

URBAN DESIGN PLAN

# Southeast Minneapolis Industrial (SEMI)/Bridal Veil Area Minneapolis/Saint Paul, Minnesota

## ALTERNATIVE URBAN AREAWIDE REVIEW (AUAR)

### VOLUME 1 EXECUTIVE SUMMARY

May, 2001



BRIDAL VEIL FALLS POSTCARD, CIRCA 1920

STUDY AREA MAP OVERLAID ON USGS QUADRANGLE MAP



Prepared for:

City of Minneapolis, Minneapolis  
Community Development Agency  
(MCDA), and Southeast Economic  
Development (SEED) Committee

Reference:

MCDA Professional Service  
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Alternative Urban Areawide Review (AUAR)  
Southeast Minneapolis Industrial (SEMI)/Bridal Veil Area  
Minneapolis/St. Paul, Minnesota  
May 2001

Volume 1 – Executive Summary

Volume 1 – Executive Summary is the first of five volumes which make up the SEMI/Bridal Veil AUAR report, organized as follows:

Vol. 1 – Executive Summary

Vol. 2 – EQB Required Items

Vol. 3 - Refined Master Plan

Vol. 4 – Appendices

- Historical Resources Evaluation
- Stormwater Management Framework Plan
- Stormwater Map Atlas (Existing Conditions)
- Hydrology Report for Existing Conditions
- Hydrology Report for Proposed Conditions
- Transportation and Traffic Analysis Report
- Analysis of Traffic-Related Noise Impacts
- Environmental Inventory

Vol. 5 – Responses to Comments

Our intent has been to make the Executive Summary “stand on its own,” so that the reader can understand the main points and conclusions of the study in one modest-sized document. Readers wishing to find detail beyond that contained in the Executive Summary should request the entire five volume set.

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## SEMI/Bridal Veil Area

### NEED FOR ENVIRONMENTAL REVIEW

The SEMI (South East Minneapolis Industrial) /Bridal Veil area is an approximately 700 acre tract straddling the Minneapolis/Saint Paul city line, and presently surrounded by three Minneapolis neighborhoods (Como, Prospect Park and Marcy Holmes), one Saint Paul neighborhood (St. Anthony Park) and the Minneapolis campus of the University of Minnesota.

Originally a vast wetland area, the intervening 100-plus years of infilling and industrial development have resulted in obliteration of original natural features, and many polluted sites. Prior to any development, the area was characterized by a series of small interconnected ponds, fed by natural springs. The area drained via Bridal Veil Creek, which flowed southwestward, with a falls over a limestone bluff to the Mississippi River. Bridal Veil Creek has been re-routed underground through a series of storm sewers; its original course lost to railroad, highway and industrial/commercial development. Today, only remnants of two of the original ponds within the original Bridal Veil Creek watershed can be found, along with one of the natural springs and a small tall grass prairie remnant.

Development began in the late 19<sup>th</sup> century (when the area was relatively well separated from urban activities) and centered primarily on railroad lines through the area, including railroad support operations and other commercial/industrial activities such as grain storage, automotive recycling, wood creosoting and general manufacturing. Some of these activities have been phased out; others are still active, but declining.

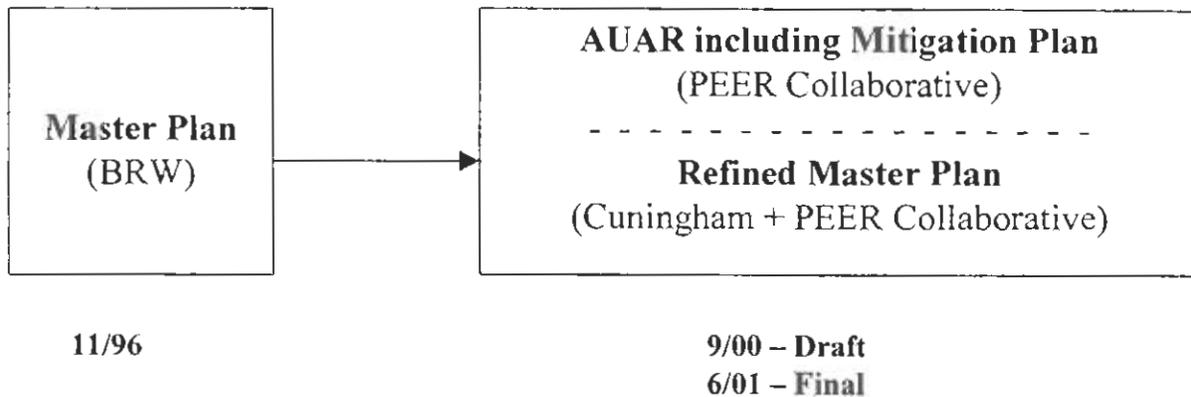
By the early 1990's, many blighted properties and environmental degradation, including substantial areas of soil and groundwater contamination, characterized the area. In addition to becoming largely incompatible with its close residential and University neighbors, SEMI/Bridal Veil was seen as a redevelopment opportunity to create a major new industrial area that:

- Provides for some mixed use
- Creates living wage jobs
- Greatly enhances the tax base
- Is compatible with nearby neighborhoods, and
- Reestablishes elements of the natural ecosystem.

In 1994, the SEED (Southeast Economic Development) Committee\* was formed to facilitate redevelopment in the area. In 1995 BRW, Inc. was selected to assist the Committee, residents and property owners in preparing a 20-year Master Plan. The original Master Plan, which was completed in November 1996, and approved by the City Council on April 25, 1997, identified many areas of potential environmental impacts and called for further evaluation using the Minnesota Environmental Quality Board (EQB) Alternative Urban Areawide Review (AUAR) process. On June 6, 1997, the City acted on this recommendation, and initiated an AUAR of the plan. Further, the City requested refinement of the Plan's urban design based upon the findings of the AUAR. The following figure illustrates this planning process.

\* The SEED Committee consists of 14 voting members: two from each of the four adjacent neighborhoods; four from the business associations, and one each from the Minneapolis City Council and the University of Minnesota.

## SEMI / Bridal Veil Planning



### SEMI/BRIDAL VEIL AUAR CONTRIBUTORS

Table 1 lists the PEER Bridal Veil Collaborative contributors to this study effort, their experience and affiliation.

Many individuals from the City of Minneapolis also assisted us greatly in guiding our work and assembling the required information, including:

- Joan Campbell, Council Member, City of Minneapolis
- Jim Forsyth, Minneapolis Community Development Agency (MCDA, Contracting Officer)
- J. Michael Orange, Planning Department (City Representative)
- Keith Sjoquist, Sjoquist Architects, Inc. (Chair, SEED Committee)
- R. Kannancutty, Public Works (Infrastructure)
- Jodi Polzin, Public Works (Infrastructure)
- Jacob Burgraff, Public Works (Infrastructure)
- Jon Wertjes, Public Works (Infrastructure)

### AUAR STUDY AREA

The study area (see **Figure 1**) is bounded on the north by Rollins Avenue (between 15<sup>th</sup> and 17<sup>th</sup> Avenues Southeast), Elm Street and the Burlington Northern right-of-way; on the east by Highway 280; on the south by University Avenue; and on the west by 15<sup>th</sup> Avenue Southeast. The area is approximately 700 acres, of which 125 acres is occupied by railroad. Of the remaining 575 acres, approximately 290 acres have identified releases of contamination which have been investigated and been given closure by the MPCA, or are currently under investigation.

**Table 1**  
**SEMI / Bridal Veil AUAR**  
**List of Contributors**

Contributor	Firm	Education/ Registration	Years of Experience	AUAR Responsibilities
L. Michael Johnson	President, Peer (successor to David Vieau) Environmental and Engineering Resources, Inc. (PEER)	Bachelor of Science Degree, 1979, Geological Engineering, U of MN	20 years	Principal in charge
David Byfield	PEER	BS, Engineering, Michigan Tech. U. MS Engineering, Northwestern U.	36 years	Overall project management
Robert Sykes	Land and Water Design Institute, S.C.	BA, Landscape Arch., U of MN MLA, Landscape Arch., Harvard U. Registered Landscape Architect MN, MA	27 years	Stormwater management
Howard Midje	TKDA, Inc. (TKDA)	BS, Ag. Engineering, U of MN Registered PE, MN Professional Hydrologist	39 years	Hydrology
Matt Wassman	TKDA	BS, Civil Eng., U of MN Registered PE, MN	5 years	Hydrology support
Carole Zellie	Landscape Research, Inc. (LRI)v	BA, Arch. & Art History, U of MN MS, Urban Geography, U of WI MA, Arch. History, U of MN	24 years	Historical inventory
Garneth Peterson	LRI	BA, History, Augustana (SD) MA, Urban History, U of Neb. AICP	20 years	Historical inventory
Lance Neckar	LRI	BA, Cornell MLA, Harvard U. MA, Landscape Arch., U of WI Registered Landscape Architect, MN	26 years	Urban design consultant
William Smith	Biko Associates, Inc. (Biko)	BA, Wesleyan U. (CT) MA Urban and Regional Planning, U of IA AICP	15 years	Traffic and transportation
Tim Griffin	Biko	BS, Arch., U of MI MA, Urban Planning, U of MI MA, Architecture, U of MI AICP, AIA	19 years	Public participation
Steve Wilson	SRF Consulting Group	BA, Geography, U of WI MS, Civil Eng., U of WI	19 years	Traffic modeling
Donald Shaffer	HKS Associates Inc.	BS, Civil Eng., Penn. State U. Registered PE in MN, WI, SD, PA	32 years	Base mapping; roadway planning
Victor Caliendo	Cumingham Group	B, Arch. MIT MS, Arch. & Urban Design, Columbia AIA	30 years	Urban design; refined Master Plan
Andrew Dresdner	Cumingham Group	BA, Macalaster M, Arch. U of WI M, Urban Planning, U of WI AICP	5 years	Refined Master Plan
James Hall	PEER	BS, Chemistry and Computer Science, U of MN MS, Civil Engineering, U of MN MS, History, U of MN Registered Attorney, MN	22 years	Contaminated sites mitigation plan
Mark Ciampone	PEER	BA, Geology, U of MN MS, Geology, U of Cincinnati Registered PE, MN	6 years	Environmental site assessments

In certain instances, the study area extended beyond the project boundaries as follows:

- Stormwater/hydrology- included watersheds and catchments flowing across the project area boundaries into the SEMI/Bridal Veil area from as far away as the intersection of Highway 280 with US 35W.
- Traffic/Transportation- included analysis of 10 intersections in Saint Paul and 20 intersections in Minneapolis adjacent the project area.
- Soil and Groundwater Contamination- included consideration of potential off-site sources of contamination out to 1.25 miles from the center of the AUAR Study Area.
- The related urban design effort Southeast Minneapolis Industrial (SEMI)/Bridal Veil Refined Master Plan (the Refined Master Plan) considered the land uses and design relationships of areas adjacent SEMI/Bridal Veil, for example, future redevelopment along University Avenue as it would relate to areas to the south in the Prospect Park neighborhood.

## **THE SEMI/BRIDAL VEIL REFINED MASTER PLAN**

### **Introduction and Procedural Context**

The Southeast Minneapolis Industrial (SEMI) area is strategically located adjacent to major regional transportation routes, major transit (bus and rail) routes, a nationally renowned research and teaching institution, and several healthy vibrant residential neighborhoods. Just beyond these neighbors within a mile of SEMI are other resources (downtown Minneapolis, the Mississippi River, and expanded access to the interstate system) which suggest that much of SEMI is not developed to its highest and best use (see **Figure 2** : Context Map).

The original master plan, prepared by BRW Inc., identified the major land use components and the importance of establishing connections between the north areas and those south of the rail yards. It lacked design specificity regarding individual parcels and blocks, and omitted one of the most important site development considerations: that storm water management would require the creation of large ponding areas which also reflected the southerly flow of waters towards the Mississippi River and towards the low lying areas of the AUAR Study Area. In addition, the intervening years since its original formulation have significantly altered the market demand for the areas south of the yards as well as for those north of the rails. These factors have led to the creation of the Refined Master Plan.

The Refined Master Plan develops a comprehensive and regional storm water management plan, differentiates size, intensity and purpose in the use of parcels and blocks in the areas south of the yards, organizes truck traffic to better serve the large industrial users in the northern areas (while minimizing the negative impacts of the trucks on the surrounding residential areas), provides for direct traffic access to the area's major arterials, and develops a more intense structure of buildings and uses.

By developing a clear structure of streets and blocks, the Refined Master Plan also provides for increased access to each parcel and integrates new development with existing. Finally, the plan is structured around the provision of a significant public amenity of parks, open space and water formed around and in response to the storm water management plan.

**Urban Design Plan as Mitigation Strategy**

The Refined Master Plan coordinates several of the individual components (traffic, stormwater, utilities, land use) into a physical plan that predicts, accommodates, and designs for the likelihood of significant growth and redevelopment. By coordinating these elements, the Refined Master Plan doubles as a mitigation plan. New roads are recommended, intersections are improved, transit is supported, stormwater is treated, and land uses are integrated in order to address and balance the potential externalities of redevelopment (see **Figure 3**, Urban Design Plan: Illustration of Future Development).

The Refined Master Plan, if implemented, will do more than mitigate its impacts. The Refined Master Plan, and its various components positively impact the area by contributing, not just mitigating the City’s and Region’s various systems and resources. Upon build out, the resources and systems will work more efficiently and effectively than existing conditions.

**Development Scenarios**

In order to quantify the redevelopment potential and to develop the appropriate mitigation strategies, the Refined Master Plan calculates three potential 20-year development scenarios: “low,” “medium” and “high.” Several assumptions were used to calculate the overall area of development by type, total number of residential units, total number of parking spaces, vehicle trips generated, etc. The development scenarios are summarized below.

**Redevelopment Scenarios Summary**

	sq.ft. commercial	sq.ft. residential	sq.ft. light industrial	sq. ft. industrial	# of residential units	# of jobs
Low	642,300	306,450	365,600	816,750	681	1,697
Medium	1,694,500	340,566	548,400	907,500	908	3,499
High	3,477,750	255,375	731,200	680,625	851	6,254

**Redevelopment Areas and Districts**

The primary and most fundamental component of the Refined Master Plan is to understand the different qualities of the study area and to then organize SEMI into three distinct Redevelopment Areas defined by their location relative to the existing Burlington Northern Santa Fe (BNSF) railroad tracks. The North Redevelopment Area is located north of the BNSF tracks and includes railyards presently owned by the Union Pacific railroad (UP). The Central Redevelopment Area includes present BNSF railroad tracks. The South Redevelopment Area is located south of the BNSF tracks (see **Figure 4** : Redevelopment Areas).

- It is appropriate for the North Redevelopment Area to continue to be characterized as an industrial area with very large floor plate buildings housing industrial uses as permitted by Minneapolis’ industrial zoning categories, distribution centers, and other users requiring exceptional trucking access. The current rail landowners (UP) have indicated the land may be available for redevelopment sometime in the next 20 years. Buffering adjacent residential neighborhoods needs to be improved and maintained.

- With access and proximity to the University of Minnesota, a major mixed use corridor/arterial (University Avenue), and adjacencies to residential neighborhoods, it is appropriate for the general character and land use of the South Redevelopment Area change from one dominated by manufacturing and industry to one of balanced mixed uses.
- It is appropriate for the Central Redevelopment Area, if redeveloped, be done so in a similar manner to that of the North Redevelopment Area. The current land owners, BNSF, have made no indication of their willingness to redevelop the land. Therefore, the planning horizon for the Central Redevelopment Area is 20 - 50 years.

The Refined Master Plan further defines the Redevelopment Areas by establishing several Districts with distinct yet flexible land uses. The Districts prescribe a range of appropriate land uses necessary to smoothly integrate the project area into the existing context (see **Figure 5: Land Use Plan**).

- The importance of University Avenue and the proposed 27<sup>th</sup> Blvd. suggests that the core of the South Redevelopment Area become an active mixed-use district of commercial, residential, research and high-tech industrial land uses. The district should be characterized by mid height (3-5 story) buildings with mid block structured parking to serve several blocks of redevelopment. The district would provide the core to the South Redevelopment Area, while elevating the importance of University Avenue as a principal artery connecting two downtowns. The active and pedestrian quality of this district will integrate and connect Prospect Park to proposed Granary Park via the proposed 27<sup>th</sup> Blvd. SE.
- The districts flanking the core of the South Redevelopment Area will differ in quality and character to that of the core. The eastern edge of the South Redevelopment Area has superior access to Hwy. 280 and I-94 and should therefore become a district of commercial, research, and light industrial land uses. The superior access to the freeway and direct adjacencies to existing light industry suggests limited processing, production and distribution of goods is appropriate. With the recommended bridges and other infrastructure elements, the impacts of such uses on University Avenue and the residential neighborhoods will be limited.
- The western edge of the South Redevelopment Area is directly adjacent to the University and should therefore provide for relatively intense research, residential, and commercial functions supporting the University. Design and development of this district should encourage a smooth transition from the University to the aforementioned core district of SEMI. The District should be characterized by mid-height buildings housing high-tech employees and students seeking a high quality urban environment with access to the University and transit.

### Alternative Granary Park Scenarios

**Figure 3A:** Alternative Granary Park Scenarios illustrates three approaches to reconfiguring Granary Park to accommodate additional development sites while maintaining the ponding required to serve the drainage and retention needs of this portion of the SEMI/Bridal Veil area, as well as maintain the drainage and stormwater management capacity on a system-wide basis. In these alternatives, the amount of stormwater retention is constant. The variables are in the location of the ponds and the inclusion or elimination of selected buildings.

- Alternative 1. This alternative assumes the removal of the Lighthouse Bay building. A developable site of approximately 4.8 acres is created to the west of the park area. However, because of the natural slopes and elevation of this new development area, only 2.8 acres of the site will drain into the pond. The remaining areas, 2.0 acres, must be drained into an on-site pond
- Alternative 2. By retaining the Lighthouse Bay building, but eliminating the Peavey Electric Elevators, a development site of approximately five acres is created west of the pond and park. However, only 3.0 acres of this new site can be drained into the main pond, and the remaining 2.0 acres will require on-site ponding.
- Alternative 3. This alternative assumes removal of both the Lighthouse Bay and Peavey Electric Elevators. A redevelopment site of approximately 8.5 acres is thereby created. Of this, about 6.5 acres can be drained into the main pond, while the remaining 2.0 acres must drain to an on-site pond.

### Infrastructure

Several strategic infrastructure investments are required to facilitate redevelopment and intensification of the area. These infrastructure improvements will achieve the public needs and responsibilities of:

- Providing initial impetus for development,
- Mitigating impacts of future developments,
- Improving connections (vehicular, and recreational) within the project area and from the surrounding neighborhoods,
- Improving existing stormwater quality and quantity problems,
- Providing amenities and public realm improvements required for high quality developments.

The following outlines the most important infrastructure improvements required to implement the SEMI Refined Master Plan.

- Creation of a street and block grid system extending north from Prospect Park to the proposed Granary Park (see **Figure 6: New Roads**).
  - 1) Create Granary Parkway and link it into the road connection in the Dinkytown trench.
  - 2) Extending existing streets north of 4th Avenue to Granary Parkway.
  - 3) Extend 27<sup>th</sup> Avenue SE north as an amenity boulevard from Prospect Park to Granary Parkway.
  - 4) Extend 4<sup>th</sup> Street SE to Oak Street

These infrastructure improvements will create a framework for development of the South Redevelopment Area. It will create recognizable and understandable urban blocks that will facilitate incremental development able to respond to different market conditions over time. In addition, the new roadways will maximize access to the proposed Granary Park for the South Redevelopment Area.

- Improved circulation and access of the North Redevelopment Area (see **Figure 6: New Roads**).
  - 1) Completion of the Kasota Parkway
  - 2) Creation of the East Bridge and the West Bridge
  - 3) Development of Kasota Extension to I-35W

The above infrastructure improvements will make possible the expansion and redevelopment of the North Redevelopment Area. The completion of Kasota Parkway will provide a local network of circulation around the railroad tracks as well as provide access to parcels in the North Redevelopment Area. The East Bridge and West Bridge will complete the circulation around the railroad tracks and will provide needed relief to the University Avenue / Franklin / 280 Interchange by providing access to the 280 / Kasota Interchange (see **Figure 7: Networks**).

- Development of a Green Infrastructure that provides a structure for stormwater management, recreational opportunities, and development amenities (see **Figure 8: Green Infrastructure**).
  - 1) Create a major park with ponds and recreational amenities at the natural low elevation point in SEMI.
  - 2) Create a boulevard link between the new park and the Mississippi River along the 27<sup>th</sup> Avenue SE.
  - 3) Completion of the Grand Rounds from the Como neighborhood through SEMI to either/both Oak Street or 27<sup>th</sup> Avenue SE.
  - 4) Provision of several on-site storm water management techniques such as “rain gardens” and “biofiltration strips.”

These green infrastructure investments will make possible the collection and cleansing of SEMI created stormwater, routing of recreational trails throughout the site, celebration of historic structures and, overall creation of a prestigious address for development.

### **Historical Resources**

The SEMI/Bridal Veil area developed a century ago as the primary railroad corridor between Minneapolis and St. Paul and proved to be an excellent location for the large grain elevators needed for crop storage as Minneapolis grew into one of the nation’s leading grain marketing centers. Other manufacturing industries also located on the site to take advantage of the rail connections.

