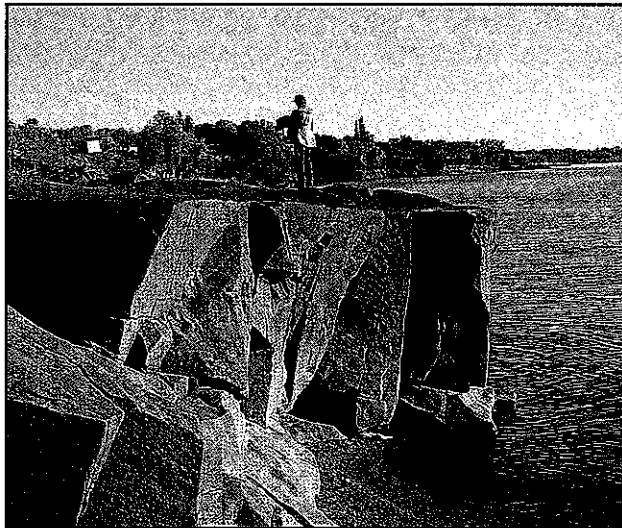
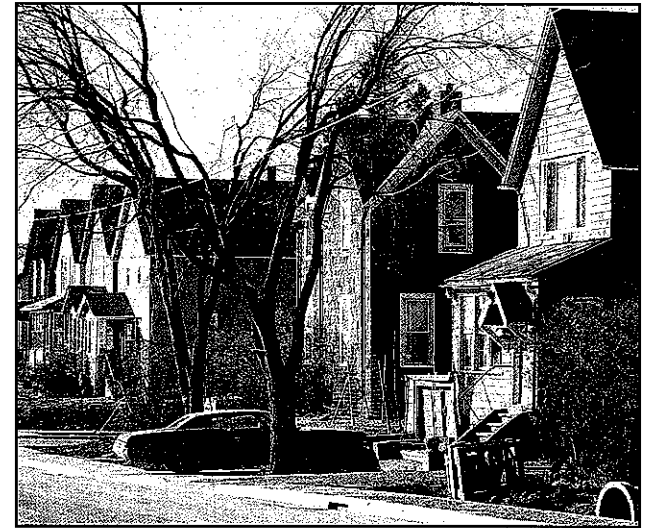
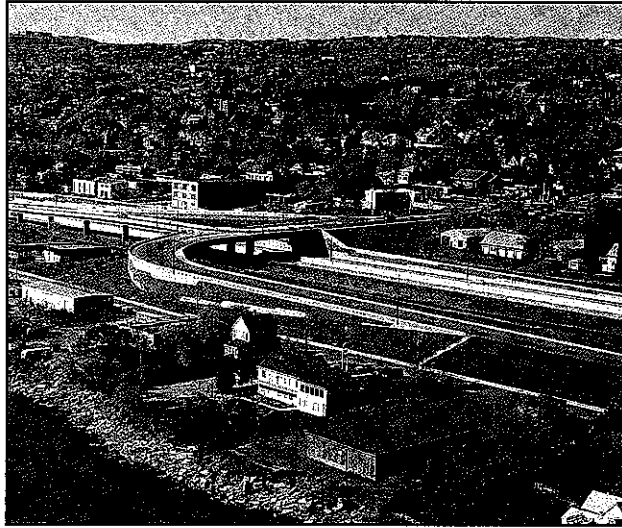


