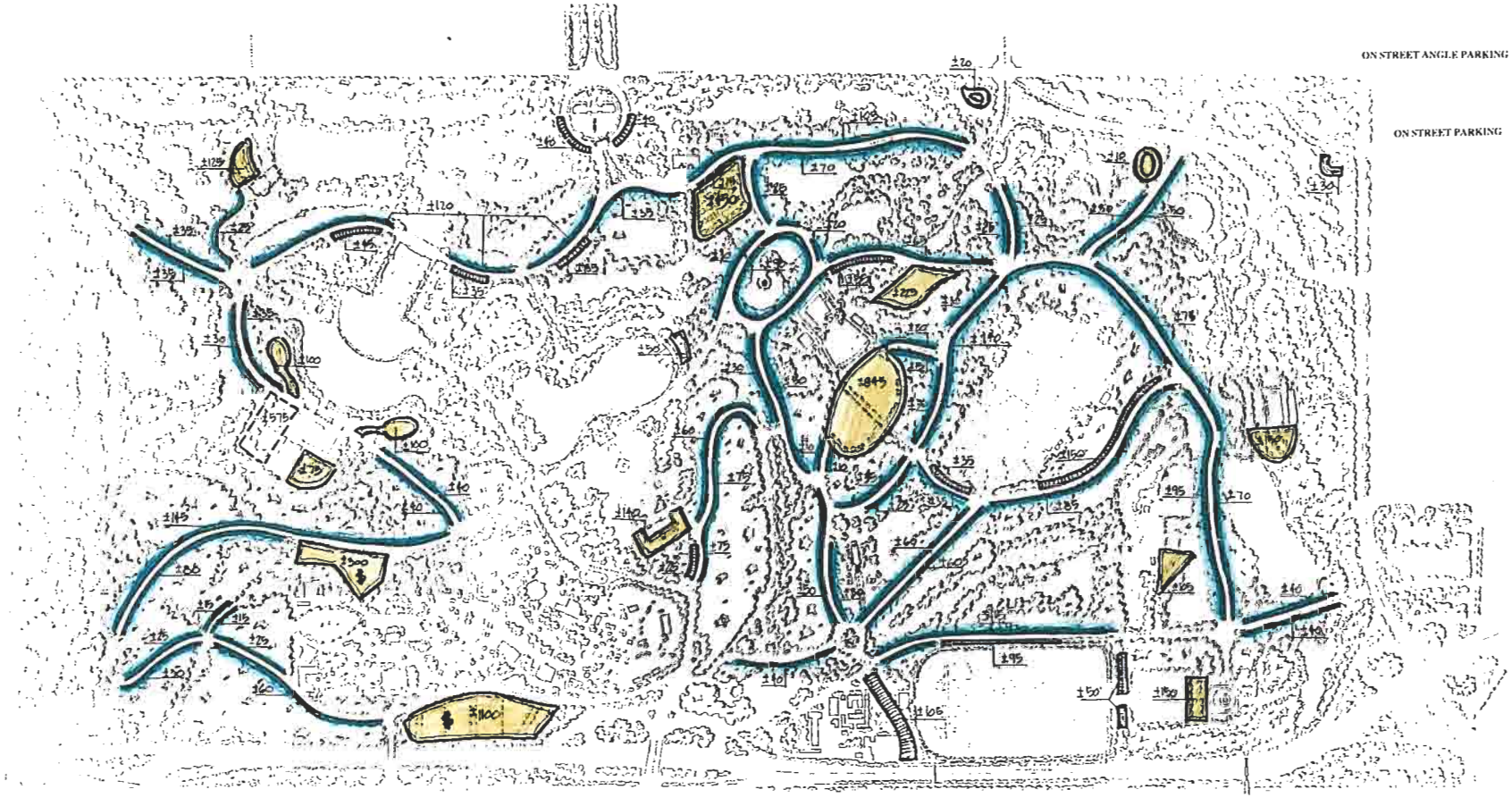
- Design parking lots in shapes which best fit site qualities while providing maximum parking efficiency.

- Avoid harsh angles and edges which deter from spatial character and which create inhospitable spaces for paths and other landscape users.

- Increase the efficiency of existing and new parking lots, avoiding single loaded parking, if possible.

- Utilize porous pavement wherever feasible in proposed new parking areas and reconstructed existing ones.

- Adhere to current City standards for parking lot design and landscaping:
  - Design 90° angle off-street spaces for average size cars, with a width of 8.5', a length of 18' and a 22' minimum two way isle width. Consider providing compact car spaces at all major park lots.
  - Design parallel on-street spaces for average size cars, with a width of 12', a length of 22'.
  - Design 90° angle on street spaces with a width of 8.5', a length of 18' and a 12 ' pull-out lane, separate from the nearest traffic lanes.
  - Provide spaces for the disabled with a width of 12', a length of 18' and a 22' minimum isle width (or 8' X18' spaces with a common 5' isle between adjacent spaces). Provide at least one space for all lots of 25 spaces or more or a rate of one space per 75 spaces or fraction thereof in larger lots.
  - Landscape all parking lot edges of lots that abut a street or an adjacent landmark or landscape. The most substantial landscaping and screening should be along any edge that abuts a street. However, site landscaping along sides and in the rear is important to protect the view upon approach, as well as from adjacent sites.
  - Landscape a minimum of 3% of total parking area for lots greater than 10,000 sq. ft. The interior landscaping should consist mostly of trees whose height and upper-level greenery will be visible from the street and will shade automobiles within the parking lots during hot summer days. Locate planting islands along paths which are located in parking lots to separate cars and pedestrians while creating a more pleasant pedestrian experience.



NOTE: Employee parking will be accomodated in the upper Muny lot.

NOTES: On street parking was calculated by measuring desired parking areas on a site specific basis from a 1" = 100' scale base map and dividing the lengths by 22' (the typical length of one parallel street space).

Off street and angled on street parking was calculated by measuring desired parking areas on a site specific basis from a 1" = 100' scale base map and dividing the lengths by 8.5' (the City standard for one angle parking space). Angle parking assumes an 18' length and a 24' isle.

	OFF STREET	ON STREET	TOTAL
MASTER PLAN	±4,500	±3,375	±7,875
EXISTING	±3,790	±4,010	±7,800
CHANGE	+710	-635	+75

Master Plan Parking

FOREST PARK MASTER PLAN

ST. LOUIS, MO

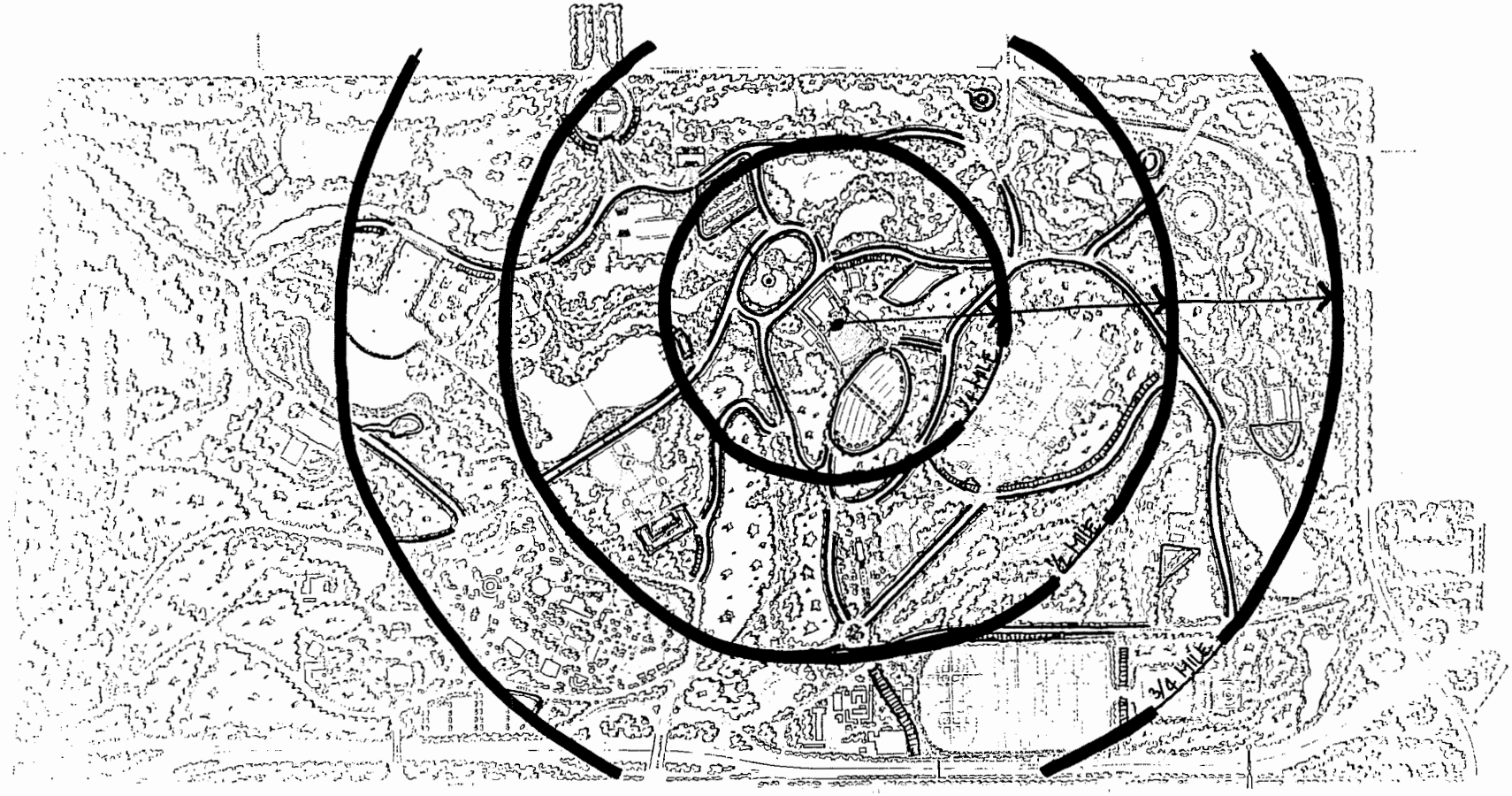
SCALE: 1" = 400' 0 800 1600 2800

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



±1,973 CARS W/IN 1/4 MILE (+78 CARS)
±3,807 CARS W/IN 1/2 MILE (0)
3/4 MILE RADIUS NOT CALCULATED

NOTES: Parking for a normal to highly attended Muny event typically occurs within the 1/4 and 1/2 mile radii shown on this drawing. Only on rare occurances do patrons utilize parking outside of 1/2 mile.

The goal of this design is to maintain existing parking quality and quantity. A net gain of approx. 80 cars was achieved within 1/4 mile of the Muny.

Removal of roads which result in loss of Muny parking will not occur until adequate replacement parking is created as per this plan.

Muny Parking

FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1"=400' 0 400 1600 2800

16 NOVEMBER 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

5. Transit

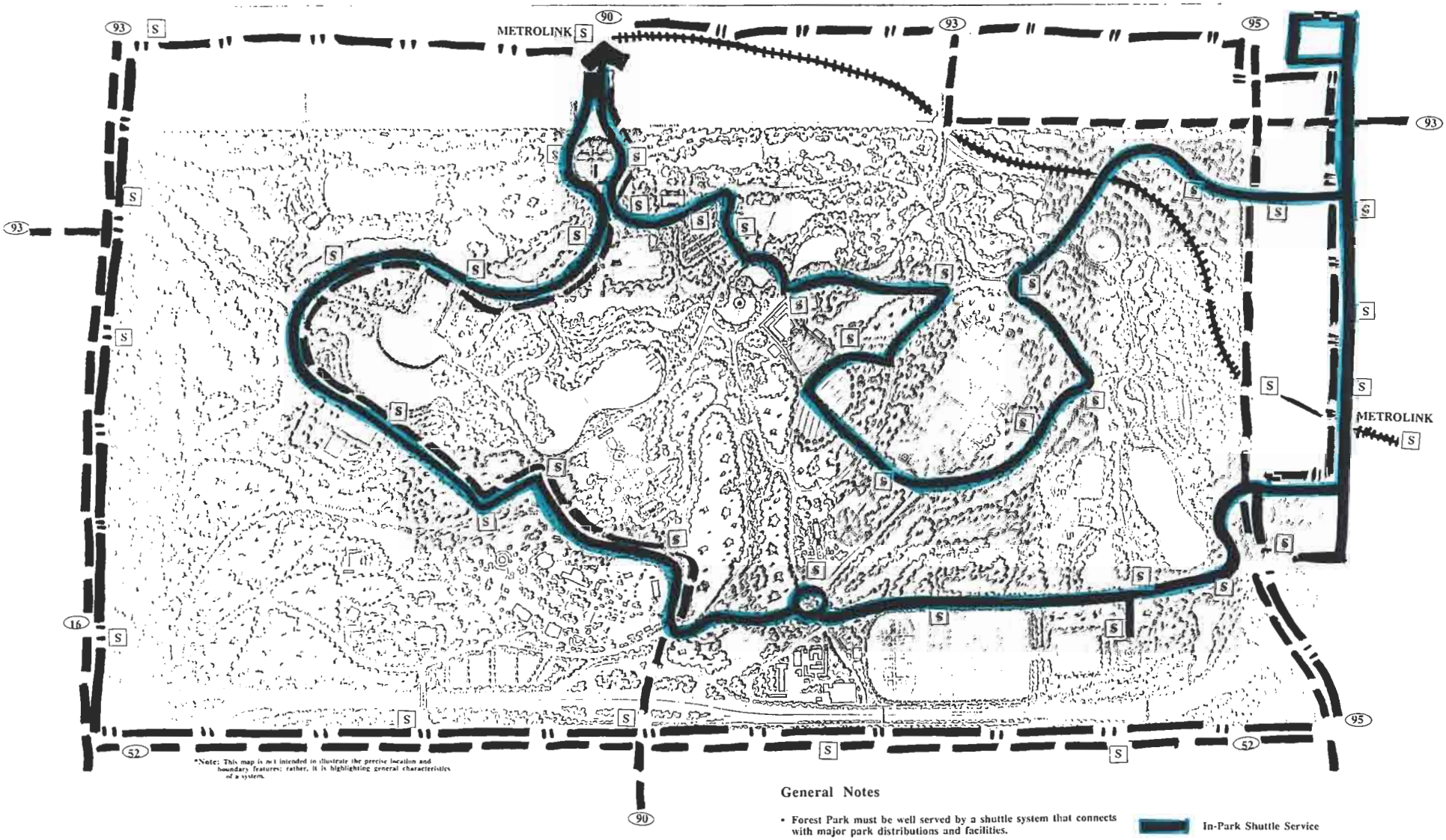
- Create regional, City and neighborhood linkages for all modes of circulation.

- Design the park's internal transit system to serve all major attractions and destinations and coordinate/link with neighborhood service and existing Bi-State transit service.

- Assure that all paths, transit and roadway systems intersect with the park's major parking lots, allowing each to serve as remote parking for all areas of the park.

- Cooperate with future transit planners to develop a park shuttle service, possibly with steel or rubber tires.

- Support a MetroLink extension along the south border of Forest Park to serve the Science Center, athletic fields, and Zoo.



*Note: This map is not intended to illustrate the precise location and boundary features; rather, it is highlighting general characteristics of a system.

TRANSIT OPTIONS

General Notes

- Forest Park must be well served by a shuttle system that connects with major park distributions and facilities.
- MetroLink routes are illustrative only.
- Coordinate station stops with Bi-State routes and institutions.
- Locate station stops for best access to Forest Park attractions.

In-Park Shuttle Service
Forest Park/Neighborhood Shuttle Service
Current Bi-State Bus Routes
S Station Stop

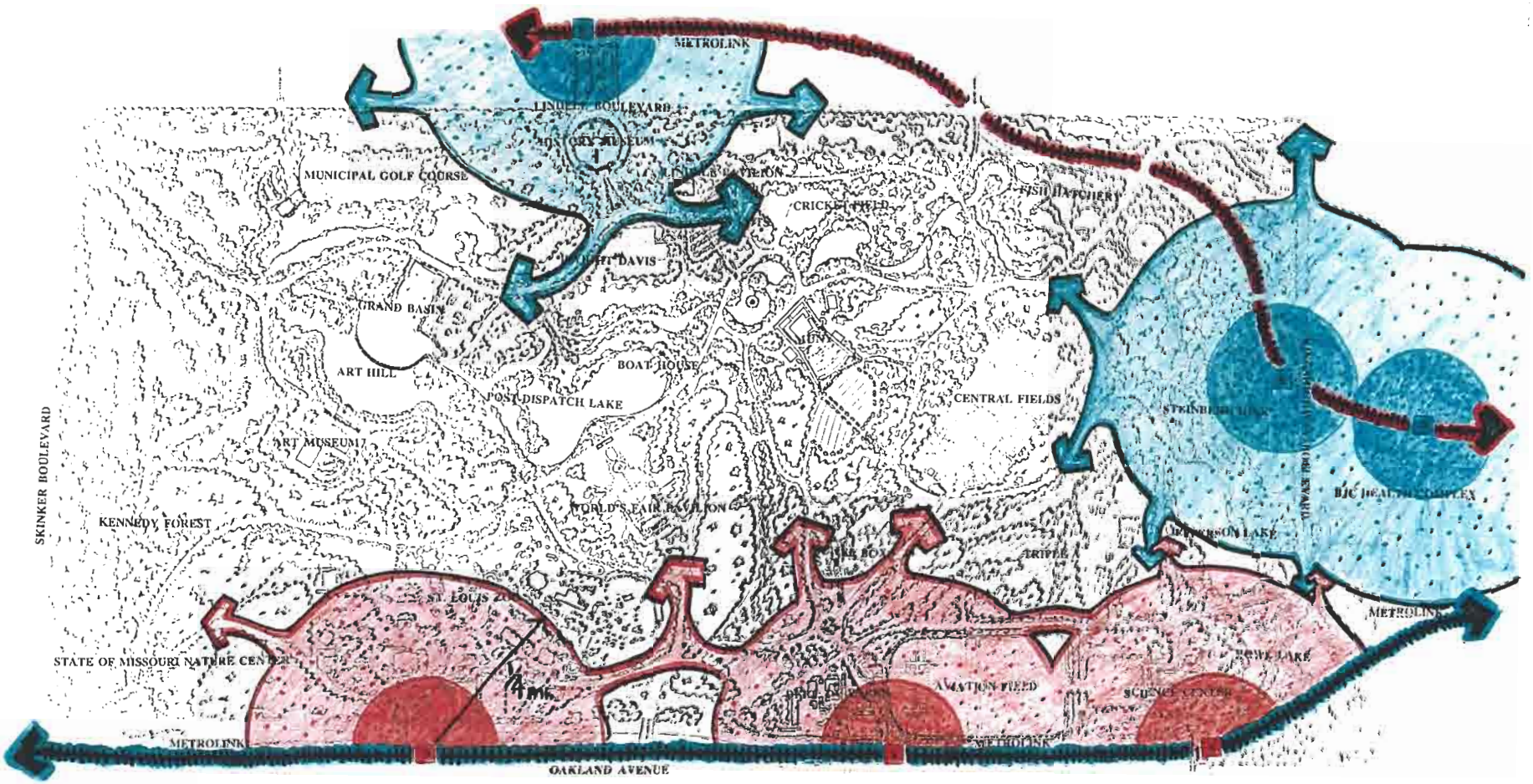
FOREST PARK MASTER PLAN
ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

18 NOVEMBER 1995

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



*Note: This map is not intended to illustrate the precise location and boundary features; rather, it is highlighting general characteristics of a system.

General Notes

- The Master Plan supports a MetroLink extension along the Southside of Forest Park, which would serve the Science Center, Athletic Fields, Zoo and adjacent neighborhoods.
- Possible long-term transit option is a fixed rail circulator; to be determined via future planning efforts.

METROLINK LONG-RANGE VISION

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1"= 600' 0 600 1200 2400

18 NOVEMBER 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN

6. Paths

Dual Path System

In general, the Plan seeks to incorporate a dual path system, with parallel hard and soft surface paths. The Dual Path System's hard surface component is primarily intended for use by cyclists, roller bladers, and wheelchair users. However, this does not exclude other park users from enjoying the hard surface part of the active recreational path system. In general, the fitness circuit will remain near the perimeter of Forest Park, with a north-south connection, forming a figure 8. This should help avoid conflicts with intensely-used pedestrian areas within the park.

The Dual Path System's soft surface component is meant to accommodate lower velocity fitness users — walkers, joggers, par course exercise station users, and people watchers. Generally, higher velocity and physically intense recreational activities will be restricted to the hard surface component of the Dual Path System. This soft surface pathway may split from the hard surface path in restrictive topographical areas in the park. However, the intervals of separation are brief and provide park enthusiasts with another park experience.

Specific recommendations include:

- Design paths to:
  - Provide a variety of path types and character.
  - Focus views on desirable features and away from undesirable ones.
  - Give the path user a variety of ways to get to a destination with a multitude of spatial experiences along the way.
  - Provide, where possible, a parallel dual path system of soft and hard surfaces for recreation use and city-wide bike circulation along the major park-wide bike path.
  - Maintain the natural and built character of each landscape as pathways pass through or adjacent and reflect the character of the landscape that they travel through.
  - Accentuate bends, termini and dramatic sequences along paths with ornamental/seasonal plantings, site furnishings, public art, interpretive signage, and framed views.

- Design paths in flowing curves and bends, avoiding straight lines and unnatural or tight curves unless part of a formally designed area.

- Provide a mixture of long and short views.

- Accentuate Paths with ornamental plantings, site furnishings, various scales of public art, interpretive signs and points for viewing.

- Design paths to accommodate a diversity of fitness users, considering both intensive and leisure fitness users.

- Provide an approximately 8-12 foot grass median between the hard and soft paths where possible and desirable.

- Design hard surface paths to provide the following features:
  - Slightly banked curves, avoiding tight turns with short radii for safe cornering.
  - A non-porous textured asphalt surface for good traction during higher velocity exercise.
  - A width ranging between eight and ten feet.

- A solid center line that separates the opposing movements on the path.
- Clearly and visibly posted pathway signs which designate user rules.
- Pathway safety signs at critical points, which include markers that designate path separations, mergers, type of curve, crossings, steep hills, and slopes.

- Design soft surface paths to provide the following features:
  - A width ranging between ten and fifteen feet.
  - A surface comprised of loose materials which reflect landscape characteristics near the paths.
  - A durable, blunt and stiff edge treatment in order to hold the loose surface materials in place.
  - Pathway niches or nodes with ample room for site furnishings, par course fitness equipment and attractive ornamental plantings which accent or punctuate these areas.
  - Few obstructions which physically separate the soft and hard paths, except for pre-existing plants and landscape elements.

- Consider implementing Central West End cycle patrols at peak times to encourage proper and courteous use.

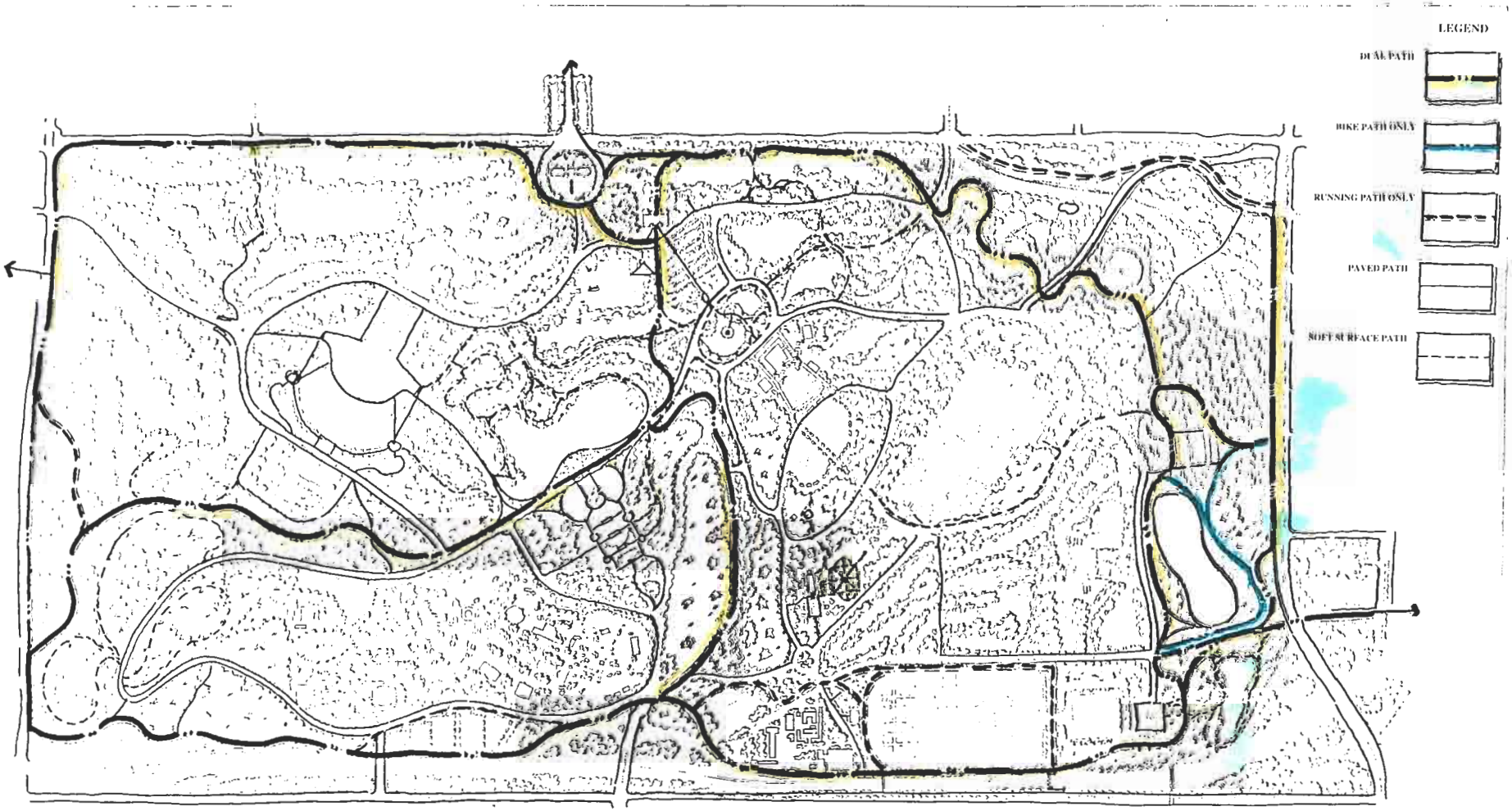
- Provide path splits/alternative routes for hard and soft paths at the following locations:
  - Along Skinker Avenue south of the golf course.
  - Along the south Zoo parking lot from Tamm Avenue Bridge to near Hampton.
  - Steinberg Ice Skating Rink and Jefferson Lake.
  - Near Bowl Lake from the new Clayton Avenue entry.
  - At Aviation Field.
  - Near the Parks Department maintenance complex.
  - In the Successional Forest area near the boathouse.

<u>Other Paths and Trails</u>

Augmenting the Dual Path System is a path and trail network which connects many of the park's landscapes, water elements and natural areas. It is intended for more casual, passive use. These paths and trails should be designed to respect the architectural characteristics of nearby institutions and spatial qualities of adjacent landscapes. This network has four main components:

a. A hard surface network of formal promenades
b. Hard surface sidewalks
c. Hard surface nature trails and walks
d. Soft surface trails and paths.

a. Formal Promenades
   - Create a network of elegant walkways around the cultural institutions with areas for walking, sitting, picnicking, and other social activities.
   - Utilize site aesthetics which borrow from the formal principles and long tradition of public realm design.
   - Carefully utilize colors, textures, and proportions to foster cohesion among various parts of this park-wide promenade.
   - Design the formal promenade network to provide the following features:
     - Path widths appropriate for context and scale.



Composite Path System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

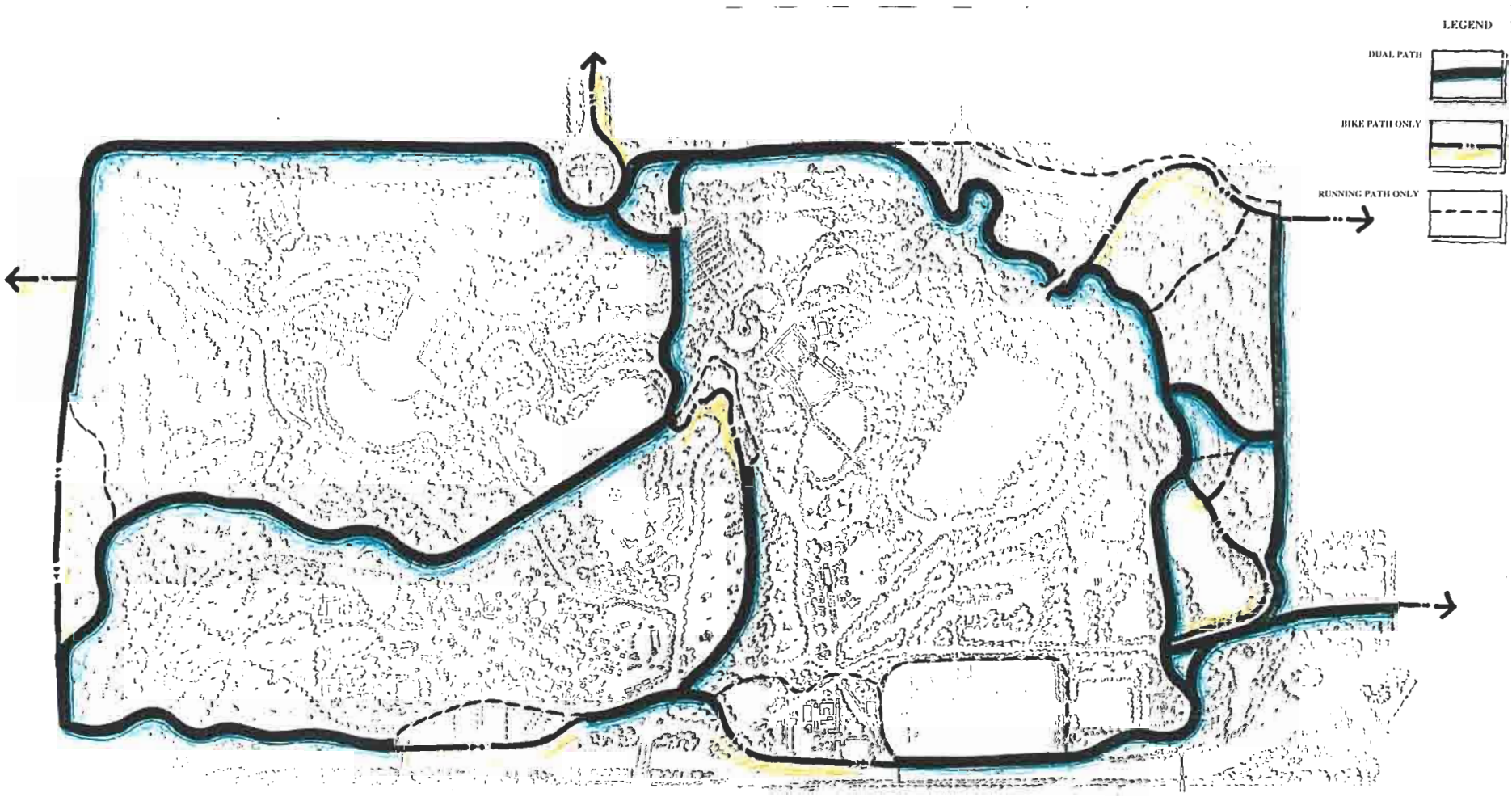
18 NOVEMBER 1975

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION URBAN DESIGN

FOREST PARK MASTER PLAN



Dual Path System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400'

0 400 1600 2800

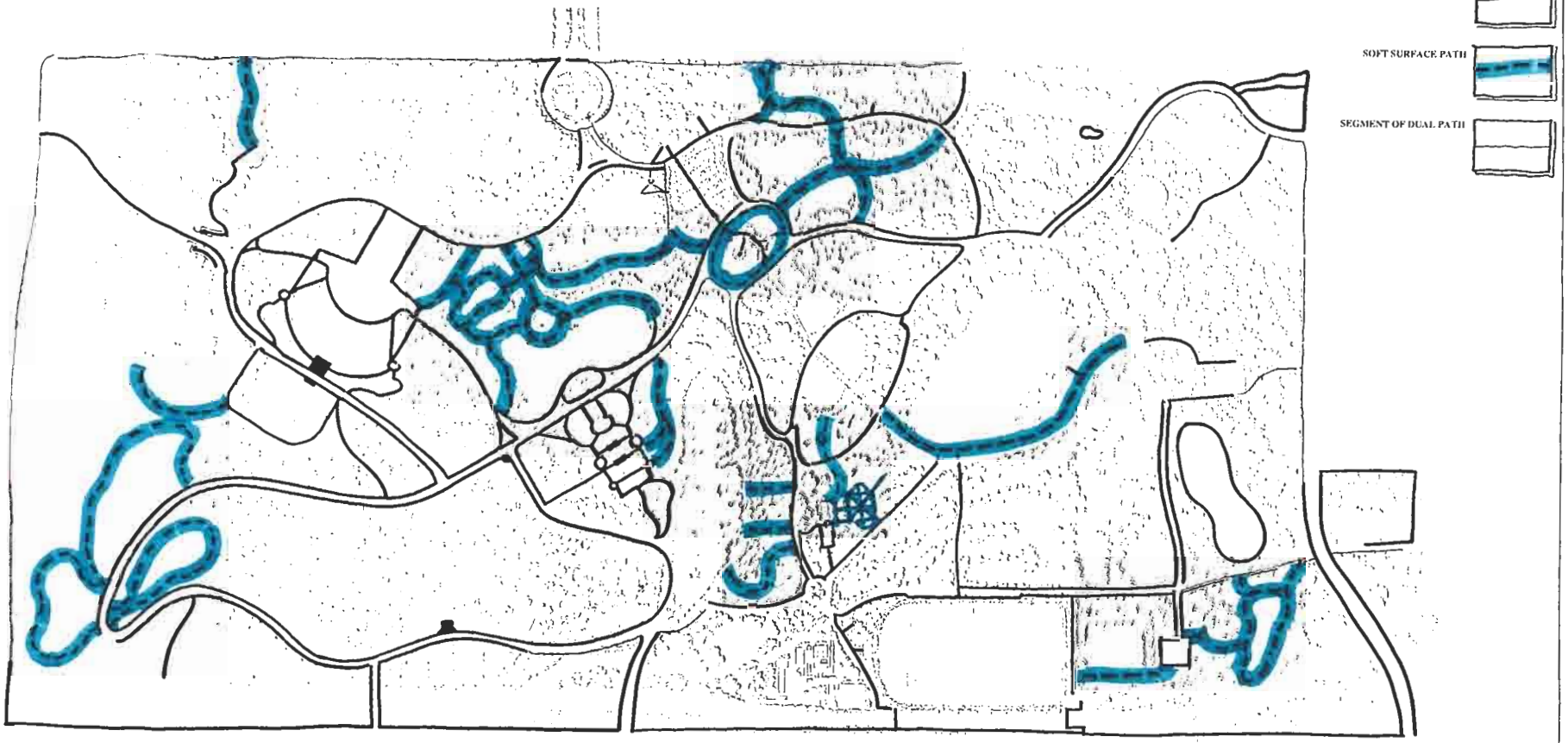
18 NOVEMBER 1976

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN



Path System

FOREST PARK MASTER PLAN

ST. LOUIS, MO

SCALE: 1" = 400' 0 400 1600 2800

N

18 NOVEMBER · 1995

CITY OF SAINT LOUIS

DEPARTMENT OF PARKS, RECREATION AND FORESTRY

ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN

FOREST PARK MASTER PLAN

- Hard surfaces finished with crushed granite and adhered to the concrete subsurface with a bitumen material.
- Use unifying elements throughout the network, such as lamp posts, benches, balustrades, and plantings.
- Consider the following locations for formal promenades:
  Art Hill
  Grand Basin
  Post-Dispatch Lake
  Government Hill.
  Pagoda Lake

b. Hard Surface Sidewalks
- Create a sidewalk network which :
  - Functionally and aesthetically improves the cultural heart of the park.
  - Activates a sense of connection, continuity and identity between the St. Louis Art Museum, World's Fair Pavilion, Boat House, Jewel Box, Missouri Historical Society, Lindell Pavilion, and the St. Louis Zoo.
- Provide a network of hard surface sidewalks and paths throughout the park which link formal promenades for pedestrians/disabled who need durable level surfaces.
- Design sidewalks to provide the following features:
  - Widths ranging between four and six feet.
  - Either concrete or asphalt surfaces.
  - A textured surface to improve traction and improve pedestrian safety.
  - A minimum width of two feet and a maximum of four feet of grass separating sidewalks from the curb where possible and desirable.
  - A grass parkway in areas without curb parking or other functions which result in heavy pedestrian traffic directly from the curb.
- Design sidewalks to provide a more utilitarian service for pedestrians without the pageantry of the promenade network.

c. Hard Surface Nature Trails and Paths
- Create a series of boardwalks or asphalt nature trails in areas of unique natural splendor or delicate vegetative communities.
- Design hard surface nature trails to provide the following features:
  - Widths ranging between four and six feet.
  - Protective railing if the top of the path is elevated eight or more inches above the ground.
- Provide seating/areas, overlooks and informational nodes for small children, elderly and disabled persons.
- Consider the following locations for paved nature trails:
  - Kennedy Forest.
  - Successional Forest.
  - Adjacent to the Science Center and Bowl Lake.
  - Steinberg Rink wetlands area.
  - Hatchery Lakes area.
  - Union Entrance wetlands.

d. Soft Surface Trails and Paths
- Create a network of soft surface paths for leisure recreation.
- Maximize use of these soft surface, porous trails to improve surface drainage and reduce the amount of non-porous paved surfaces in the park.

- Design soft surface walks to provide the following:
  - Widths with a minimum range between five and seven feet.
  - A surface, comprised of loose materials that reflects the landscape characteristics near the paths.
  - Durable, blunt and stiff path edges in order to hold the loose surface materials in place.
  - Ample room for site furnishings.
  - Attractive ornamental accent plantings.

7. Public Use and Safety

Public use and safety is a very broad concept and should incorporate issues of safety from crime, injury, traffic, and use, such as water use. During the detail design phase, further guidelines should be developed and al projects should be considered from a public safety and use point of view. In general, five fundamental elements must be integrated in order to accommodate user needs:

a. Security & safety
b. Multiple use
c. Access to park attractions
d. Amenities
e. Attracting more path users at non-peak times

a. Security and Safety
- Design paths for pedestrians who want safety from crime, motor vehicles, and higher velocity path users.
  - Make paths visible from the roadway.
  - Provide adequate lighting
  - Provide the necessary signage in order to guide both day and evening visitors/users.
  - Install pedestrian police call boxes along heavily used paths at reasonably accessible intervals and throughout the entire park in isolated areas.
  - Ensure police substations and first aid stations are designated, accessible, and staffed.
  - Provide park user short-term locker/storage facilities.
- Discourage criminal activity by choosing and arranging plantings to minimize areas for hiding:
  - Situate densely planted areas away from paths and seating areas.
  - Utilize multi stem "clump" varieties of ornamental trees instead of densely planted shrubs to create a more naturalistic wooded effect rather than visually impenetrable banks of vegetation.
  - Consider subtle landscape lighting of naturalistic areas along pathways.

b. Multiple Use
- Allow a variety of uses and a diversity of users access to path system.
- Evaluate the possibility of allowing equipment rental facilities.

c. Access to Park Attractions
- Install directional signs on paths to lead users to cultural-activity centers and special events.
- Locate paths near institutional facilities, thus marking services and promoting choices.
- Highlight naturalistic features with a recreational and educational bias.
- Provide clear and direct routes from park entrances to major attractions, such as the Zoo, Art Museum, Muny, History Museum, and Science Center.

d. Pathway Amenities
- Provide operable drinking fountains, cycle racks, par course fitness equipment, seating, and other appropriate site furnishings.

e. Attract More Users at Non-Peak Times
   - Offer creative and proactive programming of activities for elderly walking clubs at senior care facilities, school children field trips, and picnics.
   - Utilize Steinberg Rink for out of school activities or summer daycare, such as nature trails, bird watching, and urban wildlife studies.

8. Americans with Disabilities Act (ADA) Guidelines

- Increase access for disabled park users throughout the park.

- Consider ADA Guidelines when designing curb cuts, slopes and grades, pathway surfaces, and any amenities adjacent to various paths, such as lavatory facilities, emergency call boxes, drinking fountains, seats, parking lots, and roadways.

- Apply ADA Guidelines to any part of the Dual Path System that serves as a component of the regional bicycle path, in order to receive ISTEA funding.

9. Long-term Regional Opportunities

- Link Forest Park with regional parks and ecological features via MetroLink, especially with proposed system expansion, creating a "green train system."

- Utilize River Des Peres as the connector between the park and the Mississippi River to the south, with trails and linear parks.

- Link Forest Park system with the riverfront trail, the Katy Trail, and beyond.

E. Site Specific Recommendations

1. Roads, Parking & Transit

GRAND DRIVE: FORSYTH TO DEBALIVIERE

- Remove roadway to accommodate Municipal Golf Course modifications, reduce commuter traffic through the park, and eliminate circulation conflicts at confusing intersections.
- Remove the existing Des Peres Avenue automobile entrance.

HISTORY MUSEUM/DWIGHT DAVIS TENNIS CENTER AREA

- Redesign roadways into a circle around the museum with parking relocated to the south of the building (±80 cars) and a visitor drop-off to the north.
- Reconfigure the roadways to south to improve sightlines and create a clear link between the museum and an expanded Twin Lots (±450 cars) with an improved pedestrian entrance to Dwight Davis Tennis Center.
- Utilize improved signage and site furnishings to encourage patrons to use Twin Lots.
- Remove on-street and angled parking to the north of Dwight Davis Tennis Center and relocate to Twin Lots.
- Provide a drop-off area in the former Dwight Davis parking area north of the complex.
- Provide on-street angle parking with a pull-out lane on the south side of the tennis center (±35 cars) to serve the tennis center and Langenberg Field facilities.
- Coordinate operational needs between the History Museum, Dwight Davis Tennis Center and the Muny to avoid conflicting demands for parking and access.

TWIN LOTS

- Redesign and expand the lots (±450 cars) to accommodate History Museum, Dwight Davis, Muny, and Lindell Pavilion parking needs.
- Consolidate parking spaces lost to area road removal into this lot.

CRICKET DRIVE/CONFEDERATE CIRCLE

- Remove roadways and replace with soft surface pedestrian paths.

GOVERNMENT DRIVE: PAGODA LAKE TO UNION ENTRANCE

- Remove roadway and replace with a 15-foot-wide soft surface pedestrian promenade.
- Design path to be used during the Muny season as a one-way exit route.

MUNY AREA

- Provide replacement parking on expanded upper lot (±845 cars) and Twin Lots (±450 cars) as well as modified parking restrictions if needed which allows approximately 180 cars on Government Drive west of the Muny on performance nights only to compensate for any lost on street parking due to street removals.
- Add interior landscaping to the upper and lower lots. This will result in a loss of approximately 25 cars in the lower lot.
- Explore options to accommodate employee parking away from the lower lot and increase this lot's use for disabled and V.I.P. patrons who typically utilize Culver Pavilion prior to performances.
- Coordinate operational needs with the History Museum, Jewel Box, Dwight Davis Tennis Center, and the Parks Department to avoid conflicting demands for parking and access.

LINDELL PAVILION AREA
- Remove access road and parking from rear of building.

WEST PINE CUT-THROUGH
- Remove connection to Lindell Boulevard to reduce commuter traffic, allow reduction of roadway width and improve path and landscape connections.
- Provide planted median at West Pine entrance to the park.

FOREST PARK PARKWAY
- Create a four-way, tight diamond ramp system with 90° intersections at Kingshighway which allows parkway access to northbound and southbound Kingshighway as well as BJC Hospital garages.
- Design ramps and bridges to improve pedestrian and bike path circulation along Kingshighway.
- Consider creating a four-way, at-grade intersection if deemed most appropriate and feasible from engineering, cost, and traffic management perspectives.

STEINBERG RINK AREA
- Remove Wells Drive east of Jefferson Drive.
- Relocate, redesign and slightly reduce (±150 cars) parking lot to the south of the rink where it can serve both the rink as well as adjacent Jefferson Lake.

JEFFERSON DRIVE EAST OF LAKE
- Remove roadway and replace with a path.

BARNES HOSPITAL PLAZA
- Coordinate with the BJC Hospital complex to redesign the roadway from Euclid to Clayton Road, creating a landscaped boulevard entrance and exit for both the park and hospital complex.
- Reconfigure the four-way Kingsghighway intersection to create 90° connections in all directions.
- Reduce commuter traffic through the park by replacing the portion of Clayton Road between the Barnes entrance and the hospital garage employee entrance/exit with a bike and pedestrian path entrance.
- Consider the long-term goal of complete roadway removal to Euclid if the garage entrance can be accommodated elsewhere.

KINGSHIGHWAY INTERCHANGE
- Reduce congestion and level of saturation.
- Investigate design solutions which reduce use of park open space.
- Modify highway signage to direct Science Center traffic to the Oakland Avenue facility.
- Coordinate with the proposed Boyle/Tower Grove interchange to improve eastern hospital complex access, reducing hospital commuter traffic through the park.
- Investigate feasibility of creating a tight diamond interchange to increase park open space and allow improved traffic movements on Kingshighway, including complete left turn access to the park from northbound Kingshighway and simplified hospital access.

FAULKNER DRIVE
- Redesign the portion north east of Jefferson Lake to allow safe street parking on both sides.
- Redesign the Clayton Road intersection as a four-way stop with improved sight lines, reduced dead space, 90° junctions, and accentuated pedestrian and bike crossing areas.

- Remove parking from along the entrance drive to the Science Center and consolidate into a redesigned, more efficient parking area adjacent to the building (±150 cars).

AVIATION FIELD & ARCHERY RANGE AREA

- Provide angle parking (±40 cars) along the Mounted Police access drive to serve the ball fields and archery range while maintaining easy emergency access to the police facility.
- Extend the existing angle parking along the Clayton Avenue to the east (±50 cars) to serve the eastern ball fields.
- Provide a pull-out lane to avoid conflict with Clayton Road traffic.

WELLS-MCKINLEY CIRCLE

- Reconfigure intersections to reduce confusion and dead space, allowing improved pedestrian and bike crossing.
- Eliminate parking on the circle.

CARR LANE

- Remove roadway and replace with a bike path and pedestrian/nature trail along Successional Forest.

HAMPTON ENTRANCE AND INTERCHANGE

- Reduce usage as sole park major entrance by modifying highway signage to disperse park entry traffic to the most appropriate interchange.
- Prohibit left turn movement onto Wells Drive from westbound exit from Highway 40/64 to avoid traffic conflicts.
- Improve crosswalks and traffic signal timing to allow safe bike and pedestrian crossing.
- Investigate long-term design solutions which increase park open space, including long range goal of tight diamond interchange.

WASHINGTON DRIVE — CONCOURSE DRIVE

- Redesign roadway to replace dangerous sharp turn with more graceful curve and improved sightlines.
- Provide a small angle parking area (±25 cars) and pull-out lane along the east roadway edge to serve area picnic grounds.
- Redesign Concourse Drive with median to allow two-way access to the World's Fair Pavilion from Washington Drive and one way access from McKinley Drive.
- Design and sign the junction between two-way and one-way to avoid confusion and resulting conflicts.

GOVERNMENT DRIVE: WASHINGTON TO MCKINLEY

- Utilize decorative textured pavement to improve aesthetics, reduce traffic speed, and highlight the area as a pedestrian crossing zone which connects Government Hill with Post-Dispatch Lake.

FINE ARTS DRIVE

- Redesign Government Drive intersection as a 90° "T" junction with improved sightlines and pedestrian/bike path crossing.
- Remove the angle parking immediately west of the intersection to reduce traffic confusion and congestion.
- Utilize decorative textured pavement in front of the Art Museum to improve aesthetics, reduce traffic speed and highlight the area as a pedestrian crossing zone which connects the museum with Art Hill and Grand Basin.

- Remove on-street and angled parking in front of the Art Museum and relocate to two reconfigured parking areas adjacent to the Art Hill crest and overlooks (the existing total of ±200 cars to remain) .
- Provide a service road loop around the Art Museum which connects its parking and service areas to the west side and rear of the building.
- Slightly widen Fine Arts Drive south of the museum to accommodate safe two-sided, on-street parking.

ART MUSEUM
- The Museum has long term plans for a 575-space underground parking structure to the west of the museum.
- Remove the temporary gravel employee lot and accommodate in proposed structure.

VALLEY DRIVE
- Remove roadway to allow improve forest connection and provide ecological benefits.
- Replace roadway with paths/trails and utilize a small portion for the Art Museum's service loop road.

WELLS DRIVE ENTRANCE AT SKINKER
- Convert in the short-term to a one-way vehicular entrance with an adjacent bike path entrance .
- Pursue a long-range goal of complete roadway removal to allow total forest connection and improved path connections.

McCAUSLAND/SKINKER/HIGHWAY 40/64 INTERSECTION
- Promote usage to spread park entry traffic from west and south.
- Investigate design solutions which reduce use of park open space.

FORSYTH ENTRANCE
- Simplify intersection with the removal of Grand Drive.
- Improve bike and pedestrian crossings.
- Prohibit on-street parking between Skinker and the Cascades.
- Improve crosswalks and traffic signal timing to allow safe bike and pedestrian crossing.

LAGOON DRIVE: EAST OF BATES MONUMENT
- Provide on-street parking on the north side of the roadway .
- Provide angle parking with a pull-out lane on the south side of the roadway in areas east and west of Grand Basin (±80 cars) to serve passive users, picnics, and golf overflow on peak days.
- Provide an access road and off-street parking at the new golf clubhouse.
- Provide one-sided, on-street parking on the west side of this access road.
- Utilize decorative textured pavement at Grand Basin to improve aesthetics, reduce traffic speed, and highlight the area as a pedestrian crossing zone.
- Provide on-street parking and some angle parking with a pull-out lane near Langenberg Fields to serve its active and passive users.

2. Paths

ART HILL/GRAND BASIN AREA

- Provide formal, tree-lined promenade at the crest of Art Hill with decorative site furnishings, scenic overlooks and public art.
- Provide formal hillside paths which provide access to the base of hill and Grand Basin.
- Provide grand pedestrian avenues along the formal basin edge with site furnishings and ornamental plantings.
- Provide water edge stairways and seating platforms to allow direct water access.

THE PROMENADE

- Provide a formal, 15' wide paved promenade which links Grand Basin and Art Hill with Post-Dispatch Lake and its boathouse.
- Provide site furnishings, landscape lighting and water access.
- Provide a pedestrian plaza at the existing Jahn Monument west of Post-Dispatch Lake.
- Provide a dramatic pedestrian plaza and green at the terminus of Government Hill, providing grand stairs to the water for seating and water viewing.
- Provide new bridges which link the Promenade to area landscapes and islands.

BOATHOUSE AREA

- Route the Dual Path to the east of the boathouse, across a new bridge over to the lagoon to Langenberg Field.
- Provide pedestrian path connections to the boathouse.
- Provide ample bike parking at the boathouse.

CENTRAL ISTHMUS

- Provide a series of soft surface paths to the north and west of the boathouse which reflect the area's informal, sweeping character and accentuate views to surrounding features.
- Provide a circular, soft surface path which, along with area vegetation, defines "The Clearing" at the end of the isthmus.
- Provide a path link to the spillways area and its pavilion via the existing suspension bridge.

WORLD'S FAIR PAVILION

- Improve ADA compliance and path connections to surrounding facilities, parking areas, and landscapes where possible.
- Improve the existing formal path system of Government Hill, adding new connections where appropriate to complete the hill's design.
- Provide ample bike parking at the pavilion.

SAINT LOUIS ZOO AREA

- Provide sidewalks along Government and Wells Drives to improve pedestrian access for those who park along these streets.
- Improve ADA access from adjacent facilities, parking areas, and landscapes where possible.
- Provide an easily identified path route(s) which allows convenient pedestrian travel from the DeBaliviere park entrance to the Zoo.

LINDELL EDGE: SKINKER TO DEBALIVIERE

- Upgrade the existing bike path to a Dual Path.
- Provide neighborhood connections at DeBaliviere, Des Peres, and Skinker.
- Provide plantings and safety measures along the golf course.
- Re-route the Dual Path around the south of the History Museum.
- Coordinate with City Traffic Division to improve signal timing to increase pedestrian crossing times and improve safety.

MUNICIPAL GOLF COURSE

- Consider providing a well buffered and protected north-south path through the golf course on axis with Des Peres Avenue to provide improved pedestrian access to Grand Basin for adjacent residential areas, assuming personal liability implications can be addressed and solved.

LINDELL EDGE: DEBALIVIERE TO UNION

- Upgrade the existing bike path to a Dual Path.
- Improve path links to Lindell Pavilion.
- Design paths to access the relocated Par Course exercise stations.
- Re-route the Dual Path around the south of the History Museum.
- Create a direct path connection to Union at Lindell.
- Remove Cricket Drive entry and convert to a path, providing improved access to an improved plaza area around the Daughters of the Confederacy monument and Cricket Field.

LINDELL EDGE: UNION TO KINGSHIGHWAY

- Provide a new soft surface path along ridge adjacent to the MetroLink right-of-way, south of Murphy Lake, from Union to the West Pine intersection.
- Remove a portion of the West Pine cut-through and provide improved path connections to the Kingshighway-Lindell entrance plaza.
- Coordinate with City Traffic Division to improve signal timing to increase pedestrian crossing times and improve safety.

MISSOURI HISTORY MUSEUM

- Re-route the Dual Path around the south of the History Museum to remove conflicts with motorists and pedestrians.
- Provide an easily identified path connection to the Forest Park MetroLink station.
- Provide a neighborhood link and park entrance.
- Coordinate with City Traffic Division to improve signal timing to increase pedestrian crossing times and improve safety.

PAGODA LAKE/TWIN LOTS AREA

- Provide a formal path connection between the Muny and Lindell Pavilion which travels through a well -landscaped area of the Twin Lots.
- Provide pedestrian paths around the Pagoda Lake/Angel Pond circle, with potential bridge access to the Nathan Frank Bandstand.
- Provide ample bike parking.

UNION ENTRANCE AREA

- Remove area roads and convert to paths.
- Design the path (formerly Government Drive) as a 15' soft surface promenade which allows one-way Muny egress during their performance season.
- Coordinate with City Traffic Division to improve signal timing to increase pedestrian crossing times and improve safety.

FISH HATCHERIES AREA

- Re-route the Dual Path through a new path underpass at Grand Drive.
- Re-route the Dual Path around the redesigned lagoon to the Union entrance.

ROUND LAKE

- Re-route the Dual Path through a new path underpass at Grand Drive.
- Remove Wells Drive and convert to paths with a new, smaller bridge at the current Franklin Bridge location.
- Improve path links to the footbridges over MetroLink.
- Design area paths to focus views on Round Lake and its dramatic fountain.

STEINBERG RINK AREA

- Remove Wells Drive and re-route the Dual Path
- Provide path links to the skating rink.
- Improve path links to Kingshighway, replacing the awkward and dangerous stairs with a continuous path that conforms to the area's topography.
- Consider providing a boardwalk nature trail through area wetlands and delicate plantings.
- Provide ample bike parking at the rink.

JEFFERSON LAKE

- Re-route all paths to a new crossing at a redesigned Faulkner-Clayton intersection.
- Remove a portion of Jefferson Drive south of Steinberg and connect to a new path.
- Improve connections to Kingshighway at Barnes Plaza and Steinberg Rink area.
- Reconstruct the deteriorated paved lake edge for public fishing and pedestrian use.

CLAYTON ROAD ENTRANCE

- Create a grand new path entrance to the park by removing Clayton Road between the BJC employee parking garage entrance and the redesigned Barnes Plaza entrance road.

BOWL LAKE

- Re-route the bike path to a new crossing at a redesigned Faulkner-Clayton intersection.
- Provide a hard and soft surface trail network with boardwalks and overlooks around the lake, possibly providing an interpretive nature trail system coordinated with the Science Center.
- Improve pedestrian access to Seven Pools.
- Link to the new path entrances at Clayton Road and Barnes Plaza.

ST. LOUIS SCIENCE CENTER

- Provide sidewalks along Faulkner Drive, north of Clayton Road, to improve pedestrian access for those who park along these streets.
- Improve ADA access from adjacent facilities, parking areas and landscapes where possible.
- Remove on-street parking from Faulkner Drive south of Clayton Road and replace with pedestrian paths which provide access to the building entrances.

CARR LANE

- Remove the roadway and convert to a Dual Path and potential nature trails.

- Provide controlled path access points to the Successional Forest, possibly as part of a nature trail system.
- Provide path links to area picnic grounds and comfort stations

SUCCESSIONAL FOREST
- Remove Carr Lane and convert to a dual path.
- Consider creating an interpretive nature trail system in the forest, possibly operated by MODOC, with bridges, boardwalks, interpretive signage, and overlooks.
- Eliminate "desire line paths" and implement landscape and site improvements which deter their recreation and improve the forest ecosystem.

PARKS DEPARTMENT AREA
- Re-route the bike path away for the maintenance compound and its heavy truck traffic.
- Provide a new bike path to the south side of the maintenance compound, along Highway 64/40 and connecting with the pedestrian path near Hampton.

AVIATION FIELD
- Provide a new bike path to the south side of the ball fields, along Highway 64/40.
- Maintain a pedestrian/jogging path along the north side of the fields.
- Consider creating a path loop or track around the fields.
- Provide ample bike parking.

TRIPLE A
- Provide safety measures to protect users of the path that travels through the golf course.

KINGSHIGHWAY EDGE
- Combine a new bike path with an improved existing sidewalk, to create a Dual Path from the West Pine entrance to Barnes Plaza.
- Provide textured crosswalks at major intersections.
- Coordinate with the City's traffic division to improve signal timing to increase pedestrian crossing times and improve safety.
- Coordinate with the BJC Hospital complex to implement site furnishings and lighting improvements.
- Upgrade the bridge over Forest Park Parkway to better accommodate bike and pedestrian circulation.
- Provide a new pedestrian plaza at the terminus of Children's Plaza.
- Provide bike and pedestrian path connections to the Steinberg Rink area and its Dual Paths.

SKINKER EDGE
- Coordinate with City Traffic Division to improve signal timing to increase pedestrian crossing times and improve safety.
- Upgrade the existing bike path to a Dual Path which may be split in areas which are spatially and topographically constricted.
- Provide neighborhood connections.
- Provide plantings and safety measures along the golf course.

KENNEDY FOREST
- Coordinate with the Missouri Department of Conservation (MODOC) to create a series of interpretive nature trails.
- Re-route area bike paths away from awkward and dangerous road crossings.
- Remove Valley Drive and convert to path use.

- Provide a grand path entrance parallel to a reduced-scale Wells Drive.
- Coordinate with (MODOC) to provide a trail and nature center which provides path user amenities, such as security phones/personnel, maps, toilets, small concession (possibly machines), and first aid services.

HIGHWAY 64/40 EDGE

- Improve buffer plantings for paths adjacent to Highway 64/40.
- Improve links to Highway 64/40 overpasses and underpasses.
- Provide a path split in the Dual Path at the south Zoo parking lot.
- Provide a bike path underpass at the Tamm Avenue bridge to avoid the dangerous Tamm/Wells intersection.

OAKLAND AVENUE EDGE

- Maintain existing sidewalks and add new ones to provide a continuous pedestrian system from Skinker to Kingshighway.
- Improve neighborhood pathway entrances.
- Coordinate with City Traffic Division to improve signal timing to increase pedestrian crossing times and improve safety.
- Improve links to Highway 64/40 overpasses and underpasses.
- Improve buffer plantings for paths adjacent to Highway 64/40.

TAMM AVENUE OVERPASS

- Improve the bridge as a pedestrian gateway and as a neighborhood park and Zoo entrance.
- Consider coordinating site furnishings with planned playground improvements adjacent to Tamm.
- Provide a bike path underpass under the bridge.
- Provide a link to Turtle Park.

SUMMARY

VII. SITE SPECIFIC DESIGN RECOMMENDATIONS

A. Overview

B. Site Specific Recommendations

1. Area 1: Kennedy Forest - Zoo - Hampton Entrance
2. Area 2: Art Hill/Grand Basin - Post-Dispatch Lake
3. Area 3: Municipal Golf Courses
4. Area 4: Missouri History Museum - Muny
5. Area 5: Fish Hatcheries - Round Lake - Steinberg Rink
6. Area 6: Jefferson Lake - Bowl Lake - Science Center
7. Area 7: Parks Department - Aviation Field
8. Area 8: Central Fields - Triple A - Jewel Box

LIST OF DRAWINGS AND DIAGRAMS

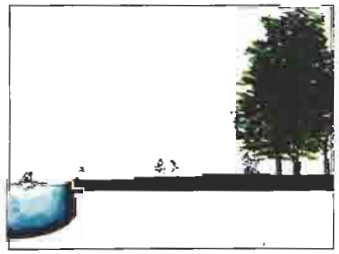
DESIGN

Art Hill - Grand Basin - Post Dispatch Lake
Forest Park Master Plan - Government Hill-Post Dispatch Lake
Forest Park Master Plan - Art Hill-Grand Basin
View looking from the promenade toward the Boat House
View looking from the paddle boat toward World's Fair Pavilion
View looking across Grand Basin
View looking from Grand Basin toward the St. Louis Art Museum
Site Specific Recommendations - Key Plan
Forest Park Master Plan - Area 1 Recommendations
Forest Park Master Plan - Area 2 Recommendations
Forest Park Master Plan - Area 3 Recommendations
Forest Park Master Plan - Area 4 Recommendations
Forest Park Master Plan - Area 5 Recommendations
Forest Park Master Plan - Area 6 Recommendations
Forest Park Master Plan - Area 7 Recommendations
Forest Park Master Plan - Area 8 Recommendations

Diagrammatic Boathouse Design

New structure should:

- accentuate the area's architectural character
- accentuate the area's landscape content
- conform to the lake's shape
- provide views in all directions
- possibly provide food concessions
- provide outdoor eating/viewing areas
- engage the water's edge
- accommodate area paths



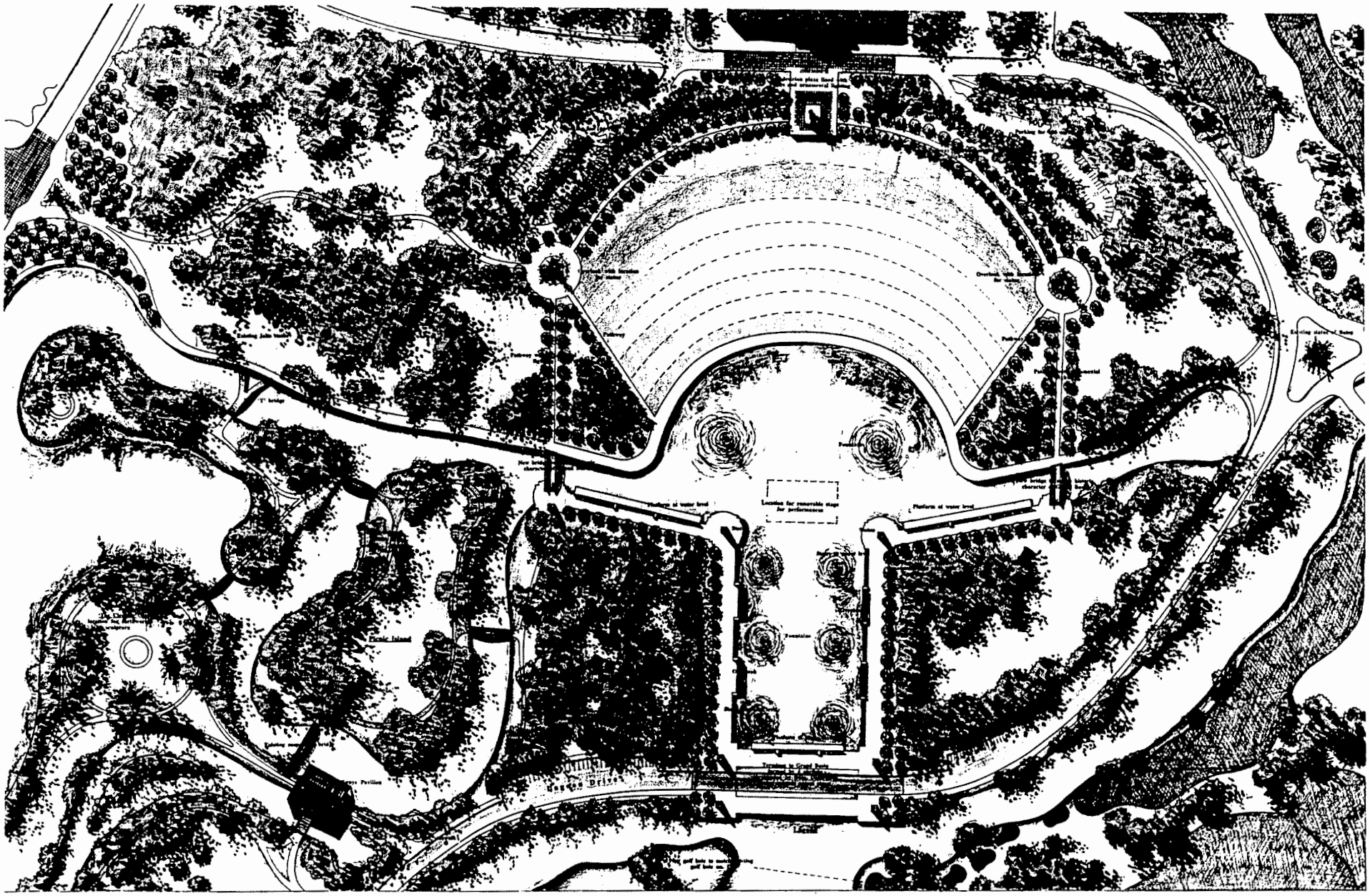
Section through terraced edge at foot of Government Hill

SITE PLAN

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN DEPARTMENT

FOREST PARK MASTER PLAN

FOREST PARK MASTER PLAN
Government Hill - Post Dispatch Lake



FOREST PARK MASTER PLAN
Art Hill - Grand Basin

SITE PLAN

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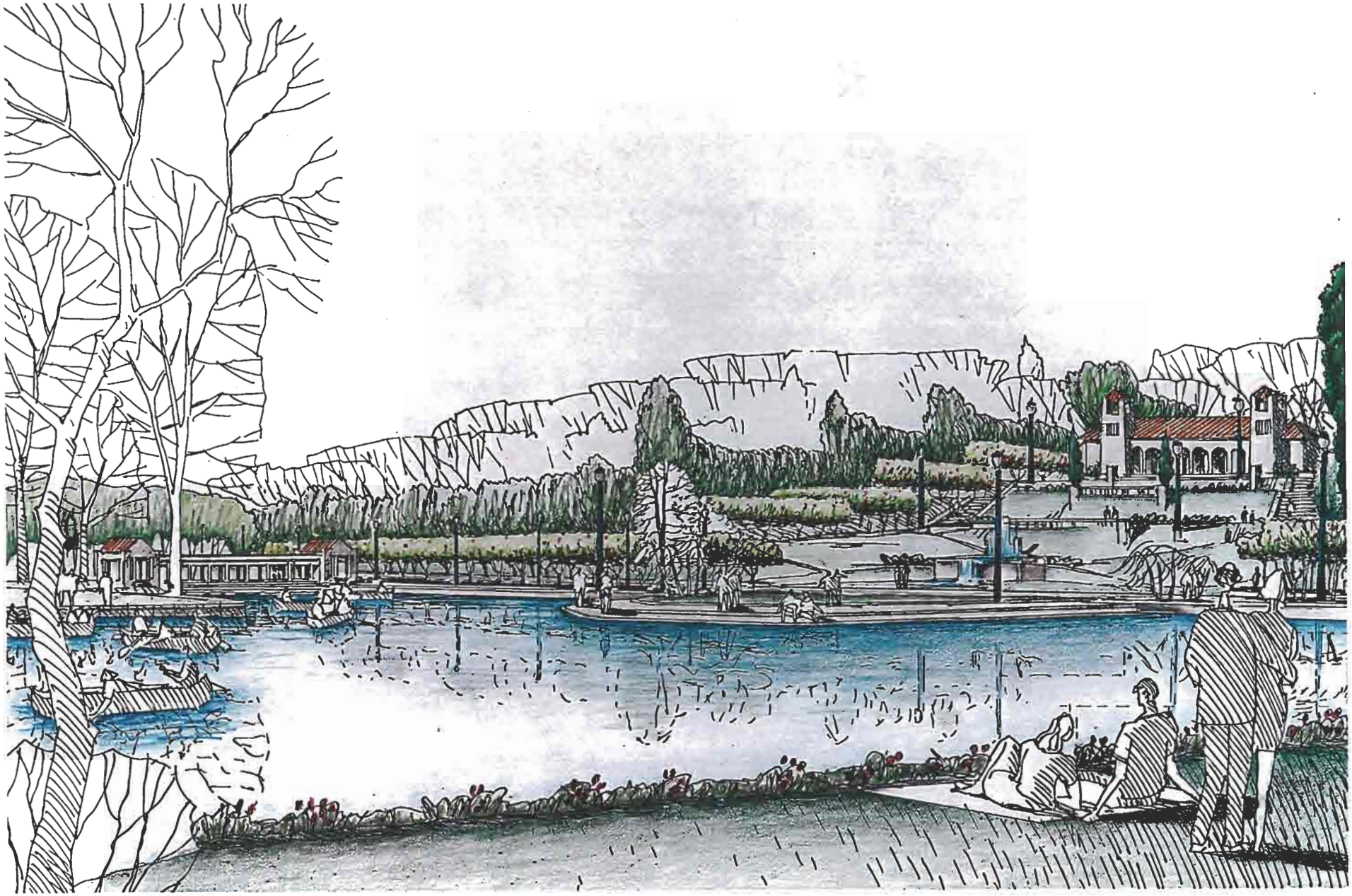
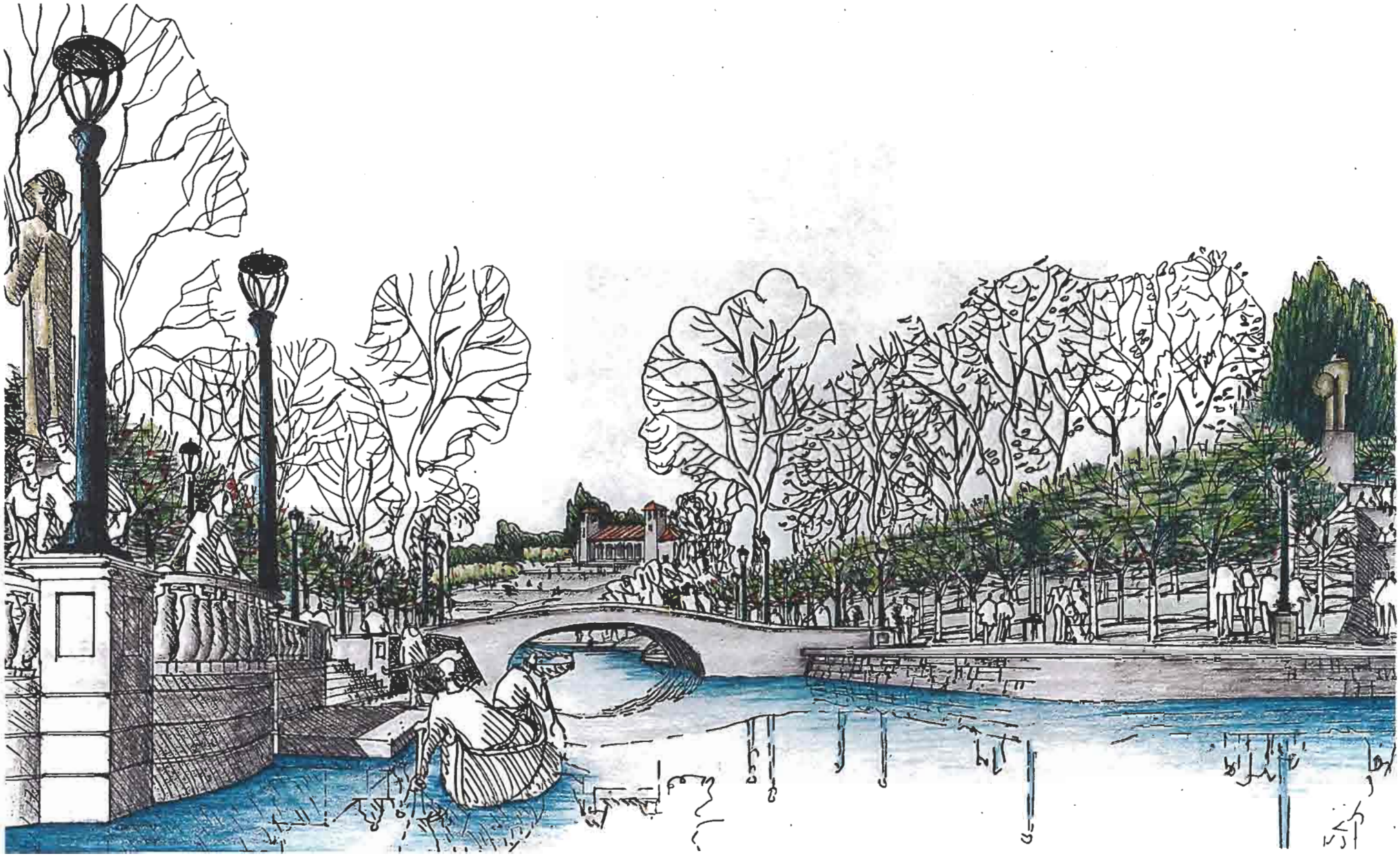
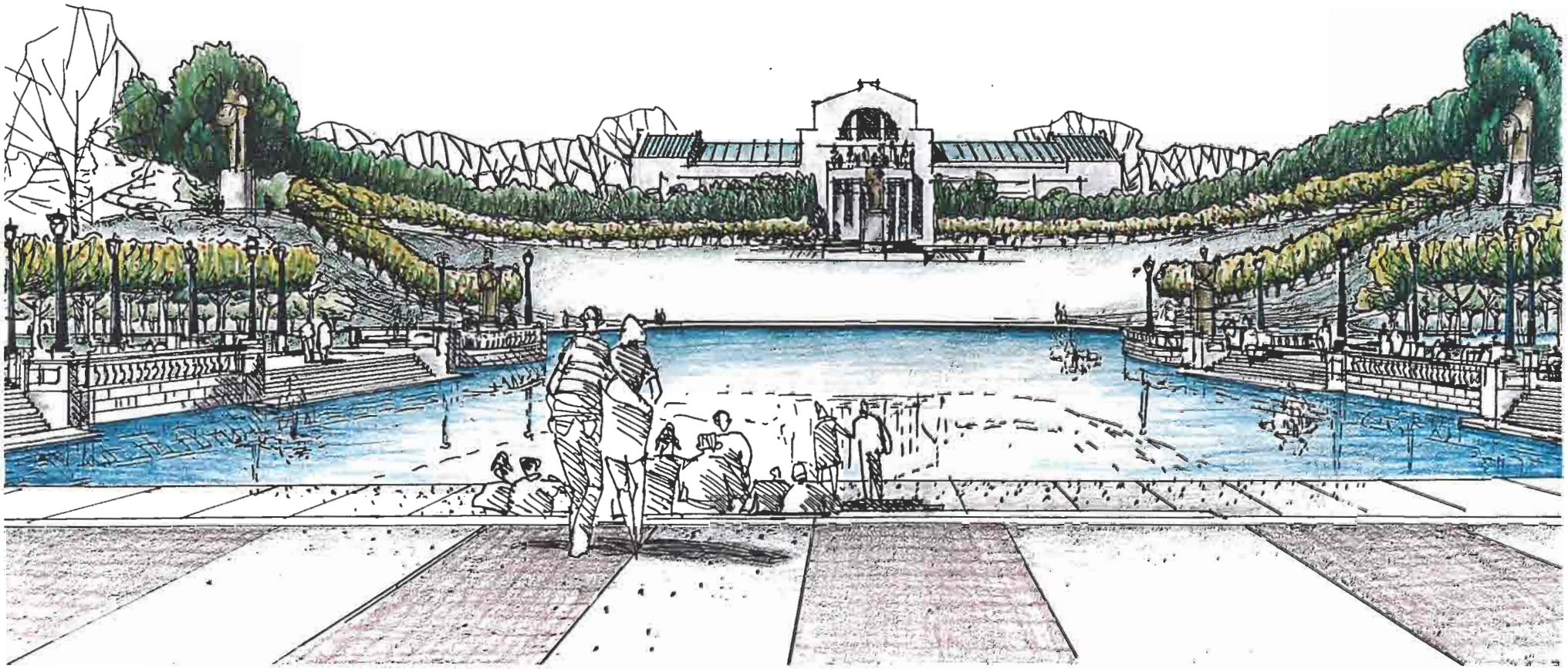
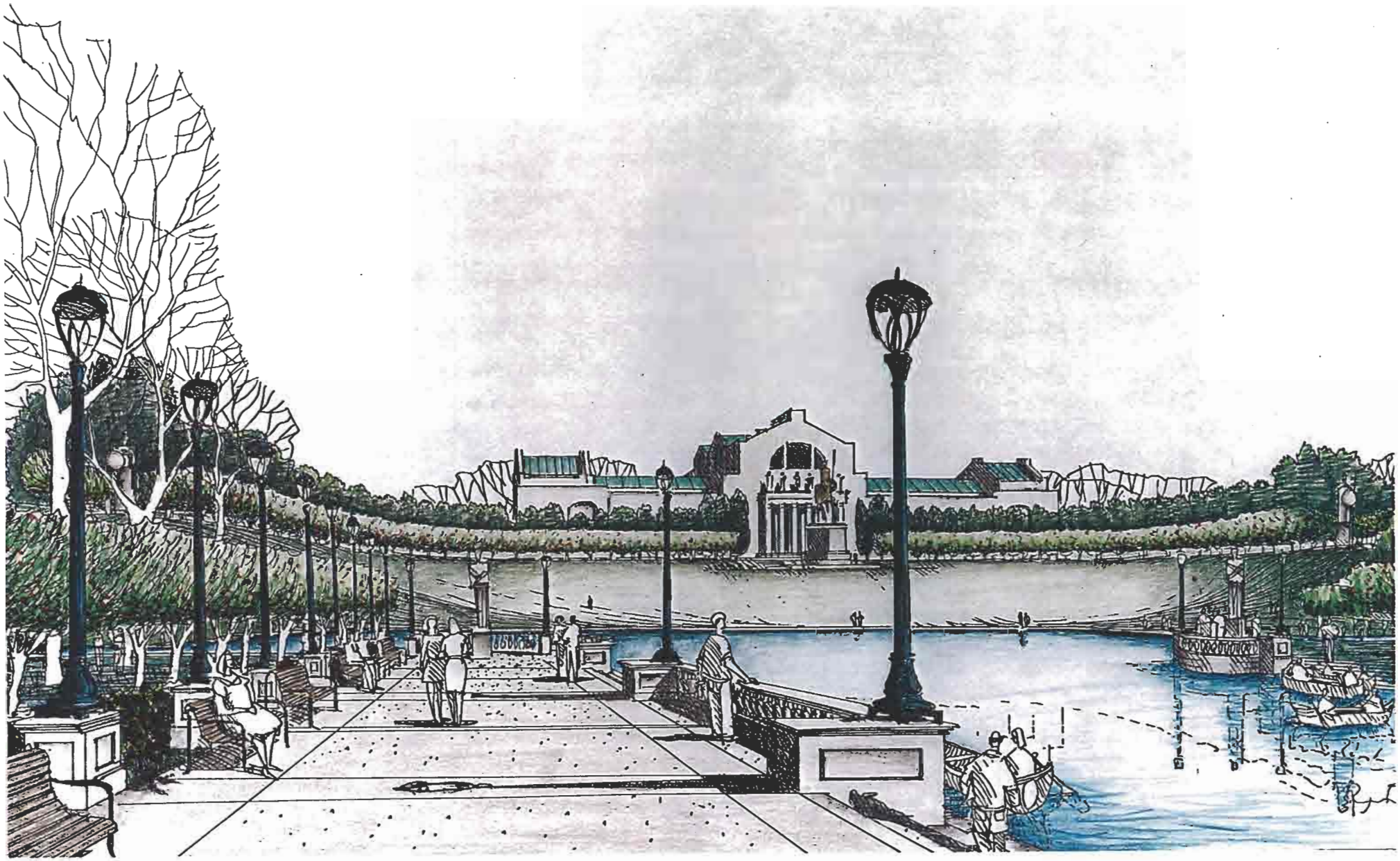
URBAN DESIGN DEPARTMENT

FOREST PARK MASTER PLAN









A. Overview

In order to develop a set of design recommendations for improvements to Forest Park, a comprehensive inventory and analysis of existing sites, facilities, amenities, and infrastructure was undertaken. This study compared the park's existing conditions in 1995 to its original layout and features in 1874 and its evolution to the present. It also analyzed how and where the historical context and natural features of the park could and should be restored, modified or changed. Specific recommendations were then proposed, reviewed, submitted for public comment, and revised before their inclusion in this Master Plan.