Eighteen buildings, structures, and/or complexes were evaluated and categorized according to high, medium and low priority for further research (**Figures 9 & 9B**). Evaluation and determination of significance for terminal grain elevators, in particular, requires careful examination of the workhouse and storage bins. Construction methods and technological innovations are often determining factors in establishing significance and require more detailed study of individual structures than was possible for this survey. Additional site and structure research is necessary to determine whether any of these buildings or building complexes are eligible for listing on the National Register of Historic Places, or local designation.

Known in the grain industry as “St. Anthony” or the “Midway,” the SEMI/Bridal Veil area contains one of the largest remaining concentrations of terminal grain elevators in Minneapolis. Many of the terminal elevators and related industries located in the SEMI/Bridal Veil area have been razed, including: St. Anthony No’s 1, 2, 3; the Van Dusen-Harrington Co. Interstate Elevator and Crescent Elevator H; E.S. Woodworth and Co. warehouse and Concrete Elevator Co.; Twin City Trading Co.; Spencer-Kellogg and Sons Linseed Oil Mill; the large Russell-Miller flour mill; New Century Mill (National Register of Historic Places, destroyed by fire); the Devereaux Elevator; Continental Grain Co.; Cargill Grain Co.; and the Cargill Nutrena Mill.

Although these structures are gone, the remaining concentration, particularly the Marquette, Electric Steel, Kurth Malting and ADM complex form a massive district combining terminal elevators, the malting industry and linseed oil industry. The role of each of these industries in Minneapolis, as well as the structures that housed them, all require additional evaluation. These buildings are also structurally important, particularly the Electric Steel Elevator, arguably the most significant remaining steel elevator complex in the City since the razing of Pioneer Steel Elevator Co. in northeast Minneapolis in 1995. The Marquette, Kurth, and ADM complexes are important examples of concrete use in storage bin construction requiring additional in-depth study, and are recommended as high priority for further research.

Also recommended as high priority for research are two industrial manufacturing companies which retain their original buildings dating back a century. The Wabash Screen Door Co. buildings, constructed beginning in 1902, are now used by Murphy Warehouse. The Peteler Car Co. buildings, originally used for railway car construction, have been owned by Harris Machinery since the 1920’s. Although altered, both the Wabash Screen Door and Peteler Car Co. buildings remain to provide a sense of the type of manufacturing that existed in the SEMI/Bridal Veil area.

Fire Station No. 19 is also listed as a high priority, reflecting its status on the National Register of Historic Places. It does not require additional research.

The four structures listed as medium priority are all related to the grain terminal and processing industries. The Union, Calumet, and Dickenson elevators all require analysis of their component parts for a determination of significance. Both the Union and Calumet may have original storage bins, although their workhouses are second generation. Dickenson has buildings attached to the workhouse which are original, although altered. The Russell-Miller flour mill is the only remaining building of what was a large complex. However, its ongoing connection to Electric Steel Elevator when the mill was in operation may offer this remaining building additional significance.

Buildings listed as low priority are largely industrial manufacturing buildings that no longer function in their original uses. Most have lost integrity either through unsympathetic alternations or loss of supporting buildings.

**Timing**

The redevelopment “phasing” of SEMI/Bridal Veil is driven principally by market forces, traffic/transportation issues and priorities expressed in community focus sessions conducted during the course of our work. In this summary, the following redevelopment phasing assumptions have been made (see also **Figure 4**):

- The redevelopment of the area north of Kasota Parkway is well underway, with remaining tasks, primarily focusing on traffic (including the Grand Round connection) and greenspace issues.
- The sequence of redevelopment activity will occur next to the south of the railyards and north of University Avenue. This area is called the South Redevelopment Area.
- Following the South Redevelopment Area will be an area of railyards currently owned by the Union Pacific to the south of Kasota Parkway. This area, called the North Redevelopment Area in this report, is currently underutilized by the railroad. Based upon Union Pacific estimates, portions of this property may become available for redevelopment in the next 20 years or so.
- The long term (beyond 20 years) may hold redevelopment potential for areas of the current BNSF railyard. Fully utilized at present, BNSF suggests that future consolidation of their railyard facilities in the metropolitan area could make property available for redevelopment in an area called the Central Redevelopment Area in this report.

Traffic and transportation considerations require that road infrastructure improvements be made on a timely basis to limit the impact of redevelopment on the surrounding community. The following diagram lists the major road infrastructure improvements needed to address existing traffic problems, to facilitate future redevelopment, and to deal with distribution of traffic created by future redevelopment. The diagram lists the key projects in approximate rank-order of priority.

**ROAD INFRASTRUCTURE PRIORITIES**

	Addresses Existing Problems	Access to Re-Development Parcels	Required for Distribution of Future Traffic
Central Granary Parkway (25 <sup>th</sup> to Oak)		<b>X</b>	<b>X</b>
Kasota Parkway (E/W Road)	<b>X</b>	<b>X</b>	<b>X</b>
Elm Residential/Industrial	<b>X</b>		
Granary Parkway (East of 25 <sup>th</sup> )		<b>X</b>	<b>X</b>
Granary Parkway (West of Oak; a.k.a. Dinkytown Road)	<b>X</b>	<b>X</b>	<b>X</b>
West Bridge	<b>X</b>		<b>X</b>
East Bridge	<b>X</b>		<b>X</b>
Kasota Extension to 35W	<b>X</b>		<b>X</b>

The “trigger” for the extension of Granary Parkway west of Oak Street (also known as Dinkytown Road) will be when traffic volumes become excessive and intersection level-of-service (LOS; see footnote on page 16) become problematic (LOS F during peak periods) on 4<sup>th</sup> Street SE and University Avenue SE between Oak Street and 11<sup>th</sup> Avenue SE.

## STORMWATER/HYDROLOGY AND MITIGATION PLAN

### Existing Conditions

Stormwater runoff leaves the Southeast Minneapolis Industrial Area in four different ways. The majority is drained through the storm sewer system within the Bridal Veil Creek Watershed. A portion of the site west of 25<sup>th</sup> Avenue SE drains by overland flow that exits the area underneath the 15<sup>th</sup> Avenue SE railroad bridge. The areas occupied by Hubbard Broadcasting Company and the Westgate development near TH 280 and University Avenue SE, as well as the ponding areas around the intersection of TH 280 and Kasota, drain to the TH280 Drainage system. The fourth small watershed area, near the intersection of Elm Street and Kasota, (labeled C.S.O. on **Figure 10**) is poorly drained and connects to a combined storm and sanitary sewer running west under Elm Street. A fifth area (labeled Elm Street/Kasota Subcatchment) appears to be internally drained with no outlet. There are no existing regional water quality ponds that can service new development in the SEMI area.

As it passes under the railroad yards, the storm sewer conducting the main stem of Bridal Veil Creek shrinks in diameter from a 66-inch diameter pipe under Kasota to a partially collapsed 24-inch diameter pipe as it approaches the University Transitway (see Existing Drainage Plan, **Figure 10**). At the University Transitway, flow from the Bridal Veil Creek main stem is divided by a weir. The weir directs the primary flow southward beneath 27<sup>th</sup> Avenue SE to Bridal Veil Falls and the Mississippi River. Secondary overflow is directed west and south beneath 25<sup>th</sup> Avenue SE to the Mississippi River. Modeling showed the 10-year, 24-hour storm produced a discharge of 49 cubic feet per second (c.f.s.) at the weir with 47 c.f.s. to the falls, 2 c.f.s. to the overflow, and significant back-up and flooding in the railroad yard. The 100-year storm was not modeled because the 24-inch pipe constriction prevents any significant increase in flow at the weir, thus simply producing more flooding in the railroad yard.

### Proposed Development

**Figure 11** shows the storm water management linkages for proposed development. Existing flow in the Bridal Veil Creek main stem will be maintained to the falls through SEMI via a new storm sewer main A-B-C-D-F which will run under the rail yard and the proposed Granary Parkway to the existing storm sewer main under 27<sup>th</sup> Avenue SE to the Mississippi River. A new weir at Point D will divert any excess flow into the University Transitway storm sewer via pipe run D-E, connecting to the existing sewer under 27<sup>th</sup> Avenue SE and the Mississippi. If abandonment of existing grain elevators occurs, East Granary Pond may be created to serve as a major focal element for Granary Park. To create the pond, water from the new Bridal Veil mainstem sewer may be diverted at Point Z to flow through the proposed East Granary Pond on its way to Point C and final outfall at Bridal Veil Falls.

Runoff from the South Redevelopment Area will be handled in three ways. Runoff from the majority of this land area will be directed to West Granary Pond (a 3.7-acre storm water detention and treatment pond) via storm sewer main G-H-I-J-K (outflow is via new storm sewer main Q-R-S-T connecting to the Mississippi River through existing storm sewer). The runoff produced from a 1.25-inch rainfall flowing from new development on Blocks 14, 15, 16, 17, 23 east and 24 west (see Stormwater Management Plan, **Figure 12**) will be treated in bioretention facilities located on or adjacent to the blocks. Blocks 12, 13, 20, 21, 22 and west 23 are topographically too low to drain to a regional treatment pond and will continue to drain directly into the existing storm sewers. Development for Blocks 18, 24, 25 and 26 will not substantially change the imperviousness or hydrologic performance from existing conditions.

Outflow from the feature labeled Bride's Maid Pond will be conducted to the West Granary Pond via storm sewer L-M or to East Granary Pond. Bride's Maid Pond will be constructed as an open water pond or as a constructed wetland, depending the result of water budget analysis.

Runoff from the North Redevelopment Area will be directed first through a system of bioretention and biofiltration facilities along the proposed Kasota Parkway. Biofiltration facilities are enhanced vegetated swales designed to slowly move water through vegetation and crushed stone to filter, absorb and infiltrate runoff. Bioretention ponds (also called rain gardens) are specially designed depressions with constructed soil profiles and plantings that promote infiltration, evaporation and plant uptake of runoff. Overflow from these facilities will be conducted to Point X via pipe runs U-X and W-X. The area now served by a combined storm and sanitary sewer (see **Figure 10**) will be served by a new storm sewer main V-X. Existing storm sewer connections to the sanitary sewer will be abandoned. Runoff from the North Redevelopment Area will be conducted to the West Granary Pond via new storm sewer X-Y.

No specific development is planned for the Central Redevelopment Area in the foreseeable future. It is assumed that detention needs will be satisfied by a new facility within the Central Redevelopment Area, with outflow passing through the either East or West Granary Pond to the Mississippi River.

### **Mitigation**

Only stormwater impacts for maximum development are discussed as the changes between the different development scenarios produces insignificant differences in impervious area and stormwater effects. Development in the SEMI area will produce insignificant increases in flood flows to the discharge of the Mississippi River. The principal flood flow concern is protecting against localized flooding. The new storm sewers and ponds shown on Stormwater Management Linkages (**Figure 11**) will be designed to provide that protection.

The existing base flow and storm flow to Bridal Veil Falls will be maintained. By replacing the nearly collapsed structures of the main stem of Bridal Veil Creek with new structures, both base flow and storm flow to the falls will be assured for the foreseeable future.

Runoff water quality treatment to Minnesota Pollution Control Agency permit requirements and City Ordinance Standards is provided for each block planned for development in North and South Redevelopment Areas as shown on Stormwater Management Plan (**Figure 12**). Treatment of storm water runoff from a Water Quality Volume (WQV)<sup>1</sup> storm is planned through the combined use of a regional detention pond, on site detention, constructed wetlands, filter strips, rain garden (bioretention) facilities and biofilter swales.

In the South Redevelopment Area runoff from the majority of the new development will be treated in West Granary pond. In some areas, no significant increases in imperviousness requiring treatment are proposed. Runoff from new roofs along 4<sup>th</sup> Street and 27<sup>th</sup> Boulevard will be segregated from the general runoff and used to feed linear urban wetlands W1 through W8 shown on the Stormwater Management Plan (**Figure 12**). The WQV roof runoff will be entirely infiltrated and taken up by wetland plants in these linear urban wetlands (see Urban Wetland Section, **Figure 13**).

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<sup>1</sup> Water Quality Volume is the runoff volume produced from a 1.25-inch rainfall. This volume must be treated to meet MPCA and City of Minneapolis stormwater regulations.

North Redevelopment Area runoff from Block 34 shown on Stormwater Management Plan (**Figure 12**) is treated through a series of redundant systems. Runoff from truck maneuvering and roof areas will be required to flow into rain garden (bioretention) facilities (Axonometric View of Kasota Parkway, **Figure 15**) lined with trees to facilitate uptake of pollutants associated with such surfaces. Auto parking areas and turf surfaces will be drained across filter strips planted with trees and then into biofilter swales for infiltration and soil treatment of runoff (Biofilter Swale and Filter Strip Section, **Figure 14**). The filter strips, rain garden (bioretention) facilities and biofilter swales will be required to remove the WQV runoff completely by infiltration and plant uptake. There is sufficient soil depth above the water table to properly infiltrate and clean runoff. The WQV from the Combined Sewer Overflow area (**Figure 10**) will be conducted by new storm sewers to West Granary Pond for treatment. Runoff from the Elm Street/Kasota Subcatchment (**Figure 10**) will be treated in a local detention pond.

*Impact Summary*

- Untreated sanitary sewer overflow into the Mississippi via existing combined sewers will be eliminated by new storm sewer main service to the North Redevelopment Area.
- In the North Redevelopment Area 25.72 acres of new impervious surface will produce a WQV of 129,030 cubic feet. Of this 46,321 cubic feet will be infiltrated in biofiltration swales, 75,222 cubic feet will be infiltrated in rain gardens, and 7487 cubic feet will flow to West Granary Pond for treatment.
- In the South Redevelopment Area 59.82 acres of new impervious surface will produce a WQV of 310,443 cubic feet. Of this 26,140 cubic feet will be infiltrated in new urban linear wetlands, and 284,302 cubic feet will flow to West Granary Pond for treatment.

Peak Discharges of runoff at Location	Bridal Veil Creek Mainstem Storm Sewer Flow South at Kasota	Bridal Veil Mainstem Overflow East to St. Paul Storm Water Tunnel at Kasota	Storm Sewer Flow from West Granary Pond at 25 <sup>th</sup> Ave. & University Ave.	Bridal Veil Mainstem Sewer Flow to Bridal Veil Falls at 27 <sup>th</sup> Ave. & University Ave.
10 yr. 24 hr. Existing Peak	47 c.f.s.	0 c.f.s.	58 c.f.s.	49 c.f.s.
10 yr. 24 hr. Proposed Peak	25 c.f.s.	60 c.f.s.	71 c.f.s.	61 c.f.s.
100 yr. 24 hr. Existing Peak	Not modeled (see existing cond.)	Not modeled (see existing cond.)	Not modeled (see existing cond.)	Not modeled (see existing cond.)
100 yr. 24 hr. Proposed Peak	40 c.f.s.	90 c.f.s.	255 c.f.s.	79 c.f.s.

## TRAFFIC/TRANSPORTATION AND MITIGATION PLAN

### Circulation Framework Plan

Efforts to refine the original SEMI/Bridal Veil master plan included design of the circulation framework diagrams that are illustrated on **Figures 6 and 7**. Objectives that guided the design of the framework diagrams were developed based on input from neighborhoods, area business leaders, the University of Minnesota, existing on-site users, and City of Minneapolis and City of St. Paul agencies. The objectives are to:

- Provide a circulation system that links on-site users to minimize use of the existing street system;
- Provide a circulation system that conveniently channels site-generated traffic to specific access points with the existing street system;
- Provide convenient and efficient access to the regional highway system;
- Facilitate use of alternative transportation modes such as bus, bicycle, and pedestrian and potential future LRT and commuter rail; and
- Minimize traffic impacts to residential areas that are adjacent to or otherwise neighbor the SEMI site.

To meet these objectives, the circulation framework diagrams were refined to include the following elements:

- West Bridge and East Bridge to connect the site's North, Central, and South Redevelopment Areas and provide grade separated crossings over existing railroad tracks;
- West Bridge connection to Kasota Avenue Extension, which links the site to the 15th Avenue railroad overpass to provide access between the site and a future I-35W interchange;
- East Bridge connection to Kasota Avenue to provide an alternative access route between the site and TH 280 and I-94, that will not increase traffic volumes and turning movements at intersections formed by University, Franklin, and Cromwell Avenues and Eustis Street;
- Granary Parkway to provide east/west circulation across the site and a grade-separated link (via the Dinkytown Road) between the site and I-35W ramps on 4<sup>th</sup> Street and University Avenue;
- The western segment of Granary Parkway (between 11<sup>th</sup> Avenue SE and Oak Street) to provide a bicycle path between the site and Main Street in Historic St. Anthony;
- Potential future LRT and commuter rail alignments and a linkage between the two stations; and
- A grid street pattern in the South Redevelopment Area to facilitate orderly on-site traffic circulation.

**Transportation and Traffic Analysis**

The AUAR analyzed transportation and traffic conditions for five scenarios.<sup>2</sup> These included: 1) existing conditions, 2) forecast 2021 No Build Alternative, and 3) three forecast 2021 build alternatives. The three build alternatives represented varying levels of development/redevelopment intensity, including the Low Intensity Build Alternative, the Mid-Intensity Build Alternative, and the High Intensity Build Alternative. Characteristics of the build alternatives are presented in Table 2.

**TABLE 2  
TRANSPORTATION/TRAFFIC CHARACTERISTICS FOR  
SEMI/BRIDAL VEIL BUILD ALTERNATIVES**

<b>CHARACTERISTIC</b>	<b>Build Low Intensity Development</b>	<b>Build Mid-Intensity Development</b>	<b>Build High Intensity Development</b>
Daily Traffic	16,534	28,538	45,508
Total PM Peak Hour Traffic	1,513	2,625	4,240
PM Peak Hour Inbound Traffic	778	1,321	2,081
PM Peak Hour Outbound Traffic	735	1,304	2,159
Total Parking Spaces Provided**	5,252	9,766	13,666
Daily Transit Riders***	3,310	5,710	9,100

\*\* All parking spaces are to be provided on-site. No off-street parking spaces are included in the parking assumptions.

\*\*\* Transit mode split assumed to be 20 percent.

Source: PEER Bridal Veil Collaborative; 1999.

Assumptions used in the transportation/traffic analysis are listed below:

- Low Intensity Build Alternative:
  - approximately 1.0 floor area ratio
  - 5.0 parking spaces per 1,000 SF commercial
  - 1.2 parking spaces per residential unit
  - 2.8 parking space per 1,000 SF light industrial
  - 1.0 parking space per 1,000 SF industrial

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<sup>2</sup> Pursuant to rules for preparing traffic analyses, forecast conditions are to be analyzed for one year after opening. Thus, for the SEMI/Bridal Veil AUAR, the forecast scenarios were analyzed for Year 2021, one year after projected build-out would occur.

- Mid-Intensity Build Alternative:
  - approximately 2.5 floor area ratio
  - 4.0 parking spaces per 1,000 SF commercial
  - 1.8 parking spaces per residential unit
  - 2.5 parking space per 1,000 SF light industrial
  - 1.2 parking space per 1,000 SF industrial
- High Intensity Build Alternative:
  - approximately 3.5 floor area ratio
  - 3.0 parking spaces per 1,000 SF commercial
  - 2.3 parking spaces per residential unit
  - 2.3 parking space per 1,000 SF light industrial
  - 1.5 parking space per 1,000 SF industrial

#### *Transportation/Traffic Influence Area*

For purposes of conducting the transportation/traffic analysis, an influence area was defined that encompassed a much larger area than the AUAR study area. **Figure 16** illustrates the influence area and shows that its borders were:

- East Hennepin Avenue to the north,
- Hampden Avenue and Brompton Street (both in St. Paul) to the east,
- Mississippi river to the south, and
- Central Avenue to the west.

Daily traffic volumes, PM peak hour turning movements at critical intersections, transit routes, and bicycle facilities within these borders were all included in the transportation/traffic analysis.

#### *Traffic Congestion and Mitigation*

Thirty-eight intersections were included in the analysis (28 in Minneapolis and 10 in St. Paul); see **Figure 17**. Of these, all but four currently operate at acceptable Levels of Service (LOS).<sup>3</sup> The same four intersections are forecast to exhibit the same capacity issues under 2021 No Build conditions. The four intersections comprise a system of intersections in St. Paul. The intersections are:

- University/Eustis
- Franklin/Eustis
- University/Cromwell
- Franklin/Cromwell

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<sup>3</sup> Level of Service (LOS) is a measurement of congestion and vehicle delay at intersections. LOS A through D are acceptable. LOS E is “tolerable” only during the peak travel periods, and F is unacceptable any time during the day. Intersections are designed to provide minimal LOS D.

The capacity deficiency issues at this system of intersections stem from three factors: 1) the overall volume of traffic approaching the intersections during the PM peak hour, 2) the presence of southbound, left-turning trucks approaching the Franklin/Eustis intersection, and 3) inadequate storage capacity for left-turning vehicles approaching the Franklin/Eustis intersection. Analysis showed that the least serious of these issues is the overall volume of vehicles approaching the intersections. The most critical issues are left-turning truck movements and inadequate left-turn storage capacity on Eustis Street, between University and Franklin Avenues.