ENDION WATERFRONT PLAN AND DEVELOPMENT STRATEGY



**ENDION WATERFRONT PLAN AND
DEVELOPMENT STUDY**

City of Duluth, Planning Division

Buckhurst Fish & Jacquemart
in association with
Pei Group Holdings

February 1995

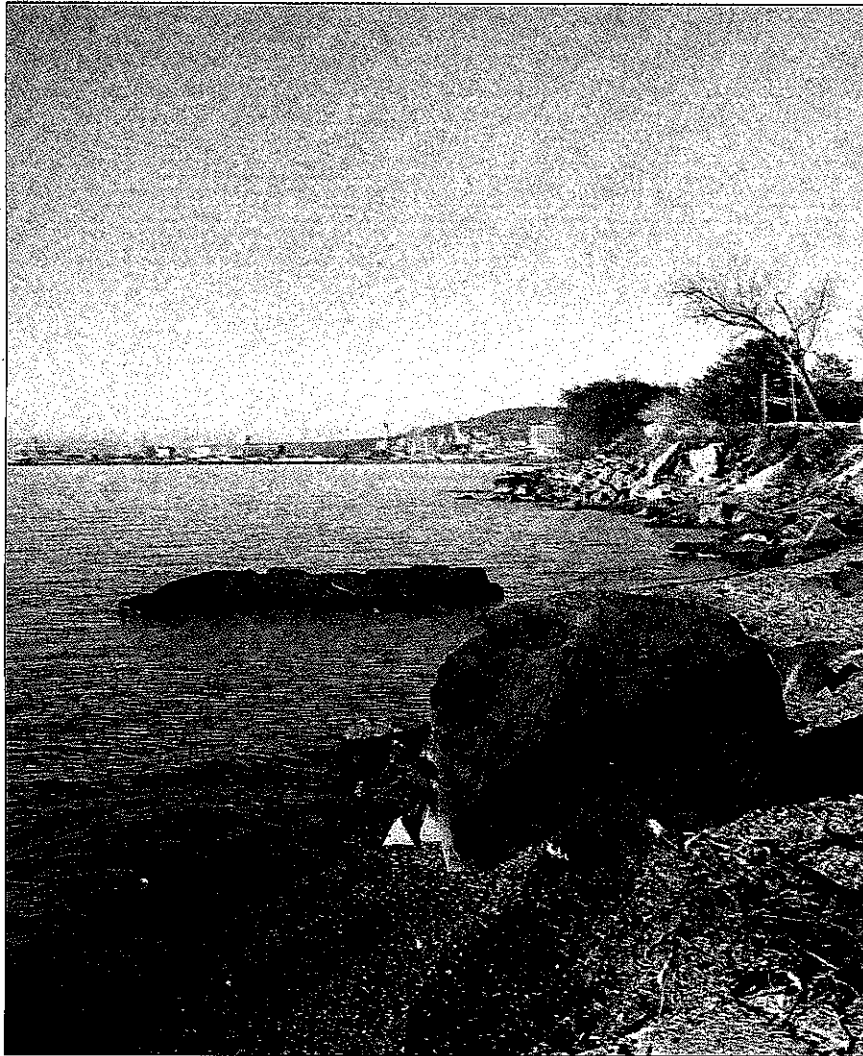
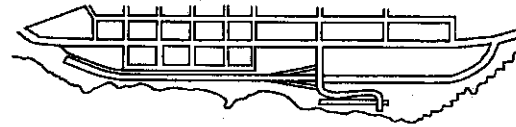
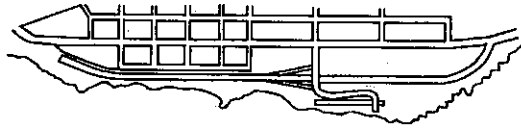
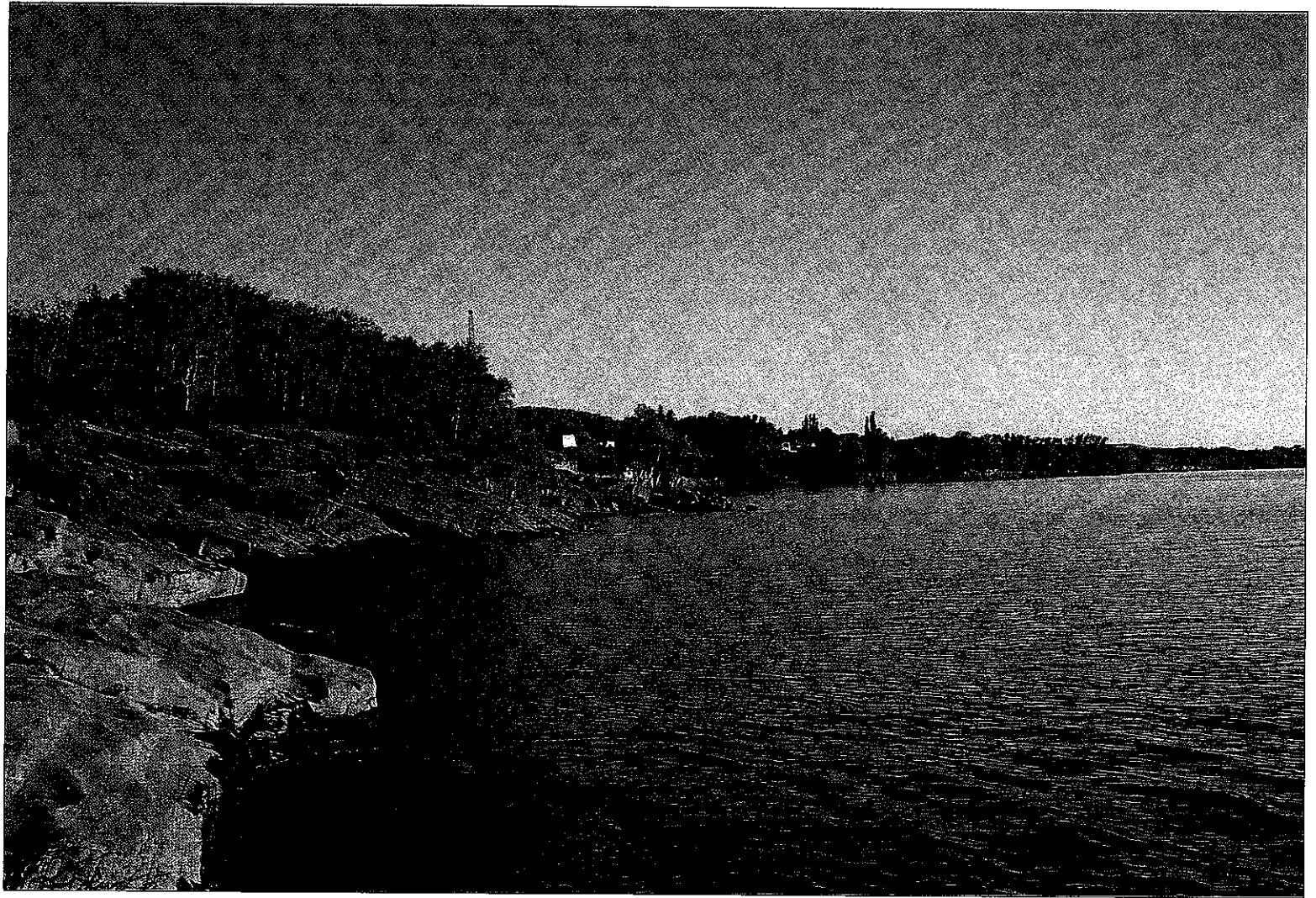


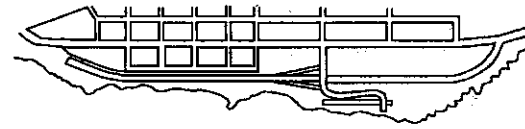
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*View of shoreline
looking east.*





1. INTRODUCTION

Study Goals

The plan for the Endion waterfront area has been developed in response to the recently constructed Interstate 35 (I-35) freeway that now extends along the Lake Superior waterfront to 26th Avenue East. The plan also continues the work previously implemented in the Downtown Waterfront Plan, prepared in 1985. This earlier project resulted in the revitalization of the City's waterfront area extending from the Harbor to 12th Avenue East. The plan described in this report seeks to expand this revitalization effort, encompassing the lower portion of the Endion neighborhood and its Lake Superior shoreline.

The Endion waterfront area has undergone significant change as a result of the I-35 construction, completed in 1992. Although the freeway work resulted in some dislocation to local services and access, the highway construction has opened up a number of opportunities for development and potential improvements in the Endion area. These opportunities include:

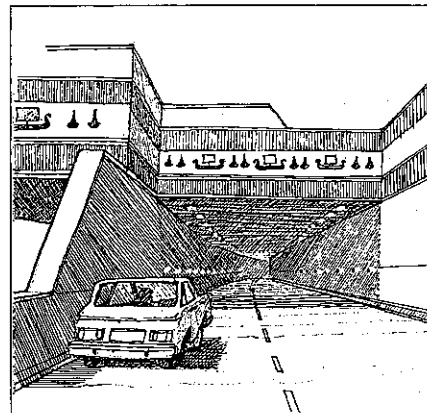
- The identification of development parcels on vacant and underutilized land near the shoreline.
- The potential to undertake improvements in the appearance and quality of London Road, including a reduction in the road width made possible by reduced through-traffic volumes.
- The development of a new marketing image for London Road through increased off-street parking and a streetscape beautification program.

The plan for the Endion waterfront takes full advantage of these development opportunities. It also provides a framework for future improvements that will establish the Endion neighborhood as an important gateway into the City of Duluth.

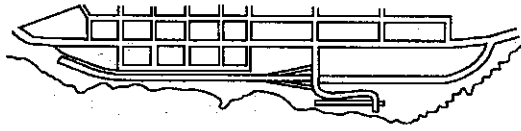
The proposals described in this report concentrate on three specific areas that reflect the varied use and character of the neighborhood: The London Road corridor; the Water Street area; and the shoreline overlooking Lake Superior.