Recommendations were developed for each area and site in the park with regard to six critical systems:

- Passive open space
- Water
- Landscape
- Active space
- Park facilities, art, architecture and infrastructure
- Access, circulation and parking.

Specific recommendations contained in the Master Plan are summarized below. Recommendations are shown for each site within eight designated areas, which correspond to the park map on the adjacent page.

B. Site Specific Recommendations

A. Area 1 Recommendations

B. Area 2 Recommendations

C. Area 3 Recommendations

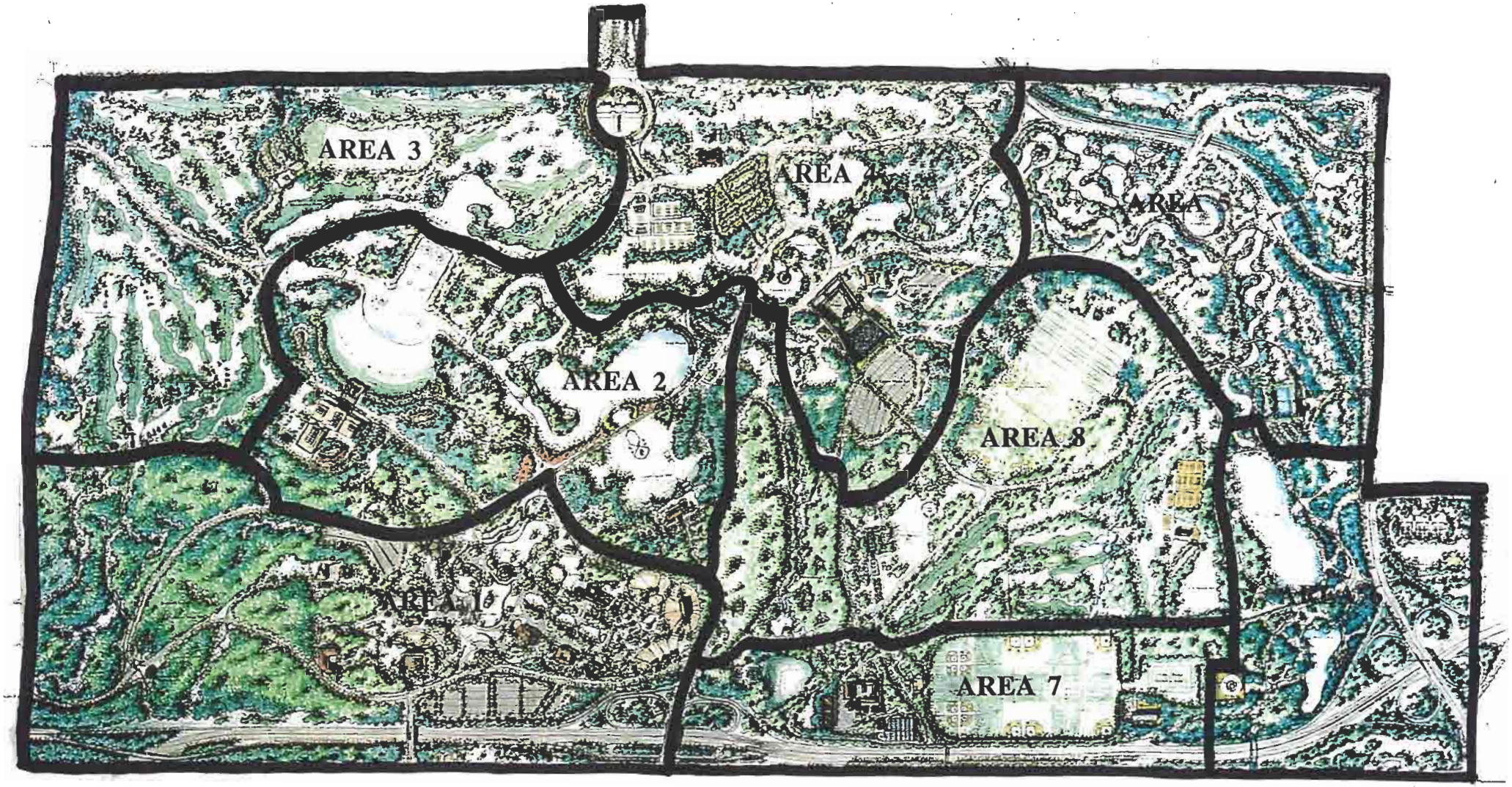
D. Area 4 Recommendations

E. Area 5 Recommendations

F. Area 6 Recommendations

G. Area 7 Recommendations

H. Area 8 Recommendations



FOREST PARK MASTER PLAN

SITE SPECIFIC RECOMMENDATIONS - KEY PLAN

AREA 1: KENNEDY FOREST — ZOO — HAMPTON ENTRANCE

KENNEDY FOREST

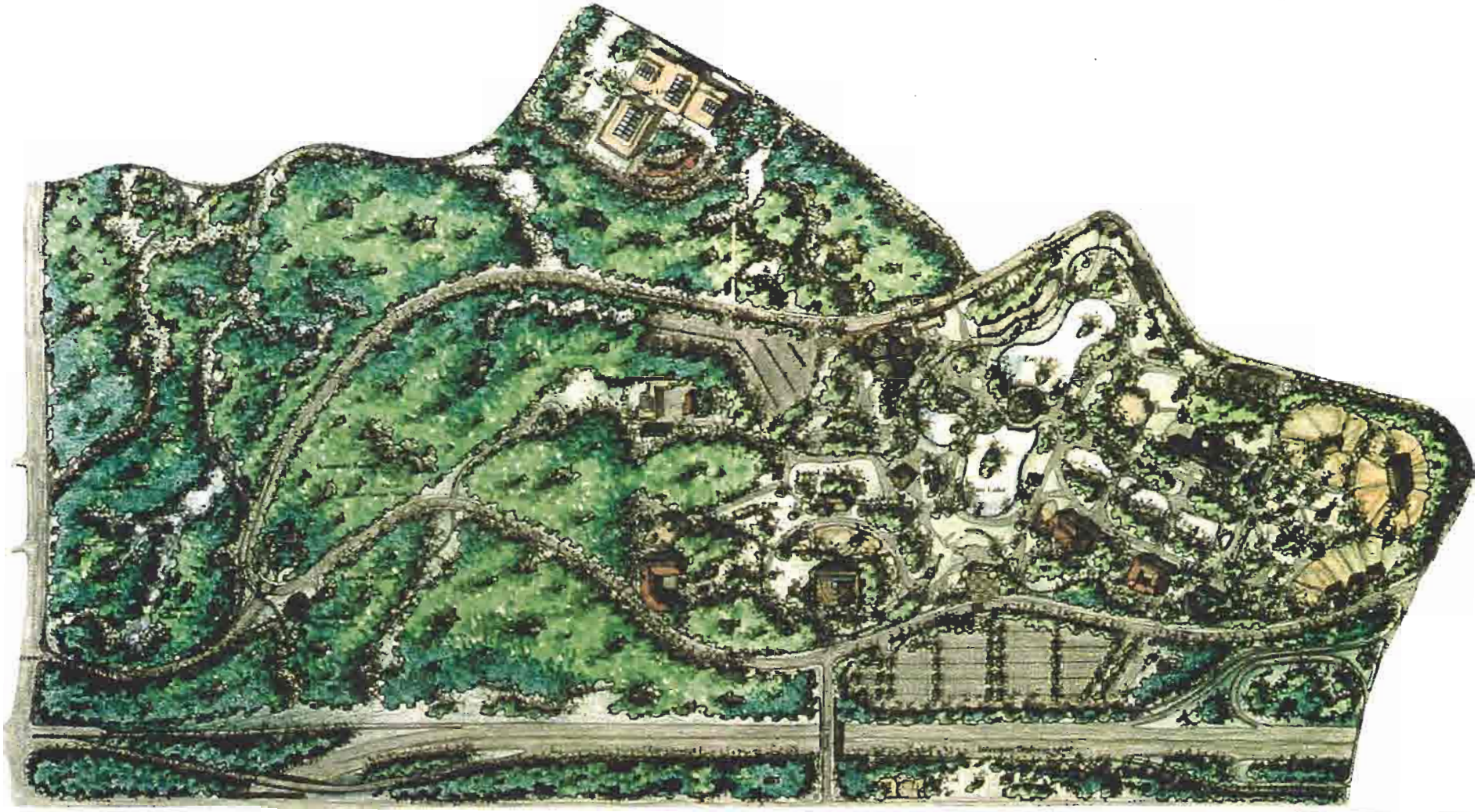
Site improvements will be enacted to improve the Forest's ecological and aesthetic quality while allowing safe recreation and educational use.

- Improve aesthetic quality while allowing safe recreation and educational use.
- Provide a nature/trail center at/near the Government Drive/Wells Drive intersection.
- Coordinate with (MODOC) to provide a trail and nature center which provides path user amenities, such as security phones/personnel, maps, toilets, small concession (possibly machines), and first aid services.
- Consider extending MODOC's agreement to cover the entire forest area.
- Create active and passive security measures to ensure public safety in isolated areas which are not accessed by public automobiles.
- Design paths to function as public trails as well as service and security access routes.
- Improve tributary connections to rest of water system.
- Implement naturalistic plantings along the area's intermittent tributaries which provide erosion control and sediment filtration measures to improve the park's water quality.
- Provide check dams and green tree reservoirs for erosion control and sediment filtration measures to improve water quality and to limit flow during peak periods.
- Install native canopy, mid/understory, and ground cover plantings and other site improvements which improve the Forest's ecological and aesthetic quality while allowing safe recreation and educational use.
- Install plantings along area roads and Highway 64/40 which reduce the visual and audible impact on park users while providing dramatic visual effects for passing motorists.
- Re-route area bike paths away from awkward and dangerous road crossings.
- Remove Valley Drive and convert to path use.
- Provide a grand path entrance parallel to a reduced-scale Wells Drive entrance at Skinker.

SAINT LOUIS ZOO

The Saint Louis Zoo has recently completed a long-term strategic plan which lays out extensive plans for new and reconfigured exhibits within the existing Zoo boundaries. For specific details, see proposal in appendix by Saint Louis Zoo dated November 10, 1995.

- The Zoo proposes to modify its existing exhibit space within its existing lease boundaries.
- Implement proposed south parking lot improvements, including perimeter landscaping, internal landscaping and a new, naturalistic entrance plaza across from the south gate.
- Improve Zoo lake and lagoon edges to enhance aesthetics while accommodating water fowl display and habitat.
- Provide sidewalks along Government and Wells Drives to improve pedestrian access for those who park along these streets.
- Improve ADA access from adjacent facilities, parking areas and landscapes where possible.
- Provide a path split in the Dual Path at the south Zoo parking lot.
- Provide an easily identified path route(s) which allows convenient pedestrian travel from the DeBaliviere park entrance to the Zoo.



FOREST PARK MASTER PLAN

Area 1 Recommendations

KENNEDY FOREST - ZOO - HAMPTON ENTRANCE

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

- Prohibit left turn movement onto Wells Drive from westbound exit from Highway 40/64 to avoid traffic conflicts.

OAKLAND EDGE: HAMPTON TO SKINKER

Efforts will be made to improve the function and aesthetics of this area for neighborhood use, upgrade connections, and mitigate Highway 64/40 visual and audible impact.

- Maintain the existing Par Course Exercise Stations.
- Improve children's play areas.
- Reduce usage of Hampton as sole park major entrance by modifying highway signage to disperse park entry traffic to the most appropriate interchange.
- Improve crosswalks and traffic signal timing to allow safe bike and pedestrian crossing.
- Investigate long-term design solutions which increase park open space, including long range goal of tight diamond interchange.
- Maintain existing sidewalks and add new ones to provide a continuous pedestrian system from Skinker to Kingshighway.
- Improve neighborhood pathway entrances.
- Improve links to Highway 64/40 overpasses and underpasses.
- Improve buffer plantings for paths adjacent to Highway 64/40.

TAMM AVENUE OVERPASS

- Improve the bridge as a pedestrian gateway and as a neighborhood park and Zoo entrance.
- Consider coordinating site furnishings with planned playground improvements adjacent to Tamm.
- Provide a bike path underpass under the bridge.

WELLS DRIVE ENTRANCE AT SKINKER

- Convert in the short-term to a one-way vehicular entrance with an adjacent bike path entrance.
- Pursue a long-range goal of complete roadway removal to allow total forest connection and improved path connections.

McCAUSLAND/SKINKER/HIGHWAY 40/64 INTERSECTION

- Promote usage to spread park entry traffic from west and south.
- Investigate design solutions which reduce use of park open space.
- Improve buffer plantings for paths adjacent to Highway 64/40.
- Improve links to Highway 64/40 overpasses and underpasses.

SKINKER EDGE

- Upgrade the existing bike path to a Dual Path which may be split in areas which are spatially and topographically constricted.
- Provide neighborhood connections.
- Provide plantings and safety measures along the golf course.

AREA 2: ART HILL/GRAND BASIN — POST-DISPATCH LAKE

SAINT LOUIS ART MUSEUM

The Art Museum has proposed plans for extensive renovation and expansion of its facilities, including use of up to four additional acres on the back side of Art Hill. Included in the Art Museum's plan is a proposal to acquire the Arena site and turn it over to the city for park-related uses. For specific details, see proposal in appendix by FPAC dated August 1995.

- The Art Museum proposes an expansion on up to four additional acres over the next 50 years, including up to 575 underground parking spaces beneath any new building.

ART HILL/GRAND BASIN AREA

The Master Plan calls for relocating golf away from the Art Hill/Grand Basin area and restoring the area to its historic formal grandeur, with grand pedestrian promenades and overlooks and dramatic, sweeping views from the Basin up the hill to the Art Museum.

- Relocate the area's five existing golf holes so Art Hill and Grand Basin can once again function as a grand, cohesive open space which accommodates unstructured passive recreation as well as potentially larger public functions.
- Accentuate the formal, axial relationship between the Art Museum, Art Hill, and Grand Basin which is unique to the park and offers a glimpse of the park's and City's grand history.
- Utilize the areas to the east and west of Grand Basin for a variety of uses, including larger picnics, informal active recreation and unstructured passive recreation.
- Create spaces which are more informal in character and relate to the lagoons and consider utilizing seasonal wildflowers and/or other showy ground cover in these informal areas.
- Provide ornamental tree plantings and paths to spatially define this grand scale formal space and frame the dramatic views up the hill to the Art Museum and down towards Grand Basin.
- Restore walls and formal design elements of Grand Basin.
- Improve link between Grand Basin and Post-Dispatch Lake for public boating.
- Provide sediment filtration measures at confluence areas and aeration to improve water quality.
- Mow the grassy hill in a way that creates horizontal light and dark green bands when viewed from Grand Basin.
- Configure landscaping to frame the Cass Gilbert Art Museum building when viewed from Grand Basin or the base of the hill.
- Provide formal, tree-lined sweeping pedestrian promenade at the crest of Art Hill which terminate at scenic overlooks near the existing circular parking areas. Provide site furnishings and public art.
- Surround the promenade and overlooks with flowering ornamental, canopy and evergreen trees, ornamental lighting, benches, and, possibly ,public art and/or historically informational and interpretive material relating to the 1904 World's Fair.
- Provide major evergreen and upland forest plantings which relate to the area's winter use and give the impression of a change of vegetation as one moves higher in elevation from the bottomlands to the uplands.
- Flank the basin and accentuate its grand pedestrian avenues with formal rows of lighting and flowering ornamental trees, backed by canopy trees which relate to surrounding landscapes.

- Utilize trees with a high branching pattern to provide head clearance for pedestrian circulation.
- Improve the areas immediately adjacent to the basin for picnics, special events and other public passive recreation.
- Create an informal open meadow west of the basin with views to Grand Basin, Art Hill, Bates Monument and surrounding landscapes.
- Provide more naturalistic plantings in appropriate areas of adjacent lagoons.
- Provide formal hillside paths which provide access to the base of hill and Grand Basin.
- Provide water edge stairways and seating platforms to allow direct water access.
- Reconfigure existing parking lots at the top of Art Hill.

THE PROMENADE

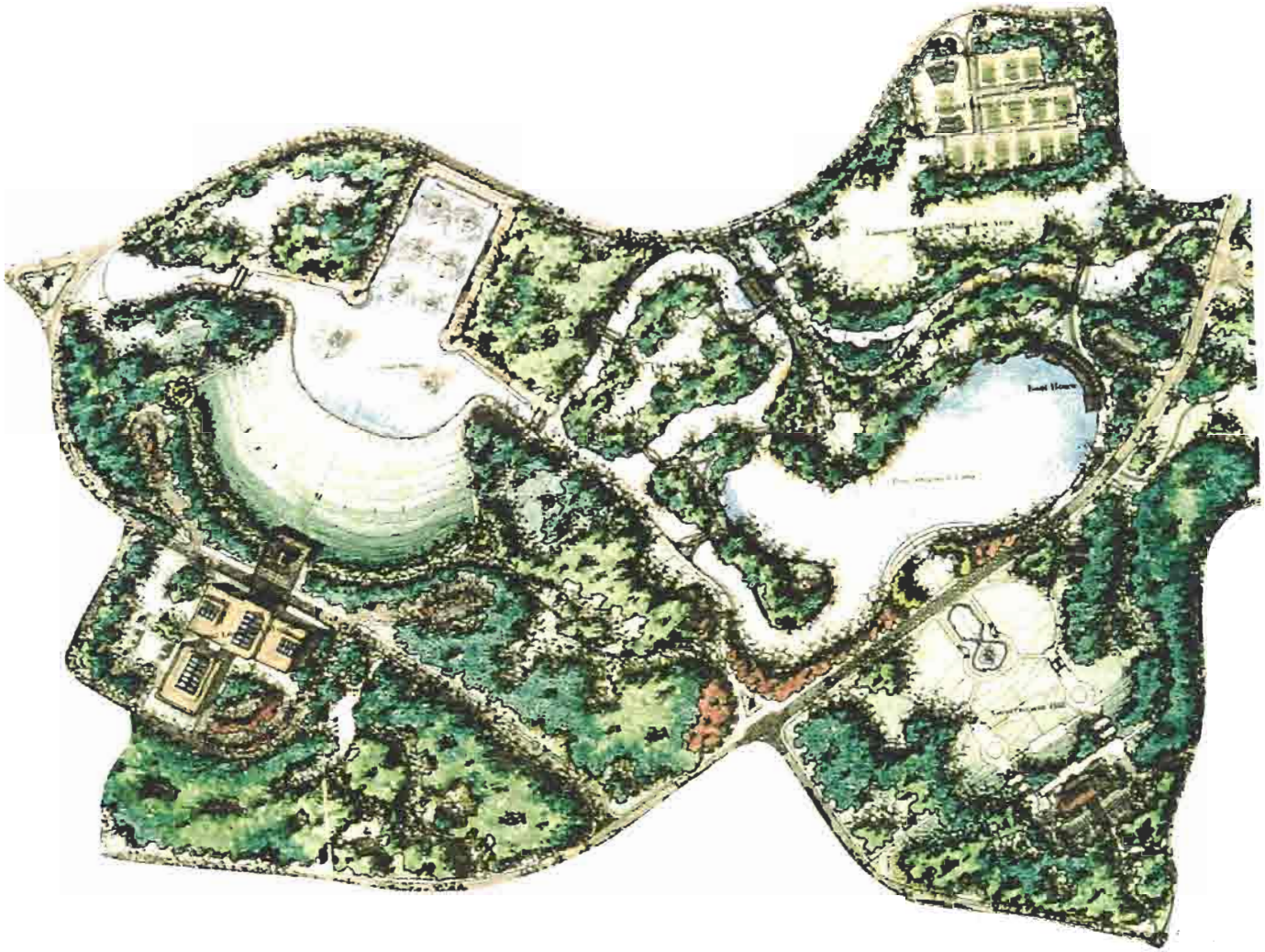
- Provide a formal, 15' wide paved promenade which links Grand Basin and Art Hill with Post-Dispatch Lake and its boathouse.
- Provide site furnishings, landscape lighting and water access.
- Provide a pedestrian plaza at the existing Jahn Monument.
- Provide a dramatic pedestrian plaza and green at the terminus of Government Hill, providing grand stairs to the water for seating and water viewing.
- Provide new bridges which link the Promenade to area landscapes and islands.

FINE ARTS DRIVE

- Redesign Government Drive intersection as a 90° "T" junction with improved sightlines and pedestrian/bike path crossing.
- Remove the angle parking immediately west of the intersection to reduce traffic confusion and congestion.
- Utilize decorative textured pavement in front of the Art Museum to improve aesthetics, reduce traffic speed and highlight the area as a pedestrian crossing zone which connects the museum with Art Hill and Grand Basin.
- Remove on-street and angled parking in front of the Art Museum and relocate to two reconfigured parking areas adjacent to the Art Hill crest and overlooks (the existing total of ±200 cars to remain).
- Provide a service road loop around the Art Museum which connects its parking and service areas to the west side and rear of the building.
- Slightly widen Fine Arts Drive south of the museum to accommodate safe two-sided, on-street parking.

VALLEY DRIVE

- Remove roadway to allow improve forest connection and provide ecological benefits.
- Replace roadway with paths/trails and utilize a small portion for the Art Museum's service loop road.



FOREST PARK MASTER PLAN

Area 2 Recommendations

ART HILL - GRAND BASIN - POST DISPATCH LAKE

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

POST-DISPATCH LAKE AREA

Expand the lake and reclaim areas formerly filled in so as to link the lake to Grand Basin. Accentuate the area's grand views and visual axes to surrounding architecture, public art, and landscapes.

- Expand the lake and accentuate views from adjacent landscapes, roads, and World's Fair Pavilion.
- Provide a variety of edge treatments which encourage water edge recreation and relate to adjacent landscape character and public boating within the lake.
- Maintain the lake's unpaved edges on the north side of the lake and provide a paved, 15' pedestrian promenade, "The Promenade," with a stratified stone wall along the south side, linking Grand Basin with the boathouse.
- Improve water links to Grand Basin to accommodate public boating.
- Create a water edge public plaza or "Green" at the base of Government Hill.
- Restore filled in areas and enlarge lake.
- Remove sanitary sewer input and provide floating aeration and other sediment filtration measures to improve water quality.
- Utilize plantings, public art and site furnishings in ways to focus the eye on the dramatic seasonal color, historic axes and architecture, and water reflections.
- Emphasize "The Promenade" with flowering ornamental trees, utilizing trees with a high branching pattern to provide head clearance for pedestrian circulation.
- Create a dramatic pedestrian plaza with terraced water edge seating, flowering ornamental trees, and decorative site furnishings at the terminus of Government Hill, across from the fountain area.
- Create a naturalistic vegetative effect on the small islands in the southwest corner of the lake, utilizing ornamental mid and understory plantings, and diverse shoreline plantings.

BOATHOUSE

- Replace the existing buildings with a new boathouse, in the current location, which accentuates the area's architectural character and landscape context, conforms to the lake's shape and provides views in all directions.
- Consider providing a food concession with outdoor eating/viewing areas to serve boaters, area path users, winter ice skaters and trail users.
- Route the Dual Path to the east of the boathouse, across a new bridge over to the lagoon to Langenberg Field.
- Provide pedestrian path connections to the boathouse.
- Provide ample bike parking at the boathouse.

CENTRAL ISTHMUS AND THE CLEARING

The creation of a central, pastoral clearing at the end of a line from the top of Government Hill through Post-Dispatch Lake will complete the aesthetic elements of this important formal landscape area.

- Create a linear isthmus between Post-Dispatch Lake and the linear water system which provides path links to the center of the park and along the linear water system.
- Accentuate the central isthmus between Post-Dispatch Lake and River Des Peres Lagoon with edge plantings of canopy trees, flowering, mid-size ornamentals and mid/understory vegetation, located to highlight the sweeping linear landscape and create intrigue with open spaces which appear to vanish around the bend of water or vegetation.
- Locate an open, circular grassy clearing or room, "The Clearing," surrounded by canopy trees and select ornamental mid-story trees, with a large circular stone seating or "Council Ring" (approx. 40' diameter) in the center to serve as a terminus to surrounding axes and a node of destination within the central isthmus.
- Provide a series of soft surface paths to the north and west of the boathouse which reflect the area's informal, sweeping character and accentuate views to surrounding features.
- Provide a path link to the spillways area and its pavilion via the existing suspension bridge.

LOG CABIN

- Consider adaptive re-use, removal, or relocation.

SPILLWAYS AREA

- Accentuate the character of existing stone outcroppings, emergent vegetation and spillways to create a unique and dramatic experience.
- Erect a small pavilion with support amenities to serve area picnickers, path users, and other recreaters.
- Enhance naturalistic cascading character with emergent vegetation.
- Replace existing spillways with additional, more attractive stone outcroppings.
- Provide sediment filtration measures to improve water quality.
- Pursue opportunity to include a unique feature or amenity in this area.
- Provide naturalistic shoreline plantings which improve water quality and aesthetics and provide wildlife habitat.
- Construct a small pavilion to serve the internal trail system, Grand Basin/Art Hill area, Langenberg Field, and the passive open space spine with toilets, information/maps and potentially a small concession.

THE ISLAND

- Recreate this large island by dredging filled-in surrounding lagoons and provide a variety of unstructured passive recreation and picnic use.
- Create an informal woodland and island area once Post-Dispatch Lake is restored and enlarged.
- Provide dramatic water edge plantings while maintaining an open grassy central portion for public use and visual corridor.

GOVERNMENT HILL

Accentuate this grand scale, formal hillside with strong axial relationships between the World's Fair Pavilion and Post-Dispatch Lake.

- Supplement the existing mature evergreen plantings along the east and west sides of the hill with additional evergreen plantings fronted by flowering ornamental trees and shrubs.
- Restore this historic landscape with ornamental plantings, repaired pavement and stairs, seating, and lighting.
- Restore some of the formal floral displays which once adorned the hillside.
- Accentuate and spatially define small sub-spaces or rooms to the east and west of the central hill and consider placement of public art and other small scale site furnishings in these locations.

WORLD'S FAIR PAVILION

This historic facility will be enhanced to increase its use as a multi-purpose, year-round facility.

- Consider programming which offers additional services to passive open space system users as well as all park patrons.
- Increase use as a flexible use, all-season, affordable facility with improved food service, public toilets and visitor amenities.
- Improve ADA compliance and path connections to surrounding facilities, parking areas, and landscapes, where possible.
- Improve the existing formal path system of Government Hill, adding new connections where appropriate to complete the hill's design.
- Provide ample bike parking at the pavilion.
- Redesign the existing parking area to improve aesthetics and efficiency.

GOVERNMENT DRIVE: WASHINGTON TO MCKINLEY

- Utilize decorative textured pavement to improve aesthetics, reduce traffic speed and highlight the area as a pedestrian crossing zone which connects Government Hill with Post-Dispatch Lake.

AREA 3: MUNICIPAL GOLF COURSES

MUNICIPAL GOLF COURSES

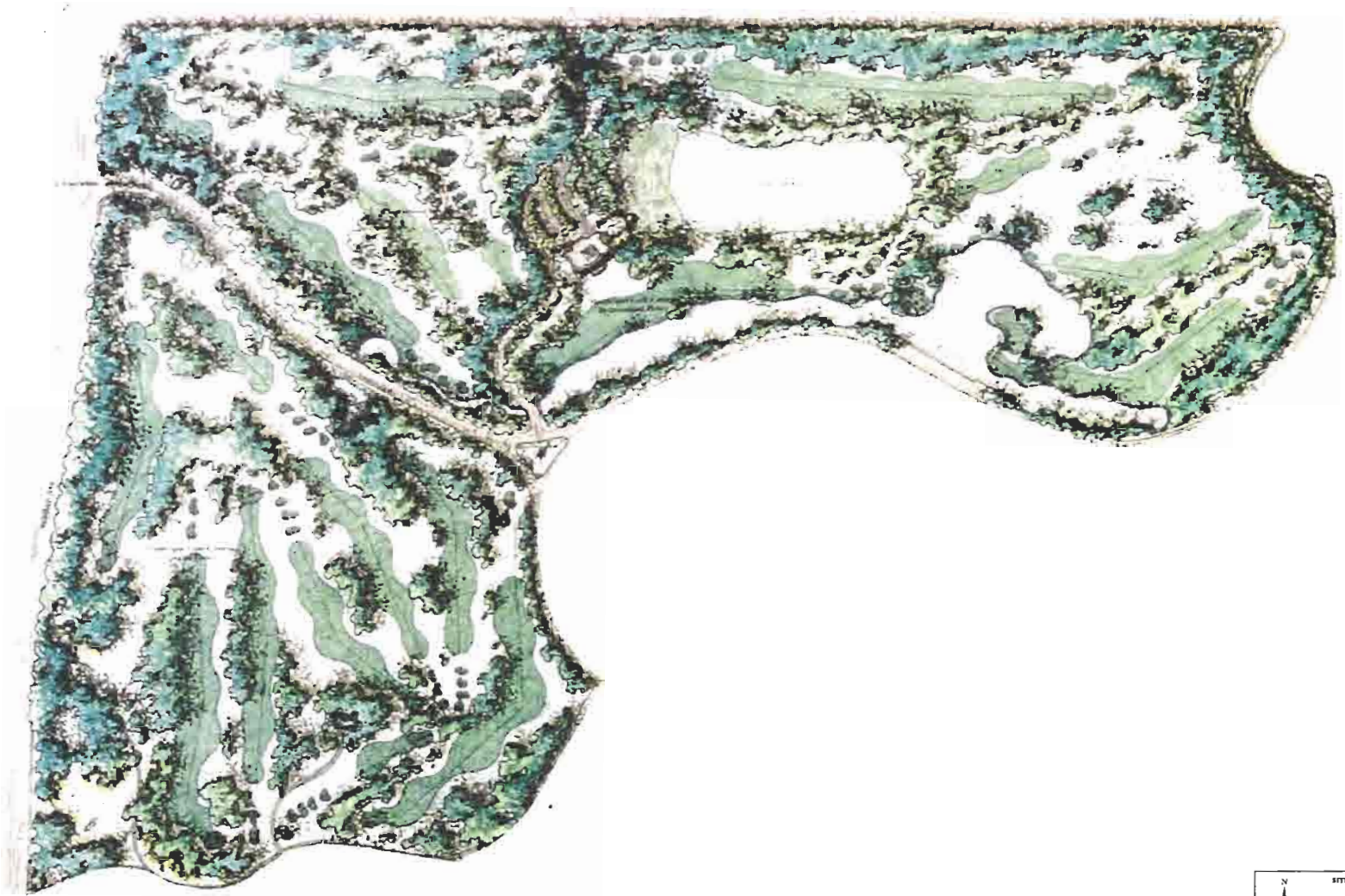
The Municipal Golf Courses will be redesigned to improve golf quality, enhance environmental and aesthetic qualities, and minimize conflicts with other park uses. Two options are included which achieve this goal. A final solution will be selected based upon discussions between the City and golf related interests.

Option A

- Relocate five existing holes from the Art Hill/Grand Basin area.
- Remove Grand Drive from the Forsyth Boulevard entrance to DeBaliviere.
- Improve drainage.
- Reduce conflicts with surrounding land uses.
- Provide 27 competition golf holes
  - One 18 hole course.
  - One nine hole course.
- Continue to utilize Lindell Pavilion as the clubhouse.
- Relocate and/or visually screen the golf maintenance facility.
- Continue to accommodate winter recreation.

Option B

- Relocate five existing holes from the Art Hill/Grand Basin area.
- Remove Grand Drive from the Forsyth Boulevard entrance to DeBaliviere.
- Improve drainage.
- Reduce conflicts with surrounding land uses.
- Provide 18 competition golf holes with returning nines to the clubhouse.
- Provide a practice fairway/driving range (not lighted).
- Provide three instructional/practice holes (not lighted).
- Provide a new centrally located clubhouse.
- Relocate and visually screen the golf maintenance facility into the uplands and accessed by cart paths.
- Continue to accommodate winter recreation.
- Provide water bodies and wetlands to improve drainage and golf course quality.
- Connect lagoons to rest of water system.
- Design to provide a safety buffer between golf course and other park uses.
- Redesign the bottomlands significantly, creating unique new holes and landscape character which aesthetically relates to surrounding topography and water features.
- Provide a landscape terminus to the Art Hill/Grand Basin visual axis.
- Increase the use of evergreen plantings to accentuate uplands and hillsides and to provide visual interest to winter recreaters.
- Utilize plantings which discourage random pedestrian access to the golf course.
- Construct a modest new club house (if option B is selected), containing a small pro shop, food concession, locker room/showers, operational facilities and golf cart storage in a sublevel beneath the main clubhouse area.
- Relocate functions from the existing maintenance building to a new building hidden in hillside.
- Demolish the existing maintenance structure.
- Consider providing a well buffered and protected north-south path through the golf course on axis with Des Peres Avenue to provide



FOREST PARK MASTER PLAN

Area 3 Recommendations

MUNICIPAL GOLF COURSE

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SITE PLAN

CITY OF SAINT LOUIS

Department of Parks, Recreation and Forestry

St. Louis Development Corporation

FOREST PARK MASTER PLAN

improved pedestrian access to Grand Basin for adjacent residential areas, assuming personal liability implications can be addressed and solved.
- Manage grounds to minimize potential pollutants from entering the Park's water system.
- Keep accurate records and monitor chemicals used on the course that could adversely affect the water system and overall park environmental quality.
- Consider utilizing naturalized plantings where appropriate to reduce maintenance costs and soil loss and to filter potential pollutants before water runoff from the course enters the water system.

CASCADES

Integrate this park feature into the passive open space system.

- Create a buffer from the adjacent golf course to create a link to the Forsyth entrance and integration of the Cascades into the passive open space system.
- Accentuate the Cascades as a dramatic visual experience to all who pass, whether by foot, bike or automobile.
- Connect to the rest of the water system.
- Consolidate city water input to this location.
- Provide some nearby water retention capacity to reduce city water requirement during peak flow periods.
- Install lush understory plantings suitable for this moist, north facing shady slope.

GRAND DRIVE: FORSYTH TO DEBALIVIERE
- Remove roadway to accommodate Municipal Golf Course modifications, reduce commuter traffic through the park, and eliminate circulation conflicts at confusing intersections.
- Remove the existing Des Peres Avenue automobile entrance.

LINDELL EDGE: SKINKER TO DEBALIVIERE
- Maintain the existing alée of trees along Lindell, replacing missing trees where necessary.
- Upgrade the existing bike path to a Dual Path.
- Provide neighborhood connections at DeBaliviere, Des Peres, and Skinker.
- Provide plantings and safety measures along the golf course.
- Re-route the Dual Path around the south of the History Museum.

FORSYTH ENTRANCE
- Simplify intersection with the removal of Grand Drive.
- Improve bike and pedestrian crossings.
- Prohibit on-street parking between Skinker and the Cascades.
- Improve crosswalks and traffic signal timing to allow safe bike and pedestrian crossing.

LAGOON DRIVE: EAST OF BATES MONUMENT

- Provide on-street parking on the north side of the roadway.
- Provide angle parking with a pull-out lane on the south side of the roadway in areas east and west of Grand Basin (±80 cars) to serve passive users, picnics and golf overflow on peak days.
- Provide an access road and off-street parking at the new golf clubhouse.
- Provide one-sided, on-street parking on this access road.
- Utilize decorative textured pavement at Grand Basin to improve aesthetics, reduce traffic speed and highlight the area as a pedestrian crossing zone.
- Provide on-street parking and some angle parking with a pull-out lane near Langenberg Fields to serve its active and passive users.

AREA 4: MISSOURI HISTORY MUSEUM — MUNY

MISSOURI HISTORY MUSEUM

The Missouri History Museum has proposed an expansion of its facilities within its existing lease boundaries. More complete details can be found in Appendix D.

- The History Museum proposes an expansion of exhibit and visitor amenities space within existing lease boundaries
- Redesign roadways into a circle around the museum with parking relocated to the south of the building (±80 cars) and a visitor drop-off to the north.
- Reconfigure the roadways to south to improve sightlines and create a clear link between the museum and an expanded Twin Lots (±450 cars) with an improved pedestrian entrance to Dwight Davis Tennis Center.
- Utilize improved signage and site furnishings to encourage patrons to use Twin Lots.
- Remove on-street and angled parking to the north of Dwight Davis Tennis Center and relocate to Twin Lots.
- Provide on-street angle parking with a pull-out lane on the south side of the tennis center (±35 cars) to serve the tennis center and Langenberg Field softball diamonds.
- Coordinate operational needs between the History Museum, Dwight Davis Tennis Center and the Muny to avoid conflicting demands for parking and access.
- Re-route the Dual Path around the south of the History Museum to remove conflicts with motorists and pedestrians.
- Provide an easily identified path connection to the Forest Park MetroLink station.
- Provide a neighborhood link and park entrance.

TWIN LOTS

- Redesign and expand the lots (±450 cars) to accommodate History Museum, Dwight Davis, Muny, and Lindell Pavilion parking needs.
- Consolidate parking spaces lost to area road removal into this lot.

LINDELL PAVILION

Pending the final resolution of the redesign of the Municipal Golf Courses, Lindell Pavilion may begin to serve a larger role as a park support facility for multiple park user groups.

- Maintain as is or convert to active recreation support facility, with visitor services such as park maps, park literature, public concessions, potential indoor/outdoor casual dining, lockers, showers, and toilets.
- Maintain existing lighted racquet sports.
- Renovate the existing children's play area behind Lindell Pavilion.
- Provide a public concession with potential indoor/outdoor casual dining.
- Provide attended public lockers, showers and toilets.
- Provide maps for general public active recreation/path users.
- Remove access road and parking from rear of building.

MISSOURI HISTORICAL MUSEUM - MUNY

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation

FOREST PARK MASTER PLAN

FOREST PARK MASTER PLAN

Area 4 Recommendations

PAGODA LAKE AREA

- Consider utilizing the recently restored Nathan Frank Bandstand for small public music performances.
- Provide additional lagoon system connecting the linear water system through Pagoda Lake and Angel Pond to Deer Lake to increase water movement and filtration which improves water quality.
- Maintain small water bodies adjacent to both sides of the Muny and maintain flow through the existing tunnel beneath the theater to ensure moisture for area trees.
- Install formal decorative plantings of canopy trees, conifers, flowering ornamentals, ground covers and perennial plantings along with appropriate site furnishings.
- Utilize plantings and site furnishings to accentuate visual axes from adjacent roads, paths, Twin Lots, and between area public art.
- Install dramatic seasonal plantings on the bandstand island.
- Provide a formal path connection between the Muny and Lindell Pavilion which travels through a well-landscaped area of the Twin Lots.
- Provide pedestrian paths around the Pagoda Lake/Angel Pond circle, with potential bridge access to the Nathan Frank Bandstand.

DWIGHT DAVIS TENNIS CENTER

- Maintain existing lighted racquet sports facilities.
- Provide ample bike parking.

LANGENBERG FIELD

This area will be reprogrammed for unstructured/non-permit active recreation activities. The existing rugby fields will be relocated to Central Fields, replaced by multi-use athletic fields which can be used for overflow capacity during peak periods or tournaments.

- Provide additional wetlands along Langenberg fields adjacent to the Twin Lots
- Provide plantings of extensive mid-size ornamental trees to accentuate this linear landscape and to surround the athletic fields.
- Screen the Dwight Davis fence line in a more natural, meandering fashion.
- Provide naturalistic shoreline plantings to improve water quality while improving aesthetics and wildlife habitat.
- Provide wetlands area to improve water quality.
- Provide two multi-use athletic fields.
- Provide unstructured/non-permit active recreation (1st come, 1st served).
- Design to accommodate overflow permit other active space on peak days while accommodating passive recreation and special events.

MUNY

The Muny has proposed a series of renovations to improve interior customer amenities. For specific details, see proposal in appendix by MUNY dated June 30, 1995.

- The Muny proposes interior improvements for patron safety and comfort and technical improvements for shows.
- Maintain small water bodies adjacent to the Muny and water flow underneath to address area tree survival concerns.
- Provide replacement parking on expanded upper lot (±845 cars) and Twin Lots (±450 cars) as well as modified parking restrictions if needed which allow approximately 180 cars on Government Drive west of the

Muny on performance nights only to accommodate any lost street parking due to road removal.
- Add interior landscaping to the upper and lower lots. This will result in a loss of approximately 25 cars in the lower lot.
- Explore options to accommodate employee parking away from the lower lot and increase this lot's use for disabled and V.I.P. patrons who typically utilize Culver Pavilion prior to performances.
- Coordinate operational needs with the History Museum, Jewel Box, Dwight Davis Tennis Center, and the Parks Department to avoid conflicting demands for parking and access.

DEER LAKE
- Expand lake area and connect to adjacent water bodies.
- Provide some deep water pockets for winter fish survival.

CRICKET FIELD
- Operate as a multiple use facility, shared with passive recreation and special event needs.
- Provide the ability to accommodate overflow permit programming during peak periods.
- Maintain as unlighted.
- Remove area roadways and replace with soft surface pedestrian paths.

LINDELL EDGE: DEBALIVIERE TO UNION

Redesign and reprogram this neighborhood edge to contain unstructured active and passive recreation.

- Redesign plantings around the Daughters of the Confederacy monument to frame views and provide visual linkages with surrounding landscapes, roads and paths.
- Create an overlook plateau around the Daughters of the Confederacy monument which sits in the center of a dramatic linear landscape paralleling Lindell Blvd. from the History Museum to Cabanne House.
- Remove Cricket Drive entry and convert to a path, providing improved access to an improved plaza area around the Daughters of the Confederacy monument and Cricket Field.
- Utilize extensive mid-size ornamental trees which display a more horizontal character.
- Provide unstructured/non-permit active recreation (1st come, 1st served) near Lindell Pavilion.
- Relocate the Par Course exercise stations here from the Lindell Boulevard golf course edge.
- Consider additional semi-active programming such as croquet or Frisbee golf while accommodating general passive recreation.
- Upgrade the existing bike path to a Dual Path.
- Improve path links to Lindell Pavilion.
- Design paths to access the relocated Par Course exercise stations.
- Re-route the Dual Path around the south of the History Museum.
- Create a direct path connection to Union at Lindell.

CABANNE HOUSE

- Continue to provide visitor amenities and public rental through Saint Louis Ambassadors.

UNION ENTRANCE AREA

- Provide paths and site amenities for casual passive recreation and picnicking.
- Create a unique entrance landscape in this highly visible location with a wetland or wet meadow which displays dramatic seasonal variations of color and texture.
- Create a wetland or meadow to provide sediment filtration measures to improve water quality.
- Provide some water retention capacity to limit flow during peak periods.
- Provide some deeper water pockets for winter fish survival.
- Provide significant elevation change between lake and surrounding lagoons to deter upstream migration of certain fish species.
- Create a unique entrance landscape in this highly visible location with a wetland or wet meadow which displays dramatic seasonal variations of color and texture.
- Accentuate this wetland with scattered canopy and flowering ornamental trees.
- Remove area roads and convert to paths.
- Design the path (formerly Government Drive) as a 15' promenade which allows one way Muny egress during their performance season.

AREA 5: FISH HATCHERIES — ROUND LAKE — STEINBERG RINK

Design recommendations in this area focus on maintaining and enhancing existing water areas, improving drainage, and expanding the facilities and active recreation opportunities at Steinberg Rink.

FISH HATCHERY LAKES AREA

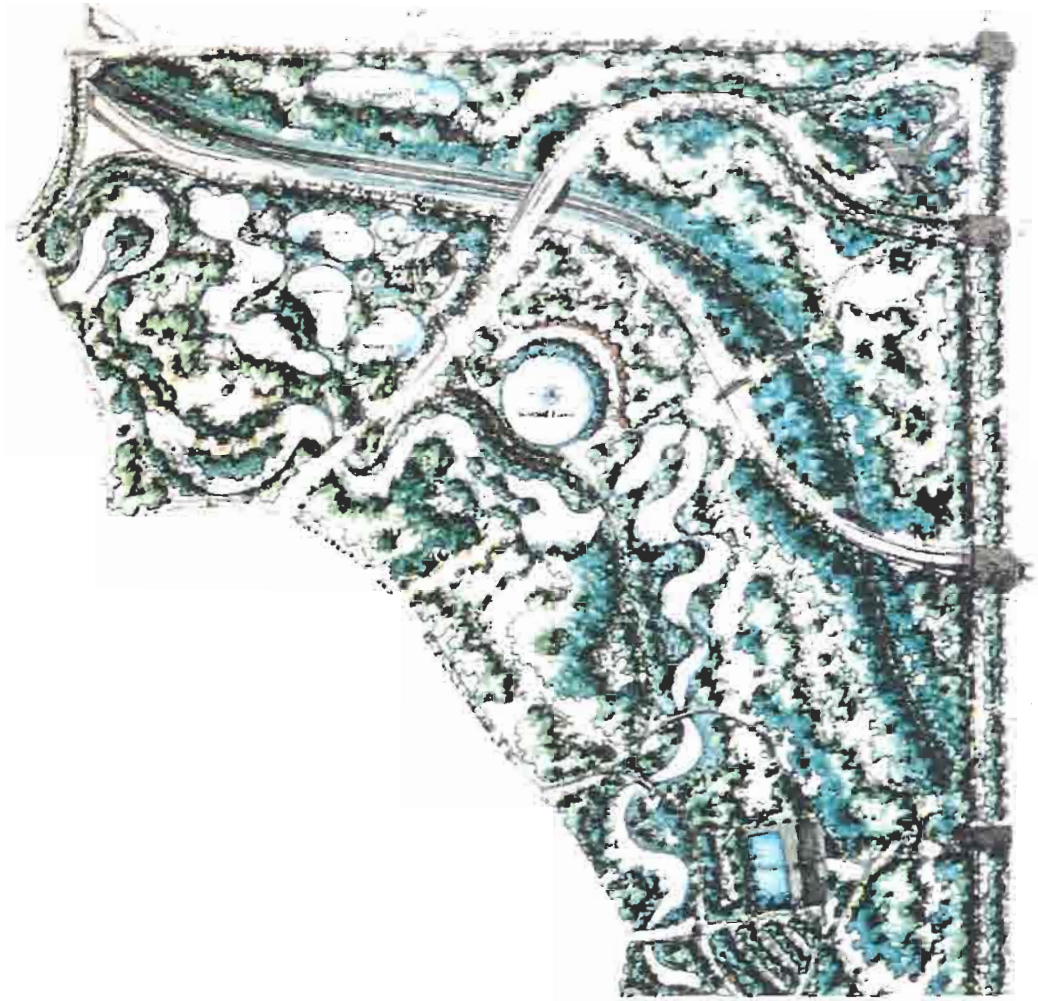
- Enhance this quiet, contemplative water area, connecting some water bodies while maintaining a mixture of small and medium size lakes which are divided by landscaped isthmuses.
- Continue to accommodate the MODOC fishing clinics for youth groups and mentally and physically challenged people.
- Re-connect some water bodies while maintaining some separate water bodies to accommodate MODOC needs.
- Re-connect some water bodies while maintaining some separate water bodies to accommodate the MODOC fishing clinics and other uses in Hatchery Lake.
- Consider deepening and aerating the water system to accommodate the necessary aquatic life.
- Accentuate the existing informal landscape character around the reconfigured lakes.
- Provide plantings that frame some views from Forest Park Parkway and MetroLink while buffering noise and negative views from the lake area in areas closest to the roadway.
- Provide informal shoreline plantings along the lagoon as it runs through this area, accentuating the grassy isthmus which is created between the lagoon and the hatchery lakes.
- Utilize the existing Fish Hatchery building for, amongst other things, the base for MODOC youth fishing programs with public toilets, equipment storage and staging for the disabled.
- Accommodate all-season active and passive recreation support needs.
- Re-route the Dual Path through a new path underpass at Grand Drive.
- Re-route the Dual Path around the redesigned lagoon to the Union entrance.

GOVERNMENT DRIVE: PAGODA LAKE TO HAMPTON

- Remove roadway and replace with a 15-foot-wide soft surface pedestrian promenade.
- Design path to be used during the Muny season as a one-way exit route.

FOREST PARK PARKWAY

- Create a four-way, tight diamond ramp system with 90° intersections at Kingshighway which allows parkway access to northbound and southbound Kingshighway as well as BJC Hospital garages.
- Design ramps and bridges to improve pedestrian and bike path circulation along Kingshighway.
- Consider creating a four-way, at-grade intersection, if deemed most appropriate and feasible from engineering, cost, and traffic management perspectives.
- Provide a new soft surface path along ridge adjacent to the MetroLink right-of-way, south of Murphy Lake, from Union to the West Pine intersection.
- Remove a portion of the West Pine cut-through and provide improved path connections to the Kingshighway-Lindell entrance plaza.



FOREST PARK MASTER PLAN

Area 5 Recommendations

ROUND LAKE - FISH HATCHERIES - STEINBERG RINK

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

WEST PINE PARK FACILITY

- Renovate or replace the comfort station near the Kingshighway-West Pine entrance as a park support center with park information/maps, secure attended public toilets, and potentially a small concession.

WEST PINE CUT-THROUGH

- Remove connection to Lindell Blvd. to reduce commuter traffic, allow reduction of roadway width and improve path and landscape connections.
- Provide planted median at West Pine entrance to the park.

ROUND LAKE AREA

- Accentuate this historic formal water feature and its visually dramatic fountain.
- Improve the adjacent landscape to better accentuate the lake and views from adjacent areas.
- Maintain Round Lake.
- Enhance adjacent lagoon's naturalistic, meandering, slow-moving river character.
- Improve lagoon connections to adjacent water bodies and widen channel.
- Provide sediment filtration measures which improve water quality.
- Accentuate the existing semi-circular planting of Bald Cypress trees which surround the east side of the circular lake with similar plantings to the west, adding an additional layer of flowering ornamental trees.
- Redesign the existing lagoon to mirror the shape of Round Lake and the plantings to its west.
- Re-align the path to take users from a constricted tree lined setting south of the lake to the dramatic, open views of Round Lake and its fountain as one travels north from Steinberg Rink.
- Accentuate views from automobiles using Grand Drive, framing views with vegetation.
- Re-route the Dual Path through a new path underpass at Grand Drive.
- Remove Wells Drive and convert to paths with a new, smaller bridge at the current Franklin Bridge location.
- Improve path links to the footbridges over MetroLink.
- Design area paths to focus views on Round Lake and its dramatic fountain.

STEINBERG RINK AREA

- Provide amenities to both passive and active recreation systems..
- Relocate parking to the south of the building where it will serve users of the passive open space system, active recreation and fishing programs at Jefferson Lake and area lagoons.
- Consider offering water-related outdoor education programs.
- Provide a new lagoon connection to Jefferson Lake.
- Provide significant elevation change between lake and surrounding lagoons to deter upstream migration of certain fish species.
- Consider deepening and aerating the water system to accommodate the necessary aquatic life.
- Design the area's landscape with predominantly mid-size ornamental trees which display a more horizontal character which relates to surrounding landscape character and Steinberg Rink architecture.
- Create the effect of a "Prairie River" in this portion of the water system, providing some wetlands/wet meadows which can be allowed to fill in times of peak rainfall and control water levels and erosion elsewhere in the park while providing a unique and ecologically sound landscape.
- Consider creating nature trails/boardwalks through these sensitive landscapes.

- Maintain existing ice and roller skating.
- Increase outdoor active recreation around building.
- Operate as an all-season, lighted, active and passive recreation support facility with information/maps, air conditioning, and improved kitchen facilities to serve surrounding recreation and path users and potentially hospital complex employees. Use the roof of Steinberg Rink for an observation deck and children's play area.
- Upgrade the building to function as an all-season facility, with air conditioning, upgraded kitchen facilities, and general ADA compliance improvements.
- Relocate, redesign and slightly reduce (±150 cars) parking lot to the south of the rink, where it can serve both the rink as well as adjacent Jefferson Lake.
- Remove Wells Drive east of Jefferson Drive and re-route the Dual Path.
- Provide path links to the skating rink.
- Improve path links to Kingshighway, replacing the awkward and dangerous stairs with a continuous path that conforms to the area's topography.
- Consider providing a boardwalk nature trail through area wetlands and delicate plantings.
- Provide ample bike parking at the rink.

KINGSHIGHWAY EDGE

- Restore and uplight the existing alée of trees along Kingshighway, adding an additional row of flowering ornamentals to the sidewalk edge and medians to improve the aesthetics and perceived safety of the entire Kingshighway length along the eastern park edge.
- Create landscaped termini to street parking areas at major intersections and pedestrian crossings to achieve improved aesthetics and unique entrance character.
- Improve landscaping and the overall spatial character of the triangle plaza at Lindell and Kingshighway as a major pedestrian entry experience.
- Provide a new pedestrian plaza at the terminus of Children's Plaza.
- Provide dramatic flowering ornamental plantings which accentuate the sweeping, curvilinear paths which link the new Children's Place pedestrian plaza with Steinberg Rink.
- Provide flowering ornamental and seasonal perennial/annual flowering displays in the plaza itself.
- Combine a new bike path with an improved existing sidewalk, to create a Dual Path from the West Pine entrance to Barnes Plaza.
- Provide textured crosswalks at major intersections.
- Coordinate with the City's traffic division to improve signal timing to increase pedestrian crossing times and improve safety.
- Coordinate with the BJC Hospital complex to implement site furnishings and lighting improvements.
- Upgrade the bridge over Forest Park Parkway to better accommodate bike and pedestrian circulation.
- Provide bike and pedestrian path connections to the Steinberg Rink area and its Dual Paths.

JEFFERSON DRIVE EAST OF LAKE

- Remove roadway and replace with a path.

BARNES HOSPITAL PLAZA

- Coordinate with the BJC Hospital complex to redesign the roadway from Euclid Avenue to Clayton Road, creating a landscaped boulevard entrance and exit for both the park and hospital complex.

- Reconfigure the four-way Kingsghighway intersection to create 90° connections in all directions.
- Reduce commuter traffic through the park by replacing the portion of Clayton Road between the Barnes entrance and the hospital garage employee entrance/exit with a bike and pedestrian path entrance.
- Consider the long-term goal of complete roadway removal to Euclid if the garage entrance can be accommodated elsewhere.

KINGSHIGHWAY INTERCHANGE

- Reduce congestion and level of saturation.
- Investigate design solutions which reduce use of park open space.
- Modify highway signage to direct Science Center traffic to the Oakland Avenue facility.
- Coordinate with the proposed Boyle/Tower Grove interchange to improve eastern hospital complex access, reducing hospital commuter traffic through the park.
- Investigate feasibility of creating a tight diamond interchange to increase park open space and allow improved traffic movements on Kingshighway, including complete left turn access to the park from northbound Kingshighway and simplified hospital access.

FAULKNER DRIVE

- Redesign the portion north east of Jefferson Lake to allow safe street parking on both sides.
- Redesign the Clayton Road intersection as a four-way stop with improved sight lines, reduced dead space, 90° junctions, and accentuated pedestrian and bike crossing areas.
- Remove parking from along the entrance drive to the Science Center and consolidate into a redesigned, more efficient parking area adjacent to the building (±150 cars).

AREA 6: JEFFERSON LAKE — BOWL LAKE — SCIENCE CENTER

JEFFERSON LAKE AREA

Restore this large scale lake for its primary public fishing use while enhancing its environs to better integrate it into the park setting.

- Extend the naturalistic Triple A hillside vegetation across to the western edge of Jefferson Lake.
- Accentuate views to and across the water.
- Restore the existing paved edges and continue to accommodate public fishing programs and MODOC needs.
- Connect to Bowl Lake and the rest of the water system.
- Provide floating aeration and other sediment filtration measures at inlets and outlets to improve water quality.
- Restore paved edges for public fishing.
- Create a crabapple grove along highly visible grass embankment along the east side of Jefferson Lake.
- Create a dramatic cascading water input at the south end of the lake, utilizing water from Bowl Lake and enhance this feature with lush, cascading vegetation and accentuate this highly visible feature.
- Extend the naturalistic, successional landscape character currently present along the eastern edge of Triple A to the west side of the lake.
- Re-route all paths to a new crossing at a redesigned Faulkner-Clayton intersection.
- Remove a portion of Jefferson Drive south of Steinberg to a new path.
- Improve connections to Kingshighway at Barnes Plaza and Steinberg Rink area.
- Reconstruct the deteriorated paved lake edge for public fishing and pedestrian use.

HUDLIN COURTS AREA

- Maintain existing lighted racquet sports facilities.

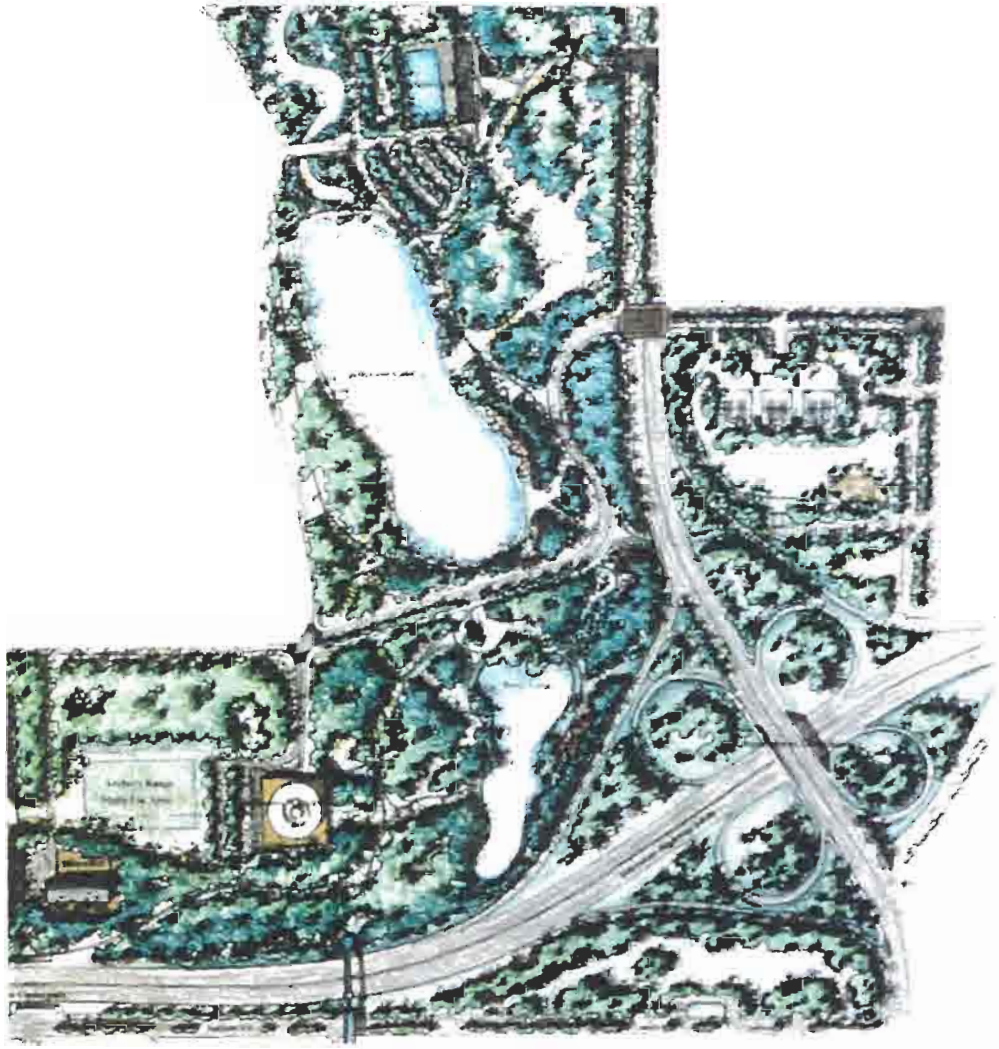
CLAYTON ROAD ENTRANCE

- Creating a grand new path entrance to the park by removing Clayton Road between the BJC employee parking garage entrance and the redesigned Barnes Plaza entrance road.

BOWL LAKE AREA

Create a unique, naturalistic and intimate landscape setting for Bowl Lake and its environs.

- Enhance the naturalistic character of this area and provide some structured passive programming.
- Cooperate with the Saint Louis Science Center and potentially the Central Institute for the Deaf to utilize the area for outdoor educational programming related to ecological exhibits contained within the museum and sensory experiences related to the Institute.
- Connect to rest of system via an underground pipe connection to Jefferson Lake.
- Enhance naturalistic character.
- Provide sediment filtration measures to improve water quality.
- Create a unique, naturalistic and intimate landscape setting for Bowl Lake and its environs.



FOREST PARK MASTER PLAN

Area 6 Recommendations

JEFFERSON LAKE - BOWL LAKE - SCIENCE CENTER

- Create a crabapple grove along the highly visible east embankment of Bowl Lake, accentuating this with spot masses of evergreen plantings and flowering meadow ground treatments.
- Create an earthen berm at the southern end of the lake along the Highway 64/40, with evergreen and flowering ornamentals to visually define the space, screen undesirable views of traffic and dilute extensive Highway 64/40 noise.
- Create a unique water outfall at the north end of the lake where water will vanish from the lake and be piped to Jefferson Lake.
- Accentuate the Seven Pools area with appropriate understory plantings and pedestrian path access.
- Restore the existing stone bridge.
- Accentuate the plantings near the south end of the lake which obscure its terminus and make it appear much larger than it really is.
- Provide naturalistic shoreline plantings to improve water quality while improving aesthetics and wildlife habitat.
- Re-route the bike path to a new crossing at a redesigned Faulkner-Clayton intersection.
- Provide a hard and soft surface trail network with boardwalks and overlooks around the lake, possibly providing an interpretive nature trail system coordinated with the Science Center.
- Improve pedestrian access to Seven Pools.
- Link to the new path entrances at Clayton Road and Barnes Plaza.

SAINT LOUIS SCIENCE CENTER

The Science Center has proposed a small expansion of its facilities within its existing lease boundaries. More information can be found in the Science Center's proposal in Appendix D.

- The Science Center proposes a small underground expansion of exhibit space within existing lease boundaries.
- Redesign the Highway 64/40 hillside adjacent to the connecting bridge to accentuate the structure and solve hillside structural problems.
- Provide sidewalks along Faulkner Drive, north of Clayton Road, to improve pedestrian access for those who park along these streets.
- Improve ADA access from adjacent facilities, parking areas and landscapes where possible.
- Remove on-street parking from Faulkner Drive south of Clayton Road and replace with pedestrian paths which provide access to the building entrances.

AREA 7: PARKS DEPARTMENT — AVIATION FIELD

PARKS DEPARTMENT COMPLEX

- Consider providing support amenities for adjacent athletic fields and path users.
- Consolidate service entities by limiting activities to those which are essential to Forest Park.
- Reduce the size of the existing dirt hill and convert it to passive recreation.
- Improve overall aesthetics and building maintenance.
- Provide a new recreational support facility adjacent to the administrative building to serve Aviation Field.
- Re-route the bike path away for the maintenance compound and its heavy truck traffic.
- Provide a new bike path to the south side of the maintenance compound, along Highway 64/40 and connecting with the pedestrian path near Hampton.

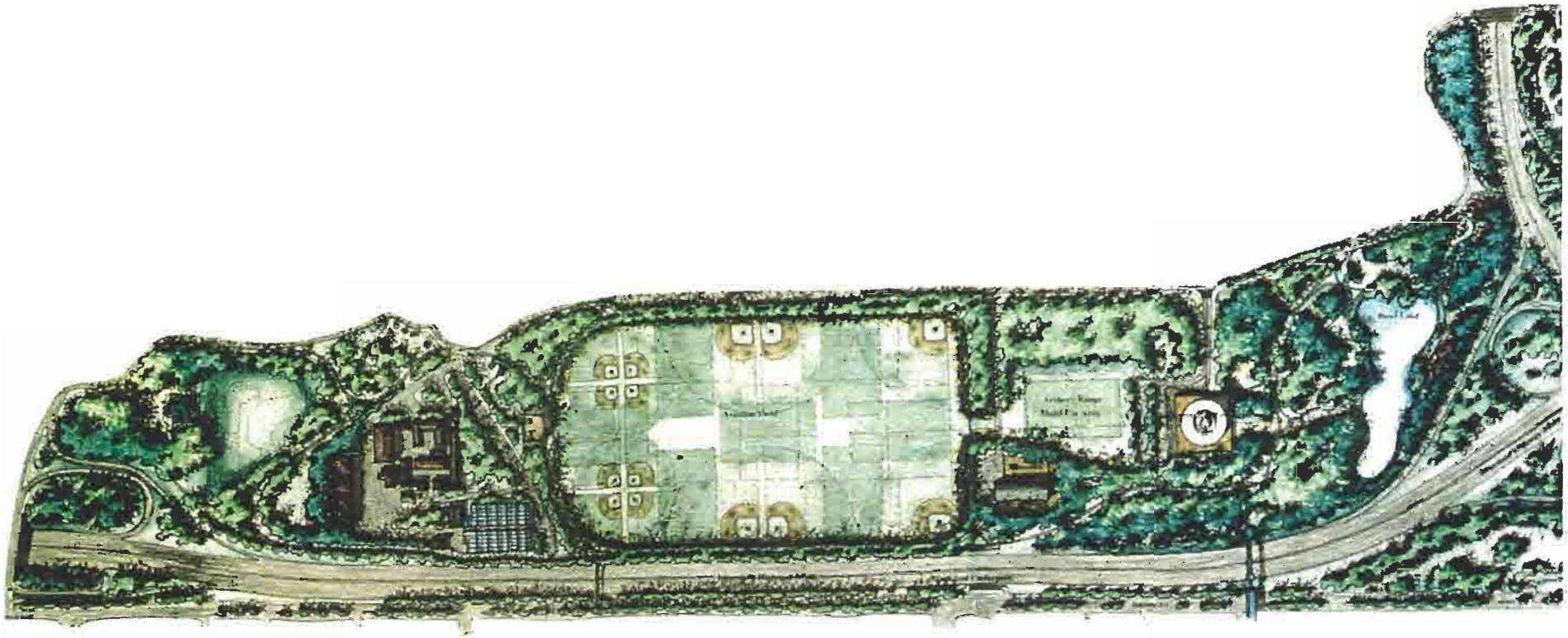
AVIATION FIELD

Improve operational flexibility, environmental quality, participant and viewer comfort/convenience, and aesthetic character.

- Install formal perimeter plantings with regularly spaced shade trees and mid/understory plantings or flowering ornamentals to minimize the visual impact of backstops, and dirt infields and diffuse some traffic noise while framing grand scale, expansive open green space.
- Replace missing trees from the existing highly regular plantings.
- Reconfigure all fields for improved aesthetics and flexibility.
- Provide eight softball/little league diamonds
- Provide six baseball diamonds.
- Provide seven soccer/football fields.
- Accommodate special events.
- Consider additional lighted fields.
- Increase vegetation along Highway 64/40 to dilute automobile noise and filter airborne pollutants.
- Re-route the bike path to the south of the fields, along Highway 64/40
- Provide angle parking (±40 cars) along the Mounted Police access drive to serve the ball fields and archery range while maintaining easy emergency access to the police facility.
- Extend the existing angle parking along the Clayton Avenue to the east (±50 cars) to serve the eastern ball fields.
- Provide a pull-out lane to avoid conflict with Clayton Road traffic.
- Maintain a pedestrian/jogging path along the north side of the fields.
- Consider creating a path loop or track around the fields.
- Provide ample bike parking.

MOUNTED POLICE HANGAR

- Retain current use and renovate the Mounted Police Station.
- Consider long-term relocation of the Mounted Police to another park site and reprogramming of the site for indoor active recreation, such as basketball, volleyball, tennis and rock climbing.



FOREST PARK MASTER PLAN

Area 7 Recommendations

PARKS DEPT. - AVIATION FIELD - SCIENCE CENTER

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation

FOREST PARK MASTER PLAN

AREA 8: CENTRAL FIELDS — TRIPLE A — JEWEL BOX

CENTRAL FIELDS

Improve operational flexibility, environmental quality, participant and viewer comfort/convenience, and aesthetic character.

- Install informal perimeter plantings with shade trees and mid/understory plantings of flowering ornamentals to minimize visual impact of backstops and dirt infields while framing grand scale, expansive open green space.
- Improve the quality of the adjacent braided stream tributary with naturalistic edge plantings and occasional rock outcroppings, restoring existing bridges and culverts.
- Reconfigure all fields for improved aesthetics and flexibility.
- Provide 11 Softball/Little League diamonds.
- Provide five Soccer/Football fields.
- Relocate three rugby fields from Langenberg Field.
- Upgrade existing building to serve as an active recreation support facility with attended showers, lockers, toilets, and a potential small concession.
- Combine to accommodate special events.
- Maintain as unlighted fields.
- Upgrade building functions to serve as an active recreation support facility with attended locker, shower and toilet facilities, and, potentially, a small concession.

ARCHERY RANGE

- Reconfigure Archery Range, removing one or two bays and adding improved safety measures to reduce potential injury to other park users.
- Design for multiple use with potential for tournament soccer field and/or two softball diamonds
- Consider providing smaller, youth-oriented active recreation fields.
- Accommodate special events.
- Consider lighting to increase multiple use flexibility.

TRIPLE A

- Accentuate the area's valleys and uplands with upland and bottom land species trees and shrubs which display dramatic seasonal color while reducing erosion and water "downcutting" in valleys.
- Improve the edge plantings by replacing the existing barberry hedge with more appropriate, multi-level plantings of low shrubs, flowering ornamental midstory trees and canopy trees which accentuate the Clayton Road streetscape.
- Utilize plantings which discourage random pedestrian access to the golf course.
- Increase the use of evergreen plantings to accentuate uplands and hillsides and to provide visual interest to winter recreaters.
- Encourage operation as a nine hole golf course with both nine and 18 hole rates.
- Maintain existing lighted and unlighted clay and hard tennis courts.
- Proposed expansion of tennis support facilities.
- Consider increased active recreation programming.
- Provide support amenities, such as food concessions, toilets, showers, and lockers, for surrounding park uses.
- Accommodate winter recreation.
- Provide safety measures to protect users of the path that travels through the golf course.

FOREST PARK MASTER PLAN

Area 8 Recommendations

CENTRAL FIELDS - TRIPLE A - JEWEL BOX

SITE PLAN

CITY OF SAINT LOUIS
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

- Manage grounds to minimize potential pollutants from entering the park's water system.
- Keep accurate records and monitor chemicals used on the course that could adversely affect the water system and overall park environmental quality.
- Consider utilizing naturalized plantings where appropriate to reduce maintenance costs and soil loss and to filter potential pollutants before water runoff from the course enters the water system.

JEWEL BOX
- Renovate the building and operate as a public conservatory and formal external gardens.

SUCCESSIONAL FOREST
- Improve ecological and aesthetic quality while allowing safe recreation and educational use.
- Consider extending MODOC's Kennedy Forest vegetative management and nature trail agreement to cover this area.
- Improve ecological and aesthetic quality while allowing safe recreation and educational use.
- Provide native canopy, mid/understory, and ground cover plantings.
- Implement naturalistic, erosion controlling plantings along intermittent tributaries.
- Consider creating an interpretive nature trail system in the forest, possibly operated by MODOC, with bridges, boardwalks, interpretive signage, and overlooks.
- Eliminate "desire line paths" and implement landscape and site improvements which deter their recreation.

WELLS-MCKINLEY CIRCLE
- Reconfigure intersections to reduce confusion and dead space, allowing improved pedestrian and bike crossing.
- Eliminate parking on the circle.

CARR LANE
- Remove the roadway and convert to a Dual Path and pedestrian/nature trail along Successional Forest.
- Provide controlled path access points to the Successional Forest, possibly as part of a nature trail system.
- Provide path links to area picnic grounds and comfort stations

WASHINGTON DRIVE — CONCOURSE DRIVE
- Redesign roadway to replace dangerous sharp turn with more graceful curve and improved sightlines.
- Provide a small angle parking area (±25 cars) and pull-out lane along the east roadway edge to serve area picnic grounds.
- Redesign Concourse Drive with median to allow two-way access to the World's Fair Pavilion from Washington Drive and one way access from McKinley Drive.
- Design and sign the junction between two-way and one-way to avoid confusion and resulting conflicts.

SECTION E — ADMINISTRATION OF THE PLAN

I. GOVERNANCE PLAN

A. Overview
B. Responsibilities and Authority of Forest Park Advisory Board
C. Membership
D. Project Approval Process

II. MANAGEMENT PLAN

A. Overview
B. Administrative Unit
C. Budgetary Unit
D. Operations

III. FUNDING PLAN

A. Overview
B. Implementation Plan
C. Cost Estimates
D. Funding Plan

I. GOVERNANCE PLAN

A. Overview

B. Responsibilities and Authority of Forest Park Advisory Board

C. Membership

D. Project Approval Process

LIST OF DRAWINGS AND DIAGRAMS

Forest Park Advisory Board Membership
Project Approval Process - Privately Funded Projects Within the Master Plan
Project Approval Process - City Funded Projects within the Master Plan

I. GOVERNANCE PLAN

A. Overview

Since the separation of the City of St. Louis and St. Louis County in 1876, Forest Park has been owned and operated by the City of St. Louis. The Department of Parks, Recreation and Forestry currently administers Forest Park through its Parks Division as part of an overall park system. There exists little general public input or a formal method of monitoring the implementation of a master plan other than the oversight and budgetary review and approval by the St. Louis Board of Aldermen.

The process for developing the 1995 Forest Park Master Plan included the most comprehensive community involvement ever attempted. The process vividly demonstrated the wide range of interested park user groups and the depth of their feelings concerning the park and its future. It also underscored the need to keep all interested individuals and groups involved in the ongoing implementation of this Plan.

To ensure this ongoing participation, the Master Plan calls for the establishment of a Forest Park Advisory Board, whose purpose will be to oversee the implementation of this Master Plan, ensure that the intentions and goals of this Plan are achieved, and keep the public informed on progress of the Plan. The Board cannot revise the plan, but can submit recommendations for revisions to the Community Development Commission. The Board should be established by an ordinance of the Board of Aldermen as outlined in this Plan and approved by the Forest Park Master Plan Executive Committee.

Membership on this board, appointed by the mayor of the City of St. Louis, will include representatives of the various interest groups, institutions and other park users. A detailed process has also been developed to demonstrate how this board will evaluate and approve projects which are presented to it for review.

B. Responsibilities and Authority of Forest Park Advisory Board

1. Monitor implementation of and compliance with the Master Plan and provide ongoing community input about Forest Park.

2. Review significant modifications to the Plan, including those made by tenants, outside agencies, and the Parks Department.

3. Constitute a part of the public review process for major park projects in addition to the public entities.

4. Conduct a public review of any proposed expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation areas, or natural areas within thirty days after it is initiated.
   - The Board may initiate a public review by written notice to the Director of Parks, Recreation and Forestry (the "Director").
   - The Director may initiate a public review by written notice to the Board to conduct a public review, including full particulars concerning the Proposed Physical Change.
   - In conducting such review, the Board may provide opportunities for citizen involvement and public input as it deems necessary.
   - After completing such review, the Board shall promptly report to the mayor, the director, and the public whether:
     i) The Proposed Physical Change is significant or minor.
     ii) The Proposed Physical Change is consistent or inconsistent with the Master Plan, or is not addressed by the Master Plan; and
     iii) If the Proposed Physical Change is not addressed by the Master Plan, whether the board considers the Proposed Physical Change beneficial to the Park, or not beneficial to the Park, with stated reasons.

   The Board may address in its reports such other matters or findings as it believes will assist the public to evaluate the proposals.

5. Encourage institutions and park facilities to develop long-range plans and present them to the Board on a regular basis.

6. Keep the public informed and advised of matters relating to the Master Plan.

7. Perform such other functions and take such other actions as are consistent with its responsibilities and authority as stated in paragraphs 1 to 7, inclusive.

8. The Board is not authorized and shall not have power to amend or change the Master Plan, but may recommend changes to the Master Plan for consideration by the Community Development Commission.

9. The Board is authorized to make reasonable requests of the director to provide meeting space, clerical assistance, and supplies and shall expect the director to comply with such requests, subject to departmental budgetary limitations as determined by him in good faith.

10. The Board shall meet at least once in each calendar quarter and give public notice as required by law and as determined necessary by the board.

11. The Board shall select officers and adopt rules for the conduct of its business, consistent with any applicable law, including but not limited to Ch. 610 and section 105. 452 R.S.Mo. 1994 as amended:
    - The Board may adopt rules and procedures, consistent with applicable law, which it believes appropriate concerning records of communications to Board members.
    - The Board may adopt rules and procedures, consistent with applicable law, regarding the disqualification of members from voting on matters originated by the group, organization, institution, person, or entity which nominated them, or, in the case of ex officio members other than aldermen, the organization or City office in which they are employed.

12. The Board shall prepare and publish by March 31 each year a report of its proceedings and business during the preceding calendar year.

13. The Board may request and, upon such request, shall receive information from the director concerning plans of the city regarding Forest Park.

14. The director shall provide the Board, with or without request from the Board, information necessary and appropriate for the Board to consider in carrying out its responsibilities under paragraphs 1 to 7 inclusive. The Board shall receive from the director any public reports by him or her related to or concerning Forest Park.