These same conditions are forecast to occur under each of the build alternatives. Because right-of-way is not available, cost effective mitigation measures are limited. One mitigation measure would require reconstruction of the ramps between southbound TH 280 and eastbound and westbound I-94. With the ramps reconstructed, vehicles destined to eastbound I-94 from Eustis Street would no longer turn left onto Franklin Avenue before accessing the eastbound I-94 entrance ramp. Instead, they access the entrance ramp after passing through the intersection of Eustis/Franklin.

The mitigation measure that was accepted for analysis in the AUAR was construction of the East Bridge, which would allow on-site vehicles to access southbound TH 280 and westbound and eastbound I-94 from Kasota Avenue. The East Bridge alternative was accepted for inclusion in the SEMI/Bridal Veil circulation plan for the following reasons:

1. It would provide the required grade separation with existing railroad tracks, allowing traffic to circulate north/south, freely and safely, across the site.
2. It would be less disruptive to private property than the realignment of ramps between Franklin Avenue and eastbound and westbound I-94.
3. It could be constructed entirely on-site.
4. It would adequately address traffic issues by reducing travel demand at the problematic system of intersections (University/Cromwell, Franklin/Cromwell, University/Eustis, and Franklin/Cromwell) by using available capacity at the interchange of Kasota Avenue/TH 280.

Further evaluations of the build alternatives showed that with the increase in traffic that is due to site development/redevelopment activities, additional lanes will need to be constructed at some existing intersections to ensure acceptable levels of service. These are outlined below:

- Low Intensity Build Alternative:
  - University/27th
  - University/Malcolm
- Mid-Intensity Build Alternative:
  - University/27th
  - University/Malcolm
- High Intensity Build Alternative:
  - University/27th
  - University/Malcolm
  - Hennepin/Johnson (to northbound I-35W)

The mitigations identified for these intersections are as follows:

- University/27th (for the Low Intensity, Mid-Intensity, and High Intensity Build Alternatives):  
Reconstruct the southbound approach to the intersection to provide one shared left-turn/through lane and one exclusive right-turn lane.

- University/Malcolm (for the Low Intensity, Mid-Intensity, and High Intensity Build Alternatives):  
Reconstruct the southbound approach to the intersection to provide two exclusive left-turn lanes and one shared through/right-turn lane.
- Hennepin/Johnson (only for the High Intensity Build Alternative):  
Reconstruct the eastbound approach to the intersection to provide an exclusive left-turn lane.

*Traffic-Related Air Quality*

Automobile engines operate at higher levels of efficiency when they are running at higher speeds, compared to low idling speeds. This is the reason vehicle-produced carbon monoxide emissions are evaluated at intersection locations. According to the Minnesota Pollution Control Agency, vehicle-produced carbon monoxide is considered to be an issue when intersections operate at LOS D, E, or F. These are operating conditions where, due to traffic congestion, movement through an intersection could be delayed or brought to a halt.

The intersection analysis described above found that each of the 38 intersections is forecast to operate at LOS A, B, C, or D. These are acceptable operating conditions, particularly in view of the City’s policy on intersection operations and Levels of Service. Under the policy, LOS E is a “tolerable” condition during the AM and PM peak travel periods. The policy was developed because there are many LOS E intersections in the City, where lane additions are not possible because of right-of-way constraints.

*Traffic-Related Noise Pollution*

The noise analysis for the SEMI/Bridal Veil AUAR was conducted using the MINNOISE noise prediction, computer program. This program was developed by Mn/DOT by modifying STAMINA 2.0, the Federal Highway Administration’s noise prediction model. Modifications to MINNOISE were made to more accurately represent Minnesota’s noise emission factors. The analysis included 12 noise receiver locations, each located at residences (see **Figure 18**).

Minnesota’s noise standards for residential uses are presented in Table 3.

**TABLE 3  
MINNESOTA NOISE STANDARDS FOR RESIDENTIAL LAND USE**

<b>Daytime (7 AM to 10 PM)</b>		<b>Nighttime (10 PM to 7 AM)</b>	
<b>L<sub>10</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>10</sub></b>	<b>L<sub>50</sub></b>
65 dB(A)	60 dB(A)	55 dB(A)	50 dB(A)

L<sub>10</sub> refers to the sound level that is exceeded 10 percent of the time for a one hour period (or six minutes). L<sub>50</sub> is the sound level that is exceeded for 50 percent of a one hour period (or 30 minutes). Sound levels are expressed in weighted decibels (dBs). Sound levels that are in the octave band that is perceptible by humans are "A" weighted, and a dB(A) is the unit of sound, expressed in decibels, that is described for human hearing.

The following noise impacts overview presents results from the analysis of existing noise conditions for the 12 sensitive receiver locations.

### Noise Impacts Overview

#### Existing Conditions

-There are four locations where the State's daytime descriptors are exceeded under existing conditions. The daytime exceedances range between 0.1 and 3.5 dB(A) for the L<sub>10</sub> descriptor and 1.0 and 1.7 dB(A) for the L<sub>50</sub> descriptor.

-During the nighttime period, noise levels currently exceed the State's standards at all 12 receiver locations by amounts that range between 0.9 and 12.7 dB(A) for the L<sub>10</sub> descriptor and 0.5 and 11.8 dB(A) for the L<sub>50</sub> descriptor.

#### No Build Conditions

-The No-Build Alternative will have seven noise violations for the L<sub>10</sub> descriptor during the day. The range of the exceedances is from 0.1 to 5.6 dB(A).

-The No-Build alternative will have seven noise violation for the L<sub>50</sub> descriptor during the day. The range of exceedances is from 0.2 to 4.6 dB(A).

-During the peak of the nighttime period, the No-Build Alternative will have 12 L<sub>10</sub> and 12 L<sub>50</sub> violations. The range of L<sub>10</sub> exceedances is between 4.5 and 14.1 dB(A). The range of L<sub>50</sub> exceedances is between 1.9 and 13.2 dB(A).

#### Build Conditions

-Comparisons between predicted noise levels for the build alternatives and the No-Build Alternative are of key importance. These comparisons describe the actual traffic-related noise impacts of proposed redevelopments in the project area. Analysis indicated that none of the comparative increases in noise, between the No-Build Alternative and the build alternatives, is more than 1.5 dB(A).

-It can be concluded that the proposed redevelopments will not contribute perceptible levels of noise in the project area, given the inability of humans to perceive changes in noise levels that are less than 3 dB(A).

### Noise Impacts Mitigation Measures

Although implementing any of the three build alternatives will not result in perceptible noise level increases within the study area, efforts should be made to mitigate what can be accurately be called "an existing noise problem that will worsen under the No-Build Alternative and, depending on location, will slightly improve or slightly worsen under the build alternatives." Mitigation measures could include the following:

- Constructing barriers between the redevelopment site and neighboring residential land use. Barriers need not necessarily be thought of as sound walls, like those constructed along the edges of freeways. Instead, they can be attractive additions to the urban environment, including buildings, berms, tree rows and shrubs.

- Soft ground cover can be used to absorb noise that will be generated by the build alternatives.
- Finally, fencing can be constructed along the property edges and 3-foot high, jersey-style barriers (typically constructed on bridges to block tire noise) can be constructed along the outside edge of the proposed Kasota Extension, which would consist of a road that would be constructed alongside the train tracks.

#### *Transit Services and Facilities*

**Figure 19** shows existing transit routes that were evaluated for the analysis. According to Metro Transit, providing transit services to the site would be consistent with regional guidelines that were adopted in *Transit Redesign*, a document that was prepared in 1997, to outline approaches and conditions for providing transit services in the metropolitan area.

Consistent with *Transit Redesign*, Metro Transit has developed concept-level plans for a transit hub in the Midway area. It would be located at the intersection of Eustis and Franklin in St. Paul and could serve as many as 27 buses during an hour and a-half long peak period. During the PM peak hour, for example, as many as 18 buses would arrive/leave the transit hub.

The transit hub would assist in reducing the volume of traffic travelling to/from the SEMI redevelopment site. This is particularly true for commuters who will work in the eastern end of the redevelopment site and who will be within walking distance of the Eustis/Franklin intersection. Commuters who will work in the western end of the redevelopment site will need to walk to University Avenue or to 15th Avenue to connect with transit services.

#### *Bicycle and Pedestrian Facilities*

**Figure 20** shows existing and proposed bicycle routes within the transportation/traffic influence area. An existing bicycle route exists along Stinson Avenue, as part of the Grand Rounds. This route currently terminates at Hennepin Avenue, leaving a gap in the Grand Rounds, which continues on the south side of the University of Minnesota East Bank campus on east River Road. Completing the Grand Rounds across the SEMI/Bridal Veil site was defined as one of the goals of the project.

The *Minneapolis Plan* (map 9.2), adopted by the City in 1999, shows an extension to the existing “Greenway” on St. Anthony Parkway and Stinson Blvd. (which are a part of the Minneapolis Park Board’s Grand Rounds system). The extension, labeled “Potential Greenway,” runs east from Stinson Blvd. along Ridgeway Parkway to Industrial Blvd. where it turns south to Hennepin Ave. E., crosses East Hennepin and the SEMI Area, and then connects to 27<sup>th</sup> Ave. SE. From there, the Proposed Greenway would connect to the east side of the Franklin Ave. Bridge and East River Road (which is a part of the Grand Rounds system).

**Figure 8** provides additional detail of how the Minneapolis Plan “Potential Greenway” will cross the SEMI/Bridal Veil area; other routes for crossing the site are possible, as are options for connection to the Stone Arch Bridge and Bridge #9. All new streets will be designed to accommodate the recreational and commuter bicyclist, and pedestrians.

Pedestrians walking across the SEMI/Bridal Veil site will find sidewalks along a grid street pattern and bridges for grade separated crossings of the railroad tracks. In addition, the railroad alignment that was once identified as the location for the Dinkytown Bypass, has been identified as a bicycle/pedestrian green corridor. While railroad operations will continue along this corridor, there is ample right-of-way to include bicycle and pedestrian paths as well. This corridor would link the SEMI/Bridal Veil site to Main Street in the St. Anthony Main area of Minneapolis.

## **CONTAMINATED PROPERTIES AND MITIGATION PLAN**

An inventory performed as part of the AUAR identified 55 on-site and 26 off-site listings of contaminated sites in the SEMI/Bridal Veil area (**Figure 21**) where environmental impacts may require mitigation in conjunction with redevelopment. File reviews at the MPCA (Minnesota Pollution Control Agency) show that some of these sites have been extensively investigated and remediated (cleaned up), while many others (including two on the State's Superfund list, the McLaughlin-Gormley King Company and Archer Daniels Midland (ADM) dump) will require considerable future environmental mitigation.

Based on what is known about the contaminated sites within and near the SEMI/Bridal Veil area (type of contaminants, extent and severity, actions taken to date), and the types of redevelopment contemplated by the Refined Master Plan, conservative estimates have been made of the likely mitigation costs. **Figure 22** illustrates these cost estimates for soil and groundwater impacts, and **Figure 23** illustrates the cost estimates for mitigating hazardous materials in connection with structures (for example, asbestos in grain elevators).

### **South Redevelopment Area**

Future redevelopment of the South Redevelopment Area (see **Figure 4**) in SEMI / Bridal Veil will encounter some contaminated soil and ground water from historical land uses that must be properly managed on-site or removed for proper off-site disposal (**Figure 22**). Based on the available environmental information, the cost for the required environmental actions on most of the parcels in the South Redevelopment Area is estimated to be less than or equal to \$1 per square foot of land area. A few parcels with past land uses that have the potential to have produced more significant environmental impacts are estimated to cost between \$1 to \$2 per square foot. With the exception of two properties, sites within redevelopment blocks 2 and 9 that are known or suspected to have significant contamination issues, no active soil or ground water remediation or removal of contaminated media not encountered during development is anticipated. The cost to address sites within block 2, the location of the former Republic Creosote facility, could be \$7.50 to \$15 per square foot. The cost to address sites within block 9, the location of the former ADM dump, could be \$5 to \$10 per square foot. Hazardous building materials, storage tanks, and water wells must also be properly addressed on many of the parcels that still have existing structures prior to their redevelopment. This could add between \$0.50 to \$2 per square foot of land area to parcels with these concerns.

The estimated costs of mitigation do not mean that the contamination is uniformly distributed across a particular redevelopment block. Rather, they are meant to convey a total mitigation cost for the block, and additional investigation is required to define the location and nature of the contamination more precisely. Contamination is anticipated to be encountered in localized areas. Accordingly, much of the soil that will be encountered during the redevelopment of the South Redevelopment Area may not be impacted by contamination. This unimpacted soil can be excavated, graded, used on-site as construction fill or for landscaping, or taken off-site without restriction. However, on many sites, some of the soil encountered during development may be impacted. Most of this impacted soil is anticipated to be either found in the shallow soil or deeper in localized areas, the result of historic spills of petroleum and chemicals and historic use of pesticides, or found along the soil – ground water interface, carried there by contaminated ground water. Depending on the proposed development, it may be possible to leave soil with slight to moderate impacts on-site in covered berms or use it elsewhere on-site under paved surfaces or at depth where the public will not be exposed. Soil with more significant contamination will have to be disposed of off-site, most likely as industrial waste within a landfill permitted to accept such materials.

For the most part, ground water in the SEMI / Bridal Veil area is below a depth of 12 feet and should not be encountered during redevelopment of the South Redevelopment Area. This redevelopment anticipates full-basement structures but not any more significant below-grade construction. Nevertheless, passive building dewatering systems, such as drain tile systems, may be required in the many of the structures to protect against perched or high ground water conditions. Some construction dewatering may also be required at some sites. Most of the ground water collected during construction or on-going dewatering will not be impacted. However, it is possible that some of the ground water collected at a few of the sites may have some minor impacts related to localized plumes of contamination. This water must be tested to determine the proper disposal options. Most likely the ground water, even if impacted, can be discharged to the storm sewer pursuant to a permit issued by the National Pollution Discharge Emissions System (NPDES). At a few sites, the ground water collected during construction of or on-going building dewatering may be more impacted and will have to be discharged to the sanitary sewer under a permit issued by the Metropolitan Council Environmental Services (MCES). With the exception of sites in redevelopment block 2, no active remediation of the in-place ground water or pretreatment of collected ground water prior to discharge is anticipated.

Some of the existing structures in the SEMI / Bridal Veil area have other environmental concerns that must be addressed related to redevelopment. In particular, some of the structures may contain hazardous building materials, primarily asbestos-containing materials (**Figure 23**). This includes some of the existing grain elevators along the northern edge of the South Redevelopment Area that may have asbestos-containing paint or concrete that must be abated prior to demolition. Lead paint and devices containing mercury or polychlorinated biphenyls (PCBs) may also be a concern for some of the existing structures. Some of the existing structures may also have petroleum or chemical storage tanks or other stores of chemicals that must be addressed prior to demolition or renovation. Lastly, there are several water wells in the SEMI / Bridal Veil area that must be sealed prior to redevelopment of the parcels where the wells are located.

Some of the environmental issues in the SEMI / Bridal Veil area have been investigated, to a degree. Additional investigation of each of the blocks/parcels is recommended prior to their redevelopment to better characterize their possible soil or ground water impacts, hazardous building materials or water wells, and to formulate procedures to most effectively address these concerns to minimize environmental disruptions and costs. In particular, additional investigations can pinpoint the locations of pockets of impacted soil to minimize spread of these materials during development, determine whether ground water encountered during construction or for required on-going building dewatering may require permitted disposal, and identify hazardous building materials and water wells that must be addressed. The recommended additional investigation at each parcel includes an ASTM Phase I Environmental Site Assessment, a Phase II subsurface investigation, and a hazardous material survey (including asbestos and lead paint surveys) of any existing structure. In addition, excavation actions should be monitored in the field for evidence of possible impacts and to help segregate impacted materials from non-impacted materials. Analytical testing may be helpful during redevelopment to determine the most cost-effective disposal options and prove that the proper environmental actions were completed.

For the most part, actions to address the environmental conditions should be comparable to other construction actions and should be nondisruptive to neighbors who are tolerant of new construction. The most noticeable environmental actions will primarily involve construction equipment placing contaminated soil into covered trucks for transportation to a remote landfill. Remediation or redevelopment of sites within blocks 2 and 9 may be more involved and could produce more obvious odors and more truck traffic. Demolition of any grain elevator with asbestos paint may require draping of these structures or implosion. Off-site transportation of the demolition materials, whether impacted or not, will involve substantial truck traffic.

#### **North and Central Redevelopment Areas**

More distant future phases of redevelopment of the SEMI / Bridal Veil area (North and Central Redevelopment Areas- **Figure 4**, projected 20 years or more into the future) will involve some parcels with potentially significant environmental issues due to intensive industrial use and some significant documented environmental releases. It is likely that more of the parcels in these future phases will be contaminated than the parcels in the South Redevelopment Area. However, the costs to address these impacts may not be any more significant because the North and Central Redevelopment Areas will be based on slab-on-grade construction that will minimize excavation of impacted soil and minimize the need to permit and discharge impacted ground water. With the limited environmental information to date, up to \$2 per square foot of land area should be budgeted to address soil and ground water contamination and a like amount to address hazardous building materials. Additional pre-development investigations of the parcels in these future phases of development will likely significantly reduce these numbers for most of the properties. Despite the differences between the South Redevelopment Area and the North and Central Redevelopment Areas, the same general mitigation procedures outlined above should be applicable to all phases of development of the SEMI / Bridal Veil area. These include: an initial investigation to better define the impacts, careful monitoring and management of impacted soil encountered during development; evaluation and proper disposal of any ground water encountered during construction or building operations; and evaluation and proper handling of hazardous buildings materials, hazardous materials storage, and water wells prior to demolition or renovation of existing structures.

## Environmental Review Record for the Alternative Urban Areawide Review (AUAR) for the Southeast Minneapolis Industrial (SEMI) / Bridal Veil Area

### CHRONOLOGY IN COMPLIANCE WITH THE PROCEDURES OF THE MINNESOTA ENVIRONMENTAL POLICY ACT

<b>DATE</b>	<b>ITEM (refer to end of chronology for an explanation of acronyms)</b>
4/25/97	Minneapolis City Council approved the report, "Bridal Veil Southeast Industrial Park," the first master plan for the SEMI Area.
6/6/97	City Council ordered the development of an AUAR and a refined master plan for the SEMI Area.
1/8-27/98	Community and SEBA Focus Group Meetings (4) to address transportation and traffic, stormwater and hydrology, urban design, and cultural resource issues.
5/6/98	Public comment meeting to review status of AUAR work plan (existing conditions).
3/10/99	Work statement amended (#1) to refine SEMI/Bridal Veil Refined Master Plan to meet EQB minimum requirements preparatory to AUAR
10/7-12/99	Community and SEBA Focus Group Meetings (3) to review potential mitigation plans for transportation and traffic, stormwater and hydrology, and urban design issues.
3/15/00	"Expanded" SEED meeting/open house to review preliminary AUAR conclusions and Executive Summary (mailed 3/8/00 to + 100 on SEED mailing list)
Mid-Sept. 2000	The MCDA and the City distributed an advance draft of the AUAR to the project's Official Project List.
Sept.-Oct. 2000	Presentations of Draft AUAR on request to neighborhood meetings (including the PPERRIA, SECIA) and the University of Minnesota.
9/29/00	The City and MCDA distributed the Draft AUAR to the Official Distribution List of the Minnesota Environmental Quality Board (EQB).
10/3/00	<i>StarTribune</i> published notice of the availability of Draft AUAR and information concerning the public comment meeting and comment period.
10/16/00	The EQB published notice of availability in <i>EQB Monitor</i> . The official public comment period commenced.
10/18/00	Public comment meeting on the Draft AUAR.
12/1/00	End of Draft AUAR public comment period.
12/14/00	City staff presented Draft AUAR to City Planning Commission (CPC), Committee of the Whole.
1/19/01	Work statement amended (#2) to develop stormwater ponding alternatives to enhance redevelopment potential and to include "Granary Parkway/Dinkytown Road" connection in traffic/transportation network concept.

**Environmental Review Record for the  
Alternative Urban Areawide Review (AUAR) for the  
Southeast Minneapolis Industrial (SEMI) / Bridal Veil Area**

<b>DATE</b>	<b>ITEM</b>
2/28/01	The MCDA and the City distributed revisions to the Draft AUAR to the SEED Committee.
3/7/01	SEED considered the most recent version of the Draft AUAR.
3/21/01	Second SEED meeting to consider adoption of the AUAR and Refined Master Plan. SEED recommended the City adopt the AUAR and Refined Master Plan as revised.
5/29/01	The EQB published notice of availability of the Final AUAR in <i>EQB Monitor</i> .
6/1/01	The MCDA and the City distributed the Final AUAR and Refined Master Plan to the EQB Official Distribution List and to the neighborhood and business groups in the area. Public agencies have ten work days to file an objection to the Final AUAR.
6/21/01	Planning and MCDA staff presented the Final AUAR and Refined Master Plan to the CPC Committee of the Whole.
6/25/01	Planning and MCDA staff presented the Final AUAR and Refined Master Plan to the Community Development Committee of the City Council.
6/26/01	Planning and MCDA staff presented the Final AUAR and Refined Master Plan to the Zoning and Planning Committee (Z & P) of the City Council.
7/13/01	City Council adopted the Final AUAR and Refined Master Plan.
7/19/01	Mayor approved Council action.
7/20/01	Planning staff notified the EQB of the decision.
7/21/01	City published notice of Council/Mayor decision in <i>Finance and Commerce</i> .
7/23/01	Planning staff distributed Notice of Decision to Official Mailing Lists; environmental review completed.
7/23/01	EQB published Notice of Decision in <i>EQB Monitor</i> .