Public Participation

Residents of the Endion neighborhood and local businesses contributed in a significant way to the planning recommendations for the study area. Over 100 citizens attended each of the public meetings, which were designed as round table discussions, in order to allow individual concerns and ideas to be clearly identified.



The Viking ship symbol is used along I-35 near 10th Avenue East.



Participants in the first workshop made suggestions for the future improvement of London Road and for the vacant land areas near the lakeshore. Citizens were also asked to suggest a future "vision" for the Endion waterfront. The ideas that were expressed at the meeting included the following:

- Provide new landscaping along London Road.
- Create a continuous pedestrian network with associated public open space on the waterfront.
- Develop low-rise housing, with related recreation and open space uses, on vacant parcels.
- Protect existing natural features such as the stretch of exposed shoreline bedrock.
- Provide convenient public access from existing Endion residential areas down to the lakefront area.

Press coverage
of public
workshop sessions

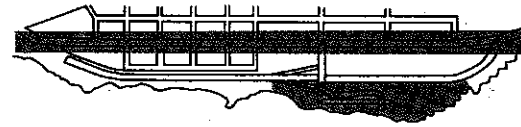


The second workshop meeting reviewed a number of alternative concepts for London Road and for the shoreline development sites. The preferred plan presented for London Road would reduce the road to three lanes, plus turning and parking lanes, and establish a coordinated lighting and signage program. A mix of townhouses and two and three story garden apartments was seen as the preferred plan for the vacant development sites between Water Street and the lakefront. Clearly defined pedestrian routes leading to the shoreline and the provision of public parking areas were also seen as important guidelines. Workshop participants also agreed that the continuation of Lakewalk East along the waterfront was an important objective.

Several additional meetings were held with London Road business representatives to identify issues and review alternatives for the plan.

Summary of Proposals

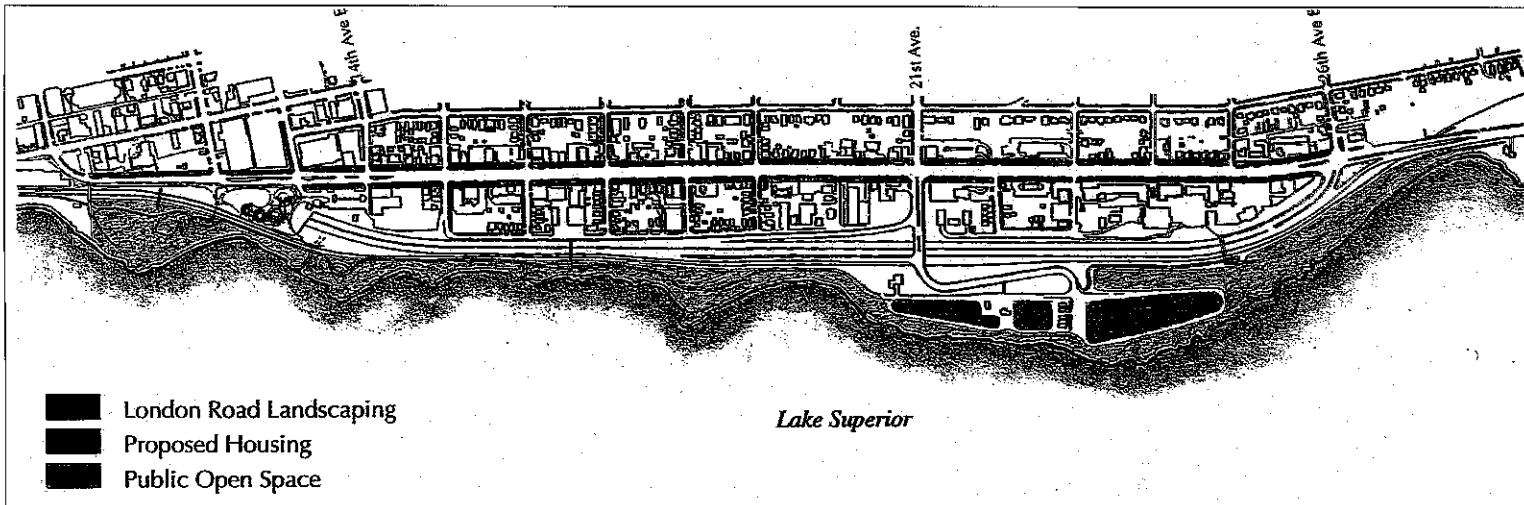
The plan for the Endion waterfront capitalizes on opportunities afforded by the I-35 construction. It creates a new,



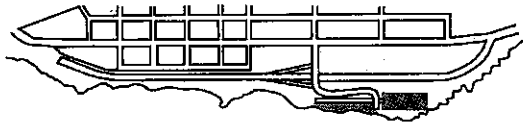
positive image for the London Road corridor through landscape and streetscape proposals. The Plan also helps reinforce pedestrian linkages between the residential, commercial and shoreline properties within the neighborhood. Specific proposals for London Road include a reduction in road width in recognition of the declining through-traffic; additional off-street parking where possible; a coordinated tree planting, signage and lighting plan to establish a clear design vocabulary along the street; and site design guidelines for properties fronting London Road.



Round table discussion at a Public Meeting



Plan showing summary of proposals



New housing development is proposed for sites overlooking Lake Superior, along the southside of Water Street. New low-rise housing could include a mix of townhouse and garden apartments, related in scale to the existing houses on South Street and 23rd Avenue East. The new development would be set back from the shoreline on higher ground, giving future residents unparalleled views across the lake.

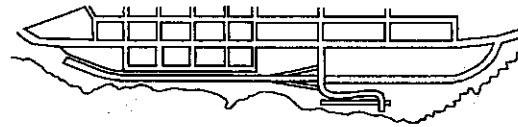
Pedestrian access near the shoreline is already in place as part of the highway construction program. Additional routes directly adjacent to the shoreline are recommended in order to encourage pedestrian access to the water's edge and to bedrock areas. A new natural open space -- Endion Ledges -- will form an important focus and destination point for users of Lakewalk East on the east side of the Endion neighborhood.