Forest Park Advisory Board

Total Membership = 25

20 Members Appointed by the Mayor

Board of Aldermen approve the appointments made by the Mayor

One selected from among persons nominated by community groups or neighborhood organizations in neighborhoods adjacent to Forest Park

One selected from among persons nominated by Subdistricts or governing boards of institutions of the ZMD with facilities located in Forest Park and the Muny.

One selected from among persons nominated by community organizations which use or whose members use a portion of Forest Park on an ongoing basis for amateur sports activities pursuant to permits issued by BPS and Dept. of P, R & F.

One selected from among persons nominated by persons, organizations or other entities which are not described in paragraphs 1, 2 or 3 with leases or permits from, or contract with the City or Dept. of P, R & F, for ongoing use of a portion of Forest Park.

One selected from among persons nominated by environmental advocacy groups active in the metropolitan area.

One member with experitise in landscape architecture.

One member with experitise in urban design.

One member with experitise in ecology and natural resources.

Seven members at large reflecting the geographic, racial, ethnic and gender diversity of the City. In addition, the Mayor may appoint **up to five** non-voting*, advisory members who are not residents of the City.

**City Charter requires residency for voting membership*

5 Members

The following members shall serve ex-officio:

- The Forest Park Manager
- The Exec. Dir. of Forest Park Forever, Inc. or his/her designee
- The Alderman of any ward in which any part of Forest Park is located
- The chair of the Parks Committee of the Board of Aldermen
- One of the following as determined by the Mayor:
  - The Director of Planning - CDA
  - The Commissioner of Heritage and Urban Design
  - The Director of Urban Design - SLDC or
  - The President of the Board of Public Service

Forest Park Advisory Board Membership

City of Saint Louis
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

C. Membership

The following members shall be appointed by the Mayor to the Forest Park Advisory Board, subject to the approval of the Board of Aldermen by resolution.

1. One person selected from among persons nominated by community groups or neighborhood organizations in neighborhoods adjacent to Forest Park.

2. One selected from among persons nominated by subdistricts of governing boards of institutions of the Metropolitan Zoological Park and Museum District with facilities located in Forest Park and The Muny.

3. One selected from among persons nominated by organizations which use, or whose members use a portion of Forest Park on an ongoing basis for amateur sports activities pursuant to permits issued by the Board of Public Service or the Department of Parks, Recreation and Forestry.

4. One selected from among persons nominated by persons, organizations, or other entities which are not described in paragraphs 1, 2 or 3 with a lease or permit from, or contract with, the city or the Department of Parks, Recreation and Forestry, for ongoing use of a portion of Forest Park.

5. One selected from among persons nominated by environmental advocacy groups active in the metropolitan area.

6. One member with expertise in landscape architecture.

7. One member with expertise in urban design.

8. One member with expertise in ecology and natural resources.

9. Seven members-at-large, reflecting the geographic, racial, ethnic, and gender diversity of the city.

10. The mayor may also appoint, in addition to all of the foregoing members, up to five non-voting, advisory members who are not residents of the City.

    The following members shall serve ex-officio:
    - The Forest Park manager.
    - The executive director of Forest Park Forever, Inc. or his or her designee.
    - The alderman of any ward in which any part of Forest Park is located.
    - The chair of the Parks Committee of the Board of Aldermen.
    - One of the following as determined by the Mayor:
      - The Director of Planning of the Community Development Agency.
      - The commissioner of Heritage and Urban Design.
      - The Director of Urban Design of St. Louis Development Corporation.
      - The President of the Board of Public Service.

The terms of all ex-officio members shall correspond to their respective official terms. Of the fifteen members appointed by the Mayor, three shall be appointed initially for a term of one year, three for a term of two years each, four for terms of three years each, and five for terms of four years each. All members thereafter shall be appointed for terms of four years each. No member appointed by the Mayor shall be an officer or employee of the city or of any political subdivision thereof, other than the Metropolitan Zoological Park and Museum District or any of its subdistricts. All members, other than those who may be appointed under Paragraph 10, shall have one vote on the Board.

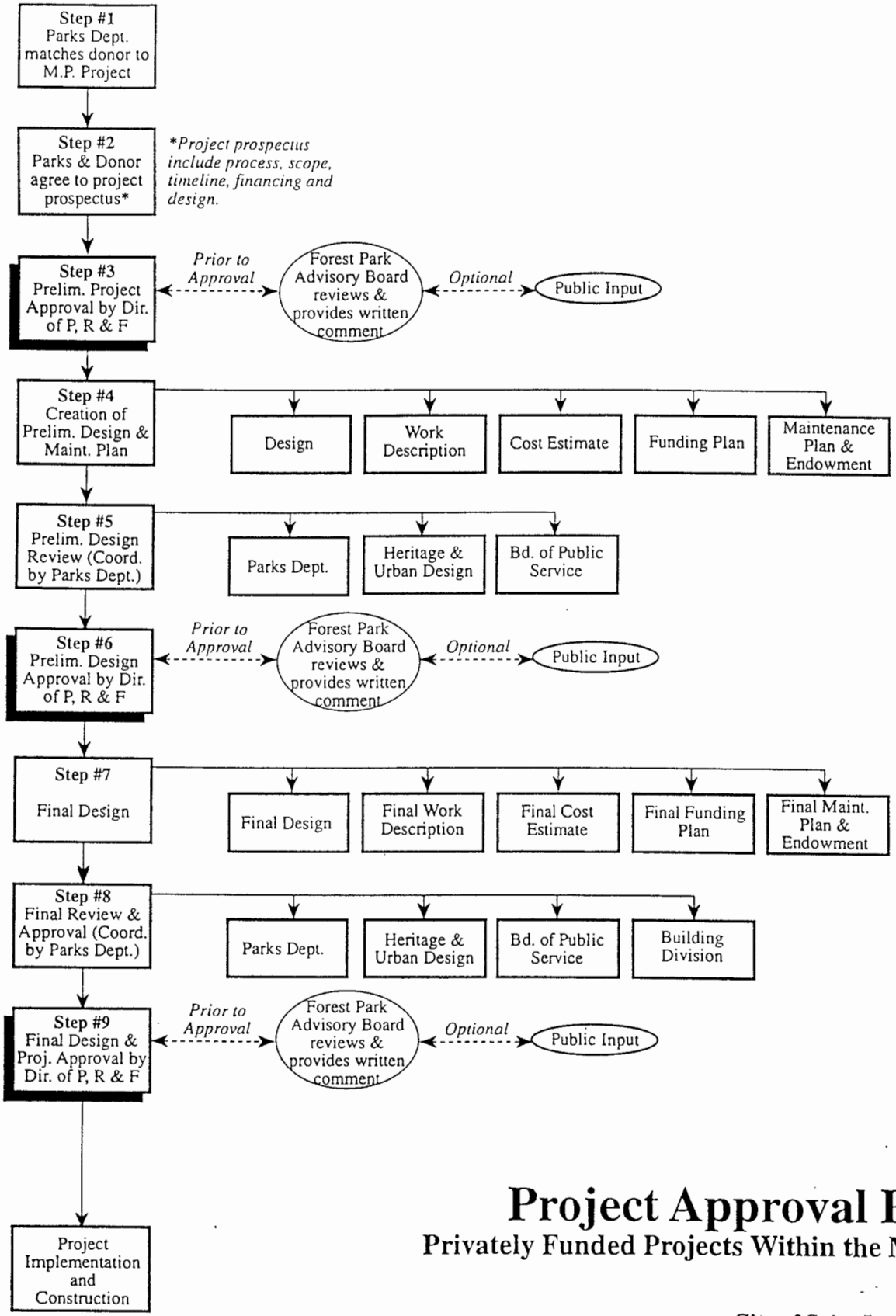
D. Project Approval Process

The Forest Park Advisory Board shall meet at least once each quarter, and more often as it deems necessary, to review, discuss, and approve proposed projects which are consistent with the goals and recommendations of the 1995 Forest Park Master Plan. The Forest Park Advisory Board should establish set time frames for review procedures in order to ensure that the project approval process does not unduly slow the implementation of the Master Plan. Projects to be reviewed include both those that are privately financed and those that are publicly funded.

Privately funded projects within the Master Plan will be brought to the Board by the director of Parks, Recreation and Forestry once a donor has been identified and a project prospectus developed. The Board will review the proposed project at this preliminary stage and provide written comments to the Parks Department. Once a preliminary design has been developed under the guidance of the Parks Department, the Board will again review the project and provide input. The board will have a final opportunity to review and provide written comments on the proposed project prior to final design and approval of the project by the director of Parks, Recreation and Forestry. At each step of the process, the Board may seek public input if it deems that such input is necessary.

For publicly funded projects, the review and approval process is the same, except that the project must also be reviewed and approved by the City's Capital Review Committee and the Board of Aldermen prior to the creation of a preliminary design. The Forest Park Advisory Board will have the responsibility to review the project at each stage of its development, seek public input as necessary, and provide written comments to the director of Parks, Recreation and Forestry.

Process flow charts for both privately funded and publicly funded projects are shown on the following pages.



Project Approval Process

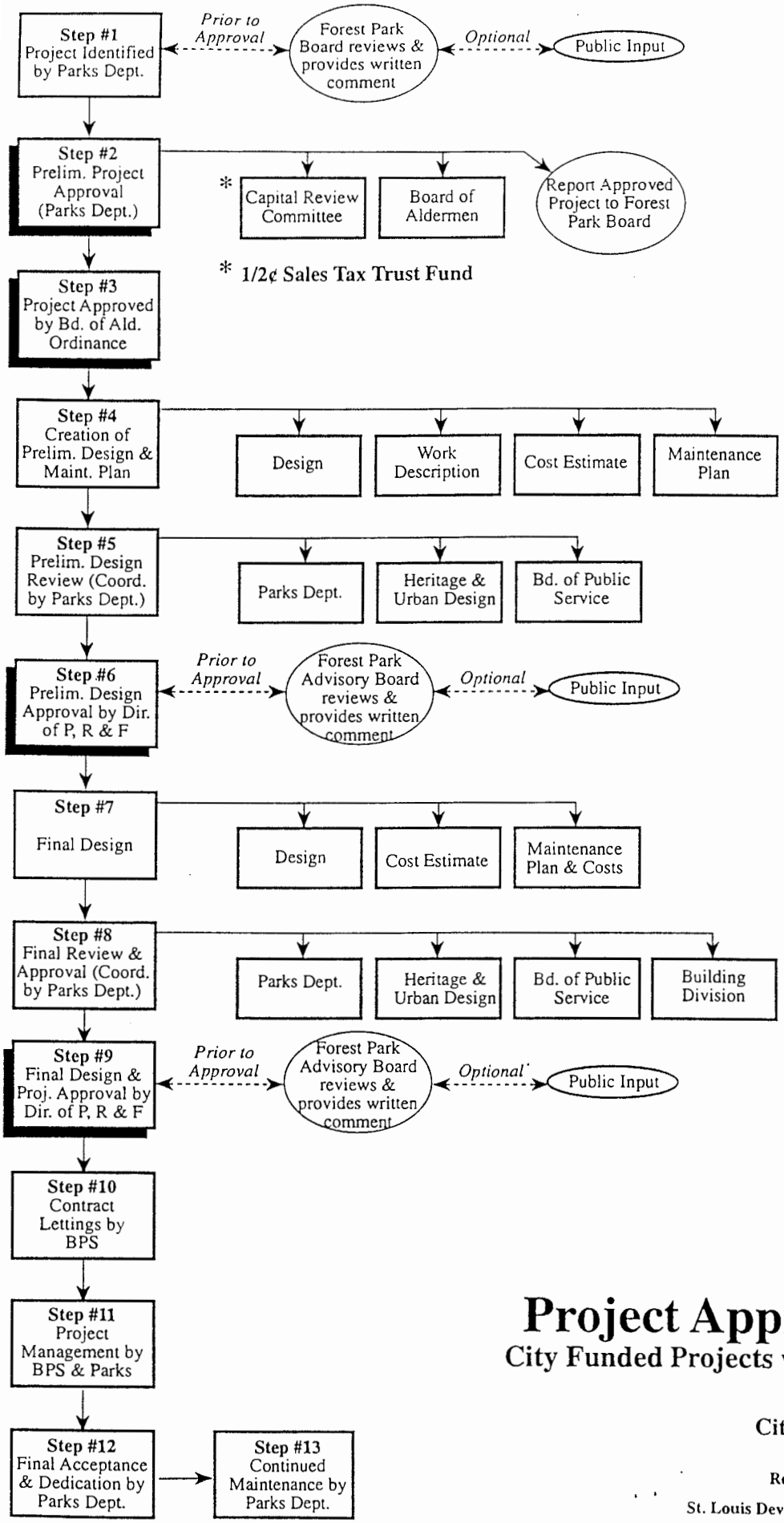
Privately Funded Projects Within the Master Plan

City of Saint Louis

Department of Parks, Recreation and Forestry

St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN
Saint Louis



Project Approval Process

City Funded Projects within the Master Plan

City of Saint Louis

Department of Parks, Recreation and Forestry

St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

II. MANAGEMENT PLAN

A. Overview

B. Administrative Unit

C. Budgetary Unit

D. Operations

1. Park Maintenance
2. Groundskeeping
3. Public Art
4. Infrastructure
5. Event Regulation
6. Marketing
7. Park Security
8. Personnel and Supplies/Equipment

LIST OF DRAWINGS AND DIAGRAMS

Existing Management Structure
Management Structure
Forest Park Maintenance Task
Forest Park Event Regulation and Marketing
Security Systems
Forest Park Employee Procurement Process
Forest Park Equipment Procurement Process

A. Overview

Since 1958, Forest Park has been managed through the Parks Division of the St. Louis Department of Parks, Recreation and Forestry. The existing management and operational model assigns no specific status to Forest Park as a separate and distinct program or budget unit.

Changes recommended in this Master Plan provide for the establishment of Forest Park as an independent program with autonomous management and full budgetary accountability. From a practical standpoint, this will be accomplished by identification of Forest Park as a separate program budget unit within the department's annual budget.

In 1994, total expenditures for Forest Park were $2.9 million, $2.3 million of which were direct costs related to the operation and maintenance of the park's facilities and infrastructure. The remaining $600,000 were indirect costs charged to the park for services provided by other city departments.

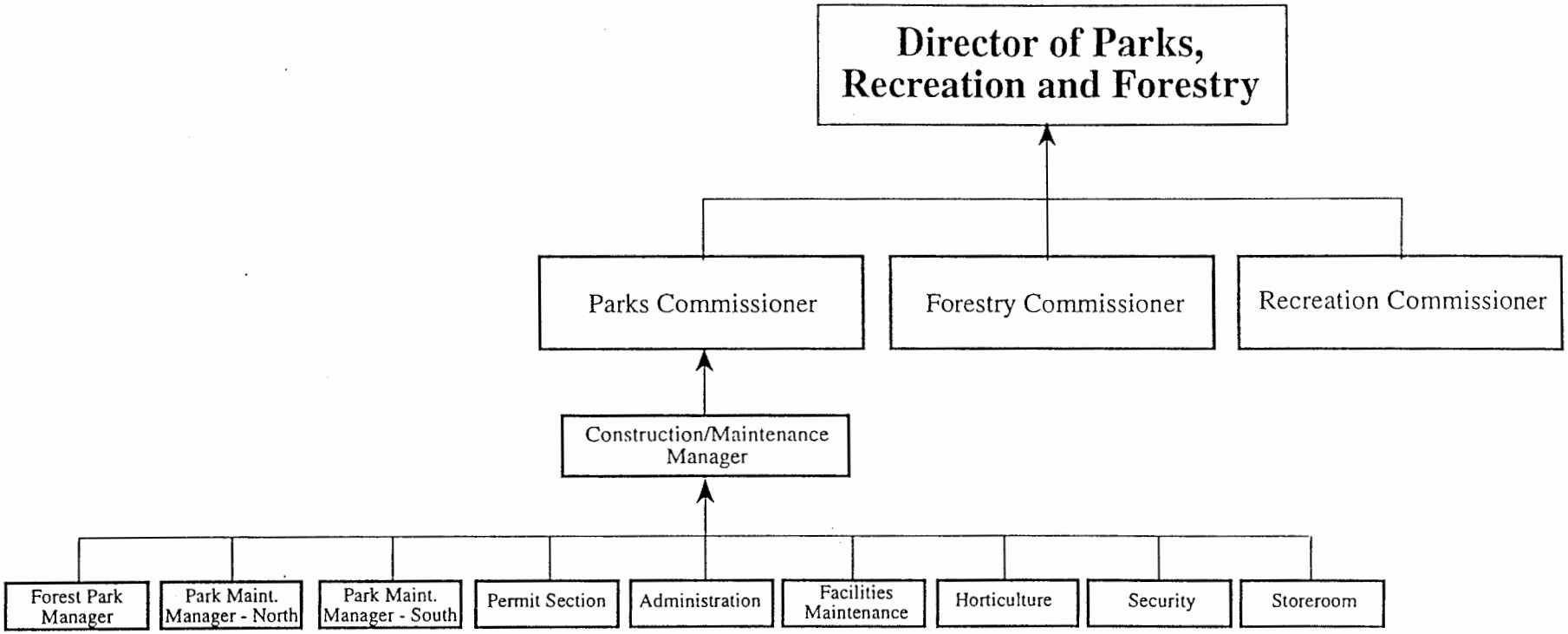
B. Administrative Unit

Forest Park operations are supervised by the Forest Park Manager. Under the existing management structure, the Forest Park Manager reports through the Construction/Maintenance Manager to the Parks Commissioner, who in turns reports to the Director of Parks, Recreation and Forestry.

The proposed revisions to the Forest Park management structure are designed to establish the park as an independently managed entity with autonomous management and budgetary accountability. Under the proposed structure, the Forest Park Manager's responsibilities will include two broad categories: Forest Park capital improvements and Forest Park operations. The Forest Park Manager will report directly to the Parks Director on matters relating to the administration and budgeting of capital plans and project improvements. The Forest Park Manager will report to the Parks Commissioner on operational matters.

To ensure that management of the park is carried out in compliance with the goals and policies of this Master Plan, a committee comprised of the Parks Director, Parks Commissioner, and Forest Park Manager will develop specific administrative policies for such areas as personnel, maintenance, and operational continuity. Policies developed by this committee will be implemented by the Forest Park Manager and the Park Commissioner.

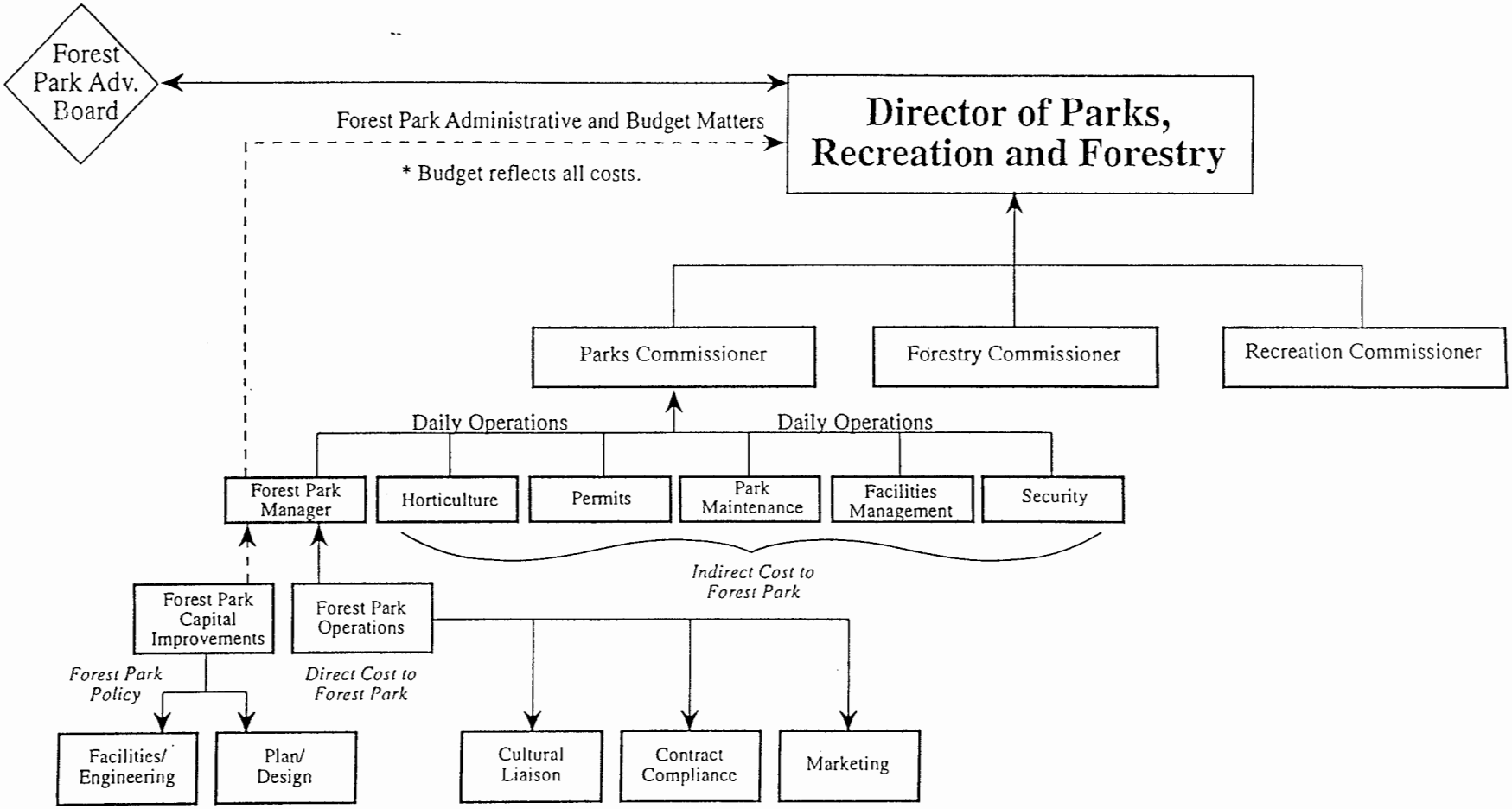
Copies of the existing and proposed management structures for Forest Park are included on the following pages.



Existing Management Structure

City of Saint Louis
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN



Management Structure

City of Saint Louis
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

C. Budgetary Unit

The Forest Park Manager has responsibility for overseeing an annual budget of approximately $2.9 million. This amount includes direct costs that are specifically budgeted for use in Forest Park and other units or divisions within the Department of Parks, Recreation and Forestry and indirect costs of services provided by other City agencies.

In order to provide greater budgetary accountability under this Master Plan, Forest Park will be identified as a separate budget unit within the Parks Department annual budget. The Forest Park Manager will have responsibility for overseeing this budget and submitting regular financial reports to the Director of Parks, Recreation and Forestry.

The Director of Parks, Recreation and Forestry, the Parks Commissioner, and the Forest Park Manager together will develop specific budgetary policies to ensure compliance with this Master Plan. Areas of policy development will include operational budget development, based on administrative policies, and responsibility to administer the capital budget.

Implementation of the design recommendations in this Master Plan will be largely driven by the availability of funding. The flow of reserves directly impacts the rate at which approved Master Plan projects can proceed. At the beginning of each fiscal planning cycle, the Forest Park Manager shall review and recommend to the director a detailed list of capital projects, along with a general cost estimate to aid in fund raising efforts and construction phasing. The director will submit said list for approval to the Forest Park Board and the Board of Public Service.

D. Operations

The operational side of the Forest Park Manager's responsibilities falls into five general categories:

- Park maintenance
- Event regulation
- Marketing
- Park security
- Personnel and supplies/equipment

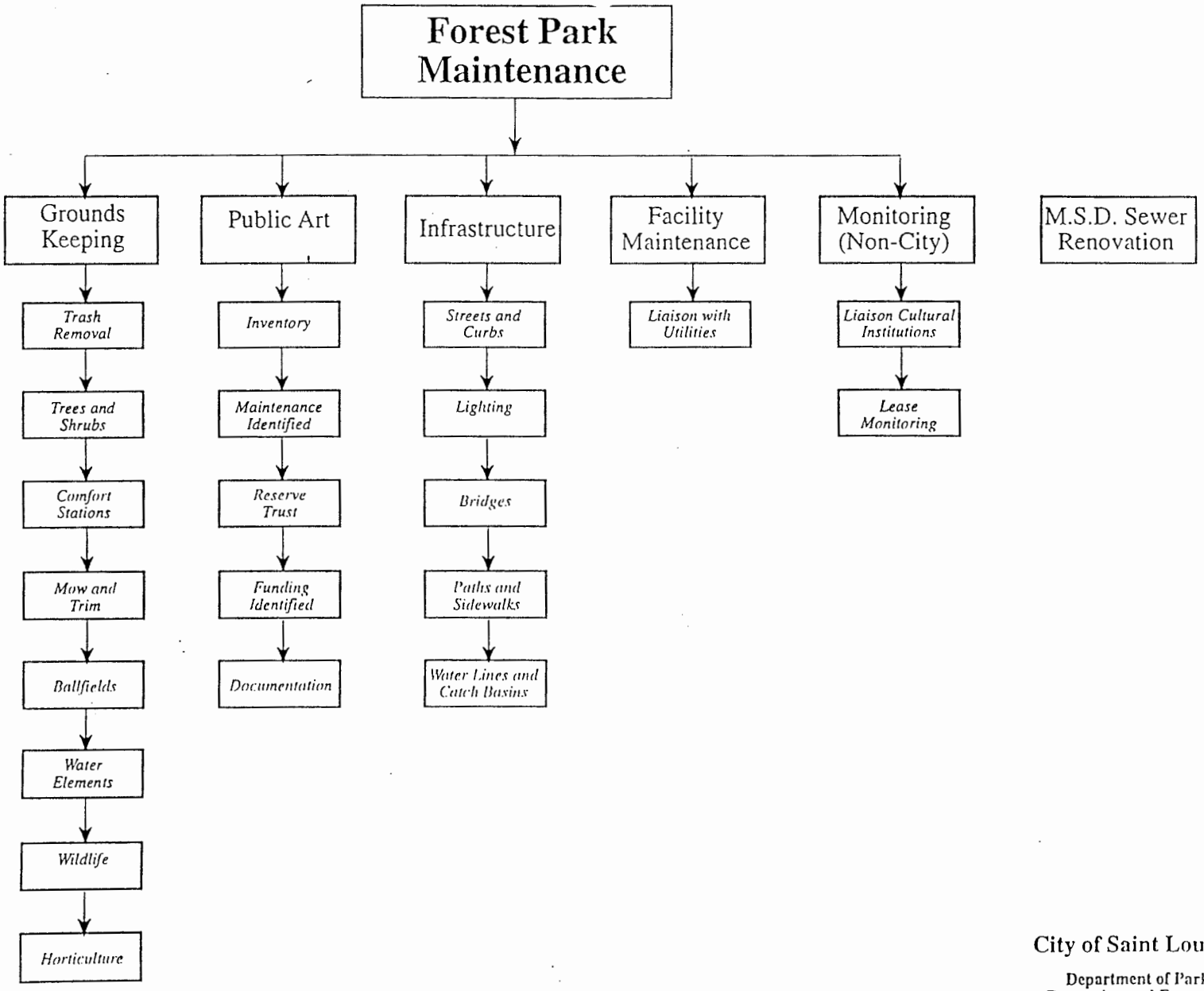
These functions must be ongoing to ensure that Forest Park maintains and improves current levels of service to park users and tenants.

1. Park Maintenance

Future physical improvements to the Park will increase the need for a comprehensive maintenance program that includes:

- Additional manpower and funding, including the use of volunteers where possible.
- Continuation of a regular maintenance inspection program.
- Adequate equipment and materials

In addition, capital improvement plans should be structured to ensure that adequate maintenance is provided. Specific maintenance needs are described below:



Forest Park Maintenance Task

City of Saint Louis
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

2. Groundskeeping

- The Forest Park Manager and Parks Director shall develop maintenance standards for such tasks as trash removal, landscaping (trees and shrubs), comfort station cleaning, mowing and trimming, ballfield maintenance, water element management, wildlife management, and horticultural displays.

3. Public Art

- A maintenance program should be identified for all public art in Forest Park.

- A detailed inventory of public art in Forest Park has been compiled and should be maintained/updated as needed.

- A maintenance fund should be identified.

- Each proposed art restoration project should be evaluated individually.

4. Infrastructure

Well-maintained facilities are strong contributions to a park's attractiveness and serviceability. A strategy has been developed to address the interior and exterior condition of park structures. A streamlined work order system has been implemented to facilitate in-house repairs and renovations.

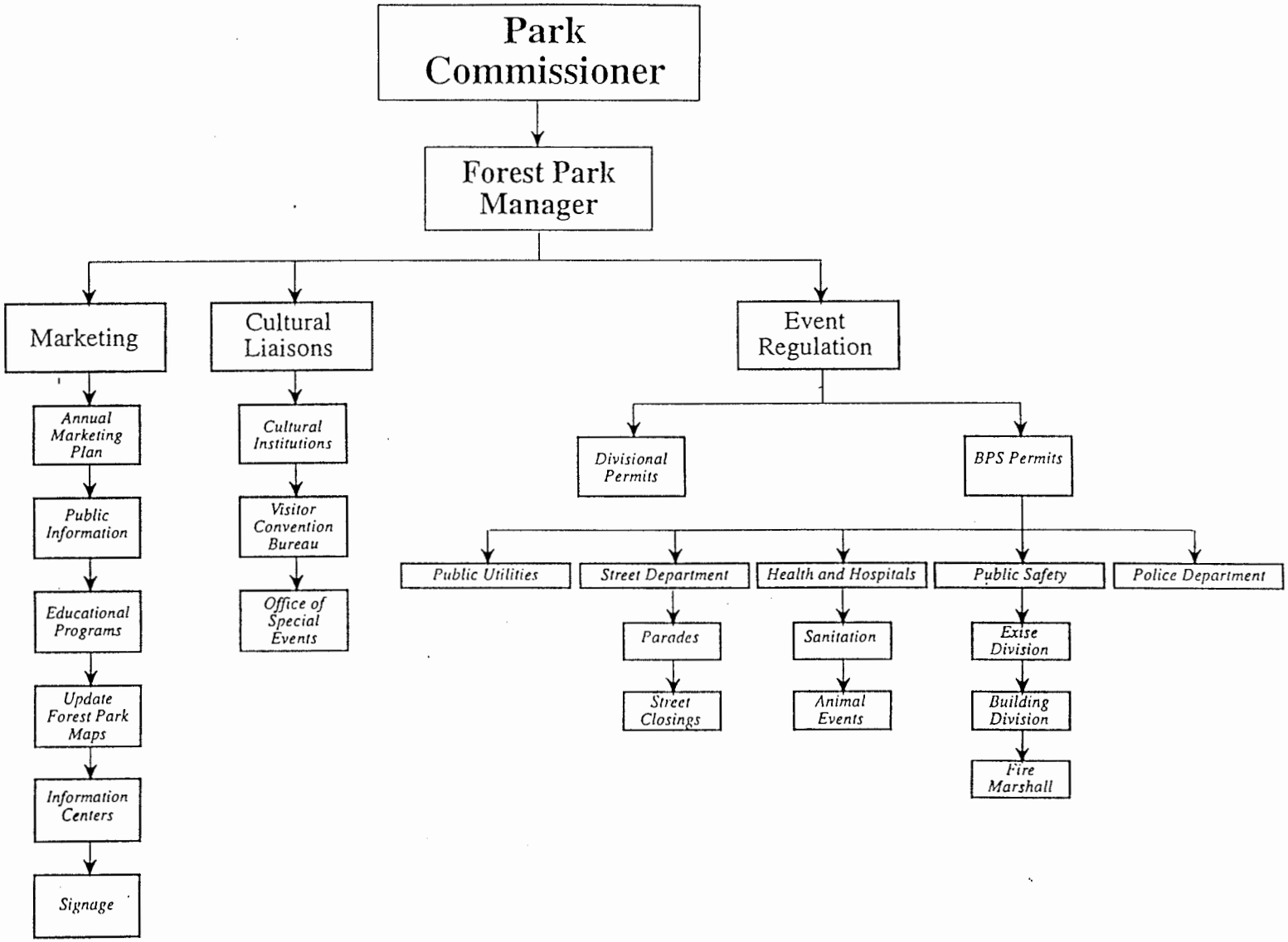
- The Forest Park Manager will review and recommend for approval all contracts, leases and permits (to appropriate authority) to occupy or use portions of Forest Park owned and controlled by the City, and park drives and facilities therein, consistent with the provisions of the Revised Forest Park Master Plan.

- The Forest Park Manager, with the approval of the Park Director, shall establish rules and regulations governing fishing, boating, ice skating, and all other water recreation, sledding, ball and game playing, golf practice, and all other uses of active and passive areas with Forest Park.

- The Forest Park Manager, with the approval of the Board of Public Service, shall establish rules and regulations to set to the highest responsible bidder concession privileges in Forest Park for terms not to exceed five (5) years, consistent with the procedures for other City parks codified in chapter 22.2C of the Revised Code of the City of St. Louis, 1994, Annotated.

5. Event Regulation

The Permit Section is responsible for all permits issued by the Department of Parks, Recreation and Forestry. The Permit Section issues athletic field (softball, soccer, rugby, football, etc.) permits, picnic permits, vending/concession permits, permits for major special events (festivals, fundraising walks/runs, concerts, etc.), and permits to use the Jewel Box for weddings. In addition, they reserve and schedule the delivery of all equipment requested for special events. Over 5,000 revenue-generating permits are issued annually by the permit section, 350 of which are for events in Forest Park.



Forest Park Event Regulation and Marketing

City of Saint Louis
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

Special events are coordinated between the Forest Park Manager and the three employees in the Permit Section. Published policies are developed for special events. This system was established to administer scheduling, staffing, resources, and coordination of special events.

6. Marketing

Policies are in place to enhance the public's knowledge of the park. A comprehensive marketing strategy is in the final stages of development. The plan will offer educational programs and outreach activities to enhance the public's knowledge of the park. It will establish conditions for use, publish policies developed for special events requiring Board of Public Service approval, issue a central monthly calendar of events for Forest Park, and reserve facilities in a manner that assures full public accessibility and ensures equity.

7. Park Security

A Security Committee within the Parks Department has been formed with the St. Louis Police to establish an ongoing program to address security issues in Forest Park. Current issues include increased police patrols, security phones, lighting, and the instigation of a Park Ranger program.

Security in Forest Park is provided by a uniformed Park Security Force, the St. Louis Police Department (District 2), and the Mounted Police Section.

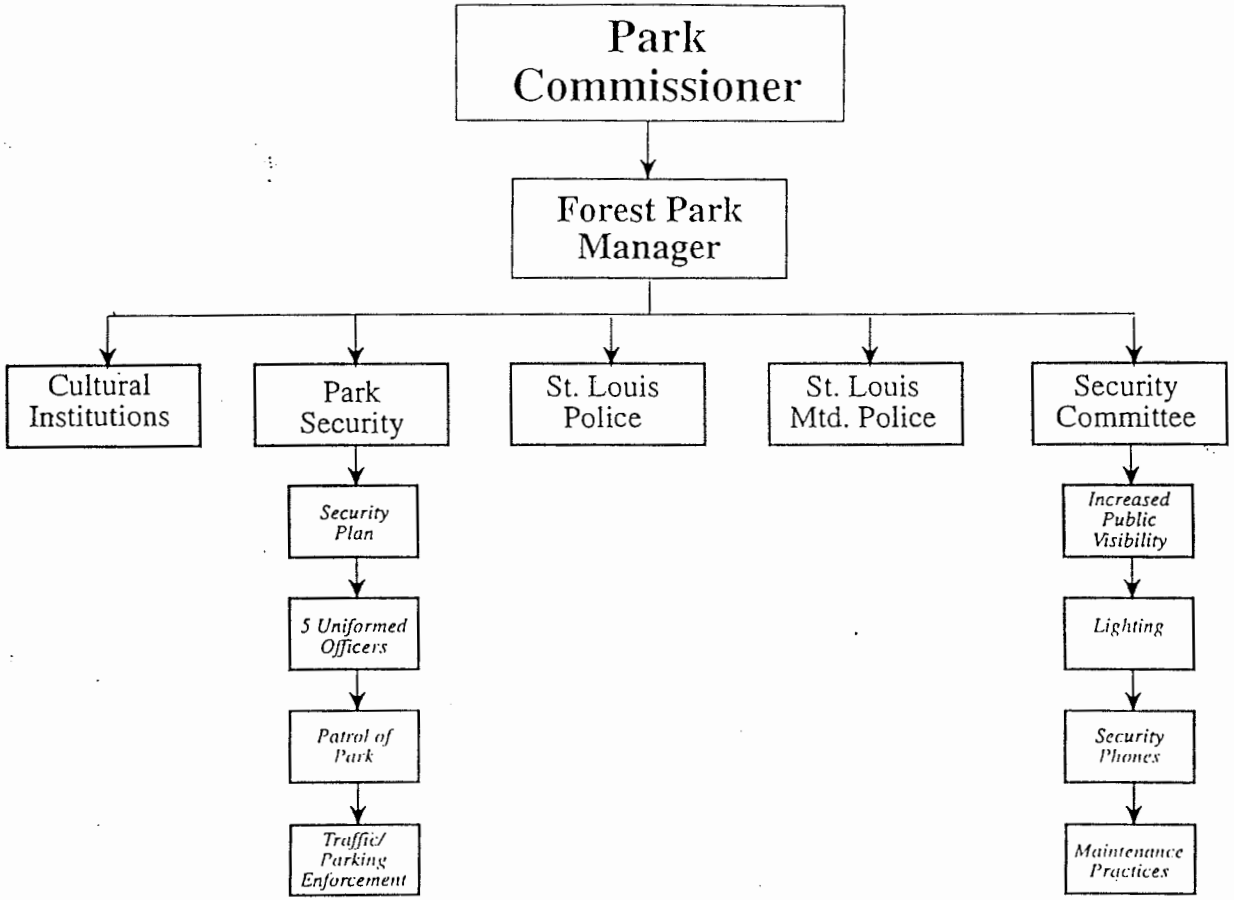
The primary source of security in Forest Park is provided by the Park Security Force. The Park Security Officer has the same powers of arrest as a St. Louis Police Officer within the park proper. If an incident occurs in the park, the Park Security Officer can request additional assistance from the St. Louis Police Department.

Five Park Security Officers are assigned to patrol Forest Park on a daily basis, seven days per week. They are assigned as follows: one officer from 8 AM to 4 PM, two officers from 4 PM to 12 Midnight ,and two officers from Midnight to 8 AM.

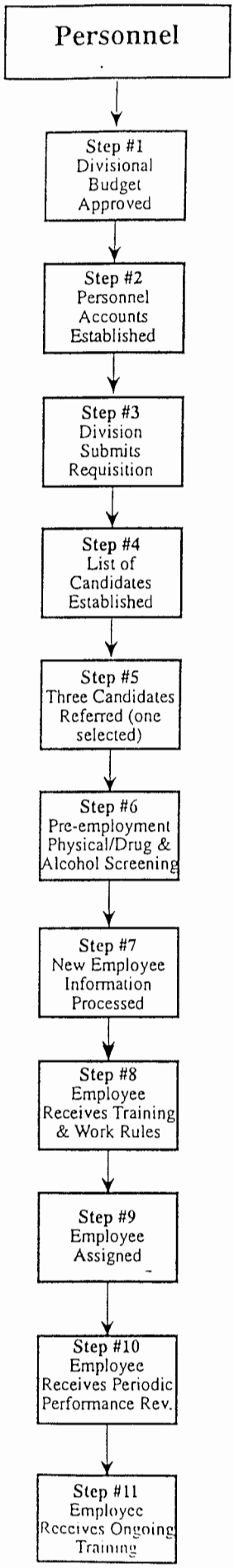
Maintenance practices associated with security have been addressed by the Parks Maintenance Section. Trees are trimmed to allow for adequate lighting around fixtures, buildings are evaluated for ingress and egress safety in regards to shrubbery, and all practices are monitored on a weekly basis by the Parks Department. Emphasis is on improving Park Security without harming the landscape.

8. Personnel and Supplies/Equipment

Detailed processes have been developed for the procurement of employees and supplies and equipment. The processes are summarized on the charts on the following pages.



Security Systems



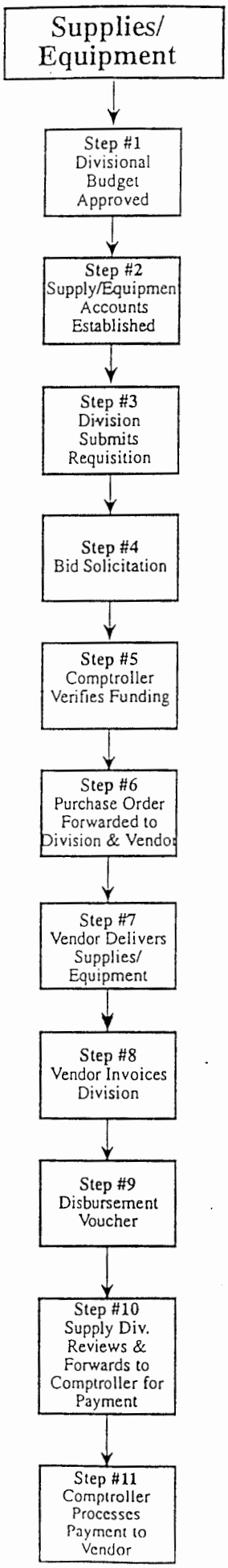
Forest Park Employee Procurement Process

City of Saint Louis

Department of Parks, Recreation and Forestry

St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN



Forest Park Equipment Procurement Process

City of Saint Louis

Department of Parks, Recreation and Forestry

St. Louis Development Corporation
Urban Design Department

FOREST PARK MASTER PLAN

III. FUNDING PLAN

A. Overview

B. Implementation Plan

C. Cost Estimate

D. Funding Plan

LIST OF DRAWINGS AND EXHIBITS

Annual Forest Park Funding
1/2 cent Sales Tax Trust Fund
1994 Forest Park Fund
Additional Funding
Potential Implementation Phasing - Phase 1 - 1996-1998
Potential Implementation Phasing - Phase 2 - 1999-2001
Potential Implementation Phasing - Phase 3 - 2002-2004
Potential Implementation Phasing - Phase 4 - 2005-2007
Potential Implementation Phasing - Phase 5 - 2008-2010
Summary: Cost Estimate

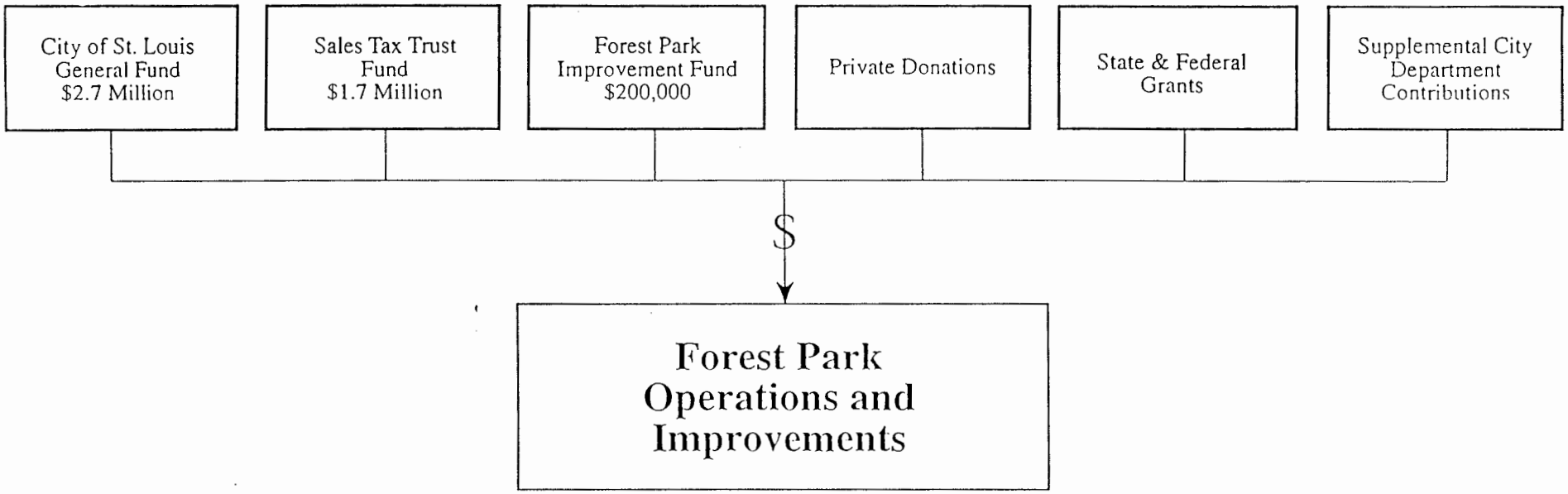
A. Overview

Funding sources for Forest Park include the city's general fund, the city's capital fund, the Forest Park Improvement Fund, private donations, grants, and supplemental city departmental contributions.

Forest Park currently has an annual operating budget of approximately $2.9 million. Funding for operating expenses for Forest Park come, from City general revenue funds, which are allocated on an annual basis. These funds are used to cover such expenses as grounds maintenance, facilities maintenance, floriculture, park security, tree care, utilities, and miscellaneous support services.

The Forest Park Capital Improvement Fund currently refurbishes existing grounds and structures in the park. This fund comes from a 1/2 cent sales tax that was passed by voters in 1993. In 1994, major city parks began receiving 17% of the total sales tax revenues for capital improvements. The Forest Park Fund also receives direct allocations from lease payments, permits/contracts, Roundup contributions, private donations, and interest. Examples of Forest Park capital improvements since 1994 include replacing or repair of curbs, walks, bridges, catch basins, upgrading of park buildings to comply with the American Disabilities Act, and other miscellaneous improvements.

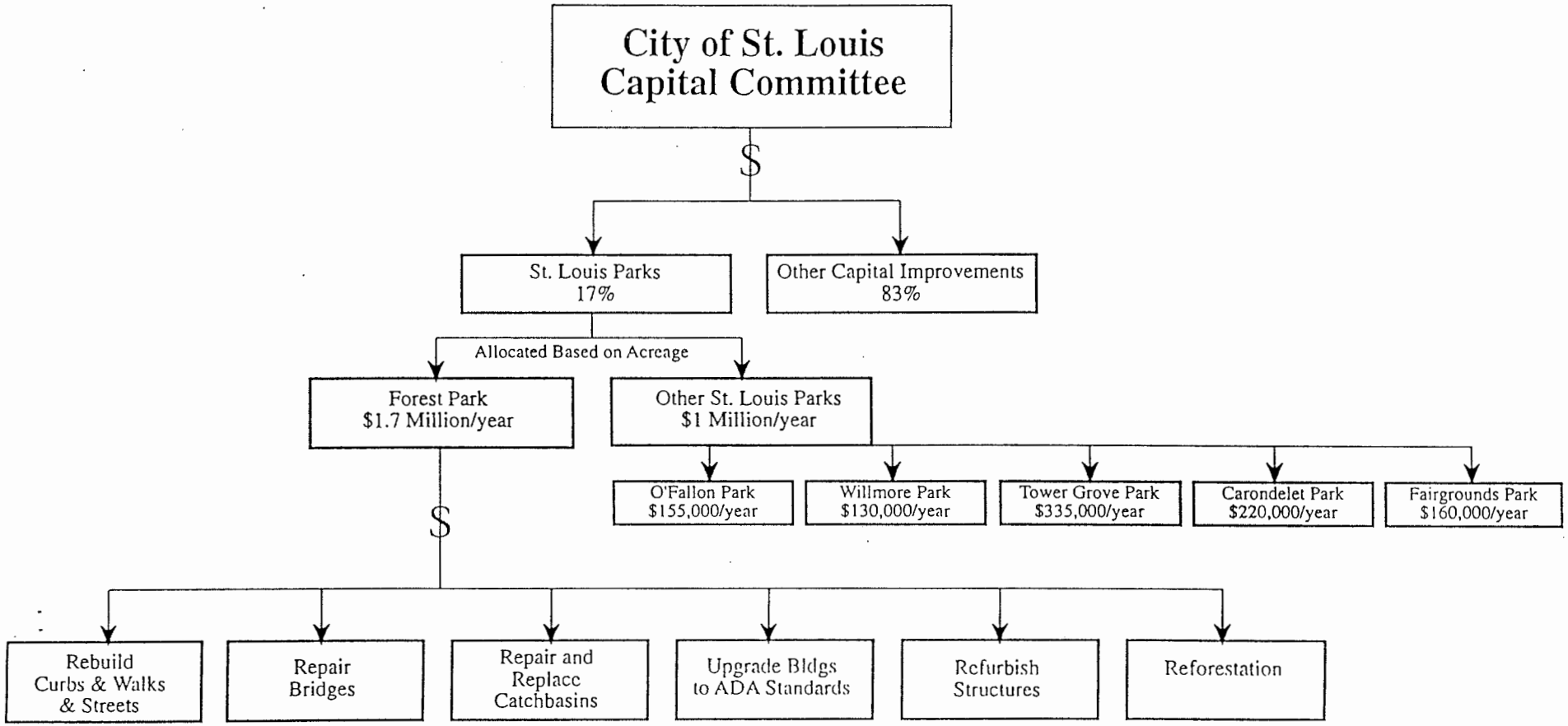
Additional funding for Forest Park is derived from St. Louis City and County property taxes. The Zoo Museum District provides a total of $33 million for operations and improvements for the St. Louis Zoo, Art Museum, St. Louis Science Center, and the Missouri History Museum.



Annual Forest Park Funding

City of Saint Louis
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

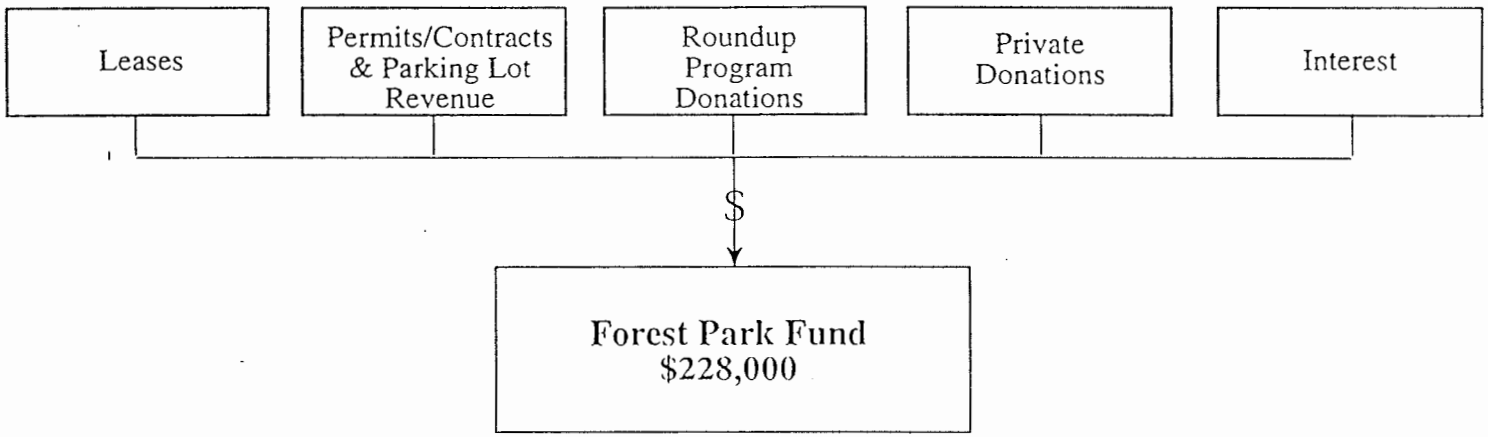
FOREST PARK MASTER PLAN



1/2¢ Sales Tax Trust Fund

City of Saint Louis
Department of Parks,
Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

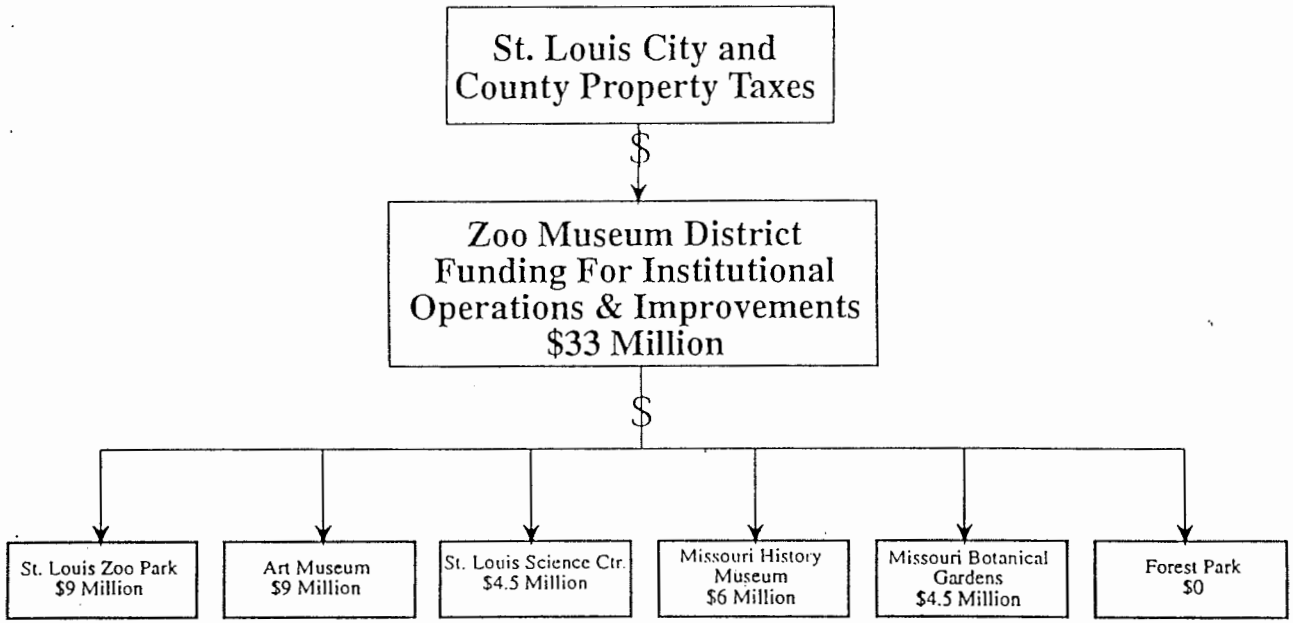
FOREST
PARK
MASTER
PLAN



1994 Forest Park Fund

City of Saint Louis
Department of Parks, Recreation and Forestry
St. Louis Development Corporation
Urban Design Department

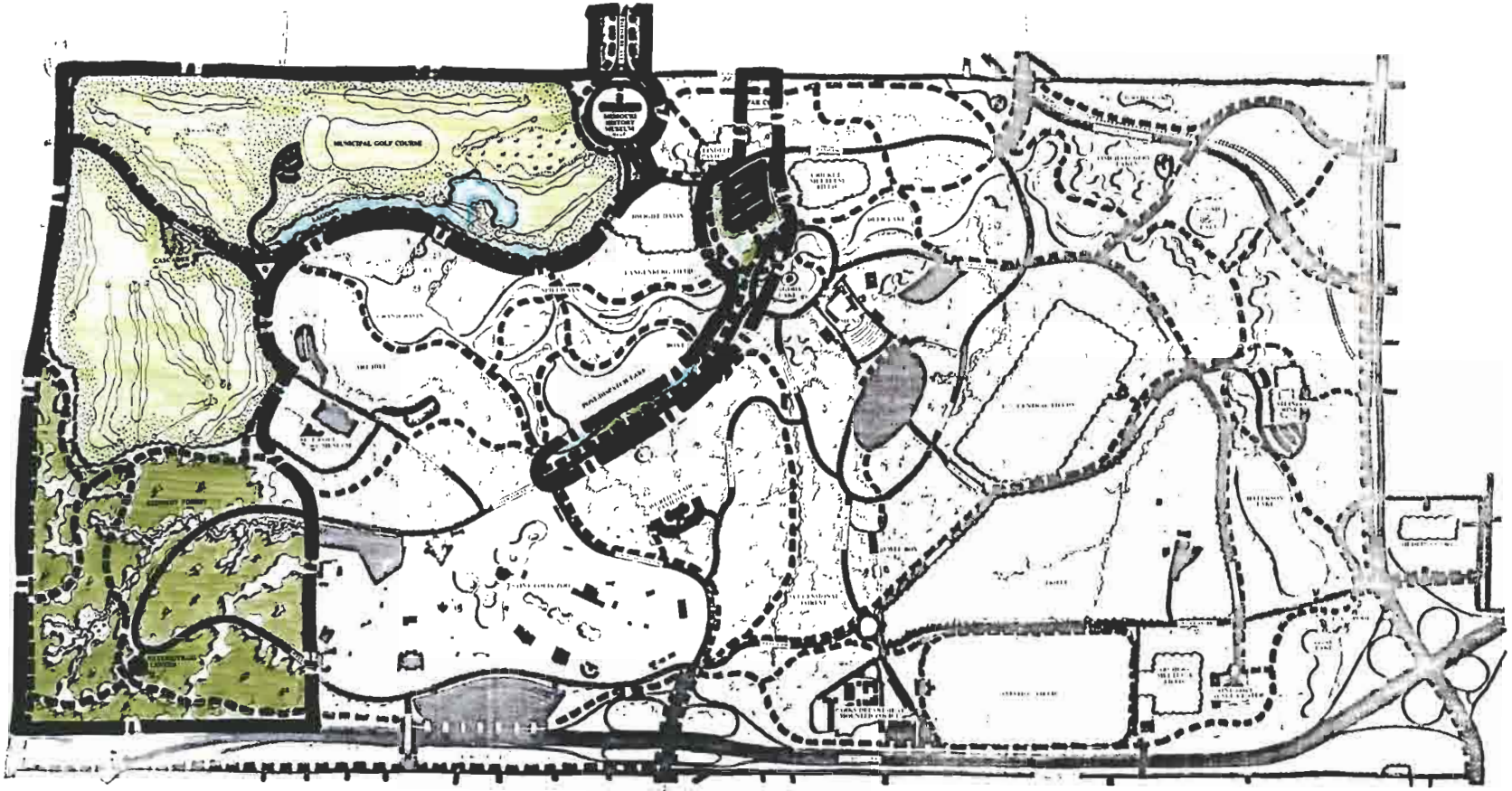
FOREST PARK MASTER PLAN



Additional Funding

B. Implementation Plan

There are many possible approaches for implementing the Forest Park Master Plan. For the purposes of estimating the associated costs, a conservative implementation plan of 15 years was assumed. Based upon this, the phasing diagrams provide a general direction and approach to the construction of the Master Plan. The actual implementation schedule and approach will depend upon funding.



Note: This is a suggested order of phasing which is subject to change based on funding commitments and other considerations such as construction scheduling, etc.

CITY OF SAINT LOUIS
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
ST. LOUIS DEVELOPMENT CORPORATION
URBAN DESIGN DEPARTMENT

FOREST PARK MASTER PLAN

14 OCTOBER 1995

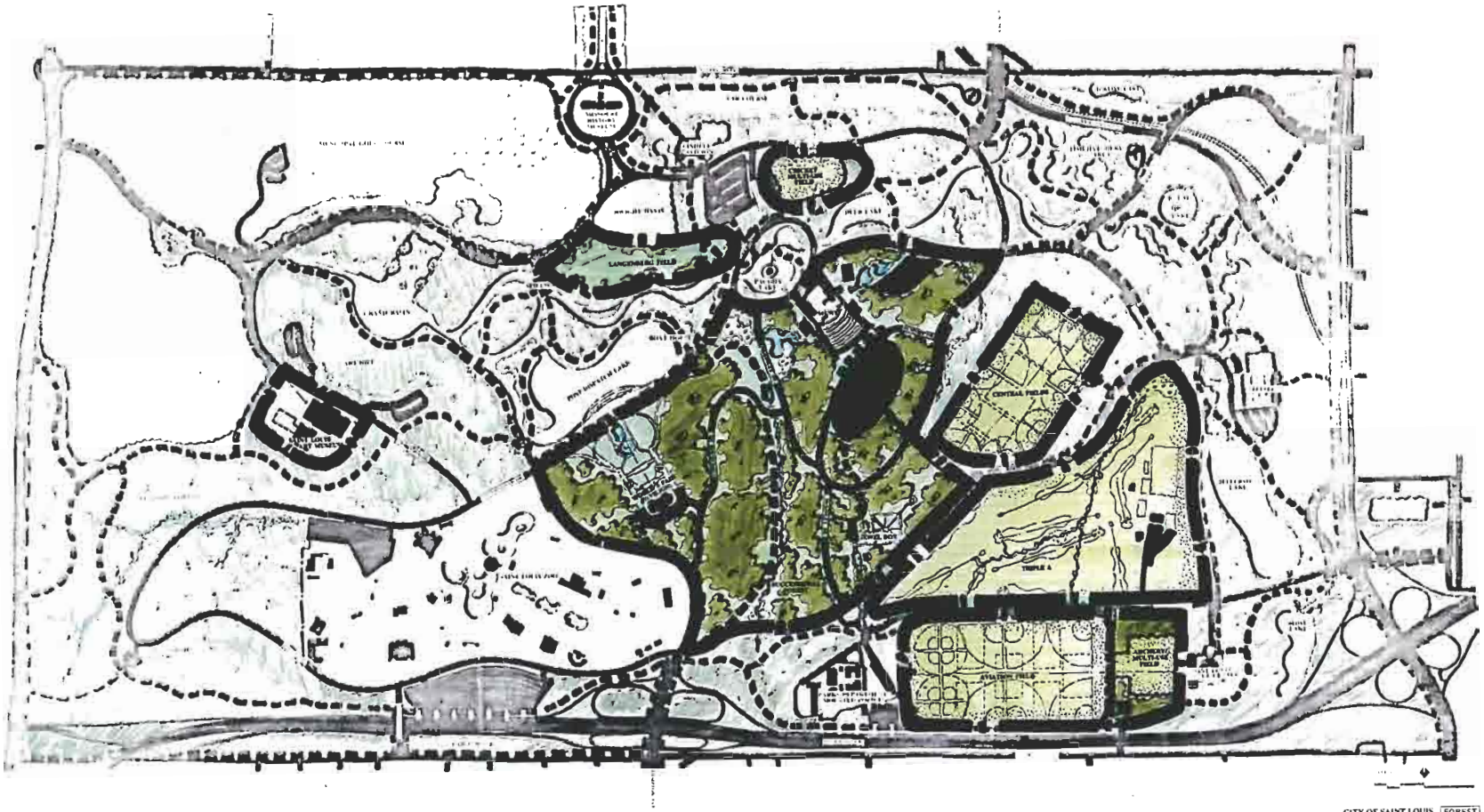
COMPOSITE CONCEPT DIAGRAM
Forest Park Master Plan

Potential Implementation Phasing
Phase 1 - 1996 - 1998

COMPOSITE CONCEPT DIAGRAM
Forest Park Master Plan

CITY OF SAINT LOUIS
FOREST PARK MASTER PLAN
14 OCTOBER 1995

Potential Implementation Phasing
Phase 2 - 1999 - 2001

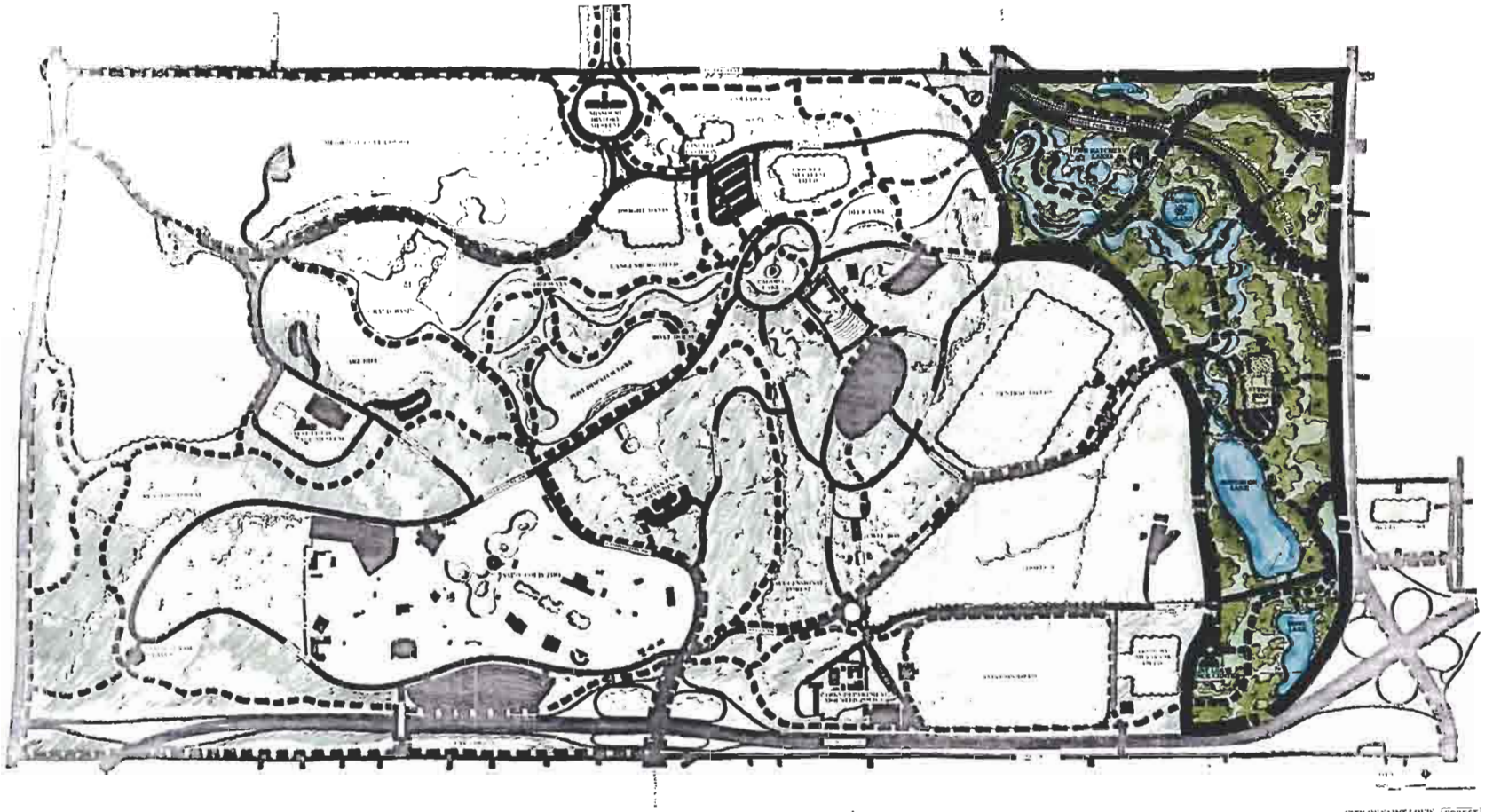


CITY OF SAINT LOUIS
FOREST PARK MASTER PLAN

14 OCTOBER 1995

COMPOSITE CONCEPT DIAGRAM
Forest Park Master Plan

Potential Implementation Phasing
Phase 3 - 2002 - 2004



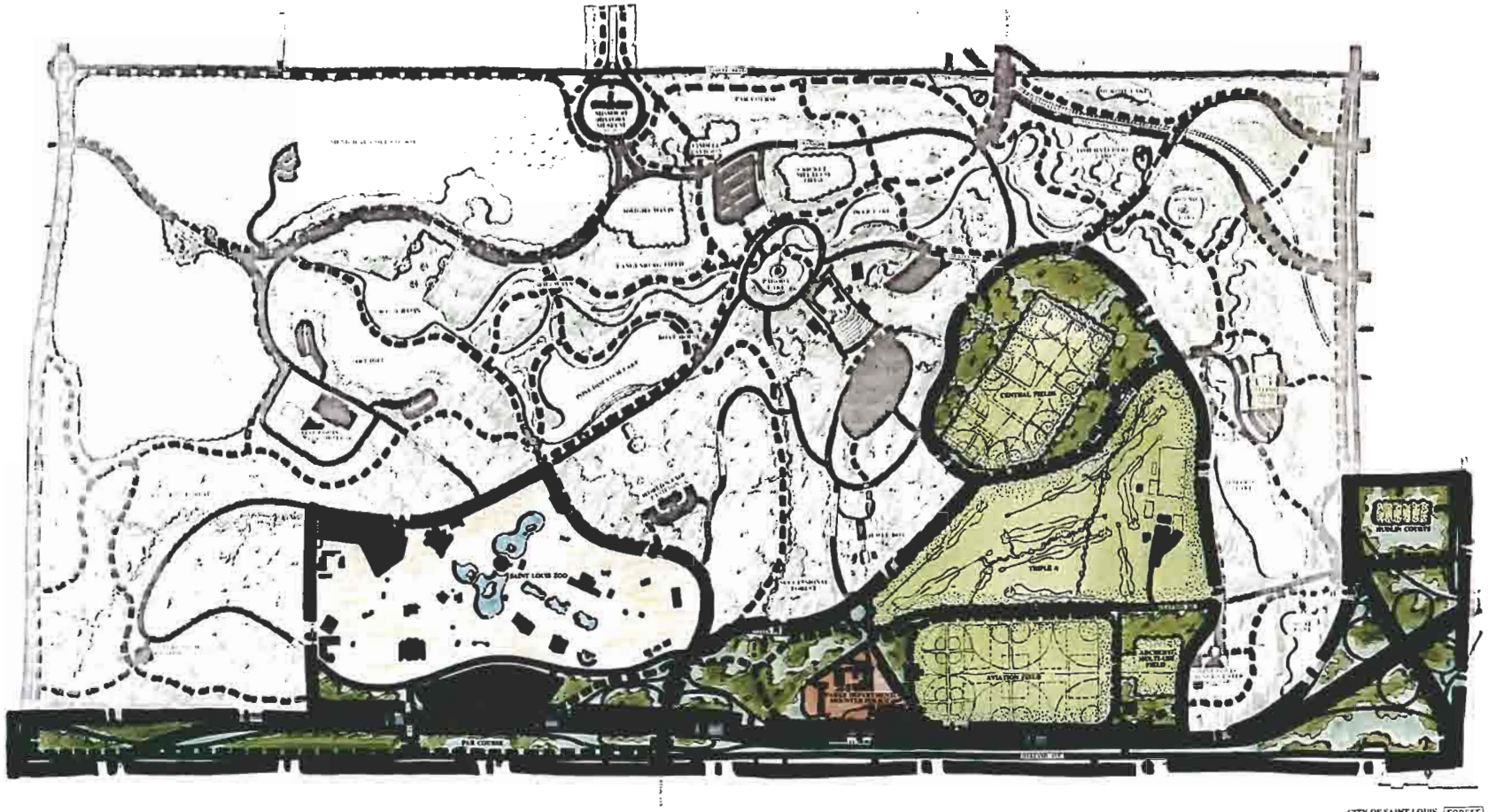
CITY OF SAINT LOUIS

FOREST PARK MASTER PLAN

14 OCTOBER 1995

COMPOSITE CONCEPT DIAGRAM
Forest Park Master Plan

Potential Implementation Phasing
Phase 4 - 2005 - 2007



COMPOSITE CONCEPT DIAGRAM
Forest Park Master Plan

CITY OF SAINT LOUIS
FOREST PARK MASTER PLAN
14 OCTOBER 1995

Potential Implementation Phasing
Phase 5 - 2008 - 2010

C. Cost Estimate

The Forest Park Master Plan Construction Cost Estimate is a very general guess at an order of magnitude of the cost of such a project. There are just too many variables that have not been investigated sufficiently to give a more precise cost estimate. Therefore, this cost estimate must be taken as a working guide only and not as fact. Detailed cost estimates should be prepared on a project by project basis.

The cost estimate does not include the following:

- Sanitary and storm sewers (based on assumption that Metropolitan Sewer District will assume jurisdiction over, and maintenance of, all sewers in the Park).
- Site Furnishings - park benches, trash cans, drinking fountains, etc.
- Investigation, identification, removal, or abatement of any hazardous material.
- Legal cost, title search, archeological search, environmental impact.
- Administration costs.
- Maintenance and operational cost.
- Financing cost.
- Utility upgrades/replacements— the present cost estimate assumes existing main lines will be replaced in existing locations. The Master Plan Design principles call for creating underground utility corridors. The detailed cost/benefit implications of utility corridors have not been determined.
- Restoration and improvement of the following facilities are not included:
  Jewel Box
  Triple A Golf Course improvements
  Archery Range Safety improvements and establishing multi-use field
  West Pine Comfort Station
  Spillways Pavilion
  Exterior renovation of all comfort stations
  Art Museum
  Science Center
  MUNY
  Zoo
  Mounted Police
  Cabanne House
- Kennedy Forest Nature Center and Trail - work to be performed by MODOC.
- Kingshighway improvements.
- Stabilizing hillside on northeast side of Science Center.
- Decorative paving elements at crosswalks and intersections.
- Restoration of Post-Dispatch suspension bridge.

- Any improvements to Round Lake.
- Demolition of upper Muny lot restrooms.
- Pedestrian lights.
- Signage.
- Highway 64/40 interchange improvements and any effect on park road system.
- Institutional utilities.
- Parking lots - south lot adjacent to the Zoo and Zoo north lot.
- General aesthetic/beautification overview of entire park.
- Turtle Park.
- Improvements to Macklind underpass & community college overpass.
- Landscape improvements to Highway 64/40.
- Sports facilities at Lindell Pavilion.
- Improvements to surrounding road system.

SUMMARY: COST ESTIMATE

1.	"ROADWAYS, WALKS AND CURBS" INCLUDES: Removal of existing Pavement and Base as indicated Regrading to conform to new profiles Installation of 6" Type 1 Agregate SubBase, 4""Type "X" Asphaltic Concrete Base, and 2" Type "C" Asphaltic Concrete Wearing surface for remaining existing and new Roads and Parking. Installation of 2'-6" Wide combination Curb and Gutter, both sides of Roadways Installation of 6' Wide, 4" Concrete Sidewalks, both sides of Roadways Reconstruction of existing Storm Water Inlets and associated Piping Construction of Kingshighway On-Ramp	$13,750,000
2.	WATER DISTRIBUTION SYSTEM INCLUDES: Excavation and Removal of existing Water Lines Installation of New Water Lines along Current System configuration Installation of all Required Fittings and Connections Replacement of Fire Hydrants	$5,240,000
3.	CITY ELECTRICAL SYSTEM (Conductors only) INCLUDES: Excavation and Removal of existing City High Voltage and Low Voltage Electric Lines Installation of New City High and Low Voltage Electric Lines, in Conduit, along Current System configuration Installation of all Required Fittings and Connections DOES NOT INCLUDE:Installation of New Tranformers or Metering Devices, if Required	$2,090,000
4.	LAKE/LAGOON SYSTEM INCLUDES: Restoration of Existing lakes Floating Aeration Fountains Creation of Deep Pockets necessary for Aquatic Winter Survival Water Inlet Source Modification and Relocation Restoration of Fish Hatcheries Clearing, Excavation and Fill Required Seeding and Wetlands Storm Sewer System to drain Ponding Areas Construction of Wiers	$6,680,000
5.	MISCELLANEOUS SITE WORK INCLUDES: Plantings (Water-Related Specialty Plantings Berms (not related to Lake System) Site-Specific Landscaping Entrance Landsaping	$760,000
6.	NEW GOLF COURSE (27 HOLES) INCLUDES: Earthwork Greens, Bunkers and Cart paths Drainage, Erosion Control and Irrigation System Seeding and Grassing Maintenance Building and Misc. Structures	$3,230,000
7.	REFORESTATION INCLUDES: Planting of New Trees Maintenance for 10 Year Period Computer Tree Inventory New Equipment	$2,325,000

8.	WALKING/RUNNING/BIKE PATHS INCLUDES: Grading and Installation of 3/4" Granular Material, 8' Wide for Walking/Running Paths and Installation of Concrete Edging Grading and Installation of General Paths, Concrete and Soft Grading and Installation of Bike Paths, Combination Concrete and Soft Removal and Replacement of all Bike Paths	$4,870,000
9.	STREET LIGHTING INCLUDES: Removal and Relocation of Existing Street Light Standards Rewiring of Standards Removal of Lights along Removed Roadways Assumes enough Salvage from Removed Roadways (20%) to cover any Replacements required (No NEW Fixtures included)	$3,975,000
10.	POST DISPATCH LAKE SEWER SYSTEM INCLUDES: Excavationand Backfill Sewer Pipe Manholes	$3,000,000
11.	BIDGES AND CULVERTS INCLUDES: Reconstruction of McKinley, Old Stable Bridge, Steinberg and Union Bridges Seventeen Miscellaneous Culverts throughout Park	$1,610,000
12.	PARK FACILITIES AND FEATURES INCLUDES: Restoring Grand Basin, including Edge Treatment, Lighting, Handrails, Paths and Pedestrian Bridges Restoring Post Dispatch Lake, including Edge treatment, Lighting, Handrails and Demolishing and Rebuilding boathouse Restoring Lindell Pavillion, including new Locker Room Area One Large Playground Area Five new Volleyball Courts Restoring Fish Hatcheries Building Restoring Steinberg Rink Building Central Fields Facilities, including renovation of Field House and new restroom Facility Aviation Field Facilities, including renovation of Field House and new restroom Facility Fifteen Picnic Shelters	$8,235,000
13.	ACTIVE RECREATION INCLUDES: Relocation of Rugby Fields Reconfigure Central Fields Reconfigure Aviation Field	$1,900,000

SUBTOTAL	$57,665,000
CONTINGENCY @ 20.00%	$11,533,000
TOTAL PRESENT DAY CONSTRUCTION COST	$69,198,000
PROFESSIONAL DESIGN FEES @ 10.00%	$6,920,000
CONSTRUCTION MANAGEMENT FEES @ 5.00%	$3,460,000
TOTAL PRESENT DAY DESIGN, CONSTRUCTION AND MANAGEMENT COST	**$79,578,000**
ESCALATION COSTS OVER 15 YEARS	$20,079,000
TOTAL ESCALATED DESIGN, CONSTRUCTION AND MANAGEMENT COST	**$99,657,000**

D. Funding Plan

The Forest Park Master Plan will be implemented over a 10–15 year period and it is estimated that the total cost to implement the recommendations in this Plan will be approximately $100 million. For park renovations and improvements of this scale, it is typical that a private/public partnership be developed. Forest Park Forever was established a number of years ago to fulfill the private fund raising requirement. The public funding from the City of St. Louis is based upon the 1/2 cents sales tax which generates approximately $1.8 million per year for Forest Park. Additional public funds from the state and other local public entities should be sought. A detailed funding plan must be developed in partnership with Forest Park Forever, but, in principle, a 50/50 public/private funding partnership is typical for parks of this scale and importance.

OFFICE OF THE MAYOR
CITY OF ST. LOUIS
MISSOURI

FREEMAN R. BOSLEY, JR.
MAYOR

CITY HALL - ROOM 200
1200 MARKET STREET
SAINT LOUIS, MISSOURI 63103-2877
(314) 622-3201
FAX: (314) 622-4061

January 27, 1995

Dear Friend of Forest Park:

It is my pleasure to enclose the Goals and Policies of the Forest Park Master Plan as approved by the Board of Aldermen.

I want to commend the Board of Aldermen for its bold action last week. The Board's unanimous passage of the Forest Park measure is a victory for all of St. Louis. Their approval allows us to proceed with the next phase of the Master Plan process. Together, we will develop designs that will address the needs of the park into the next century.