**List of Acronyms:**

- AUAR: Alternative Urban Areawide Review
- CPC: City Planning Commission
- EQB: Minnesota Environmental Quality Board
- MCDA: Minneapolis Community Development Agency
- PPERRIA: Prospect Park East River Road Improvement Association
- SEBA: Southeast Business Association
- SEED: Southeast Economic Development Committee
- SECIA: Southeast Como Improvement Association
- SEMI: Southeast Minneapolis Industrial Area
- Z & P: Zoning and Planning Committee of the City Council

# SEMI/BRIDAL VEIL STUDY AREA

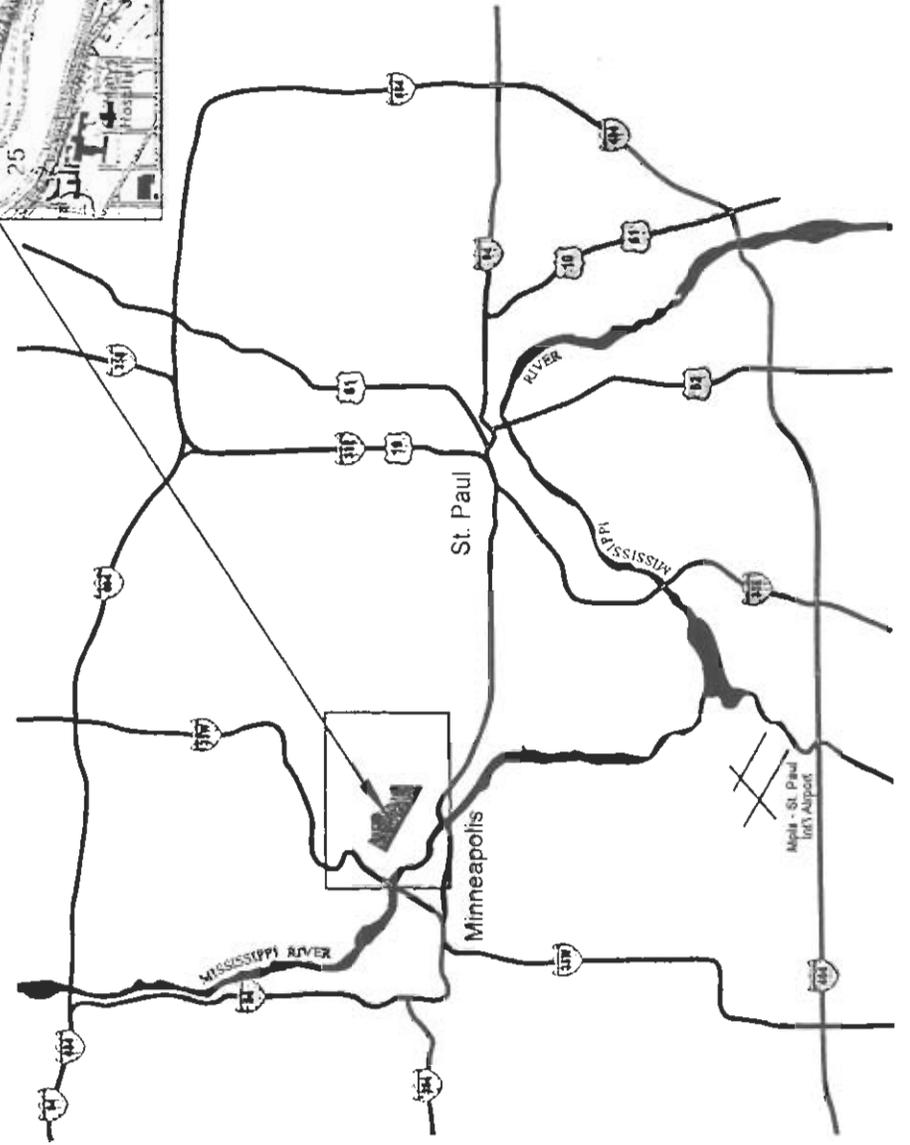
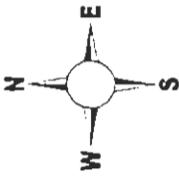
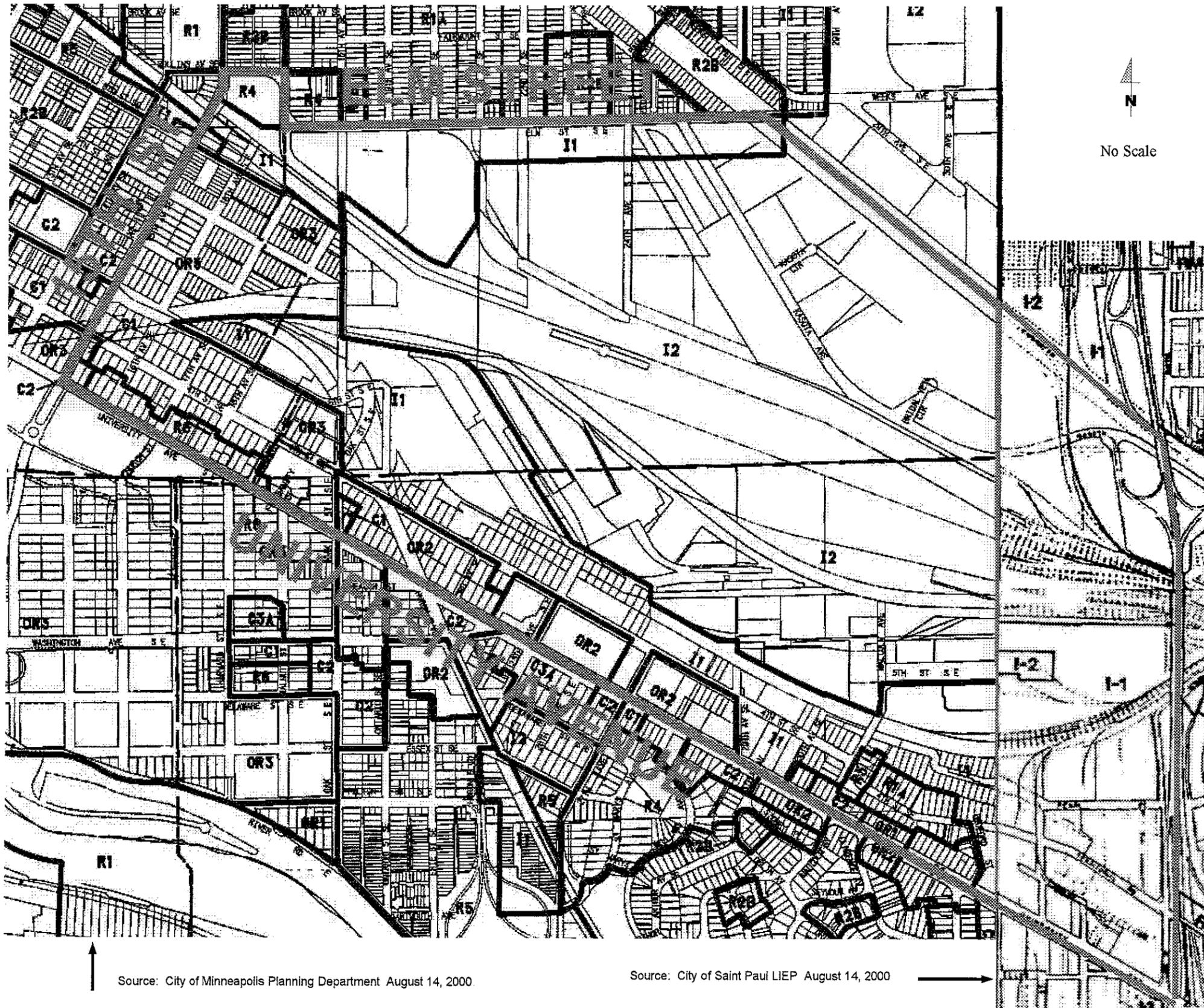


FIGURE 1  
PROJECT AREA



**KEY TO ZONING CODES**

**MINNEAPOLIS ZONING CODES**

- R1A Single Family District
- R4 Multiple Family District
- R5 Multiple Family District
- R6 Multiple Family District
- OR1 Neighborhood Office Residential District
- OR2 High Density Office Residential District
- OR3 Institutional Office Residential District
- C1 Neighborhood Commercial District
- C2 Neighborhood Corridor Commercial District
- I1 Limited Industrial District
- I2 Medium Industrial District

**SAINT PAUL ZONING CODES**

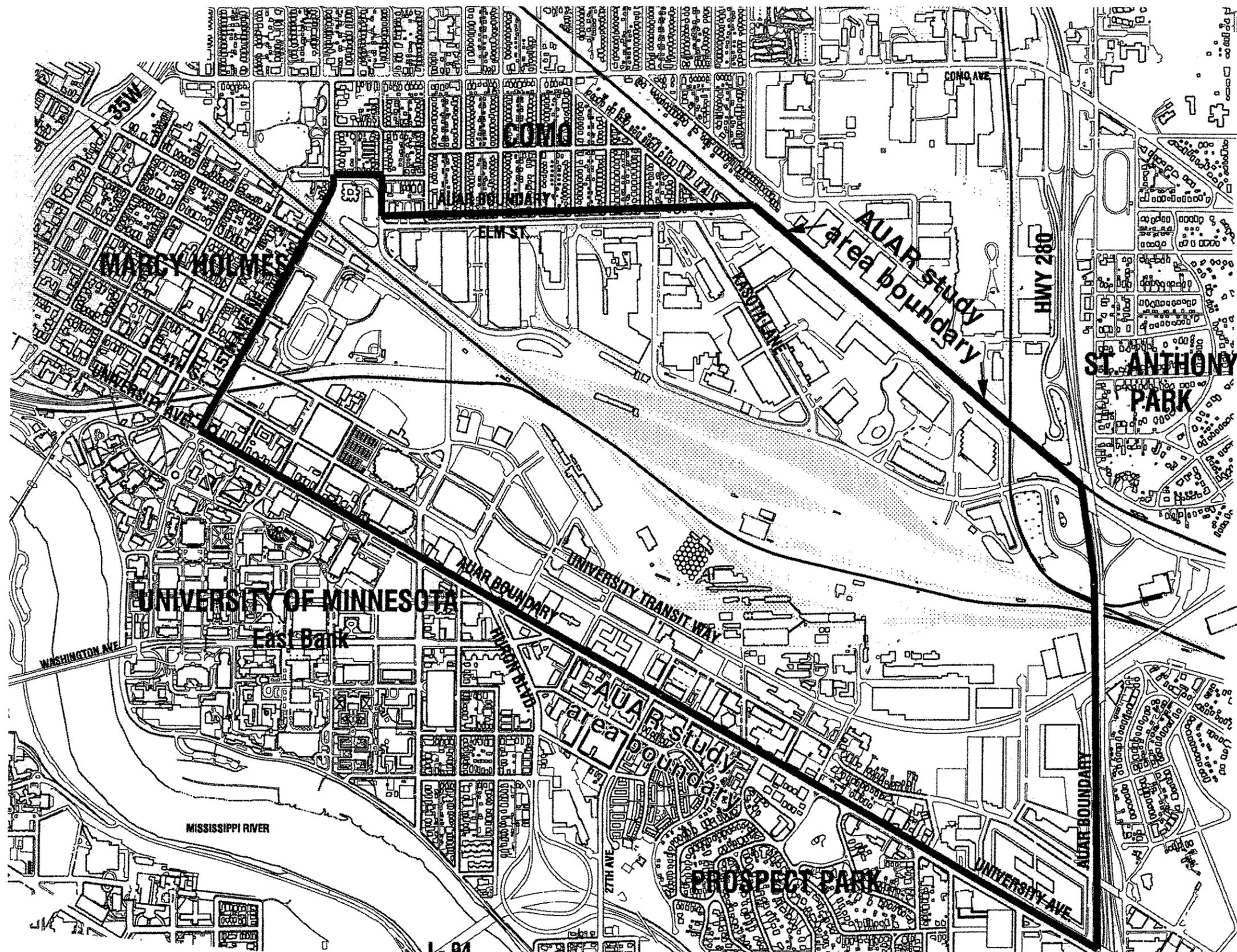
- I-1 Industry
- I-2 Industry

Source: City of Minneapolis Planning Department August 14, 2000

Source: City of Saint Paul LIEP August 14, 2000

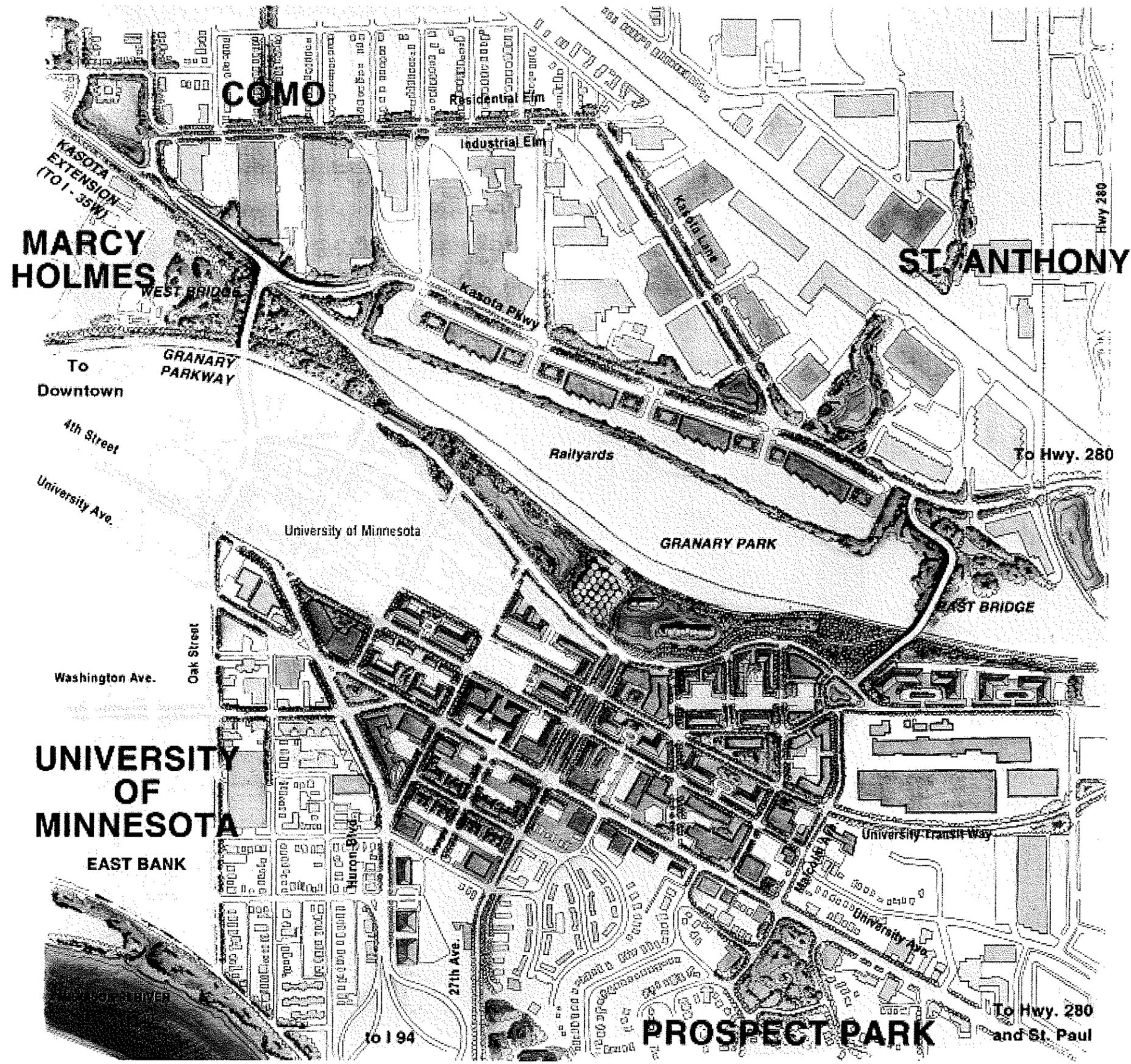
**FIGURE 1B**  
**PROJECT AREA**  
**ZONING MAP**

# SOUTHEAST MINNEAPOLIS INDUSTRIAL (SEMI) / BRIDAL VEIL REFINED MASTER PLAN



SHEET TITLE  
CONTEXT MAP

FIGURE #  
2



**SOUTHEAST  
MINNEAPOLIS  
INDUSTRIAL (SEMI)  
/ BRIDAL VEIL  
REFINED  
MASTER PLAN**

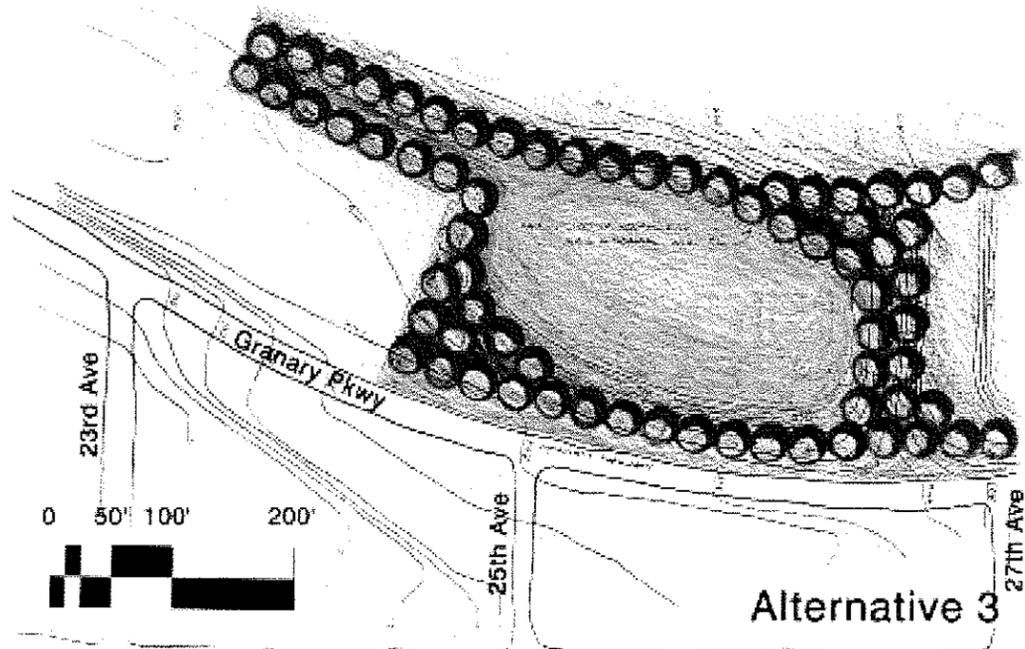
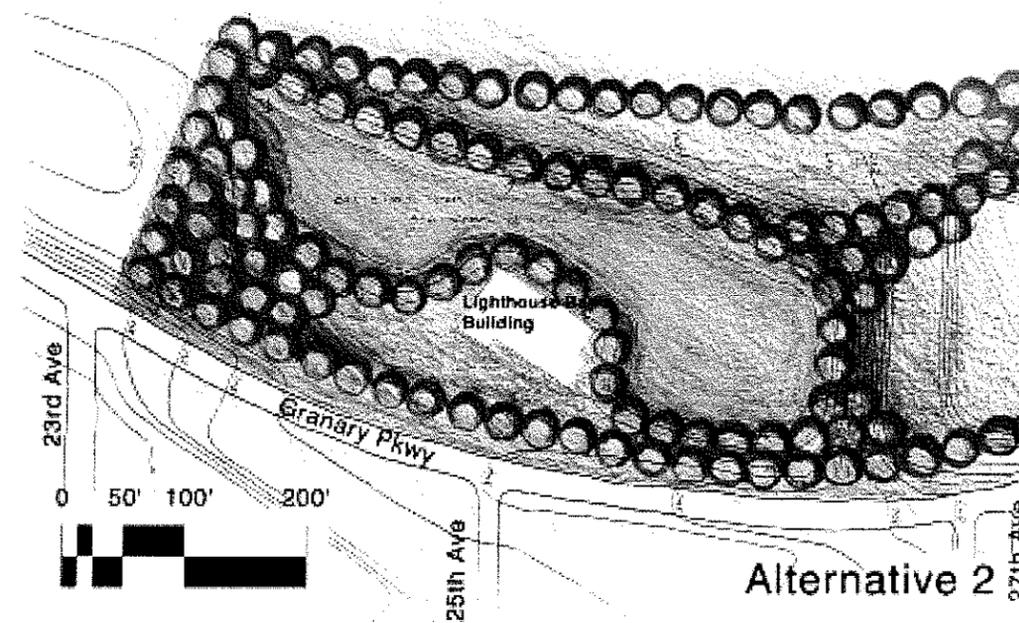
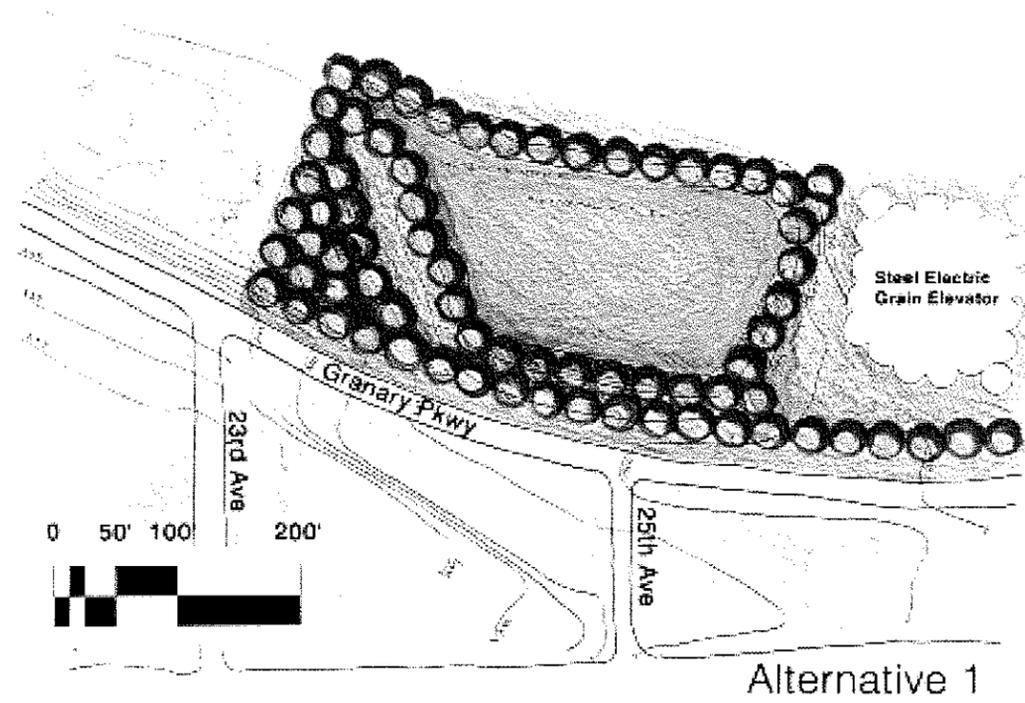
SHEET TITLE:

*Urban Design Plan:  
Illustration of Future  
Development*

FIGURE #

3

SOUTHEAST  
MINNEAPOLIS  
INDUSTRIAL (SEMI)  
/ BRIDAL VEIL  
REFINED  
MASTER PLAN



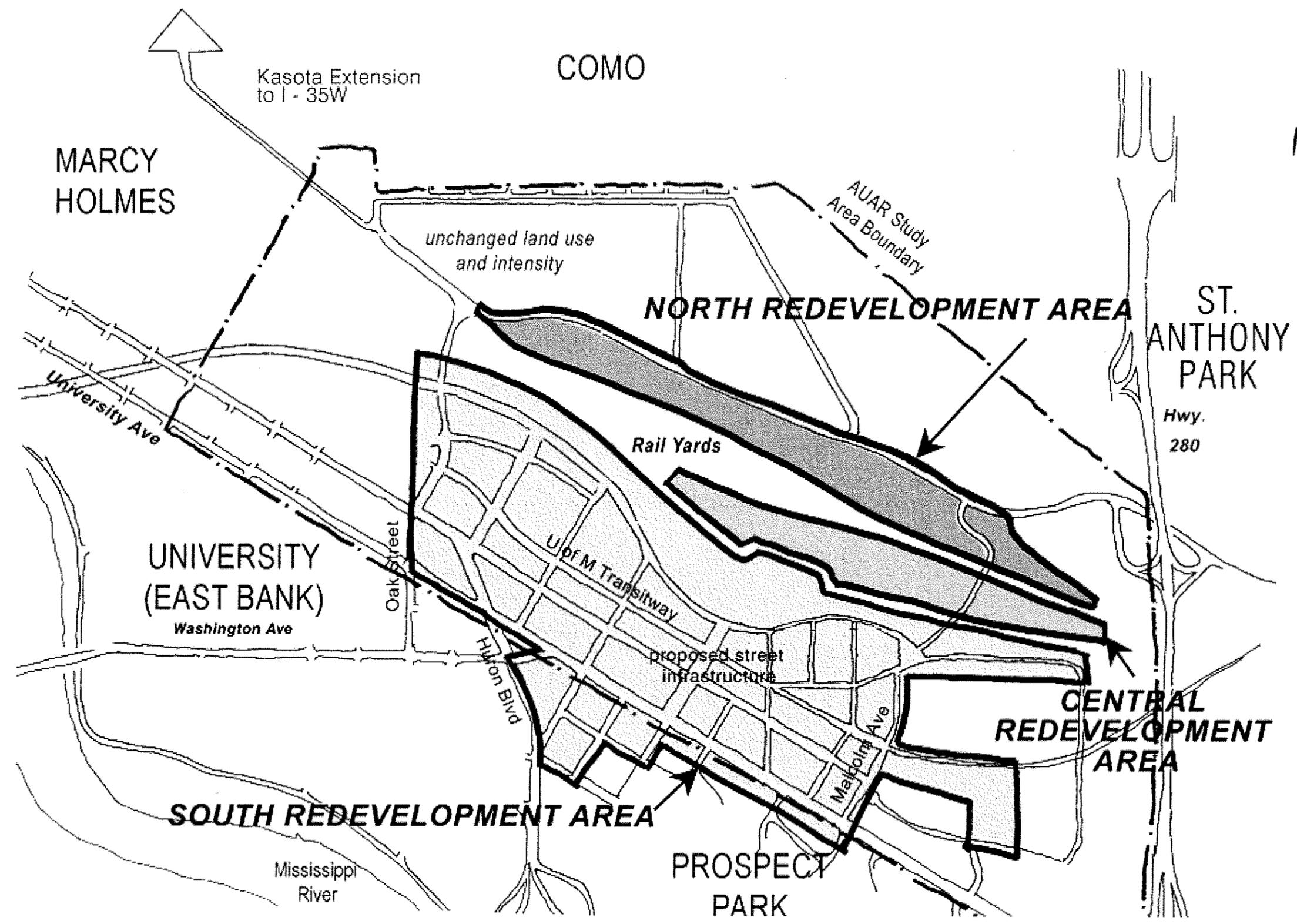
SHEET TITLE:

Alternative Granary  
Park Scenarios

FIGURE #

3A

**SOUTHEAST  
MINNEAPOLIS  
INDUSTRIAL (SEMI)  
/ BRIDAL VEIL  
REFINED  
MASTER PLAN**



SHEET TITLE:  
**REDEVELOPMENT  
AREAS**

FIGURE #  
**4**

# Como

RESIDENTIAL ELM ST.

INDUSTRIAL ELM ST.

KASOTA LINE

KASOTA PARKWAY

HWY 280

St. Anthony  
Park

## SOUTHEAST MINNEAPOLIS INDUSTRIAL (SEMI) / BRIDAL VEIL REFINED MASTER PLAN

PROPOSED  
WEST BRIDGE

University of Minnesota

PROPOSED  
EAST BRIDGE

ORANARY PARKWAY

OAK ST.

4th St

23rd Ave

HURON BLVD.

25th Ave

Delaware St

27TH AVE SE

UNIVERSITY AVENUE

30TH AVE

3RD AVE SE

Clearance Ave

4th St

Bedford St

Bedford St

UNIVERSITY TRANSIT WAY

-  Light Industrial
-  Commercial, Office,  
Limited Retail/Service
-  Residential

1-94

PROSPECT PARK

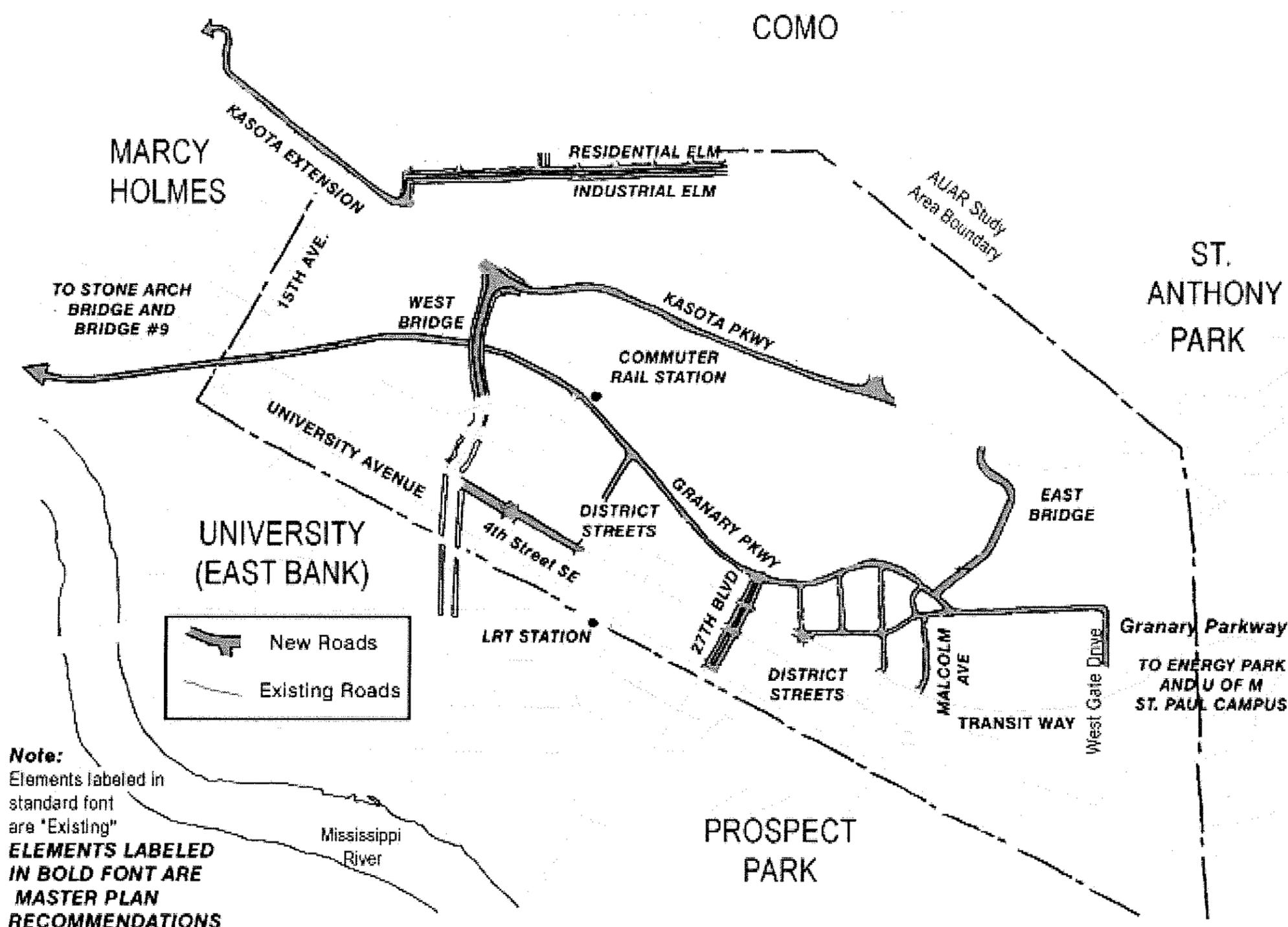
SHEET TITLE:

LAND USE PLAN

FIGURE #

5

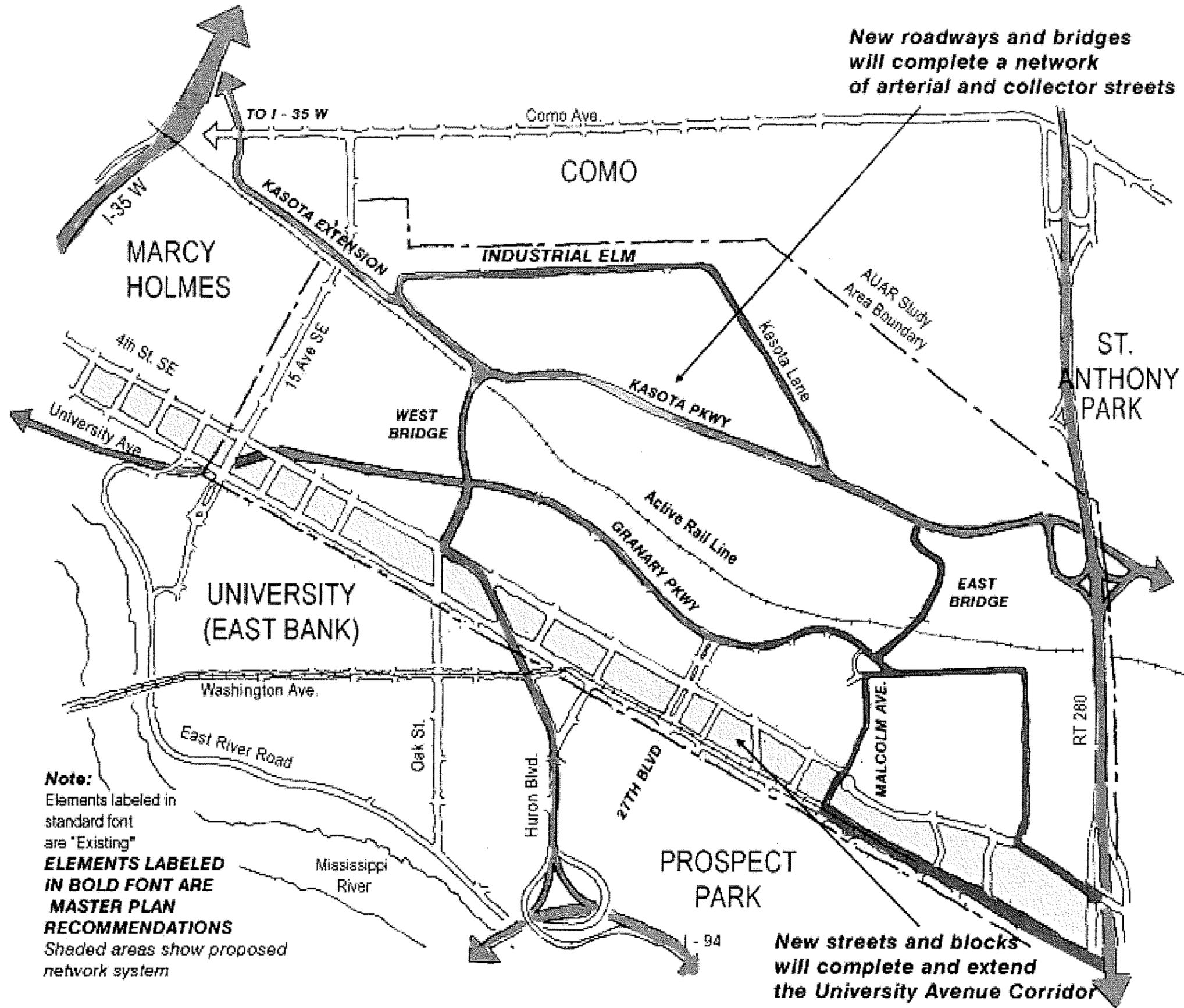
SOUTHEAST  
MINNEAPOLIS  
INDUSTRIAL (SEMI)  
/ BRIDAL VEIL  
REFINED  
MASTER PLAN



**Note:**  
Elements labeled in  
standard font  
are "Existing"  
**ELEMENTS LABELED  
IN BOLD FONT ARE  
MASTER PLAN  
RECOMMENDATIONS**

SHEET TITLE:  
**NEW ROADS**

# SOUTHEAST MINNEAPOLIS INDUSTRIAL (SEMI) / BRIDAL VEIL REFINED MASTER PLAN



*New roadways and bridges  
will complete a network  
of arterial and collector streets*

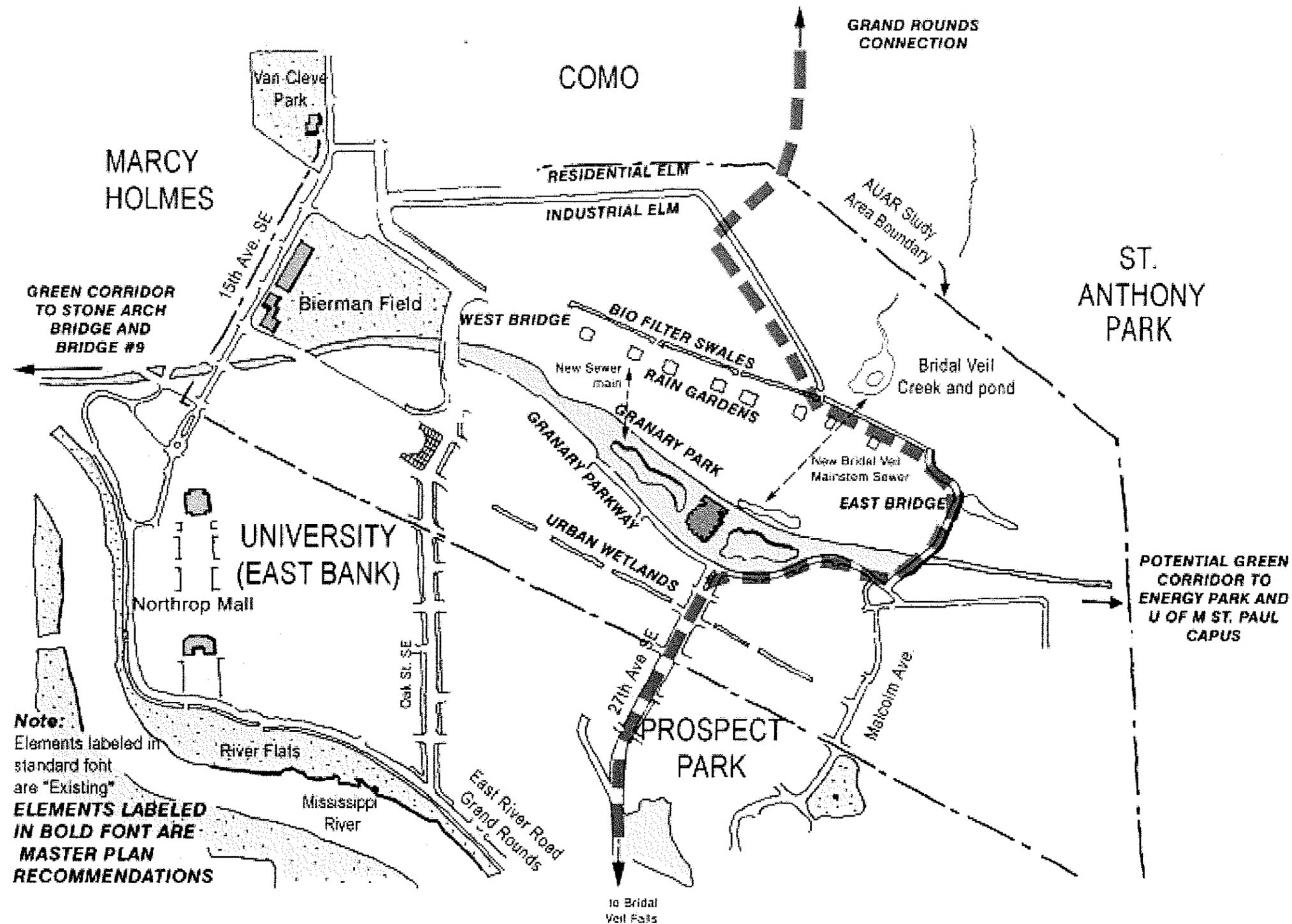
*New streets and blocks  
will complete and extend  
the University Avenue Corridor*

**Note:**  
Elements labeled in  
standard font  
are "Existing"  
**ELEMENTS LABELED  
IN BOLD FONT ARE  
MASTER PLAN  
RECOMMENDATIONS**  
Shaded areas show proposed  
network system

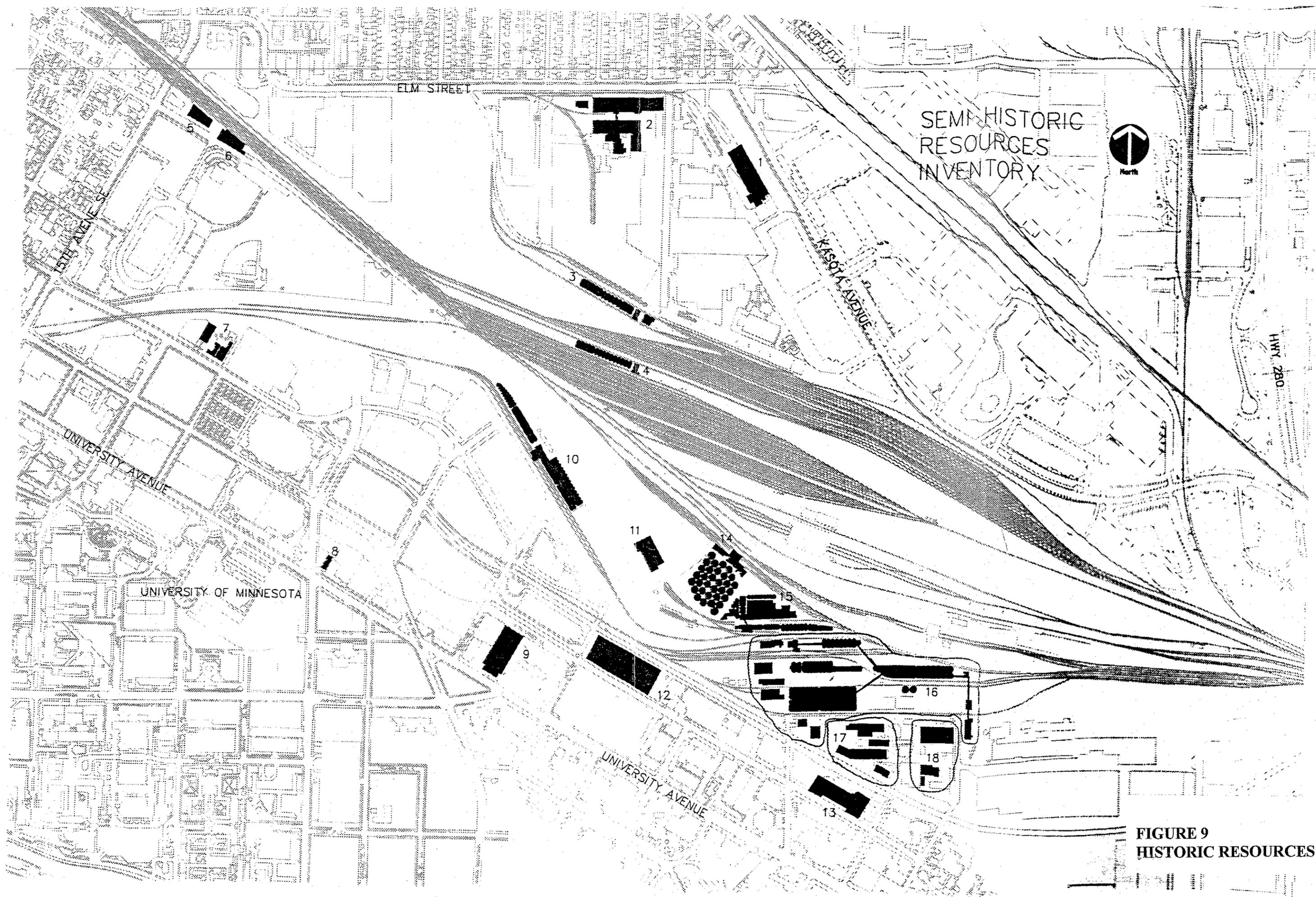
SHEET TITLE:  
**NETWORKS**

FIGURE #  
**7**

# SOUTHEAST MINNEAPOLIS INDUSTRIAL (SEMI) / BRIDAL VEIL REFINED MASTER PLAN



SHEET TITLE:  
**GREEN INFRASTRUCTURE**



**FIGURE 9**  
**HISTORIC RESOURCES**

# SEMI/Bridal Veil Area

## AUAR

### Bridal Veil Creek Watershed

City of Minneapolis

The PEER/Bridal Veil Collaborative  
LAND AND WATER DESIGN INSTITUTE, S.C.