*Right: Housing on
Jefferson Street and
on South Street
overlooking I-35*



*Left: Housing on
Jefferson Street.*

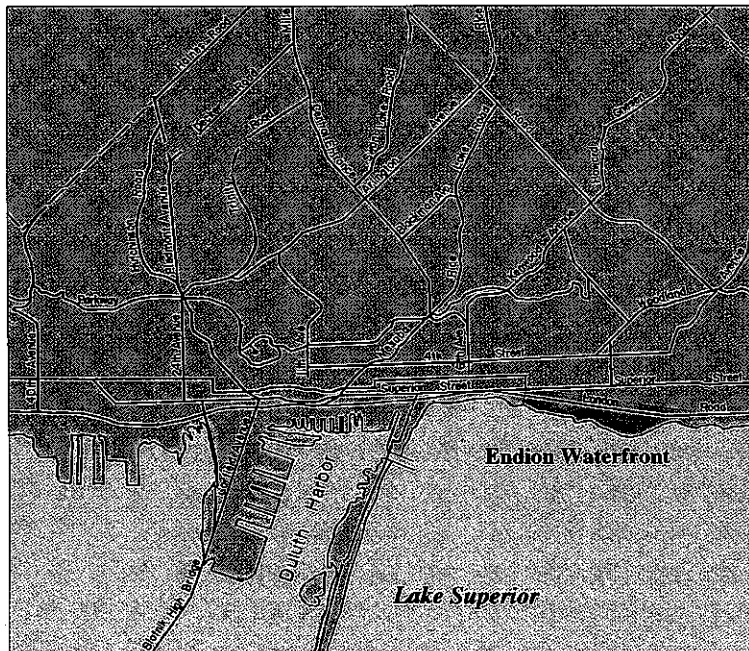




2. CATALYST FOR CHANGE

Physical Setting

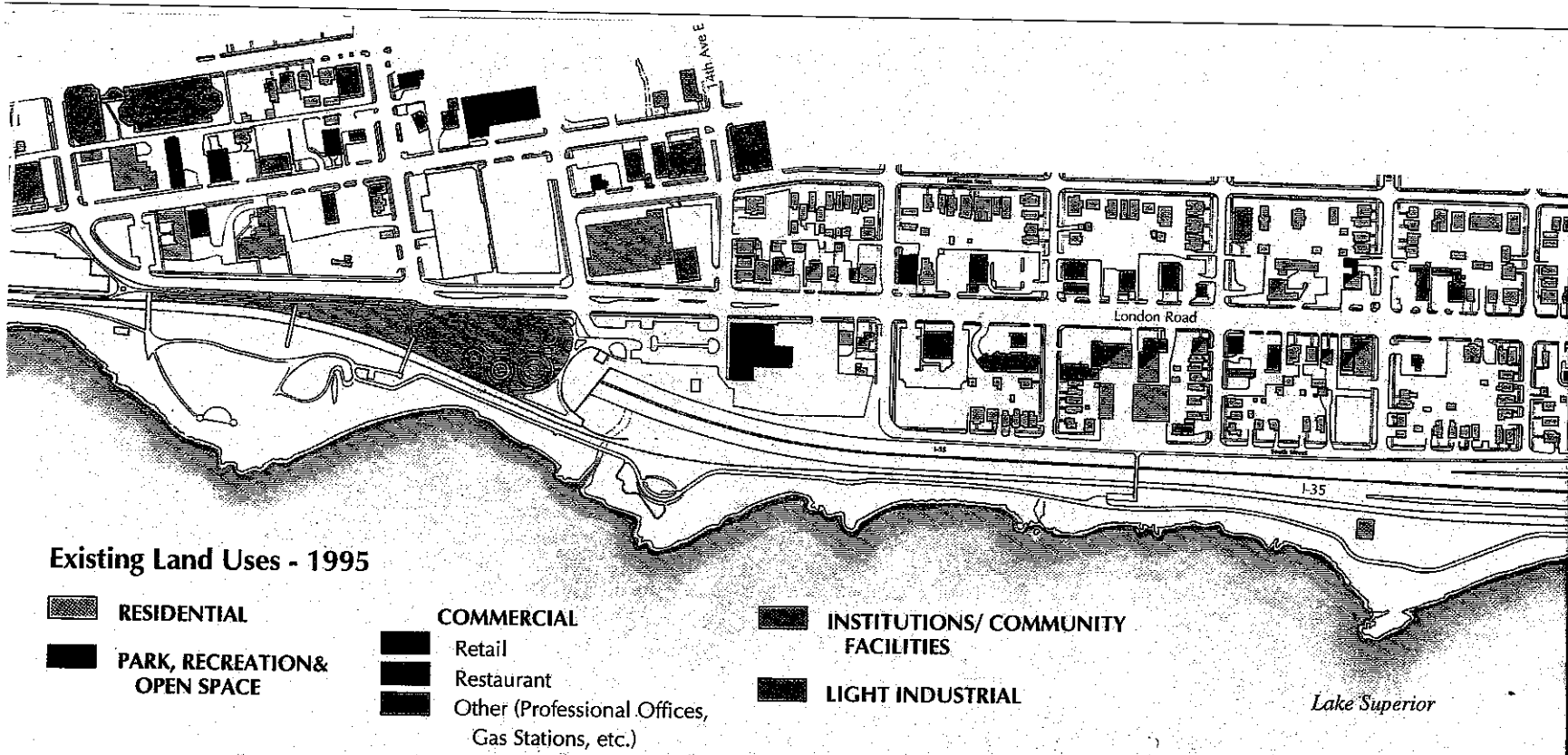
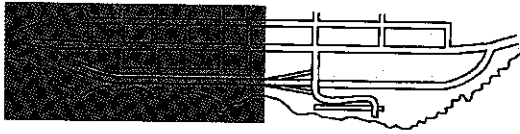
Endion neighborhood is located along the north shore of Lake Superior, about one mile east of Duluth's downtown area. The study area extends eastward from the Downtown Waterfront and Leif Ericson Park (at 12th Avenue East) and continues eastward as far as 27th Avenue East. The Lake Superior shoreline forms the southern boundary of the area, and Jefferson Street marks the northern edge.