I am proud to see St. Louis come together to work out it's differences over one of the city's most beloved, yet controversial resources. The commitment of the citizens, civic leaders and governmental officials assures me that the process I started many months ago is paying off.

I look forward to working with you and the entire community as we see this process forward. Your support of this comprehensive planning effort is greatly appreciated.

Best wishes,

Freeman R. Bosley, Jr.
MAYOR

DEPARTMENT OF PARKS, RECREATION & FORESTRY
CITY OF ST. LOUIS

5600 CLAYTON ROAD 63110
IN FOREST PARK

FREEMAN R. BOSLEY, JR.
MAYOR

DIRECTOR
(314) 535-5050
FAX (314) 535-3901

DIVISION OF PARKS
(314) 535-0100

DIVISION OF RECREATION
(314) 535-0400

DIVISION OF FORESTRY
(314) 535-0075

January 30, 1995

Dear Forest Park Master Plan Committee Member:

Thank you for your continued commitment to the future of Forest Park.

Enclosed please find the final version of the Goals and Policies adopted by the Board of Aldermen at their meeting on January 20, 1995. Please note this document includes several amendments approved by the Board.

We look forward to seeing you at the next meeting.

Sincerely,

Gary D. Bess, Co-Chair
Forest Park Master Plan Committee

Kathryn Nelson

Kathryn Nelson, Co-Chair
Forest Park Master Plan Committee

BOARD OF ALDERMEN

CITY OF SAINT LOUIS
MISSOURI
COMMITTEE SUBSTITUTE
RESOLUTION NUMBER 178

WHEREAS, a Master Plan for Forest Park was adopted by the Community Development Commission in November, 1983; and

WHEREAS, Mayor Freeman R. Bosley, Jr. convened a "Forest Park Summit" to discuss the future of Forest Park in December, 1993, and subsequently appointed a Forest Park Master Plan Committee to conduct an open and inclusive process to guide the City's revision of said Master Plan; and

WHEREAS, said committee has completed the first phase of its mission and has presented to the Mayor its recommendations for the "Goals and Policies" dated November 7, 1994, that should form the basis for future City actions concerning Forest Park, as well as, for said review, update and revision of the Forest Park Master Plan; and

WHEREAS, the Mayor has forwarded said proposed "Goals and Policies", along with his recommendation and comments, dated November 18, 1994, to this Board to the end that we might review, approve and implement them; and

WHEREAS, our Committee on Parks and Environmental Matters has conducted a public hearing, deliberated and recommends that said "Goals and Policies," as amended, be adopted and implemented; and

WHEREAS, this Honorable Board of Aldermen hereby finds that there is a need to review, update and revise said Master Plan;

NOW THEREFORE BE IT RESOLVED that this Honorable Board of Aldermen does hereby approve the "Goals and Policies" for the future of Forest Park, dated January 17, 1995, and attached hereto as Exhibit A; and in order to implement and facilitate the effectuation of the "Goals and Policies" hereby approved it is found and determined that certain official matters must be taken by this Board and accordingly this Board hereby:

1. Pledges its cooperation in helping to carry out the "Goals and Policies";

2. Requests the various officials, departments, boards and agencies of the City, which have administrative responsibilities related to Forest Park, likewise to cooperate to such end and to execute their respective functions and powers in a manner consistent with the "Goals and Policies";

Room 230, City Hall • St. Louis, Mo. 63103 • (314) 622-3287 • FAX 622-4273

3. Stands ready to consider and take appropriate action upon proposals and measures designed to effectuate the "Goals and Policies"; and

4. Reaffirms the requirements of Ordinance 59741 (Chapter 22.42 of the Revised Code) pertaining to the process for the approval or denial of any proposed changes in land use or alterations of existing facilities within Forest Park. Such procedures are outlined in Exhibit B, dated January 9, 1995, attached hereto; and

BE IT FURTHER RESOLVED, that this Honorable Board does hereby also approve the proposed Scope of Work and Methodology, dated January 17, 1995, and attached hereto as Exhibit C, for preparing recommendations for the formal revision of the Forest Park Master Plan by the Community Development Commission; and

BE IT FINALLY RESOLVED, that this Honorable Board makes the following recommendations:

1. The Mayor should clarify the respective roles of the Forest Park Master Plan Committee (FPMPC) and its Executive Committee to reflect that the FPMPC is an advisory group and the Executive Committee is the formal decision making body for the purpose of preparing the Final Draft Revised Forest Park Master Plan for the consideration of the Community Development Commission; and

2. The Mayor should appoint the Director of Planning of the Community Development Agency to the Executive Committee to ensure that this decision making body is comprised of equal numbers of City government and non-City government members, and to provide effective coordination and communication with the Community Development Commission.

Introduced by request of the Mayor the 18th day of November, 1994 by:

The Honorable Daniel J. McGuire, Alderman 28th Ward

Committee Substitute reported out of the Parks & Environmental Matters Committee with a "Do Pass" recommendation on the 17th day of January, 1995

Adopted this the 20th day of January, 1995 as attested by:

Fred F. Steffen
Clerk, Board of Aldermen

Thomas A. Villa
President, Board of Aldermen

Forest Park Master Plan

S a i n t L o u i s

Goals and Policies

EXHIBIT A
January 17, 1995

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Forest Park Master Plan
Goals and Policies

Statement of Purpose

This document marks a major milestone in the effort to revise and update the 1983 Forest Park Master Plan. It contains:

- a vision statement for Forest Park , which provides broad directional goals.
- a list of goals, which are designed to guide policies and design recommendations.
- A set of policies, which provide detailed guidance on ways to realize the vision and which will form the basis for site-specific design principles and recommendations (including costs and priorities) to follow.

The vision, goals and policies will be presented for adoption by resolution of the Board of Aldermen of the City of St. Louis. Once adopted, they will give formal legislative direction and input to the Mayor's Forest Park Master Plan Committee (FPMP Committee) and its Executive Committee, and ultimately to the Community Development Commission (CDC), for the revision of the 1983 Forest Park Master Plan in general, and specifically the park design and governance plans contained therein.

This document is the result of a year-long public planning process, and reflects the ideas, interests, and concerns of a large number of individuals, groups, institutions, and organizations. To the extent permitted by law, the vision, goals and policies contained herein will guide City actions until a formal revision of the Plan is approved by CDC.

The FPMP Committee and its Executive Committee will develop its proposed Revised Forest Park Master Plan, including specific design recommendations and guidelines. Their work will be guided by these newly adopted goals and policies.

Next Steps

I. The FPMP Committee is recommending to the mayor that these goals and policies be sent to the Board of Aldermen for adoption by resolution.*

II. After the goals and policies have been adopted, the design phase will begin. Additional FPMP Committee and public review will be conducted in this phase. The Executive Committee will finally recommend that the revised Master Plan be adopted by the Community Development Commission.**

* See Adoption Process for Goals and Policies in Appendix.
** See Adoption Process for Revised Master Plan in Appendix.

Forest Park
Our Vision of the Future

Forest Park is a gathering place for St. Louisans and our guests, an urban park that is the home for attractions, events and activities that reflect our interests, culture, and history. It is a place to experience wonders great and small, natural and man made: an inspiring vista, an endangered species, an Old World masterpiece, real world technology, or a shady glen that offers a moment of tranquillity. It is a place we share, and a place for which we share responsibility.

Forest Park provides us with settings to appreciate the world around us, and within ourselves. It is easily accessible, yet free of the constant intrusions of daily life. Here we may walk barefoot in the grass, hear the sweet song of a migratory bird, watch young children catching their first fish or neighbors enjoying a summer's day. We may contemplate a piece of art or architecture, float on the lakes amidst falling autumn leaves, walk silently through a forest on freshly fallen snow, or lie in the fields of wildflowers as Spring arrives.

As home to many of our finest cultural institutions, Forest Park is a place to come face-to-face with a gorilla, take a journey through the heavens or back in time, hear the stars sing at night, or uncover the secrets of a pharaoh's tomb. It is a place of learning and discovery, of unique experiences that bring us back again and again.

As a center of recreational activity, Forest Park teems with athletes and sports enthusiasts at all levels, ages, and skills. Its paths, fields, courses, and courts allow those involved in each activity the freedom to enjoy the park without limiting the enjoyment of others.

As a focal point for special events, Forest Park gives us reasons to celebrate our heritage, our hopes, and our happiness. Our gatherings here help define our community, and demonstrate the warmth, wonder, and friendship that we share.

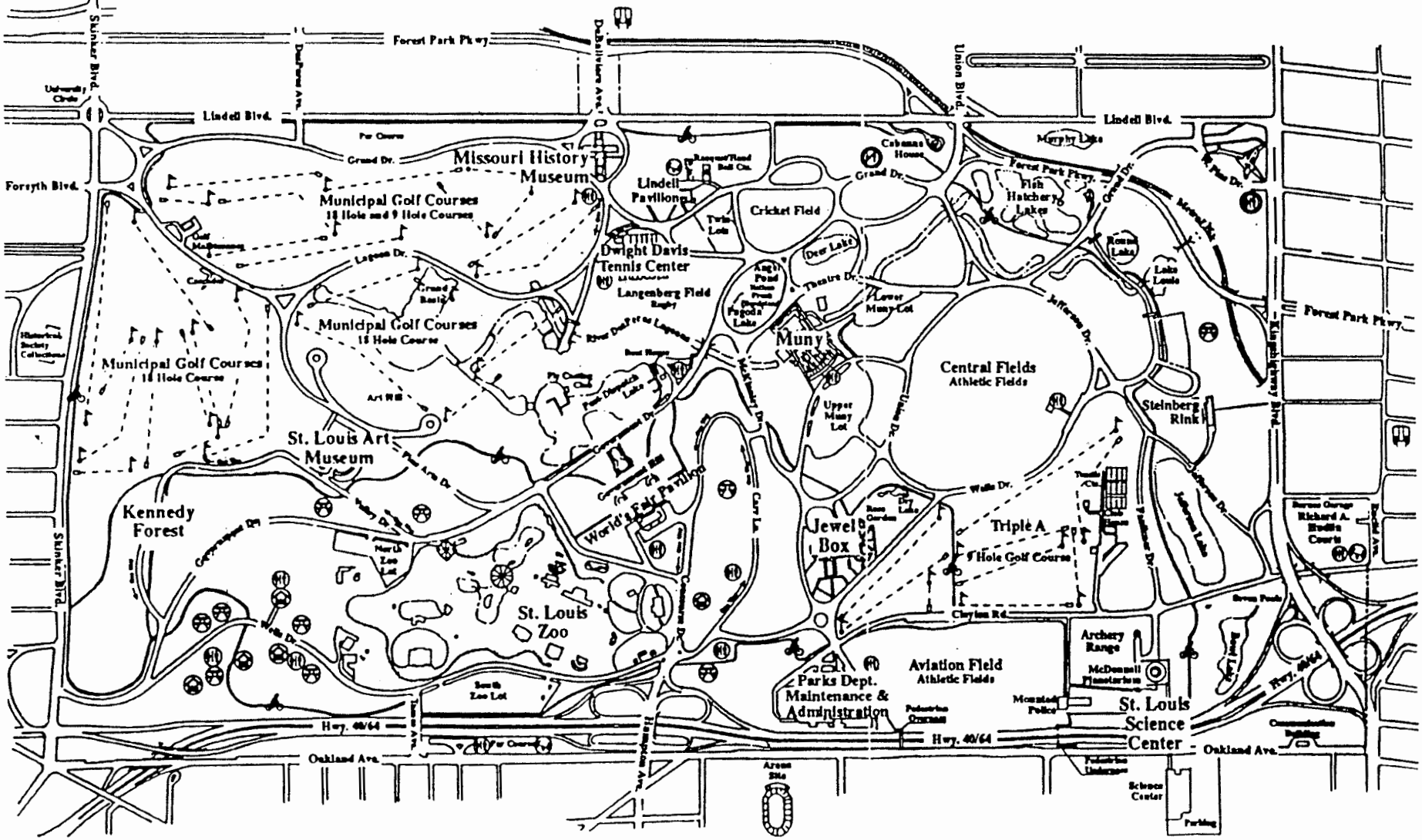
No where else can we share the variety and totality of experiences that Forest Park provides. The strength of the park flows from that sharing, from our willingness and ability to protect the park for all of us in all of our uses. Forest Park is more than a symbol of the beauty and tradition of St. Louis; it is a place where we define our community and celebrate our pluralism every day.

1. GOALS

- ☐ Forest Park should be ...
  - An attraction for visitors to St. Louis and the citizens of the region.
  - A place where the St. Louis region celebrates its pluralism.
  - The home of many of the region's special events, including multi-cultural events.
  - Well-maintained and safe for all park users.
  - An environmentally safe recreation area, posing no hazard to the health and safety of current and future park users.
- ☐ Forest Park should provide ...
  - For many of the diverse open space, cultural, and recreational needs and activities of the region.
  - For the preservation and maintenance of its natural resources, environment and wildlife habitat to ensure a sustainable, ecologically sound natural system.
  - Safe and enjoyable access for all park users.
  - Educational and volunteer programs, events, visitor services and outreach activities.
  - A diversity of activities, including multi-cultural events.
  - City-run and promoted youth programs.
  - Access and attractions that are in full compliance with the Americans with Disabilities Act (ADA).
- ☐ Forest Park's existing cultural institutions (Art Museum, Zoo, Science Center, History Museum and the MUNY) are valued and should remain in Forest Park.
- ☐ Forest Park's natural beauty, scenic value, and historic and cultural institutions should be the basis for the enjoyment of the park, regardless of future changes in types and levels of park activities and park users.
- ☐ Forest Park should be well-managed, governed and financed, based upon an open and inclusive, public/private, participatory process.
- ☐ Forest Park should be preserved as an affordable experience for all park users.
- ☐ The principles of stewardship, partnership and shared responsibility among all Forest Park entities are strongly encouraged.
- ☐ Available sites along the park's edge outside of its current boundaries, including the Arena site, should be pursued for future park needs.

Map of Forest Park

Existing Conditions - December 1994



LEGEND

- Approximate Forest Park Boundary
- Picnic Ground w/Shelter
- Picnic Ground w/o Shelter
- Children's Play Area
- Comfort Station/Toilets
- Permanently Closed
- Bike Path
- MetroLink Light Rail Station

2. MANAGEMENT AND IMPLEMENTATION POLICIES

2.0 GENERAL POLICIES

Maintaining the quality, uniqueness and attractiveness of Forest Park requires that it be well-managed, governed, and adequately financed. Effective management of the park must be based on an open and inclusive, public/private, participatory process that involves elected officials, city departments, citizens, park interest groups, neighborhood associations, and other appropriate groups. Specifically, this plan calls for:

- The creation of a Forest Park Board, appointed by the Mayor of St. Louis and approved by the Board of Aldermen, to monitor the implementation of the master plan and provide ongoing community input about Forest Park. Representation on this Board should follow a prescribed formula that ensures a broad, well-balanced base, including elected officials, city departments, citizens, park interest groups, neighborhood associations, and other appropriate groups.

- The establishment of a clear and logical process for addressing changes to Forest Park.

- The encouragement of partnerships between government, institutional, and private entities to benefit the park's daily operation and management.

- The development of a long-term comprehensive management and maintenance plan.

- The encouragement of the principles of stewardship, partnership, and shared responsibility among all Forest Park entities.

- The continuation of leasing or otherwise contracting for the operation of public facilities to non-city agencies/ organizations to assist in supplying needed services and/or producing revenue for Forest Park.

- The review, and update and revision of the Revised Forest Park Master Plan ten years after its adoption.

2.1 CITY AND PARK GOVERNANCE POLICIES

2.1.1. Establish Forest Park as a specific administrative and budgetary unit within the City of St. Louis Department of Parks, Recreation and Forestry, reporting to the parks director.

a. Disclose all sources and uses of revenue within the budget, including revenues such as permit fees which are generated in the park but used elsewhere.

2.1.2. Provide the community with substantive opportunities to participate in the resolution of park issues, by providing timely notice of proposals for action and reasonable opportunity to become informed and be heard.

a. Solicit community input from affected interests, established interest groups, and the public before making any decision of significance to the park.

2.1.3. Investigate the feasibility of creating a metropolitan park district in the long-term that would include Forest Park and would result in appropriate funding and governance structures.

a. Consider a long-term lease of Forest Park to such a district rather than a transfer of title.

2.1.4. Seek adoption of a revised master plan.
   a. Seek adoption of these goals and policies for the master plan revision by resolution of the Board of Aldermen.
   b. Seek adoption of the revised plan by the Community Development Commission.

2.1.5. Encourage the Zoo Museum District, its Subdistricts, and park leaseholders to adopt the revised master plan.

2.2 JURISDICTIONS POLICIES

2.2.1. Review the terms of all contracts, leases, agreements, and permits to ensure that they are specific and consistent with the objectives of the master plan and the guidelines included herein.
   a. Seek adoption of appropriate revisions.
   b. Monitor and enforce all contracts, leases, agreements, and permits on an ongoing basis.

2.2.2. Require the Metropolitan Sewer District (MSD) to repair and maintain all of Forest Park's sewers and other stormwater management systems, because of the park's location within the metropolitan sewer district.
   a. Pursue all necessary legal action to achieve this policy.

2.2.3. Clarify and define all jurisdictions and responsibilities in Forest Park.

2.3 DESIGN REVIEW POLICIES

2.3.1. Empower the Forest Park Board to oversee and review compliance with the plan and provide public review of significant modifications to the plan, including those made by tenants, outside agencies and the Parks Department.

2.3.2. Include the Forest Park Board as part of the public review process for major park projects, in addition to the Board of Public Service, and the Heritage and Urban Design Commission, and depending on the scope of the project, the Aldermanic Committee on Parks and Environmental Matters, and/or the Board of Aldermen, the Community Development Commission, the Metropolitan Sewer District, and any applicable ZMD Subdistrict.

2.3.3. Create design, maintenance, restoration, and preservation standards for landscapes, public art, architecture, and infrastructure which are specific to Forest Park.

2.3.4. Design uniform review procedures that should include the Zoo and the Art Museum which are now exempt by State law.

2.4 FUNDING SOURCES POLICIES

2.4.1. Develop, publicize, and regularly update a detailed list of capital projects with a general cost estimate component to aid in fund raising efforts and construction phasing.

2.4.2. Modify/manage the budget procedures, so that fiscal revenue and costs associated with the park can be monitored on an annual basis.

2.4.3. Consider applying all revenue generated from Forest Park to activities, improvements, and operations within Forest Park.

2.4.4. Investigate the feasibility of creating a metropolitan park district in the future that would include Forest Park and would result in appropriate funding and governance structures.

a. Consider a long-term lease of Forest Park to such a district rather than a transfer of title.

2.4.5. Explore additional funding sources for plan implementation, and daily operational and management costs, including:

- State of Missouri funding, (i.e. Parks Conservation Tax).
- Private donations.
- General obligation bond issues.
- Revenue bonds, to be repaid with the annual 1/2¢ sales tax revenue.
- Proceeds from permit and parking fees.

2.4.6. Continue the current organized efforts by the City and Forest Park Forever to obtain funds from public and private entities to implement the plan.

2.4.7. Continue and increase current funding levels by the City of St. Louis to stabilize park funding regardless of additional private funding levels.

2.4.8. Utilize private funds to support park improvements and capital expenditures only.

a. Upgrade the City's standards of maintenance and repair so that private and institutional sources of funding are assured of the security of their donations and investments.

b. The level of public funding should not be reduced.

2.5 DAILY MANAGEMENT, SPECIAL EVENTS, AND MARKETING POLICIES

2.5.1. Develop strategies to minimize damage to park land from service vehicles.

2.5.2. Maintain and apply a consistent process for obtaining and enforcing leases and permits.

2.5.3. Review, update, and publish policies and procedures for special events in Forest Park.

2.5.4. Develop and adopt a marketing plan to continue to promote a positive image for Forest Park.

2.5.5. Offer educational programs and outreach activities to enhance the public's knowledge of the park .

2.5.6. Develop strategies, including a Forest Park telephone hotline, to provide more public information regarding all Forest Park events, facilities, fees, and use requirements and regulations.

2.6 SECURITY POLICIES

2.6.1. Develop a security plan, with ongoing annual review, to ensure a safe and secure environment in reality and perception.

2.6.2. Increase mounted and bicycle police patrols and hours.

2.6.3. Investigate the installation of security telephones in Forest Park.

2.6.4. Establish a Parks Department Rangers program, similar to that in the St. Louis County, to increase security, improve crowd control, and provide public information.

a. Coordinate this program with the City of St. Louis Police Department to ensure effective communication, clarify responsibilities, and determine procedures.

2.6.5. Put all Parks Department security officers in uniform.

2.6.6. Provide adequate lighting along primary pedestrian routes, on buildings, in plazas, parking lots, and other areas of evening activity to ensure safety.

2.6.7. Adopt landscape design and maintenance practices that are sensitive to security issues.

3. LAND USE POLICES

3.0 GENERAL POLICIES

Forest Park is a place for people to enjoy recreation, leisure, athletics, culture, and nature in an urban park setting. As such, this plan is responsive to a wide range of uses and users, while seeking to preserve the character of the Park's lakes, landscapes, institutions and park facilities, active and passive recreational areas, and historic structures. Land use in Forest Park should be guided by the following:

- The balance between Forest Park's existing uses is appropriate and should be maintained.
- All park institutions, attractions and facilities should recognize the principles of co-existence and interdependency, and develop plans which result in mutually beneficial solutions for these entities and the park itself.
- All park institutions, attractions and facilities must share stewardship and responsibility for the future of the park.
- Forest Park's existing cultural institutions (Art Museum, Zoo, Science Center, Missouri History Museum, and the MUNY) are highly valued and should be encouraged to remain in the park and the City of St. Louis.
- The quality and quantity of open space in Forest Park should be preserved, based on a general concept of no-net-loss-of-open-space. Note that this policy does not infer a square-inch to square-inch measurement, but rather that the 1983 balance of land uses is appropriate and should be "generally" maintained.
- Multiple use of all Forest Park facilities should be encouraged wherever possible and appropriate.
- Expansion, modification, replacement, relocation, and/or adaptive re-use of existing ZMD institutions, park facilities, and service and support facilities should be permitted only if such proposals meet all criteria adopted herein, and after completing a carefully prescribed process, including, where applicable, the provisions of Ordinance 59741 (Chapter 22.42 of the Revised Code); and an opportunity for public review and comment.
- New buildings in Forest Park, for new uses unrelated to existing ZMD institutions, park, athletic, or service and support facilities, should be prohibited. This does not prohibit expansion, modification, replacement, relocation, and/or adaptive re-use of existing buildings.
- The continuation of leasing or otherwise contracting for the operation of public facilities to non-city agencies/ organizations to assist in supplying needed services and/or producing revenue for Forest Park should be encouraged.

3.1 DEVELOPMENT POLICIES

3.1.1. Adopt and enforce a general concept of no-net-loss-of-open-space to guide land use decisions regarding the expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas.

a. Adopt a definition of "open space" that includes only passive green space, active recreation green space, and water.

b. Factor into decision making the existence of "open space quality" differences that are due to continuity, maturity, wildlife habitat, and scenic vistas.
c. Establish a baseline mapping of effective boundaries of buildings, parking lots, roads, paths, recreational areas, and natural areas of the entire park early in the design phase of the planning process.
d. Determine compliance with this policy by comparing the existing conditions as of November 1983 (the date the 1983 Master Plan was first adopted) to the proposed conditions at the completion of the implementation of the revised Master Plan.
e. Note that this policy does not infer a square-inch to square-inch measurement, but rather that the 1983 balance of land uses is appropriate and should be "generally" maintained.

3.1.2 Consider approval of proposed expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas only if the guidelines adopted herein are met, including, but not limited to, the following:

- The applicant's rights under existing law, leases or agreements, if any, are considered.
- The purpose, demonstrable need, and economic viability of such changes have been clearly established.
- No other practical alternatives exist with regard to locations, less development, or no development.
- The park's road, transit, and parking systems have the ability to provide adequately for increased activity, if any.
- The expected impact on the park's natural systems is acceptable.
- The proposed changes are not for solely administrative space.
- The proposal is in accordance with the goals and policies stated herein.
- The proposer accepts responsibility for maintenance of any approved expanded area and its surroundings.
- The exact bounds of any expanded area are permanently defined and the quantitative limits of any future expansion are set by an approved master development plan and lease (if applicable).
- The general concept of no-net-loss-of-open-space is met. Note that this policy does not infer a square-inch to square-inch measurement, but rather that the 1983 balance of land uses is appropriate and should be "generally" maintained.

3.1.3. Clarify and publish the prescribed process for consideration and approval of any proposed expansion or modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas, which includes:

a. Existing public review by the Board of Public Service, the Board of Aldermen, the applicable ZMD Subdistrict, if any; Staff and/or public review by the commissions of the Community Development Commission and the Heritage and Urban Design Commission; and approval by the City Counselor of any such proposal involving a lease or other such agreement. [Notes: The Board of Aldermen does not currently review Department of Park's proposals which are solely for parks or recreation purposes. State law appears to give ZMD Subdistricts certain rights with respect to certain properties.]
b. Additional public review by the proposed Forest Park Board; and providing further formal citizen involvement and public input as deemed necessary by said Board.

3.1.4. Increase efficiency of existing facilities and avoid unnecessary physical expansion.

a. Consider reconfiguration of certain Forest Park buildings, roads, parking lots, paths, recreation, and natural areas, preserving existing footprints or boundaries wherever possible.
b. Modify Forest Park's buildings, roads, parking lots, paths, recreation, and natural areas which do not meet the plan's design guidelines.

3.1.5. Develop guidelines and a process to guide the City's consideration of future Highway 40/64 and MetroLink expansion or modification as it affects the park.

3.1.6. Encourage that any new or expanded land uses along the park's edge, outside of its boundaries, be compatible and complementary to the park.

3.1.7. Pursue use of the Arena site as a multi-use location for new and expanded institutional uses, park facilities, and off-site parking for the benefit of Forest Park.

3.2 ATHLETIC FIELDS POLICIES

3.2.1. Maintain the current balance between the area devoted to athletic fields and other uses in Forest Park.
a. Prohibit any increase in the total area devoted to athletic fields in Forest Park.

3.2.2. Maintain the diversity of use, accessibility, availability and quality of organized athletic activities in the park for all city residents; and provide for adequate play areas and other recreation activities for the residents of the immediately surrounding area, which are not otherwise provided in their neighborhoods.

3.2.3. Improve the visual effect of athletic fields with landscaping.

3.2.4. Improve existing toilet facilities, viewing areas, showers, lockers, and other support facilities around the athletic fields and provide additional support facilities only if there is a demonstrable need.

3.2.5. Reduce the intensity of use at the most heavily used athletic fields to improve the long-term health of the turf, to mitigate excessive physical damage, and to improve the quality of these areas.
a. Implement aeration, irrigation, and other ongoing maintenance practices at athletic fields.
b. Consider temporarily restricting use, relocating, or rotating fields within Forest Park, or relocating programs to alternative locations outside Forest Park.

3.2.6. Continue to hold users of athletic fields accountable for excessive damage.

3.2.7. Structure user fees for athletic fields to help off-set the costs of maintenance and daily operation. Dedicate these fees for that purpose.

3.2.8. Maintain the existing number of lighted athletic fields in Forest Park.
a. Improve existing lighting to meet required standards.
b. Light additional fields, where appropriate, if there is a demonstrable need.

3.3 GOLF POLICIES

3.3.1. Prohibit expansion of the total area devoted to golf in Forest Park unless necessary to implement the provisions of Section 3.3.6.

3.3.2. Reduce existing conflicts between golf and adjacent land uses.

3.3.3. Monitor and enforce the restriction of golf practice to designated areas identified in lease agreements.

3.3.4. Consider restricting golf carts to designated cart paths.

3.3.5. Add diverse landscaping along and between golf fairways.

3.3.6. Redesign and reconstruct the Municipal Golf Courses with the cooperation of American Golf Corporation in order to relocate golf holes from Art Hill and the Grand Basin area and to solve existing drainage problems.
   a. Maintain comparable standards and quality to the existing course in any redesign.
   b. Carefully consider the impact of redesign on other park uses.
   c. Relocate the maintenance building, if possible, to a more appropriate location for a service facility.
   d. Improve the maintenance facility with appropriate screening if relocation is not possible.

3.3.7. Encourage patrons of the Municipal Golf Courses to park in Twin Lots through the use of signage and by controlling on-street parking.

3.3.8. Encourage construction of additional golf courses outside of Forest Park but within the City of St. Louis.

3.4 ARCHERY RANGE POLICIES

3.4.1. Consider the reconfiguration or relocation of the archery range, either within or outside Forest Park, because of perceived potential public safety concerns.

3.4.2. Consider use of the archery range as a multi-use site during times when it is not used by archery.

3.5 RACQUET SPORTS POLICIES

3.5.1. Improve landscaping, appearance, and maintenance at all of Forest Park's racquet sports facilities.

3.5.2. Maintain and effectively market the current racquet sport facilities which are open and free to the public.

3.5.3. Provide public information and signage regarding fees, use requirements, and regulations for all of the park's racquet sport facilities.

3.5.4. Ensure that the free Richard A. Hudlin tennis courts are maintained and operated at a high level of quality.

3.5.5. Encourage patrons of Dwight Davis Tennis Center to park in the adjacent Twin Lots, by improving directional signage and controlling on-street parking.
   a. Create a passenger drop off area adjacent to the tennis center.

3.6 PASSIVE SPACE POLICIES

3.6.1. Create a comprehensive design, planting/reforestation, and management plan for Forest Park's passive space system to include a mix of natural and planned spaces of varying scale and character.
   a. Increase the emphasis on the park's passive and natural areas by integrating currently unprogrammed spaces.

b. Integrate a comprehensive plan for site furniture, which encompasses careful placement, flexibility of use, and durability.

3.6.2. Consider creating a passive open space corridor that connects Kennedy Forest to the center of the park.

3.6.3. Focus design attention on views from one area to another and to the visual relationships that are products of the World's Fair era, especially the visual axis between the Art Museum and the Grand Basin, and the axis from the World's Fair Pavilion down across the fountain on Government Hill.

3.6.4. Improve linkages between existing passive areas, in order to improve aesthetics, public safety and wildlife habitats.

a. Eliminate or reduce, wherever possible and appropriate, the effect of roads, Highway 40/64, Forest Park Parkway, MetroLink corridor, fences, and other barriers which prevent unrestricted movement from one passive area to another.

b. Use signage, views, or other perceptual methods to create connections.

3.6.5. Protect Kennedy Forest as an area for the enjoyment and study of nature.

a. Define the boundaries of Kennedy Forest.

b. Manage the forest environment to provide a more diverse representation of the natural systems of the St. Louis area and result in an improved wildlife habitat.

c. Coordinate changes with the Missouri Department of Conservation's urban wildlife biologist and urban forester.

d. Encourage the Conservation Department to expand their existing Kennedy Forest agreement to include management of the entire Kennedy Forest area and other forested areas in the park.

e. Ensure that the nature center for Kennedy Forest to be constructed in cooperation with the Conservation Department is small in scale and minimally intrusive, with little or no destruction of forestation.

3.6.6. Incorporate the Cascades into Forest Park's passive space system and make it a more significant park feature. Improve the surrounding landscaping and water quality.

3.6.7. Restore the crest of Art Hill as soon as possible.

3.7 ZMD INSTITUTIONS AND PARK FACILITIES POLICIES*

3.7.1. Strive to keep ZMD institutions and park facilities in Forest Park and develop a process to address their needs.

3.7.2. Encourage City, State, and Federal government agencies to support and work with ZMD institutions to address their needs.

3.7.3. Encourage institutions and park facilities to develop and present to the City and the Forest Park Board their long-range plans on a regular basis.

3.7.4. Improve Steinberg Rink, its environs, its function as a winter activities center, and its access via an improved pedestrian accessway from Kingshighway Boulevard..

* ZMD Institutions are the Art Museum, Zoo, History Museum and Science Center. Park Facilities are the Cabanne House, MUNY, Steinberg Rink, Boathouse, Lindell Pavilion, World's Fair Pavilion, Jewel Box, Triple A Golf and Tennis Club, Fly Casting Club Log Cabin and Fish Hatcheries Building.

3.7.5. Reconstruct the Boat House and parking area to acceptable standards.
   a. Consider utilizing the Boathouse area as a winter recreation center and/or other uses.
   b. Reestablish the Boat House as a concession site.

3.7.6. Require institutions and park facilities to accept responsibility for installation and maintenance of landscape materials in their immediate areas, with the area of responsibility subject to negotiation with the City.

3.7.7. Redesign and renovate the Lindell Pavilion environs, with the cooperation of American Golf Corporation, to integrate the existing facilities, landscaping, parking, and pathways with a reconfigured and improved Twin Lots.
   a. Renovate and maintain the Lindell Pavilion to acceptable standards.
   b. Designate and contain a clearly marked area for leasing golf carts.
   c. Refurbish the interior of Lindell Pavilion and give consideration to additional uses, such as a restaurant, and/or the expansion of the existing concession area.

3.7.8. Improve the surrounding landscaping and lighting of Cabanne House and retain Cabanne House as a facility for rent by the public.

3.7.9. Consider additional or alternate uses for the Fish Hatchery Building.

3.7.10. Retain and renovate, or replace, the Mounted Police Station.
   a. Consider improving the environs to benefit adjacent uses and police operations.

3.7.11. Consider alternate uses for the Jewel Box including:
   a. Restoration.
   b. Adaptive re-use by City Parks Department.
   c. Adaptive re-use by non-city agencies/organizations.

3.7.12. Consider the World's Fair Pavilion for additional, alternative or new uses in whole or in part.

3.7.13. Consider the Fly Casting Club Log Cabin on Post-Dispatch Lake for alternate uses and/or possible relocation.

3.7.14. Restore the crest of Art Hill as soon as possible.

3.7.15 Redesign and improve the entry to the Science Center's McDonnell Planetarium, i.e., that portion of Faulkner Drive south of Clayton Road.

3.7.16 Improve the extension of Forest Park along DeBaliviere Avenue (between Lindell Boulevard and the Forest Park Parkway/MetroLink Station), and redesign or relocate the parking area north of the Jefferson Memorial, to create a major pedestrian entry to the park and the History Museum.

3.8 SERVICE AND SUPPORT FACILITIES POLICIES

3.8.1. Implement design improvements for Forest Park's comfort stations, park maintenance buildings, and other service and support facilities to make them more aesthetically sensitive, environmentally sound, and better integrated into their surroundings.

3.8.2. Provide adequate comfort stations to serve daily park use.
   a. Improve and ensure comfort station security, access, and maintenance.

b. Keep some comfort stations open all year for winter park use.
c. Supplement comfort stations with portables only for special events.
d. Prohibit permanent installations of portable toilets.
e. Locate comfort stations near paths, athletic fields, and other high use areas.
f. Provide signage to identify comfort station locations and direct park users to them.
g. Give priority to improving existing facilities and, if needed, provide new facilities based on demonstrable need.

3.8.3. Relocate City-wide maintenance and service facilities which do not solely serve Forest Park to locations outside of the park, where practical and possible.

3.8.4. Consider alternative uses for closed, underutilized, or unused service and support buildings.

3.8.5. Improve the visual quality of the Parks Department maintenance and administrative facilities and surrounding areas.
a. Reduce the use and size of the Parks Department soil storage area to serve Forest Park only.
b. Continue efforts to reduce the volume of stored vehicles and equipment in maintenance areas and improve landscaping.
c. Renovate and maintain the historic buildings in an appropriate manner.

3.8.6. Investigate the installation of security telephones in Forest Park.

3.8.7. Limit commercial services and vendors within the park to those endeavors that enhance the park experience.

3.8.8. Provide additional visitor services at convenient, accessible locations.

3.8.9. Widen the range of amenities in Forest Park which serve the elderly and the very young.

3.9 PROGRAMMING POLICIES

3.9.1. Encourage the City's Recreation Division, existing athletic facilities and other entities to provide additional coaches and supervisors for youth participants at tennis courts, archery, racquetball, golf, fishing, and other park recreational activities.

3.9.2. Encourage Missouri Department of Conservation participation in youth education which stresses the natural environment.

3.9.3. Encourage the City, institutions, and park facilities to promote youth programming in Forest Park.

3.9.4. Work with immediate surrounding neighborhoods to improve recreational opportunities in Forest Park which are not otherwise provided in their neighborhoods.

3.9.5. Address the quality, condition, and location of Forest Park's existing play areas.

3.9.6. Maintain safe ice skating and sledding in designated and maintained areas.

3.9.7. Maintain and improve the existing amount of winter recreation in Forest Park.

3.9.8. Encourage institutions and organizations to extend their hours to include evenings whenever possible.

3.9.9. Identify underutilized facilities and explore options for programming activities.

3.9.10. Consider a limited number of quality concessions throughout the park.

4. LANDSCAPE POLICIES

4.0 GENERAL POLICIES

The beauty of the Forest Park landscape and its unique, interconnected spaces are critical components of the Park's history and its ongoing attractiveness. As an important part of the region's open space system, Forest Park should have a diverse, well-maintained, naturally sustaining, and ecologically sound landscape system that draws on the Park's existing diversity of design and maintains standards of excellence for any additions or modifications. Landscape design and maintenance standards, specific to Forest Park, should be created to ensure that a cohesive overall design is achieved and maintained.

4.1 LANDSCAPE CHARACTER AND QUALITY POLICIES

4.1.1. Utilize landscaping to complement, accentuate, and reinforce Forest Park's woodland areas, open meadows, gardens, water edge plantings, and other natural features, public art, architecture and infrastructure.

4.1.2. Produce detailed planting plans and guidelines to enhance and provide additional seasonal character, landscape diversity and compatibility with land uses, architecture, and other non-landscape elements.
- a. Utilize trees, shrubs, and groundcovers which are long-lived, hardy and native to the region.
- b. Develop a combination of areas with a naturalistic character and landscapes with a more formal, groomed appearance.
- c. Provide a mix of annual and perennial plantings in the park.

4.1.3. Implement a comprehensive planting/reforestation plan.

4.1.4. Respect and enhance existing views and vistas throughout the park and from adjacent neighborhoods, land uses, roads, and highways.

4.1.5. Utilize landscaping to minimize the noise and visual impact of Highway 40/64, Forest Park Parkway, MetroLink right-of-way, parking lots, and service areas.

4.1.6. Improve the visual effect of athletic fields, golf courses, tennis courts, and other organized sports areas, with landscaping, and coordinated materials and site furnishings.

4.1.7. Provide interpretive information throughout the park to allow visitors to develop an understanding of the importance and fragile nature of the Park's natural resources and the Park's history.
- a. Provide visually sensitive and unobtrusive signage.
- b. Provide educational and relevant historical information only.

4.1.8. Continue to coordinate recommendations for Kennedy Forest with the Missouri Department of Conservation's plans.
- a. Define the boundaries of Kennedy Forest.
- b. Carefully manage the Kennedy Forest area of the park to exhibit more of the qualities of natural systems as they exist in a typical oak-hickory forest of the Ozarks.
- c. Encourage the Conservation Department to expand their existing Kennedy Forest agreement to include management of the entire Kennedy Forest area and other forested areas in the park.
- d. Control invasive and pest species that overrun the forest.

4.1.9. Restore and maintain the formal gardens, ponds, and landscape around the Jewel Box.

4.2 LANDSCAPE OPERATIONS AND MAINTENANCE POLICIES

4.2.1. Develop realistic, comprehensive long-range Landscape Design, Maintenance, and Planting/Reforestation plans.
- a. Include an ongoing, annual budget in each plan.
- b. Monitor plans regularly.
- c. Update plans annually to ensure appropriate expenditures and landscape improvements.

4.2.2. Modify existing maintenance practices to promote a well-managed, diverse, naturally sustaining, and ecologically sound landscape system that reduces long-term maintenance requirements.

4.2.3. Include and enforce landscape maintenance standards in existing, renewed and future leases.

4.2.4. Develop a vegetative maintenance program which divides the park into vegetative management zones related to levels of maintenance needed.
- a. Update, on a continual basis, the comprehensive inventory of the park's existing trees and other plant materials and their conditions.
- b. Ensure ongoing appropriate care.
- c. Protect Forest Park's trees from damage inflicted by mowers and trimmers.
- d. Provide continuing training and supervision of park employees to ensure proper maintenance procedures.
- e. Provide a skilled maintenance staff to provide a satisfactory level of horticultural care for vegetation and tree maintenance services.

4.2.5. Unify the landscapes divided by roads, parking areas, paths, and desire line routes with landscape materials and other design treatments.

4.2.6. Increase organized and coordinated volunteer involvement in the maintenance and upkeep of Forest Park.

4.2.7. Employ registered Landscape Architects and biologists for Forest Park.

4.2.8. Control soil erosion and compaction on steep slopes by limiting access with appropriate landscaping.

4.2.9. Reduce storm water run-off by stabilization of the park's landscape.
- a. Reduce the impermeable surfaces of the park and replace with porous materials wherever possible.

4.2.10. Develop a process to identify and protect or avoid any archeologically sensitive areas in the park whenever any construction or earth moving activities are considered.

4.2.11. Require City departments, park entities, and outside agencies to coordinate any repair/improvement work they perform in Forest Park with the Parks Department.

4.2.12. Coordinate all planting and landscape plans with planned or potential infrastructure improvements in the area to avoid redundant repairs to the landscape.
- a. Complete planned infrastructure repairs prior to landscape improvements wherever possible.

4.2.13. Develop purchasing specifications and a waste management and recycling collection system for the park that is sensitive to natural resources, environmental, and aesthetic qualities of the park.

4.2.14. Conduct and update inventories of historic landscape features as well as definitive research on original design and construction methods.
   a. Establish a park landscape archive.

4.3 ENTRANCES AND GATEWAYS POLICIES

4.3.1. Improve the design and function of Forest Park's vehicular and pedestrian park entrances, incorporating appropriate site furnishings, signage, and accent planting.
   a. Create a functional and visual hierarchy of park entrances with a diversity of scale and design treatments.
   b. Improve the extension of Forest Park along DeBaliviere Avenue (between Lindell Boulevard and the Forest Park Parkway/MetroLink Station), and redesign or relocate the parking area north of the Jefferson Memorial, to create a major pedestrian entry to the park and the History Museum.
   c. Improve directional and informational signage at park entrances to better direct park users to their desired destinations inside the park, as well as to exits and public transportation.

4.3.2. Restore and repair the historic bridge and entry to the park at the Union/Lindell intersection.
   a. Improve the traffic circulation, pedestrian access to the park, and appearance.
   b. Consider seeking matching funds from other public and private entities to underwrite the costs involved in this restoration.

4.3.3. Improve the landscaping and signage of the Highway 40/64 edge and park entrances to visually unify the interchanges and areas divided by the highway.
   a. Frame desirable views and screen undesirable ones.

4.3.4. Design park entrances to enhance pedestrian circulation from the immediate neighborhoods.
   a. Reinforce the park's edges with plant material and appropriate signage so that a passerby can distinguish between the surrounding urban environment and the park itself.
   b. Encourage a diversity of design solutions which reflect use while preserving the safety and character of adjacent neighborhoods.

4.3.5. Improve park amenities, pedestrian access and landscaping along the Kingshighway Boulevard edge.

4.3.6. Improve the Highway 40/64 tunnel entry and pedestrian overpass from Oakland Avenue and integrate them into the comprehensive path system.

4.4 WILDLIFE POLICIES

4.4.1. Encourage and support surveys and research focusing on the ecological and wildlife role of Forest Park at local and regional levels.

4.4.2. Develop an inventory of all existing wildlife in Forest Park.

4.4.3. Analyze and determine the wildlife species which would be appropriate for Forest Park.

4.4.4. Maintain passive areas for appropriate wildlife habitats.

4.4.5. Develop landscape design and maintenance guidelines that improve year-round habitat conditions for appropriate park wildlife, including migratory birds.

4.4.6. Use steep slopes to provide attractive landscapes for park users that also provide natural habitats for wildlife.

4.4.7. Improve the connection between suitable wildlife habitats in the park, where appropriate.

4.5 SURFACE DRAINAGE AND LAKE SYSTEM POLICIES

4.5.1. Employ a more natural, ecologically sound approach to Forest Park's drainage and stormwater management system.

4.5.2. Upgrade the quality and appearance of all lakes, ponds, lagoons, and other water features through appropriate landscape, edge treatments, programming, and management planning.

a. Determine the appropriate use(s) for all lakes, ponds, lagoons, and other water features.
b. Limit the use of lakes, ponds, lagoons, and other water features, as necessary, to achieve the desired quality and appearance.
c. Provide a diversity of lake and lagoon edge treatments which are appropriate for their respective park setting, adjacent land uses and designated lake use.
d. Utilize naturalized plantings around some lakes and lagoons as a means to stabilize eroded banks.
e. Repair or rebuild Grand Basin's walls, paved edges, and decorative features as necessary.
f. Retain Jefferson Lake as a fishing lake and reconstruct the existing paved edge, where appropriate.
g. Renovate the Seven Pools and improve the landscaping around the Seven Pools and Bowl Lake, possibly as a more naturalized area.
h. Incorporate the Cascades into Forest Park's passive space system and make it a more significant park feature by improving the surrounding landscaping and water quality.

4.5.3. Connect and increase the size and depth of certain lakes and lagoons as appropriate to improve the park's drainage and water quality while improving their aesthetic quality and specific use.

4.5.4. Dredge and better maintain the lake system to achieve natural aquatic balance and acceptable water quality.

4.5.5. Identify the pollutants, if any, that may contaminate the lake system, and adopt regulations and public education programs to minimize these.

a. Eliminate sanitary sewer discharge, chemicals and all other pollutants which enter into the park's lake system from city sewers and adjacent land uses.
b. Remove the combined overflow sewer that discharges into Post-Dispatch Lake.

4.5.6. Provide on-going monitoring, maintenance, and management of the lake system to assure the maximum enjoyment of each lake's aquatic activities, consistent with designated use, safety, aesthetics, and environmental concerns.

4.5.7. Require the Metropolitan Sewer District (MSD) to repair and maintain all of Forest Park's sewers and other stormwater management systems, because of the park's location within the metropolitan sewer district.

a. Pursue all necessary legal action to achieve this policy.

4.5.8. Develop the stormwater management plan for Forest Park in conjunction with MSD.

4.5.9. Repair and restore existing fountains and water features, and provide feature lighting, where appropriate.

4.5.10. Enhance, where appropriate and possible, the user's exposure to the water through grading, planting, the location of paths, and site furnishings.

5. ART, ARCHITECTURE AND INFRASTRUCTURE POLICIES

5.0 GENERAL POLICIES

Forest Park displays a wide and diverse range of public art, architecture and infrastructure which add to the unique nature of the park and its ambiance. The Master Plan acknowledges the value of these cultural amenities and seeks to maintain and enhance existing styles through the establishment of design and maintenance standards which are specific to the park. Emphasis will be placed on repairing and maintaining existing art and structures, ensuring that new park elements are consistent with neighboring styles and landscaping, and that clear and comprehensive signage be created to ensure that visitors have the ability to enjoy fully the Park's many attractions.

General policies concerning public art, architecture and infrastructure include:

- Acknowledge and maintain Forest Park's existing diversity of design through guidelines which consider each element and site on its own merits, and apply an appropriate style or approach to ensure proper integration into park surroundings.
- Create design and maintenance standards for art, architecture, and infrastructure which are specific to Forest Park.
- Ensure that new park elements respect their architectural and landscape context.
- Design new park elements which are near, or additions to, historically significant public art, architecture, archeological interest, and infrastructure to be compatible and harmonious with the style and landscape setting.
- Develop a comprehensive signage plan that includes directional, informational, and entry signage and maps which are visually sensitive and unobtrusive.
- Repair, reconstruct, or remove Forest Park's infrastructure as needed and ensure the availability of funds for adequate future maintenance.
- Maintain the aesthetic integrity of architecture, where possible, in making modifications to meet ADA requirements.
- Review Forest Park's public art collection to ensure that it reflects the diverse culture of the St. Louis community.
- Modify existing park elements, as appropriate and when possible, to assure compliance with the master plan.

5.1 PUBLIC ART

5.1.1. Establish guidelines for long-term maintenance, accession, placement, and deaccession for existing and new outdoor public art within Forest Park.
   a. Give priority to maintenance and restoration over new public art.
   b. Provide ongoing inspection and maintenance endowments for all new public art.

5.1.2. Enforce a moratorium on new pieces of outdoor public art until accession, placement, maintenance, and deaccession guidelines have been adopted.

5.1.3. Develop a comprehensive art program for Forest Park that responds to the special qualities of each area of the park.

5.1.4. Improve physical and visual access to public art through path location, signage and improved sight lines, and, where appropriate, strategically locate public art where it will be displayed to best advantage, considering historical significance and appropriate landscape setting.

5.1.5. Develop flexible and broad lighting guidelines which allow for the illumination of Forest Park's public art if it is compatible with the art's design and context.

5.2 ARCHITECTURE

5.2.1. Create design guidelines for new architecture and infrastructure which reflect the principles of environmental responsibility, architectural diversity, and compatibility with park settings and environment.

5.2.2. Establish and maintain an inventory of existing park architecture which lists and prioritizes maintenance requirements and costs.

5.2.3. Create, monitor, and enforce maintenance standards for park architecture, including leased facilities, comfort stations, and picnic shelters, to ensure consistency with original design, public safety, and the requirement for low maintenance costs.

5.2.4. Maintain and preserve buildings of historic significance, including those eligible for listing on the National Historic Register or local landmark status, in a manner consistent with historic standards.

5.2.5. Create guidelines for new and existing bridges which consider architectural and historic merit and context.
   a. Maintain and preserve bridges of historic significance, including those eligible for listing on the National Historic Register or local landmark status, in a manner consistent with historic standards.

5.2.6. Consider lighting of building exteriors to enhance appearance.

5.2.7. Conduct and update inventories of historic architectural features as well as definitive research on original design and construction methods.
   a. Establish a park architectural archive.

5.3 SITE FURNISHINGS AND SIGNAGE

5.3.1. Create, monitor ,and enforce maintenance standards for site furnishings which ensure consistency with historic standards, public safety, low maintenance, and compatibility with their setting.

5.3.2. Include provisions for pedestrian scale lighting, park benches, and other necessary site furnishings within the comprehensive path system plan.

5.3.3. Provide pedestrian scale lighting which meets city lighting standards and whose fixtures are compatible in scale and design with their use and setting.

5.3.4. Provide additional benches near paths, public art, views, and vistas, and other passive recreation areas.

5.3.5. Integrate fixed seating, wherever possible, into other landscape features of the park.

5.4 INFRASTRUCTURE POLICIES

5.4.1. Create guidelines for the repair, maintenance, and removal of Forest Park's existing infrastructure.

5.4.2. Reduce erosion and drainage problems by creating maintenance and design standards for the park's infrastructure that utilize a combination of the park's natural topography, vegetation, drainage patterns, and improved stormwater management systems.

5.4.3. Improve the drainage system for surrounding highways and internal roadways and parking lots, to reduce negative environmental impacts on the park.

5.4.4. Remove the combined overflow sewer that discharges into Post-Dispatch Lake.

5.4.5. Pursue commitments among public sector entities, including the City, State, and Federal governments, and MSD, among others, to share responsibility for the infrastructure elements.

a. Emphasize the use of non-city government funds.

5.4.6. Require the Metropolitan Sewer District (MSD) to repair and maintain all of Forest Park's sewers and other stormwater management systems, because of the park's location within the metropolitan sewer district.

a. Pursue all necessary legal action to achieve this policy.

6. ACCESS, CIRCULATION, AND PARKING POLICIES

6.0 GENERAL POLICIES

Development of a plan that balances the need for adequate access to Forest Park for all users with the goal of maintaining and enhancing the Park's open space, natural systems and charm is critical to the future of the park. The Master Plan seeks to:

- Make Forest Park attractions and destinations accessible to all users.
- Balance the need for adequate parking and access to Forest Park's attractions and destinations with the preservation of the park setting.
- Promote environmentally sound transportation policies that protect Forest Park's valuable open space, its natural systems, and the charm of its adjacent neighborhoods.
- Recognize that driving through the park is also a recreational experience.
- Require motorized vehicles to yield the right-of-way to other Forest Park users.
- Develop parking solutions that are as unintrusive as possible, with careful investigation of solutions outside Forest Park, including the Arena site.
- Address the circulation needs of Forest Park's users first, prior to the needs of commuters.
- Assess the existing parking in Forest Park. Consider moving any under-utilized parking spaces to locations that best serve public need for convenience and accessibility.

6.1 REGIONAL, AREA, AND NEIGHBORHOOD CONTEXT POLICIES

6.1.1. Develop a comprehensive transportation plan which addresses traffic and parking issues outside of Forest Park which affect conditions within the park.
   a. Resolve the park's traffic and parking issues based primarily on the park's internal needs, rather than on the needs of the City street system.
   b. Continue to allow, but attempt to discourage, through traffic in the park.
   c. Provide equivalent open space if new roads and parking are created.

6.1.2. Discourage, to the extent possible, commuter traffic through the park.

6.1.3. Develop guidelines and a process to guide the City's consideration of future Highway 40/64 and MetroLink expansion or modification as it affects the park.
   a. Promote light rail and other transportation alternatives to Highway 40/64 expansion to preserve park land.

6.1.4. Redistribute traffic flow within the park through the use of improved directional signage.
   a. Improve signage along Highway 40/64.
   b. Utilize more graphic information to direct people to park entrance most appropriate for their destination, removing some of the burden currently placed on the Hampton Avenue entrance.
   c. Establish a hierarchy of signage within a standard signage style.

6.2 OPERATIONS AND MANAGEMENT POLICIES

6.2.1. Develop a comprehensive, integrated, and environmentally sound transportation plan for Forest Park that increases the use of mass transit and reduces dependency on private automobile traffic to and within the park.

a. Review and update the directional signage system for circulation within Forest Park.
b. Where possible and appropriate separate all circulation by use (i.e. automobiles, pedestrians, and bikes/rollerblades) to promote public safety.
c. Review and update a strategy for the management of charter and school buses.
d. Incorporate directional and parking information in all tourist brochures and park activity notices.
e. Modify, reduce, and manage roads and traffic, where possible, when they negatively impact park use.
f. Reduce the noise and distractions of automobiles and other vehicles while maintaining their access to park attractions and destinations.

6.2.2. Continue Parks Department coordination between representatives of the park's attractions and traffic generators to address access, circulation, parking needs, and issues.

6.2.3. Require organizers of special events to adhere to an access, circulation, and parking management plan approved by Parks Department

a. Emphasize public mass transit and other forms of alternative transportation for special events.
b. Require major special events to file plans with permit applications for review.

6.2.4. Continue to enforce commercial vehicle restrictions in Forest Park.

a. Review and modify the prohibition of buses and taxis to allow for passenger pick-up and drop-off.

6.2.5. Publish a schedule of routine maintenance and road repairs within and adjacent to the park.

6.3 BIKE AND PEDESTRIAN PATHS POLICIES

6.3.1. Create an expanded, comprehensive path system which sensitively locates paths within the landscape and effectively links Forest Park's major attractions, natural areas, internal transit, parking lots, and park entrances to surrounding neighborhoods.

a. Provide a hierarchy of paths where the design is determined by the intended use.
b. Utilize a variety of design solutions such as varying scale, paved and unpaved surfaces, widened, and graphically delineated paths.
c. Provide an alternative pedestrian path system for strolling and passive recreation as an alternative to the bike path.
d. Consider the conversion of selected roads and other paved areas to non-motorized use.
e. Consider selective road closings at certain hours and days of the week or permanent road closures, if warranted.
f. Improve access to paths and park attractions for elderly and disabled individuals.
g. Improve the maintenance of the soft surface jogging path located adjacent to the bike path and complete missing sections.

h. Provide selective pedestrian scale lighting and small-scale amenities, such as benches, drinking fountains, trash receptacles, rest areas, shade, and comfort stations, where needed.

6.3.2. Require motorized vehicles to yield the right-of-way to other Forest Park users.

6.3.3. Enforce vehicular speed limits and improve signage, pavement markings/modifications, or other visual/physical delineation where paths intersect roads to reduce conflicts.

6.3.4. Ensure that educational signage for interpretive path systems is visually unobtrusive.

6.3.5. Improve links with city and county bike paths, MetroLink, Bi-State bus routes, and other regional transportation systems.

6.3.6. Consider replacing "desire line" routes with new paths when they are appropriately located with respect to surrounding landscapes and land uses.

6.3.7. Finalize plans for a series of educational and interpretive nature trails in Kennedy Forest in cooperation with Missouri Department of Conservation.

6.3.8. Locate passenger drop-offs in peak visitor areas.
- a. Ensure that all passenger drop-offs are accessible to the disabled.
- b. Provide nearby seating and shade.
- c. Provide enhanced site amenities at drop-offs, public transportation entries, and shuttle stops.

6.3.9. Provide secure bicycle parking areas in Forest Park.

6.3.10. Manage vehicular traffic at major park entrances to facilitate safe pedestrian access to and through the park.
- a. Consider pedestrian activated signals where paths cross heavy vehicular traffic at park entrances.

6.4 TRANSIT POLICIES

6.4.1. Promote the increased use of mass transit and reduce dependency, to the extent possible, on private automobile traffic to and within Forest Park.

6.4.2. Improve links to MetroLink and Bi-State bus service and other regional mass transit systems.

6.4.3. Encourage remote parking at sites near transit facilities outside of Forest Park.

6.4.4. Improve shuttle service to Forest Park's attractions and destinations from parking lots inside and outside the park.

6.4.5. Continue and enhance the park's internal shuttle system.
- a. Employ the most efficient, non-polluting, and cost effective fuel methodologies possible.
- b. Publicize the park shuttle and its operating schedule in all park information literature and with signage.
- c. Accommodate all peak visitor hours within the park shuttle schedule.
- d. Expand shuttle hours to evenings when evening use levels increase.
- e. Ensure that all means of public transportation will accommodate bicycles, strollers, wheelchairs, and walkers.

6.4.6. Encourage employers within the park to initiate policies that encourage employees to use transit for their daily commute.

6.5 VEHICULAR TRAFFIC AND ROADS POLICIES

6.5.1. Modify Forest Park's road system, intersections and signage to reduce confusion, congestion, and conflicts while maintaining the meandering park character that currently exists.

a. Establish a hierarchy of roads which vary in scale and character appropriate for their use.

6.5.2. Consider alternative uses for roads and bridges before removing them from the park.

6.5.3. Utilize appropriate state-of-the-art maintenance and design guidelines for the road system and adopt an annual budget for maintenance.

a. Address the Park's periphery streets (Kingshighway, Oakland, Skinker, Lindell, and Forest Park Parkway) in the standards.

6.5.4. Park speed limits should be appropriate, posted, and enforced to promote public safety.

6.5.5. Consider consolidating some vehicular entrances if existing traffic can be accommodated adequately at remaining entrances.

6.5.6. Recognize that driving through the park is also a recreational experience.

6.5.7. Remove unnecessary roadways and alter and/or eliminate dangerous intersections of the park's roadway system.

6.5.8. Work with appropriate government agencies to enhance the boulevard character of larger periphery streets.

a. Place plantings in medians and on street edges.
b. Work with the City of St. Louis to extend the boulevard treatment outside of the park, especially on major access routes.
c. Restore Highway 40/64, Forest Park Parkway, Lindell Boulevard, Kingshighway Boulevard, Oakland Avenue, and Skinker Boulevard as urban scenic boulevards by strengthening park-like landscape characteristics.

6.5.9 Redesign and improve the entry to the Science Center's McDonnell Planetarium, i.e., that portion of Faulkner Drive south of Clayton Road.

6.6 PARKING POLICIES

6.6.1. Develop a new comprehensive parking plan.

a. Conduct a study of existing parking, fees, and policies.
b. Establish park uses as a priority for existing parking lots.
c. Require that additional road and parking lot improvements do not result in a permanent net loss of equivalent open space within the park. Note that this policy does not infer a square-inch to square-inch measurement, but rather that the 1983 balance of land uses is appropriate and should be "generally" maintained.
d. Give priority to the relocation of under-utilized parking spaces/areas as a first consideration in addressing the need for increased parking in high-use areas.
e. Encourage increased use of remote parking, both inside and outside the park, as it becomes available.

f. Consider alternative access, such as mass transit to and within the park, to reduce the dependency on the private automobile.
g. Pursue alternative parking sites, preferably outside Forest Park, for those traveling to the park in large recreational vehicles (R.V.'s), charter, or school buses.
h. Provide passenger drop-offs and pick-up areas at major park destinations.
i. Preserve on-street parking for park users at all times.
j. Prohibit on-street parking by individuals or groups not visiting Forest Park.
k. Review, update, and maintain the existing traffic and street parking regulation map.

6.6.2. Mandate a more efficient design of existing parking facilities in Forest Park.
a. Consider the development of structured or underground parking.
b. Consider re-striping existing parking lots to include compact spaces in each lot to maximize total spaces.

6.6.3. Encourage employees of all park facilities to park in lots that are not intensely used by park patrons.

6.6.4. Encourage alternatives to on-street parking for special events.

6.6.5. Encourage relocation of on-street parking away from areas with high quality views and vistas.

6.6.6. Examine agreements regarding parking lots used by non-park organizations to ensure the park's best interest.

6.6.8. Improve the aesthetic appearance of all parking lots, existing and proposed, with perimeter buffer screening and interior planting to screen the view of cars and pavement.
a. Reduce impervious road and parking lot surfaces through plantings and alternative materials.

6.6.9. Ensure that all major parking lots are served by the ShuttleBug.

6.6.10 Redesign the remnants of the previous Tamm Avenue entrance to Forest Park, which now serve as a parking lot for the play area on Oakland.

Planning Methodology

These goals and policies, designed to provide a framework to guide the revision of the Forest Park Master Plan, are the result of more than a year's work on the part of many people. They reflect the interests, needs and wishes of individuals, groups, neighbors, institutions, benefactors and other interest groups who share a desire to see that Forest Park remains a vital asset for the entire community.

Committee Structure

Master Plan Committee

Citizen involvement in the planning process is led by the Forest Park Master Plan Committee (FPMP Committee), appointed by Mayor Freeman Bosley, Jr. in May 1994. It consists of 67 members, including citizens, representatives of park interest groups, and public officials. The FPMP Committee is co-chaired by Director Gary Bess of the Department of Parks, Recreation and Forestry for the City of St. Louis, and Ms. Kathryn Nelson, a private citizen. A full list of the FPMP Committee members follows this section.

The FPMP Committee is charged with gathering public opinion, ideas, and future expectations of the park, developing and recommending goals and policies to guide revisions to the existing 1983 Forest Park Master Plan, and submitting recommendations to the Executive Committee for review and approval. In addition to a series of initial meetings, FPMP Committee members participated in and were the foundation of 11 Public Issue Working Group meetings. Subsequent to these, they met an additional four times to review findings and develop draft goals and policies.

Executive Committee

An Executive Committee, selected from the FPMP Committee by the Mayor, provided oversight of the planning process and functioned as the final decision making body to resolve differences on policy issues after due process. Its 17 members consisted of the two co-chairs of the Master Plan Committee, three elected officials, three City department representatives, one representative from the Mayor's office, and eight non-City representatives. A complete committee roster is included as an attachment to this plan.

The Executive Committee's responsibilities included overseeing and advising the Project Team, refining and approving the FPMP Committee's recommended goals and policies, resolving issues where a difference of opinion existed, reviewing comments from the public and FPMP Committee members, and submitting recommendations to the mayor regarding the approval/adoption process for the Master Plan. The Executive Committee met more than 30 times between May and November, 1994.

Project Team

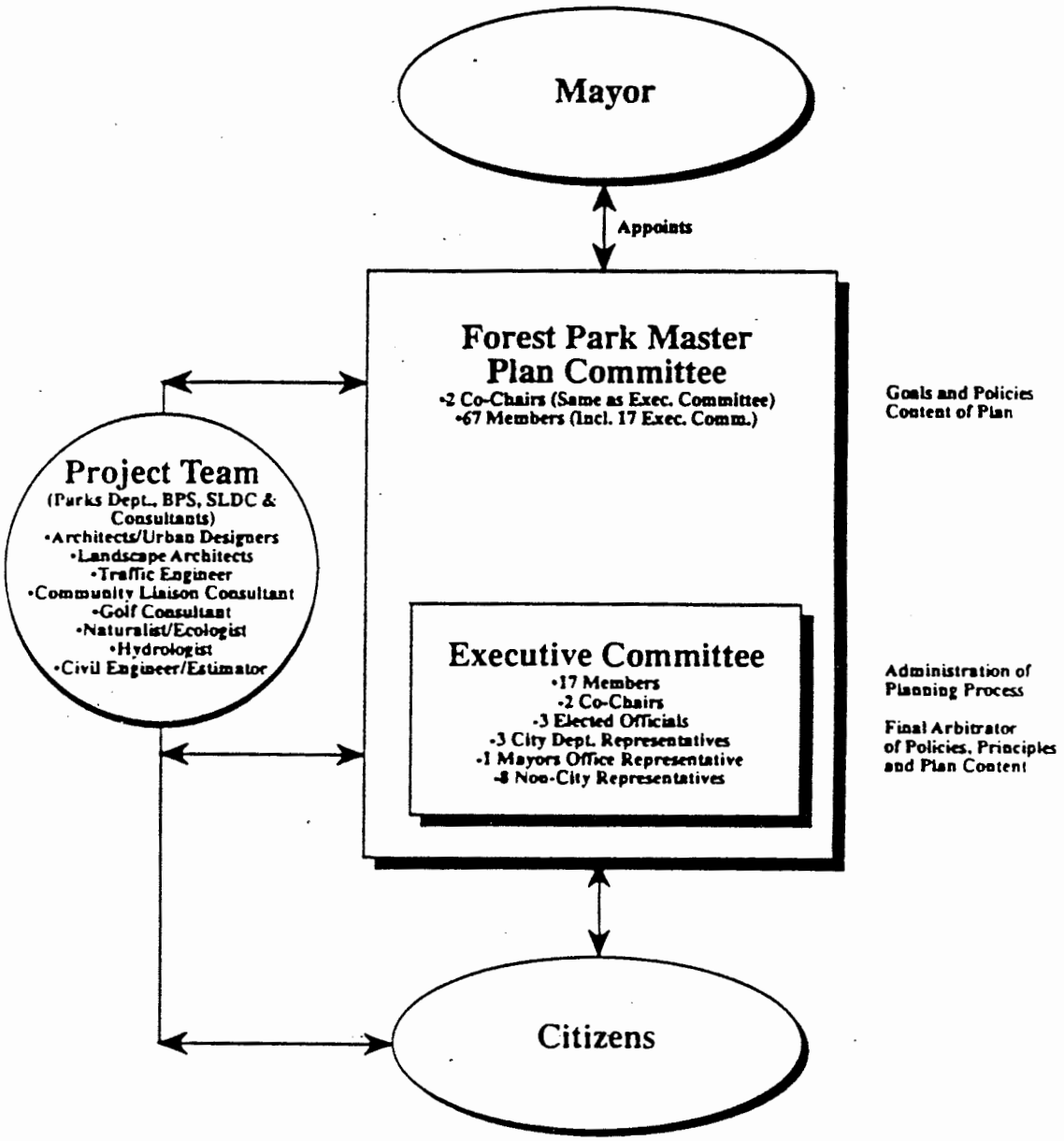
The Project Team is chaired by John Hoal, director of Urban Design, St. Louis Development Corporation, and consists of 14 City officials and consultants with professional technical expertise in a variety of disciplines required for analysis and design of the Park. A complete Project Team roster follows this section.

The Project Team's responsibilities include the coordination and supervision of consultants, provision of technical assistance to the FPMP Committee in the development of goals and policies, and coordination of public workshops, user surveys and outreach efforts. In addition, the Project Team will act as the design team, drafting revisions to the existing plan, and preparing the final draft Master Plan.

Membership on the team included a representative of the Mayor's Office, two Parks Department representatives, one representative from the Board of Public Services, two architects/urban designers, two landscape architects, one traffic engineer, a community liaison consultant, a golf consultant, an ecologist/naturalist, and a civil engineer/hydrologist.

Forest Park Master Plan • Administrative Structure

A Public - Private Partnership



Citizen Involvement

Throughout the planning process, a high level of emphasis was placed on ensuring that all individuals and groups with an interest in Forest Park were given adequate opportunity to express their views and contribute to the development of the goals and policies, and ultimately, the final revised plan.

The Master Plan Outreach Program consisted of a series of meetings and public forums, as summarized below.

- More than 20 pre-Summit meetings held to build community support for the planning process, and to begin to identify issues to be dealt with at the Summit.

- A Forest Park Summit, open to the public and held over the weekend of December 3-5, 1993 at Forest park Community College, to gather initial public comments on the Park and its needs. More than 300 people participated in the Summit.

- Eleven Public Issue Working Group meetings in June, July and August, 1994 to gather public opinion and ideas, and to develop policy recommendations.

- Eight community outreach meetings, held at various sites in North St. Louis, South St. Louis and in St. Louis County in June and August, 1994.

- Public Comment Meetings, held on September 10, 11, and 24 and October 22, 1994 to provide a forum for the public to respond to drafts of the goals and policies as they evolved.

- Ongoing communications with meeting participants, in the form of mailings, telemarketing, flyers and direct mail, to keep those who expressed interest in the planning process advised on its progress.

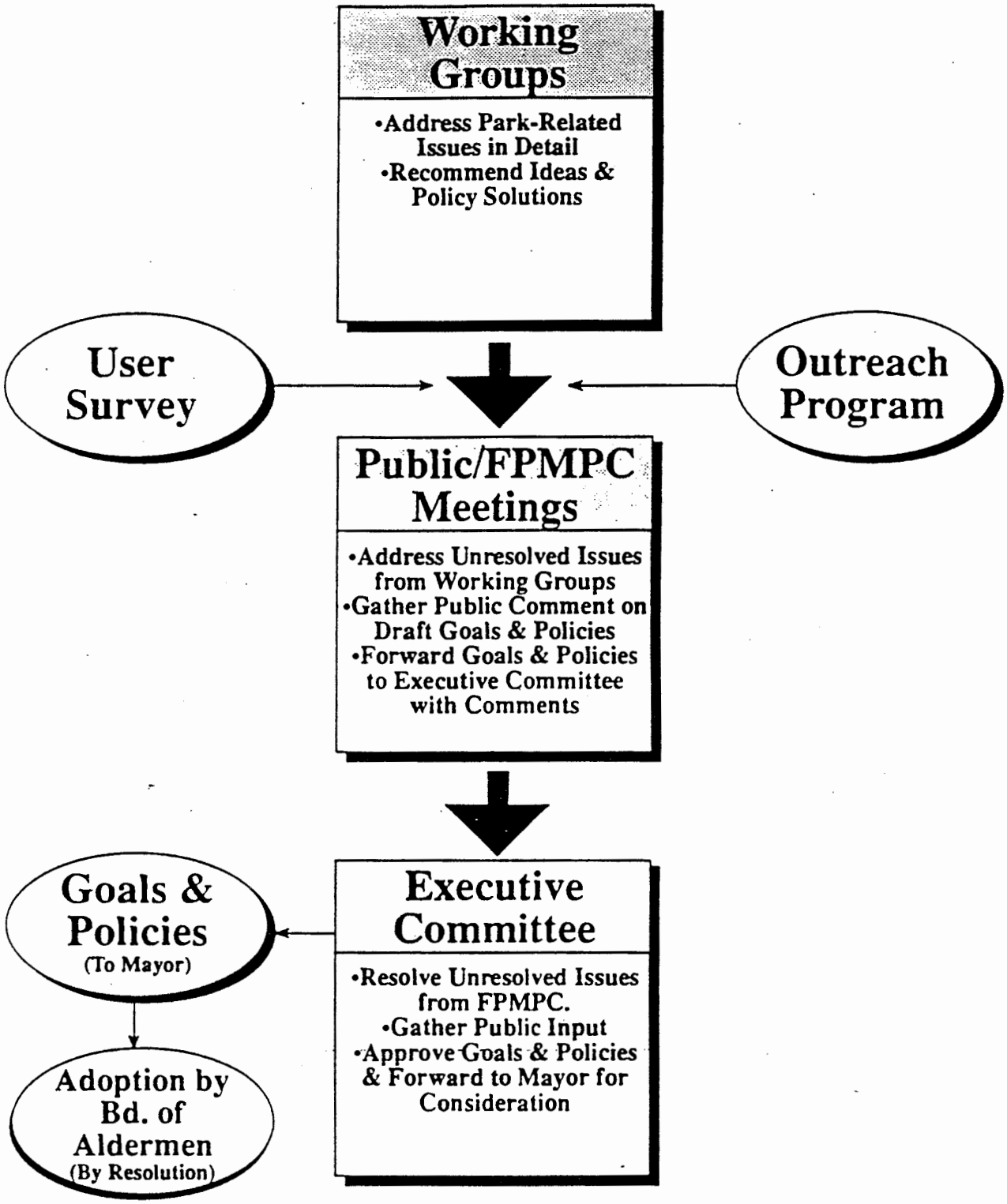
- Ongoing public relations/communications efforts, including public notices in local newspapers, press releases, and radio public service announcements, to keep the general public informed about the progress of the planning process and to continue to encourage public participation in the process.

In all, there were 5,000 people hours contributed by more than 1,000 individuals, groups and institutions to the planning process. These goals and policies reflect many of their ideas, concerns, and desires for the future of the park.

Forest Park Master Plan

Community Design Process

Community Goal Setting - Creating A Common Vision



Planning Process Participants

Freeman R. Bosley, Jr.
Mayor

ST. LOUIS DEPARTMENT OF PARKS, RECREATION AND FORESTRY
Gary Bess
Joseph Leisure
Anabeth Calkins
Dan Skillman

ST. LOUIS DEVELOPMENT CORPORATION
Larry T. Bushong
Marion Eisen
John T. Hoal
Carlene Nolan-Pederson
Gregg E. Calpino
Stephen B. Fagan

THE EXECUTIVE COMMITTEE
Gary Bess, *Co-Chair*
Kathryn Nelson, *Co-Chair*
Robert Archibald
Mary M. Bartley
Hon. Paul Beckerle
Joseph Bergfeld
Anabeth Calkins
Sue Clancy
Hon. Irving C. Clay, Jr.
Laura Cohen
James Dwyer
Robert F. Henry, Jr.
John T. Hoal
Michelle Lowrey
Hon. Daniel J. McGuire
Jean Neal
Pat Waterston
Hon. Phyllis Young

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Sen. William Clay, Jr.
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Ari De Andrado
Debra Dee
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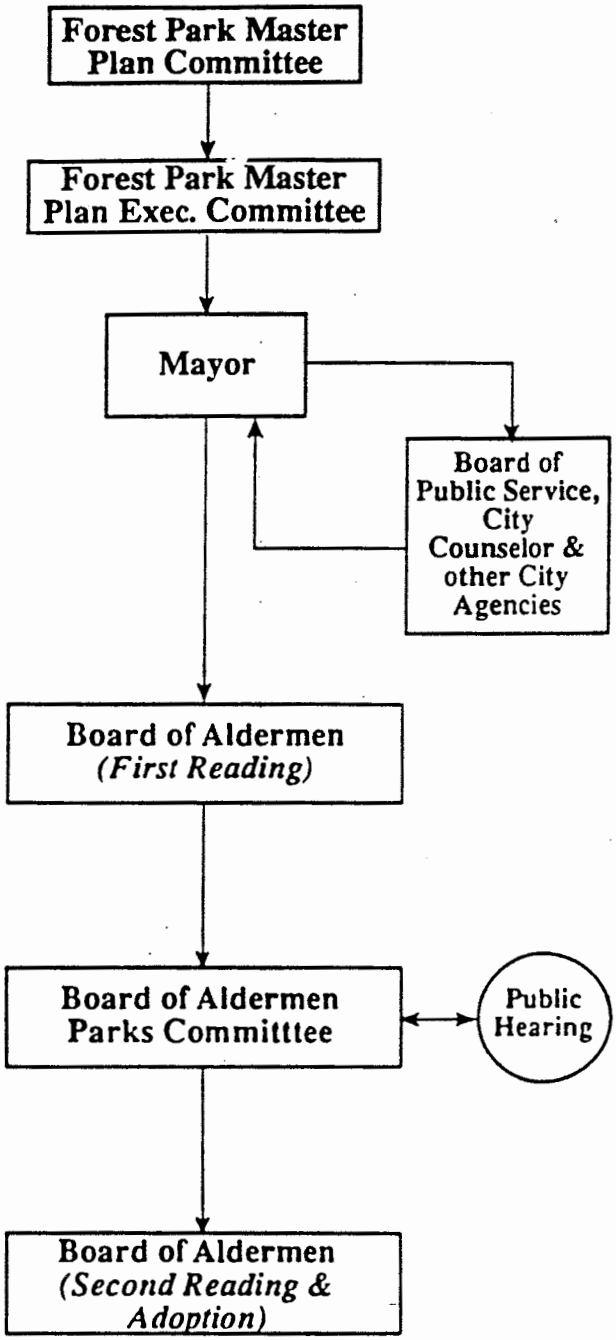
Gateway Arch Park Expansion - *Judy Hinrichs, Exec. Dir.*
L.E. Haefner Enterprises Inc. - *Lonnie E. Haefner, Ph.D., P.E.*
The Lawrence Research Group - *Lawrence H. Boxerman, Ph.D.*
LewiSites - *D. Anne Lewis*
Marketing Works - *Debra Smith-Shurn, Christal McKinney , Nicole Jenkins*
O'Donnell Communications - *Jim O'Donnell*

Forest Park Master Plan
~Proposed Adoption Process for Policies~
August 29, 1994

Objective: Board of Aldermen to approve Policies for revision of Master Plan by resolution.



Step 1:
F.P.M.P.C. recommends policies to F.P.M.P. Exec. Committee.

Step 2:
FPMP Exec. Committee recommends policies to Mayor after due consideration and public review.

Step 3:
Mayor sends draft policies to BPS, City Counselor and other City Agencies for review & recommendations.

Step 4:
BPS, City Counselor & other City Agencies forward their recommendations to the Mayor.

Step 5:
Mayor requests that Board of Aldermen review & approve draft policies by resolution.

Step 6:
Resolution introduced & read at Board of Aldermen.

Step 7:
Resolution referred to Parks Committee by the President of Board of Aldermen for consideration & review of draft policies.

Step 8:
Board of Aldermen Parks Committee holds public hearing & adopts Committee Report.

Step 9:
Resolution & report of Parks Committee sent to Board of Aldermen for second reading & adoption.

Step 10:
Policies distributed to City Depts., Agencies & other appropriate organizations.

Step 11:
Forest Park Project Team begins drafting Revised Forest Park Master Plan based on approved policies.