#### Legend

Combined Sewer Overflow: C.S.O.

Watershed Boundary:

Major Flow Path:

General Runoff Direction Arrow:



North

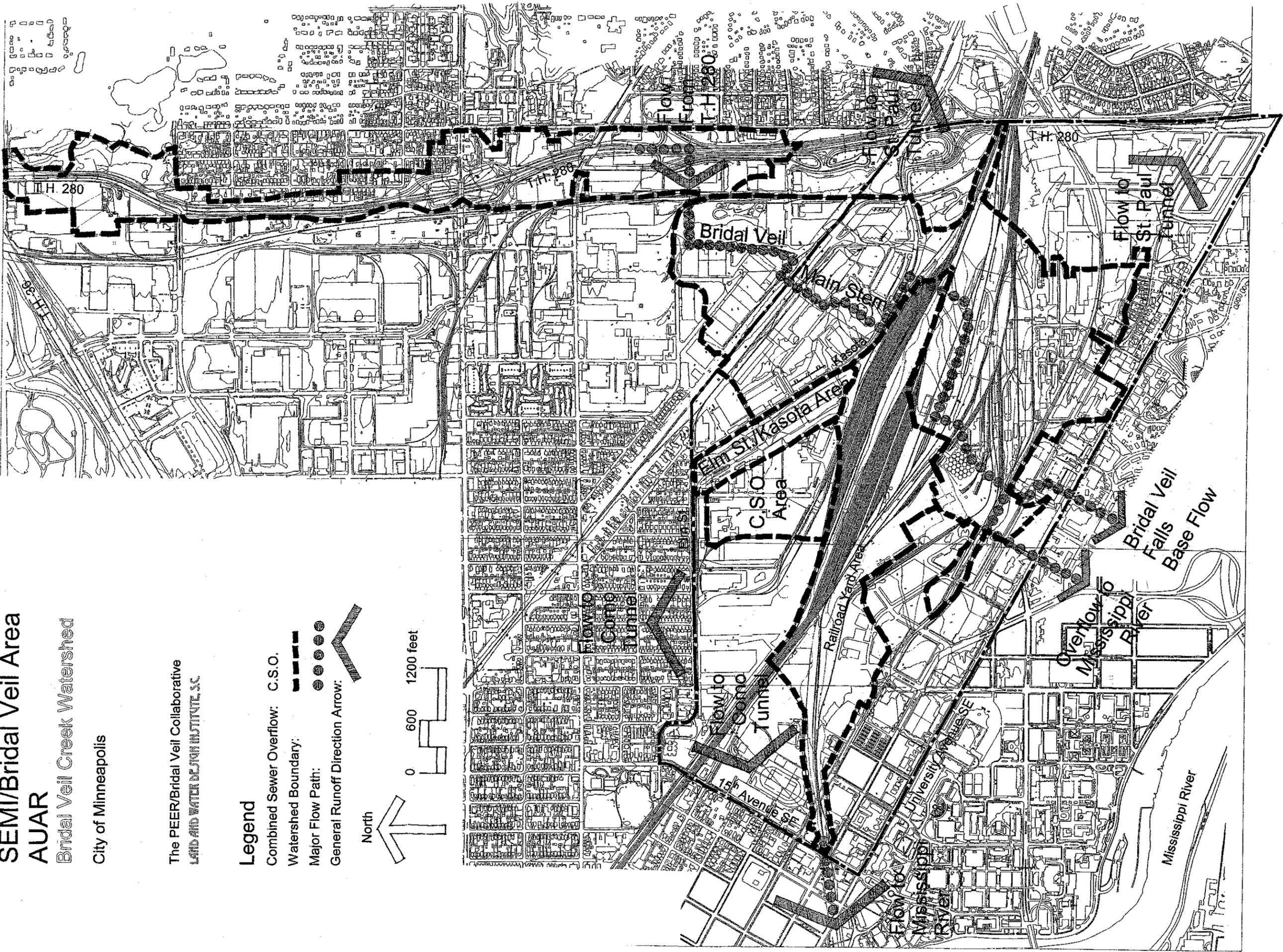
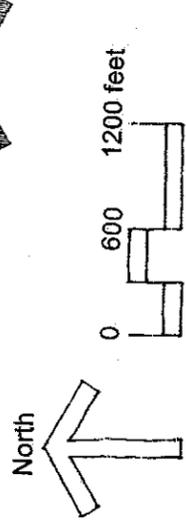
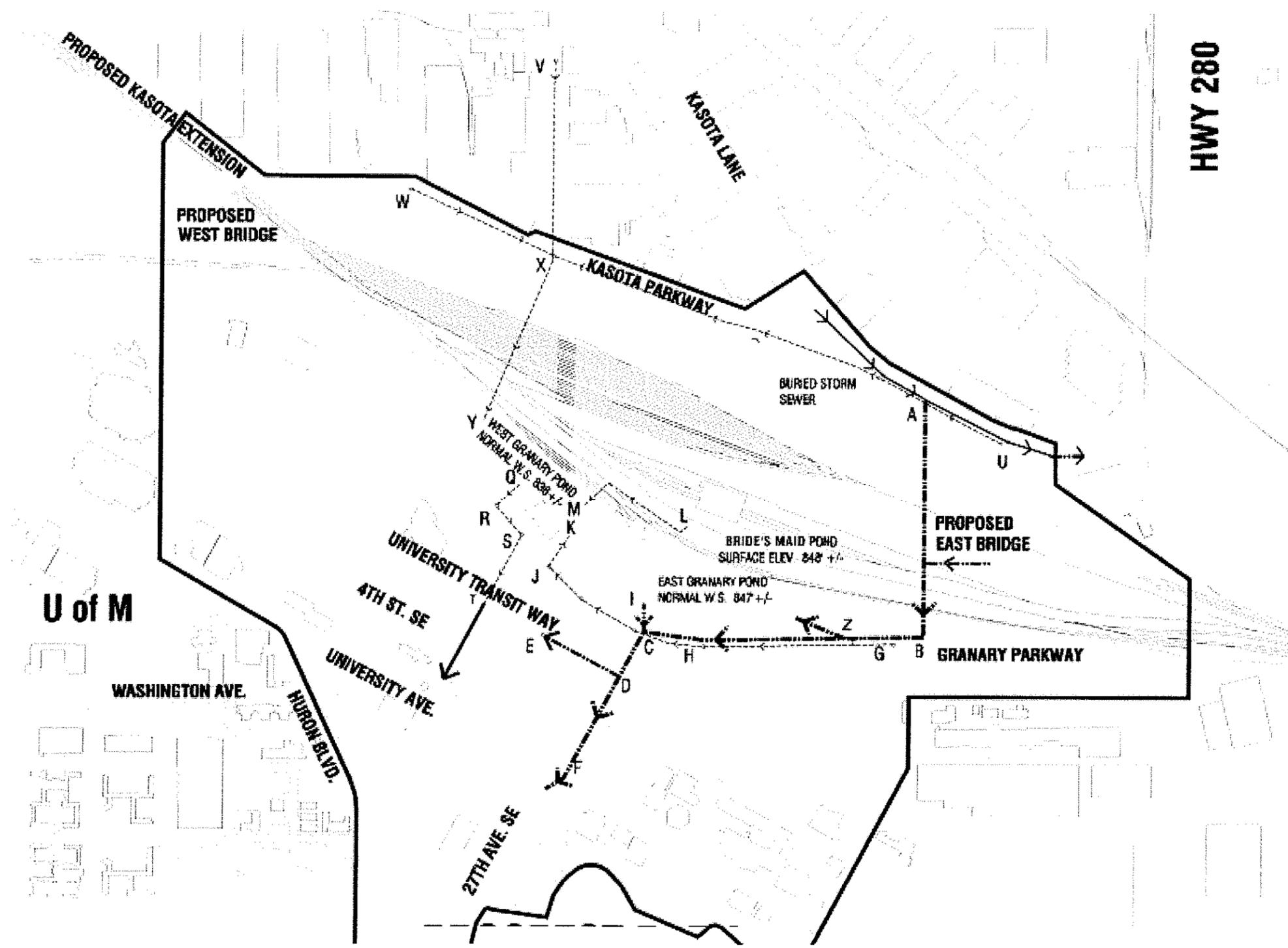


FIGURE 10

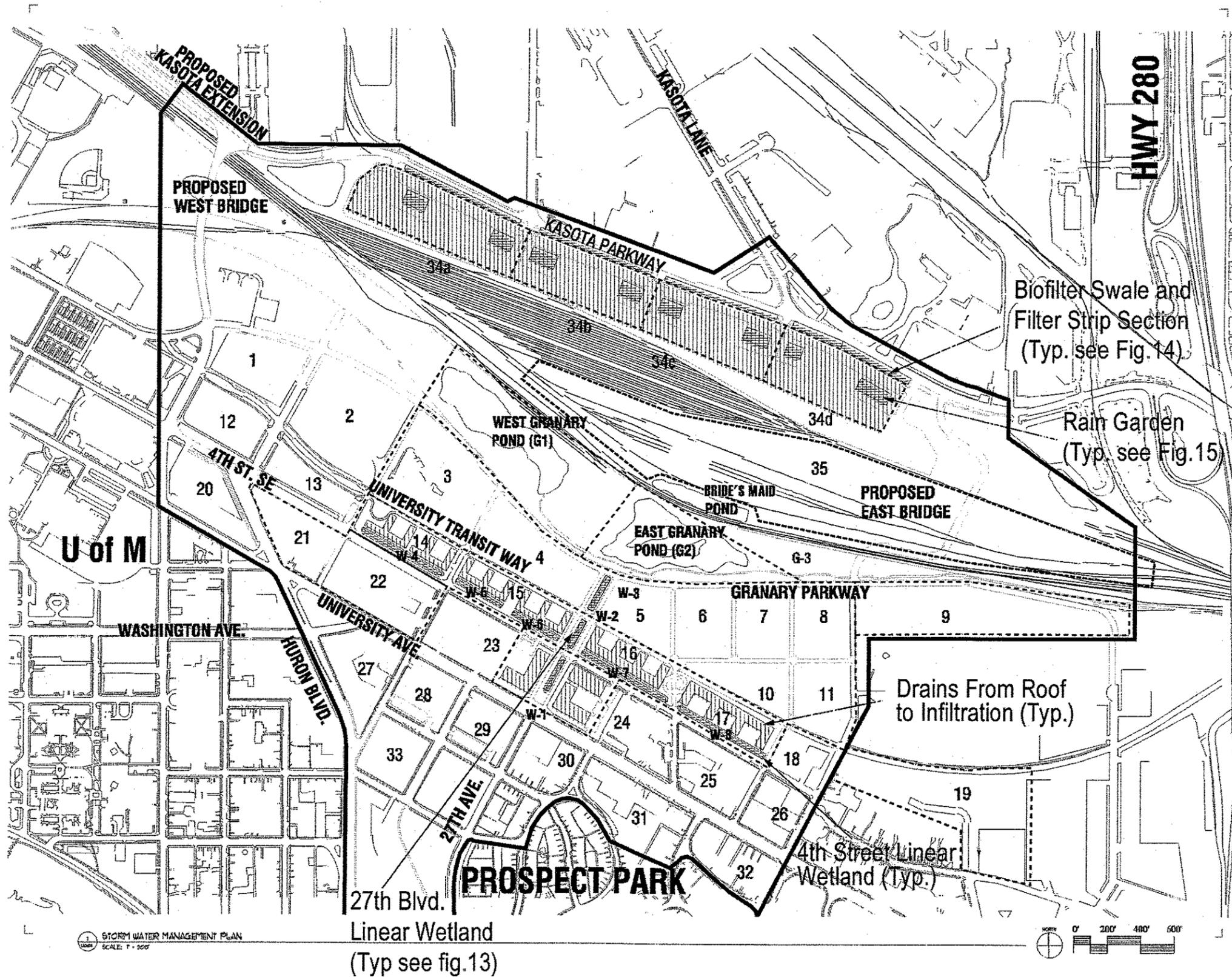
SOUTHEAST  
MINNEAPOLIS  
INDUSTRIAL (SEMI)  
/ BRIDAL VEIL  
REFINED  
MASTER PLAN