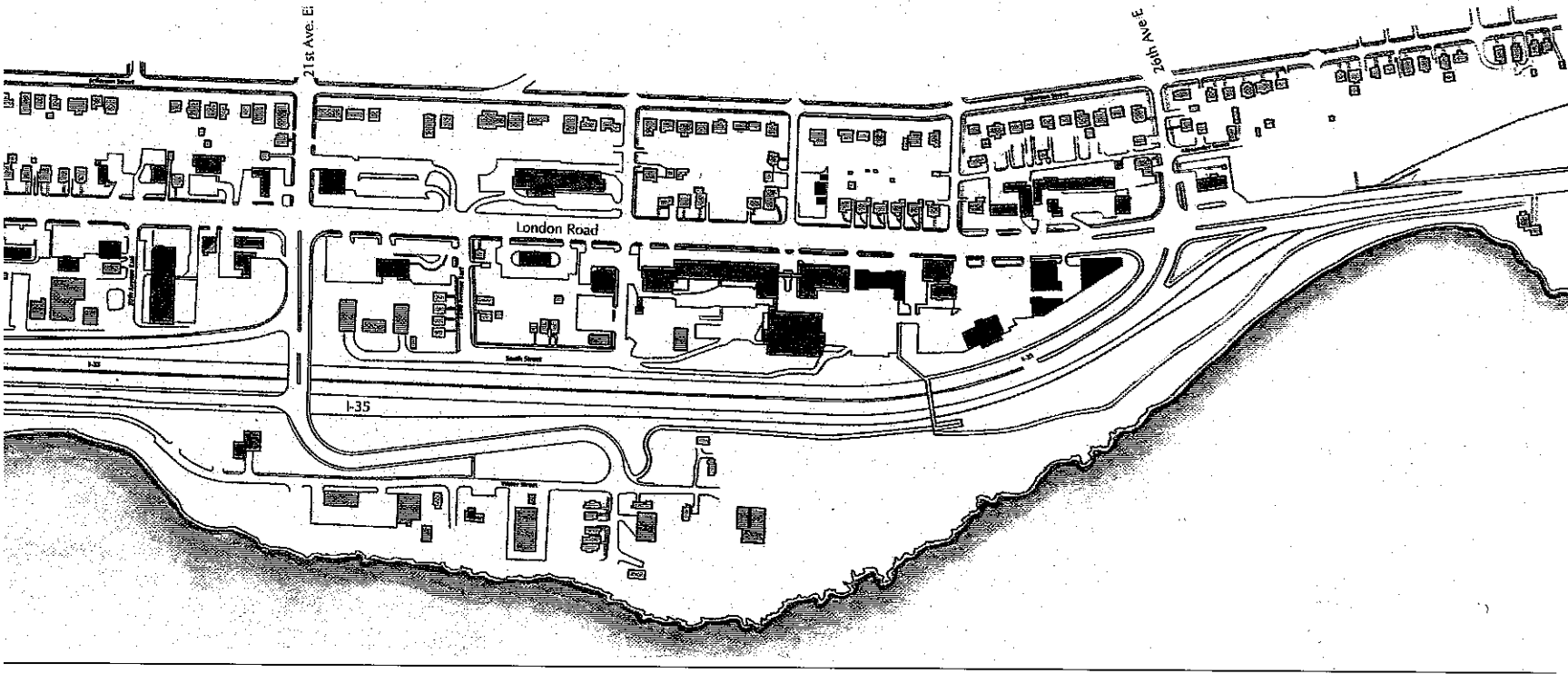
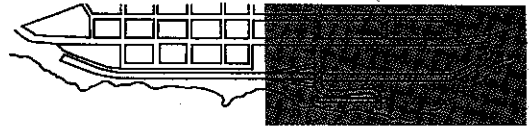


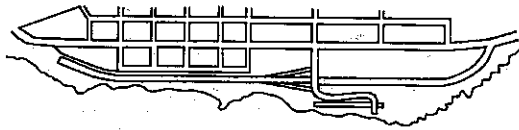
Existing land uses include a variety of commercial establishments, housing, light industrial and warehousing sites, public open space and vacant property. Commercial uses include retail, restaurant, office, motel and automobile related uses, found along both sides of London Road. Generally these commercial uses extend one half block to the north and south of London Road. The dominant uses within this commercial strip are the fast food restaurants: McDonald's, Burger King, Hardee's, Dairy Queen, Wendy's and Kentucky Fried Chicken. Several motels are also located within the study area: Edgewater East and West (Best Western chain), London Road Court Motel, Chalet Motel, and the Viking Motel. Six gas stations are also located within this section of London Road. Retail uses include Swedish-Norwegian Imports (near 20th Avenue East), Marine General Supply and the shop in the Edgewater East Motel.

Residential uses form a major component of the land use pattern. Jefferson Street is the prime residential street in the area. Housing west of 21st Avenue East generally consists of larger, two and three family homes and apartments; to the east, the houses are generally single family and of more recent construction. Housing is also to be found south of the London Road frontage, within the blocks on either side of 19th Avenue East, and also between 23rd Avenue East and 25th Avenue East. In addition, there are other more isolated pockets of housing occurring along the north side of South Street (between 15th Avenue East and 23rd Avenue East), and ten homes south of Water Street near 23rd Avenue East.

Endion waterfront study area in relation to the downtown area.



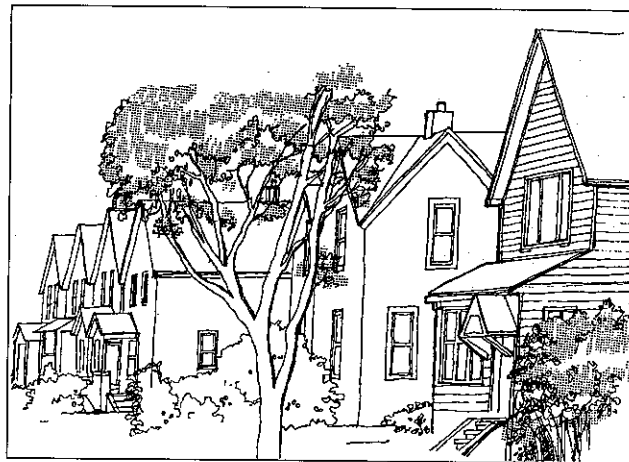




Light industrial and warehousing sites are scattered throughout the study area. The majority of these uses occur to the south of London Road, fronting onto the I-35 freeway along South Street and Water Street.

The study area provides a number of strong contrasts in terms of image and character. Along London Road, well maintained houses on tree-lined streets contrast with the commercial character of fast-food restaurants, motels and gas stations. And, at the waterfront, isolated areas of dumping have harmed some of the shoreline edges where rock outcrops and steep wooded banks provide a unique natural landscape along much of the Lake Superior shoreline east of 23rd Avenue East. The area contains several attributes that make it an important and attractive neighborhood for both commercial and residential uses. The area's most obvious visual asset is the Lake Superior shoreline, which is especially significant because of the