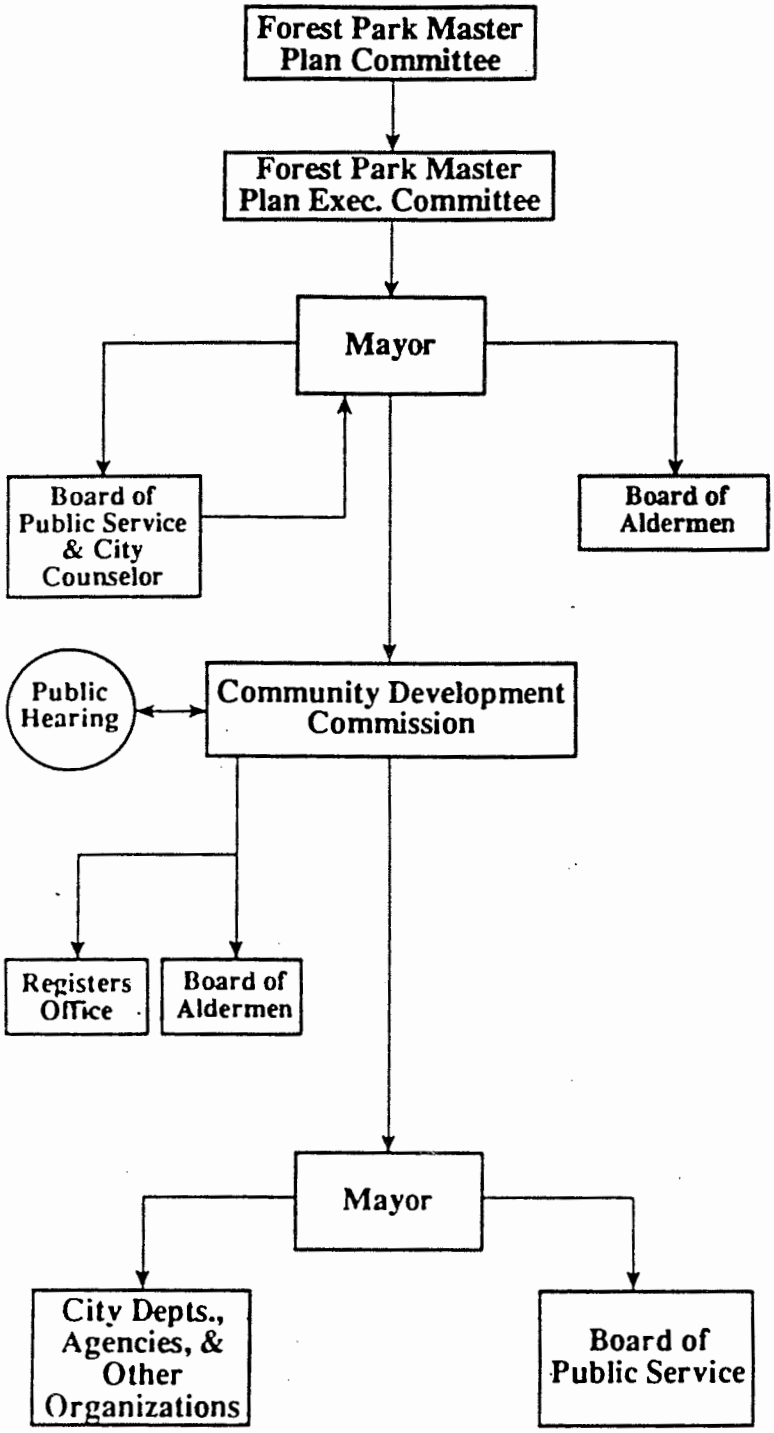
Appendix A

Forest Park Master Plan

~Proposed Adoption Process for Revised Master Plan~

January 17, 1995

Objective: Community Development Commission to Adopt Revised Master Plan



Step 1:
F.P.M.P.C. reviews and comments on the Revised Master Plan.

Step 2:
Exec. Committee approves the Revised Master Plan and recommends that the Mayor send it to CDC for consideration.

Step 3:
Mayor sends Draft Revised Master Plan to BPS & the City Counselor for review & recommendation.

Step 4:
BPS & the City Counselor forward their recommendations to the Mayor.

Step 5:
Mayor sends Draft Revised Master Plan to Board of Aldermen for information.

Step 6:
Mayor requests Dir. of CDA to submit Draft Revised Master Plan & recommendations of BPS & City Counselor to CDC for review & consideration as the Revised Master Plan.

Step 7:
CDC holds a public hearing.*(Legal requirement)*

Step 8:
CDC adopts Revised Forest Park Master Plan.

Step 9:
CDC certifies the Revised Forest Park Master Plan to the Board of Aldermen & Registers Office. *(Legal requirement)*

Step 10:
Mayor requests Director of Parks, Recreation & Forestry to submit Revised Forest Park Master Plan to BPS to adopt a Board Order for implementation.

Step 11:
Mayor distributes Revised Forest Park Master Plan to City Depts., Agencies & Other Organizations (Forest Park Forever, Forest Park Conservancy, Landmarks, HUDC, E/W Gateway Council, SLDC, Missouri Dept. of Natural Resources, etc.)

IMPLEMENTATION PROCESS FOR THE REVISED FOREST PARK MASTER PLAN TO BE DETERMINED IN PLAN.

Appendix B

FOREST PARK MASTER PLAN

S a i n t L o u i s

EXHIBIT B

SUMMARY: PROCEDURES FOR FOREST PARK LAND USE CHANGES

January 9, 1995

PROCEDURE FOR CHANGING LAND USE AND ALTERATION OF EXISTING FACILITIES IN FOREST PARK

Chapter 22.42 of the Revised Code of the City of St. Louis establishes a procedure for approval of the use of any land within all Public Parks, Squares or Plazas owned or hereafter established by the City.

This Chapter was authorized by Ordinance 59741 which was approved in 1986.

The provisions of Chapter 22.42 apply to land uses in Forest Park including a permanent or temporary building, structure, or parking lot or facility. The restrictions do not apply to the City for park or recreation proposes.

PROCEDURE FOR ALLOWING THE USE OF NEW LAND IN FOREST PARK

Lease Required:

The use of new land, for more than 30 days by an existing or new entity in Forest Park requires a lease that must be approved by Ordinance of the Board of Aldermen. Section 22.42.030 explicitly prohibits the Board of Estimate and Apportionment from unilaterally authorizing leases; and implicitly prohibits the Director of Parks or the Board of Public Service (B.P.S.) from issuing long term permits.

PROCEDURE FOR APPROVAL OF ALTERATIONS, CHANGES OF LAND USE, OR CONSTRUCTION PROJECTS FOR AN ENTITY WITH EXISTING RIGHTS IN FOREST PARK

Permit Required:

B.P.S. must provide a permit that authorizes proposals to change the actual use or to make any alteration of all or any part of land used in Forest Park by any entity using such land by previous permit, ordinance, lease or statute.

Alterations include construction, demolition, the increase in height of a structure, or any excavation.

Permit Process:

1. Applicants must apply to B.P.S. for approval or denial of a permit.

2. Pursuant to Section 22.42.070, applications to make or perform interior alterations, routine maintenance, replacement of existing facilities, general beautification, or an alteration expressly contemplated or authorized by previous permit, ordinance, lease or statute shall be approved or denied by B.P.S. in accordance with its customary procedures.

3. Except for applications specified in item 2 above, upon receipt by the B.P.S. Secretary, applications shall be delivered to the Clerk of the Board of Aldermen.

4. B.P.S. shall review applications and <u>if denied</u>, B.P.S. shall advise the Clerk of the Board of Aldermen.

5. If B.P.S. <u>approves such application</u>, it shall not issue the permit. B.P.S. shall provide a report pertaining to the approval to the Clerk of the Board of Aldermen.

6. Upon notification of approval to the Board of Aldermen, B.P.S. shall not issue a permit for a 60 day period thereafter, unless a resolution approving the permit is approved by the Board of Aldermen during the 60 day period.

7. Upon receipt of the B.P.S. approval report, the Clerk of the Board of Aldermen shall provide a copy to each member of the Board of Aldermen.

8. Upon expiration of the 60 day period, the Board of Aldermen's authority pertaining to the B.P.S. permit expires.

9. During the 60 day period, any member of the Board of Aldermen may introduce a resolution to grant or deny the application for a permit or to approve such application with conditions.

BOARD OF ALDERMEN
PROCEDURE FOR RESOLUTION

1. Resolution to grant or deny application may be introduced at Board of Aldermen.

2. If unanimous consent is granted, the resolution may be considered on the date of introduction.

3. If unanimous consent is not granted, the resolution shall be referred to the Committee on Parks and Environmental Matters.

4. Committee may hold a public hearing. Notice of such hearing must be provided to applicant by certified mail least 5 days prior to hearing date. The Secretary of B.P.S. and Director of Parks shall be notified also.

5. Committee may report resolution out to full board for second reading and final approval.

6. The Clerk shall report the action of the Board of Aldermen to the Secretary of B.P.S. Thereafter, B.P.S. shall grant or deny application in accordance with the action of the Board of Aldermen. However, if the application is approved by the Board of Aldermen with conditions, B.P.S. shall make the final determination whether to issue the permit with the Aldermanic conditions or deny the permit.

This is a summary of the provisions of Ordinance 59741. For more details, a copy of the Revised Code is attached hereto and incorporated herein.

22.42.100	Copy of report to Board members.
22.42.110	Permit—Issuance procedure.
22.42.120	Permit—Resolution to grant or deny application—Hearing.
22.42.130	Permit—Resolution to grant or deny application—Second reading.
22.42.140	Permit—Application modification.

22.42.010 Definitions.

As used in this chapter, the following terms have the following meanings:

A. "Land" means the entire physical territory within all public parks, plazas and squares owned by or hereafter acquired or established by the City and the air space above and the earth or water below the surface thereof, including permanent or temporary buildings or structures of any kind and parking lots or facilities of any kind.

B. "Person" means an individual person, partnership, association, group, corporation,, trust, political subdivision, board, or any other legal entity of any kind whatsoever.

C. "Use" means to conduct any activity upon, to have the right to occupy to the exclusion of others or to exclude others (whether or not exercised), to have the right to exclude others from using, or to have the right to construct or maintain any permanent or temporary building, structure or parking lot or facility, on, above, or below. (Ord. 59741 § 1, 1986.)

22.42.020 Use authorization.

On and after the effective date of this ordinance, no person, (other than the City for park or recreation purposes) shall be authorized or permitted to use any land within a public park, square or plaza owned by or hereafter acquired or established by the City except as provided by this chapter. (Ord. 59741 § 2, 1986.)

Editor's Note:
Ordinance 59741 was passed March 4, 1986.

PARK, SQUARE OR PLAZA LAND USE

Sections:

22.42.010	Definitions.
22.42.020	Use authorization.
22.42.030	Lease required.
22.42.040	Lease required—Exceptions.
22.42.050	Lease requirements.
22.42.060	Alteration or construction—Permit required.
22.42.070	Permit application—Granting.
22.42.080	Permit application—Review.
22.42.090	Permit application—Report to Clerk.

22.42.030 Lease required.

Except as provided in Section 22.42.040, no person shall be permitted to use any land except pursuant to a lease authorized by ordinance which lease complies with the requirements of Section 22.42.050. No lease of any land shall be authorized or executed pursuant to Section 5.04.090. (Ord. 59741 § 3, 1986.)

22.42.040 Lease required—Exceptions.

Section 22.42.030 shall not apply to:

A. Persons using land in a park, square, or plaza for thirty (30) days or less, which use does not involve construction of a building of any kind which is intended to be permanent, or of a parking lot; such uses may be permitted by the Board of Public Service or by the Director of Parks, Recreation and Forestry pursuant to and in compliance with the City Charter;

B. Land used on the effective date of this ordinance by any person pursuant to a valid permit of the Board of Public Service or of the Director of Parks, Recreation and Forestry, for the term of such permit or for the term of any renewal of such permit to such person or to the lawful successors or assigns of such person, for use of the same land, on conditions as to use of the land and operations thereon which are substantially identical to the present conditions of such permit, subject, however, to the provisions of Section 22.42.060;

C. Land used on the effective date of this ordinance by any person pursuant to statute, ordinance, or lease, for the term if any authorized by such statute, ordinance, or lease subject, however to the provisions of Section 22.42.060;

D. Persons engaging in athletic or recreational activities on a daily or seasonal basis pursuant to valid permits of the Director of Parks, Recreation and Forestry;

E. Persons using land pursuant to a valid concession contract with the City;

F. Persons leasing buildings in the public parks pursuant to Section 22.04.100. (Ord. 59741 § 4, 1986.)

22.42.050 Lease requirements.

Any lease authorized pursuant to Section 22.42.030 shall:

A. Have been reviewed and favorably recommended in writing to the final form thereof by the Board of Public Service prior to the adoption of the ordinance authorizing its execution;

B. Provide for fair and reasonable consideration to the City;

C. Provide that all rental payments under such lease shall be held by the Comptroller in an account for the use and benefit of the Department of Parks, Recreation and Forestry;

D. Provide for immediate termination and forfeiture of such lease in the event of any breach by the lessee of any provision thereof;

E. Contain express acknowledgements by the lessee that neither expenditures of funds by lessee, nor construction of improvements, if any, by lessee, nor any representation by any City official or employee, shall create any valid expectancy or right in the lessee to renewal of such lease, or obligation by the City to renew such lease, and that the lessee's performance of all its undertakings in such lease, over the term of the lease, is a valid factor for consideration by the City in determining whether such lease shall be renewed;

F. Provide that any and all construction or work on the leased premises by the lessee shall be done in complete compliance with all applicable City, State and Federal Codes and pursuant to plans and specifications approved by the Board of Public Service, the Division of Heritage and Urban Design and subject to approval by or permit of any other City department or agency whose approval or permission may be required under the City Charter or ordinance prior to the commencement of any construction or work;

G. Require submission by the lessee to the Director of Parks, Recreation and Forestry of a written annual report describing in detail the activities and operations of the lessee on the land in the preceding year;

H. Contain such other provisions as are appropriate to the protection of the City's interests;

I. Be approved by the City Counselor as to form and as being in all respects consistent with this chapter prior to the adoption of the ordinance authorizing its execution. (Ord. 59741 § 5, 1986.)

22.42.060 Alteration or construction—Permit required.

Whenever any person using land pursuant to a permit or authorization described in subsections B or C of Section 22.42.040 proposes to change the actual use of all or any part of such land, or to make any alteration, including construction, demolition, or an increase in height, of any permanent or temporary structure or parking lot on such land, or to excavate beneath any existing temporary or permanent building or parking lot on such land, such person shall apply for a permit to the Board of Public Service. (Ord. 59741 § 6, 1986.)

22.42.070 Permit application—Granting.

A. Any applications required by Section 22.42.060 for permits to make or perform interior alterations, routine maintenance, replacement of existing facilities in kind, general beautification, or an alteration expressly contemplated or authorized in the permit, statute, ordinance or lease under which the applicant is using the land, shall be granted or denied by the Board of Public Service in accordance with its customary procedures.

B. A copy of any application required by Section 22.42.060 which is not expressly described in subsection A of this section shall be delivered immediately upon receipt by the Secretary of the Board of Public Service

to the Clerk of the Board of Aldermen. (Ord. 59741 § 7, 1986.)

22.42.080 Permit application—Review.

The Board of Public Service shall review applications described in subsection B of Section 22.42.070, and if such Board determines that any such application should be denied, it shall deny such application and shall advise the Clerk of the Board of Aldermen of such fact in writing. (Ord. 59741 § 8, 1986.)

22.42.090 Permit application—Report to Clerk.

If the Board of Public Service determines that any application described in subsection B of Section 22.42.070, should be granted, it shall report such fact in writing to the Clerk of the Board of Aldermen, together with its findings from its review of such application, and the reason for its determination. (Ord. 59741 § 9, 1986.)

22.42.100 Copy of report to Board members.

Upon receipt of a report from the Board of Public Service pursuant to Section 22.42.090, the Clerk of the Board of Aldermen shall furnish a copy of such report to all the current members of the Board of Aldermen. (Ord. 59741 § 10, 1986.)

22.42.110 Permit—Issuance procedure.

No permit requested in an application described in subsection B of Section 22.42.070 shall be issued by the Board of Public Service for sixty (60) days after the date of the delivery of its report pursuant to Section 22.42.090 to the Clerk of the Board of Aldermen, unless the Clerk of the Board of Aldermen earlier delivers to the Secretary of the Board of Public Service a report approving such issuance as provided in Section 22.42.140. The expiration of such sixty (60) day period without delivery of a report under Section 22.42.140 to the Secretary of the Board of Public Service shall terminate the authority of the Board of Aldermen on such application under this chapter. (Ord. 59741 § 11, 1986.)

22.42.120 Permit—Resolution to grant or deny application—Hearing.

After receipt of a report from the Board of Public Service pursuant to Section 22.42.090, any member of the Board of Aldermen may introduce a resolution recommending the grant or denial of the application, or the grant of such application subject to specified modifications of the application. Unless such a resolution shall have unanimous consent of the members of the Board of Aldermen present for its consideration at the meeting which it is first read, such a resolution shall be referred to the Committee on Parks and Environmental Matters, or to any successor committee thereto, or to any special committee on the park affected; the committee to which such resolution is referred may hold a public hearing on such resolution. A notice of the date, time and place of such hearing shall be given at least five (5) days before the date thereof in writing by certified mail to the applicant; and by delivery to the Secretary of the Board of Public Service and the Director of Parks, Recreation and Forestry. (Ord. 59741 § 12, 1986.)

22.42.130 Permit—Resolution to grant or deny application—Second reading.

After such hearing, such Committee shall report such resolution, with Committee amendments, if any, to the Board of Aldermen for second reading and final action. (Ord. 59741 § 13, 1986.)

22.42.140 Permit—Application modification.

The Clerk of the Board of Aldermen shall immediately report in writing the final action by the Board of Aldermen on such a resolution to the Secretary of the Board of Public Service, with a copy of any adopted resolution. Thereafter, such Board shall grant, or deny, the application in accordance with the action of the Board of Aldermen. If the Board of Aldermen by resolution recommends grant of such an application, subject to specified modifications of the application, the applicant shall be so advised, and if the application is so modified, the permit may, but need not, be granted by the Board of Public Service, otherwise it shall be denied. (Ord. 59741 § 14, 1986.)

FOREST PARK MASTER PLAN

S a i n t L o u i s

EXHIBIT C - SCOPE OF WORK AND METHODOLOGY FOR DESIGN PHASE AND REVISED MASTER PLAN

January 13, 1995

The design phase of the Revised Forest Park Master Plan is a three-step process which includes the following:

- Step 1 - Analysis and Design Principles
- Step 2 - Conceptual Design
- Step 3 - Revised Master Plan

These steps are outlined in detail later in this document. This phase will be guided by the goals and policies approved by the Board of Aldermen.

Step 1 - Analysis and Design Principles

Step 1 will conclude research and data collection and end with the approval of design principles by the Forest Park Master Plan Executive Committee. It includes at least the following tasks:

A. Finalize analysis of existing conditions including, but not limited to, the following:

- governance structure.
- operations and management of all park facilities.
- programming at the park's indoor and outdoor facilities.
- land allocation, leases, permits and other agreements.
- conditions and character of all landscape, architecture, public art and site furnishings.
- access, circulation and parking.
- environmental health of the park's natural systems.
- condition and location of all infrastructure and utilities.

B. Document the existing conditions as of November 1983 (the date the 1983 Master Plan was first adopted) and review all subsequent development.

C. Review the existing (1983) Forest Park Master Plan and all proposed revisions.

D. Review all proposed projects and planning studies.

E. Prepare "design principles" which summarize the conclusions of the analysis, review and the goals and policies.

F. Review design principles with all park entities, affected parties, city departments and appropriate government agencies.

G. Present conclusions and design principles to the Executive Committee for preliminary review, which will include noting significant proposed changes to the existing (1983) Forest Park Master Plan and comments on the 1993 Forest Park Forever proposed revisions.

H. Present conclusions and design principles to the Forest Park Master Plan Committee, general public and others as necessary for review and comment.

J. Review and incorporate the appropriate suggestions received from the Executive Committee, Forest Park Master Plan Committee, general public and others.

K. Executive Committee to approve design principles.

Step 2 - Conceptual Design

Step 2 will build upon work of the first step and will be a period of proposed design and planning solutions and end with the approval of Conceptual Designs by the Forest Park Master Plan Executive Committee. It includes at least the following tasks:

A. Produce Draft Conceptual Designs based on Goals and Policies, following the conclusions from step one and the direction of the Design Principles. Consider site-specific recommendations from previous plans and current proposals which meet the criteria contained in the Goals and Policies.

B. Review Draft Conceptual Designs with all park entities, affected parties, city departments and appropriate government agencies.

C. Present Draft Conceptual Designs to the Executive Committee for preliminary review, which will include noting significant proposed changes to the existing (1983) Forest Park Master Plan and comments on the 1993 Forest Park Forever proposed revisions.

D. Present Draft Conceptual Designs to the Forest Park Master Plan Committee, general public and others as necessary for review and comment.

E. Review and incorporate the appropriate suggestions received on Draft Conceptual Designs from the Executive Committee, Forest Park Master Plan Committee, general public and others.

F. Executive Committee to approve Conceptual Designs.

Step 3 - Revised Master Plan

Step 3 will build upon the work of the first two steps to produce a Revised Master Plan approved by the Forest Park Master Plan Executive Committee. It includes at least the following tasks:

A. Prepare Draft Revised Master Plan, including but not limited to:

- Executive Summary
- Goals and Policies
- Design Principles
- Governance Plan
- Land Use Plan
- Access, Circulation and Parking Plan
- Landscape Character Plan
- Surface Drainage and Lake System Plan
- Public Art and Architecture Plan
- Infrastructure Plan
- Implementation Plan with Cost Estimates
- Appendix I: 1976 - 1995 Forest Park Planning and Development History
- Appendix II: Narrative of significant proposed changes from existing (1983) Forest Park Master Plan and rationale for these changes.

B. Review Draft Revised Master Plan with all park entities, affected parties, city departments and appropriate government agencies.

C. Present Draft Revised Master Plan to the Executive Committee for preliminary review.

D. Present Draft Revised Master Plan to the Forest Park Master Plan Committee general public and others as necessary for review and comment.

Review and incorporate the appropriate suggestions received on Draft Revised Master Plan from the Executive Committee, Forest Park Master Plan Committee, general public and others.

F. Prepare comprehensive, detailed Final Draft Revised Master Plan to include items listed under A.

G. Review Final Draft Revised Master Plan with all park entities, affected parties, city departments and appropriate government agencies.

H. Present Draft Revised Master Plan to the Executive Committee for preliminary review.

I. Present Final Draft Master Plan to the Forest Park Master Plan Committee for review and comment.

J. Executive Committee to approve Final Draft Revised Master Plan.

K. Executive Committee of the Forest Park Master Plan Committee to present Final Draft Revised Master Plan to Mayor with recommendation to submit to the Community Development Commission for consideration as the new Forest Park Master Plan.*

**See Appendix B in Goals and Policies for proposed Master Plan Adoption Process.*

Schedule

Work toward fulfillment of this scope of work has commenced and it is the intention to conclude within 28 weeks of the approval of the Goals and Policies by the Board of Aldermen. A tentative schedule including reviews follows:

Analysis - 8 Weeks includes:

- Executive Committee Preliminary Review
- FPMPC Review
- Public Review
- Executive Committee Approval

Conceptual Design - 10 Weeks includes:

- Executive Committee Preliminary Review
- FPMPC Review
- Public Review
- Executive Committee Approval

Master Plan - 10 Weeks includes:

- Executive Committee Preliminary Review of Draft Revised Master Plan
- FPMPC Review of Draft Revised Master Plan
- Public Review of Draft Revised Master Plan
- Executive Committee Review of Draft Revised Master Plan
- Executive Committee Preliminary Review of Final Draft Revised Master Plan
- FPMPC Review of Final Draft Revised Master Plan
- Executive Committee Approval of Final Draft Revised Master Plan

FOREST PARK MASTER PLAN

S a i n t L o u i s

FINAL DESIGN PRINCIPLES
Approved by Executive Committee

14 March 1995

PRINCIPLE #1
- **Integrate and connect Forest Park to the region, City and adjacent neighborhoods.**

PRINCIPLE #2
- **Integrate historically significant landmarks, landscape and site relationships.**

PRINCIPLE #3
- **Utilize land forms to define park experience.**

PRINCIPLE #4
- **Create a linear connected water system.**

PRINCIPLE #5
- **Create a passive open space system.**

PRINCIPLE #6
- **Create active space systems.**

PRINCIPLE #7
- **Emphasize site relationships.**

PRINCIPLE #8
- **Create multi-functional zones with shared facilities.**

PRINCIPLE #9
- **Create a multi-modal, distributed access system.**

PRINCIPLE #10
- **Emphasize coordinated infrastructure replacement and create underground utility corridors.**

FOREST PARK MASTER PLAN

S a i n t L o u i s

LONG TERM PLANNING SUMMARIES
for
FOREST PARK MUSEUMS AND CULTURAL INSTITUTIONS

SAINT LOUIS ART MUSEUM

August 1995

FOREST PARK MASTER PLAN

S a i n t L o u i s

LONG TERM PLANNING SUMMARIES
for
FOREST PARK MUSEUMS AND CULTURAL INSTITUTIONS

SAINT LOUIS ART MUSEUM

August 1995

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Exhibits

"You will have observed that the Department of Art has a permanent building of stone and brick, while all the other departments have temporary structures, which will pass away when the exposition period is over. This permanency of the art building is part of a plan which we of St. Louis have cherished and have very dear to our hearts, a plan to preserve there, as the one material monument of the Louisiana Purchase Exposition, also as a continual influence among our people, a permanent collection of paintings, sculpture, and art works of all kinds, worthy of that art palace.

We hope that the present art exhibition, in which the people have taken so great interest, will arouse a desire among all who can do so to help us in gathering together such a collection. We are encouraged to believe that we shall succeed; and if we do, even though it may take years, we of St. Louis will feel that all our efforts in working to make this art exposition a success will have been well repaid."

David R. Francis, 1904
President
Louisiana Purchase Exposition Co.

THE ST. LOUIS ART MUSEUM...
WINDOW TO THE WORLD'S CULTURES

Since its inception in 1879, the St. Louis Art Museum has been an important and integral part of the fabric of the St. Louis community. With its historic Cass Gilbert-designed exhibition hall gracing Art Hill, the institution holds a unique historical place in both Forest Park and St. Louis as the single permanent contribution to St. Louis from the landmark Louisiana Purchase Exposition of 1904. Its mission and tradition of collecting, preserving and exhibiting works -- past and present -- from all peoples around the globe make the Art Museum St. Louis' window on the world's culture.

Among the 177 museums nationwide, the St. Louis Art Museum ranks ninth in attendance and has ranked among the nation's top five museums in per capita visitation for the past 15 years. But the half million visitors who enter St. Louis' world class museum each year reveal only a fraction of the Art Museum's impact on the St. Louis community. Faithful to its role as a public institution, the Art Museum has an even richer history of community outreach and education, today serving more than 450,000 additional people per year -- by far the largest per capita audience of any museum in the nation -- through a variety of programs throughout the community.

While most mature museums in this country were created principally for the worship of history, the St. Louis Art Museum's innovative forebearers sought to showcase the artistic and cultural continuum between past and present, making the Museum a dynamic reflection of the culture of our times. Founder Halsey Ives' explicit instructions called for the Museum to feature "works of all kinds ... (with) the most inclusive view of world civilization." The result today is a strong general museum with the broadest possible appeal manifest through outstanding collections and programs in modern, as well as historic, art from virtually all of the world's diverse cultures.

The St. Louis Art Museum is the first publicly funded museum in the United States. And it has achieved world class acclaim through an innovative private-public partnership that is a model of support for cultural institutions worldwide. Throughout the years the Museum's governance has been responsive to public needs and a responsible steward of the precious public and privately raised resources that enable it to continue as a vital cultural asset in this region.

But the institution is at a crossroads today. The Museum's governing bodies for some time have recognized that the exhibition space in the historic Cass Gilbert building, which they have twice renovated to maximize its use, is clearly no longer adequate for its current collection or future donations -- its lifeblood. Today the Museum can exhibit only 25 percent of its total collection at any given time. This space limitation also severely constrains the Art Museum from fulfilling its charter to attract and display important contemporary art works and collections, as well as historic pieces. Without space to display new gifts, donors of significant and important collections will frankly look elsewhere.

In response, the Museum launched a three-and-a-half year needs assessment in 1985 to develop a long-range plan for programming and facilities development to carry it through its historic centennial celebration in Forest Park in 2004. Three-phase recommendations from that plan called for the institution to: 1) maintain excellence in education and capitalize on opportunities to present the widest range of the world's cultures in all activities and to all audiences in the short term; 2) build a new exhibition facility to fulfill its community role in the immediate term; and 3) continue over the long term its dynamic balance of old and new ideas in art and culture and universal cultural accommodation outlined in its mission statement. A subsequent space assessment study, developed by The Christner Partnership, Inc., attempted to identify space needs to meet program objectives through the early part of the 21st century.

However, two additional factors today influence and require us to modify our analysis of needs.

A change in federal structural requirements in the wake of the 1992 Bay Area earthquake in California has added to the complexity of the Museum's facilities planning process. Three subsequent Museum-funded studies confirm that the almost century-old Cass Gilbert exhibition hall needs seismic retrofit to increase its stability in the event of an earthquake. While necessary, such a retrofit will be expensive and likely will result in the loss of exhibition space, further diminishing the percentage of the collection that may be exhibited. The Museum is planning additional detailed analysis in the coming months.

The second factor influencing the plan is the long-overdue creation of a master plan for Forest Park, currently being developed under the guidance of the mayoral-appointed Forest Park Master Plan Committee. Since Forest Park's inception, St. Louisans have argued over its use without an overall design for its utilization, governance or funding. That process, though, requires the Museum to define its expansion needs for 50 years, decades beyond the scope of prior Museum needs studies.

While specifics of the Master Plan are currently being debated and developed, its goals specify that "Forest Park's existing cultural institutions are valued and should remain in the park." The goals also specify that "the quality and quantity of open space in Forest Park should be preserved, based on a general concept of no-net-loss-of-open-space" from the Park as it existed in 1983.

As the oldest permanent member of the Forest Park family, the Art Museum is today working to identify its facilities needs for the next half century and beyond. Working closely with the leadership of the environmental community that is involved in the park planning process, the institution took the lead in establishing the Forest Park Assistance Corporation (FPAC), which has proposed to purchase the 26-acre St. Louis Arena site -- arguably the last contiguous piece of property available to Forest Park in the foreseeable future -- in order to address one of the stated goals of the master plan. The use of that site, to be determined by FPAC and through the Forest Park Master Plan process, could serve as a grand entry point into the Park and help address many of the parking and transportation problems of concern to park advocates.

FPAC may ultimately serve as a formal mechanism to bring together all of the cultural institutions located in and around Forest Park to work together on common issues that may best serve the long-range interest of the Park and the community.

Because of the structural and financial complexities its seismic retrofit needs have created, the Museum is working diligently to reassess its space needs for the next 50 years for inclusion in the Forest Park Master Plan. Balancing future needs defined by its own master planning process and its fit with the Park's ecosystem, the Museum has identified a maximum four-acre land addition to serve its expansion needs into the mid-21st century. As they move forward in the coming months to bring more specificity to the actual use and design of that space, Museum officials are fully committed to continuing public inclusion in its facilities and program planning process.

The cost of Museum expansion on Art Hill, including the seismic retrofit, will be in the range of $100 million and above, which will require the single largest capital campaign in the history of St. Louis. With a time frame of 50 years and the Museum's strong history of community support, Museum officials are confident that they can raise the necessary funds. The Museum has raised over $90 million in private funds in the past 17 years.

In a world that is becoming increasingly smaller, the role of the St. Louis Art Museum in fostering cultural awareness and understanding can only grow in importance. As the sole permanent legacy of the 1904 World's Fair, the Art Museum pledges to maintain its place as a world class institution vital to both Forest Park and the St. Louis community -- a showcase of cultures old and new. To fulfill that mission, the institution must have room to grow. The St. Louis Art Museum is committed to provide for that growth in a fiscally responsible manner through a process that is responsive to the needs of Forest Park and the diverse community it serves, and inclusive of those interested in the future of the Park and its cultural institutions.

COMPLIANCE WITH FOREST PARK MASTER PLAN GOALS AND POLICIES

The Art Museum's proposed expansion is in compliance with the spirit and the letter of the Forest Park Master Plan Goals and Policies.

In particular, we are in compliance with the requirements of Section 3.1.2. of the goals and policies.

> We make our proposal in the context of our existing legal rights and will comply with any necessary legislative or legal steps to implement.
>
> In the answers to this questionnaire, and through years of serious planning and institutional consideration at the highest level, we have clearly established the purpose, demonstrable need and economic viability of our proposed expansion.
>
> Based on the Art Museum's history, original charter, mission, program and role in the community, there are no other alternatives with regard to locations, less development or no development.
>
> The Park's road, transit and parking systems have the ability to provide for increased activity, or we will so provide as we implement our expansion. The access system for our expansion will relieve pressure on the Hampton Avenue entrance to the Park by encouraging access to the Museum from Skinker Boulevard.
>
> In our preliminary planning to date and in our future planning we have and will work diligently with the City in its efforts to enhance the Park's natural systems.
>
> We will add no further administrative space in our proposed expansion and are committed to removing certain functions from the Park over time.
>
> We presently maintain more acres than our proposed expansion requires.
>
> We are proposing exact bounds for our expanded area and we expect and desire that they be set by a lease.
>
> Our proposal to give the City 26 additional acres for the park clearly complies with the general concept of no net loss of green space. In addition, we believe, based on comments from park planners, that our four acres will be more than compensated for by road removal and other changes in the FPMP.

We are also in compliance with Section 3.1.4 of the Goals and Policies.

> We have demonstrated in our answers to the questionnaire that we have used the Cass Gilbert building to its maximum potential as exhibit space. Also we have moved storage to an off-site location and will work diligently in our own planning to move other functions out of the Park.

We are making Section 3.1.7 of the Goals and Policies a reality by working through the Forest Park Assistance Corporation to purchase the 26-acre arena site and donating it to the City for the benefit of the Park. This gift also facilitates the goal stated on page 4 in the Goals section of the Goals and Policies: "Available sites along the park's edge outside of its current boundaries, including the Arena site, should be pursued for future park needs."

Our proposed expansion also, at considerable expense to the Museum, complies fully with the General Land Use Policy stated in Section 3.0 of the Goals and Policies: "Forest Park's existing institutions ... are highly valued and should be encouraged to remain in the Park and the City of St. Louis." We fully support the policy of recognition of institutional co-existence and inter-dependence, and we presently do and intend in the future to share stewardship and responsibility for the future of the Park.

SECTION ONE:

EXECUTIVE SUMMARY

1.

Please outline your proposal, its purpose, need and legal, and economic viability.

Purpose: To incorporate into the Forest Park Master Plan the expansion needs of the St. Louis Art Museum for the next 50 years.

Premises: 1. The Cass Gilbert building, the sole permanent contribution of the 1904 Louisiana Purchase Exposition to the City of St. Louis, is among the most important architectural treasures in the region. Perhaps more than any other structure, the Museum's historic exhibition hall is integral to the history of both Forest Park and the St. Louis community.

2. For more than nine decades the St. Louis Art Museum has been a responsible steward of that important World's Fair treasure. Through a truly unique public/private partnership the Museum has grown both its collection and its outreach efforts in St. Louis to become the largest provider of museum services, per capita, in the nation. Its world class reputation has gained both international recognition and acclaim for St. Louis. However, in the early 1990s the institution learned that it must seismically retrofit the Cass Gilbert building. This initiative will cost between $50 million and $65 million to maintain all of the existing display space, or cost the Museum a significant amount of display space, if it chooses to pursue other structural retrofit options for the building.

3. Because of the building's deep historical significance to St. Louis, Forest Park and the institution itself, the Art Museum is determined to continue its commitment to the Cass Gilbert building and to its Art Hill location. The experience of other museums across the country clearly demonstrates that satellite exhibition space is neither artistically desirable nor economically viable for the institution. A market the size of St. Louis simply cannot support it.

4. Since its founding in 1879, the Museum's mission has been to provide a general collection reflective of all cultures of the world and inclusive of the art of current times. Throughout its history, Museum leaders have been faithful to that mission, creating a world-class institution in St. Louis that serves as the community's "window on the world's cultures."

5. The St. Louis Art Museum has carved out virtually all of the display space that the historic Cass Gilbert building has to offer ... to the point where the Museum is able to exhibit only 25 percent of the estimated $1 billion in art it owns today. The lack of display space severely hampers the Museum from attracting important collections or maintaining its mission of displaying works of current artists.

6. Because of the complexity and expense of its seismic retrofit needs, the Museum today cannot precisely define its expansion needs for the next 50 years. Much work remains to be done ... work the Art Museum is committed to completing as soon as possible through an unprecedented participatory process.

7. Through its three-and-a-half year master planning process, and as a result of its seismic retrofit requirements, Art Museum officials have committed to a maximum expansion of four additional acres to be built on, in phases, over the next 50 years. The phased expansions would be located on the 9.2 acres that the Museum already maintains on Art Hill and would include landscaping, access roads and sidewalks necessary to support the expansion.

8. To demonstrate its commitment to the Park and the City, the Museum leadership has led an effort to create a solution to Forest Park's parking and transportation problems through an $11 million proposal to acquire the 26-acre St. Louis Arena site and provide benefit to Forest Park through formation of the Forest Park Assistance Corporation, which is designed to bring together all of the Park's cultural institutions to help the City and the community develop and implement solutions to Forest Park problems.

9. The Museum leadership has begun and is committed to continue an unprecedented participatory process that includes involved members of the public at large in its phased expansion planning efforts, including environmental advocates for Forest Park. This process will ultimately determine the specific details of each expansion phase.

10. The St. Louis Art Museum leadership is committed and able to raise the funds necessary to retrofit the Cass Gilbert building and expand its facilities, as outlined above, over the course of its expansion process. In so doing, the Museum will continue to be an economic, as well as cultural, benefit to the region.

Therefore: The St. Louis Art Museum seeks inclusion of its four-acre maximum expansion over the next 50 years in the Forest Park Master Plan.

Please note: The philosophy, scope and process of the facility expansion request are outlined in the opening pages of this document.

SECTION TWO:

EXISTING FACILITIES ANALYSIS

1.

Please provide the following information for all your facilities.

Forest Park Facility:

Name/address

St. Louis Art Museum, Forest Park, St. Louis, Missouri 63112

Facility Use/Description

Art Museum for collection, preservation and display of a general collection of art, past and current, from nations and cultures throughout the world; and cultural resource to more than 600,000 visitors and 450,000 additional St. Louisans per year.

The Museum is located on Art Hill, where it currently owns or maintains at least 9.2 acres of land in Forest Park.

Gross Area (sq. ft.) 250,000 sq. ft.

Net Area (sq. ft.) 200,000 sq. ft.

Mechanical System Heating (BTU) 35,000,000 BTU/hr *Cooling (Ton)* 1600 tons

Electrical System Capacity 2500 KVA (six electric substations)

Plumbing System water consumption 16,000,000 CUFT/year

Primary System

Foundations	Drilled piers and spread footings
Substructure	Cast-in-place concrete and masonry
Superstructure	Masonry, steelframe and CPC
Exterior Closure	Spandrel, glass, brick and limestone
Roofing	Built-up asphalt, single-ply membrane, standing seam metal, tile

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

Through three related studies the St. Louis Art Museum has learned that the historic Cass Gilbert building that provides the institution's primary exhibition space is structurally unable to handle the impact of a major seismic event. Preliminary estimates place the cost of seismically retrofitting the building at between $50 million and $65 million, if all Cass Gilbert space is maintained as it exists today. The cost may be reduced, according to some findings, if space in the building is reduced to accommodate new structural elements. Those new elements, however, will have a significant negative impact on existing exhibition space in Cass Gilbert. Further study is required and will be completed in the near future.

In an effort to lessen the demands on Art Hill property, the Art Museum recently contracted for space for off-site storage. The off-site program, which began in the early 1980s, continues today. In 1994 new off-site storage facilities with improved accessibility were leased, and their use was increased in size and effectiveness in 1995. The Museum is committed to move additional support functions off campus, where feasible, to maximize display space on Art Hill and minimize the impact of its expansion on the Park.

SECTION THREE:

PROPOSAL: PURPOSE, DEMONSTRABLE NEED & DETAILED STATEMENT OF NEEDS

NOTE: This section refers only to the facility within Forest Park

1.

Please clearly state the purpose of your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas."

The purpose of the Art Museum's expansion is threefold, directly related to its mission as established in the nineteenth century by its founders.

First, space is clearly needed for new Art Museum facilities. As stated in previous sections of this questionnaire, the Art Museum today can exhibit only 25 percent of its current collection because of inadequate display space. Additional space is needed to provide for the display and storage of the permanent collection of art works belonging to the citizens of the Zoo-Museum District, for improved facilities for major special exhibitions, for expanded programming in teacher and parent education, for a public resource center (a lending library on art and civilizations of the world), for an expanded public art reference library, for public access to collections of Prints, Drawings and Photography and for other directly related activities that involve the display and understanding of art and culture for our public. The need for these expanded programs has been determined through the Museum's extensive master planning processes.

Second, space is needed for new parking facilities. These would provide for improved public access to the people's Art Museum, eliminating the present parking deficit on Art Hill. Such parking is planned to be built under new facilities for the display of art (as above). and would also provide for the parking demand resulting from increased Museum size.

Third, the Art Museum needs to modify and re-use its present building. The exhibition hall was designed by Cass Gilbert for the 1904 Fair and then donated to the City to provide a permanent home in Forest Park for a new art museum for St. Louis. This structure requires extensive refitting in order to meet new standards for seismic safety for both people and art collections within. This matter is presently under considerable review and investigation. Modification and re-use of the Cass Gilbert building is expected to result in a sizable reduction of already inadequate display space. Through a number of facility improvement programs, the Museum has already maximized interior space in that building for the display of its permanent collection of art. The seismic retrofit of that historic structure, one of the region's great architectural landmarks, is necessary to extend its long-term survival. Such retrofit will create a need for new space construction to maintain, at a minimum, the status quo for exhibits.

It is also important to note that substantial additional space is today required for all departments of the Museum's art holdings, especially modern art (post-1900, Europe and America) and the Arts of Asia, Africa, the Pacific Island cultures and North and South American Native Arts, to maintain the Museum's historic commitment to art of all cultures of the world, past and present. Because the Museum can only display less than 25 percent of its current collection, the institution must have additional space to meet its pressing current needs and to attract and display new collections in the future.

2.

Please provide demonstrable need for your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas."

The Art Museum's need for expansion is based on factors discussed above, the space needs created by a needed seismic retrofit of the 1904 building, the size of the art collections worthy of display at present and in the future, and the museum's critical need for space to attract and exhibit new collections -- the lifeblood of every museum.

The Art Museum has a unique program and mission. The founders conceived its global agenda in art and culture to contain "art works of all kinds" (David Francis, 1904). This mission has been defined through a comprehensive, rather than limited, art museum collection with its attendant obligation of public edification and instruction. The presentation of all the world's cultures and people as a whole at the Saint Louis Art Museum requires a unity of display, where interaction of all civilization can be fully appreciated. This wholeness of our approach to art and culture creates interdisciplinary opportunities of critical vitality particularly to the curriculum of our schools, colleges and universities. This ideal conception of art stems from our origins as a department in Washington University, where all the world's knowledge is their purpose, and was the basis for the global understanding that is our legacy from the World's Fair of 1904.

There is a cultural necessity to a whole, global Art Museum that is our own very special tradition in St. Louis. Many American cities and museums lack this wholeness and completeness, except for a very few major art institutions that share this agenda: the Metropolitan Museum of Art and the Brooklyn Museum in New York, the Philadelphia Museum of Art, Cleveland Museum of Art, Detroit Institute of Arts, Cincinnati Art Museum, and a handful of others.

In addition, the St. Louis Art Museum mission and history provide that we continue to exhibit and collect works of art by living artists, or, as Halsey Ives stated in 1901, "to secure productions most worthy of permanent preservation as illustrating the highest standards of artistic intelligence and achievement of today." This feature requires a continual growth of the art collections and is, with the global agenda, the other basic tenet of our historic mission.

Crucial, therefore, to the Museum's dynamic collection is its ability to attract important collections in the future. Major potential donors, who are courted by virtually all major art institutions, require space to display their collections and the curatorial staff to manage them appropriately. Without critically needed new display space, the St. Louis Art Museum stands to lose important private collections today residing in St. Louis and elsewhere to institutions in other cities -- priceless collections that literally cannot be replaced.

Therefore, to fulfill its global agenda and growth requirements in recent art into the 21st Century, as well as to retrofit its historic exhibition hall, the St. Louis Art Museum must add to its facilities on Art Hill. Since the mid-1980s the institution has undergone an extensive long range planning process and conducted a study of space needs roughly through the first decade of the 21st century. Given the new uncertainties created by seismic needs of the Cass Gilbert building and the fact that the Forest Park Master Plan requires planning well beyond the scope of the earlier studies, the Art Museum must undergo a thoroughly studied, long-range expansion study based on its vision and program needs on order to specify and meet its long term facility needs.

But one issue is clear: expansion is needed for the museum to maintain its historic commitment to continually revitalize its display with works of present day artists from throughout the globe and to provide the space necessary to attract some of the world class collections from members of the St. Louis community -- and beyond. For the Art Museum to continue its historical mission to be St. Louis' window on the world's culture -- past and present -- expansion is essential.

3.

Please describe your proposal in detail including the development timeline, any expected programming changes and parking requirements. Enclose any documentation, drawings or renderings to illustrate the proposal. Describe any existing or proposed development outside the park that supports or influences your proposal.

Four acres of additional land are requested to be added to the 5.2 acres the Art Museum currently owns, for lease from the City of St. Louis, for phased expansions over the course of the next 50 years. These proposed four acres lie within an area currently maintained by the Art Museum. The need for phased expansions has been described in the previous sections. The first phase, it is noted, likely to the west of the Art Museum, will be developed in the near term, within the next five years. This will accommodate the seismic retrofit necessary for the Cass Gilbert building, permit the Art Museum to exhibit additional amounts of its collection (once the retrofit is completed), and enable it to compete for collections that would otherwise not be possible.

The land area desired for this expanded four acres is addressed under question 4 below.

The phased development of buildings on this additional acreage will be limited to coverage of a maximum of 72 percent of the additional land area and will not exceed a height of the important cornice lines of the Cass Gilbert building. Each phase of expansion development will be important to preserving the history of this world-class institution, will be planned in a careful and participatory manner, and certainly will be expensive. In addition, each phase of building expansion will be subject to the City review process for building permit approval.

The start point for assessment of these space needs was the Art Museum's master plan process, conducted in the mid and late 1980s, and a subsequent space needs analysis conducted in 1993 by The Christner Partnership, Inc. A copy of the Christner expansion requirements is attached as Exhibit C. However it is crucial to note that these figure must be reassessed in the light of the new space needs that the Cass Gilbert retrofit will create and the fact that the Christner study was intended to assess needs over a relatively limited period of time -- approximately 15 to 20 years. A new, thorough study of Art Museum space needs is essential to address the Museum's retrofit issues and the longer-term (50 years) requirement of the Forest Park Master Plan.

Therefore, it is premature for the Art Museum to undertake additional drawings at this time; but the above describes the scope of our responsible long-range planning. When the Art Museum expansion area is included in the Forest Park Master Plan, a participatory planning process will include stakeholders from within and outside of the Art Museum's current governance structure, including representatives of environmental preservation organizations. The details of any expansion will result from this process and be presented to the City for formal approvals.

Underground parking will be developed within the four-acre additional area with 575 spaces the anticipated maximum. No heavy peak loads would be generated by this parking facility (cf., Norm Roden traffic study that indicates there are no significant peak loads generated by Museum visitors). A Museum loop road will be developed, with entry and exit points to the underground parking to the east and west of the Museum, from and onto Fine Arts Drive. Rerouting of Museum traffic is also proposed, from I-64/40 to Skinker Boulevard, through signage and a public information program.

The Art Museum is committed to joining other Park institutions in developing a more effective shuttle system and off-site parking facilities for visitors and to the development of off-site employee parking.

Further, sections above describe the Museum's steps in locating and expanding its off-site storage.

4.

Please describe the exact final permanent boundaries of any expanded open or enclosed area. Please clearly show any required dedicated parking area and the areas which you will maintain.

Attached as Exhibit A is a plan depicting the four-acre addition proposed to be leased from the City of St. Louis. A planned road providing access to underground parking from and to Fine Arts Drive is shown, with access to and from the parking likely midway on the east and west portions of the road. Please note that the proposed additional four acres lies within a 9.2-acre area the Art Museum presently owns or maintains. As a result, no new maintenance requirements are presented by this addition.

5.

Please describe the quantitative limits of any future enclosed expansion within the above mentioned final and permanent boundaries.

Given its importance to Forest Park and the St. Louis community it serves, and the sizable cost of retrofitting the historic Cass Gilbert building, Art Museum policymakers need long-term growth assurances on Art Hill, sufficient for 50 years or more. This would enable the Museum to continue to fulfill its mission, its commitment to the sole permanent legacy of the 1904 Louisiana Purchase Exposition and the Museum's continuity as an "anchor" institution in the Park. While the Art Museum leadership has undergone a long range planning process for the institution through the year 2004, uncertainties and complexities created by the need for a seismic retrofit require it to conduct additional studies to arrive at definitive long-term space needs.

However, the Museum is committed to an expansion that will not exceed four acres, including landscape and access roads and walkways, with building limitations as described in Section 3.3 above. This expansion will be completed on property the institution already maintains in the park. In addition, the Museum leadership is committed to an expansion process that will include park advocates and voices from throughout the community as it arrives at its final needs and design. (Please see the answer under question 3 above.)

Clarifying the Museum's continued location on Art Hill in the Forest Park Master Plan should remove any uncertainties about land use boundaries. At this juncture, the Museum looks for long-term growth which will guide its success in the 21st Century.

Please specify any special space needs that might have an effect on planning adjacent park areas for your facility.

Continued and expanded use of off-site facilities for warehousing and light assembly will have a positive effect in reducing our needs for space in Forest Park, as will potential off-site space that may provide an opportunity for some administrative relocation.

Special space needs in adjacent areas to our facility include accessibility for school and tour buses, for delivery vehicles (truck and van access) and for handicapped persons.

An increasing emphasis on future construction to the west of the existing Art Museum suggests that principal traffic routes could be directed toward Skinker Boulevard, which, with the addition of appropriate signing in the Park area, might serve to lessen the impact on the Zoo and the Hampton Avenue interchange.

6.

Please specify any special needs for your employees and in particular, your views on remote parking with shuttles for your employees.

As stated above, both employees and visitors with special needs (handicapped persons) must be accommodated on the Museum site. Remote parking is anticipated for many, if not most, Museum employees, and can be effectively implemented with the cooperation of other park institutions. Remote parking with shuttle transportation has been successfully used for special events for Art Museum employees and is therefore likely to be continued.

Please specify any special needs for your visitors and your views on remote parking with shuttles for your visitors.

As previously stated, special Art Museum needs include handicapped access for visitors and staff. In addition, the Museum has discussed the possibility of valet parking, a topic which is actively under review.

The Museum feels that visitors may use shuttles, if available, if those shuttles are effectively and efficiently organized. Such service, which the Museum supports, will require the cooperation of most, if not all, of the institutions in the Park. Those institutions can address the problem through the Forest Park Assistance Corporation developed, in part, to serve as a forum for the creation and implementation of solutions to institution-wide problems in the Park. In concept, however, the Art Museum supports shuttle services in Forest Park.

Please provide existing operational plans for special events as they relate to any Park planning considerations.

The Art Museum expects to continue the presentation of large special exhibitions that have broad public appeal, resulting in large museum audiences from time to time. Experience shows that such major and popular exhibitions as the Impressionism exhibit in 1990 or the Plains Indian exhibit of 1993 draw large and diverse audiences to the Museum and the Park. We hope successful park planning will ease access problems for visitors during periods of such peak demands, particularly through the peak summer vacation months.

On the whole, the Museum tends not to present one-day special events of unusually large impact, other than two to four Family Day Sundays per year. But even these events have limited audiences compared to the much larger number of people that attend major special exhibitions. As in the past, the Museum anticipates careful coordination with other Forest Park institutions for such events. Historically, the Art Museum and the Zoo have worked together planning and coordinating such events, as well as activities of security officers who serve both institutions.

Please specify any special access, parking or circulation requirements. Specify any important locations for drop-off at your facility.

Important locations for drop-off and access include:

1. Special handicapped access at the Auditorium entry (south wing). This is presently the Museum's only handicapped-accessible entryway for access to the entire facility. The Museum is required by law to provide handicapped parking nearby.

2. Access is required for trucks to our two loading docks for deliveries.

3. The Museum has important drop-off zones for both tour and school buses at the north and south entries to the Museum complex.

Do you have any plans or desires to convert any of your parking lots to a fee generating lot?

We do not expect the Art Museum's exterior parking to require a parking fee in the foreseeable future. However, the Art Museum would cooperate in Park-wide planning on such an issue.

Please describe your views on the provision of structured or underground parking on existing lots under your jurisdiction, and on structured or underground parking in general in the Park

We are proposing underground parking as part of our initial facilities expansion, which will minimize the impact of such expansion on surrounding Park land. On-street parking around the Art Museum during general hours of operation also is requested of the Forest Park master planners. In addition, the St. Louis Art Museum leadership is committed to working with fellow cultural institutions through the Forest Park Assistance Corporation to develop mutually beneficial solutions for off-site employee and visitor parking, as well as a transit service, that would serve the Park and its institutions.

Please specify any special needs for your employees and, in particular, your views on remote parking with shuttles for your employees.

Some employees and visitors with special needs (e.g., handicapped persons) need to be accommodated on the Art Museum site. As stated above, the Museum is committed to seeking mutual solutions with its fellow Park institutions for off-site employee parking and shuttle transportation. The Museum has successfully used remote parking with shuttles for special events, a practice it intends to continue.

7.

Please describe any parking fee structure that applies to any parking lot under your jurisdiction. Who receives the revenue from the parking lot? What are the operational and maintenance costs of the parking lot? Who determines the fee structure? On what basis is the fee structure determined? Do you expect the rates to be increased in the future?

Parking under the jurisdiction of the St. Louis Art Museum is free. The Art Museum plans to work with fellow institutions through the Forest Park Assistance Corporation to create park-wide parking and a parking fee system. The availability of the 26-acre St. Louis Arena Site for parking and transportation for the Forest Park Master Planning process will provide all of the Park institutions with added flexibility to develop joint solutions to both parking and transportation problems

8.

Please describe your views on the importance of the park-wide Shuttlebug, and MetroLink to your facility.

As demonstrated by the enormous public acceptance of MetroLink to date, the Shuttlebug and MetroLink are very important to Forest Park, fellow institutions and the Museum's future visitation and outreach initiatives. The Museum enthusiastically anticipates the expansion of MetroLink and other forms of public transit, particularly as they serve Forest Park. However, public transit in the Park is fairly new; buses have served the Museum facility for only ten years. The Art Museum would expect to facilitate the increased public use of MetroLink, buses and shuttle services through its publications and advertising.

Please describe your views on the use of a remote parking lots for employees and/or visitors if they are served by the Shuttlebug.

Remote parking and shuttles for Museum employees can be especially effective if other Park institutions participate in the planning and execution of a system-wide solution. Visitors may increase their use of shuttle services if they are efficiently organized, have a reputation for safety, and if parking can be provided in association with them.

9.

Would you support a year-round Shuttlebug system? Describe any important Shuttlebug routing issues as they relate to your facility.

We have supported and continue to support a year-round Shuttlebug system to serve Forest Park and its member institutions. The St. Louis Art Museum plans to cooperate with other institutions in and around the Park through the Forest Park Assistance Corporation to develop a joint plan to address these and other parking and transportation issues.

10.

Do you have any current or proposed policies to encourage employees to use transit on their daily commute?

To date, no. However, the Art Museum is committed to work together with its fellow Park institutions to develop park-wide strategy for off-site employee parking.

11.

Specify any other detailed design park-wide improvement and/or site considerations that are important to the success of your facility, including specific hourly, daily or locational parking restrictions in the vicinity of your institution.

1. We require car, bus and delivery (truck and van) vehicle access to the Art Museum.

2. Adequate sidewalks, lighting and other provisions for visitor safety are key to our future.

3. We strongly support the Master Plan's intention to remove golf from Art Hill.

4. We would like to work with the City to slow traffic and provide more crosswalks on Fine Arts Drive.

5. Landscape enhancements throughout the park are important to the success of the Art Museum and fellow institutions.

6. The St. Louis Art Museum wants on-street parking to continue in the vicinity of the Museum during all Museum open hours.

SECTION FOUR:

ALTERNATIVE DEVELOPMENT ANALYSIS

1.

Given your investigation of existing facilities for your institution, please describe how you can increase efficiency of space utilization in order to avoid unnecessary expansion in the Park per policy 3.1.4. Please submit supporting documentation.

To continue to compete as a world-class art institution that reaches more than one million St. Louisans and visitors each year, the St. Louis Art Museum needs to increase its amount of exhibition space. As previously stated, no growth would severely damage the Museum's historic commitment to this community and would cripple future efforts to attract new collections. The Museum feels strongly, as supported by other similar art institutions around the country, that dividing the institution would be a tragic, irreversible mistake. A responsible expansion on Art Hill, in phases over many years, done in ways that maximize exhibition space, is the correct path for the St. Louis Art Museum.

As demonstrated above, we have used the Cass Gilbert building to its maximum potential as exhibit space. In recent years, we also have moved storage to an off-site location. And Museum leadership has committed to moving other support functions out of the Park where appropriate.

2.

If your institution reduced its proposed level of development in the Park per policy 3.1.2, please describe the implications. Please submit supporting documentation.

Not applicable.

3.

Please describe the findings from an investigation of no development in the Park per policy 3.1.2. Please sub~~mit supporting docu~~mentation.

Please see answer under question 1 above.

Please describe the findings from an investigation of any or expanded land uses outside of the Park per policy 3.1.6. Please submit supporting documentation.

In assessing its future needs, the Museum leadership has looked at a number of future expansion options, primary among them the creation of satellite gallery space outside the Park. However, as other museums have learned, off-site gallery expansion creates duplicated operational and staff expenses in such areas as administration, marketing, maintenance and security.

From an artistic perspective, dual galleries break the continuum of art that a general museum like St. Louis' features. In the words of one long-time trustee: "You can't rob one part of art history of its antecedents ... or its surroundings." Cross-cultural relationships are a significant asset to the St. Louis Art Museum. Many, though, would be eliminated if the collection were segmented.

Many of the nation's major museums that have created satellite galleries find them expensive to operate and unable to capture adequate public support. For example, the Philadelphia Museum of Art attracted 621,867 visitors during the first half of 1995 while its companion Rodin Museum, just minutes away, attracted fewer than 25,000 visitors over that same period. In San Francisco, New York, Los Angeles and at Harvard University satellite galleries also suffer from visitation rates many times lower than their related primary galleries. Studying these and other expansions, St. Louis Art Museum planners conclude that a gallery located away from Art Hill would be both financially unwise and artistically and intellectually disastrous.

And for almost a decade now, both City and County civic and political leaders have agreed that the City of St. Louis is and should remain the cultural hub of the region. The Museum must find a way to meet its expansion needs while remaining faithful to the objectives of the Forest Park Master Plan.

In recent years, Museum officials have moved some storage off-site and pledges to find ways to move more of the institution's support functions and, in conjunction with other park institutions, employee parking out of Forest Park over the long term.

SECTION FIVE:

ECONOMIC VIABILITY

1.

Please provide a cost estimate of the proposed development.

The expansion cost of Art Hill, including the seismic retrofit of the historic Cass Gilbert exhibition hall, has been estimated in the range of $100 million and above. Further refinement of that figure awaits additional structural seismic analysis and subsequent space needs analysis, which the Museum is in the process of undertaking.

2.

Please provide firm evidence of your financial ability to complete the project. Enclose supporting documentation.

The St. Louis Art Museum has raised more than $90 million in private funds since 1978 for operational and capital needs. The first phase of expansion would require one of the largest institutional capital campaigns in the history of St. Louis. However, with a 50-year time frame and the strong traditional community support the Museum has enjoyed throughout its history, Museum officials are confident they can raise the funds necessary to fulfill its expansion needs.

SECTION SIX:

LEGAL CONSIDERATIONS

1.

In your opinion and in the context of your proposal dated January 1995 as submitted to the Executive Committee of the Forest Park Master Plan, what are your "rights under existing law, leases or agreements, if any" to expand, modify, replace, relocate, re-use, or remove the existing building, parking lots, roads, paths, recreation, or natural area? (policy 3.1.2) Please attach supporting materials.

The Art Museum Subdistrict is empowered under Section 184.360.1 of the Revised Statutes of Missouri to:

> "own, hold, control, lease, acquire by donation, gift or bequest, purchase, contract, lease, sell, any and all rights in land, buildings, improvements, furnishings, displays, exhibits and programs and any and all other real, personal or mixed property for the purposes of the said subdistrict."

There are no other additional leases or agreements with respect to the Art Museum's rights to expand, modify, replace, relocate, renew, or remove the buildings, parking lots, roads, paths, recreation, or natural areas existing at this time except as described in the preceding sentence.

2.

Please state in your opinion, your existing jurisdictional or site boundaries. Please attach supporting materials.

Please refer to Exhibit Section Six; Question 2 for a summary of the history of the Art Museum from 1900 through January 1, 1972.

As of January 1, 1972, the Art Museum Subdistrict became the successor to the Administrative Board of the Control and the Administrative Board of the Art Museum having been duly constituted a subdistrict of the Metropolitan Zoological Park and Museum District of the City of St. Louis and County of St. Louis, pursuant to votes of the qualified voters of the City and County of St. Louis in an election April 6, 1971, pursuant to Section 184.350 et. seq. of the Revised Statutes of Missouri.

The Missouri General Assembly, the voters of the City and County of St. Louis and state law vested title of all property, buildings and facilities of all publicly owned art museums to the Art Museum Subdistrict in 1972. Section 184.360.2 of the Revised Statutes of Missouri provides:

> "All buildings, property and facilities of existing publicly owned and operated zoological parks and museums... upon which a majority of the voters of both the City and County have passed upon . . . shall become the property of and vest in the respective and applicable subdistrict on the date such subdistrict shall be established as provided in Section 184.350. Any obligations, duties, rights, privileges of whatever description pertaining to or relating to the maintenance, operation, construction, design or affairs of any such existing zoological park or museum shall be assumed by the respective subdistricts."

The buildings, property and the buildings transferred to the Art Museum Subdistrict includes, the main building known as the Cass Gilbert building, the auditorium, education and restaurant wing, the administrative offices and mechanical systems and the paved parking area immediately adjacent to the Art Museum. Attached as Exhibit B is a site plan setting forth the existing site boundaries of 5.212 acres of property owned by the Art Museum Subdistrict.

As to the building, properties and facilities that became the property vested in the Art Museum Subdistrict by virtue of Section 184.362 of the Revised Statutes of Missouri, the following rights with respect to the property are conferred to the Art Museum Subdistrict
Commission:

> Said commission shall have exclusive control of the expenditures of all monies collected by the District to the credit of the subdistrict's fund. . . . [and of] the construction and maintenance of any subdistrict buildings built or maintained in whole or in part with money of said fund and of the supervision, care and custody of the grounds, rooms or buildings constructed, leased or set apart for the purposes of the subdistrict under the authority conferred in this law.

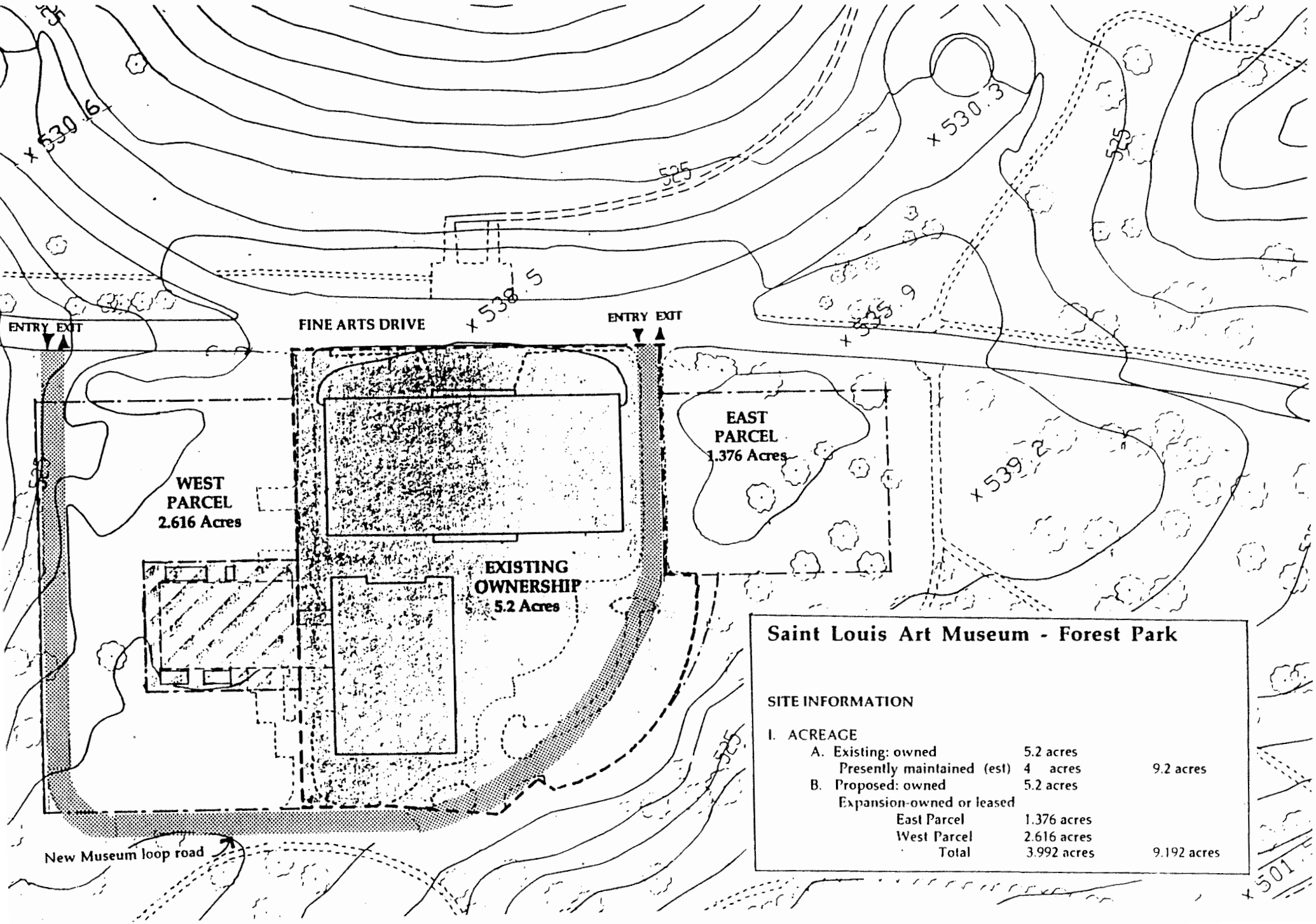
While there are arguments which support an assertion that the Art Museum Subdistrict owns all of the property and grounds which were part of the Museum in the past, or at a minimum that the Museum owns the 9 acres it currently controls and maintains, we are not presenting those arguments here.

3.

Please state the exact proposed boundaries of any expanded area and, if different, the final permanently defined boundaries to development.

Please cross-reference the response in Section Three; Questions 4 and 5.

Exhibit A



Saint Louis Art Museum - Forest Park

SITE INFORMATION

I. ACREAGE		
A. Existing: owned	5.2 acres	
Presently maintained (est)	4 acres	9.2 acres
B. Proposed: owned	5.2 acres	
Expansion-owned or leased		
East Parcel	1.376 acres	
West Parcel	2.616 acres	
Total	3.992 acres	9.192 acres

Exhibit B

St. Louis City Ordinance 24195, passed February 23, 1908, created and established the St. Louis Museum of Fine Arts located in the building erected by the Louisiana Purchase Exposition Company on Art Hill in Forest Park. The Ordinance gave the Board of Control (established by state law) the power to manage and control the museum and make necessary repairs and alterations. Ordinance 24524, passed July 6, 1909, amended Ordinance 24195 to change the name of the Museum for the "St. Louis Museum of Fine Arts" to "City Art Museum."

St. Louis Ordinance 26430, passed May 25, 1912, repealed Ordinance 245195 and directed the Board of Control of the City Art Museum to "transfer and deliver all personal property in its possession or under its control belonging to the City to the Art Museum Administrative Board. . . ." Further Ordinance 26430 abolished the Board of Controls created by Ordinance 24195.

Until January 1, 1972, the City Art Museum facilities in Forest Park were operated by the Administrative Board of the Art Museum pursuant to then Sections 184.020 et. seq. of the Revised Statutes of Missouri.

Exhibit C

The start point for assessment of the long-term expansion needs for the St. Louis Art Museum was its master plan process, conducted in the mid and late 1980s.

A follow-up space needs analysis was conducted in 1993 by The Christner Partnership, Inc. in consultation with Art Museum governing bodies, friends, supporters and staff. The following page is an assessment from that 1993 study of Art Museum expansion requirements.

However it is essential to note that the Christner figures that follow must be reassessed in the light of information and issues that have arisen since it was developed. Specifically:

- The Cass Gilbert retrofit will almost certainly eliminate space in the museum's existing exhibition hall, which is already inadequate for current display. (The Museum is able to exhibit only 25 percent of its existing collection). Further seismic study is required to determine the amount of space that will be eliminated and, therefore, needed to be replaced.

- The Christner study was intended to assess needs over a relatively limited period of time -- approximately 15 to 20 years. Because the Forest Park Master Plan requires such assessment over a much longer time period (50 years), a new, thorough study of Art Museum program and space needs is essential to arrive at longer-term expansion needs.

St. Louis Art Museum
Space Assessment Survey

	Existing	Immediate	Future	Long Term
Permanent Exhibition Galleries	58,655	78,500	90,275	150,000
Visiting Exhibit Galleries	9,376	17,000	17,000	17,000
Art Storage & Conservation	28,658	34,330	38,483	56,400
Public Space	39,599	42,670	42,760	52,600
Education	5,761	13,000	15,000	17,000
Office Space	11,008	13,000	13,300	13,300
Support	45,685	55,300	61,750	82,027
Total Assignable Area	198,742	253,800	278,568	388,327
Existing Building Area	243,131			
Total Building Area @ 15%		291,870	320,353	446,576
Total Building Area @ 20%		304,560	334,282	465,992
Total Building Area @ 25%		317,250	348,210	485,409

Exhibit D

The New York Times
August 9, 1995

Museums: The Sluggers of the Culture Lineup

By ANNE CRONIN

NEW YORK, Aug. 8 — If numbers meant as much to art lovers as they do to sports fans, the following statistic would be quoted everywhere: In any given year, New York City art museums draw far larger crowds than all New York professional sports teams combined.

Modern audiences may boycott baseball or cough through Wagner, but the popularity of looking at art has been growing steadily for several years, give or take a few dips and peaks.

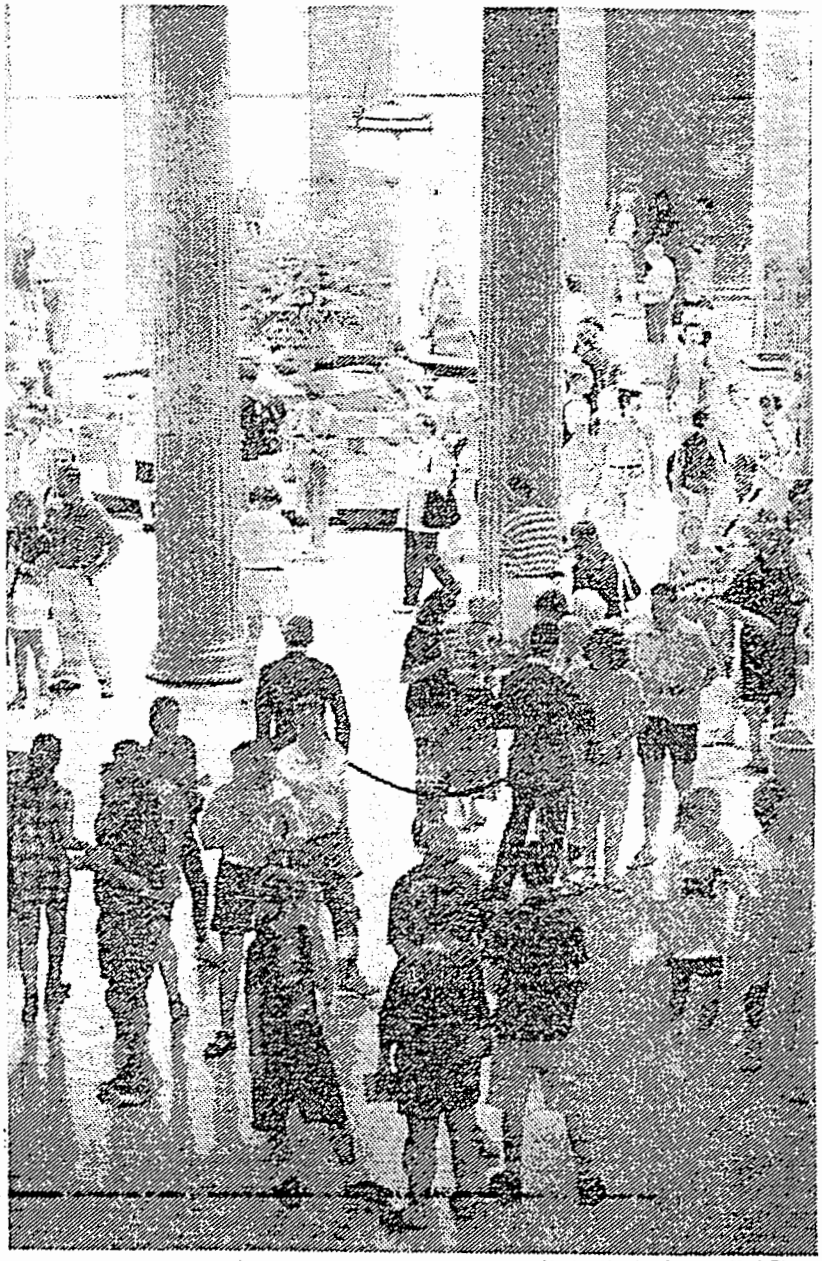
In the accounting year that ended June 30, most leading New York museums recorded more visits than in the previous year. And at least four had their highest attendance ever, including the Metropolitan, which counted 4.9 million people, an annual increase of 13 percent.

This summer, crowds jostling for a peek at hit shows like the Edward Hopper exhibition at the Whitney Museum of American Art have sometimes been so intense that one might suspect museums are giving the stuff away. And in a sense, they are. With admission cheaper than a movie ticket and usually free for children, museums are the best entertainment bargain for everyone, from parents with strollers to planeloads of foreign tourists.

Americans are becoming more sophisticated about art, and big museums are evolving into a blend of playground, cafe and fair, making the experience easy and comfortable. For the foot-weary or the art-overloaded, there are places to rest, to eat, even to hear a string quartet. In many respects, a well-run museum is eerily like an upscale suburban shopping mall.

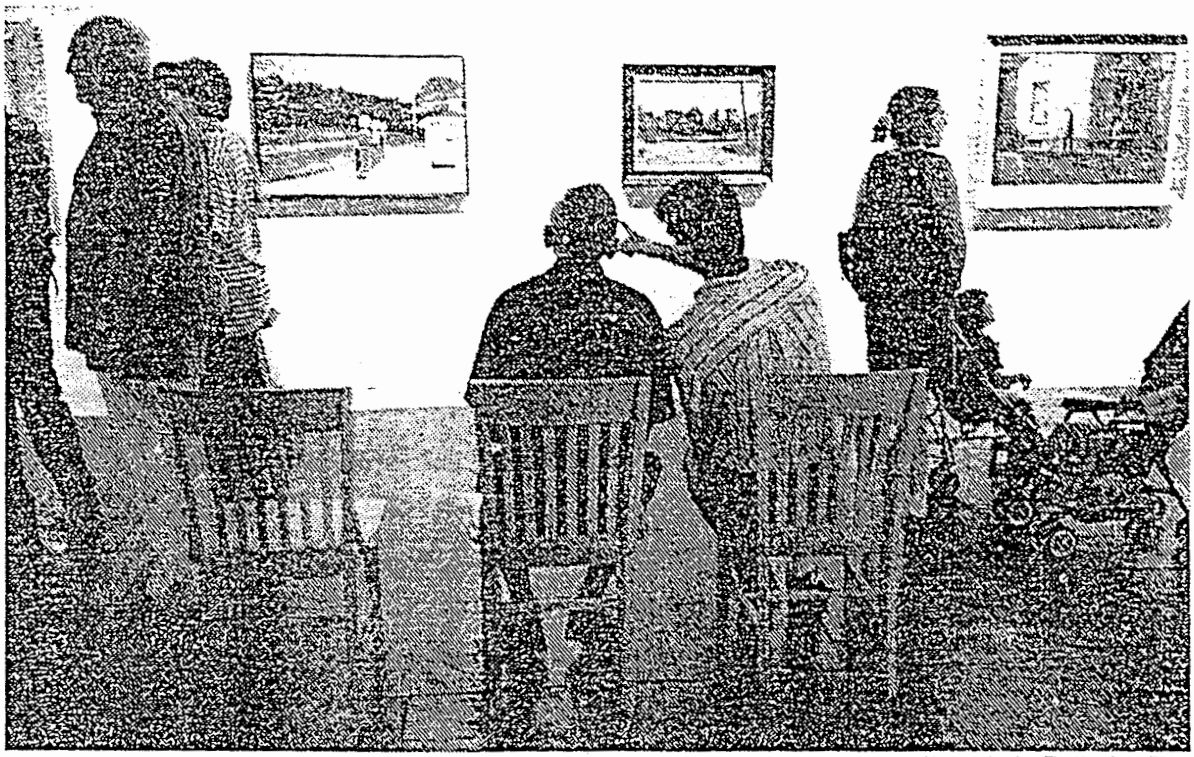
But there's more to it than that, judging from visitor surveys and observations by museum officials. In the age of the Internet and the VCR, museums are drawing people who yearn simply for social contact for a safe place to trade ideas and discoveries with strangers. In particular,

Continued on Page B2, Column 4



Monica Almeida/The New York Times

Standing room only in main lobby of the Metropolitan Museum of Art.



Monica Almeida/The New York Times

People viewing and discussing the paintings in the Edward Hopper exhibition at the Whitney Museum.

The Sluggers of the Culture Lineup

Continued From Page A1

art museums are prime places for single people to make contact.

"In other activities, you are alone," said Ralph Appelbaum, head of the museum design group that created the new dinosaur halls at the Museum of Natural History. "You don't go shopping to share the experience with other people. But museums allow you to look at something and share your feelings with your neighbors."

Museums can also be an antidote for families who rarely sit down to dinner together or talk, Mr. Appelbaum said: the art "provokes people, so they have a conversation with their kids in the car on the drive home."

Though no other New York museum comes close to the Met's attendance numbers, at least two had higher proportional increases over the last year, the new attendance figures show. The Pierpont Morgan Library had 140,105 visitors, up 23 percent from the previous year and almost double the figure for fiscal year 1990. The Jewish Museum recorded 210,000 visitors, up 18 percent. Both attribute the gains to extremely successful shows mounted in renovated, airier exhibition spaces.