SHEET TITLE:  
*Stormwater  
Management Linkages*

FIGURE #

# SOUTHEAST MINNEAPOLIS INDUSTRIAL (SEMI) / BRIDAL VEIL REFINED MASTER PLAN



-  DRAINS TO INFILTRATION
-  LINEAR WETLAND
-  RAIN GARDENS
-  WATERSHED BOUNDARY
- 22** BLOCK NUMBER

SHEET TITLE:  
**STORMWATER  
MANAGEMENT PLAN**

FIGURE #  
**12**

SOUTHEAST  
MINNEAPOLIS  
INDUSTRIAL (SEMI)  
/ BRIDAL VEIL  
REFINED  
MASTER PLAN

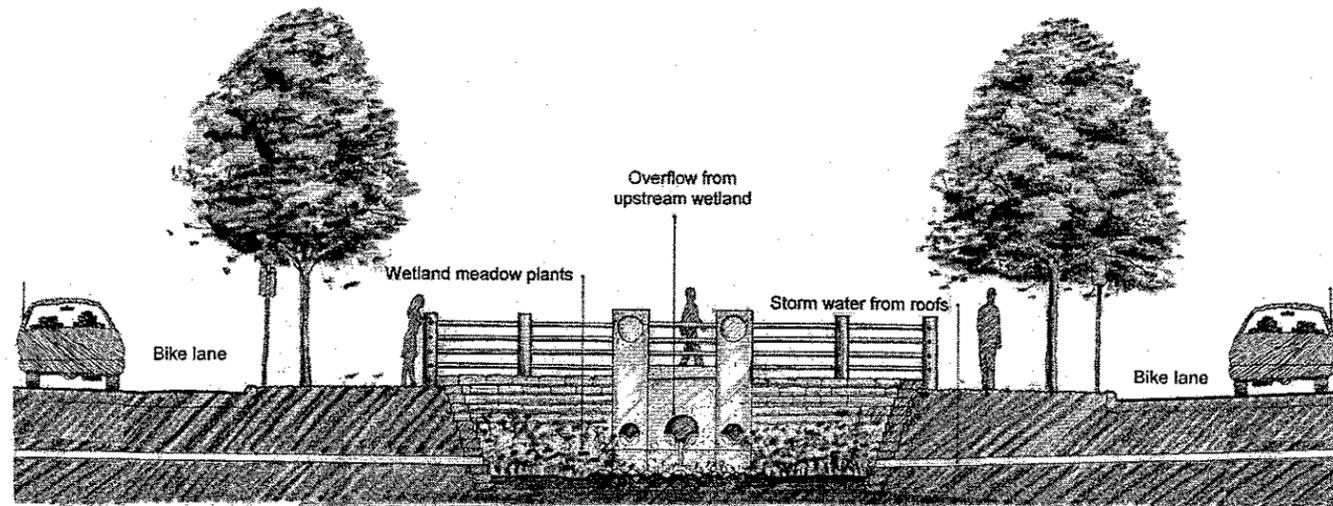


FIG. 13 URBAN WETLAND SECTION

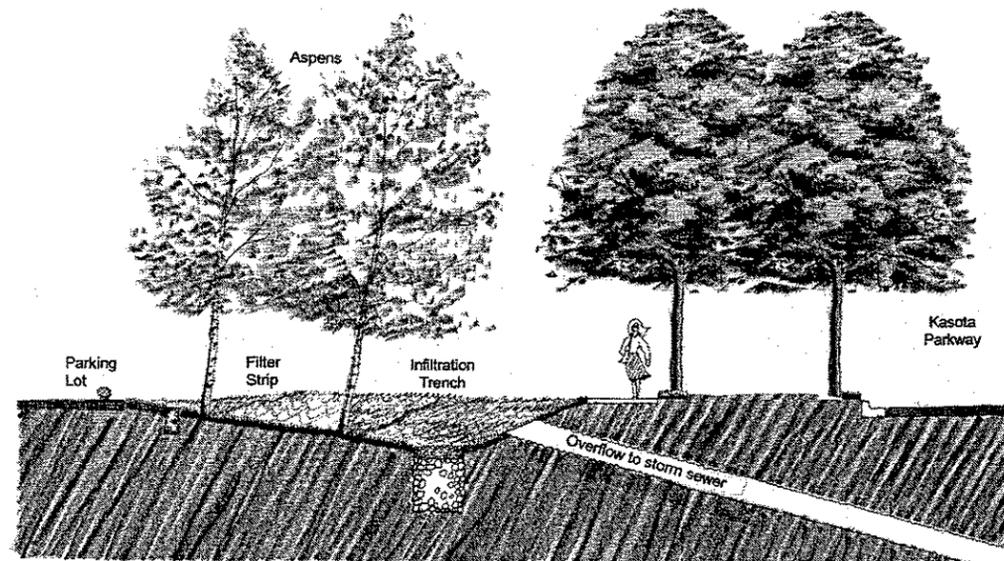


FIG. 14 BIOFILTER SWALE AND  
FILTER STRIP SECTION

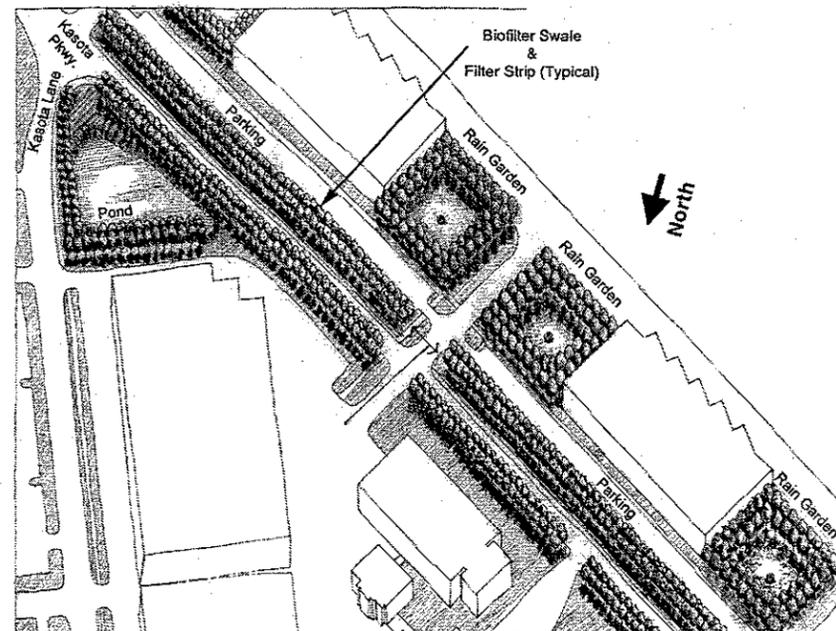
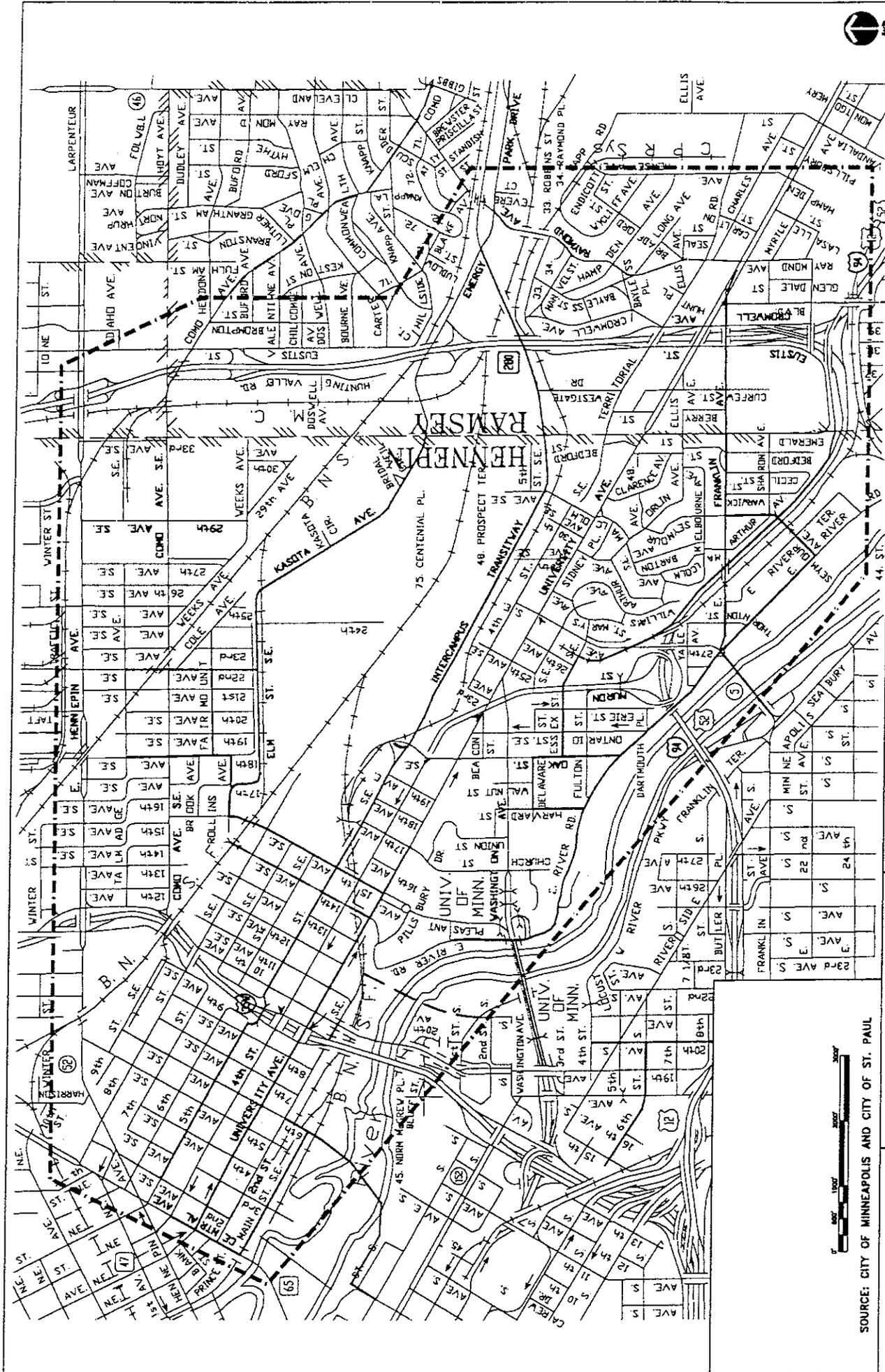


FIG. 15 KASOTA PARKWAY AND RAINGARDENS

SHEET TITLE:

URBAN WETLAND SECTION,  
BIOFILTER SWALE AND  
FILTER STRIP SECTION,  
KASOTA PARKWAY AND  
RAINGARDENS

FIGURE #  
13, 14, 15



DATE: 4/29/08

DRAWN BY: DJ

DESIGNED BY: DJ

CHECKED BY: DJ

CITY PROJ. NO. 11544

STATE PROJ. NO. 03

FMS PROJ. NO. 11544

TUBSHEET

TRANSPORTATION/Traffic Influence Area

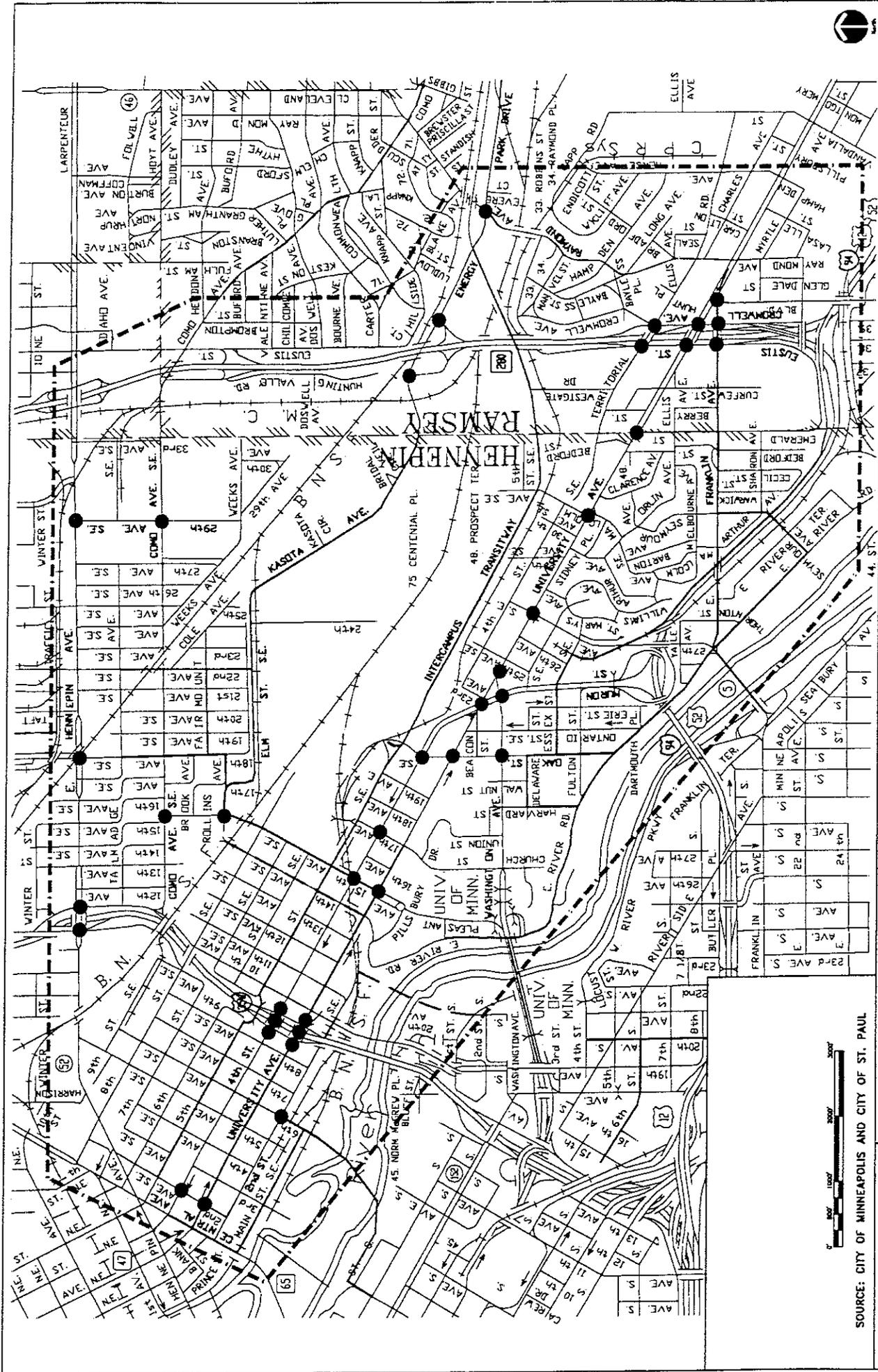
West Project Address: 11544 Hennepin Ave., Minneapolis, MN 55412  
Tel: 612-668-8178 Fax: 612-668-8178

BKS ASSOCIATES, INC.  
11544 Hennepin Ave., Minneapolis, MN 55412  
Tel: 612-668-8178 Fax: 612-668-8178

SOURCES: CITY OF MINNEAPOLIS AND CITY OF ST. PAUL

Figure 16

**FIGURE 16**  
**TRANSPORTATION**  
**INFLUENCE AREA**



DATE: 4/29/88

DRAWN BY: DJ

CHECKED BY: [Signature]

CITY PROJ. NO. MCD-11344

STATE PROJ. NO. 10041

SHEET 1 OF 1

Location of Analyzed Intersections

BIRK BECKETT ASSOCIATES, INC.

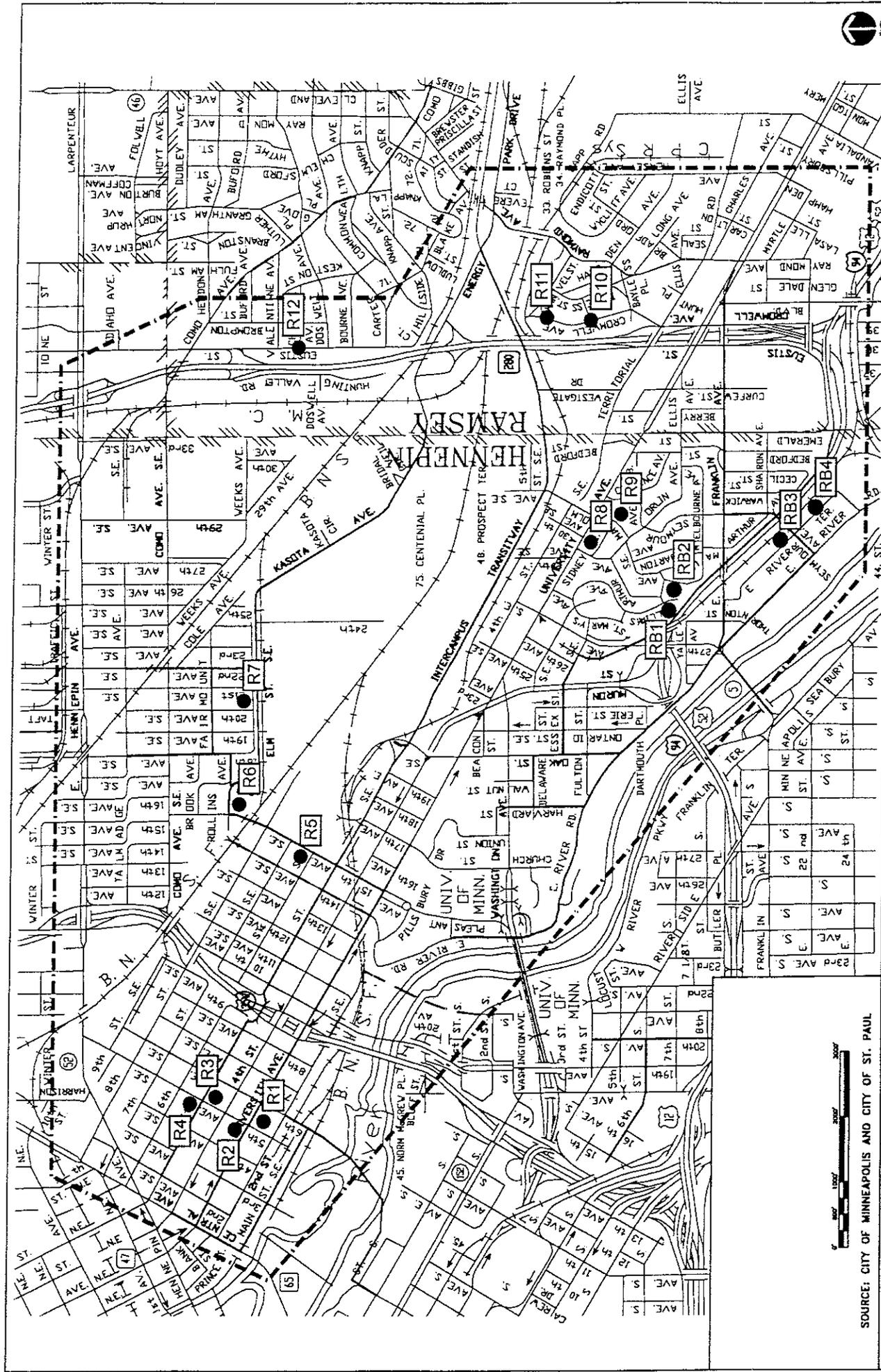
481 Raymond Avenue  
Minneapolis, MN 55412  
Tel. 612-488-8178  
Fax 612-488-8178

BKS

CITY OF MINNEAPOLIS AND CITY OF ST. PAUL

Figure 17

**FIGURE 17**  
**INTERSECTION ANALYSIS**



Noise Receiver Sites

811 Request Service  
 Minneapolis, MN 55411  
 Tel: 612-673-1111  
 Fax: 612-673-1111

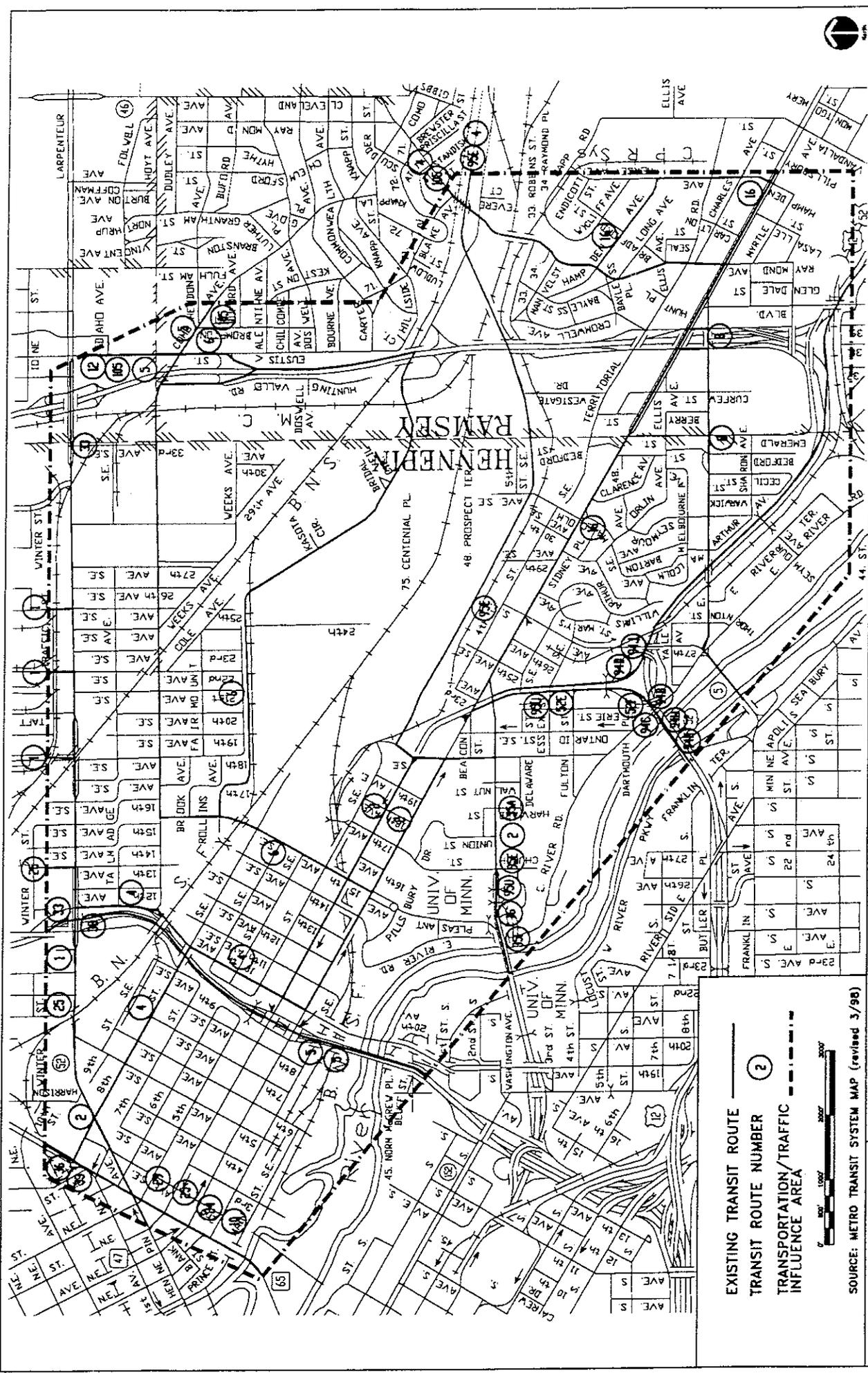
BICO ASSOCIATES, INC.  
 10000 Hennepin Avenue, Suite 1000  
 Minneapolis, MN 55412  
 Tel: 612-444-4411  
 Fax: 612-444-4400

CITY OF MINNEAPOLIS AND CITY OF ST. PAUL  
 LABORATORY ARCHITECTURE  
 10000 Hennepin Avenue, Suite 1000  
 Minneapolis, MN 55412  
 Tel: 612-444-4411  
 Fax: 612-444-4400

DATE: 4/28/88  
 SHEET: 01  
 DRAWN BY: MCDONALD  
 CHECKED BY: MCDONALD  
 DATE: 4/28/88  
 SHEET: 01

**FIGURE 18  
NOISE RECEIVER LOCATIONS**

Figure 18



801 Hennepin Avenue  
 Suite 1100  
 Minneapolis, MN 55415  
 Tel: 612-338-1111  
 Fax: 612-338-1111

**HKS**  
 HKS ASSOCIATES, INC.  
 TRANSPORTATION ARCHITECTURE  
 ENGINEERING  
 PLANNING

801 Hennepin Avenue, 4  
 Minneapolis, MN 55415  
 Tel: 612-338-1111  
 Fax: 612-338-1111

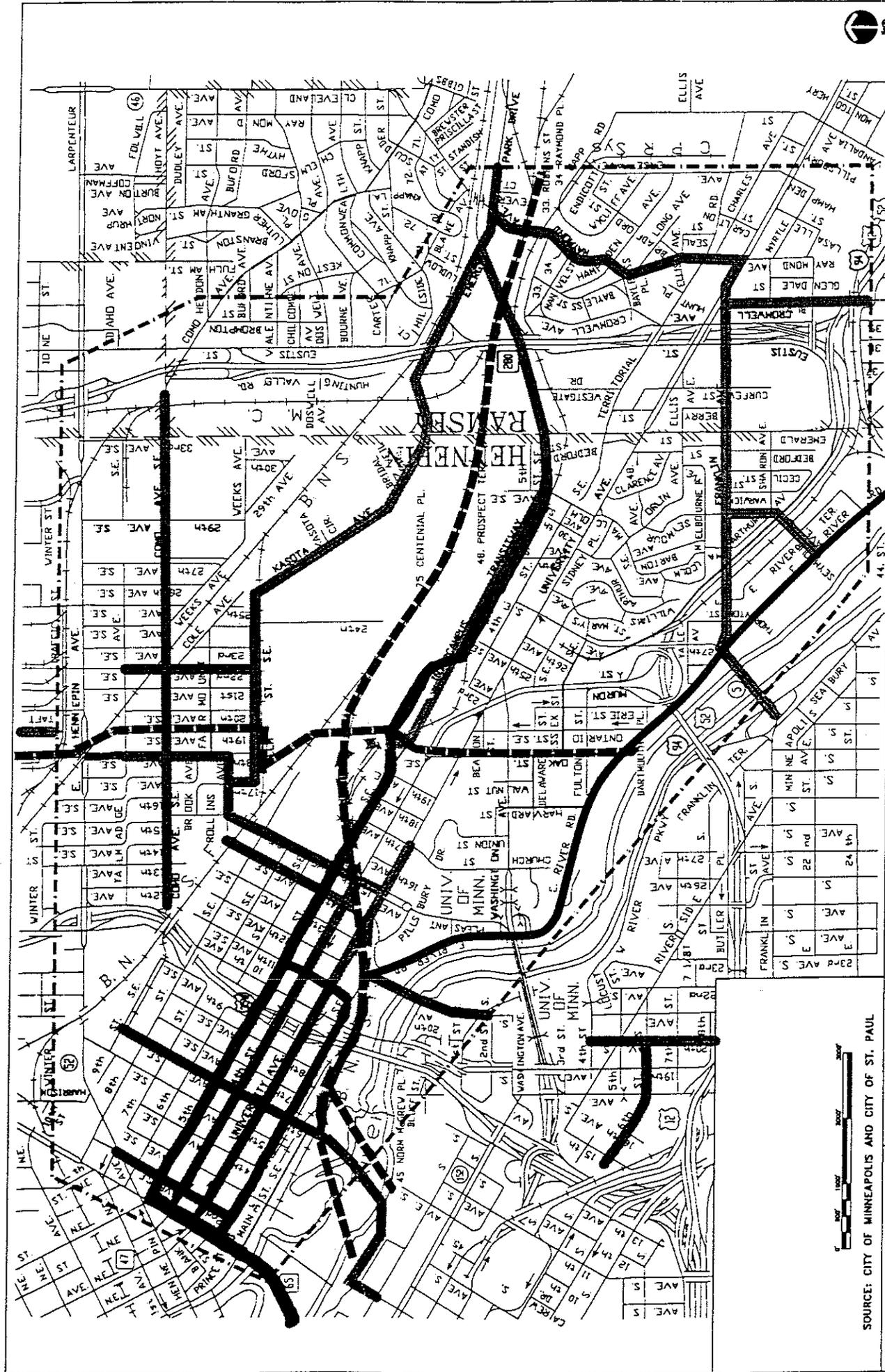
DATE: 4/29/98  
 SHEET: 18  
 OF: 24  
 DRAWN BY: JMS  
 CHECKED BY: JMS  
 CITY PROJ. NO.: 10081  
 METRO PROJ. NO.: 10081