*Housing along
South Street*

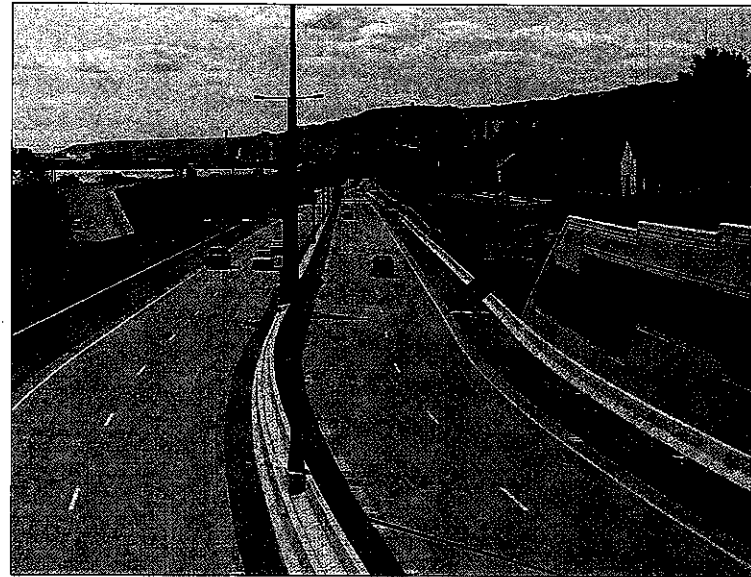
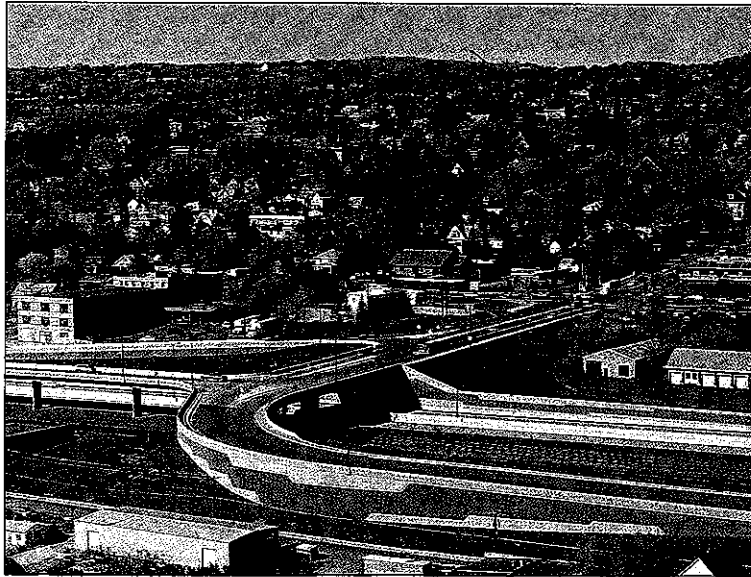
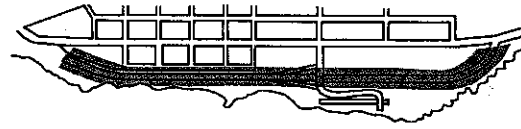


extensive slopes that face the lake. Jefferson Street is between 70 and 120 feet above the shoreline, with the result that good views of the lake are available from most of the north-south avenues from Jefferson Street south. The shoreline itself involves a mix of narrow, limited areas of beachfront and extensive stretches of rock outcrops, particularly east of 23rd Avenue East. These rock outcrops, with beautiful small gravel beaches, provide a geologic phenomenon that offers strong possibilities for both education and recreation. The lakeshore contains a number of small bays, separated by projecting peninsulas that provide views across the lakefront to the east and west.

Buildings in the Endion Waterfront area generally fail to exploit their attractive lakefront location. Very few structures are oriented to take advantage of the extensive views of the lake. For example, most of the housing located south of London Road is oriented with front doors and windows in directions other than towards the lake, and most of the single-story commercial uses are focused on the London Road frontage (with few views toward the lake). The recent extension to the Edgewater East motel is the one exception to this condition. In addition, relatively few buildings are sited near the shoreline, due primarily to the earlier railroad that created a barrier between the Endion neighborhood and its Lake Superior shoreline.

The I-35 Freeway

The I-35 freeway forms a significant new element within the study area. From the west, the freeway emerges from under Leif Ericson Park at 13th Avenue East and terminates at London Road near 26th Avenue East.



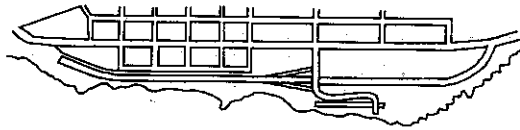
*Left:
View of I-35 and
21st Avenue East
intersection.*

*Right:
View of I-35
looking west.*

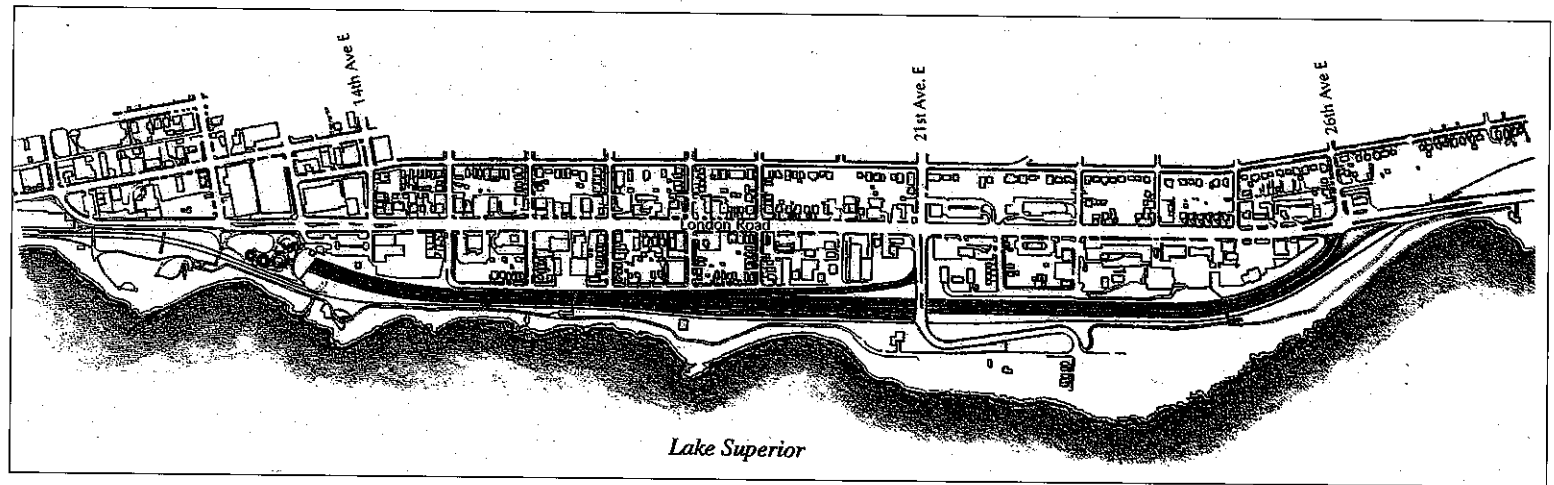
A retaining wall along South Street (reaching a height of 20-25 feet) takes account of the significant grade change that occurs between South Street and the Lake Superior shoreline. Eastbound vehicles exit from the freeway at 21st and 26th Avenue East. There is no eastbound entry at 21st Avenue East. Westbound traffic can enter the freeway at 21st and 26th Avenues East. 21st Avenue East bridges over the freeway, before descending as a two-lane ramp to Water Street.