The Studio Museum in Harlem also had its best year so far, if not by much: 105,000 visitors, about 5,000 more than a year ago. Moreover, some museums that did not set records, like the Whitney Museum of American Art and the Frick Collection, did better last year than the year before.

And though a few experienced declines, including the Museum of Modern Art, total attendance for all of New York City's museums has been steadily rising over the longer term.

Such growth is also a national phenomenon. A Census Bureau survey conducted in 1992 found that 49.6 million Americans had gone to an art museum or gallery in the last year, against 36.2 million a decade earlier.

Undeniably, the blockbuster show remains the surest way to generate crowds. The absence of such an exhibition at the Modern, still the city's second-most-popular museum, was one reason that attendance slipped, to 1.31 million from 1.47 million the previous year. The Modern's five largest shows last year each brought in healthy crowds of about 150,000. By comparison, its record year — 1993, with 1.89 million visitors — was achieved on the back of its hugely popular Matisse retrospective, which drew 945,000 viewers.

Blair Lee, a 43-year-old mother of two, traveled from her Upper West Side home to the Metropolitan one recent morning and sat while her children played on the cool marble steps leading up to the Temple of Dendur.

"We come here regularly," said Ms. Lee, relieved to escape the shimmering heat just beyond the glassed-in hall. "They especially like the places with water — the American Wing and here."

Her daughter, Brita Lee Cooper, took her first steps in the Met's Impressionist galleries. Now 6, she likes the mummies because "they were once really real people." And having just examined some Egyptian funereal jars in an adjacent room, she had a fresh mummy fact: "After they were dead, they would cut them up." Her 2-year-old brother Lucian preferred the sloped stones flanking the approach to the temple. "They make good slides," his mother noted.

Still, the New Yorkers dropping by the museum are outnumbered by tourists, many of them foreigners. The New York City Convention and Visitors Bureau counted 24.6 million visitors to New York in calendar year 1994, up 2.5 percent from 1993. Three-quarters of the city's overnight visitors have been foreigners, a byproduct of the dollar's continued weakness against the yen and European currencies.

Marcela Chayer de Coulón of Argentina has probably seen more museum collections in the United States than most Americans, and she has a practiced appreciation of their quality. Still, her jaw dropped with the shock of recognition the other day as

she approached van Gogh's "Wheat Field With Cypresses" at the Metropolitan

Mrs. de Coulón and her husband, Geraldo, who just completed a one-year medical fellowship in Dallas and Atlanta, were spending four days in New York before returning home to Buenos Aires. Over the last year they had seen quite a number of museums: "Cleveland has some very fine art," Mrs. de Coulón remarked. "I am amazed at all the European paintings that you have in this country. It comes from the power and money that you have; it is wonderful for you."

Americans, meanwhile, continue to gravitate toward the Impressionists, if the Met's recent successes and the throngs at the Art Institute of Chicago's current Monet retrospective are any indication. Exhibitions (not to mention poster sales) of works by American artists like Georgia O'Keeffe, Andrew Wyeth and Andy Warhol have done very well recently, too.

Capitalizing on such tastes in their drive for new income, leading museums have developed what amounts to a knockoff industry: catalogues and stores selling everything from Diego Rivera scarves to Egyptian jewelry to Chinese porcelain. The Metropolitan now has 16 shops in the United States and 21 abroad, apart from its catalogue business.

Added attention to amenities like restaurants also seems to have paid off for some museums. Indeed, an art crowd marches on its stomach. When Sarabeth's Kitchen opened a third branch in a lower level of the Whitney in 1991, it raised the standard for museum restaurants.

Restaurant patrons helped the Whitney post 293,040 visitors in fiscal year 1995, up from the previous year's 231,100 and the highest total in five years. (The all-time annual record, 637,578, was set when the museum's money player, Hopper, had his last retrospective, in 1980-81.)

James P. Tyler Jr. of Rancho Cucamonga, Calif., who was making his first trip to the museum on Thursday, seemed to have been won over. "I was dubious," he remarked as his grilled tuna on greens and tomato slices (lightly dusted with corn meal) arrived. "But no, it's very reasonable, that is, for a place you want to spend some time in."

The Frick Collection, mostly unchanging in its policies (no children under 10) and design (stately mansion, plenty of antiques, no restaurant), has attendance numbers to match: 227,194 in calendar year 1994, up a bit from 220,537 in 1993, down a bit from 230,695 in 1992. The Brooklyn Museum, which has been overhauling its permanent exhibition space to show its African and Egyptian collections to better advantage, has recorded virtually no change in attendance; 270,000 for the year that ended in June, up negligibly from 269,000 in 1994 and level with the figure for 1993.

The only museum that saw a big drop was the Solomon R. Guggenheim. After the reopening of the restored Frank Lloyd Wright building uptown and the inauguration of a SoHo branch in the summer of 1992 interest flagged. Combined attendance at both branches in the year ended in June was 732,000, down from one million visitors in the previous year.

Those museums that did set attendance records had one thing in common: the big show. The Metropolitan logged 794,108 visitors to its "Origins of Impressionism" show, which ran from late September to January. The Jewish Museum cites its five-month Pissaro retrospective, which closed in July, as a strong draw, though it does not keep separate figures for individual shows. The Morgan's big splash was "The Thaw Collection: Master Drawings and New Acquisitions," with 65,000 visitors.

Museums draw people who yearn for a safe place to trade ideas.

Of course, there is a limit to how many people can attend a blockbuster. "Matisse was literally a sell-out," said Glenn D. Lowry, the new director of the Modern. "There was a greater demand than space." Yet such big shows are crucial, he added, to subsidizing smaller shows.

Ticket sales for the Matisse exhibition were limited to 6,000 a day. But with at least 500 people crammed into a gallery, he concedes, "works of art are not appreciated at the same level."

Veteran museumgoers seem to agree. "A painting is basically silent, and there should be a contemplative space around it," said the novelist John Updike, who regularly contibutes criticism and essays on art to magazines. Mr. Updike says the crowds seem to be attracted partly by the glamour that has rubbed off from the high auction prices for paintings in recent years. But as a culture, "we have become more visually sensitive," he adds. "And we are less ear- and mouth-oriented."

At the Whitney the other day, Blanche Faer, 60, and Linda Miller, "in the vicinity of 60," stood off to the side of the huddle in front of Hopper's "Nighthawks," the 1942 painting depicting lonely city dwellers at a diner counter. Neither woman minded the crowds too much, but Ms. Faer, who had come into the city from Croton-on-Hudson to visit her Manhattan friend, did admit that "you rush yourself a little bit, because there is so much to see and other people are waiting."

Ms. Miller recognized the blockbuster's importance to the museum — "They have to do this every once in a while" — but she did voice the daydream of all who find themselves in the midst of such popular fare: "Surely it would be nicer if it was your own private collection."

DEPARTMENT OF PARKS, RECREATION & FORESTRY
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August 30, 1995

I would like to take this opportunity to thank you for your recent presentation to the Forest Park Master Plan Executive Committee regarding future plans of your institution. Since your presentation, the Executive Committee has reviewed your proposals in detail and has determined that your plans generally meet the requirements outlined in the Goals and Policies.

Enclosed please find a list of concerns and questions that were generated regarding your proposal. Members of the Design Team will be contacting you in the near future to clarify these points. Your assistance in reviewing this information would be appreciated.

I would again like to thank you for your continued assistance and support in this important project.

If you have any questions, please contact me.

Sincerely,

Gary D. Bess, Co-Chairman
Forest Park Master Plan
Executive Committee

INSTITUTIONAL PROPOSAL

ART MUSEUM

Preliminary review - August 24, 1995

	comments
1. PURPOSE	
2. DEMONSTRABLE NEEDS	*- The needs for 4 acres is not clearly established*
3. LAND USE	
DEVELOPMENT	
- GENERAL	
- PERMANENT BOUNDARIES	
- FACILITIES	*More information required to provide assessment* *- Need to define max. extent of final building(new & ex.)* *- Need to define construction phasing and interim uses* *- Need section through final building*
- PROGRAMMING	*- Need more information to provide assessment*
- IMPACT ON SURROUNDING USES	*- Need commitment to coordinate with adjacent uses* *- No discussion of impact zoo parking has on facility*
- ALTERNATIVES	
4. LANDSCAPE	*- Negative impact on landscape to east of existing building* *- Commitment to landscape mitigation unclear*
5. ART, ARCHITECTURE, AND INFRASTRUCTURE	*- Commitment to surrounding improvements unclear* *- Need more information of internal space use*
6. ACCESS, CIRCULATION, AND PARKING	*- Preliminary concerns: not assessed in detail* *-scale of underground parking structure* *-location of access road* *-require final parking numbers* *-eastern entrance to parking structure* *- impact of parking fee system*
7. ECONOMIC	*- Not assessed*
8. LEGAL	*- Not assessed*
9. NO NET LOSS OF OPEN SPACE	*- Not assessed*
10. GENERAL	*- Undefined facility planning process* *- Commitment by environmental groups unclear* *- Relationship to the Arena site?*

FOREST PARK MASTER PLAN

S a i n t L o u i s

LONG TERM PLANNING SUMMARIES
for
FOREST PARK MUSEUMS AND CULTURAL INSTITUTIONS

SUPPLEMENT

SAINT LOUIS ART MUSEUM

September 1995

I. DEMONSTRABLE NEED

DESIGN TEAM COMMENT: *The need for 4 acres is not clearly established.*

DISCUSSION: Before elaborating on the elements supporting the need for expansion set forth in our original submittal to the Forest Park Master Plan Executive Committee, it is important to establish the context for the Art Museum's expansion plans. The Art Museum renovated the Cass Gilbert building in the late 1970s. That renovation was not driven by a master plan, but instead, was constrained by the confines of the Cass Gilbert building. During the mid-1980s the Museum developed a master plan, and from that master plan The Christner Partnership developed an estimate of the Art Museum's expansion needs for approximately 20 years, i.e. until 2005. Christner's work was based on the Museum's present collection and modest anticipated growth over that period. In addition to its 20-year planning limits, Christner could not anticipate the additional space that now will be required to replace space lost due to seismic retrofit. It also did not anticipate the Art Museum's present policy of moving certain activities out of the park. As part of the Art Museum's detailed, inclusive planning process, a new space study will be done, in the context of the need established in our submittals to the Master Plan Committee.

In this context, we present the four key elements that demonstrate the need for expansion on up to four acres on Art Hill. Note that the Art Museum has stated that the four-acre expansion will accommodate its needs for 50 years.

Four principle elements establish the need for the Saint Louis Art Museum to obtain up to four acres of land for use for expansion over the next 50 years. The four elements are presented in summary form below and discussed in more detail in the following pages.

1. The Saint Louis Art Museum presently is able to exhibit only approximately 10 percent of its collection. Museums in similar cities exhibit between 20 percent and 36 percent of their collections. The citizens of St. Louis are deprived of appropriate access to the Art Museum's collection because the Art Museum does not have enough space.

2. In addition to being unable to show more than 10 percent of its current collection overall, the Art Museum has several collections which require additional space for proper exhibition and for growth. Growth is integral to the fulfillment of the institution's mission to be a museum exhibiting the art of the present time.

3. Without expansion, the Saint Louis Art Museum will not be able to compete for nor properly accommodate donation of any of St. Louis' private collections. Other museums are anxious to have these collections. There is compelling precedent for Museum expansion to accommodate important local collections. In the early 1970's the Art Museum was renovated and expanded to enable the Museum to properly show the Morton D. May collection. Had Mr. May not donated his collection, the Museum would have virtually no twentieth century German art, no Pre-Columbian art, no Oceanic art, and much lesser collections of African and Native American Art. Of perhaps equal significance to St. Louis, the Morton D. May collection would be elsewhere.

4. The Art Museum is committed to preservation of the Cass Gilbert building, including a seismic retrofit. The Art Museum is also explicitly committed to remaining in Forest Park and to keeping its collection unified in one facility. These factors indicate that if the Art Museum expands, as it must, it must expand on Art Hill. In addition, the seismic retrofit will result in a significant loss of space in the Cass Gilbert Building, increasing the need for expansion.

1. Percent of Collection Exhibited

The Art Museum presently displays approximately 10 percent of its collection at any one time. This places the museum at the low end of a range of other institutions.

Nelson Atkins Museum, Kansas City	**36%**	28,000 objects 10,000 on display
Cleveland Museum of Art	**30%**	33,000 objects 11,000 on display
Dallas Museum of Art	**27%**	18,000 objects 4,860 on display
Toledo Museum (Ohio)	**25%**	35,000 objects 8,750 on display
High Museum (Atlanta)	**25%**	11,000 objects 2,750 on display

Wadsworth Athenaeum (Hartford)	**20%-22%**	
		50,000 objects 10,000+ on display
Saint Louis Art Museum	**10%**	
		27,000 objects 2,300-2,700 on display

Based on the above data, the analysis suggests that to show a portion of its **present** collection comparable to that shown by museums in similar cities, the Art Museum would be required to expand to two-and-one-half to three-and-one-half times its present size. This calculation does not consider growth of the collection through acquisitions or gifts.

2. Expansion Needs for Specific Parts of the Collection

In *Oceanic Art*, the arts of the people of the Pacific Islands, the Museum has collections of international stature. This is also true of the collections of *Pre-Columbian Art*, the cultures of Central and South America before the arrival of the Spanish. Only a portion of these collections is now on view. The collections are significant because they represent each major historical era and each art-making society in a comprehensive fashion. Despite a recent reinstallation of the Oceanic collection, these two areas do not have adequate space for proper display of these world-class collections.

The *Arts of Africa and the African Diaspora* were reinstalled recently, but are in spaces that are too small for both the art works and the many school children who come to see them. The Museum's collections of *Native American Art*, while the smallest of these four categories, lacks adequate space for the display of Northwest Coast arts and the native arts of the American Southwest.

The department of *Prints, Drawings and Photographs* has had significant growth in the past 15 years. This department presently occupies recovered attic spaces, and needs to be relocated to facilities designed for its purposes. A specially designed gallery for photography should be designated, and an adequate study room for visitors and students provided.

The *Decorative Arts and Design* collection has also been growing very rapidly, particularly as the Museum's original mission and recent Master Plan called for development of collections in 20th century design arts. Significant support from the community has resulted in many new acquisitions, so that an outline of the history of modern design arts has been achieved. Presently gallery space does not provide enough

display space to fully demonstrate this history. These collections are significantly larger than available gallery spaces.

The *Asian Art* collection needs additional display spaces for its significant holdings in ceramics, and for the expanding collection of Japanese art, including screens and hanging scrolls.

Collections of *Islamic Art*, and *Ancient Art of the Mediterranean and Near East* are also in need of more gallery space, in order to better illustrate the development of ancient civilizations of Egypt, the Near East, Greece and the Roman Empire.

The Saint Louis Art Museum is recognized for having one of the largest and finest collections of *Twentieth Century Art* in America. Unfortunately, due to the constraints of our current building, we are unable to share much of that collection with our public. For example, our collection includes 39 paintings by the German artist Max Beckmann (the largest such collection in the world). We now display only 12 of those paintings. Ideally the Museum would double the space devoted to the display of Max Beckmann, and double, as well, the space devoted to the German Expressionist artists of the early twentieth century. We would double the space devoted to the display of European modern art, including works by such artists as Picasso, Matisse, Braque and Chagall, and could increase by 50 percent the space given to American art of the first half of this century, including such painters as O'Keeffe, Sheeler, Hartley and Dove. Our collection has exceptional strength in American art of the 1960s, 1970s and 1980s, a large portion of which goes undisplayed. To display properly and permanently our collection of paintings by such artists as Philip Guston, Frank Stella, Morris Louis, Andy Warhol and Roy Lichtenstein, to name a few, as well as sculptures by Donald Judd, Tony Smith, Mark di Suvero and George Rickey, among others, we would need, at a minimum, to double the gallery space devoted to those artists.

3. Competition for St. Louis Collections / Art of the Times

The foregoing refers only to the needs of the current collection. Future growth of the collection poses even greater challenges. In the past two years, for example, we have acquired large works by such contemporary artists as Brice Marden, Joan Mitchell, Christopher Wool and Louise Bourgeois. To display each of these works, another worthy object has been displaced from view. As we continue to collect, the pressure to displace important works will become increasingly severe. Works acquired years earlier and representing artistic movements of the recent past will invariably lose out to the latest acquisitions. Absent expansion, our ability to present the public with a complete and rational survey of the history of art in this century will be diminished.

The revolutions of *the information age* are affecting the art world no less than other sections of society. Artists are exploring the electronic media of video and CD Rom, digitized images and virtual reality with increasing frequency and sophistication. To fulfill our mission of collecting and displaying the major movements of contemporary art, the Museum will need an entirely new space configured and appropriately "wired" to exhibit these new forms. An increasingly young and electronically educated public will expect no less.

4. A Unified Collection

As stated in our initial submission, we are unable to divide our collection between Art Hill and a satellite site for two reasons: one artistic, the other economic.

Our mission, virtually from the inception of the Saint Louis Art Museum, has been to collect and display art that reflects *all* cultures from across the globe. It is this mission that makes the Art Museum our community's window to the world's cultures. A mission shared by only a dozen or so major art museums in the U.S. today. A division of that collection between sites would require us to decide *which* culture is "less important" to the total spectrum than another. Which culture or cultures would we cast adrift from the continuum of art that reflects all cultures? Any choice would destroy the fabric of our overall collection to the detriment of the important role we serve in our community.

As outlined in our initial submission, experience at other institutions in similar markets (e.g., Philadelphia, Seattle, Harvard) shows that a satellite typically attracts *far* fewer visitors than the "parent" display. The cost of duplicating marketing, security and support services for a satellite facility would make such a move economically unfeasible.

Conclusion

The Art Museum's need for expansion is demonstrated by:

a) The relatively low percent of its collection presently shown;

b) Specific needs for additional space for certain important parts of the collection;

c) The need to properly serve the community by planning for space adequate to compete successfully for the world class private collections held by certain St. Louis residents;

d) The need to replace present square footage that will be lost when the Cass Gilbert building is retrofitted to deal with seismic issues;

e) The compelling need to continue to operate the Art Museum as a single collection at a single site.

To minimize the amount of square footage required for future expansion, the Art Museum is fully committed to moving certain non-exhibition activities out of Forest Park. The Art Museum has already rented 32,000 square feet outside the park and is using it for storage. Based on this commitment, the Art Museum has already expanded **outside the park** and will further expand **outside the park** as it expands inside the park.

When reviewing space plans for the future, it is important to note that some non-exhibition activities cannot be moved because they are integral to the exhibition space. Examples include HVAC space, public space and other mechanical space.

The Art Museum is requesting four acres of additional land on Art Hill -- on land it already maintains -- and the right to build on 72 percent of its land. The expansion will make it possible to increase the percent of the present collection on display, to properly accommodate certain key collections, to expand the collection to keep it current, to compete for prominent local collections, and to compensate for space that will be lost. We believe the present proposed expansion, as outlined in this discussion and our original submittal, fully demonstrate the Art Museum's need for four acres on Art Hill for the next 50 years.

II. LAND USE

DESIGN TEAM COMMENT: *More information required to provide assessment*

- *Need to define maximum extent of final building (new and expansion)*
- *Need to define construction phasing and interim uses*
- *Need section through final building*
- *Need commitment to coordinate with adjacent uses*
- *No discussion of impact Zoo parking has on facility*

DISCUSSION: In its previous submittal to the Executive Committee, the Art Museum stated that the maximum extent of final **building** on its property will be 72 percent. Note that this maximum extent is for **50** years.

In response to a recent request for the maximum extent of its **built** space, including buildings, roads and sidewalks, the Art Museum has been advised that roads and sidewalks are not likely to exceed 13 percent of present and new acreage.

The Art Museum anticipates completion of the first phase of its expansion by 2004. The first phase will be, **very approximately**, 150,000 square feet or somewhat more, depending in part on use of underground space, with structured parking under the building. The second phase again depending on underground uses, will be approximately 100,000-120,000 square feet or somewhat more. The third phase would be approximately 100,000 square feet or somewhat more, depending on underground uses. The second and third phases would not be projected to occur until well into the next century. The four acres will be maintained during the periods prior to any construction as they are presently maintained by the Art Museum.

A section through the final building is not available because the building has not been designed. However, the Art Museum is extremely sensitive to the need to properly treat any exposed levels of the proposed parking facility. Any exposed parking area will be appropriately treated, and every reasonable effort will be made to minimize exposed area.

The Art Museum is committed to coordinating with adjacent uses. In particular, the Art Museum will coordinate its planning with planning for the top of Art Hill being done or to be done by the Forest Park Master Plan Committee or by the future Forest Park Governing Board. See Section IX of this document for a discussion of the facility planning process.

The impact of Zoo parking on the Art Museum is substantial. The Art Museum concurs with the generally held belief that Zoo patrons use on-street parking adjacent to the museum. If Zoo parking patterns were to change, the Art Museum's parking situation would change. Please see Section V, Access, Parking and Circulation for a further discussion of this issue.

III. LANDSCAPE

DESIGN TEAM COMMENT: *Negative impact on landscape to east of existing building*

- *Commitment to landscape mitigation unclear*

DISCUSSION: The Art Museum is totally committed to landscape mitigation. The Art Museum has maintained more than nine acres for many years, installing an irrigation system for the entire tract and creating new landscaping over the underground conservation facility.

The Art Museum will enhance mitigation efforts on the four acres immediately upon leasing them. These efforts will anticipate the effects of expansion and offset them. The Art Museum will begin planting trees as soon as possible to replace dead and dying trees and to start a new generation of trees so that twenty years from now this part of the park has strong trees of various ages.

IV. ART, ARCHITECTURE AND INFRASTRUCTURE

DESIGN TEAM COMMENT: *Commitment to surrounding improvements unclear*

- *Need more information on internal space use*

DISCUSSION: The Art Museum has already made a significant commitment to the park. The leadership of the Art Museum has led the formation of a not-for-profit corporation, the Forest Park Assistance Corporation (FPAC). FPAC has made an offer to the City to acquire the Arena site for $10 million, plus a total of $1 million over five years for site maintenance and planning. After payment of the Arena debt and demolition of the building, the City will have $3 million to use as it chooses. One very attractive possible use is to invest the money in Forest Park. The City could use these funds for improvement adjacent to the Art Museum.

With respect to the use of internal space, the Art Museum has already moved 32,000 square feet of storage out of the park and is fully committed to continuing to move certain activities out of the park. The Art Museum will grow both inside and outside the park as it expands, moving certain non-exhibition activities out of the park over time. The vast majority of the new space in the park will be used for exhibition and directly related functions.

V. ACCESS, PARKING AND CIRCULATION

DESIGN TEAM COMMENT: *Preliminary concerns, not addressed in detail*

- *Scale of underground parking structure*
- *Location of access road*
- *Require final parking numbers*
- *Eastern entrance to parking structure*
- *Impact of parking fee system*

DISCUSSION: The Art Museum requests approval of a maximum of 575 additional parking spaces. It is extremely important to note that these spaces will all be in a parking structure under a building. We concur with the design team that it is presently impossible to assess whether 575 additional spaces is too few or too many, particularly in view of the fact that the Arena site, if properly developed, could provide significant parking for all park institutions, especially, given its proximity, the Zoo. Because structured parking below a building is very costly, the Art Museum has a strong incentive to keep the amount of structured parking at a minimum through cooperative planning for parking. The Art Museum will build no additional surface parking spaces.

As noted above, Zoo parking and Art Museum parking are completely interrelated. At this point, the request for 575 additional spaces is an estimate. The Art Museum will work with the Zoo, FPAC and the City and other institutions to develop a rational parking plan. We will retain a traffic consultant as soon as we receive Master Plan approval for the four acres. The Art Museum is fully committed to moving most employee parking off of Art Hill, and, depending on future developments, out of the park. The Art Museum wants no loss of on-street parking and is prepared to work with the Park Master Plan Committee and the future Forest Park Governing Board to plan for the area around the statue of St. Louis.

The location of our proposed access road is shown clearly in our submittal.

Final parking numbers are not yet known, as noted above. If approval requires a final parking number, that number is 575 additional spaces. We do not anticipate an eastern entrance to the parking structure.

In our original submittal, we stated that we would coordinate any parking fee system with the other institutions and the City.

VI. **ECONOMIC** - No comments

VII. **LEGAL** - No comments

VIII. **NO NET LOSS OF OPEN SPACE** - No comments

IX. **GENERAL**

DESIGN TEAM COMMENTS: *Undefined facility planning process*

- *Commitment by environmental groups unclear*
- *Relationship to the Arena Site?*

DISCUSSION: The Art Museum is committed to a broad and inclusive planning process for its expansion. Presently the Art Museum plans to establish two special committees, a Committee on Programs and a Committee on Facilities and Financing, each to be chaired by a member of the Board of Commissioners or the Board of Trustees. The committees will be composed of concerned citizens, including environmentalists, museum board members and museum staff. The committees will use paid consultants as necessary to resolve technical issues. Because of this inclusive planning process, the Art Museum's plan will enjoy substantial public input even before it undergoes the normal public approval processes of the City of St. Louis and the future Forest Park Governing Board.

The Art Museum has demonstrated its commitment to inclusive planning by its extensive meetings with the leadership of environmental groups prior to submission of its expansion request. While the design staff has commented that the "commitment by environmental groups [is] unclear," any such commitment is not a requirement of the Goals and Policies for the Master Plan. The cooperation between environmental groups and the Art Museum over the past several months is unprecedented in the history of Forest Park and has been enormously positive and productive. The Art Museum will continue open communication with all interested members of the community as it undertakes detailed expansion planning.

The results of this approach will be an orderly and more participatory process. The benefits to the Art Museum and the greater St. Louis community are clear: an environmentally driven process of preservation and responsible expansion of a world-class Art Museum in St. Louis completed in a manner of which everyone can feel proud.

Conclusion

In our work this year, the Museum took an environment first approach. In collaboration with the environmentalists, we looked for ways to solve some of the park's most pressing problems Under our plan, Forest Park can expand and address its traffic and parking problems. This is a win-win situation. The City gets $11 million and 26 acres for the park. And the community can be assured of maintaining its world-class Art Museum well into the future.

FOREST PARK MASTER PLAN

S a i n t L o u i s

LONG TERM PLANNING SUMMARIES
for
FOREST PARK MUSEUMS AND CULTURAL INSTITUTIONS

MISSOURI HISTORY MUSEUM

August 1995

Introduction

The Executive Committee for the Forest Park Master Plan has, to date, approved ten Design Principles, and a more detailed concept design for the passive open space system and the golf course. At this point in the design process, the project team is to develop detailed design recommendations. An essential aspect of this stage of the design process is to analyze the "Long Term Planning Summaries for Forest Park Museums and Cultural Institutions" dated January 1995 submitted to the Executive Committee. The Executive Committee will review the project teams' analysis, and approval or disapprove, in whole or in part, any one of the proposals, after review and comment by the Forest Park Master Plan Committee and the general public.

Review Process

The Executive Committee has agreed to the following decision-making process.

Step One: Museums and Cultural Institutions complete enclosed questionnaire and have a work session with the Design Team.

Step Two: Design Team prepares analysis of proposals based upon approved work to date and in particular, the proposals' implications on the natural system, as well as the access, circulation and parking system.

Step Three: Design Team discusses analysis with respective Museums and Cultural Institutions and makes any necessary modification.

Step Four: Design Team presents analysis to Ex. Committee. Ex. Committee makes decision on each proposal and instructs design team to incorporate decision into the conceptual design.

Step Five: Design Team presents conceptual design to Ex. Committee including the findings of the no-net-loss-of-open-space calculation. Ex. Committee reviews, agrees to, or modifies previous decision on the Museums and Cultural Institutions proposals.

Step Six: Design team presents conceptual design, analysis of Museums and Cultural Institutions proposals, and Ex. Committee recommendations regarding the proposals to the Forest Park Master Plan Committee for review and comment.

Step Seven: Design team presents conceptual design, analysis of Museums and Cultural Institutions proposals, and Ex. Committee recommendations regarding the proposals to the public for review and comment.

Step Eight: Ex. Committee makes final draft decision on conceptual plan, and Museums and Cultural Institutions proposals.

Review Criteria

The Goals and Policies dated January 17,1995 as approved by the Board of Alderman require any "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas" to meet certain criteria outlined in policy 3.1.2. In addition, it is understood that any proposal will also meet all other goals and policies, and the ten design principles and conceptual design completed to date. It is the project teams role to prepare an analysis of the proposals based upon the criteria in 3.1.2, and all other goals and policies.

Purpose of Questionnaire

The purpose of this questionnaire is to collect any necessary outstanding information to prepare an analysis of your proposal and to confirm that we have correctly understood the information we have received to date. In addition to this questionnaire, we would like to tour your existing facility and discuss any aspect of your operations and future plans that you feel needs consideration in this analysis.

This questionnaire has six sections, each addressing an area important to the development of the project teams analysis:

Section One:	Executive Summary of Proposal
Section Two:	Existing Facility Analysis
Section Three:	Proposal: Purpose, Demonstrable Need, and Detailed Statement of Needs
Section Four:	Alternative Development Analysis
Section Five:	Economic Viability
Section Six:	Legal Considerations

Please note: This document and the contents herein together with the project team's analysis of each proposal will be made available to the public.

SECTION ONE: EXECUTIVE SUMMARY

1. Please outline your proposal, its purpose, need and, legal and economic viability.

We know each other by the stories we tell. And the Missouri Historical Society tells the story of the entire St. Louis metropolitan community. History, the accumulation of all our stories, gives our community a sense of what we are, how we came to the present, and what we may yet become. The hundreds of programs, exhibits, performances, research projects and publications that the Missouri Historical Society sponsors each year reflect the ideas and thoughts of people who have lived here and whose actions molded our multifaceted community and imparted the unique character that distinguishes St. Louis. The Missouri Historical Society seeks to preserve and interpret the St. Louis region through the voices of St. Louisans and this makes the institution as unique as this region and the people who live here.

The Missouri Historical Society has been a part of the St. Louis metropolitan community for almost 130 years and has been an integral part of Forest Park since 1913. Built with profits generated from the 1904 Louisiana Purchase Exposition and located on the exact site of the main entrance to the Fair, the Jefferson Memorial Building was dedicated as the first national memorial to President Thomas Jefferson and his purchase of the Louisiana Territory.

Last year, the Missouri Historical Society was selected as the first historical society to receive the National Award for Museum Service. First Lady Hillary Rodham Clinton presented this distinguished honor in a special ceremony at the White House. Bestowed by the Institute of Museums Services in Washington, D.C., the Missouri Historical Society was recognized for its focus on issues of enduring significance for the metropolitan region and for its inclusion of the community in all aspects of its operations.

Although the Missouri Historical Society is nationally recognized for the quality of both its programming and collections, the physical facility in Forest Park has serious limitations. The present museum facility does not meet base level museum requirements for exhibition spaces. We have no dedicated classrooms and our only auditorium is a multi-purpose space that serves no function satisfactorily. Last year, when our Jefferson at 250 lecture series began to attract over 500 people to a single performance, we had to move

presentations off-site to a rented auditorium. Special programming such as lectures, tours and plays complement special exhibitions and initiatives and it is important that these events are held on site so that the participants can take full advantage of the educational opportunities being offered.

In order to function as a more viable public institution, the Missouri Historical Society is planning for the renovation and expansion of the historic Jefferson Memorial Building that houses the Missouri History Museum and is the center of our community programming activities. Extensive work is required on the exterior of the Jefferson Memorial Building due to age and deferred maintenance over the years. Needed work includes stone restoration and consolidation, caulking and pointing, installation of drain tiles around the lower floor of the original building and landscaping. Construction of ramps and sidewalks to the main entrance and the installation of elevators are needed to bring the institution into full ADA compliance. Additional renovation work will include updating the electrical system throughout the building and installing a heating, ventilation and air-conditioning system that meets museum standards.

The expanded facility will provide for local and regional history exhibitions, expanded collaboration activities, discussion spaces for community based programming, and a multi-purpose auditorium for lectures and theatrical performances that teach the history of the St. Louis metropolitan area. Through the expansion of programming that will be possible with this building project, the Missouri Historical Society will be able to more fully present balanced and well-documented insights into the history of our diverse community.

In 1991, the Missouri Historical Society opened its Library and Research Center on Skinker Boulevard adjacent to Forest Park. Recognizing that the institution could not accommodate all of the institution's needs at the Jefferson Memorial site, the board decided to divide the institution's activities by function. The most public activities such as exhibitions and educational programming remain in Forest Park. The library, collections and research functions of the institution are located in the 104,000 square foot Skinker facility.

Having already moved its collections and research facilities out of Forest Park, the Missouri Historical Society is committed to meeting the growth needs of the Missouri History Museum through renovation and expansion of the Jefferson Memorial Building in Forest Park. The Jefferson Memorial Building is an important local landmark and its expansion will be on land currently leased and maintained by the Missouri Historical Society. This expansion and renovation is needed since there is currently less than 10,000 sq. ft. of

exhibition space in which less than 1% of the existing collection can be viewed. The exhibition galleries are inadequate based both on demand in the St. Louis area for exhibitions based on our collections and through comparisons with major historical museums in the United States. The Minnesota Historical Society has over 35,000 square feet of exhibition space, the Chicago Historical Society has 42,000, Cincinnati has 40,000 and the Ohio Historical Society has over 60,000 square feet. The Missouri Historical Society's historical collections are significant and between 8 and 10% would be a more appropriate amount to be utilized for exhibition and research purposes in any given year.

The museum has only one classroom for educational purposes; virtually no visitor service amenities; major renovation of the HVAC system is required; and the existing facility is not fully ADA compliant. The renovation and expansion will allow for extensive exterior and interior renovation of the existing facility, an additional 25,000 sq. ft. of exhibition space, a new 400 seat auditorium, a new area for reception and information services, a coat room, lockers, updated restroom facilities, an adequate museum shop, and a restaurant to serve our visitors.

The renovated and expanded Missouri History Museum will involve community residents in a variety of activities and discussions and will attract significantly more visitation. The proposed renovation and expansion will make possible a full range of history museum activities and programs. Studies of other major historical museums indicate that annual visitation after renovation and expansion will grow to between 300,000 and 450,000. The increased visitation can be handled through a combination of mass transit and available vehicle parking spaces. Adequate access requires that a minimum of 300 parking spaces be available for visitors to the museum within reasonable walking distances and with good sight lines and pedestrian pathways. The twin lots near the Lindell Pavilion could be reconfigured to serve this need.

SECTION TWO: EXISTING FACILITIES ANALYSIS

Forest Park Facility: ***Missouri History Museum in the Jefferson Memorial Building***

Name/address

Jefferson Memorial, 5700 Lindell Boulevard, St. Louis, MO 63112

Facility Use/Description ***History Museum***

Gross Area (sq. ft.) ***66,970 square feet***

Net Area (sq. ft.) ***56,400 square feet***

Mechanical System Heating (BTU) ***3,000 MBH*** Cooling (Ton) ***120 Ton***

Electrical System Capacity (BTU) ***1200 A*** ***120/208 - 3 Phase***

Plumbing System (CFM) ***4 inch water service***

Primary System

Foundations ***Spread Footings***

Substructure ***Reinforced Concrete***

Superstructure ***Reinforced Concrete, some load bearing masonry***

Exterior Closure ***Cut Limestone, Granite at Base***

Roofing ***EPDM Membrane (Carlisle)***

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

Renovation of both the interior and exterior of the Jefferson Memorial Building is imperative in order for the museum to function as a viable public institution. is urgently needed. Extensive renovation work is required on the exterior due to age and deferred maintenance. The exterior renovation work includes stone restoration and consolidation, caulking, pointing, and the installation of drain tiles. The interior renovation includes ADA compliance and updating the HVAC and electrical systems to meet contemporary museum standards. The current steam heating system is crippled by steam leaks and deteriorated piping which is inaccessible. The original building is currently served by a conglomeration of antiquated boilers, space heaters and window air conditioners. The current underground addition will be replaced due to structural problems with ground water and the resulting deterioration of walls, thus hampering services.

Other Facility:

Name/address	***Missouri History Museum Library and Research Center***
	225 South Skinker
Facility Use/Description	***Library and Research Center***
Gross Area (sq. ft.)	***116,100 Square Feet***
Net Area (sq. ft.)	***103,200 Square Feet***
Mechanical System Heating (BTU)	***5,026 MBH*** Cooling ***224 Ton (Chiller Mode)***
	137 Ton (Ice Maker Mode)
Electrical System Capacity (BTU)	***1200 A 277/480V - 3 Phase***
Plumbing System (CFM)	***8" Combination Water Service***
Primary System	
Foundations	***Spread Footings and Drilled Piers***
Substructure	***Concrete***
Superstructure	***Most Reinforced Concrete; Some Load Bearing Masonry, Some Structural Steel***
Exterior Closure	***Brick Veneer with Backup (Concrete, Masonry, Metal Studs)***
Roofing	***Ballasted Single Ply EPDM Membrane Roofing, Copper Roof at Dome***

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

The Missouri Historical Society completed a 10.5 million dollar renovation and expansion of the former United Hebrew Temple in 1991. This new facility is state-of-the-art but there are certain repairs that are being made over a period of time. The brick and stone facade is being repointed over a five year period and we are currently attempting to resolve some condensation problems in the interior dome. We will be attempting to resolve this issue through HVAC and mechanical adjustments to the treatment of air in this enclosed space.

Other Facility:

Name/address	***Central West End Office Space***
	(Temporary Rental Space)
Facility Use/Description	***Temporary office space for Accounting and Development Staff temporarily moved out of Jefferson Memorial Building so that support space could be used for exhibits and programming***

Gross Area (sq. ft.)	***unknown***		
Net Area (sq. ft.)	***3,600***		
Mechanical System Heating (BTU)	na	Cooling (Ton)	na
Electrical System Capacity (BTU)	na		
Plumbing System (CFM)	na		
Primary System			
Foundations	na		
Substructure			
Superstructure			
Exterior Closure			
Roofing			

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

There are a number of deficiencies in the rented spaces. However, because we are renting office space on a temporary basis, we have no plans to make capital improvements.

SECTION THREE: PROPOSAL: PURPOSE, DEMONSTRABLE NEED & DETAILED STATEMENT OF NEEDS

NOTE: This section refers only to the facility within Forest Park

1. Please clearly state the purpose of your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas".

The Missouri Historical Society serves our metropolitan community through historical analysis of persistent themes and significant issues. These discussions are vital to the present and to our future. The current physical plant needs substantial renovation and expansion to provide a quality Missouri History Museum. Expansion is planned upon land already under long term lease from the city of St. Louis. The Missouri Historical Society wants to better serve the St. Louis community through an improved facility on its existing property within Forest Park.

The proposed renovation and expansion will provide needed programming and exhibition space and will improve the efficiency and function of the existing facility. As noted above, the proposal will only effect land already leased from the city by the museum.

2. Please provide demonstrable need for your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas".

Today, the Missouri Historical Society is planning for the renovation and expansion of the historic Jefferson Memorial Building that houses our museum and community programming activities. The expanded facility will provide for local and regional history exhibitions, expanded collaborative activities, discussion spaces for education and community based programming, and a multi-purpose auditorium for lectures and theatrical performances that teach the history of the St. Louis metropolitan area. Through the expansion of programming that will be possible with this building project, the Missouri Historical Society will be able to more fully present balanced and well-documented insights into the history of our diverse community.

Exhibiting St. Louis and Missouri History

The renovated and expanded History Museum will feature more than 35,000 square feet of exhibition galleries--almost four times the space presently available. Currently, less than 1% of our extensive collections can be shown in our exhibition galleries!

A major permanent exhibition gallery will encourage visitors to learn more about persistent issues of our community's past. A temporary exhibition gallery will allow the Missouri Historical Society to host major national and international traveling exhibitions on historical topics. Currently, St. Louisans must travel to Memphis, Chicago or Denver to see major historical exhibitions. The Missouri Historical Society does not currently have 7,000 to 10,000 square feet of temporary exhibition gallery space to host important traveling historical exhibitions. In addition, renovated galleries on the main floor of the Jefferson Memorial Building will be used to explore topics such as the Native American heritage of the region and how civic memory has been shaped by the myths and legacies of the 1904 Louisiana Purchase Exposition.

Community Program Facilities

A 400-450 seat auditorium with theater seating, stage, dressing rooms, and projection booth is needed for theatrical productions, lectures, films and other programs. Meetings, lectures, discussions and participatory learning activities will take place in new classrooms. These will be adjacent to a teaching gallery and a flexible, flat floor multi-purpose space that will be equipped for audio-visual presentations. In addition, the new facility will include a local history resource center, offices and workspaces, and a meeting room for volunteers. Currently, we cannot accommodate all the requests that we receive from local schools and community groups for history tours and special activities.

Visitor Services

The renovated Jefferson Memorial Building will feature a straightforward central circulation system where visitors enter through the grand north entrance or through a new entrance to the south of the facility. All visitors will be greeted by the monumental statue of Thomas Jefferson that graces the central loggia. A reception area will include an information desk, coat check area, lockers, and pay telephones. All exhibition galleries, meeting rooms, public spaces and offices will be accessible to physically challenged individuals. A retail sales

area will feature St. Louis and regional history books, unique local history gift articles, and items related to themes and topics explored in exhibitions and programs. Reconfigured parking within reasonable sight lines from the new museum entrance should eliminate the current deterrent faced by visitors when the on-street parking spaces are full.

A restaurant overlooking Forest Park would provide both a valuable service to our visitors and an attractive setting for special events. Earned income potential from rentals of public spaces for special events will be incorporated into the operational plan.

Restoration of Jefferson Memorial Building

Between 1911 and 1913, proceeds from the 1904 Louisiana Purchase Exposition built the Jefferson Memorial Building, the first national monument to Thomas Jefferson. Extensive work is required on the exterior of the Memorial due to age and deferred maintenance over the years. Needed work includes stone restoration and consolidation, caulking and pointing, installation of drain tiles around the lower floor of the original building, landscaping and construction of ramps and sidewalks to the main entrance.

Restoration of decorative plaster work is needed in areas that need to be readapted from offices back to public spaces. The electrical system will be updated and the heating, ventilation and air-conditioning system will be replaced with a new sealed system. Temperature and relative humidity will be controlled year round in all exhibition areas.

General Design Parameters

The Missouri Historical Society is committed to a building addition that is architecturally sympathetic to the Jefferson Memorial Building but which allows the entire facility to function in a logical, efficient manner as a major historical museum. The architectural design team will develop an addition to the south of the Jefferson Memorial Building that allows the museum to be a more viable institution while respecting the architectural integrity of the original Isaac Taylor building. The north facade of the building will remain unchanged.

Energy efficient environmental control systems must be retrofitted into the original museum structure in a manner that is sensitive to the architectural and

historical character of the building. The new facility will be designed utilizing environmentally responsible building practices.

3. Please describe your proposal in detail including the development timeline, any expected programming changes and parking requirements. Enclose any documentation, drawings or renderings to illustrate the proposal. Describe any existing or proposed development outside the park that supports or influences your proposal.

The Missouri Historical Society proposes to renovate both the interior and exterior and to expand the Jefferson Memorial Building. Extensive renovation work is required on the exterior due to age and deferred maintenance. The exterior renovation work includes stone restoration and consolidation, caulking, pointing, and the installation of drain tiles. The interior renovation includes ADA compliance, updating the HVAC and electrical systems to meet contemporary museum standards.

The expansion of the Jefferson Memorial Building is required to provide adequate and efficient exhibition space and visitor amenities. The proposed addition will add 25,000 sq. ft. of exhibition space, a 400-450 seat auditorium, an area for reception and information services, a coat room, lockers, updated restroom facilities, an adequate museum shop, and a restaurant.

When the voters of St. Louis City and County approved tax support for the Missouri History Museum through the Zoo Museum District, we pledged to provide St. Louis with one of the finest Historical Societies in the country. Realizing that we could not accommodate all of our needs within the Jefferson Memorial Building, we decided to move certain activities outside of Forest Park. Activities of the institution that are very space intensive and serve specialized audiences, such as collection storage and the library and archives, were moved to our new facility on Skinker--outside of the park. Activities such as community programs and exhibitions, which are very public functions, were kept in Forest Park. The Missouri Historical Society is not utilizing land within Forest Park for collections storage. Opened in late 1991, the Library and Research Center has been nationally recognized as a state-of-the-art research facility. Because the institution created the Skinker Boulevard facility, renovation and expansion of the Missouri History Museum can be contained on the oval land currently under long term lease from the City of St. Louis.

Access to the renovated and expanded Missouri History Museum will require a combination of mass transit and available vehicle parking spaces. Adequate access requires that a minimum of 300 parking spaces be available for

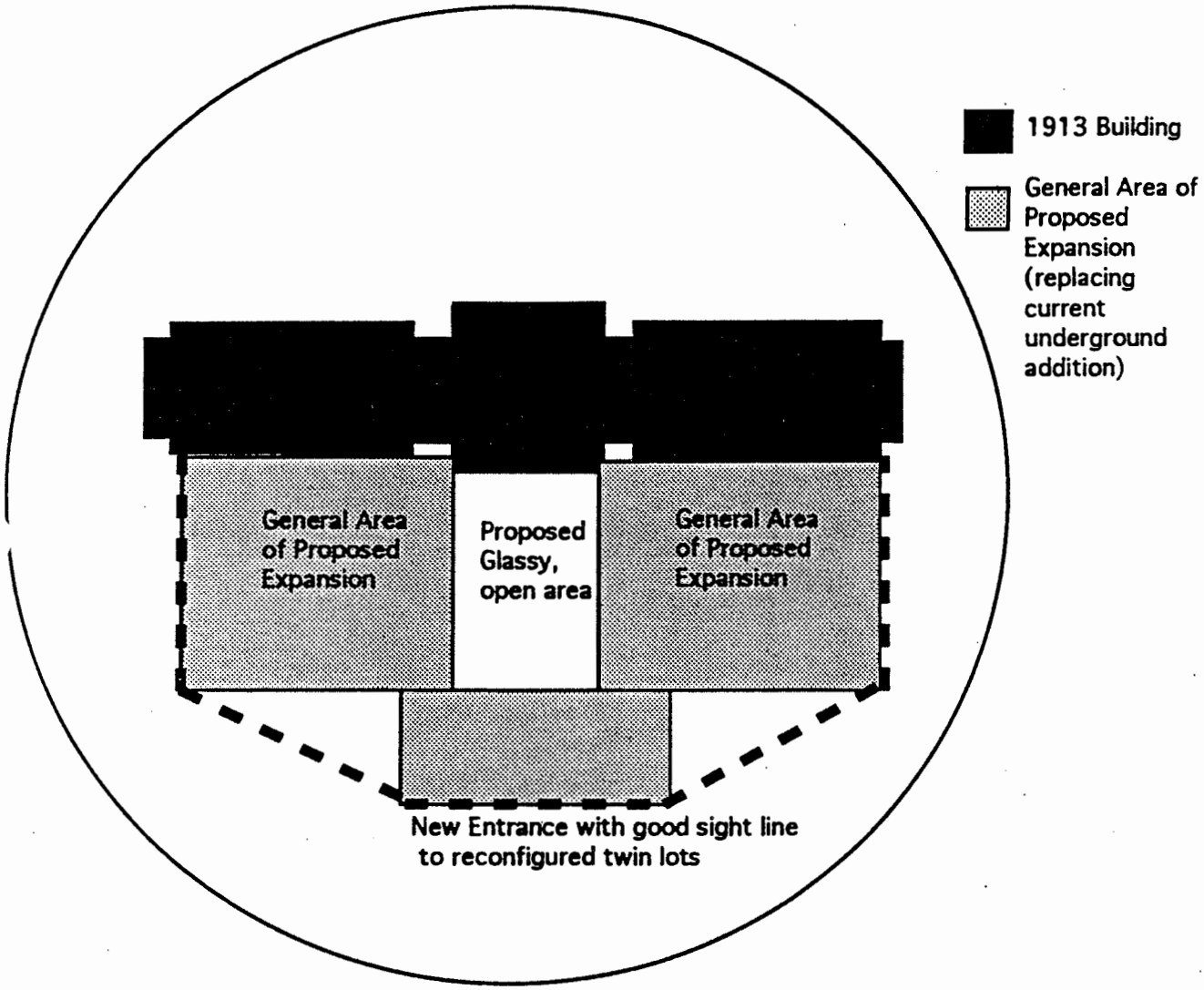
visitors to the museum within reasonable walking distance and with good sight lines and pedestrian pathways. The twin lots near the Lindell Pavilion could be reconfigured to serve this need together with on-street parking along the rear of the museum.

The Missouri Historical Society, as part of this planning process, will continue to refine programmatic needs for the facility and will work with an architectural firm to develop facade drawings for the proposed renovation and expansion. If the renovation and expansion of the museum is included in the Masterplan for Forest Park, the Historical Society is prepared to enter into a contract for architectural design services in early 1996. The institution will then work with the appropriate city boards and agencies for building design and permit reviews. The proposed renovation and expansion is projected to require a construction period of approximately 3 years.

The proposed addition will complement the original Jefferson Memorial Building and, like the original building, will include three levels. It is premature for architectural sketches or drawings of the proposed expansion but the following sketch outlines the general concept. The north facade of the building would remain unchanged. The 1970 addition would be removed and a more complementary addition would be built to the south of the Jefferson Memorial Building. The total square footage of the combined facility in Forest Park would be approximately 129,000 square feet.

The proposed renovation, expansion and access requirements are critical to meeting the current and projected demand of the facility including the ability to program community events and educational opportunities, and to provide the necessary visitor amenities.

Missouri History Museum
General Area of Proposed Expansion



4. Please describe the exact final and permanent boundaries of any expanded open or enclosed area. Please clearly show any required dedicated parking area and the areas which you will maintain.

The Missouri Historical Society is not requesting expanded area within the park. It is requesting permission to improve and expand its existing facility on land under long term lease from the city of St. Louis. The Missouri History Museum occupies 4.5 acres under City Ordinance and the State of Missouri Charter. A ground lease was entered into between the City of St. Louis and the Missouri History Museum Subdistrict of the Metropolitan Zoological Park and Museum District of the City of St. Louis and the County of St. Louis. The initial lease term was for a 50 year period beginning in December 1988 and running through December 2038. The property is described in the lease as:

> *A more or less oval tract of land in Forest Park, immediately south of the intersection of DeBaliviere and Lindell Boulevards, the western half of which tract is bounded by the eastern curb line of Grand Drive and the eastern half of which tract is bounded by the western curb line of Washington Drive ...; subject to a Metropolitan Sewer District sewer easement and other easements or restrictions of record.*

City Ordinance 61149 was passed by the Board of Aldermen on December 16, 1988 and signed by Mayor Schoemehl on December 19, 1988. At the same time, the City of St. Louis granted and conveyed title to the Jefferson Memorial Building, the underground structure constituting an extension of the Jefferson Memorial Building, the Stupp Memorial Fountain, fixtures, sewers, water and other utility lines, appurtenances, contained in and under the Jefferson Memorial, the Underground Structure and the fountain to the Missouri History Museum Subdistrict.

The proposed renovation and expansion would occur upon this land already under long term lease from the city.

The Missouri Historical Society will be significantly impacted by the removal of Grand Drive. Currently, many visitors to the Missouri History Museum park along Grand Drive to visit the museum. In addition, Forest Park Goal and Policy #3.7.16 recommends that the parking area in front of the Jefferson Memorial Building be moved "to create a major pedestrian entry to the park and the History Museum." The History Museum does not object to the removal of parking in front of its building so long as alternative spaces in the immediate proximity are provided as replacements. A two part solution for parking might be to expand the circular drive around the museum to allow for angled parking to the south of the Jefferson Memorial Building building line and

to reconfigure the twin lots to bring the parking within a reasonable walking distance and to create good sight lines to a rear entrance of the museum.

The Missouri Historical Society, which has already demonstrated good stewardship within Forest Park, is willing to continue to accept responsibility for landscaping around the Missouri History Museum and is willing to negotiate with the City about the appropriate area of responsibility.

5. Please describe the quantitative limits of any future enclosed expansion within the above mentioned final and permanent boundaries.

The Missouri Historical Society is not seeking to expand beyond the boundaries already detailed in its long term lease with the city of St. Louis.

6. **Detailed Statement of Needs**

a. Space Requirements ***See attached sheets please***

	Actual 1995	Year 2004	Long-Term
Exhibit Area	11,000	35,000	35,000
Community Program	9,898	20,138	20,138
Service Area	11,647	18,877	18,877
Administrative Area	12,796	12,861	12,861
Visitor Service Area	16,348	30,758	30,758
Outdoor Area			
Other			
Total	66,970	129,649	129,649

Please specify any special space needs that might have an effect on planning adjacent park areas or your facility.

In the past, the Missouri Historical Society has worked with the St. Louis City Parks and Recreation Department to obtain the necessary permits and permissions for use of adjacent park areas for special events. We would anticipate continuing to work closely with the Parks Department on such efforts.

The Missouri Historical Society needs to provide access for between 250,000 and 450,000 annual visitors to the renovated Missouri History Museum. This access might be accommodated through a combination of parking spaces within reasonable distances, with improved sight lines, and through public transportation. The Missouri Historical Society supports the design principal of multi-functional zones with shared facilities. Shared cluster parking with users of the MUNY, Lindell Pavilion and Dwight Davis is logical and could be satisfactory. A reconfiguration of the twin lots so that visitors to the museum could have clear sight lines and a walking distance of no more than 1200 feet would work well for the Missouri History Museum. Studies have indicated that the renovated museum would need to be served by approximately 300 to 350 parking spaces. In addition, a clearly identifiable drop-off point for buses and shuttles needs to be created.

The following chart shows the current square footage currently occupied by the Missouri Historical Society together with the proposed square footage after renovation and expansion of the Missouri History Museum. As you can see from the charts, the Missouri History Museum will be the location for the community program facilities and for the exhibition galleries. Less than 12% of the total administrative offices and collections areas will be located within the Forest Park facility.

Missouri Historical Society Current Square Footages

	Current Missouri History Museum	Current Library & Research Center	Current Rental Offices	Current Totals
Community Program Facilities	9,898	1,200	0	11,098
Exhibition Galleries & Support	16,281	0	0	16,281
Visitor Services	16,348	5,000	0	21,348
Admin. Offices & Collections Storage	12,796	97,000	3,840	113,636
Circulation Mechanical & Structure	11,647	12,900	0	24,547
Total Square Footage:	66,970	116,100	3,840	186,910

Missouri Historical Society Proposed Square Footages

	Proposed Missouri History Museum	Proposed Library & Research Center	Proposed Totals
Community Program Facilities	20,139	1,200	21,339
Exhibition Galleries & Support	47,014	0	47,014
Visitor Services	30,758	5,000	35,758
Admin. Offices & Collections Storage	12,861	97,000	109,861
Circulation Mechanical & Structure	18,877	12,900	31,777
Total Square Footage:	129,649	116,100	245,749

b. Employment Statistics

	Actual 1995	Year 2004	Long-Term
Full-time Staff	124	135	140
Part-Time Staff	13	15	15
Seasonal Staff (specify months) summer interns-June through August	18	20	20
Special Events			

Please specify any special needs for your employees and in particular, your views on remote parking with shuttles for your employees.

Remote parking lots work well for employees if they are perceived as safe, secure, economical and easily accessible. The shuttle would need to provide regular access to the lot and to institutions and facilities within the park. While the Missouri Historical Society is not in the business of building or operating parking facilities, we would be willing to enter into negotiations over the payment of reasonable fees on an annual basis for use of a parking structure by employees.

c. Visitor Statistics

	Actual 1995	Year 2004	Long-Term
Annual (Total)	**±137, 126**	**± 275,000**	**± 400,000**
Monthly Average	**11,427**	**22,916**	**33,000**
Monthly Peak	**36% May - Aug.**		
Monthly Low	**29% Sept. - Aug.**		
Daily Peak	For 1995 thus far, 1,672		
Hourly Peak	889 people arrived on June 6, 1995 between 6:30 and 7:30 pm for a Where We Live program		
Special Events	Special events such as the Missouri Heritage Fair and the Three Rivers Pow Wow bring 3,000 to 4,000 people to the Missouri History Museum.		

The highest daily attendance within the last decade occurred on weekends during the special exhibition of the Magna Carta when in excess of 4,000 people per day visited the institution. Lines extended up the staircase and outside of the museum during this period. While these crowds were extraordinary, the ability to install permanent exhibitions on the history of the region and to bring in major traveling exhibitions will dramatically increase attendance at the History Museum. The above figures are based on attendance at similar historical museums in the country after major renovation and expansion.

Please specify any special needs for your visitors and in particular, your views on remote parking with shuttles for your visitors.

The Missouri History Museum endorses the design principal of a multi-modal distributed access system for Forest Park.

Visiting the museum should be made as easy as possible for visitors whether they arrive by foot, bicycle, private automobile, or public transportation. Clearly identified entrances and drop off points need to be part of the design as do appropriate sidewalks and pathways for approaching the facility from various modes of transportation. The museum plans to incorporate bicycle parking into its landscaping plans. As stated in the design principles, MHS believes that the maximum use of mass transit should be encouraged as an alternative means of

travel to and within the park to reduce automobile dependence, traffic volumes and to improve air quality.

In addition, the renovated museum needs to incorporate the needs of physically challenged visitors and staff in a way that is both easily accessible and harmonious with the building's architecture.

Remote parking for visitors works only if the remote area is perceived as safe, secure and efficient and there is an incentive for the visitor to park in the remote location rather than attempting to park as close as possible to the museum. For remote visitor parking to work well, the transit method needs to be an attraction in itself. A vintage trolley or fixed rail train system within the park could provide such an attraction.

Please provide existing operational plans for special events as they relate to any park planning considerations.

The Missouri Historical Society currently is forced to utilize valet parking or special shuttle systems for many evening special events. (The shuttle bug does not run after 6:00 pm.) During the daylight hours, visitors are simply encouraged to walk long distances. Parking for special events occasionally stretches along Grand Drive to Des Peres.

If the twin lots could be reconfigured to provide cluster parking for the Missouri Historical Society, Dwight Davis and the MUNY, we would work with the other facilities to develop guidelines for special event scheduling for the institutions sharing the parking area.

d. Access, Circulation & Parking

	Existing 1995	Year 2004	Long-Term
No. Parking Spaces			
i) Off-street	*0*	*300-350*	*300-350*
ii) On-Street	*76*	*75-80*	*75-80*
No. of Tour & School buses	*4-5**	*8-10*	*8-10*
No. of visitors by transit	*11,400 to 12,000***	*55,000***	*69,000***
No. of employees by transit	*12-19*	*28-50*	*40-70*
Special event needs	*300-400****	*300-400*	*300-400*

* *Tour and school buses currently park along park roads, in Bi-state loading zones and in front of the facility where they block traffic.*

** *Approximately 8% of our current visitation use mass transit. We project that the percentage of visitors utilizing mass transit to visit the Missouri History Museum will rise to 12% over the next ten years and up to 15% in the long term. The Missouri History Museum is strategically located less than two blocks from the Forest Park Metro link stop.*

*** *The Missouri Historical Society currently is forced to utilize valet parking or special shuttle systems for evening special events. (The shuttle bug does not run after 6:00 pm.) Visitors are simply encouraged to walk long distances during daylight hours. Parking for special events occasionally stretches along Grand Drive to Des Peres.*

Please specify any special access, parking or circulation requirements. Specify any important locations for drop-off at your facility.

The Missouri Historical Society needs to provide access for between 250,000 and 450,000 annual visitors to the renovated Missouri History Museum. This access should be accommodated through a combination of parking spaces within reasonable distances with improved sight lines and through public transportation. Shared cluster parking with users of the MUNY and Dwight Davis would be satisfactory. A reconfiguration of the twin lots so that visitors to the museum could have clear sight lines and a walking distance of no more than 1200 feet would work well for the Missouri History Museum. Studies have indicated that the renovated museum would need to be served by approximately 300 to 350 parking spaces. In addition, a clearly identifiable drop-off point for buses and shuttles needs to be created.

Do you have any plans or desires to convert any of your dedicated parking to a fee generating lot?

The Missouri Historical Society has no dedicated parking lots under its jurisdiction in Forest Park.

Please describe your views on the provision of structured or underground parking on existing lots under your jurisdiction, and on structured or underground parking in general in the park.

The Missouri Historical Society has no parking lots under its jurisdiction in Forest Park. However, the Missouri Historical Society supports the general concept of efficient use of space allocated for parking within the park and believes that landscaped structures might be appropriate either within the park or on its perimeter.

Please describe any parking fee structure that applies to any parking lot under your jurisdiction. Who receives the revenue from the parking lot? What are the operational and maintenance costs of the parking lot? Who determines the fee structure? On what basis is the fee structure determined? Do you expect the rates to be increase in the near future?

This question is not applicable to the Missouri Historical Society which has no parking facilities under its jurisdiction in Forest Park.

Please describe your views on the importance of the park wide Shuttle bug, and Metro link to your facility.

The Missouri Historical Society strongly supports a multi-modal transportation network for Forest Park. A park-wide shuttle and the Metro link system are critical components of accessibility to the Missouri History Museum. While the ridership figures for the Shuttle bug are good, this shuttle system is a temporary solution that will not be capable of providing the needed long-term level of accessibility to Forest Park and the institutions. The Missouri Historical Society supports the idea of developing new mass transit options for the park that combine accessibility to park facilities with an attraction that could entice ridership for the simple pleasure of the ride. A vintage trolley or fixed rail train system within the park could provide such an attraction. Properly planned, designed and implemented, such an alternative form of transit could have a positive impact on the considerable traffic congestion currently found in Forest Park.

Please describe your views on the use of remote parking lots for employees and/or visitors if they are served by the Shuttle bug.

Remote parking lots work well for employees if they are perceived as safe, secure, economical and easily accessible. The shuttle would need to provide regular access to the lot and to institutions and facilities within the park. While the Missouri Historical Society is not in the business of building or operating parking facilities, we would be willing to enter into negotiations over the payment of reasonable fees on an annual basis for use of a parking structure by employees.

Remote parking works less well for visitors. Insufficient or distant parking is a real deterrent to visitors to a museum. Traffic studies have observed that on weekends there is a steep decline in the number of people arriving at the History Museum after 2:00 pm. The lack of parking spaces in the vicinity of the museum artificially restricts the number of people who might otherwise visit the Museum after the peak period. For remote visitor parking to be successful, the transit method would need to be an attraction in itself. A vintage trolley or fixed rail train system within the park could provide such an attraction.

Would you support a year-round Shuttle bug system? Describe any important Shuttle bug routing issues as they relate to your facility.

The Shuttle bug currently operates year-round and the Missouri Historical Society believes that it is critical that it continue to function on a year-round schedule. In fact, although it is operated by Bi-State, the Missouri Historical Society facilitated the planning effort for the Forest Park Shuttle Bug and continues to coordinate promotional efforts for the Shuttle bug.

The Shuttle bug serves the Missouri History Museum well. It does not serve the Library and Research Center at all. Researchers and staff who wish to ride the shuttle to commute between our facilities or to reach the Library from Metro link must debark at the fountain at the intersection of Forsyth and Grand Drive within Forest Park and walk about 4 blocks to the Skinker facility.

Do you have any current or proposed policies to encourage employees to use transit on their daily commute?

If the shuttle route could be altered to include the Library and Research Center, the Missouri Historical Society would be willing to negotiate underwriting annual passes for employees to utilize the shuttle and light rail as an alternative to sole reliance on private automobiles.

e. Specify any other detailed design park-wide improvement and/or site considerations that are important to the success of your facility, including specific hourly, daily or locational parking restrictions in the vicinity of your institution.

A long-term alternative form of access within the park that is not dependent on the use of private automobiles is a major need within Forest Park. A new option for access is needed for visitors from out of town, city and county park users and employees of the park and park institutions and facilities. A vintage trolley or street car system than connects the major institutions with light rail could provide both improved access within the p[ark and assist with long term environmental concerns such as issues of air quality and reduced automobile emissions.

SECTION FOUR: ALTERNATIVE DEVELOPMENT ANALYSIS

There is no more appropriate location for the Missouri History Museum than Forest Park. Forest Park is truly a metropolitan park and its serves as a special place for many St. Louisans who feel a real sense of ownership for the park and its institutions. Forest Park is centrally located, draws many visitors and is the home for several of the region's most important cultural institutions. It is critical that the Missouri History Museum be located where it is easily accessible by public transportation and is viewed as politically accessible to the entire community. Forest Park is that location.

There are no options available to build an addition on the periphery of the park with a connection to one of our existing buildings. The two lots north of the museum on Lindell Boulevard are part of Forest Park and construction is forbidden by indenture. The Skinker facility is in a residential neighborhood that allows schools, churches, libraries and doctor's offices as the only nonresidential uses.

Construction on a completely separate site would increase operating costs and split staff among three different major sites. The redundancy of operating two public museums is prohibitively expensive. Finally, the Jefferson Memorial Building under such a scenario would become peripheral to the institution since it would no longer be the public focal point.

1. Given your investigation of existing facilities for your institution, please describe how you can increase efficiency of space utilization in order to avoid unnecessary expansion in the park per policy 3.1.4. Please submit supporting documentation.

The Missouri Historical Society has already demonstrated good stewardship of space within Forest Park by its decision to build its Library and Research Center on the periphery of the Park. Recognizing that all activities could not be accommodated within the Park, the Missouri Historical Society divided the institution's functions between the most public functions (such as exhibitions and education and community programs) and the research and collections functions. We built our Library and Research Collections on land adjacent to Forest Park which allowed us to preserve the Forest Park facility for activities that primarily serve the public. The 104,000 square foot Library and Research Center on Skinker includes the majority of the institution's collections

storage facilities, the library and archives, the MHS Press, the research center and curatorial staff offices.

The renovation of the Jefferson Memorial Building will allow us to better utilize certain spaces within the museum. For example, the building's original auditorium cannot currently be used for public meetings because there is no elevator or lift access to the space. Bringing the original museum into ADA compliance will allow the room to be utilized for small lectures, meetings and presentations.

2. If your institution reduced its proposed level of development in the park per policy 3.1.2, please describe the implications. Please submit supporting documentation.

Reducing the level of development within the park would leave the Missouri Historical Society with inadequate museum exhibition galleries and public programming spaces. The Missouri Historical Society can only be viable with an adequate exhibition and programming facility. The institution's historical collections are nationally significant and extensive and the current 10,000 square feet of exhibition space is not adequate for displaying even 1% of the collections in an interpretative format. This is well below the museum standard. Most major traveling exhibitions must be turned away because of lack of space.

3. Please describe the findings from an investigation of no development in the park per policy 3.1.2. Please submit supporting documentation.

The Missouri Historical Society must be allowed to renovate and expand its facility if it is to be a viable cultural institution within Forest Park. The current museum facility lacks adequate exhibition galleries, climate control and public programming space. There is no clear circulation system to the current facility nor such basic traditional visitor services such as coat rooms, lockers, etc. The sorts of amenities that are expected today by the average museum visitor were not contemplated by the architects that designed our museum in 1911. Our largest exhibition galleries are interrupted by numerous pillars and architectural ornamentation. Today, exhibition space is planned with virtually no visual architectural elements so that the designers can create the appropriate setting for the exhibition. In recent years, the Missouri Historical Society has had to turn down major traveling exhibitions that we should have hosted due to inadequate facilities and climate control. With the addition of our Skinker facility in 1991, a first class regional history library and research center became available to St. Louisans. Usage of this facility has quadrupled since opening demonstrating the interest and support of the community. The citizens of the St. Louis metropolitan region also deserve a first class history museum.

If the Missouri History Museum is not allowed to renovate and expand its facility in Forest Park, the Trustees and Subdistrict Commissioners would have to seriously consider the possibility of leaving Forest Park. The organization cannot afford to operate two separate public museums and a separate library and research center.

4. Please describe the findings from an investigation of any new or expanded land uses outside of the park per policy 3.1.6. Please submit supporting documentation.

The Missouri Historical Society has explored the option of building a museum outside of Forest Park. However, the Jefferson Memorial Building is a well known landmark and is closely identified with the Missouri History Museum. Forest Park with its variety of cultural institutions and other park activities, is a major tourist attraction and the combination of all cultural attractions complement one another, thus providing greater opportunities and experiences for the park visitor.

The institution has conducted an economic feasibility analysis on the operation of three separate major sites: two museums and the Library and Research Center. This analysis demonstrated that the institution can only afford to operate and staff two public sites. There are a number of redundancies inherent in two public museum facilities: staffing entrances during all open hours at both facilities, providing 24 hour security at two different sites with two different staffs; providing the required equipment at two different sites, etc.

Building a major museum elsewhere would require that the Missouri Historical Society consider either abandoning the Jefferson Memorial Building which has been the home of the Missouri History Museum for over 80 years or turning it into an auxiliary site with reduced hours and services. This historic landmark was built to house the Missouri Historical Society with proceeds from the 1904 World's Fair and stands as a monument to Thomas Jefferson's purchase of the Louisiana Territory. The Missouri Historical Society is committed to its location in Forest Park and seeks permission to renovate and expand the Jefferson Memorial Building upon land already under long term lease from the city of St. Louis.

SECTION FIVE: ECONOMIC VIABILITY

1. Please provide a cost estimate of the proposed development.

The renovation and expansion of the Jefferson Memorial Building has been estimated at approximately 24 million dollars. This figure includes the estimated construction costs of the renovation and expansion, the architectural and engineering fees, the costs of the capital campaign and the installation of the initial exhibitions in the renovated museum.

2. Please provide firm evidence of your financial ability to complete the project. Enclose supporting documentation.

The Missouri Historical Society has been working with fund raising counsel for several years on the renovation and expansion project. We are currently undertaking a feasibility study to assess the level of community support for the renovation and expansion of the Missouri History Museum. The initial feasibility study undertaken two years ago demonstrated considerable support for the institution and its need for greatly improved exhibition and programming space.

The Missouri Historical Society has assembled a team of dedicated professionals with extensive experience in fund raising, construction planning and museum operations. Over $4 million has already been raised for the renovation and expansion of the Jefferson Memorial Building. In addition, the institution has been involved with discussions concerning possible short term financing options. If permission is received for the expansion of the museum, the Missouri Historical Society will be ready to move forward with a major capital campaign program.

SECTION SIX: LEGAL CONSIDERATIONS

1. In your opinion and in the context of your proposal dated January 1995 as submitted to the Executive Committee of the Forest Park Master Plan, what are your "rights under existing law, leases or agreements, if any" to expand, modify, replace, relocate, re-use, or remove the existing buildings, parking lots, roads, paths, recreation, or natural areas? (policy 3.1.2) Please attach supporting materials.

The historic Jefferson Memorial building, the underground structure and the adjacent Stupp Fountain and plaza are owned by the Missouri History Museum Subdistrict of the Metropolitan Zoological Park and Museum District. The Missouri History Museum occupies 4.5 acres under City Ordinance and the State of Missouri Charter. City Ordinance 61149 leased the Oval tract of land to the Missouri History Museum Subdistrict for an initial 50 year period beginning in December 1988 and running through December 2038. The Missouri Historical Society has the right to expand or modify the Jefferson Memorial Building providing that it is in compliance with "all applicable City, State and Federal Codes and pursuant to plans and specifications approved by the City's Board of Public Service and Division of Heritage and Urban Design, and subject to approval by or permit of any other City department or agency whose approval or permission may be required under the Saint Louis City Charter or Saint Louis City ordinance prior to the commencement of any such construction or work."

2. Please state in your opinion, your existing jurisdictional or site boundaries. Please attach supporting materials.

The Missouri History Museum occupies 4.5 acres under City Ordinance and the State of Missouri Charter. A ground lease was entered into between the City of St. Louis and the Missouri History Museum Subdistrict of the Metropolitan Zoological Park and Museum District of the City of St. Louis and the County of St. Louis. The initial lease term was for a 50 year period beginning in December 1988 and running through December 2038. The property is described in the lease as:

> ***A more or less oval tract of land in Forest Park, immediately south of the intersection of DeBaliviere and Lindell Boulevards, the western half of which tract is bounded by the eastern curb line of Grand Drive and the eastern half of which tract is bounded by the western curb line of Washington Drive ...; subject to a Metropolitan Sewer District sewer easement and other easements or restrictions of record.***

City Ordinance 61149 was passed by the Board of Aldermen on December 16, 1988 and signed by Mayor Schoemehl on December 19, 1988. At the same time, the City of St. Louis granted and conveyed title to the Jefferson Memorial Building, the underground structure constituting an extension of the Jefferson Memorial Building, the Stupp Memorial Fountain, fixtures, sewers, water and other utility lines, appurtenances, contained in and under the Jefferson Memorial, the Underground Structure and the fountain to the Missouri History Museum Subdistrict.

3. Please state the exact proposed boundaries of any expanded area and, if different, the final permanently defined boundaries to development.

The Missouri Historical Society is not seeking to expand beyond the boundaries already established in the long term lease approved in 1988.

DEPARTMENT OF PARKS, RECREATION & FORESTRY
CITY OF ST. LOUIS

5600 CLAYTON ROAD 63110
IN FOREST PARK

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August 30, 1995

I would like to take this opportunity to thank you for your recent presentation to the Forest Park Master Plan Executive Committee regarding future plans of your institution. Since your presentation, the Executive Committee has reviewed your proposals in detail and has determined that your plans generally meet the requirements outlined in the Goals and Policies.

Enclosed please find a list of concerns and questions that were generated regarding your proposal. Members of the Design Team will be contacting you in the near future to clarify these points. Your assistance in reviewing this information would be appreciated.

I would again like to thank you for your continued assistance and support in this important project.

If you have any questions, please contact me.

Sincerely,

Gary D. Bess, Co-Chairman
Forest Park Master Plan
Executive Committee

INSTITUTIONAL PROPOSAL

HISTORY MUSEUM

Preliminary review - August 24, 1995

	comments
1. PURPOSE	
2. DEMONSTRABLE NEEDS	
3. LAND USE DEVELOPMENT - GENERAL - PERMANENT BOUNDARIES - FACILITIES - PROGRAMMING - IMPACT ON SURROUNDING USES - ALTERNATIVES	
4. LANDSCAPE	*- Commitment to surrounding improvements unclear*
5. ART, ARCHITECTURE, AND INFRASTRUCTURE	*- Commitment to footprint of building unclear*
6. ACCESS, CIRCULATION, AND PARKING	*- Not assessed in detail, preliminary review concerns* *- implications of the auditorium on generation of traffic*
7. ECONOMIC	*- Not assessed*
8. LEGAL	*- Not assessed*
9. NO NET LOSS OF OPEN SPACE	*- Not assessed* *- exact size of building footprint needed for calc.*
10. GENERAL	*- Need definition of long-term*

FOREST PARK MASTER PLAN

S a I n t L o u I s

LONG TERM PLANNING SUMMARIES
for
FOREST PARK MUSEUMS AND CULTURAL INSTITUTIONS

SCIENCE CENTER

6 AUGUST 1995

Introduction

The Executive Committee for the Forest Park Master Plan has, to date, approved ten Design Principles, and a more detailed concept design for the passive open space system and the golf course. At this point in the design process, the project team is to develop detailed design recommendations. An essential aspect of this stage of the design process is to analyze the "Long Term Planning Summaries for Forest Park Museums and Cultural Institutions" dated January 1995 submitted to the Executive Committee. The Executive Committee will review the project teams' analysis, and approval or disapprove, in whole or in part, any one of the proposals, after review and comment by the Forest Park Master Plan Committee and the general public.

Review Process

The Executive Committee has agreed to the following decision-making process.

Step One:	Museums and Cultural Institutions complete enclosed questionnaire and have a work session with the Design Team.
Step Two:	Design Team prepares analysis of proposals based upon approved work to date and in particular, the proposals' implications on the natural system, as well as the access, circulation and parking system.
Step Three:	Design Team discusses analysis with respective Museums and Cultural Institutions and makes any necessary modification.
Step Four:	Design Team presents analysis to Ex. Committee. Ex. Committee makes decision on each proposal and instructs design team to incorporate decision into the conceptual design.
Step Five:	Design Team presents conceptual design to Ex. Committee including the findings of the no-net-loss-of-open-space calculation. Ex. Committee reviews, agrees to, or modifies previous decision on the Museums and Cultural Institutions proposals.
Step Six:	Design team presents conceptual design, analysis of Museums and Cultural Institutions proposals, and Ex. Committee recommendations regarding the proposals to the Forest Park Master Plan Committee for review and comment.
Step Seven:	Design team presents conceptual design, analysis of Museums and Cultural Institutions proposals, and Ex. Committee recommendations regarding the proposals to the public for review and comment.
Step Eight:	Ex. Committee makes final draft decision on conceptual plan, and Museums and Cultural Institutions proposals.

Review Criteria

The Goals and Policies dated January 17,1995 as approved by the Board of Alderman require any "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas" to meet certain criteria outlined in policy 3.1.2. In addition, it is understood that any proposal will also meet all other goals and policies, and the ten design principles and conceptual design completed to date. It is the project teams role to prepare an analysis of the proposals based upon the criteria in 3.1.2, and all other goals and policies.

Purpose of Questionnaire

The purpose of this questionnaire is to collect any necessary outstanding information to prepare an analysis of your proposal and to confirm that we have correctly understood the information we have received to date. In addition to this questionnaire, we would like to tour your existing facility and discuss any aspect of your operations and future plans that you feel needs consideration in this analysis.

This questionnaire has six sections, each addressing an area important to the development of the project teams analysis:

Section One:	Executive Summary of Proposal
Section Two:	Existing Facility Analysis
Section Three:	Proposal: Purpose, Demonstrable Need, and Detailed Statement of Needs
Section Four:	Alternative Development Analysis
Section Five:	Economic Viability
Section Six:	Legal Considerations

Please note: This document and the contents herein together with the project team's analysis of each proposal will be made available to the public.

SECTION ONE: EXECUTIVE SUMMARY

1. Please outline your proposal, its purpose, need and, legal and economic viability.

The enjoyment and use of Forest Park by the citizens and visitors of St. Louis will be enhanced by the following proposed improvements in and around the Forest Park building of the St. Louis Science Center:

1) Expand underground (approx. 3,000 sq. ft.) the existing Medical Technology gallery -- a very popular visitor area to which information and activities about current medical advances and research must be added;

2) Improve the existing adjacent parking lot to the Forest Park building and the entry drive to that lot. This action can reduce and/or eliminate on-street parking on Clayton Road and other park streets, comply with the concept of no-net-loss-of-open-space within the park, improve landscaping, improve pedestrian and visitor safety, and increase general security to accommodate 400,000 visitors who have been entering the Science Center annually through its Forest Park building; and

3) Improve the serviceability of the landmark Forest Park building through continual maintenance and upgrading of building systems and operations.

These improvements are consistent with the principles of stewardship, partnership and shared responsibility urged in the Vision and Goals for the future of Forest Park.

While items #1 and #3 are within the boundaries of the property leased to the Science Center, any proposed parking lot expansion and entry relocation will require a new agreement with City/Park authorities.

These improvements can be undertaken within the next 5-7 years and preliminarily are estimated to cost $2+ million - an expense to be borne by the Science Center. The Science Center has a very good history of financial and social responsibility. It is prepared to undertake the expenses of the improvements, anticipating utilization of existing financial reserves and/or donated funds yet to be raised.

SECTION TWO: EXISTING FACILITIES ANALYSIS

Please provide the following information for all your facilities.