Existing Transit Routes

SOURCE: METRO TRANSIT SYSTEM MAP (revised 3/98)

Figure 19

**FIGURE 19**  
**EXISTING TRANSIT ROUTES**



SOURCE: CITY OF MINNEAPOLIS AND CITY OF ST. PAUL



8111 Hennepin Avenue  
 Suite 410  
 Minneapolis, MN 55412  
 Tel: 612-338-4111  
 Fax: 612-338-4112  
 Per: 612-338-4111



BEO ASSOCIATES, INC.  
 1000 Hennepin Avenue  
 Minneapolis, MN 55412  
 Tel: 612-338-4111  
 Fax: 612-338-4112  
 Per: 612-338-4111

Best Project Address:  
 Hennepin Ave, MN 55412  
 Tel: 612-338-4111  
 Fax: 612-338-4112

Existing and Proposed Bicycle Routes/Paths

CITY PROJ. NO.	DATE
STATE PROJ. NO.	4/29/08
DESIGNED BY:	SJ
CHECKED BY:	RS
TITLE:	FIGURE 20
SHEET:	OF

Existing Bike Route

Proposed Bike Route

FIGURE 20  
 EXISTING AND PROPOSED  
 BICYCLE ROUTES



**LEGEND**

- SEMI-Bridal Veil site outline
- Water body
- Identified release sites.  
Number corresponds to numbered site in text.  
Letters detailed below:
  - a - NPL site
  - b - CERCLIS/NFRAP
  - c - SPL
  - d - SCL (VIC)
  - e - LUST (open)
  - f - LUST (closed)
  - g - SWLF
  - h - AST
  - i - UST
  - j - Generator of hazardous waste
  - k - ERNS
  - L - SPILLS
  - m - CORRACTS
  - n - TSD
- Registered UST site - no identified release
- Registered AST site - no identified release
- Hazardous waste generator - no identified release

Large sites with subparcels included:

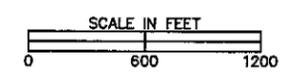
- Elm Street Ash Dump
- Westgate Development

Offsite Concerns

- Valentine-Clark site:  
Estimated PCP and PAH ground water plume\*
- General Mills site:  
Capture zone of pumpout system\*\*

\* Modified from 4/14/97 draft sampling plan by Ecology and Environment Inc.  
\*\* Modified from 1996 Annual Report by Barr Engineering, 2/97

NOTE: Shaded areas (identified release sites) are based on approximate property boundaries and do not reflect the actual extent of soil or ground water contamination.



**CONTAMINATED SITES INVENTORY**

PROJECT #: 7058

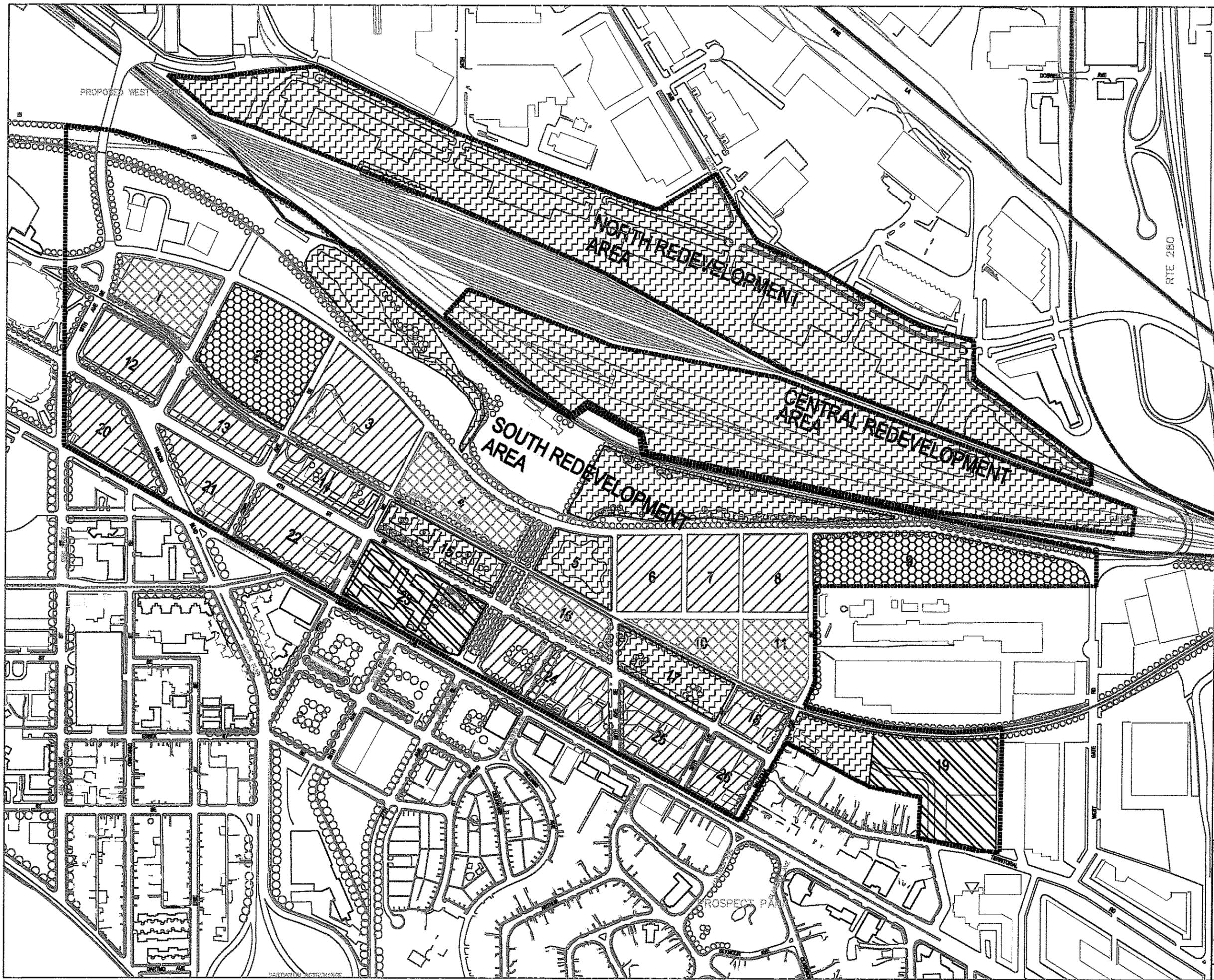
SEMI-BRIDAL VEIL AREA  
MINNEAPOLIS, MINNESOTA

MARCH  
00

FIGURE  
21

## FIGURE 21A

1. Archer Daniels Midland (ADM) Grain Storage
2. Archer Daniels Midland (ADM)
3. ADM Dump
4. Archer Daniels Midland (ADM ) Linseed Oil Epoxides Spill
5. Bierman Field Athletic Building
6. Bierman Athletic Field
7. Boeser, Inc.
8. Burlington Northern Union Yard
9. Burlington Northern Right-of-Way
10. C.F. Trucking and Wintz Investment
11. Chicago Northwestern East Minneapolis Yard
12. Chicago Northwestern
13. Chicago Northwestern Railroad
14. Christians In Action
15. CSM Corporation
16. Elm Properties
17. Elm Street Ash Dump
18. Globe Tool
19. Group Health University Avenue
20. H.B. Fuller Company
21. Holman Building
22. IMC Fertilizer
23. Kurth Elevator
24. KSTP Broadcasting
25. La Canasta Addition
26. Lakeville Motor Express
27. Lewis Bolt & Nut Company and Metal Coating Company
28. M & A Partnership
29. Malcolm and Fifth Street Southeast
30. McLaughlin Gormley King Company
31. Metal Coating Company
32. Motley Bypass
33. Murphy Warehouse Company
34. New Century Development
35. Northern Star Westgate
36. Orient Square
37. Peavey Company Marquette Facility
38. Peavey Elevator
39. Peavey Elevator
40. Pella Investments
41. Phi Sigma Kappa Fraternity
42. Reichhold Chemicals, Inc.
43. Republic Creosoting
44. Rollins Storage Building
45. Soo Line Century Mill
46. Schnitzer Iron Metal Company
47. State Spill Site
48. Truck Terminal/Garage
49. US Postal Service
50. University of Minnesota Fleet Maintenance
51. University of Minnesota Football Complex
52. University of Minnesota Integrated Waste Management Facility
53. University of Minnesota Property
54. Vogel Manufacturing
55. Westgate
56. American Excelsior
57. Carpenter's School
58. Conwed Plastics
59. Flint, Inc.
60. General Mill/Henkel
61. Glidden Company
62. Goodwill Industries
63. Greater Huron Development Corporation
64. Grothjan Site
65. Hennepin Square
66. Impulse Group
67. Industrial Air Systems
68. Interplastic Corporation
69. McKay Manufacturing
70. Midwest Editions
71. Minnikahda Mini Storage
72. Minnpar, Inc.
73. Paper Calmenson Surface Impoundment
74. Pioneer Portec
75. TI Kromatic Paints, Inc.
76. University of Minnesota Chemical Storehouse
77. University of Minnesota Heavy Equipment Building
78. University of Minnesota, Minneapolis Campus
79. Valentine-Clark
80. Veit Container and Recycling Facility
81. Warren Shade



### LEGEND

- PROPERTY WITH NO CLEANUP COSTS ASSOCIATED WITH DEVELOPMENT
- PROPERTY WITH SOIL AND GROUND WATER CLEANUP COSTS OF LESS THAN \$1.00 PER SQ. FOOT
- PROPERTY WITH SOIL AND GROUND WATER CLEANUP COSTS OF APPROXIMATELY \$1.00 PER SQ. FOOT
- PROPERTY WITH SOIL AND GROUND WATER CLEANUP COSTS OF \$1.00 TO \$2.00 PER SQ. FOOT
- PROPERTY WITH SOIL AND GROUND WATER CLEANUP COSTS OF GREATER THAN \$2.00 PER SQ. FOOT
  
- 1, 2      COMMERCIAL, RESEARCH DEVELOPMENT
- 3-6, 12-18      RESIDENTIAL, COMMERCIAL OR RESEARCH DEVELOPMENT
- 7-11      LIGHT INDUSTRIAL, COMMERCIAL, OR RESEARCH DEVELOPMENT
- 19      LIGHT INDUSTRIAL OR RESIDENTIAL DEVELOPMENT
- 20-21      COMMERCIAL DEVELOPMENT
- 22-26      COMMERCIAL OR RESIDENTIAL DEVELOPMENT

Note: Basemap detail is illustrated only for purposes of describing contamination cleanup costs. Final design may vary.



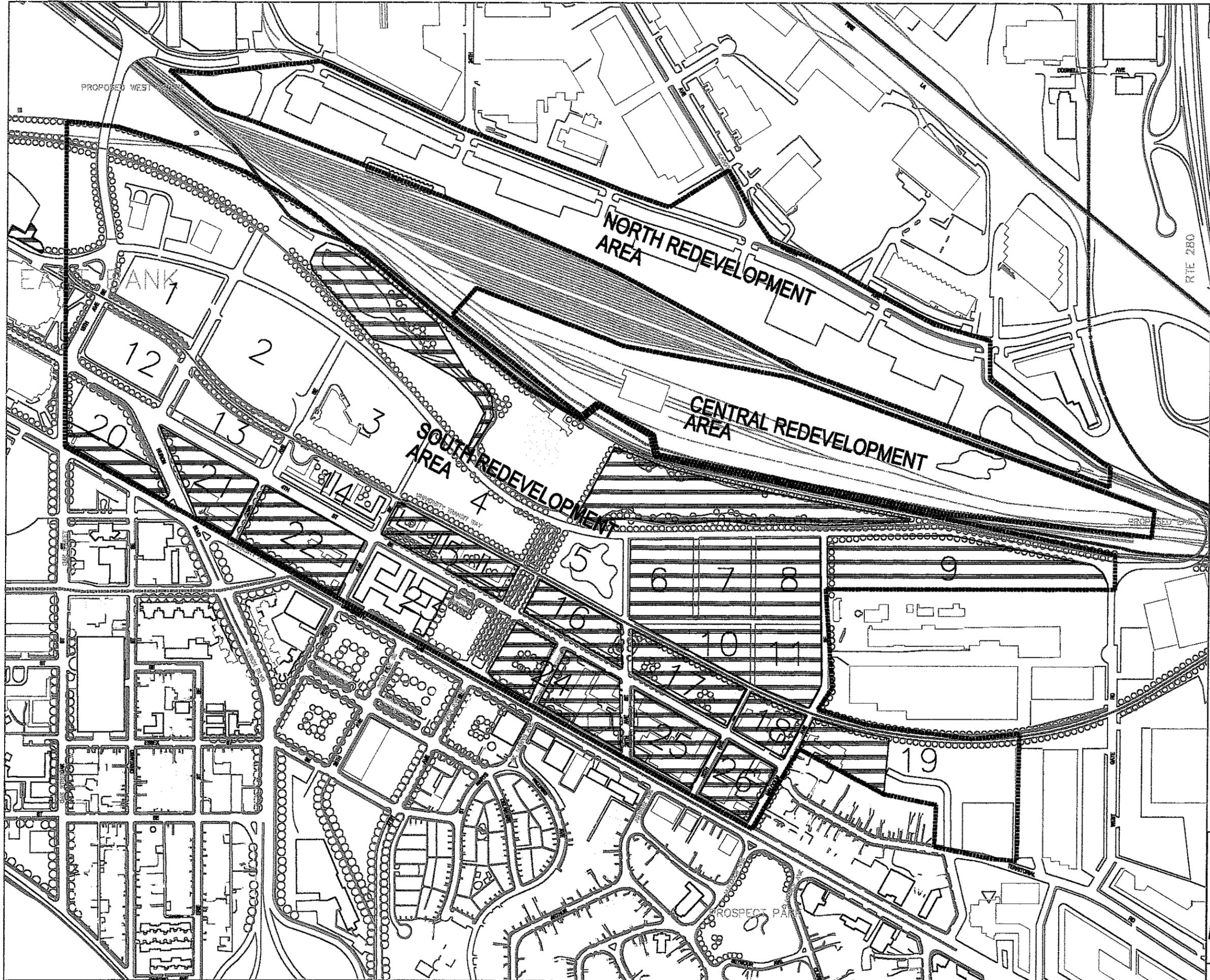
ESTIMATED POTENTIAL SOIL AND GROUND WATER CLEANUP COSTS

MARCH 2000

SEMI-BRIDAL VEIL AREA MINNEAPOLIS, MINNESOTA

FIGURE 22

PROJECT # 7065



### LEGEND

-  PROPERTY WITH POTENTIALLY HAZARDOUS MATERIALS CLEANUP COSTS (UP TO \$2.00 PER SQ. FOOT)
- 1, 2 COMMERCIAL, RESEARCH DEVELOPMENT
- 3-6 RESIDENTIAL, COMMERCIAL OR RESEARCH DEVELOPMENT
- 12-18 RESIDENTIAL, COMMERCIAL OR RESEARCH DEVELOPMENT
- 7-11 LIGHT INDUSTRIAL, COMMERCIAL, OR RESEARCH DEVELOPMENT
- 19 LIGHT INDUSTRIAL OR RESIDENTIAL DEVELOPMENT
- 20-21 COMMERCIAL DEVELOPMENT
- 22-26 COMMERCIAL OR RESIDENTIAL DEVELOPMENT

Note: Basemap detail is illustrated only for purposes of describing contamination cleanup costs. Final design may vary.



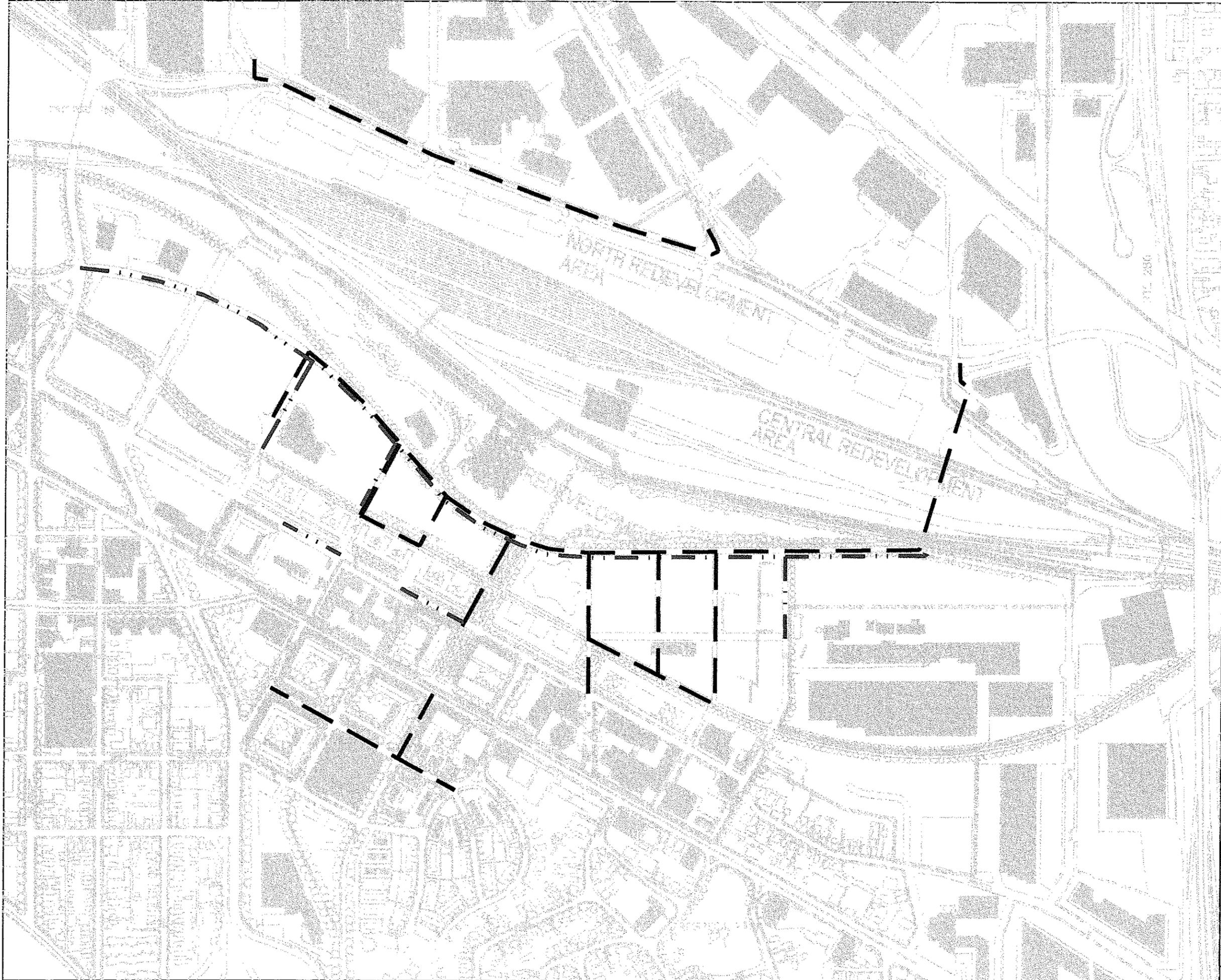
ESTIMATED POTENTIAL HAZARDOUS BUILDING MATERIALS CLEANUP COSTS

MARCH 2000

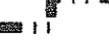
SEMI-BRIDAL VEIL AREA MINNEAPOLIS, MINNESOTA

FIGURE 23

PROJECT # 708



**LEGEND**

 PROPOSED WATER MAIN  
 PROPOSED SANITARY SEWER

Note: Base map detail is illustrated only for purposes of describing contamination cleanup costs. Final design may vary.



	<b>WATER MAINS AND SEWERS</b>	JUNE 2000
	SEMI-BRIDAL VEIL AREA MINNEAPOLIS, MINNESOTA	FIGURE 24
PROJECT # 7000		