The high retaining wall along the northern edge of the freeway right-of-way impedes north-south pedestrian movements. However, the pedestrian bridges near 16th

Avenue East and 25th Avenue East and the bridges at 21st Avenue East and 27th Avenue East provide important connections between the northern section of the study area and the shoreline. The two-way off ramp between 21st Avenue East and 23rd Avenue East provides a vehicular connection to Water Street. The re-aligned, single track railroad is now located along the south side of the freeway, and is in use by excursion trains leaving from the Depot in downtown Duluth.



Location of
I-35 freeway.



The London Road Corridor

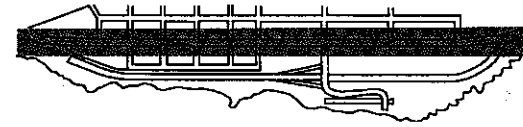
London Road is a mixed-use commercial area with a high percentage of fast-food restaurants. Other commercial uses include auto-related businesses, motels, professional offices, and a wide variety of small businesses such as gift shops, liquor stores, and miscellaneous supply stores. Several apartment buildings are sited on London Road and a number of older detached residences remain in isolated pockets on the north side of the road. The side streets or avenues are primarily residential.

The visual quality of the roadway is characterized by many of the elements associated with typical commercial strip development. Low rise buildings are set back behind surface parking lots, and visual prominence is given to

large-scale signs placed near the roadway. This image is only broken where residential uses front on London Road.

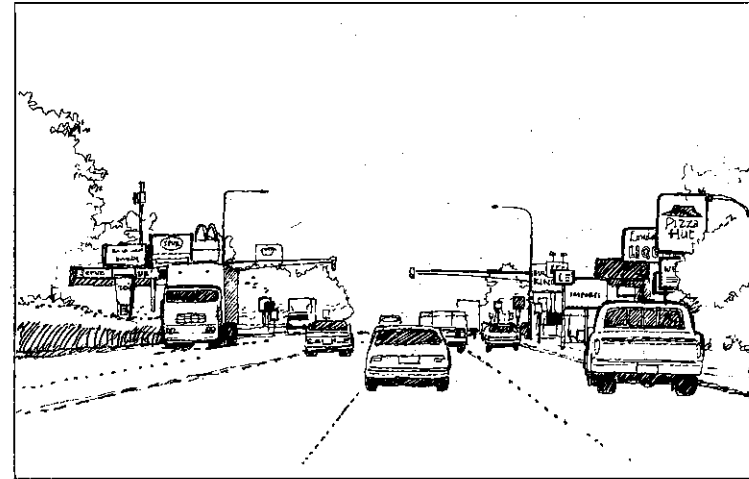
London Road's excessive width and straight alignment also contributes to the corridor's somewhat unattractive strip image. The 100 foot right-of-way includes a 6-lane, 68 foot wide roadbed with two moving lanes in each direction. The third lane on each side is devoted to on-street parking or turning movements. The roadway is typically undivided, with few street trees and many curb-cuts. Because of its extreme width and multiple lanes, pedestrian crossings are difficult and the street acts as a barrier between residential neighborhoods and the lake. There is not a uniform street lighting scheme.

The key planning and design issues are those related to



visual quality and the drop in traffic volume on most of London Road since the opening of I-35. Specific issues include:

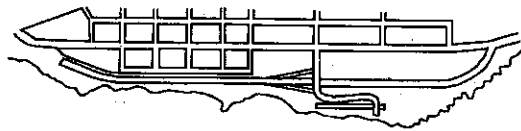
- Reduced traffic volumes: A distinct, attractive image will be needed to support existing businesses and draw new customers to the corridor.
- Excessive roadway width: Reduced volume allows the design of the roadway to be revised and improved. New planting areas, and additional designated parking as well as turning lanes, will enhance the corridor's image.
- Pedestrian safety: Pedestrian safety can be improved by intersection markings, shorter crossing distances at intersections, median islands and a new awareness of the corridor as a pedestrian-friendly zone.
- Multiple curb cuts: The high number of existing curb cuts reduces pedestrian safety and decreases opportunities for street tree planting.
- Lack of consistent tree planting and landscape screening: The absence of tree plantings and landscape buffers is a negative visual and environmental factor, and contributes to the corridors strip image.
- Uncoordinated signage: Lack of consistent signage creates confusion and a poor visual image for the corridor. Merchants would be better served by a coordinated signage program that creates a positive image for pedestrians and automobile passengers.



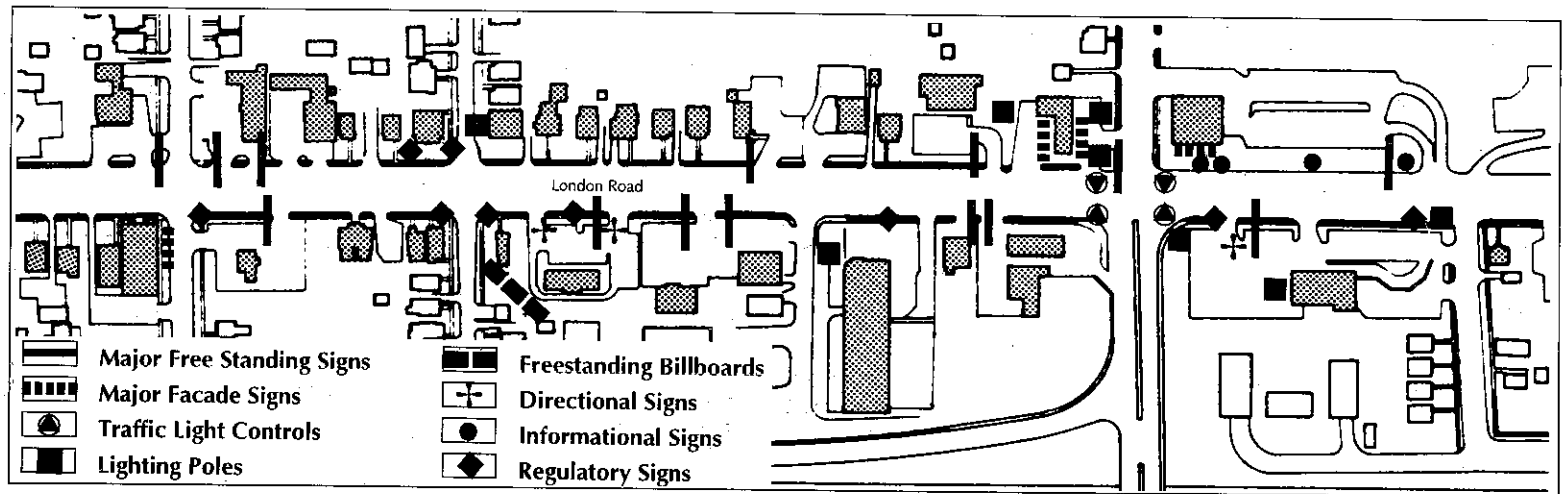
London Road has a 68 foot wide roadbed with four lanes of traffic and two parking lanes.