Forest Park Facility:

Name/address

ST. LOUIS SCIENCE CENTER in Forest Park, St. Louis, MO 63110

Facility Use/Description

Science Center

Gross Area (sq. ft.) **30,156**

Net Area (sq. ft.) **27,140**

Mechanical System Heating (BTU) **3.2 million BTU** Cooling (Ton) **160 ton**

Electrical System Capacity (BTU) **4000 Amp 230 V 3 ø**

Plumbing System (CFM) **4" water service line, 6" sanitary sewer line, 10" combination sanitary/storm line to MSD**

Primary System
- Foundations
- Substructure
- Superstructure
- Exterior Closure
- Roofing

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

Storm water drainage problems are causing water infiltration and are damaging the structure. We propose a new drainage system ($42,000) and repair structural water damage ($25,000).

Other Facility:

Name/address

Medical Technology Gallery

Facility Use/Description

Public Education

Gross Area (sq. ft.) **2,880**

Net Area (sq. ft.) **2,736**

Mechanical System Heating (BTU) **235 MBH** Cooling (Ton) **10 ton**

Electrical System Capacity (BTU) **225 Amp 120/208 3 ø 4 wire**

Plumbing System (CFM) **none**

Primary System
- Foundations
- Substructure
- Superstructure
- Exterior Closure
- Roofing

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

Chilled water circulation inadequate for load. Propose new chilled water pump and booster pump for AC-10 (Med. Tech.). Need floor drains to sanitary sewer. $25,000 for pumps and sanitary sewer and pump (in addition to expansion).

SECTION THREE: PROPOSAL: PURPOSE, DEMONSTRABLE NEED & DETAILED STATEMENT OF NEEDS

NOTE: This section refers only to the facility within Forest Park

1. Please clearly state the purpose of your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas."

The Science Center is very supportive of the Vision and Goals of the Forest Park Master Plan and, specifically, its principles of stewardship, partnership and shared responsibility. The improvements which we propose are in recognition of how to improve service to the needs of St. Louis citizens and visitors who come to Forest Park and the Science Center and in accordance to the Management and Implementation Policies (3.1.2 and 3.1.4 – in particular).

The Science Center was established to serve the public as an informal science education institution. Therefore, all its efforts are designed to make science and technology education more accessible to the public. Its facilities are partially located within the confines of Forest Park and partially located immediately adjacent to it as a result of public discussion and office approval by the City of St. Louis in 1983 – recognizing the public responsibilities and services expected of a governmental agency created and supported by citizen votes and taxes.

Three items encompass the proposed improvements in and about the Science Center's Forest Park building:

(1) expansion of an underground exhibition gallery;
(2) improvement of the existing adjacent parking lot and entry drive; and
(3) upgrading of the building's serviceability and appearance.

These improvements will permit the Science Center to continue to be an effective steward in fulfilling its publicly-approved mission as well as to be an effective participant-partner in the achievement of the Forest Park Master Plan Goals and Policies. To propose any less would be irresponsible of the Science Center's Board of Commissioners and staff.

1)Expansion of the underground exhibition gallery fulfills the purpose of increasing the Science Center's capability to interpret rapidly changing medical technology and practices.

2) Improvement of the area of the existing adjacent parking lot, entry drive and streets will better accommodate the 400,000 visitors who chose to enter the Science Center

annually through its Forest Park building through the multiple purposes of:

. reducing and/or eliminating the need for Science Center visitors to park on Clayton Road and Faulkner Drive;
. complying with the concept of no-net-loss-of-open-space within the park;
. improving pedestrian and visitor safety; and
. increasing park security and services.

3) Upgrading of the building's serviceability and appearance fulfills the purpose of maintaining the landmark structure at a high quality level consistent with the goals of both the Science Center and Forest Park Master Plan.

2. Please provide demonstrable need for your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas".

Expansion of underground gallery – The existing gallery of 2291 square feet was constructed in 1991-1992 as part of the 1987 Master of the Science Center as approved by the City of St. Louis. The gallery's topic of Medical Technology has proven to be very popular; overcrowding by visitors occurs about 150 days a year. The gallery is also not large enough for the presentation of emerging technologies and practices about which the public wishes to learn more and which medical advisory team members recommend should be accomplished.

Improvement of the area of the existing adjacent parking lot, entry drive and streets – The primary reason for proposing the alteration from the present situation is to respond to safety and security problems while maintaining current parking capabilities for the 400,000 visitors who are accessing the Science Center from Forest Park.

1) The intersection at Clayton Road and Faulkner Drive is dangerous. It is situated just below the crest of a hill to the west on Clayton Road which does not have any stop signs to slow thru traffic. There are bad "sight lines" for drivers in an intersection which is poorly designed for the high number of vehicles that pass through it from all directions. The result has been a continual series of vehicle accidents – sometimes two serious incidents a month. The problem is compounded by the presence of the crossing for the park's bicycle/jogging path only 100 feet to the east.

2) The combination of on-street parking, too few sidewalks and no

marked pedestrian crosswalks is dangerous. Vehicles are parked along Clayton and Faulkner when the 104-vehicle lot (by the Forest Park building) and entry drive are filled. On Saturday August 4, 1995 at 3:30 p.m. 205 vehicles were parked along Clayton Road and Faulkner Drive within 1200 feet of the intersection. As there are only four pedestrian sidewalks along the eight sides of the intersection roadways, people were walking substantial distances in the streets to travel to and from the Forest Park building. Nearly all of them found it difficult to walk through the intersection area as there are no marked crosswalks or stop signs to slow continuous traffic on Clayton Road.

3) The proximity of the neighboring archery range to the Forest Park building and its adjacent parking lot in combination with the inadequate safety precautions/barriers is dangerous. The range does not have any meaningful, substantial barriers around the range (there are a couple of small warning signs facing Clayton Road). This situation is compounded by the lack of sidewalks between the archery range and Clayton Road. Several groups of visitors with small children make "short cuts" to the Forest Park building in front, around and behind the archery targets. Archers usually are observed utilizing the range targets immediately adjacent to the parking lot and the Forest Park building instead of the targets on the far west side of the range. There is only a single cable about two feet off the ground that serves as a barrier to separate the range from the parking lot.

4) Personal safety and prevention of vehicle vandalism/theft are difficult to insure. While the Science Center security staff attempts (in cooperation with St. Louis City Police, Park Police and other park institutional security personnel) to patrol and monitor the surrounding streets, vehicle and personal crimes do occur at a much high rate when vehicles are parked at farther distances from the Forest Park building which has an external security camera monitoring the parking lot. Criminals are further undeterred by the lack of barriers/fences and by the inadequate lighting during evening hours.

5) The condition of the streets' and parking lot's surfaces, curbs and storm sewers are in deteriorating condition. While the Science Center did make improvements in 1985 and 1992 to the parking lot (resurfacing, marking of four handicapped spaces, improving vehicle turning radius capabilities and adding sidewalk surfaces), the entire immediate neighborhood system must be repaired to eliminate chuckholes, broken curbs and damaged storm sewers.

6) <u>The current number of 315 vehicle parking spaces available for 400,000 annual Science Center visitors entering through its Forest Park building must be maintained while correcting the other poor conditions listed above.</u> As stated in condition #2 above, 309 vehicles were parked within 1200 feet of the Science Center on August 4, 1995 - a typical peak visitation day of 7,000. This parking situation has been repeated a minimum of 100 days annually since 1986. (It should be noted that the Science Center-Merchants' Exchange's 560 vehicle fee-paying parking lots and 100 on-street parking spaces within 1200 feet of the Main Building on Oakland Avenue were fully occupied at the same time on August 4). In 1991, the architect for the new Science Center, E. Verner Johnson, estimated that there was a total need of 900 vehicle parking spaces to be able to handle peak visit days (85% of visitors arriving by private auto, 2.5 persons per car, 2.5-hour average visit). Also in 1991, traffic consultants NC Roden & Associates estimated (using similar modeling factors as Johnson)a need of up to 1,115 total visitor car parking spaces — in and out of Forest Park — for peak Science Center visitation days.

<u>Upgrading of the building's serviceability and appearance</u>. The early 1960's landmark structure continues to "show" its older age through the growing maintenance of its major components - including sewer and storm drains which have failed or are failing. The unique roof system has been a continual problem. The 7-year old external Science Park and Dinosaur Park must be revitalized. Surrounding landscaping (although improved by the Science Center at its own expense in 1985 and 1992) needs to be freshened and maintained more consistently if the building and its site is to be a focal point of the envisioned design of the southeast corner of the park.

Other parking facts/factors.

1) Only the lots around the Main Building have a parking charge - $3.00 per vehicle; members, business visitors, school busses park free. Annual gross revenue in 1995 projected at $301,000.

2) In 1994 there were 1,313,051 visitors; there were 137 days in which there were 4,000 or more visitors — 94 days when 5,000 or more visitors — 14 days when 7,500 or more visitors; in July there were 26 days when 5,000 or more visitors — in August there were 16 days when 5,000 or more visitors.

3) not counting school groups, rentals, etc, the Forest Park entrance counted 389,450 general public visitors in 1994 or 30% of the total attendance.

[redacted]

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3. Please describe your proposal in detail including the development time line, any expected programming changes and parking requirements. Enclose any documentation, drawings or renderings to illustrate the proposal. Describe any existing or proposed development outside the park that supports or influences your proposal.

Expansion of underground gallery. ***The proposal is to build a 3,000 sq. ft (38 x 79) underground addition to the medical technology gallery – to the east of that existing gallery. There is no completed plan - the proposal is still at a conceptual level. A detailed plan may be established by mid-1996, pending planning activities spearheaded by the new Science Center President. The concept does suggest that the expansion will permit absorption of the current over-demand in the existing gallery without requiring or affecting the Forest Park building's parking requirements. The expansion will be located within the existing boundaries of leased ground from the City of St. Louis. After construction, it is anticipated that there will be no-net-loss-of-open space and improved landscaping without impacting other amenities/activities in the park. (See attachment 3.1)***

Improvement of the area of the existing adjacent parking lot, entry drive and streets. ***Because of the Forest Park Master Plan process which has been underway since 1993, the Science Center has held back from doing any specific planning or developing a timeline. The Science Center staff has continued to document the steady influx of 400,000 visitors annually through its Forest Park building and to strive as effectively as possible to insure the safety and security of the visitors until a new plan for the area can be adopted in partnership with the City and other interested parties. However, the Science Center is prepared to move forward to implement an adopted plan for the area as soon as possible.***

Since late 1993 the Science Center has emphasized the parking lot proposal outlined in the Kelly-Varnell plan which detailed the following: relocation of the entry drive to share an intersection with the AAA Club; relocation of the archery range to an undetermined new location away from the Science Center's Forest Park building; construction of an expanding, landscaped parking lot for 270 cars and 11 buses; elimination of Faulkner Drive; unknown reduction (?) of on-street parking on Clayton Road. (See attachment 3.2)

However, the Kelly-Varnell plan is, in fact, only an illustration of a potential solution to the key issues for the Science Center: How to maintain 315 parking spaces within 1200 feet of the Forest Park building in combination with the goals of improved security and safety, no-net-loss-of-open-space, and other policies/design principles in order to provide continuing service to 400,000 annual visitors. The Science Center is very supportive of the exploration of alternative concepts to meet the needs which have been outlined in this

questionnaire.

Interesting ideas concerning this area have been suggested to the Science Center and are as follows:

> *– creation of a paid parking lot controlled and operated by the Science Center. This idea has considerable merit, particularly if the lot is permitted to collect higher fees than the other Science Center lots located outside the park. It is thought that the higher fees will discourage heavy usage of the Forest Park lot.*
>
> *– improve the intersection of Clayton Road/Faulkner Drive and the entry drive. By improving the design and structure of Faulkner Drive and the entry drive, the dramatic presentation of the Forest Park building will be maintained and possibly enhanced. Placing stop signs on Clayton Road and moving the bicycle/jogging path crossing further away from the intersection will be improvements for safety.*
>
> *– improve parking lot barriers/separation from archery range as well as better nighttime lighting. The Science Center reacts favorably to these ideas. While security fencing is unlikely within the Master Plan guidelines, there is little doubt that such barriers do help greatly to deter vandalism and personal crime within parking lots..*

Upgrading of the building's serviceability and appearance. This improvement - similar to the other two improvements - is still in a conceptual stage with few details. Most ideas in connection with this improvement are intended to replace or repair an existing structure or system (which is likely largely hidden from view, i.e., sewers, drains, roof substructures). The landscaping concepts as well as the improvements for Science Park and Dinosaur Park are waiting for the Forest Park Master Plan adoption before any in-depth planning will begin. The Science Center is anticipating that some of the "behind-the-scenes" work must take place very soon and will continue until perhaps 1999 – depending upon available funds and institutional priorities awaiting the completion of strategic planning within the next twelve months.

4. Please describe the exact final and permanent boundaries of any expanded open or enclosed area. Please clearly show any required dedicated parking area and the areas which you will maintain.

As we have not developed any specific plans to this date, the Science Center cannot describe any exact and permanent boundaries in relationship to the improvement proposals (except those boundaries which are already established in the lease agreement with the City). The Science Center is prepared to patrol and maintain those areas which are defined within new exact, permanent boundaries to which it agrees in partnership with Forest Park authorities.

5. Please describe the quantitative limits of any future enclosed expansion within the above mentioned final and permanent boundaries.

This question is impossible to answer until the final and permanent boundaries are determined.

6. **Detailed Statement of Needs**

a. Space Requirements ***(Forest Park facility)***

	Actual 1995	Year 2000*	Long-Term*
Exhibit Area	**32,000 s.f.**	**35,000 s.f.**	**35,000 s.f.**
Service Area	**11,500 s.f.**	**11,500 s.f.**	**11,500 s.f.**
Administrative Area	**1,500 s.f.**	**1,500 s.f.**	**1,500 s.f.**
Visitor Service Area	**290 s.f.**	**290 s.f.**	**290 s.f.**
Outdoor Area	**22,000 s.f.**	**22,000 s.f.**	**22,000 s.f.**
Other (specify)			
Total	**67,290 s.f.**	**70,290 s.f.**	**70,290 s.f.**

*The most important information each institution can provide is the alteration in daily visitation resulting from the proposed site modifications.

The Science Center does not anticipate that the site modifications will either reduce or increase daily visitation.

Please specify any special space needs that might have an effect on planning adjacent park areas or your facility.

There is potential that improvements to the parking lot, Science Park, Dinosaur Park, landscaping (and the underground gallery on a temporary basis) will impact adjacent areas including the archery range and open spaces in close proximity to the Forest Park building.

b. Employment Statistics

	Actual 1995	Year 2004	Long-Term
Full-time Staff	**99**	**104**	**undetermined**
Part-Time Staff	**78**	**82**	"
Seasonal Staff (specify months)	**20 (May-Aug.)**	**22**	"
Special Events	**12**	**15**	"

Please specify any special needs for your employees and in particular, your views on remote parking with shuttles for your employees.

Our special needs include a need for improved security. Staff, both paid and volunteer, continue to be concerned about the security measures being taken to insure the safety of both parked automobiles and individual personal security for those who use the Forest Park facility. This concern increases in the winter months when darkness begins early in the evening hours.

Ideally, parking would be close to the facility to insure efficient access and timeliness when arriving for and departing from work. Shuttle service which would insure efficient access and timeliness may be a good alternative assuming that the needs of staff are addressed.

c. Visitor Statistics **(For entire Science Center – Main Building and Forest Park)**

	Goal 1995	Year 2004	Long-Term
Annual (Total 1994)	**1.313 Million**	**±1.45 Million**	**not determined**
Monthly Average	**109,410**	**114,000**	"
Monthly Peak	**196,610 (July)**	**210,000**	"
Monthly Low	**58,260 (January)**	**60,000**	"
Daily Peak	**11,510 (mid-July)**	**11,500**	"
Hourly Peak	**3,100 @ 1-2 p.m. (mid-July)**	**3,200**	"
Special Events	**550 (average)**	**550 (average)**	"

Please specify any special needs for your visitors and in particular, your views on remote parking with shuttles for your visitors.

Extended families with elderly and young children (ambulatory challenges in both age extremes, with wheelchairs and strollers). With this in mind, visitors want convenience and proximity with regard to shuttles.

Our previous direct experiences with shuttles along Oakland Avenue in 1991 and 1992 showed that visitors were reluctant to use them - even at overflow lots. We are uncertain what will alter that attitude.

Please provide existing operational plans for special events as they relate to any park planning considerations.

See excerpt from the Science Center's 5-year and long-range planning document: Attachment 3.6c

d. Access, Circulation & Parking **(Forest Park only)**

Please Note: Given previous traffic studies by the museums and cultural institutions and the interviews conducted by the design team's traffic engineer, information is in place to calculate existing access and parking space requirements in a consistent manner. Therefore, the most important information each institution can provide is the alteration in daily visitation resulting from the proposed site modifications.

	Actual 1995	Year 2004	Long-Term
No. Parking Spaces **(Within 1200 ft)**	**315**	**315**	**315**
I) Off-street	**104**	**not determined**	**not determined**
ii) On-Street	**211**	"	"
No. of Tour & School buses	**6**	"	"
No. of visitors by transit	**unknown**	"	"
No. of employees by transit	**35**	"	"

Special event needs

Please specify any special access, parking or circulation requirements. Specify any important locations for drop-off at your facility.

A large portion of the Science Center's visitors are made up of school groups and tour groups. This requires the ability to drop off passengers, maneuver a large vehicle and pick up passengers. The Science Center has a conceptual idea to have a group entrance to improve drop-off (not at the Forest Park, but at the Main Building on Oakland Avenue). The specific plan and schedule for such an idea will be considered during the next 12 months.

Do you have any plans or desires to convert any of your dedicated parking to a fee generating lot?

Parking intended to serve the Forest Park building as well as the stables, athletic fields, etc. is currently free. The Science Center is willing to explore operating an improved parking lot having parking fees. This scenario may encourage motorists to seek parking at the Oakland entrance or at shared free lots with the park.

Please describe your views on the provision of structured or underground parking on existing lots under your jurisdiction, and on structured or underground parking in general in the park.

Because of the River Des Peres underlying the property, a parking garage structure is impossible on the current Main Building lot.. There is potential for parking structures on the Merchants Exchange property and the Auxiliary Lot at the Berthold and East Road. The concept could be adopted if it were judged economically feasible within the financial resources of the Science Center.

The Science Center does not consider building an above ground parking structure in Forest Park in proximity to its Forest Park building a viable or valuable idea -- both in terms of economics and aesthetics. We have not considered underground parking because of the potential expense associated with such a structure.

Please describe any parking fee structure that applies to any parking lot under your jurisdiction. Who receives the revenue from the parking lot? What are the operational and maintenance costs of the parking lot? Who determines the fee structure? On what basis is the fee structure determined? Do you expect the rates to be increase in the near future?

With the exception of the Forest Park parking lot, parking lots under the jurisdiction of the Science Center are operated under a fee structure of $3.00 for all day parking. School buses park free. The hours are generally from 9:30 a.m. to 4:00 p.m. Sunday-Thursday and 9:30 a.m. until 7:00 p.m. Fridays and Saturdays. The Science Center considers the parking fee as part of its earned revenue and subsequently pays the City of St. Louis a tax on that revenue. The operational and maintenance costs to operate Science Center lots for 1994 were approximately $50,000.

Please describe your views on the importance of the park wide Shuttlebug, and MetroLink to your facility.

The Science Center anticipates that a park-wide Shuttlebug would be beneficial to achieving the goals and objectives of the Forest Park Master Plan.

The Science Center is actively supporting the creation of a MetroLink route along 64/40 as it will give many visitors (local and out-of-town) greater convenience and access to the Science Center and to the Park without having to use private vehicles or taxis.

Please describe your views on the use of remote parking lots for employees and/or visitors if they are served by the Shuttlebug.

Given the location of the nearest remote parking facilities in Forest Park, it has been the Science Center's experience that it could only serve in a minimal way Science Center employees and/or visitors. The Science Center has and will continue to encourage employees and visitors to make use of the Shuttlebug.

Would you support a year-round Shuttlebug system? Describe any important Shuttlebug routing issues as they relate to your facility.

Philosophically, yes. However, substantial amounts of committed resources would be needed to subsidize. At present, the only issue is that persons have to walk to the intersection of Clayton and Faulkner to catch the Shuttlebug. We suggest that the Shuttlebug should come into the parking lot to pick up and discharge passengers.

Do you have any current or proposed policies to encourage employees to use transit on their daily commute?

The Science Center has no policies directing employees to use transit. However, a sizable amount of the Science Center's staff does use the public transportation system currently.

e. Specify any other detailed design park-wide improvement and/or site considerations that are important to the success of your facility, including specific hourly, daily or locational parking restrictions in the vicinity of your institution.

The Science Center supports development of a loop road shifting automobile traffic to the edge of the Park wherever possible. Improvement of drainage including the option of expanding and connecting the existing lakes, restoration of the planting and landscaping is also important.

Additionally, the Science Center supports the conversion of redundant roadways to pedestrian and bike paths restoring the historical appearance and structures. The Science Center supports improvement of hazardous pedestrian access created by vehicular traffic parking along Clayton Road. Safety and security improvements can be achieved by concentrating automobiles in one location. With this concentration of automobiles in one location and the elimination of incompatible and unsafe uses (archery field next to parking facility without a buffer) the services provided for the visiting public in Forest Park can be enhanced.

SECTION FOUR: ALTERNATIVE DEVELOPMENT ANALYSIS

1. Given your investigation of existing facilities for your institution, please describe how you can increase efficiency of space utilization in order to avoid unnecessary expansion in the park per policy 3.1.4. Please submit supporting documentation.

   The Science Center has generally sought to look outside Forest Park or south of Oakland Avenue with any expansion views it might have. It has recently acquired the Merchants Exchange property on Oakland Avenue in anticipation of future expansion.

   With regard to expanding exhibit space in Forest Park, underground expansion is perhaps the only option available while observing park policies 3.1.2 and 3.1.4. There is a continued demand for access through the Forest Park entrance by citizens of St. Louis. 400,000 visitors access the Science Center through the Forest Park entrance on an annual basis. This necessitates the improvement of services for the visiting public in Forest Park.

2. If your institution reduced its proposed level of development in the park per policy 3.1.2, please describe the implications. Please submit supporting documentation.

   The Science Center feels that its proposed improvements are in full compliance with policy 3.1.2.

   If the underground expansion were reduced, it might force the Science Center to reconfigure its entire complex at a higher, undetermined cost. However, because the expansion is only 3,000 sq. ft., there may not be a viable or cost effective reduction.

   As the proposal for improvement for the area for the existing parking lot, entry drive and streets has many different components, it is relatively impossible to comment on a reduction unless a specific idea was formulated. If the reduction entailed the reduction of the number of visitors vehicles with 1200 ft of the Forest park building, we anticipate that we might be faced with unsuccessfully resolving visitors' frustrations in being denied safe access to our facility. Certainly we would attempt to find a solution as yet undetermined.

   The Science Center cannot perceive that a reduction in the proposal to upgrade the serviceability and appearance in the Forest Park building is practical or possible in the long term. There is no other choice except to upgrade/maintain.

3. Please describe the findings from an investigation of no development in the park per policy 3.1.2. Please submit supporting documentation.

The difference between "no" development and "reduced" development for the improvements proposed by the Science Center seems negligible at this time. We feel there is no alternative but to make at least some improvement as stated in the previous question's answer.

4. Please describe the findings from an investigation of any new or expanded land uses outside of the park per policy 3.1.6. Please submit supporting documentation.

The Science Center acquired the Merchants Exchange property on Oakland Avenue as a specific site on which to expand its services in fulfillment of its mission in the future. No timeline has been set for specific plans for that property's eventual development. The use of the Arena property has some prospects for impacting the Science Center and its visitors; however, that is only an opinion without the support of any substantial investigation. The greatest potential may be the routing of MetroLink along 64/40 in providing improved access of visitors to the Science Center.

SECTION FIVE: ECONOMIC VIABILITY

1. Please provide a cost estimate of the proposed development.

The Gallery Expansion is estimated to be a $.5 million. An estimate was created in 1994 for the improvements for the parking lot, etc. using the Kelly-Varnell concept (see attachment 5.1); the cost was projected at $1.05 M plus $.25M for contingencies not yet outlined by the Forest Park planning process. The upgrading of the Forest Park structure is estimated to range from $.25M to $1M. These estimates obviously do not include variations that may be developed for improvement of the parking lot, entry way, etc.

2. Please provide firm evidence of your financial ability to complete the project. Enclose supporting documentation.

See Attachment 5.2

The Science Center believes that it has the financial ability to complete the proposed project.

There are two reasons for this. The first is management style. Essentially the same staff is in place now that was responsible for completing the new facility is 1991. That project with a total cost of $34 million was remarkable in that it was on target from both a financial and timing standpoint.

In addition, the financial base of the Science Center is sound. The attached balance sheet which was presented at the Metropolitan Zoological Park and Museum District annual budget meeting earlier this year shows a $6.2 million cash position at the end of 1994. Available funds could be used for both operational and capital purposes. Integral go this cash position is a strong institutional performance. This is reflected in the excess of current assets over current liabilities that has occurred or is projected to occur. Since 1993 current assets have exceeded current liabilities each year by a significant amount. Summary data is shown below.

(In Thousands)	*1996 Est.*	*1995 Budget*	*1994 Actual*	*1993 Actual*
Current Assets	*$6.8*	*$7.1*	*$7.5*	*$7.4*
Current Liabilities	*2.0*	*1.9*	*1.9*	*1.9*
Excess Current Assets over Current Liabilities	*4.8*	*5.2*	*5.6*	*5.5*

The Science Center has a commitment to improving the visitor experience. The

approval of this proposal will be a major step in accomplishing this goal.

SECTION SIX: LEGAL CONSIDERATIONS

1. In your opinion and in the context of your proposal dated January 1995 as submitted to the Executive Committee of the Forest Park Master Plan, what are your "rights under existing law, leases or agreements, if any" to expand, modify, replace, relocate, re-use, or remove the existing buildings, parking lots, roads, paths, recreation, or natural areas? (policy 3.1.2) Please attach supporting materials.

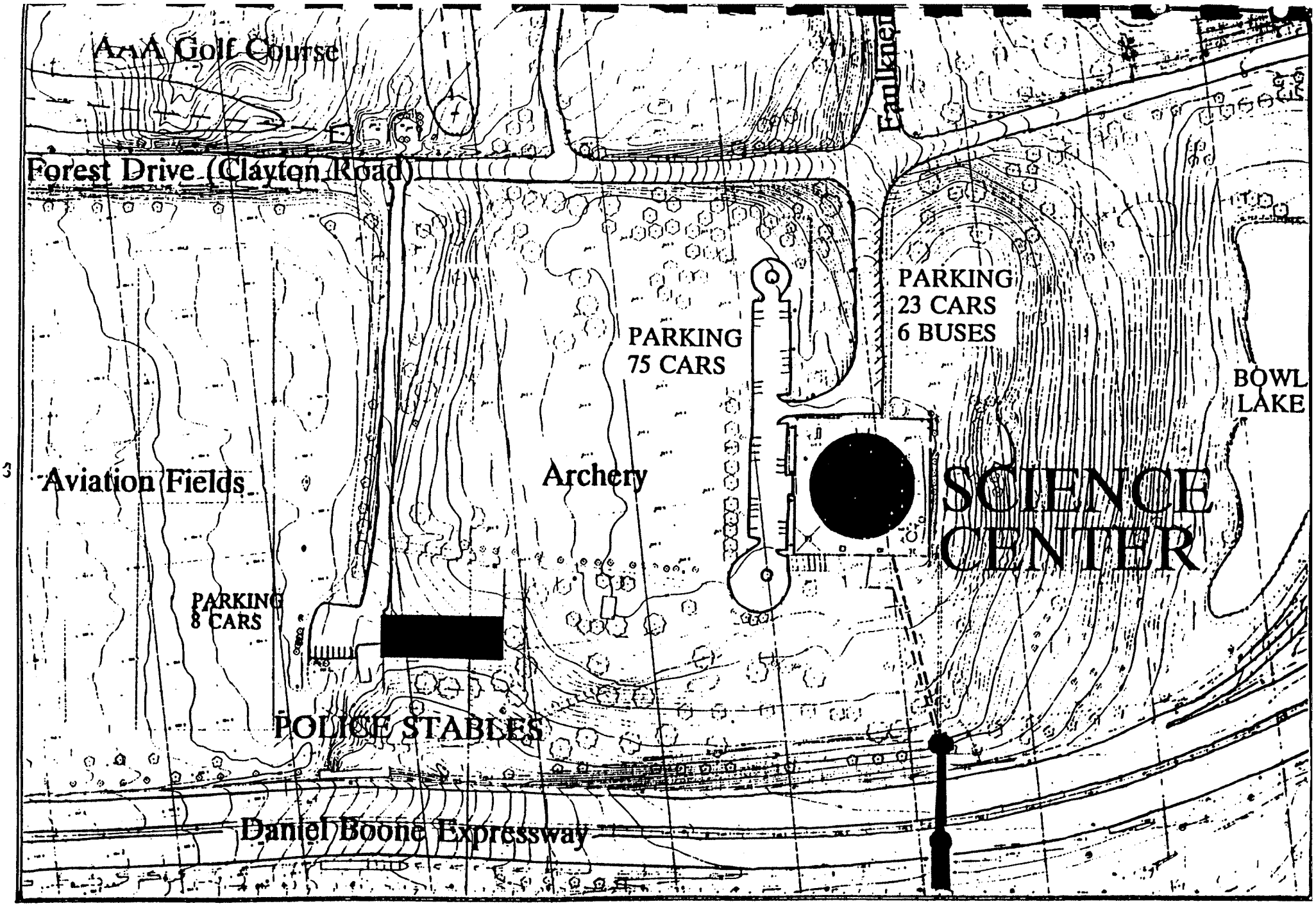
   See Attachments 6.1(a) and 6.1(b)

2. Please state in your opinion, your existing jurisdictional or site boundaries. Please attach supporting materials.

   See Attachment 6.2

3. Please state the exact proposed boundaries of any expanded area and, if different, the final permanently defined boundaries to development.

   Aside from the improvement of the existing parking lot which is under the jurisdiction and governance of the City of St. Louis, there would not be any significant change in the permanently defined boundaries of any proposed development. As there are no specific solutions outlined for achieving the desired improvements at this date, it is impossible to forecast what the exact boundaries might be.



prepared for:
FOREST PARK FOREVER
5595 GRAND [illegible]VE IN FOREST PARK
ST. LOUIS, [illegible] 2
314-367-7275

PARKING
ON STREET None
OFF STREET 90
BUSES 6
September 17, 1993

FOREST PARK

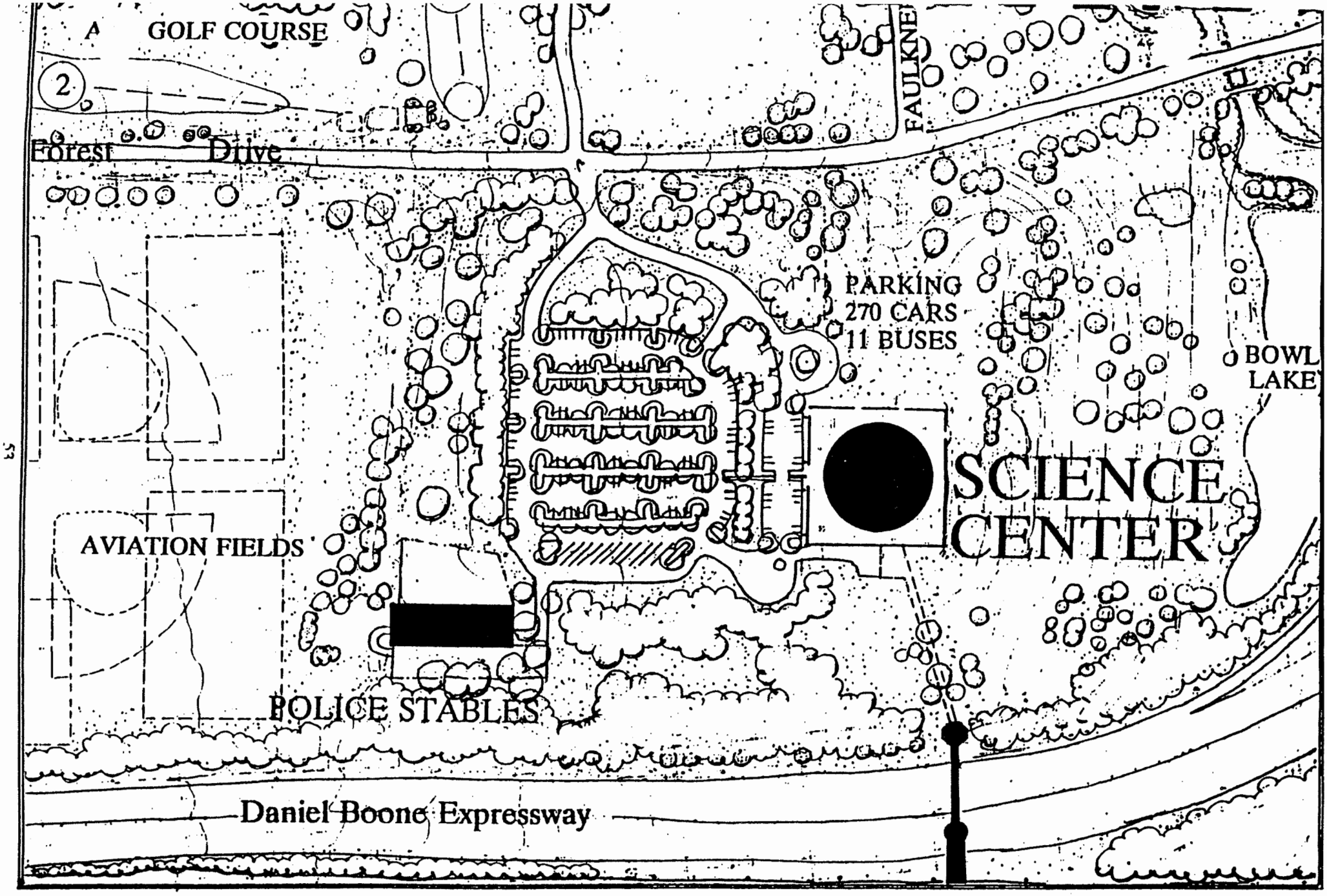
ST. LO[illegible] MISSOURI

0' 200'

PLATE #26
SCIENCE CENTER
EXISTING

N

BRUCE KELLY/DAVID VARNELL
LANDSCAPE ARCHITECTS
530 BROADWAY 11TH FLOOR
NEW YORK, NEW YORK 10012
212-[illegible]



prepared for:
FOREST PARK FOREVER
5595 GRAND DRIVE IN FOREST PARK
ST. LOUIS, MO 63112
314-367-7275

PARKING
ON STREET None
OFF STREET 270
BUSES 11
September 17, 1993

FOREST PARK

ST. LOUIS, MISSOURI

0' 200'

PLATE #27
SCIENCE CENTER
PROPOSED

N

BRUCE KELLY/DAVID VARNELL
LANDSCAPE ARCHITECTS
530 BROADWAY 11TH FLOOR
NEW YORK, NEW YORK 10012
212-941-8440

III. Forest Park Facility and Program

Strategic Goal: In order to bring the Forest Park experience in line with the Science Center in general, (a memorable, fun, learning experience), we will undertake a complete renovation of the Forest Park Building and coherent recreation of the programs it supports. The emphasis will be on astronomy/space sciences, but not to the exclusion of the other galleries and facilities.

A. Compelling Reasons

1. Important part of SLSC's identity
2. Visitor Services need upgrading
3. Structural improvements to meet safety and health standards
4. Underutilized building and outdated projector/equipment
5. Astronomy/Space Science not "on par" with SLSC topics
6. Opportunity for multi-sensory themed experiences
7. Opportunity for new national model for a planetarium
8. Astronomy/space science provides vital information and context for the future

B. Description of Goal

1. **Vision**. The vision for the Forest Park Building is to create a total visitor experience. People can begin a long-term exploration of astronomy and space science. Astronomy is a science you must investigate with your mind because your hands, ears, -- everyday senses -- cannot grasp its magnitude and diversity. The visitor experience must transform the conceptual, vast, and distant into the sensory, immediate, and personal. Space science is applied science -- physics, mathematics, and technology -- the tools humans use to make the impossible, possible.

   Science Park is our unique, exterior gallery. It offers opportunities for distinctive, attractive, physical science and mathematics experiences. To preserve and improve Science Park, time and resources need to be allocated.

   Medical Technology Gallery needs expansion.

   Dinosaur Park must be integral to exhibit program.

Improvements of the lobby, lighting, gift shop and visitor comfort factors must be accomplished to better serve our visitors.

Exterior veranda walk that rings the main floor should be enclosed to create additional square footage for an improved memorable exhibit and program

2. **Program Characteristics.** With our primary goal to match the experience in the main Science Center building, the standards that direct the development of all programming and facilities in the institution also apply to Forest Park. The program characteristics described in the Quality Visitor Learning Environments and School Connections goals will apply to the projects addressed in this goal. In addition, we anticipate the Forest Park building to host a greater share of visitors in balance with the Main Building.

ATTACHMENT 5.1

(3)

ESTIMATOR: JERRY JACOBSMEYER
ESTIMATE NO: #94

J.S. ALBERICI CONSTRUCTION COMPANY
SUMMARY SHEET

REPORT RUN: 25-Apr-94
09:20:51 AM
BID DUE: 4-25-94 @ 4:00 PM

ESTIMATE NAME: ST LOUIS SCIENCE CENTER - PROPOSED PLANITARIUM BUILDING PARKING LOT

$1,058,243 SF 170,100

ID. ITEM	SPEC. SECTION:	DESCRIPTION:	QUANT.	INCL. WITH	LABOR	IT&F	MATERIAL	EQUIP.	SUBS.	TOTAL	COMMENTS	COST PER S.F.
1		LANDSCAPE ARCHITECTURE DESIGN	1 LS				16,000			16,000		0.09
2		PAVEMENTS & STORM DRAINAGE DESIGN	1 LS				28,000			28,000		0.16
3		SOILS INVESTIGATION	1 LS				10,000			10,000		0.06
4		REMOVE TREES, GRUB ROOTS	46 EA		9,620	5,680	4,650	7,300	5,330	32,580		0.19
5		TOPSOIL - STRIP & STOCKPILE	2,500 CY		4,740	2,800		5,400	3,240	16,180		0.10
6		EARTHWORK - CUT & FILL	3,500 CY		4,700	2,770		6,750	2,850	17,070		0.10
7		EROSION CONTROL - SILT FENCE	1,600 LF		2,710	1,590	2,000			6,300		0.04
8		STORM SEWERS - 18 STRUCTURES, PIPE	2,400 LF		63,190	36,030	112,460	37,990	3,280	252,950		1.49
9		ELECTRICAL POLES w/LIGHTS	15 EA						49,125	49,125	SACHS	0.29
10		CONCRETE CURBS	8,600 LF						103,200	103,200		0.61
11		CONCRETE SIDEWALKS	10,000 SF						25,000	25,000		0.15
12		SHAPE EARTH SUBGRADES	148,500 SF		11,880	7,000		9,000		27,880		0.16
13		ASPHALT PAVING	18,900 SY						181,530	181,530	MAPLEWOOD	1.07
14		PAVEMENT STRIPING - 281 STALLS	1 LS						1,168	1,168	PARKMARK	0.01
15		SIGNS	24 EA						4,500	4,500		0.03
16		REMOVE EXISTING PKG LOT PAVEMENTS	3,600 SY		2,060	1,220	8,160	1,700	9,180	22,320		0.13
17		TOPSOIL FILL @ REMOVED PAVEMENTS	1,500 CY		3,270	1,930		3,000	5,400	13,600		0.08
18		NEW CURB ON FOREST DRIVE	200 LF						3,200	3,200		0.02
19		SEEDING	6 ACRES						10,200	10,200		0.06
20		LANDSCAPING - NEW TREES & SHRUBS	1 LS							0	(SAY DONATED)	0.00
21		CONTINGENCY (10%)	1 LS		10,217	5,902	18,127	7,114	40,720	82,080		0.48
22		Exhibits - Medical Technology										
23		Construction										

COST PER SQ FT OF PVMT AREA

TOTAL PAVEMENT AREA

- OVERLAY PORTION OF EXIST. LOT 21,600 SF
- NEW AISLES & STALLS 70,200
- NE ENT. RDWYS, BUS PKG 78,300

TOTAL 170,100 SF

ATTACHMENT 5.2

MAR 1 5 1995

METROPOLITAN ZOOLOGICAL PARK AND MUSEUM DISTRICT
ST. LOUIS SCIENCE CENTER SUBDISTRICT
COMBINED FUNDS - BALANCE SHEET

COMBINED FUNDS	PROJECTED 1996	BUDGET 1995	ACTUAL 1994	ACTUAL 1993
ASSETS				
Current assets:				
Cash in bank and petty cash	$6,121,688	$6,181,353	$6,231,662	$5,114,848
Accounts receivable and prepaid expenses:				
MZD	100,000	150,000	15,867	271,602
Other	300,000	350,000	357,033	608,224
Pledges receivable - current	15,000	184,075	728,539	1,243,083
Shop for Science Inventory	225,000	200,000	204,980	190,141
Total current assets	6,761,688	7,065,428	7,538,081	7,427,898
Investments:				
Board designated endowment funds	766,900	733,600	700,300	667,000
Restricted cash and investments	6,652,660	6,386,481	5,841,912	5,035,827
Other	572,619	540,206	509,629	418,820
Total investments	7,992,179	7,660,287	7,051,841	6,121,647
Pledges receivable - non current	31,832	46,832	230,908	785,498
Fixed assets:				
Planetarium building	5,724,105	5,668,105	5,548,105	5,514,774
Oakland Avenue property	29,427,834	29,083,054	28,873,554	28,539,583
Furniture, fixtures & equipment	7,469,674	7,337,674	7,006,674	6,658,919
Exhibits	10,949,395	10,239,395	9,651,024	8,858,475
Exhibits in process	0	0	26,371	329,854
Collections	841,804	841,804	841,804	841,804
Phase II	151,842	151,842	151,842	151,842
Accumulated depreciation	(16,943,048)	(13,937,401)	(11,167,527)	(8,577,583)
Total fixed assets	37,621,606	39,384,473	40,931,847	42,317,668
Deferred charges & prepaid expenses	300,000	325,000	380,595	405,641
Total assets	$52,707,305	$54,482,020	$56,133,272	$57,058,352
LIABILITIES AND FUND BALANCE				
Current liabilities:				
Accounts payable and accrued expenses	$1,007,762	$904,156	$761,682	$1,042,590
Current portion of long - term debt	928,889	883,713	874,545	808,713
Deferred revenue - current	100,000	74,012	286,532	97,876
Total current liabilities	2,036,651	1,861,881	1,922,759	1,949,179
Notes payable - LCRA	5,185,000	6,045,000	6,860,000	7,635,000
Long-term obligations	223,295	257,895	214,491	189,457
Other	75,478	84,913	90,942	94,348
Deferred revenue and compensation	572,619	540,206	509,629	418,820
Total liabilities	8,093,043	8,789,895	9,597,821	10,286,804
Fund balance	44,614,262	45,692,125	46,535,451	46,771,548
Total liabilities and fund balance	$52,707,305	$54,482,020	$56,133,272	$57,058,352

VOLZ ENGINEERING & SURVEYING, INC.

10849 INDIAN HEAD INDUSTRIAL BLVD.
ST. LOUIS, MISSOURI 63132

ROBERT N. VOLZ
GLENN E. BORGARD
CARL F. LUEKER

PHONE (314) 420-

December 8, 1983 TWO RE: Planetarium
83-1025

A tract of land in Block 2022 of the City of St. Louis, Missouri and being more particularly described as:

Beginning at a point reached by the following courses and distances:

Beginning at the Northwest corner of property conveyed to Merchants Exchange of St. Louis by deed recorded in Book 7674, Page 42 of the City of St. Louis Records in Block 3995; said point being on the South line of Oakland Avenue, 73-foot wide, being distant North 89 degrees 59 minutes 41 seconds East 846.70 feet by deed from the intersection of the said South line of Oakland Avenue, 73-foot wide, with the East line of Macklind Avenue, 100-foot wide; thence Westwardly along said South line of Oakland Avenue, 73-foot wide, South 89 degrees 59 minutes 41 seconds West 120.47 feet to a point; thence North 0 degrees 00 minutes 25 seconds West 546.65 feet to the actual point of beginning; thence North 0 degrees 00 minutes 25 seconds West 551.32 feet to a point; thence North 89 degrees 59 minutes 35 seconds East 81.20 feet to a point; thence South 0 degrees 00 minutes 25 seconds East 260.18 feet to a point; thence North 89 degrees 58 minutes 45 seconds East 224.17 feet to a point; thence South 0 degrees 02 minutes 25 seconds East 226.31 feet to a point; thence North 89 degrees 57 minutes 20 seconds West 94.55 feet to a point; thence South 7 degrees 21 minutes 25 seconds West 51.33 feet to a point; thence South 89 degrees 54 minutes 55 seconds West 39.56 feet to a point; thence North 0 degrees 05 minutes 05 seconds West 3.84 feet to a point of curve; thence along a curve to the left haveing a radius of 22.20 feet and an arc length of 34.85 feet to a point of tangency; thence South 89 degrees 58 minutes 30 seconds West 67.71 feet to a point; thence South 0 degrees 00 minutes 25 seconds East 40.00 feet to a point; thence South 89 degrees 59 minutes 35 seconds West 74.89 feet to the actual point of beginning and containing 2.287 acres according to a survey by Volz Engineering & Surveying, Inc. on November 22, 1983.

E X H I B I T A

BIDDERS REQUESTING ADVERTISED QUOTATION SHEETS

REQ. CONDEMNATION #S732A

DEPARTMENT MCDONNELL PLANETARIUM OPENING DATE JULY 10, 1984

ITEM STAR PROJECTION MACHINE (GOTO SATURN L-1)

FIRM NAME	ADDRESS	PHONE	DATE	EMP.
Dr. Chas. Peterson, Dept. Phy. & Astronomy, Univ. of MO, Columbia, MO 65211				
Larry Krumenaker, Austin Traveling Planetarium, P.O. Box 15541, Austin, TX 78761				
Bob Taylor & Dr. Rbt. Schwartz, 2665 Cleveland, Ft. Meyers, FL 33901				
David Christenson, 329 Seminary Ave., Aurora, IL 60505				
J.C. Dnegler, Inland Marine, Inc., 119 Pauline Avenue, Del Rio, TX 78840				
Risty Porotto, Pres. & Gen. Mgr. Jena Instruments (Toronto) Ltd., 199 Ashtonbee Road, Scarborough, Ont. Canada M1L2P1				
Daniel D. Friel, Mt. Cuba Astronomical Observatory, Inc., P.O. Box 3915 Greenville, Delaware Wilmington, DE 19807				
Jim Gleason, SE Fibers, Inc., 2167 Northlake Pky., Suite 105, Tucker GA 30084				
Jerry McDonnell, 1185 Pineridge Road, Norfolk, VA 23502				
Dr. Frank Bingham, 1099 Canyon View Dr., California Bd. of Education, LaVerne, CA 91750				
Colby Sinclair, P.O. Box 3231, Orlando, Florida 32802				
Davis Silverstein, c/o the ZCI, 62 w. 14th Street, 3rd Floor, N.Y., NY 10011				
Jacques Dumas c/o Dow Planetarium, 1000 Rue St. Jacques Ouest, Montreal Quebec Canada				
Steve Gauss, U.S. Navel Observatory, Washington D.C. 20390				

BIDDERS REQUESTING ADVERTISED QUOTATION SHEETS

REQ.

DEPARTMENT MCDONNELL PLANETARIUM OPENING DATE JULY 10, 1984

ITEM GOTO SATURN L-1

FIRM NAME	ADDRESS	PHONE	DATE	EMP.
B.G. Aitchison, 74 Grand Road, Farlington Portsmouth, Hampshire, United Kingdom				
Christopher Paski, Jarvis Christian College, 5621 Old Bullard Road, Tyler, TX 75703				
Roger Jakubowski, 4800 Boardwalk, Suite 2100, Bentor, NJ 08226				
Leslie Rudd, P.O. Box 968, Wichita, Kansas 67201				
H.J. Evans, Porto Fino, Box 8826 Corpus Christi, TX 78412				
Dan Cassin, 466 Contral, Northfield, IL 60093				
Bruce Smoller, 4400 East-West Hwy., Suite "G", Bethesda, Maryland 20814				

ATTACHMENT 6.1b

RECEIVED
JUL 31 1995
ST. LOUIS SCIENCE CENTER
FINANCE OFFICE

RESPONSE OF ST. LOUIS SCIENCE CENTER SUBDISTRICT TO SECTION 6: LEGAL CONSIDERATIONS OF FOREST PARK MASTER PLAN: SCIENCE CENTER DATED JUNE 30, 1995

Pursuant to a Ground Lease Agreement dated January 1, 1984 between the City of St. Louis, Missouri and the Museum of Science and Natural History Subdistrict (the predecessor to the St. Louis Science Center Subdistrict) the subdistrict has leased for an initial period of sixty years the ground upon which the McDonnell Planetarium facility is sited together with all "adjacent existing parking lots". The Lease encompasses the surface and subsurface areas described generally above and more specifically delineated by a metes and bounds legal description which is an exhibit to the Ground Lease Agreement. Pursuant to a Bill of Sale also executed on January 1, 1984 the City of St. Louis sold and conveyed to the subdistrict the McDonnell Planetarium Building fixtures, parking pavements, sewers, water and other utility line, appurtenances and other personal property contained in the building.

It is the opinion of the Subdistrict that its rights under existing law, leases or agreements to expand, modify, replace, relocate, re-use or remove the existing building, parking lots, roads, paths, recreation or natural areas are as set forth in the two above described documents (together with City Ordinance 58997, approved December 19, 1983 which authorizes the sale and ground lease).

The subdistrict has proposed two major improvements in and around the Planetarium (Forest Park Building):

1. Addition of an underground 3,000 square foot expansion of the existing Medical Technology gallery.

2. Expansion of the building's existing parking lot and relocation of its entry drive to the adjacent archery field.

The proposed underground expansion is within the boundaries of the property leased to the Science Center and the lease contemplates that the subdistrict, as tenant, may take on such an expansion so long as the expenses thereof are borne by the subdistrict rather than by the City. Underground expansion of this kind does not require additional property or the consent of the City as landlord under the lease.

By contrast, the proposed parking lot expansion and entry relocation would require the subdistrict to have a legal interest in the adjacent archery field inasmuch as that ground would be utilized to accomplish these particular objectives. The lease does not contain any option on the part of the subdistrict to acquire an interest in adjoining property. No other existing agreement permits the subdistrict to use the City-owned archery field for its parking lot and entry drive relocation purposes.

A copy of the applicable Bill of Sale and Ground Lease are attached. As previously noted, Exhibit A to the Ground Lease describes in the subdistrict's opinion the existing site boundaries of its Forest Park interest. The subdistrict does not have available to it at this time the exact boundaries of the archery field over which it would seek to have a future interest.

GHF:lsw

ATTACHMENT 6.2

City of St. Louis

200 City Hall
Tucker & Market Streets
St. Louis, Missouri 63103
(314) 622-3201

Office of the Mayor

Vincent C. Schoemehl, Jr.
Mayor

February 7, 1984

Mr. Dwight Crandell
Museum of Science and Natural History
5050 Oakland
Saint Louis, Missouri 63110

Dear Mr. Crandell:

Per my conversation with Dorothy at Harvey Harris' office, enclosed are fully executed copies of the Bill of Sale and the Ground Lease Agreement in connection with the sale of the Planetarium.

Also enclosed is a copy of the list of individuals interested in acquiring the Goto Projector. I hope to soon receive the equipment inventory list and will mail same to you when I receive it.

Please let me know if I can do anything else.

Sincerely,

Terry Brennan

TERRY BRENNAN

/tb

Enclosures - 3

cc/Mr. Harvey A. Harris-with enclosures

BILL OF SALE

Whereas Ordinance 58997, approved December 19, 1983 authorized the separate sale of the McDonnell Planetarium Building and personal property contained therein to the Museum of Science and Natural History Subdistrict upon certain terms and conditions severing said building from the underlying fee, title to which fee is reserved in the City of St. Louis, the surface and subsurface thereunder being leased to the Subdistrict by separate ground lease pursuant to Ordinance 58997;

Now, therefore, upon mutual and other consideration of One Dollar ($1.00), receipt of which is hereby acknowledged, the City of St. Louis and Subdistrict agree as follows:

1) The City of St. Louis hereby grants and conveys title to the McDonnell Planetarium Building fixtures, parking pavements, sewers, water and other utility line, appurtenance, and other personal property therein contained unto the Subdistrict.

2) The City of St. Louis grants and conveys its interest in a certain contract between the City and Evans and Sutherland and more particularly rights, title and interest of the City on the "Digistar" projection system now being developed by Evans and Sutherland for the McDonnell Planetarium.

3) The Subdistrict agrees to hold City harmless from any liability, costs or expense which may arise under terms of the said Evans and Sutherland contract for the aforesaid Digistar projector.

4) The City agrees to transfer to the Subdistrict the balance of the McDonnell Foundation funds in the custody of the City with interest accrued thereon less City general fund appropriation and interest earned on City general fund appropriation.

Executed this 1st day of [illegible], 1984:

MUSEUM OF SCIENCE AND NATURAL HISTORY SUBDISTRICT

CITY OF ST. LOUIS

Mayor Vincent Schoemehl, Jr.

Paul M. Berra
Comptroller

(SEAL)

Approved as to form:

Secretary

James J. Wilson
City Counselor

Register

Veronica Braddy
Register

COMPTROLLER'S OFFICE
DOCUMENT NUMBER 4825

Ground Lease Agreement

This Ground Lease Agreement, made and entered into this 1st day of January, 1984, (the "Agreement") between the City Of St. Louis, Missouri (hereinafter referred to as the "City") and the Museum of Science and Natural History Subdistrict (hereinafter referred to as "Subdistrict").

WHEREAS, the Mayor and Comptroller of the City of St. Louis (hereinafter referred to as the Mayor and Comptroller, respectively), acting for and on behalf of the City under the authority of the Revised Code and Charter of the City of St. Louis, have agreed to sell and convey the McDonnell Planetarium Facility (the "Planetarium") to the Subdistrict and to lease to the Subdistrict the ground upon which the Planetarium is sited and adjacent existing parking lots subject to and in accordance with the terms, covenants, and conditions hereinafter set forth; and

WHEREAS, this agreement was contained in Ordinance No. 58997, enacted by the Board of Aldermen, approved by the Mayor and effected on the 19th day of December, 1983;

NOW THEREFORE, in consideration of these premises and in the mutual consideration thereof, the parties hereto agree as follows:

ARTICLE I - LEASE TERM, PREMISES AND USE

1. TERM. The term of this ground lease shall be an initial period of sixty (60) years from the date of this Agreement, with extension periods thereafter of twenty (20) years contingent upon approval by the Board of Estimate and Apportionment, unless and until such time as this Agreement is terminated for cause.

2. PREMISES LEASED. The surface and subsurface area herein leased (the "premises leased") are as set forth on the survey attached hereto as Exhibit A and herein incorporated by this reference.

3. USE. The premises leased are to be held and maintained solely for the use of the citizens of the Subdistrict and the public generally. In keeping with this public purpose,

Subdistrict shall not dispense or furnish or allow to be dispensed or furnished upon or in connection with the Planetarium any product or service other than those related to the purposes of the Subdistrict, including but not limited to promotion of astronomy and space associated scientific study and public education related thereto.

ARTICLE II - INSURANCE

1. LIABILITY INSURANCE. During the term of the lease, Subdistrict shall also, at its sole cost and expense, maintain public liability insurance, naming the City of St. Louis as an additional assured on forms and in companies reasonably satisfactory to the City, against claims for personal injury, death, or property damage occurring upon, in, or about the premises leased, (including the Planetarium facility located thereon and on, in, or about the adjoining streets, passageways and parking facilities). Said insurance to afford protection to the limit of not less than $100,000 in respect to injury to or death of a single person, and not less than $800,000 in respect to any one accident, and to the limit of not less than $75,000 in respect to property damage for any one accident. Policies for such insurance may be for the mutual benefit of Subdistrict (including any entity affiliated with or acting with, under or through the Subdistrict) and the City, or the City alone.

2. POLICIES. Copies of certificates of all such policies of insurance (or the renewals thereof) showing the City as a "named insured" shall be furnished to and deposited with the Comptroller, accompanied by evidence that the premiums thereon have been paid.

3. CANCELLATION. All policies of insurance issued pursuant to the provisions of this Article II shall contain an agreement by the insurer that such policies shall not be cancelled without at least sixty (60) days prior written notice to the City.

ARTICLE III. OPERATING AND MAINTENANCE EXPENSES

1. RESPONSIBILITY. The maintenance of all grass, trees, shrubbery and other landscaping from time to time on the

premises leased, shall be effected by or at the expense of the Subdistrict subject to the written approval of the Director of Parks, Recreation and Forestry. The Subdistrict shall defray all expenses and costs related to the premises leased and all improvements located thereon (including the Planetarium), including but not limited to the following:

A. EXPENSES. All improvement, maintenance and repair expenses of the interior and exterior of the Planetarium, whether the repairs and maintenance are of a structural or nonstructural nature, ordinary or extraordinary, foreseen or unforeseen, and regardless of the circumstances under which the necessity or desirability for such repairs may occur. Maintenance and repair expenses shall include necessary or desirable painting and decorating. The maintenance and repair expenses shall include the cost of maintaining or repairing any part of the Planetarium as it now exists or hereafter may exist after the completion of construction approved by the City including improvements on the premises leased that may later be installed or added by the Subdistrict. Such parts include, but are not limited to, foundations, roofs, exterior walls, sidewalks, windows, lights, plate and other glass or glass substitute, boilers, elevators, machinery, pipes, drains, sewers, ducts, conduits, plumbing, sprinkler, heater, cooling, cleaning, humidifying and air conditioning installations, wiring, gas, steam, brine and electrical fittings, keys, locks, bolts, alarm systems, and all other equipment of every nature whatsoever. The Subdistrict may erect such fire escapes and other protective devices not present on the ~~premises~~ leased after the completion of any construction and make such other changes as the proper authorities may require. Such expenses shall also include insurance premiums paid pursuant to Article II of this agreement.

B. UTILITIES. All utilities, including water, electricity, gas, telephone, power, heat, refrigeration, air

conditioning, humidity control, sewage and waste disposal and the like.

C. WAGES. All wages, salaries, fees or other renumeration paid to any employee of Subdistrict working at the Planetarium. Such persons include, but are not limited to, parking attendants, cashiers, guards, janitors, electricians, engineers and any other person employed by Subdistrict working at the Planetarium.

2. INSPECTION. From time to time during the term of the lease, authorized personnel of the City shall at all reasonable hours (with reasonable advance notice to the Subdistrict) be permitted to enter upon and inspect the Planetarium in order to ascertain that the Planetarium is being properly maintained and kept in repair and good order by Subdistrict.

ARTICLE IV. DEFAULT

1. NOTICE AND OPPORTUNITY TO CURE. In the event of the Subdistrict's failure to comply with or perform any of the terms, covenants or agreements herein to be complied with or performed by the Subdistrict and the continuation of such failure for sixty (60) days after written notice of such failure from the City to the Subdistrict (by registered or certified mail, return receipt requested), or, if the failure is of such a character as cannot reasonably be cured within said sixty (60) day period, then upon failure by the Subdistrict within such sixty (60) day period to undertake such action as reasonably can be taken toward curing same and/or failure thereafter diligently to prosecute to completion as promptly as reasonably possible after such action is initiated, then such failure shall constitute a default entitling the City, at its option, to terminate this Agreement, upon written notice of such termination delivered to the Subdistrict, which such right of termination (and subsequent re-entry, as provided in paragraph 2 of this Article IV below) shall be the sole and exclusive remedy of the City.

2. RE-ENTRY. If this Agreement shall be terminated pursuant to the foregoing provisions of paragraph 1 of this

Article IV or the provisions of paragraph 3 of Article V, the City or its agent and servants may immediately or at any time thereafter, re-enter the premises leased and remove therefrom the Subdistrict, its agents, employees, or other persons, and all or any of its property therefrom by any legal means available to it, and the City shall be entitled to the benefit of all provisions of public local laws of the State of Missouri or such other laws as may then be available for the speedy recovery of lands and tenements held over by tenants.

ARTICLE V - MISCELLANEOUS PROVISIONS

1. RENTAL. This lease shall be upon the express consideration of One Dollar ($1.00) per year.

2. OPERATION OF PLANETARIUM. The Subdistrict shall during the term of this lease operate the Planetarium, consistent with Section 184.362, R.S.Mo., 1978, as amended, as the primary focus of the Subdistrict's astronomical and space-related science functions (including space-related collections, memorials, records, archives, manuscripts, exhibits and pictures under the Subdistrict's charge and control). In no event shall the Planetarium be vacant or used in substantial part for activities other than planetarium or science museum purposes for a continuous period of 270 days or more. Construction or reconstruction of exterior improvements upon the leased premises shall be subject to the written approval of the Mayor and Comptroller.

3. NON ASSIGNABILITY. Without the prior written consent of the other party first obtained, neither party shall assign, lease or transfer, in whole or in part, this Agreement or such party's interest in the premises leased or the improvements located thereon (including the Planetarium). This lease shall automatically and forthwith terminate if assigned, sold or otherwise transferred by the Subdistrict without written approval by the Mayor and Comptroller or if vacated in violation of terms of paragraph two (2) of Article V.

4. AUTHORITY. The City and Subdistrict warrant, each to the other, that the City, Subdistrict and their representative

signatories each has full power and authority under its articles of incorporation, charter, and the statutes of the State of Missouri to enter into and execute this agreement and the lease herein provided.

5. SUCCESSORS AND ASSIGNS. Covenants and agreements herein contained shall bind and insure to the benefit of the City, its successors and assigns, and Subdistrict, its successors and assigns.

IN WITNESS WHEREOF, this agreement was executed the day and year first above written.

CITY OF ST. LOUIS, MISSOURI

By: _____
Mayor

By: _____
Comptroller

(SEAL)

_____
City Register

APPROVED AS TO FORM:

_____
City Counselor

MUSEUM OF SCIENCE & NATURAL HISTORY
SUBDISTRICT COMMISSION

By: _____

(SEAL)

COMPTROLLER'S OFFICE
DOCUMENT NUMBER 4825

The Honorable Vincent C. Schoemehl, Jr., Mayor, and the Honorable Paul M. Berra, Comptroller personally appeared before me and having been duly sworn affixed their signatories as official acts on behalf of the City of St. Louis this 2nd day of February, 1984.

_____
Notary Public

My commission expires: 12/12/84

MARY T. BRENNAN
NOTARY PUBLIC, STATE OF MISSOURI
MY COMMISSION EXPIRES 12/12/84
CITY OF ST. LOUIS

Elwood Clay on behalf of the Museum of Science and Natural History Subdistrict of the Metropolitan Park and Museum District personally appeared before me having been duly sworn, affixed his signatories as the official act on behalf of the Subdistrict this 9th day of January, 1984.

Dorothy Zurheide
Notary Public

My commission expires: May 24, 1986

DOROTHY ZURHEIDE
NOTARY PUBLIC
ST. LOUIS COUNTY
STATE OF MISSOURI

MEMORANDUM

TO: Dwight Crandell
Tom Jaskiewicz

FROM: Dennis M. Wint

DATE: September 20, 1993

SUBJ: Lease with City

RECEIVED
SEP 23 1993
ST. LOUIS SCIENCE CENTER
FINANCE OFFICE

In a recent conversation with Dan McGuire, Dan suggested we review our lease with the city and investigate modifications to bring it more in line with leases of the other institutions in Forest Park.

I was unaware of this, but Dan indicated our lease is more restrictive than the other institutions. He recommended we add this to our agenda for the Forest Park summit in December.

I would be appreciative if you would do the following:

- Review the Science Center lease and compare to the other Forest Park institutions
- Recommend language similar to the other institutions to modify our lease

I will need this information by October 8.

If you have questions or need clarification, please contact me.

Many thanks.

DMW/shh

DEPARTMENT OF PARKS, RECREATION & FORESTRY
CITY OF ST. LOUIS

5600 CLAYTON ROAD 63110
IN FOREST PARK

FREEMAN R. BOSLEY, JR.
MAYOR

DIRECTOR
(314) 535-5050
FAX (314) 535-3901

DIVISION OF PARKS
(314) 535-0100

DIVISION OF RECREATION
(314) 535-0400

DIVISION OF FORESTRY
(314) 535-0075

August 30, 1995

I would like to take this opportunity to thank you for your recent presentation to the Forest Park Master Plan Executive Committee regarding future plans of your institution. Since your presentation, the Executive Committee has reviewed your proposals in detail and has determined that your plans generally meet the requirements outlined in the Goals and Policies.

Enclosed please find a list of concerns and questions that were generated regarding your proposal. Members of the Design Team will be contacting you in the near future to clarify these points. Your assistance in reviewing this information would be appreciated.

I would again like to thank you for your continued assistance and support in this important project.

If you have any questions, please contact me.

Sincerely,

Gary D. Bess, Co-Chairman
Forest Park Master Plan
Executive Committee

INSTITUTIONAL PROPOSAL
SCIENCE CENTER

Preliminary review - August 24, 1995

	comments
1. PURPOSE	
2. DEMONSTRABLE NEEDS	*- Need for parking in Forest Park not clearly established*
3. LAND USE	
DEVELOPMENTS	
- GENERAL	
- PERMANENT BOUNDARIES	*- will be affected by the resolution of the parking layout*
- FACILITIES	*- Needlocation of exhibit area to determine impact of construction*
- PROGRAMMING	*- Suggest environment and ecology section of museum be in Forest Park facility and relocate Bowl Lake area*
- IMPACT ON SURROUNDING USES	*- Negative impact on archery*
- ALTERNATIVE DEVELOPMENTS	
4. LANDSCAPE	*- need landscape mitigation*
5. ART, ARCHITECTURE, AND INFRASTRUCTURE	*- Parking structure over River Des Pere is "cost prohibitive" not impossible.* *-need alternative parking schemes investigated*
6. ACCESS, CIRCULATION, AND PARKING	*- Not assessed in detail, preliminary concerns* *- re-examine parking needs in Forest Park* *- should improve vehicular and pedestrian safety. Any parking lost to these improvements should be on the Oakland side.* *- There is a unique opportunity to move parking out of park* *- Develop option to improve the efficiency of the existing parking in park* *- consider re-locating all parking to the Oakland with transit drop-off and ADA parking only in park* *- impact of fee parking in the park vs. paid parking on Oakland site* *- question the need to take Faulkner Drive out* *- amend signage system for improved access* *- consider relocating employee parking* *- impact of the parking for the medical complex* *- SC does not pay parking lot tax*
7. ECONOMIC	*- Not assessed*
8. LEGAL	*- Not assessed*
9. NO NET LOSS OF OPEN SPACE	*- Not assessed*
0. GENERAL	*- Is the expansion final?*

FOREST PARK MASTER PLAN

S a i n t L o u i s

LONG TERM PLANNING SUMMARIES
for
FOREST PARK MUSEUMS AND CULTURAL INSTITUTIONS

THE M U N Y

30 J U N E 1 9 9 5

Introduction

The Executive Committee for the Forest Park Master Plan has, to date, approved ten Design Principles, and a more detailed concept design for the passive open space system and the golf course. At this point in the design process, the project team is to develop detailed design recommendations. An essential aspect of this stage of the design process is to analyze the "Long Term Planning Summaries for Forest Park Museums and Cultural Institutions" dated January 1995 submitted to the Executive Committee. The Executive Committee will review the project teams' analysis, and approval or disapprove, in whole or in part, any one of the proposals, after review and comment by the Forest Park Master Plan Committee and the general public.

Review Process

The Executive Committee has agreed to the following decision-making process.

Step One: Museums and Cultural Institutions complete enclosed questionnaire and have a work session with the Design Team.

Step Two: Design Team prepares analysis of proposals based upon approved work to date and in particular, the proposals' implications on the natural system, as well as the access, circulation and parking system.

Step Three: Design Team discusses analysis with respective Museums and Cultural Institutions and makes any necessary modification.

Step Four: Design Team presents analysis to Ex. Committee. Ex. Committee makes decision on each proposal and instructs design team to incorporate decision into the conceptual design.

Step Five: Design Team presents conceptual design to Ex. Committee including the findings of the no-net-loss-of-open-space calculation. Ex. Committee reviews, agrees to, or modifies previous decision on the Museums and Cultural Institutions proposals.

Step Six: Design team presents conceptual design, analysis of Museums and Cultural Institutions proposals, and Ex. Committee recommendations regarding the proposals to the Forest Park Master Plan Committee for review and comment.

Step Seven: Design team presents conceptual design, analysis of Museums and Cultural Institutions proposals, and Ex. Committee recommendations regarding the proposals to the public for review and comment.

Step Eight: Ex. Committee makes final draft decision on conceptual plan, and Museums and Cultural Institutions proposals.

Review Criteria

The Goals and Policies dated January 17, 1995 as approved by the Board of Alderman require any "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas" to meet certain criteria outlined in policy 3.1.2. In addition, it is understood that any proposal will also meet all other goals and policies, and the ten design principles and conceptual design completed to date. It is the project teams role to prepare an analysis of the proposals based upon the criteria in 3.1.2, and all other goals and policies.

Purpose of Questionnaire

The purpose of this questionnaire is to collect any necessary outstanding information to prepare an analysis of your proposal and to confirm that we have correctly understood the information we have received to date. In addition to this questionnaire, we would like to tour your existing facility and discuss any aspect of your operations and future plans that you feel needs consideration in this analysis. This questionnaire has six sections, each addressing an area important to the development of the project teams analysis:

Section One:	Executive Summary of Proposal
Section Two:	Existing Facility Analysis
Section Three:	Proposal: Purpose, Demonstrable Need, and Detailed Statement of Need
Section Four:	Alternative Development Analysis
Section Five:	Economic Viability
Section Six:	Legal Considerations

Please note: This document and the contents herein together with the project team's analysis of each proposal will be made available to the public.

SECTION ONE: EXECUTIVE SUMMARY

1. Please outline your proposal, its purpose, need and, legal and economic viability.

As a result of a long-range planning process which began in 1992 The Muny has a clear vision of its future. It will continue to produce the traditional Broadway musicals that nearly 500,000 St. Louisans have enjoyed each summer since 1919. However, to do that, The Muny must renovate and modernize its aging physical plant, some of which dates back to 1917.

Included in the planning process was a 1993 consumer awareness study, conducted by Maritz Market Research, which identified three major points of dissatisfaction. They are a lack of adequate rest room facilities, inaccessibility of concessions, and an insufficient quantity of proximate parking. To continue to attract and build its audience, The Muny must address these issues.

The long-range planning committee determined that there is no way that The Muny can accomplish this level of renovation and improvement without conducting a capital fund drive. The operating costs of The Muny are 95% funded by earned income, which consists primarily of ticket and concession sales. The remainder of the budget is met through charitable contributions and sponsorship programs. The Muny is not a member of the Zoo/Museum District and receives no tax-based funding.

As The Muny develops its master plan, it seeks to accomplish two basic goals:

1. **Restore and preserve its buildings and fixtures to provide a safe and efficient theater platform**

2. **Improve its basic customer services including renovating rest rooms and bringing them into ADA compliance, updating its concession operations, and making its facility accessible to everyone in order to maintain its current level of operations**

There are some important issues related to the Forest Park planning process that are vital to The Muny's ability to continue into the next century. We believe that these can and will be resolved in a manner which will accommodate The Muny's needs, and at the same time remain within the goals and policies of the Forest Park Master Plan.

The Muny believes that all of proposed renovations are in compliance with Section 3 of the goals and policies. All of the proposed development under consideration is centered around remodeling existing facilities and enhancing audience services. No additional space is being allocated for administrative purposes, no increase in park activity is anticipated, and there will be no impact on the park's natural systems.

While The Muny could exist in the short term if none of the proposed renovations were completed, its long-term health would be severely damaged by not allowing for adequat services to its audience. Also, if certain repairs are not made in the near future, the continuing deterioration of the physical facilities will make it necessary to completely replace them at a much greater cost.

The Muny has two significant concerns regarding the Forest Park Master Plan. The theatre's future depends on patron access and available parking. The quality and quantity of parking and access must be maintained.

The Muny does not seek additionai parking, however, any component of the plan for Forest Park that eliminates available on-street and/or off-street parking or restricts access by patrons to and from the theatre would be detrimental to the long-term viability of The Muny. The lower parking lot provides disabled patrons with The Muny's most accessible parking. This lot is the only parking area that offers a direct and proximate route to the theatre without any steps or steep inclines. The Muny is supportive of joint use of parking areas and will participate with the Parks Department and other institutions in coordinating their use.

In summary, The Muny seeks to:

* increasing audience access to the theatre

* increasing access to its concession and rest room facilities

* maintain current quality and quantity of parking and road access

* preserve its capacity to produce quality musical theatre into the next century

SECTION TWO: EXISTING FACILITIES ANALYSIS

Please provide the following information for all your facilities.

Forest Park Facility:
Name/address

The Muny in Forest Park, St. Louis, MO 63112

Facility Use/Description

The Muny, a 12,000 seat open-air theatre, attracts approximately 500,000 visitors annually to 49 performances of Broadway musicals during a seven to eight week season that runs between June and August.

Area: **Approximately 16 acres (see enclosed Muny Master Plan attachment A1)**

Facility Use:

Exhibit Space		
Seating & Stage Areas		110,000 Sq. Ft.
Support Space		
Dressing Room Building - level 1	4,836	
Dressing Room Building - level 2	4,836	
Sub-total	9,672	
West Pavilion	9,900	
West Pergola Toilet & Carpenter Locker Room	1,102	
Administration Building - level 1	9,821	
Administration Building - level 3	1,809	
Other	55,000	
Total		87,304
Administrative Space		
Administrative Building - level 2		7,733
Visitor Service Space		
Concession - 1	1,580	
Concession - 2	970	
Concession - 3	1,353	
Concession - 4	980	
Sub Total	4,883	

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Toilets			
	Rock house	**413**	
	East Men's & Support	**2,735**	
	East Women's	**2,640**	
	West Men's	**1,212**	
	West Women's	**1,212**	
	Sub Total	**8,212**	
Culver Pavilion		**10,800**	
Pergola		**53,000**	
	Total		**76,895**
Outdoor Space			**385,168**
	GRAND TOTAL		**667,100 Sq. Ft.**

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

Initial field surveys have identified the following potential improvement projects. Many are necessary to ensure a safe and serviceable physical plant. Others would make The Muny more attractive to its patrons.

- **Repair of auditorium surface**
- **Replacement of seating**
- **Replacement of stage wood**
- **Replacement of the backstage concrete structure**
- **Improvement of east lawn area including:**
  - **Rock house rest room replacement/enlargement**
  - **Replace and enlarge catering kitchen**
  - **Improvement of the east lawn landscaping**
- **Improvement of the south entry including:**
  - **Pergola structural repair**
  - **Concession relocation**
  - **Toilet relocation/fixture increase**
  - **Light booth replacement**
  - **Ticket booth replacement**
  - **Street relocation/new south entry plaza**
  - **East & west retaining wall reconstruction**

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Improve east concessions/toilets
- **Improved lighting**
- **Additional cashier locations**
- **Temporary stand replacement**
- **Improved appearance/signage**
- **New concessions office/storage**
- **Toilet expansion**

Improve west concessions and rest rooms
- **Additional cashier locations**
- **Temporary stand replacement**
- **Improved appearance/signage**
- **Toilet expansion**

Construction of a new concession stand
Repair and renovation of the dressing room building
Improvements in handicapped accessibility
Pergola restoration at east/west/north
Light bridge replacement
West rehearsal landscaping
Renovation of the administration building

Project costs have yet to be determined. Details will be forwarded as soon as they are available.

SECTION THREE: PROPOSAL: PURPOSE, DEMONSTRABLE NEED & DETAILED STATEMENT OF NEEDS

NOTE: This section refers only to the facility within Forest Park

1. Please clearly state the purpose of your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas".

   The purposes of the proposed projects listed in Section Two are to preserve The Muny, improve safety, audience services, the overall function of the facility, and to comply with the ADA. The Muny has no plans for expansion beyond its designated area.(see Muny Master Plan attachment A2) Some projects will involve modest increases to existing built areas required to accommodate adequate rest rooms, and to improve concession service and patron access.

2. Please provide demonstrable need for your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas".

In 1993, The Muny commissioned a marketing analysis study conducted by Maritz Marketing Research Inc. to determine levels of customer satisfaction/dissatisfaction with its operations. Three of the areas with which patrons indicated dissatisfaction were lack of adequate rest room facilities, inaccessibility of concessions, and insufficient quantity of proximate parking. The study stated, "*Primary opportunity areas for The Muny are factors which are highly important to the General Population but with which fewer in the General Population are extremely satisfied. ...Placement of vendors and availability of parking represent primary areas for The Muny to focus on to improve performance and increase satisfaction. ...These attributes of highest vulnerability represent areas which may result in the driving away of customers if The Muny does not improve perceptions regarding them.*"

Two of these concerns, rest rooms and concessions, are being addressed through The Muny's current master planning process and proposed renovations.

Projects include:

a) Concession areas and rest rooms: The current visitor operations are inefficient and disorderly; not all patrons can be served during the 15 to 20 minute intermission.

The Maritz study demonstrated that concession access and service times need improvement. The current design of the concession area precludes operation during the performance. Also, the nature of concession operations has changed dramatically since the most recent stand renovation in 1972. The fixture and electrical needs to support the greatly expanded variety of concession offerings must be addressed to meet current patron demands. The proposal calls for expansion and redesign of the concession areas with state-of-the-art equipment and an updated sales and merchandising approach to better meet the demands of Muny patrons.

Because of the short duration of the intermission, it is impossible for patrons to use the rest room facilities and also visit the concession stands. Although the current number of rest room fixtures meet building code, they must be increased to help meet the demands of such a peak load. In addition, all concessions and rest rooms need to be improved and brought into compliance with the ADA.

b) Culver Pavilion facilities and rest rooms: The Muny proposes to provide a permanent catering kitchen to serve the Culver Pavilion Restaurant which is operated for the benefit of its subscribers on performance evenings. The adjacent rock house is the only rest room on the east side of the theatre for patrons who arrive early, picnic or dine in the restaurant. Currently there are only four stalls for women, and none of these are in compliance with ADA.

c) Entrance from the upper lot: The entrance from the upper lot is functionally and operationally inefficient for both The Muny and its patrons. In addition, the south entrance is not ADA compliant. The rest rooms and concession area serving the back of the auditorium are located across the street from the actual entrance to the theatre. Not only are these facilities remote, but they are inadequate and outdated. Additionally, the ticket office in this location is a concrete block building with no electronic hook-up to the main office. The proposal calls for the relocation of the ticket office and enlarged rest rooms and concession area to the theatre side of street. This project would require relocation of the road and reconfiguration of the parking lot.

d) Replace the auditorium seats: The auditorium seating which was installed in 1968 requires replacement. Parts are no longer available and the supply of reserve parts is dwindling. Once depleted, any further breakage will result in loss of available seating. The proposed modern stadium seating is mounted on risers to improve maintenance, sight lines, and comfort.

e) Restore the auditorium surface: Much of the existing concrete auditorium was poured in 1917. During the past 78 years, this concrete has settled, shifted, and cracked and the auditorium surface is now in an advanced stage of disrepair. The entire auditorium surface needs to be restored.

f) Replace the concrete back-stage wings: Over time, the elements have seriously eroded the concrete base of the back-stage wings. In 1987, temporary measures were taken to shore up the back-stage area. While structural inspections and repairs are made on a regular basis, permanent replacement is required.

g) Resurface the revolving stage floor: The wooden revolving stage, which is essentially a 45-foot hardwood turntable that is completely exposed to the elements, was last replaced in 1978. It should be dismantled and the sub-flooring and hardwood surface floor needs to be replaced.

h) Enhance the technical system: Contemporary musical theatre requires high-tech lighting, sound technology, and special effects. The existing light bridge which spans the stage nearly 50 ft. above the box seats was not designed for today's equipment. The existing light booth should be replaced in conjunction with the improvements of the south entrance.

i) Clean and repair all promenades: The limestone and concrete pergolas that surround the theatre and provide shelter during rain delays must be thoroughly cleaned and in some cases repaired to add a fresh look to the theatre. Timely attention to the pergolas will prevent serious damage and high maintenance costs in the years ahead.

j) Landscape the grounds: The entire area surrounding the theatre and adjacent to the Culver Pavilion should undergo extensive landscaping.

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Parking, the third concern identified in the Maritz study, remains of great importance to The Muny and its audience. The Munys position on the available parking continues to be that it is not seeking additional parking, but must maintain the current quantity and quality of parking and access for its audience.

3. Please describe your proposal in detail including the development timeline, any expected programming changes and parking requirements. Enclose any documentation, drawings or renderings to illustrate the proposal. Describe any existing or proposed development outside the park that supports or influences your proposal.

The Muny is in the process of creating a master plan that will detail its needs and propose a development time line. A draft copy is attached. Additional drawings and a more complete plan will be presented as they are developed. All proposed improvements are within the attached site plan boundaries.

4. Please describe the exact final and permanent boundaries of any expanded open or enclosed area. Please clearly show any required dedicated parking area and the areas which you will maintain.

The Muny's designated area (A2) is approximately 16 acres and no increase in the area is proposed. The current BPS permit does not define any boundary limits. Specific boundaries could be established in a lease arrangement with the City of St. Louis.

The Muny currently has no dedicated parking within its designated area. The Muny utilizes the parking areas only during the summer months. Programming in the upper and lower Muny lots is done through the Parks Department and is used by many different groups for a variety of functions.

Enclosed area expansion will include: Culver Pavilion rest room and catering kitchen, east and west concession/toilet expansion and the south entrance project. Final project scope on each is still being developed and will be submitted in detail when available.

5. Please describe the quantitative limits of any future enclosed expansion within the above mentioned final and permanent boundaries.

As a result of its long-range plan and as described in the attached Preliminary Project Listing, The Muny proposes to build additional enclosed facilities that will modestly increase the built area within its designated area, including: Culver Pavilion rest room and catering kitchen, east and west concession/toilet expansion and south entrance project. The exact size of these additions are yet to be determined. Additional drawings and plans will be provided as they are developed. Upon completion of improvements now envisioned, The Muny has no plans for additional expansion.

6. Detailed Statement of Needs

a. Space Requirements

	Existing 1995	Year 2004	Long-Term
Public Area	**110,000**	**110,000**	**(No significant changes are planned)**
Production Support Area	**90,990**	**90,990**	
Visitor Service Area	**76,895**	**84,695**	
Administrative Area	**4,500**	**4,200**	
Outdoor Area	**385,168**	**390,401**	
Total	**667,550**	**684,183**	

Please specify any special space needs that might have an effect on planning adjacent park areas or your facility.

a) Parking: Any component of the plan for Forest Park that eliminates available on-street and/or off-street parking or restricts access by patrons to and from Muny productions would be detrimental to the long-term viability of The Muny. It is also important to note that the lower Muny lot provides The Muny's disabled patrons with its most accessible parking. The lower lot is the only lot that offers a direct and proximate route to the theatre without any steps or steep inclines.

b) Culver Pavilion event use: The Muny is investigating using the Culver Pavilion for special events. This will require direct connection to and ongoing use of the lower parking lot.

c) The Muny believes that any proposal that would remove the lagoon that currently runs beneath the back-stage could eliminate the water and nutrient source for the large trees on stage. These trees are critical elements in the unique character of The Muny and must be preserved and cultivated.

b. Employment Statistics

	Actual 1995	Year 2004	Long-Term
Full-time Staff	**13**	**13**	**13**
Part-Time Staff	**500 +**	**500 +**	**500 + (mid May - mid August)**

NOTE: The number of employees begins to build in early May, reaches a peak in June, July and early August and then begins to dwindle in September. These numbers reflect the total number of part-time/seasonal employees that are employed during the production season.

Seasonal Staff **(see above)**

Special Events **N/A**

Please specify any special needs for your employees and in particular, your views on remote parking with shuttles for your employees.

For nearly nine months of the year, the thirteen full-time employees park in the back-stage lot at The Muny. Remote parking is not needed.

During the summer months, in the daytime hours, the staff parks on the lower Muny lot. During evening performances the lower lot provides The Muny's most accessible parking for disabled patrons. This lot also provides secure parking for those employees who must remain after the show to complete their duties. The Muny is willing to consider the use of shuttles, if required.

c. Visitor Statistics

	Actual 1995	Year 2004	Long-Term
Annual (Total)	**@500,000**	**@550,000**	
Monthly Average	**@150,000**		
Monthly Peak	**N/A**		
Monthly Low	**N/A**		
Daily Peak	**11,000**	**11,500**	**(NOTE: Only during evening hours)**
Hourly Peak	**11,000**	**11,500**	**(peak hours; 7 p.m. to 11 p.m.)**

Special Events

(Under direction of the Parks Department, events occur on the upper and lower Muny lots. The Muny does not control use of the upper or lower parking lots except during the evening hours on show nights by permission of the Parks Department.)

Please specify any special needs for your visitors and in particular, your views on remote parking with shuttles for your visitors.

The practicality of shuttles to and from The Muny is greatly diminished by the fact that all of the theatre's approximately 12,000 patrons exit the theatre at the same time. The number of patrons that can be effectively transported makes it an unattractive alternative. To transport half of its patrons by shuttle, averaging 50 people per bus, would require 120 bus trips. This is unrealistic--meaning fewer buses making multiple trips would be used. At optimum, each trip would take 15 minutes, assuming these buses had dedicated streets with no other traffic. Even using 20 buses, which would be very costly, the last group would need to wait 1.5 hours after a performance (which usually end at 11:00 p.m.) for a bus. The Muny does not believe that its patrons would continue to attend its productions under such circumstances.

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This is not to state that The Muny is not supportive of public transportation. It currently contracts with Bi-State Development Agency to provide a shuttle to and from the DeBaliviere MetroLink station. Ridership figures for this service averaged 42 patrons per night during the 1994 season. In addition, Bi-State runs bus service to The Muny from St. Claire Square, Alton, Edwardsville, and Belleville, Illinois, on Friday evenings and North County, West County and South County shopping centers in Missouri on Wednesday nights. This bus service averages 291 patrons per night from Illinois and 355 per night from Missouri. Historically, other nights of bus service have been eliminated due to lack of ridership.

The Muny has and will continue to encourage arrangements with local restaurants, such as Cheshire Inn, to provide transportation to and from the theatre as part of a dinner/theatre package. Partnerships have been established with office building concierges to promote the use of building parking structures by employees during the evening hours on Muny nights in conjunction with downtown restaurants and MetroLink to create a coordinated evening which eliminates the need to use cars.

Historical data and current usage indicate that public transit will only transport a very small percentage of patrons to and from the theatre. The Muny will, however, continue to subsidize and promote alternative means of access provided it remains an option and not a requirement.

Please provide existing operational plans for special events as they relate to any park planning considerations.

The Muny is investigating using portions of its facility, such as the Culver Pavilion for special events (weddings, private parties, etc.). The lower Muny lot is essential to this concept as it provides the only proximate parking for such a facility. This new use is contingent on revisions to the current permit which only allows theatrical use.

d. Access, Circulation & Parking

Please Note: Given previous traffic studies by the museums and cultural institutions and the interviews conducted by the design team's traffic engineer, information is in place to calculate existing access and parking space requirements in a consistent manner. Therefore, the most important information each institution can provide is the alteration in daily visitation resulting from the proposed site modifications.

The Muny anticipates no change in parking requirements resulting from its proposed renovation and improvement. Proposals which would be of concern to The Muny would be removal of any on or off-street parking within a 3/4 mile radius or removal of any roads within a 3/4 mile radius, particularly Government Drive, which would restrict access to and egress from the facility.

	Existing 1995	Year 2004	Long-Term
No. Parking Spaces			
i) Off-street	**1,200**	**(No significant change is envisioned.)**	
ii) On-Street	**3,000**	**(The Muny currently calculates audience parking demand at 11,400 capacity/2.75 occupants per vehicle which = approximately 4,200 spaces required)**	
No. of Tour & School buses	**N/A**		
No. of visitors by transit	**5,243 (per year)**	**(Unable to predict future ridership)**	
No. of employees by transit	**Very few**		
Special event needs	**N/A**		

Please specify any special access, parking or circulation requirements. Specify any important locations for drop-off at your facility.

Drop-off for the lower seating area is provided at the northeast corner of The Muny on Theatre Drive. Drop-off for the upper seating area is located along Summit Drive.

Also, during performances, Theatre Drive between The Muny Box Office and the Nathan Frank Bandstand is barricaded for parking of Muny Guarantors, who receive this popular benefit in appreciation for their support. The Guarantor program provides significant unearned income to The Muny.

Do you have any plans or desires to convert any of your dedicated parking to a fee generating lot?

The Muny has no dedicated lots.

Please describe your views on the provision of structured or underground parking on existing lots under your jurisdiction and on structured or underground parking in general in the park.

Currently, there are no lots under the jurisdiction of The Muny. As long as the quality and quantity of parking and access for Muny patrons is not diminished, The Muny has no objections to structured or underground parking in the park.

Please describe any parking fee structure that applies to any parking lot under your jurisdiction. Who receives the revenue from the parking lot? What are the operational and maintenance costs of the parking lot? Who determines the fee structure? On what basis is the fee structure determined? Do you expect the rates to be increase in the near future?

The Muny collects no parking fees.

Please describe your views on the importance of the park wide Shuttlebug, and MetroLink to your facility.

Because Muny patrons arrive and depart in large numbers during a short time period the Shuttlebug, MetroLink, and the Muny shuttle are comparatively insignificant to effective operations. In addition, the current operational hours of the Shuttlebug do not extend into the evening. The Muny will continue to support and encourage public transportation because it provides access to patrons who cannot or do not wish to drive.

Please describe your views on the use of remote parking lots for employees and/or visitors if they are served by the Shuttlebug.

For most of the year, The Muny's thirteen full-time employees park on the back-stage lot making any shuttle service unnecessary. Employee use of a shuttle during May through August would be considered.

During the day, the short time required for ticket purchase makes shuttle use impractical.

Would you support a year-round Shuttelbug system? Describe any important Shuttlebug routing issues as they relate to your facility.

(See above)

Do you have any current or proposed policies to encourage employees to use transit on their daily commute?

No

e. Specify any other detailed design park-wide improvement and/or site considerations that are important to the success of your facility, including specific hourly, daily or location parking restrictions in the vicinity of your institution.

The quantity and quality of parking currently used by its patrons is of vital importance to The Muny.

The Muny could be better served if parking were more effectively managed. Potential parking areas in the vicinity of the theatre, for example Government Drive from Washington Drive to the Boat House, currently have parking restrictions during The Muny's performances.

SECTION FOUR: ALTERNATIVE DEVELOPMENT ANALYSIS

1. Given your investigation of existing facilities for your institution, please describe how you can increase efficiency of space utilization in order to avoid unnecessary expansion in the park per policy 3.1.4. Please submit supporting documentation.

In keeping with Park Policy 3.1.4., the facility needs of The Muny have been analyzed. The Muny is not seeking to expand its operations outside its designated area. Proposed renovations will lead to re-allocation of space within existing buildings. Those renovations/additions that will modestly increase the built area are dedicated to improving patron services that cannot be accomplished within existing buildings.

2. If your institution reduced its proposed level of development in the park per policy 3.1.2, please describe the implications. Please submit supporting documentation.

Since the level of development is so modest, The Muny has not identified any method of reducing its level of development in the park. All proposed development is focused around remodeling existing facilities and enhanced patron services. Development outside the park would not address these issues.

3. Please describe the findings from an investigation of no development in the park per policy 3.1.2. Please submit supporting documentation.

While The Muny could exist in the short term under the "no further development" policy, this would severely damage its long-term health by not allowing it to provide adequate services to its audience and by impeding its ability to effectively produce high-quality theatre into the next century.

4. Please describe the findings from an investigation of any new or expanded land uses outside of the park per policy 3.1.6. Please submit supporting documentation.

To date, no practical off-site functions have been identified, therefore, no land uses outside the park have been considered.

SECTION FIVE: ECONOMIC VIABILITY

1. Please provide a cost estimate of the proposed development.

A master plan for the preservation, renovation, and improvement of The Muny is being developed. Cost estimates will be an integral part of The Muny Master Plan. When available, they will be forwarded.

2. Please provide firm evidence of your financial ability to complete the project. Enclose supporting documentation.

The implementation of the development plan is dependent upon the success of an on-going fund raising program that began in 1994. It should be noted that The Muny is not a member of the Zoo/Museum District and receives no tax-based funding. The operating costs of the Muny are 95% funded by earned income, primarily ticket and concession sales.

SECTION SIX: LEGAL CONSIDERATIONS

1. In your opinion and in the context of your proposal dated January 1995 as submitted to the Executive Committee of the Forest Park Master Plan, what are your "rights under existing law, leases or agreements, if any" to expand, modify, replace, relocate, re-use, or remove the existing buildings, parking lots, roads, paths, recreation, or natural areas? (policy 3.1.2) Please attach supporting materials.

The Muny is currently operating in the park by permit from the Board of Public Service through 2006. Any adaptation to the physical plant must be submitted to the current review process through the Parks Department, and other city boards and committees as established by ordinance.

The Muny is interested in investigating a long term lease arrangement with the City of St. Louis.

2. Please state in your opinion, your existing jurisdictional or site boundaries. Please attach supporting materials.

Attached is a map indicating the limits of current operations. (A1)

3. Please state the exact proposed boundaries of any expanded area and, if different, the final permanently defined boundaries to development.

The Muny does not currently propose to expand its designated area beyond that indicated on the attached map. (A2) These are preliminary plans and more detailed drawings will be forwarded as soon as possible.

MUNY MASTER PLAN

1. Preliminary Project Listing
2. Key Plan
3. Boundary Plan

July 20, 1995

MUNY MASTER PLAN

Preliminary Project Listing

A.1 Seating Area and Ramps

- Seat Replacement
- Concrete Restoration/Replacement
- Improve Landscaping

The concrete which forms the seating area will be restored to provide a long term surface. New seats will be installed, replacing seats that are almost 30 years old. An increase in handicapped seating may also be provided. Minor improvements to existing landscaping is also anticipated. A more significant change will be an improvement in the signage to aid patrons in reaching their seats.

A.2 Stage Wood Replacement

A recurring maintenance item for the Muny is the replacement of the wooden stage. This is the nature of outdoor theatre, in which minor repairs are made annually.

A.3 Backstage Concrete Structure Replacement

- Paint Frame Removal

The concrete platform and access ramp behind the stage have deteriorated. They are inspected annually and have been adequately braced. However, a more permanent solution is required; this solution will be complete replacement of existing structure and deck. The paint frame is no longer used as originally intended and will be removed.

A.4 Improvement of East Lawn area

- Rockhouse Toilet Replacement/Enlargement
- Improved Catering Kitchen
- East Lawn Landscaping; Drainage, Fountain Repainting, Tree Replacement, etc.
- Small Prop; Storage at Platform; 100 Ø ±
- Improve Concession Stand #1

The East Lawn including the Culver Pavilion are used for a variety of pre-performance activities. Concessions are provided through concession stand #1 and a buffet dinner service is operated in the Culver Pavilion by a contract caterer.

The most significant deficiency in this area is the Rockhouse restroom facility. Currently, preshow lines at this facility are unacceptably long, and details in no way comply with requirements of ADA. In order to accommodate patrons the facility should be increased from it current nine (four women, five men) fixtures to at least 20 with the majority being provided in the women's section (15 women, five men). This expansion will increase the built area from approximately 250 square feet to approximately 1,250. The existing facility would be demolished and replaced with a new structure, which directly connects to the pavilion.

The improvement of the catering kitchen will also increase building area in order to provide a permanent location for refrigerators, freezers, sinks, and other kitchen equipment. The area required will be from 500 to 750 square feet. The new catering kitchen will be constructed inside the fenced area approximately on the site of the existing temporary structure.

The lawn area between the Culver Pavilion and the Muny is used as a picnic area prior to shows. The area will be regraded to improve drainage. Improvements will also be made to lighting and landscaping.

Small prop storage area will be provided on the platform for support of shows in rehearsal.

Improvements to Concession Stand #1 will probably be limited to signage and graphics improvements and tie in to other concession new appearances.

A.5 South Pergola/Entry

- Pergola Structural Repair/Seismic Retrofit
- Concession Relocation
- Toilet Relocation/Fixture Increase
- Light Booth Replacement
- ~~Ticket Booth Replacement~~
- Street Relocation/New South Entry Plaza
- Paying/Free Seat Usher Control
- E&W Retaining Wall Reconstruction
- Landscape improvements

The improvement of the south pergola and entry will be a major project. A number of factors combine to create this project. First, deterioration of the structure makes continued repairs impractical, in their increasing frequency and scope. If major structural repairs are implemented, demolition and reconstruction in conformance with seismic requirements become necessary. Changes in technology require an improved spotlight booth enclosure which is located on the center portion of the pergola.

The road serving the south entry runs between the concession stand/restroom building and the ticket booth. It is proposed that the road be relocated to the south in conjunction with the demolition and reconstruction of the pergola and construction of a new ticket booth, concessions, restrooms, and light booth and improved handicapped access. While the plans for this project are very preliminary, it is clear that the project would require new construction and be in keeping with the original architecture of the area, and result in additional sidewalks to serve Muny patrons.

Other repairs to retaining walls and landscaping improvements would be implemented in the same area.

A.6 Improve East Concessions/Toilets

- Improved Lighting
- Additional Cashier Locations
- Bottleneck Problem
- Temporary Stand Replacement
- Improved Appearance/Signage
- New Concessions Office/Storage
- Toilet Expansion; Convert Existing Men's to Women's, Add New Men's with Reduced Fixture Count

One of the Muny's most significant operational problems is the inadequacy of concession service. This is due both to the limited time available in intermission, and the existing low number of service points. In addition, the current location of the concession office and storage takes valuable space that can be utilized for dressing rooms and restrooms supporting performances.

The proposed project will expand the number of cashier locations, improve signage, and provide a new location for the concession office and storage. Concession stands will continue to be located up and down the ramp, however, the queuing area will be increased. This will increase the footprint of the east and west pergolas.

Increase in total toilet fixture count will be included to alleviate the existing unacceptably long women's lines. All existing toilet space will be devoted to women's use. A new men's toilet with reduced fixture count will be built as part of concession expansion. The proposed project will result in an increase in the footprint of the building.

A.7 Improve West Concessions/Toilets

A.7.A Concession 4

- Improved Lighting
- Additional Cashier Locations
- Bottleneck Problem
- Temporary Stand Replacement
- Improved Appearance/Signage
- Toilet Expansion: Same as East

Improvements here will be similar to those for the East Concession Stand but will not include the office and storage space. The building footprint will expand slightly.

A.7.B New West Concession

A new concession stand will be built in the area which is now part of the backstage.

A.8 Dressing Room Building; No Change in Footprint

Repairs

- Roofing
- AHU Siding

Renovation

- Additional Dressing/Change Rooms
- Second Star Dressing Room
- Improved Toilets/Showers
- Orchestra Change Room Enlargement
- Percussion Storage

Dressing Room Building is in need of a variety of routine repairs and internal reallocation of space to support shows. The relocation of the concession office and storage is required prior to the reallocation of space.

A.9 New Signage System

Existing signage is antiquated or non-existent. In conjunction with the seating replacement and improvements to concessions, the signage of the facility will be upgraded. This is intended to upgrade the appearance of the Muny as well as provide better service and ease in seating for patrons.

A.10 West Toilet Enlargement to Match East (See A.6 and A.7)

In a manner similar to the East Toilet enlargement, the west facility will be expanded.

A.11 Accessibility Strategy

- Wheelchair Seating Area Size
- Toilet Access
- Concession Access

The restoration of the auditorium surface will include the provision of adequate handicapped seating. Restroom will be modified to accommodate the handicapped and concessions improvements will recognize the need for access.

A.12 Electrical Supply to All Concessions

The function and location of concessions is compromised by the absence of adequate power. Power will also be provided to the temporary stand locations.

A.13 Percussion Access

A small lift will be installed in the orchestra pit to allow movement of pianos, drums and other large instruments.

A.14 Orchestra Pit - Air Movement

Consideration will be given to improvement of the air movement in the orchestra pit ~~by introducing additional low velocity fans~~.

A.15 Improve West Ramp Toilet

The existing west ramp toilet serving staff and the Muny Audience is in need of improvement.

A.16 Oil Burning Steam Furnace Replacement

The existing furnace in the Administration Building will be replaced.

A.17 New Telephone System

The existing telephone system will be upgraded to provide a higher level of customer service.

A.18 Pergola Restoration at E/W/N

- Roof Replacement
- Finish Repair
- Conduit Removal

Following the replacement/repair of some existing roof segments that have failed, the appearance of these areas will be improved. The majority of this work will include patching and painting, and may include the removal of exposed conduits.

A.19 Electrical Service to Scenery Boom

The switching of the boom power is antiquated. It is difficult to maintain and will be replaced with electronic controls.

B.1 Light Bridge Replacement

The replacement of the light bridge will allow for improved lighting and sound systems.

B.4 West Rehearsal Landscaping

- Small Prop Storage; Storage at Platform

B.5 Orchestra Pit

- Floor Replacement
- Riser Replacement
- Monitors

A number of minor improvement/replacements will be implemented to improve the orchestra pit.

B.6 Administration Building; No Change in Footprint

- Replace Windows
- Relocate Female Ushers from Dressing Room Building
- Library Music Storage
- Rehearsal Space
- Conference Room

Music Room

- Heat
- Floating Floor

Additional Offices

- Stage Manager
- Producer
- Production
- Resident Stage Manager
- Visiting Company Manager

In order to improve function, space within the administration building will be reallocated. Heat will be added to the western portion of the building. This will address pre-season functions and storage of items requiring a heating environment.

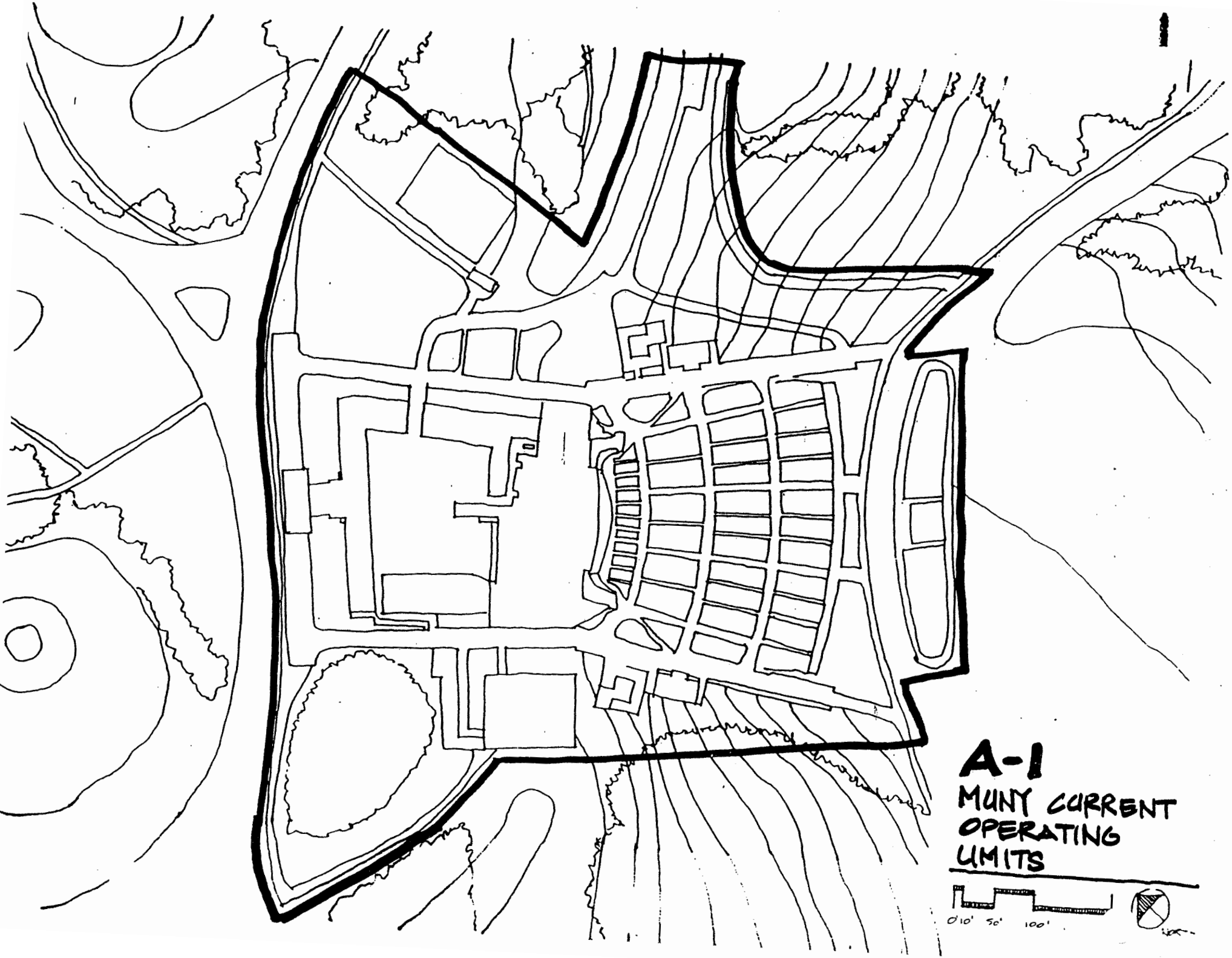
B.7 Covered Work Areas

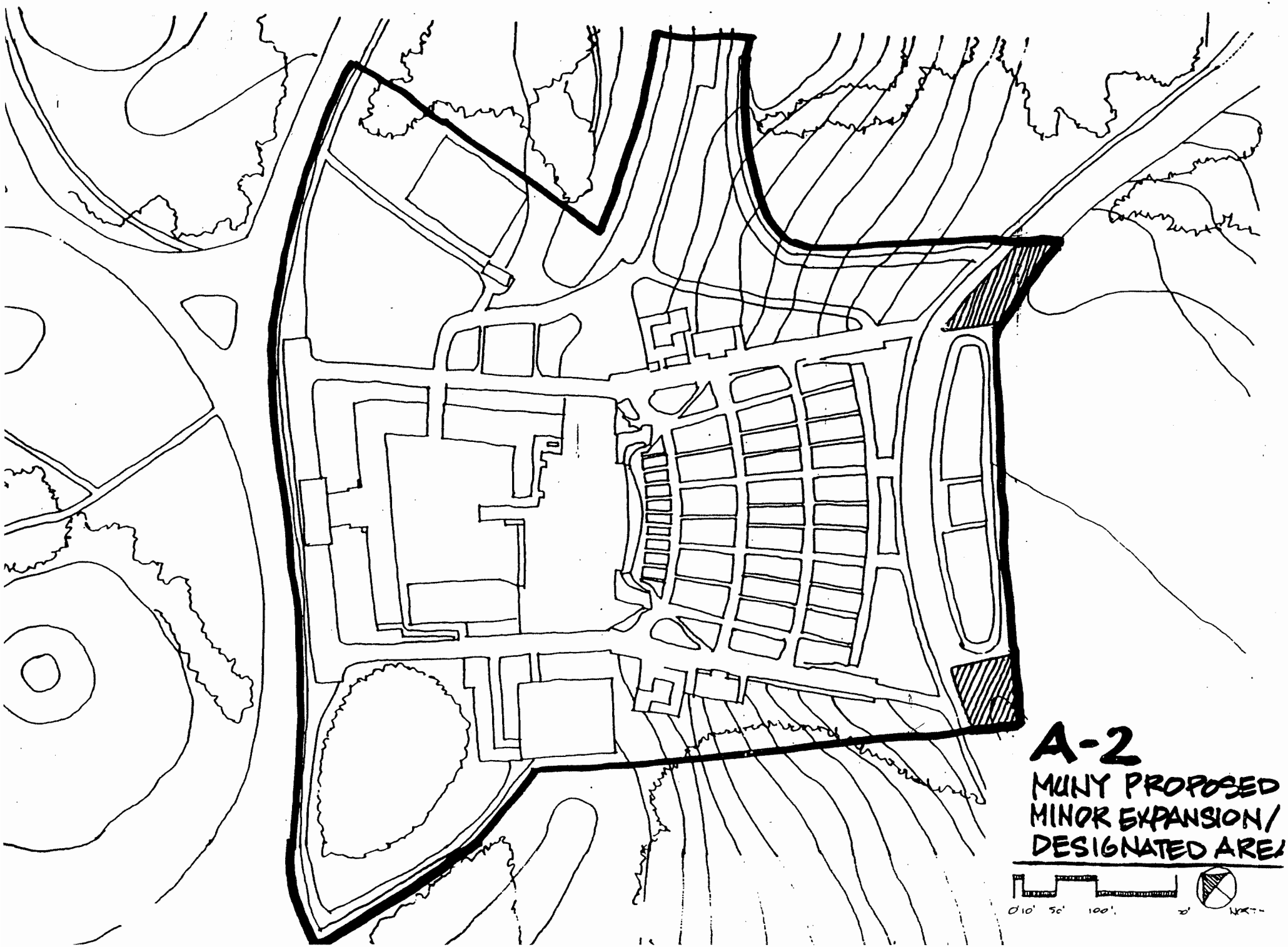
- Carpenters (2)
- Painters (1)

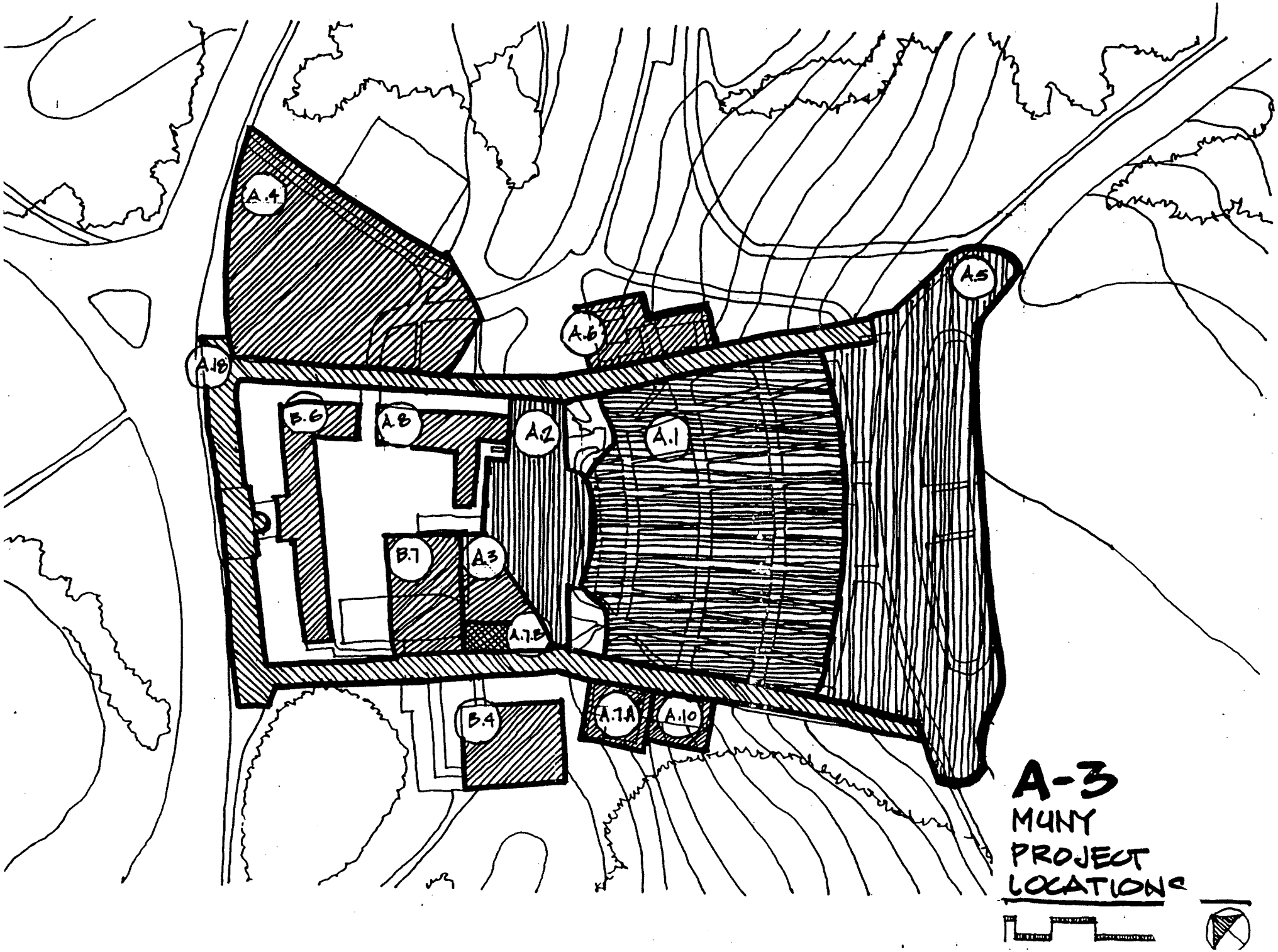
Additional covered space may be provided by permanent roofs or temporary roofs.

B.8 Repair/replacement of Walks/Paving

From time to time walls and other paving areas with the Muny's area will need repair.


A-1
MUNY CURRENT
OPERATING
LIMITS
0 10' 50' 100'


A-2
MUNY PROPOSED
MINOR EXPANSION/
DESIGNATED AREA
0 10' 50' 100'
20'
NORTH



A-3
MUNY
PROJECT
LOCATIONS

DEPARTMENT OF PARKS, RECREATION & FORESTRY
CITY OF ST. LOUIS

5600 CLAYTON ROAD 63110
IN FOREST PARK

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August 30, 1995

I would like to take this opportunity to thank you for your recent presentation to the Forest Park Master Plan Executive Committee regarding future plans of your institution. Since your presentation, the Executive Committee has reviewed your proposals in detail and has determined that your plans generally meet the requirements outlined in the Goals and Policies.

Enclosed please find a list of concerns and questions that were generated regarding your proposal. Members of the Design Team will be contacting you in the near future to clarify these points. Your assistance in reviewing this information would be appreciated.

I would again like to thank you for your continued assistance and support in this important project.

If you have any questions, please contact me.

Sincerely,

Gary D. Bess, Co-Chairman
Forest Park Master Plan
Executive Committee

INSTITUTIONAL PROPOSAL

THE MUNY

Preliminary review - August 24, 1995

	comments
1. PURPOSE	
2. DEMONSTRABLE NEEDS	
3. LAND USE	
DEVELOPMENT	
- GENERAL	*- Assumption: most proposed improvements within requested lease boundaries*
- PERMANENT BOUNDARIES	*- Area does not include required parking lots*
- FACILITIES	
- PROGRAMMING	*- Need strategies for audience advancement and retention*
- IMPACT ON SURROUNDING USES	*- Need commitment to coordinate with adjacent uses*
ALTERNATIVES	*- No alternative parking strategies investigated*
4. LANDSCAPE	*- Parking requirements effecting ecology of park ie. need to remove some roads in the vicinity of the MUNY* *- No commitment to surrounding site improvements*
5. ART, ARCHITECTURE, AND INFRASTRUCTURE	*- MUNY is an underutilized facility* *- Does the Rock House need to be replaced? Is the Rock House a historic landmark?*
6. ACCESS, CIRCULATION, AND PARKING	*- Not assessed in detail; preliminary concerns* *- Need overall operational plan for events* *- Large parking lots for limited use* *- location of employee parking* *- Consider the possibility of the Lower MUNY parking lot being within the new lease boundaries* *- Agree with principle of no-net-loss-of parking* *- Do not get into internal operations of the MUNY* *- Relocation of Summit Drive seems reasonable*
7. ECONOMIC	*- Not assessed*
8. LEGAL	*- Not assessed (require new lease)*
9. NO NET LOSS OF OPEN SPACE	*- Not assessed*
10. GENERAL	*- Great potential for year round use for auditorium and pavilions. Investigate other uses beyond the 7 weeks?* *- surrounding landscape offers potential for pre Muny events*

THE MUNY

Addendum to Institutional Proposal
submitted to the
Forest Park Master Plan Committee
September 7, 1995

The following are submitted in response to the comments made by the Executive Committee of the Forest Park Master Plan Committee in their preliminary review of The Muny's questionnaire answers.

LAND USE:

Permanent Boundaries

The Muny does not have specified permanent boundaries.

Programming

For the last several years The Muny has encouraged its patrons to arrive earlier by providing pre-show entertainment, picnic facilities, and The Culver Pavilion Restaurant. The Muny will continue to evaluate and implement methods of audience advancement and retention.

Impact on Surrounding Uses

The Muny has and will continue to work with other park entities on matters of potential conflict of use.

Alternatives

The Muny has investigated alternative parking strategies. The Muny is willing to consider remote employee parking if necessary. It is hoped that patron access and parking can be enhanced through appropriate design solutions.

(over)

LANDSCAPE

- The Muny recognizes the desire to consolidate roads in its vicinity. The Muny's interest continues to be that the quality and quantity of parking and access must be maintained. The Muny will cooperate in a reconfiguration of parking, so long as the no-net-loss principle is maintained.

- The Muny will continue to be committed to surrounding site improvements.

ART, ARCHITECTURE, AND INFRASTRUCTURE

- The Muny is exploring ways that its facilities can be more fully utilized.

- The Muny needs to increase its rest room facilities to meet the demand of its pre-show audience. The most appropriate location of such facilities is adjacent to the Culver Pavilion. Whether or not the Rock House must be preserved is a matter that would be determined during the permit process by the appropriate city agencies.

ACCESS, CIRCULATION, AND PARKING

- The Muny is fully supportive of joint use and multiple use of the parking lots in its vicinity and will work with park management and other park entities as required.

- The Muny is willing to consider remote employee parking.

- The Muny believes that its definite boundaries should be determined and matters pertaining to those boundaries will be considered at that time.

- The Muny is pleased that the Executive Committee endorses the "no-net-loss" principle for Muny patron parking.

GENERAL

- The Muny is looking at ways that its facilities can be more fully utilized.

- The Muny is committed to continue to look for ways to enhance "The Muny Experience" which could include pre-show and post-show activities.

FOREST PARK MASTER PLAN

S a i n t L o u i s

LONG TERM PLANNING SUMMARIES
for
FOREST PARK MUSEUMS AND CULTURAL INSTITUTIONS

ZOO

30 JUNE 1995

Introduction

The Executive Committee for the Forest Park Master Plan has, to date, approved ten Design Principles, and a more detailed concept design for the passive open space system and the golf course. At this point in the design process, the project team is to develop detailed design recommendations. An essential aspect of this stage of the design process is to analyze the "Long Term Planning Summaries for Forest Park Museums and Cultural Institutions" dated January 1995 submitted to the Executive Committee. The Executive Committee will review the project teams' analysis, and approval or disapprove, in whole or in part, any one of the proposals, after review and comment by the Forest Park Master Plan Committee and the general public.

Review Process

The Executive Committee has agreed to the following decision-making process.

Step One: Museums and Cultural Institutions complete enclosed questionnaire and have a work session with the Design Team.

Step Two: Design Team prepares analysis of proposals based upon approved work to date and in particular, the proposals' implications on the natural system, as well as the access, circulation and parking system.

Step Three: Design Team discusses analysis with respective Museums and Cultural Institutions and makes any necessary modification.

Step Four: Design Team presents analysis to Ex. Committee. Ex. Committee makes decision on each proposal and instructs design team to incorporate decision into the conceptual design.

Step Five: Design Team presents conceptual design to Ex. Committee including the findings of the no-net-loss-of-open-space calculation. Ex. Committee reviews, agrees to, or modifies previous decision on the Museums and Cultural Institutions proposals.

Step Six: Design team presents conceptual design, analysis of Museums and Cultural Institutions proposals, and Ex. Committee recommendations regarding the proposals to the Forest Park Master Plan Committee for review and comment.

Step Seven: Design team presents conceptual design, analysis of Museums and Cultural Institutions proposals, and Ex. Committee recommendations regarding the proposals to the public for review and comment.

Step Eight: Ex. Committee makes final draft decision on conceptual plan, and Museums and Cultural Institutions proposals.

Review Criteria

The Goals and Policies dated January 17,1995 as approved by the Board of Alderman require any "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas" to meet certain criteria outlined in policy 3.1.2. In addition, it is understood that any proposal will also meet all other goals and policies, and the ten design principles and conceptual design completed to date. It is the project teams role to prepare an analysis of the proposals based upon the criteria in 3.1.2, and all other goals and policies.

Purpose of Questionnaire

The purpose of this questionnaire is to collect any necessary outstanding information to prepare an analysis of your proposal and to confirm that we have correctly understood the information we have received to date. In addition to this questionnaire, we would like to tour your existing facility and discuss any aspect of your operations and future plans that you feel needs consideration in this analysis.

This questionnaire has six sections, each addressing an area important to the development of the project teams analysis:

Section One:	Executive Summary of Proposal
Section Two:	Existing Facility Analysis
Section Three:	Proposal: Purpose, Demonstrable Need, and Detailed Statement of Needs
Section Four:	Alternative Development Analysis
Section Five:	Economic Viability
Section Six:	Legal Considerations

Please note: This document and the contents herein together with the project team's analysis of each proposal will be made available to the public.

SECTION ONE: EXECUTIVE SUMMARY

1. Please outline your proposal, its purpose, need and, legal and economic viability.

The Zoological Subdistrict Commission is in the initial stages of long-range planning. The Zoo's long-range plan is expected to propose to renovate and update the existing facility, and will not expand beyond the existing boundaries. While a formal plan will not be completed for several months, it is probable that the following needs will be addressed, i) a new Elephant House, ii) converting the existing Children's Zoo into a year-round use and updating the existing exhibits, iii) constructing a new small mammal facility, and iv) constructing a new insectarium and butterfly garden. In addition, there will be general improvements to the Zoo campus. There be a net increase in the built area.

may

SECTION TWO: EXISTING FACILITIES ANALYSIS

Please provide the following information for all your facilities.

Forest Park Facility: Saint Louis Zoo

Name/address

St. Louis Zoo

Facility Use/Description To provide educational and recreational opportunities for the public through the exhibition and conservation of animals and their habitats.

Gross Area (sq. ft.) 3,900,000 square feet including parking lots

Net Area (sq. ft.) 3,360,000 square feet (Zoo campus)

Mechanical System Heating (BTU) 21,700,000 BTU Cooling (Ton) 1,100 tons

Electrical System Capacity (BTU) 3,000 KW

Plumbing System (CFM) 700,000 C.C.F. (usage)

Primary System

Foundations concrete (all types)

Substructure concrete (all types)

Superstructure steel, concrete, wood (all types)

Exterior Closure steel, wood, masonry

Roofing metal, EPDM (membrane), shingle (all types)

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

We continually review our existing facilities and maintain and renovate them as necessary.

Other Facility:

Name/address

Facility Use/Description

Gross Area (sq. ft.)

Net Area (sq. ft.)

Mechanical System Heating (BTU) Cooling (Ton)

Electrical System Capacity (BTU)

Plumbing System (CFM)

Primary System

Foundations

Substructure

Superstructure

Exterior Closure

Roofing

Are there any known structural or service problems in the existing facility? Please describe any improvements together with cost you propose to make to the existing facility.

SECTION THREE: PROPOSAL: PURPOSE, DEMONSTRABLE NEED & DETAILED STATEMENT OF NEEDS

NOTE: This section refers only to the facility within Forest Park

1. Please clearly state the purpose of your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas".

The purpose of the improvements to the Zoo is to continue to fulfill to the highest standard possible the legislative function of the Zoo. Legislation establishing the Zoo states its purpose to be: i) for the collection and exhibition of animals and animal life, ii) for the instruction and recreation of the people, iii) for the promotion of zoological study and research, and iv) for increase of public interest in wild animals and in protection of wild animal life.

2. Please provide demonstrable need for your "expansion, modification, replacement, relocation, adaptive re-use, or removal of existing buildings, roads, parking lots, paths, recreation, or natural areas".

The Saint Louis Zoo continues to be a leader both locally and globally in the conservation of wildlife. We will act as careful stewards of the animals within our care and will provide our public with state-of-the-art animal exhibits and visitor service amenities.

Currently underway is development of a Bird Garden, to be located between the Bird House and 1904 Flight Cage. Purpose of the Bird Garden is twofold: The meandering wooded walkway will provide a pleasant experience to visitors, with a number of spacious, natural aviaries exhibiting exotic birds from throughout the world. This area, which now utilizes concrete steps, will be made wheelchair and stroller accessible.

3. Please describe your proposal in detail including the development timeline, any expected programming changes and parking requirements. Enclose any documentation, drawings or renderings to illustrate the proposal. Describe any existing or proposed development outside the park that supports or influences your proposal.

The Zoological Subdistrict Commission is in the initial stages of long-range planning. The Zoo's long-range plan is expected to propose to renovate and update the existing facility, and will not expand beyond the existing boundaries as defined by its current lease. While a formal plan will not be completed for several months, it is probable that the following needs will be addressed:

i) Elephant House - The Elephant House is not adequate to maintain male elephants, nor to support a breeding group of the giant land mammals that are seriously threatened in the wild. The existing building is not suitable for renovation, so a new facility is a staff dream. A replacement would require large outdoor yards for males, females and mother calf, with adequate indoor holding areas, not necessarily open to the public. Similar but separate facilities would be required for rhino, hippo and Malayan tapir, now currently in the Elephant House. Creative engineering and architectural planning could result in large, spacious and naturalistic display of these giant land mammals and allow for managed propagation.

ii) Children's Zoo Renovation - Built in 1979, the Children's Zoo has been praised as one of the more popular and successful children's zoo in the nation. The Children's Zoo is an education center for children in the primary grades, but it is equally popular with adults. Nevertheless, strong interest in converting the facility to a year-round use and updating the existing exhibits seem to demand attention.

iii) Small Mammal Facility - Our Zoo is deficient in exhibit representation of the many unusual animals of the various continents. A Small Mammal House was considered the highest priority for new exhibit by the Zoo Board of Control in 1963. It is still important if our collection is to be well-rounded.

iv) Insectarium and Butterfly Garden - Insect of every description, as well as spiders, scorpions and other invertebrates, have long been ignored by the zoo world. Such exhibits that at the Cincinnati Zoo, as well as butterfly gardens at several U.S. zoos, are popular and educational wherever they are found. A free standing exhibit, or added wing to an existing or planned facility, is highly desirable.

v) Continual upgrading of the overall Zoo campus for aesthetics (landscaping, pathways, ornamental fountains, statues, plazas, etc.) will be under consideration.

4. Please describe the exact final and permanent boundaries of any expanded open or enclosed area. Please clearly show any required dedicated parking area and the areas which you will maintain.

The Zoo will continue to maintain and improve the north and south parking lots, which the Zoo occupied at the time the Zoo-Museum District was formed. As always, we will pursue our long-time goal of maintaining a well-landscaped Zoo and in the spirit of the Forest Park Master Plan.

5. Please describe the quantitative limits of any future enclosed expansion within the above mentioned final and permanent boundaries.

The Zoo anticipates no expansion beyond the current boundaries within the foreseeable future.

The Zoo has acquired a 355-acre tract in Franklin County which will be developed as a center for endangered species conservation and native wildlife area, with a sensible environmental-friendly atmosphere.

6. **Detailed Statement of Needs**

a. Space Requirements

	Actual 1995	Year 2004	Long-Term
Exhibit Area			
Service Area			
Administrative Area			
Visitor Service Area			
Outdoor Area			
Other (specify)			
Total	3,900,000 square feet	Not available	Not available

There are no plans to expand beyond our boundaries in Forest Park. Within our boundaries, the needs are articulated in #3 of this section.

Please specify any special space needs that might have an effect on planning adjacent park areas or your facility.

Our planning consultants advise us that we need 600 more parking spaces to satisfy visitor needs. Many visitors are turned away during peak season. However, the quiet and aesthetic calm that both the animals and visitors at the Zoo enjoy should not be encroached upon by any future development of the Park around the perimeter of the Zoo.

b. Employment Statistics

	Existing 1995	Year 2004	Long-Term
Full-time Staff	230	Cannot be anticipated	Cannot be anticipated
Part-Time Staff	350 (includes seasonal)		
Seasonal Staff (specify months)	May-September		
~~Special Events~~	Volunteers 900		

Please specify any special needs for your employees and in particular, your views on remote parking with shuttles for your employees.

The Zoo will support any plans that provide supplemental parking for employees, volunteers or guests to the Saint Louis Zoo.

c. Visitor Statistics

	Existing 1995	Year 2004	Long-Term
Annual (Total)	2.7 ~~2x6~~ million	3.0 million estimated	Not available
Monthly Average	225,000	250,000 estimated	
Monthly Peak	419,602 (July)	Approximately same	
Monthly Low	39,236 (January)	150,000 estimated	
Daily Peak	30,000+		
Hourly Peak	Not available		
Special Events	Not available, but less than daily		

Please specify any special needs for your visitors and in particular, your views on remote parking with shuttles for your visitors.

On peak days (good weather, especially weekends in spring and summer), we must turn visitors away. We would welcome additional parking. Our planning consultants advise us that we need 600 more parking spaces to satisfy visitor needs.

Please provide existing operational plans for special events as they relate to any park planning considerations.

The Zoo receives continued requests for evening access by both the visiting public and special events.

d. Access, Circulation & Parking

Please Note: Given previous traffic studies by the museums and cultural institutions and the interviews conducted by the design team's traffic engineer, information is in place to calculate existing access and parking space requirements in a consistent manner. Therefore, the most important information each institution can provide is the alteration in daily visitation resulting from the proposed site modifications.

	Existing 1995	Year 2004	Long-Term
No. Parking Spaces			
i) Off-street	1,500	2,700 estimated total off-street & on-street	Unknown
ii) On-Street	378 within 2,000'		
No. of Tour & School buses	Data not available		
No. of visitors by transit			
No. of employees by transit			
Special event needs			

Please specify any special access, parking or circulation requirements. Specify any important locations for drop-off at your facility.

No special requirements. The north and south entrances continue to be important special access for school groups, senior citizen tours and special needs visitors.

Do you have any plans or desires to convert any of your dedicated parking to a fee generating lot?

Both Zoo parking lots are fee generating.

Please describe your views on the provision of structured or underground parking on existing lots under your jurisdiction and on structured or underground parking in general in the park.

Deck parking would definitely increase access but, from the best professional analyses, is way beyond financial means.

Please describe any parking fee structure that applies to any parking lot under your jurisdiction. Who receives the revenue from the parking lot? What are the operational and maintenance costs of the parking lot? Who determines the fee structure? On what basis is the fee structure determined? Do you expect the rates to be increase in the near future?

$4.00 per auto summer season
$3.00 per auto winter season

St. Louis Zoo Friends Association, in an agreement with the St. Louis Zoo, receives revenue from the parking operation and funds the cost of maintenance, repair and operations. Any revenue generated supports the needs of the animals in the Zoo's collection.

Please describe your views on the importance of the park wide Shuttlebug, and MetroLink to your facility.

The Zoo is encouraging our visitors and employees to take advantage of the Shuttlebug and Metrolink.

Please describe your views on the use of remote parking lots for employees and/or visitors if they are served by the Shuttlebug.

Visitors may use remote parking lots but prefer immediate access, particularly nearby parking. This is especially important for senior citizens, families with small children and strollers, special needs visitors, etc.

Would you support a year-round Shuttelbug system? Describe any important Shuttlebug routing issues as they relate to your facility.

The Zoo has financially supported the development of the Shuttlebug system. We believe the Shuttlebug should be part of a regional mass transit system, professionally analyzed and publicly promoted.

Do you have any current or proposed policies to encourage employees to use transit on their daily commute?

We encourage employees to use the Shuttlebug and Metrolink. Many of our employees use bicycles.

e. Specify any other detailed design park-wide improvement and/or site considerations that are important to the success of your facility, including specific hourly, daily or locational parking restrictions in the vicinity of your institution.

Improving traffic flow near Hampton Avenue and encouraging access to the Zoo off Highway 40 near Oakland Avenue would reduce pressure on the Hampton Avenue exit. On busy weekends, police frequently have to close down traffic-clogged streets, preventing our visitors from gaining access to the Zoo.

SECTION FOUR: ALTERNATIVE DEVELOPMENT ANALYSIS

1. Given your investigation of existing facilities for your institution, please describe how you can increase efficiency of space utilization in order to avoid unnecessary expansion in the park per policy 3.1.4. Please submit supporting documentation.

   Exhibit philosophies shared by the Saint Louis Zoo professional staff indicate that all future animal exhibits will be naturalistic, naturally landscaped and cohesive with the established sylvan atmosphere for which Forest Park has always been known.

2. If your institution reduced its proposed level of development in the park per policy 3.1.2, please describe the implications. Please submit supporting documentation.

   We will maximize use of all existing space to maintain the tranquility of the green space environment which the Zoo enjoys.

3. Please describe the findings from an investigation of no development in the park per policy 3.1.2. Please submit supporting documentation.

The Zoo has no plans for expansion within the Park outside its existing boundaries.

4. Please describe the findings from an investigation of any new or expanded land uses outside of the park per policy 3.1.6. Please submit supporting documentation.

The Zoo has no plans for expansion within the Park outside our existing boundaries.

SECTION FIVE: ECONOMIC VIABILITY

1. Please provide a cost estimate of the proposed development.

   The Zoo's long-range development plans are in the early stages of a strategic exercise. There is no data on the potential costs involved.

2. Please provide firm evidence of your financial ability to complete the project. Enclose supporting documentation.

   The Zoo's long-range plan will be followed by a funding analysis and feasibility studies and will be announced at an appropriate time. A copy of the Zoo's current audited financial report is included with this document.

SECTION SIX: LEGAL CONSIDERATIONS

1. In your opinion and in the context of your proposal dated January 1995 as submitted to the Executive Committee of the Forest Park Master Plan, what are your "rights under existing law, leases or agreements, if any" to expand, modify, replace, relocate, re-use, or remove the existing buildings, parking lots, roads, paths, recreation, or natural areas? (policy 3.1.2) Please attach supporting materials.

   The property occupied by the Zoo, including the north and south parking lots, became the property of the Zoological Subdistrict of the Metropolitan Zoo-Museum District by the wording in the enabling legislation which also appeared on the voters' ballot, establishing the Zoo-Museum District. A copy of the enabling legislation is attached.

2. Please state in your opinion, your existing jurisdictional or site boundaries. Please attach supporting materials.

The Zoo has maintained the property occupied by the Zoological Park and including both parking lots, related curbs and sidewalks since the establishment of the Zoo-Museum District and for many years prior.

3. Please state the exact proposed boundaries of any expanded area and, if different, the final permanently defined boundaries to development.

[TRULY AGREED TO AND FINALLY PASSED]

THIRD EXTRAORDINARY SESSION

HOUSE BILL NO. 23

75TH GENERAL ASSEMBLY

AN ACT

Authorizing the establishment of a Metropolitan Zoological Park and Museum District and certain subdistricts in metropolitan areas consisting of constitutional charter cities not within a county and constitutional charter counties setting forth the powers and duties of the district and the board thereof and the subdistricts and commissions thereof, authorizing a tax levy and bond issues to be approved by a vote of the qualified voters of such city and county and to repeal Sections 90.580, 90.585, 90.590, 90.600, 90.610, 90.620, 90.630, 184.020, 184.030, 184.040, 184.050, 184.060, 184.070, 184.080, 184.090, 184.100 and 184.105, RSMo 1969.

Be it enacted by the General Assembly of the State of Missouri, as follows:

Section One. Whenever qualified voters representing one
2 percent of the votes cast at the last preceding election for gov-
3 ernor of any constitutional charter city not located within a
4 county and qualified voters representing one percent of the
5 votes cast at the last preceding election for governor of a con-
6 stitutional charter county adjoining such city shall file verified
7 petitions for the establishment of a Metropolitan Zoological

8 Park and Museum District, comprising a Zoological Subdis-
9 trict, and Art Museum Subdistrict or a Museum of Science and
10 Natural History Subdistrict with the respective election offi-
11 cials of such city and county respectively requesting such elec-
12 tion officials to submit a proposition for the establishment of a
13 Metropolitan Zoological Park and Museum District comprised
14 of a Zoological Subdistrict, an Art Museum Subdistrict and a
15 Museum of Science and Natural History Subdistrict at the next
16 general or primary election for the election of State officers or
17 special election for the submission of such proposition such
18 election officials shall communicate to their corresponding
19 counterparts and the chief executive officers of the respective
20 city and county the fact a verified petition has been filed. At
21 such time that both election officials have received the verified
22 petitions described above, then such officials shall submit the
23 above described proposition or propositions to the qualified
23a voters of such city and county at the next general or primary
24 election for the election of State officers or special election.
25 Such election officials shall give legal notice at least sixty days
25a prior to such general or primary election or special election in
26 at least two newspapers that such proposition or propositions
27 shall be submitted at the next general or primary election or
28 special election held for submission of this proposition.

29 Such proposition shall be submitted to the voters in sub-
30 stantially the following form at such election:

31 Shall there be established a Metropolitan Zoo-
32 logical Park and Museum District comprising the
33 City of _____ and the County of _____
34 which district shall consist of all or any one of the
35 following subdistricts:

36 a. Zoological Subdistrict with a tax FOR ☐
37 rate not in excess of four cents on each AGAINST ☐
38 $100 of assessed valuation of all taxable
39 property within the district.

40 b. Art Museum Subdistrict with a FOR ☐
41 tax rate not in excess of four cents on AGAINST ☐
42 each $100 of assessed valuation of tax-
43 able property within the district.
44 c. Museum of Science and Natural FOR ☐
45 History Subdistrict with a tax rate not AGAINST ☐
46 in excess of one cent on each $100 of as-
47 sessed valuation of taxable property
48 within the district.

49 In the event that a majority of the voters voting on such prop-
50 ositions in such city and the majority of voters voting on such
51 propositions in such county at said election cast votes "FOR"
52 one or more of the said propositions, then the district shall be
53 deemed established and the tax rate, as established by
54 the Board, for such subdistrict shall be deemed in full
55 force and effect as of the first day of the year follow-
55a ing the year of said election. The results of the afore-
56 said election shall be certified by the election officials of
57 such city and county respectively to the respective chief
58 executive officers of such city and county not less than thirty
59 days after said day of election. The cost of said election shall
60 be borne by the city and county respectively as provided by
61 law. In the event one or more of the said propositions shall
62 fail to receive a majority of the votes "FOR" in either the
63 said city or the county, then such proposition shall not be re-
64 submitted at any election held within one year of the date of
65 the election said proposition was rejected. Any such resub-
66 missions of one or more of said propositions shall substantially
67 comply with the provisions of this Section and this Act.

Section Two. The following terms whenever used or re-
2 ferred to in this Chapter shall unless a different intent
3 clearly appears from the context be construed to have the
4 following meaning:

5 (1) City: A constitutional Charter city not located within

7 (2) County: A constitutional Charter county adjoining
8 a constitutional Charter city.
9 (3) District: The Metropolitan Zoological Park and
10 Museum District.
11 (4) Board: The governing body of the Metropolitan Zoo-
12 logical Park and Museum District.
13 (5) Commission: The governing body of each of the
14 respective subdistricts as may be authorized as provided in
15 Section One.
16 (6) Zoological Subdistrict: shall consist of such institu-
17 tions and places for the collection and exhibition of animals
18 and animal life, for the instruction and recreation of the
19 people, for the promotion of zoology and kindred subjects,
20 for the encouragement of zoological study and research and
21 for the increase of public interest in wild animals and in the
22 protection of wild animal life.
23 (7) Art Museum Subdistrict: shall consist of such in-
24 stitutions and places for the purpose of collection and ex-
25 hibition of pictures, statuary and other works of art and what-
26 ever else may be of artistic interest and appropriate for ex-
27 hibition in an art gallery or museum for instruction in art and
28 in general for the promotion by all proper means of aesthetic
29 or artistic education.
30 (8) Museum of Science and Natural History Subdistrict:
31 shall consist of such institutions and places for the purpose
32 of collection and exhibition of displays of items of natural
33 historical, industrial, transport and scientific interest, the in-
34 struction and recreation of the people, for the promotion of
35 the study of science, industrial, transport and natural history
36 and kindred subjects and for the promotion by all proper
37 means of public interest in natural history, transport, in-
38 dustry and science.
39 (9) Special Election: As used herein shall mean election
40 held on the first Tuesday of April or whenever propositions are
41 submitted to the voters of the whole district.

Section Three. When in any city and county as described
2 in Section One it shall have been decided by vote in the
3 manner provided in Section One that a tax shall be levied for
4 any of the aforesaid described subdistricts, then the chief
5 executive officer of the city shall appoint four members to
6 the Metropolitan Zoological Park and Museum District Board
7 and the chief executive officer of the county shall appoint
8 four members to the Metropolitan Zoological Park and Mu-
9 seum District Board. Said board members shall serve without
10 compensation for a term of four years and until their suc-
11 cessors are appointed and qualified provided however that of
12 the initial appointments by each of said chief executives one
13 shall be for a term of one year, one shall be for a term of two
14 years, one for a term of three years, and one shall
15 be for a four year term respectively. Any vacancy shall
16 be filled by the Chief Executive Officer for the unex-
16a pired term. Each member appointed by the Chief Execu-
17 tive Officer of the City shall have been a qualified voter of
18 the City for at least one year next before his appointment and
19 shall continue to reside therein during his tenure in office.
20 Each member appointed by the Chief Executive Officer of the
21 County shall have been a qualified voter of the County for at
22 least one year next before his appointment and shall continue
23 to reside therein during his tenure in office. The legislative
24 body of the constitutional charter city upon the petition of
25 the Chief Executive Officer of such city may remove any
26 member appointed by said Chief Executive Officer of that
27 board for misconduct or neglect of duties and the legislative
28 body of the county may upon petition of the Chief Executive
29 Officer of the county may remove any member appointed by
30 him of the board for misconduct or neglect of duties. No
31 member so removed shall be eligible for appointment to said
32 district board thereafter. The Board shall elect its own Chair-
33 man, Secretary and such other officers that it deems necessary

34 and expedient and it may make such Rules, Regulations and
35 By Laws to effectuate its purposes it deems necessary.

Section Four. The Metropolitan Zoological Park and
2 Museum District shall collect all revenues on behalf of said
3 subdistricts and shall deposit same in separate subdistrict
4 funds respectively. All funds collected for a subdistrict shall
5 be kept separate and apart from any other funds and shall be
6 drawn upon by the proper officers of the subdistrict upon sub-
8 mission of properly authenticated vouchers. The district may
9 render common services to the various subdistricts including
10 but not limited to auditing, accounting, pension servicing and
11 payroll. In performing said services the Board is hereby au-
12 thorized to employ and appoint such persons as are deemed
13 necessary, to fix compensation and to cause the removal of
14 employees and appointees of the said Board. The cost of oper-
15 ating the district shall be borne out of the tax funds of the
16 subdistricts based on the ratio of each subdistrict's tax rate to
17 the total tax rate of all subdistricts. In no event shall such
18 operating cost ever exceed five percent of the total authorized
19 tax revenues received by all of the subdistricts.

Section Five. Each subdistrict established by the voters
2 as provided in Section One shall be governed by a commission
3 consisting of ten members to serve without compensa-
3a tion for a term of four years except as provided herein.
4 Five commissioners shall be selected by the Chief Executive
5 Officer of the constitutional charter county and five commis-
6 sioners shall be selected by the Chief Executive Officer of
7 the constitutional charter city. In making the selections the
8 respective Chief Executive Officers shall select from any ex-
9 isting government board of control previously exercising the
10 functions of said subdistrict the members thereof excluding
11 those members serving as ex-officio. Any remaining members
12 shall be selected from persons submitted and nominated by
12a the respective existing governing boards, subject to the advice

13 and consent of the respective Chief Executive Officer of the
13a City or County in which the proposed member resides. The
14 commissioners shall be appointed by said appointing authority
15 within seven days after the certification by the election officials
16 of the particular subdistrict as provided in Section One. The
17 commissioners so appointed shall divide themselves into four
18 classes. The first class shall hold office for a term of one year.
19 The second class shall hold office for a term of two years.
20 The third class shall hold office for a term of three years
21 and the fourth class shall hold office for four years, said
22 terms to run from the first of January following their ap-
23 pointment and annually thereafter. The commissioners shall
24 elect members for the class whose terms are to expire and to
24a fill vacancy in any other classes, subject to the advice and
25 consent of the respective Chief Executive Officer of the City
25a or County in which the proposed member resides. Five
26 commissioners who have either been appointed by the
27 Chief Executive Officer of the city or elected by the
28 Commission shall be residents of the city during their
28a tenure in office and five commissioners either appointed
29 by the Chief Executive Officer of the County or elected
30 by the Commission shall be residents of the County dur-
31 ing their tenure in office. Nothing in the foregoing is
32 designed nor should it be construed to prohibit the appoint-
33 ment by the Commission of non-voting commissioners to the
34 commission of any subdistrict nor shall the aforesaid residency
35 requirements be applicable. The legislative body of the con-
36 stitutional charter city upon the petition of the Chief Execu-
37 tive Officer of such city after a public hearing thereon may re-
38 move any commissioner residing in the city for misconduct or
39 neglect of duty and the legislative body of the constitutional
40 charter county upon petition of the Chief Executive Officer
41 of the County after a public hearing thereon may remove any
42 commissioner residing in the county for misconduct or ne-

43 glect of duty. No commissioner removed shall be eligible to
44 appointment to any subdistrict, commission, office, or to the
45 Board of the District.

Section Six. (1). Each respective subdistrict is hereby
2 empowered to own, hold, control, lease, acquire by donation,
3 gift or bequest, purchase, contract, lease, sell, any and all
4 rights in land, buildings, improvements, furnishings, displays,
5 exhibits and programs and any and all other real, personal
6 or mixed property for the purposes of the said subdistrict.

7 (2). All buildings, property and facilities of existing
8 publicly-owned and operated zoological parks and museums
9 established under the constitution or laws of this state or
10 Museum of Science and Natural History upon which a ma-
11 jority of the voters of both the City and County have passed
12 upon as provided for in Section 1 shall become the property
13 of and vest in the respective and applicable subdistrict on the
14 date such subdistrict shall be established as provided in Sec-
15 tion One. Any obligations, duties, rights, privileges of what-
16 ever description pertaining to or relating to the maintenance,
17 operation, construction, design or affairs of any such existing
18 zoological park or museum shall be assumed by the respective
19 subdistricts.

Section Seven. The use and enjoyment of such institutions
2 and places museums and parks of any and all of the subdistricts
3 established under this section shall be forever free and open to
4 the public at such times as may be provided by the reasonable
5 rules and regulations adopted by the respective commissions in
6 order to render the use of the said subdistrict's facilities
7 of the greatest benefit and efficiently to the greatest number.
8 The respective commissions may exclude from the use of the
9 said facilities any and all persons who wilfully violate such
10 rules. In addition said commission shall make and adopt such
11 bylaws, rules and regulations for its own guidance and for

12 the election of its members and for the administration of
13 the subdistrict as they may deem expedient and as may
14 not be inconsistent with the provisions of the law. The re-
14a spective commissions may contract for, or exact, a charge
15 from any person in connection with the use, enjoyment,
16 purchase, license or lease of any property, facility, ac-
17 tivity, exhibit, function, or personnel of the respective
18 subdistricts. Said commission shall have exclusive con-
19 trol of the expenditures of all monies collected by the district
20 to the credit of the subdistrict's fund and of the construction
21 and maintenance of any subdistrict, buildings built or main-
22 tained in whole or in part with monies of said fund and of
23 the supervision, care and custody of the grounds, rooms or
24 buildings constructed, leased or set apart for the purposes
25 of the subdistrict under the authority conferred in this law.
26 Said commission shall have the power to appoint a director
27 and necessary assistants, to fix their compensation and shall
28 also have power to remove such appointees. All employees,
29 appointees and officers of such publicly-owned and operated
30 museums and zoological parks shall on the establishment of
31 a subdistrict related thereto become employees of the sub-
32 district and such appointees' and employees' seniority, pen-
33 sion, salaries, wages and fringe benefits shall be equal to or
34 better than that existing at the time of the establishment of
35 the subdistrict insofar as may be possible. The respective
36 commissions shall whenever the need arises transmit to the
37 District a complete survey and report of the subdistrict's need
38 for construction, reconstruction and repair of improvements,
39 buildings and other facilities and shall include all informa-
40 tion and data necessary for the purpose of ascertaining the
41 cost of such improvements and shall further certify to the
42 district the need for incurring additional indebtedness as
43 provided in Section 8 through Section 14 herein.

Section Eight. The Metropolitan Zoological Park and Museum District by a vote of the qualified voters thereof voting thereon as now or hereafter required by Section 26(b) of Article 6 of the Missouri Constitution may incur an additional indebtedness for the purposes of the said subdistricts separately. The total indebtedness authorized separately by the voters for the respective subdistricts shall not exceed five percent of the taxable tangible property therein as shown by the last completed assessment for State and County purposes in said City and said County.

Section Nine. Before incurring any indebtedness under the provisions herein the Board of said district is hereby authorized and shall provide for the collection of an annual tax on all taxable tangible property therein sufficient to pay the interest and principal of the indebtedness as they fall due and to retire the same within twenty years from the date contracted. The said tax levy shall be in addition to that tax levy authorized by the voters as provided in Section One hereof.

Section Ten. For the purpose of incurring additional indebtedness as provided herein the Board of the District shall order an election to be held of which they shall give notice. Such notice shall be advertised by publication once a week for three consecutive weeks in two newspapers of daily circulation in the said City and said County. The first publication of the notice shall be made at least twenty-one days before and the last shall be within two weeks of the date of the election. Such election shall be held and the judges thereof appointed as in the case of other elections and said Board of Election Commissioners of said City and County having charge of such election shall provide at least one voting place in each ward or township of the said City and County and for that purpose they may combine as many election precincts in each ward or

15 township as in their judgment may be proper. The judges and
16 clerks of the precincts in which a voting place is located shall
17 act as the judges and clerks of such election of such combined
18 precinct. The cost of such election shall be borne by the district
19 as provided by law. Except as herein provided, such election
20 shall be conducted in the same manner and by the same elec-
21 tion commissioners, judges and clerks and other officers and
22 employees as other elections are conducted.

Section Eleven. The Board of said district shall prepare
2 and shall cause to be printed ballots to be used at such elec-
3 tion which shall be in substantially the following form:

4 OFFICIAL BALLOT

5 Instructions to voters:

6 To vote in favor of the proposition submitted upon this
7 ballot place a cross (X) mark in the square opposite the word
8 "YES"; and to vote against the proposition submitted upon
9 this ballot, place a cross (X) mark in the square opposite the
10 word "NO".

11 Shall the following be adopted:

12 Proposition to issue the bonds of the Metro- YES ☐
13 politan Zoological Park and Museum District on NO ☐
14 behalf of .....
15 (name of subdistrict)
16 subdistrict to the amount of $.....
17 for the purpose of .....
18 (Insert purpose)

Section Twelve. Upon the result of such election being
2 certified by the Board of Election Commissioners respectively
3 to the Board ~~and if the~~ proposition to incur or increase such
4 indebtedness be assented to by electors voting on the propo-
5 sition at such election as required by or hereafter may be
6 required by Section 26(b) of Article 6 of the Missouri Consti-
7 tution the Board may by resolution declare the results of

8 such election and cause the bonds of such district to be is-
9 sued, payable to the bearer, not exceeding the amount au-
10 thorized, and in denominations of not less than one hundred
11 dollars, or some multiple thereof, payable in not more than
12 twenty years from the date they bear interest from the date
13 at a rate not exceeding the highest rate of interest permitted
14 by law payable semiannually which bonds shall have interest
15 coupons attached to conform to the face thereof. All such
16 bonds shall be signed by the chairman of the board, attested
17 by the signature of the secretary and each bond shall have
18 impressed thereon the corporate seal of the District provided
19 however that whenever one thousand or more bonds are to
20 be executed as of the same date, the resolution pursuant to
21 which such bonds are issued may direct that such bonds be
22 executed by the facsimile signature of the chairman and sec-
23 retary of the board. Such bonds may be negotiated and sold
24 but in no case shall they be sold for less than par.

Section Thirteen. Whenever the owner of any coupon
2 bond, or any bond payable to bearer, already issued or here-
3 after issued by the district shall present any such bond to the
4 treasurer or other officer of such corporation, who by law per-
5 forms the duties of treasurer, with a request for the conver-
6 sion of such bond into a registered bond, such treasurer, or
7 such other officer, shall cut off and cancel the coupons of any
8 such coupon bond so presented, and shall stamp, print or write
9 upon such coupon bond, or such other bond payable to bearer,
10 so presented, either upon the back or upon the face thereof,
11 as may be convenient, a statement to the effect that the said
12 bond is registered in the name of the owner, and that there-
13 after the interest and principal of said bond are payable to
13a the registered owner. Thereafter, and from time to time any
14 such bond may be transferred by such registered owner in
15 person, or by attorney duly authorized on presentation of such
16 bond to such treasurer, or such other officer, and the bond

17 be again registered as before, a similar statement being
18 stamped, printed or written thereon. Such statement stamped,
18a printed or written upon any such bond may be in substantially
19 the following form:

20 (Date, giving month, day and year.)

21 This bond is registered pursuant to the statute in such
22 cases made and provided in the name of .....
23 (here insert name of owner) and the interest and principal
24 thereof are hereafter payable to such owner.

25 ....., treasurer (or such other officer).
26 After any bond shall have been registered as aforesaid, the
27 principal and interest of such bond shall be payable to the
28 registered owner. Such treasurer, or such other officer, shall
29 keep in his office a book or books which shall at all times
30 show what bonds are registered and in whose names.

Section Fourteen. For the purpose of refunding, extend-
2 ing or unifying the whole or any part of its valid bonded
3 indebtedness the district may issue refunding bonds not ex-
4 ceeding in amount of the principal of the outstanding in-
5 debtedness to be refunded and the accrued interest to the
6 date of such refunding bonds. The Board shall provide for
7 the payment of interest and principal of such refunding bonds
8 in the same manner as was provided for the payment of in-
9 terest and principal of the bonds refunded.

Section Fifteen. The legislative authority of any city or
2 county in which property of the Metropolitan Zoological Park
3 and Museum District and the respective subdistricts is situ-
4 ated shall have the power to enact ordinances imposing suit-
5 able penalties for the punishment of persons committing
6 injury upon said district's or subdistrict's properties, the
7 grounds or collections of property thereof.

Section Sixteen. The Metropolitan Zoological Park and
2 Museum District Board shall make before the second Monday

3 in April an annual report to the Chief Executive Officers of
4 the said city and county respectively stating the condition
5 of their trust on the first day of January of that year, the
6 various sums of money received and distributed by it on be-
7 half of the subdistricts and shall further make a combined
8 annual report of those reports submitted by the respective
9 subdistricts as provided hereunder.

Section Seventeen. The Commissioners of each subdis-
2 trict shall make on or before the second Monday in March an
3 annual report to the district board setting forth the various
4 sums of money received from the said subdistrict's fund and
5 the amounts which have been expended and for what pur-
6 poses, the number and character of the acquisitions and such
7 other information and suggestions as they may deem im-
8 portant.

Section Eighteen. The District and subdistricts and the of-
2 ficers and employees thereof shall be subject to the provisions
3 of Chapter 296 of the Missouri Revised Statutes or any amend-
4 ment thereto hereafter enacted.

Section A. Sections 90.580, 90.585, 90.590, 90.600, 90.610,
2 90.620, 90.630 RSMo 1969 are repealed.

Section B. Sections 184.020, 184.030, 184.040, 184.050,
2 184.060, 184.070, 184.080, 184.090, 184.100 and 184.105 RSMo
3 1969 are repealed.

Section C. Section A shall become effective on December
2 31 next following the creation of a zoological subdistrict as
3 provided in Section 1 of this act.

Section D. Section B shall become effective on December
2 31, next following the creation of an art museum subdistrict
3 as provided in Section 1 of this act.

✓

DEPARTMENT OF PARKS, RECREATION & FORESTRY
CITY OF ST. LOUIS

5600 CLAYTON ROAD 63110
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August 30, 1995

I would like to take this opportunity to thank you for your recent presentation to the Forest Park Master Plan Executive Committee regarding future plans of your institution. Since your presentation, the Executive Committee has reviewed your proposals in detail and has determined that your plans generally meet the requirements outlined in the Goals and Policies.

Enclosed please find a list of concerns and questions that were generated regarding your proposal. Members of the Design Team will be contacting you in the near future to clarify these points. Your assistance in reviewing this information would be appreciated.

I would again like to thank you for your continued assistance and support in this important project.

If you have any questions, please contact me.

Sincerely,

Gary D. Bess, Co-Chairman
Forest Park Master Plan
Executive Committee

INSTITUTIONAL PROPOSAL
ZOO

Preliminary review - August 24, 1995

	comments
1. PURPOSE	
2. DEMONSTRABLE NEEDS	
3. LAND USE	
DEVELOPMENT	
- GENERAL	*- proposal does not request development outside ex. boundaries*
- PERMANENT BOUNDARIES	
- FACILITIES	
- PROGRAMMING	
- IMPACT ON SURROUNDING USES	*- Need commitment to coordinate with adjacent uses* *- No discussion of impact of Art Museum parking on facility*
- ALTERNATIVE DEVELOPMENT	
4. LANDSCAPE	*- all surface parking lots need internal landscaping*
5. ART, ARCHITECTURE, AND INFRASTRUCTURE	
6. ACCESS, CIRCULATION, AND PARKING	*Not assessed in detail, preliminary review concerns* *- question need for additional 600 parking spaces* *principles for solving this need should be a) no new park land b) encouraged to look outside of the park c)least favored option - on existing property* *- issues remains of who owns the south lot* *- impact of fee structure on curb-side parking* *- provide estimates of visitor counts for the long-term* *- general access to the zoo parking lots needs to be addressed* *- investigate alternatives for the provision of employee parking?*
7. ECONOMIC	*- Not assessed*
8. LEGAL	*- Not assessed*
9. NO NET LOSS OF OPEN SPACE	*- Not assessed*
10. GENERAL	*- definition of "foreseeable future"*