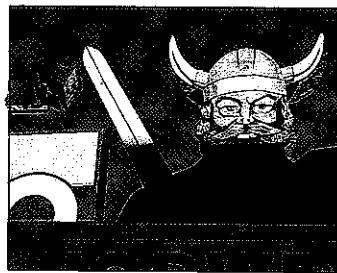
View along south side of London Road illustrating proliferation of signs.



*London Road:
distribution of major
signs between 18th
Avenue East and 22nd
Avenue East.*



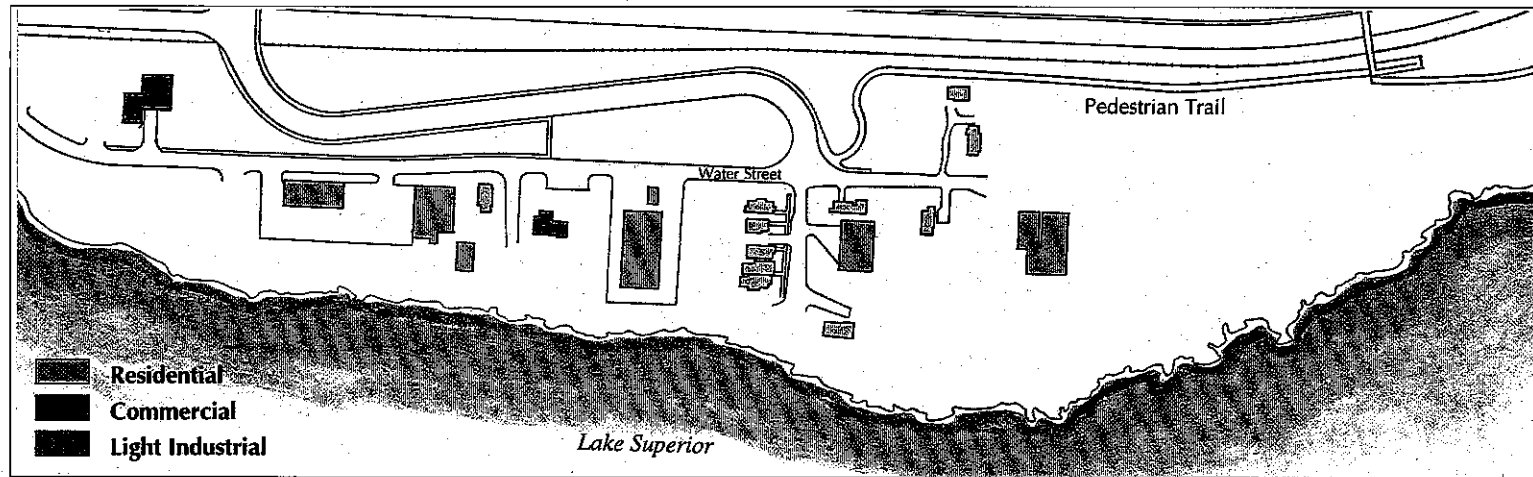
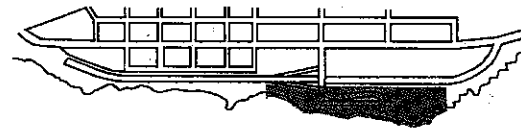
- Land use and building design: The architectural quality of buildings, variety in building setbacks, haphazard design of parking lots, and the mixture and scale of land uses within the corridor all contribute to the negative image of London Road and its strip character.



The Water Street Area

This section of the study area encompasses properties to the south of I-35, extending from about 20th Avenue East to a point almost two blocks east of 26th Avenue East. Existing buildings in the area include two single-story office buildings erected within the past few years, ten single family residences, and a few light industrial sites, primarily warehouses and storage buildings. Most of the houses are clustered along the short extension of 23rd Avenue East. Several of the larger parcels are privately owned. The City of Duluth and State of Minnesota also own significant parcels of land in this area.

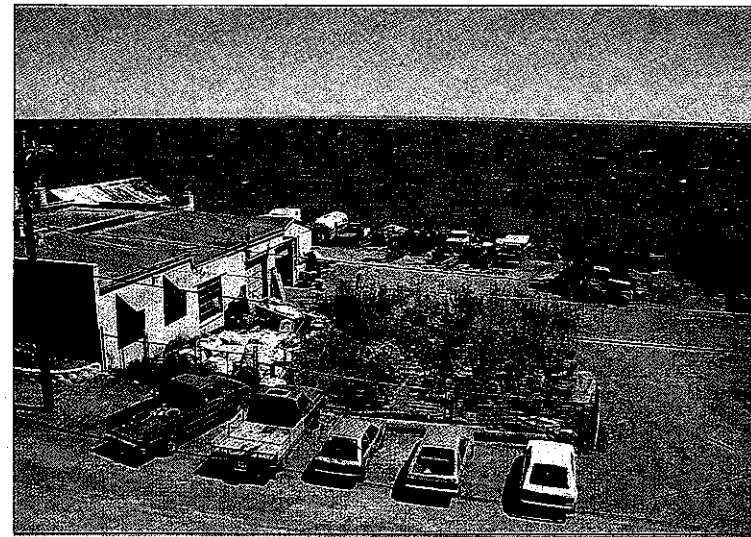
The key development issues focus on the degree and type of new investment and development that can take place in



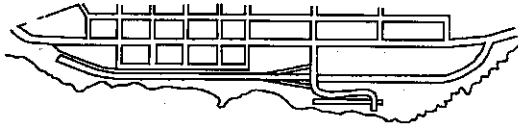
Existing uses along Water Street and the shoreline include housing and light industrial facilities.

this section of the Endion Waterfront study area. A number of larger vacant sites have frontage on Water Street. In particular, the contractor's yard/storage area to the east of 24th Avenue East provides an important opportunity for new development and landscaping. Modest-sized parking lots providing public access to the shoreline could also be integrated into the development scheme.

Redevelopment of the Water Street area could also involve acquisition of some of the existing buildings in order to create larger development sites. The removal of light industrial and storage uses would help upgrade the area and create additional development opportunities. The removal of light industry would also permit a revision to the current zoning in this area. The M-1 zone should be replaced with a new zone that encourages residential development.



Redevelopment sites include light-industrial uses along Water Street.

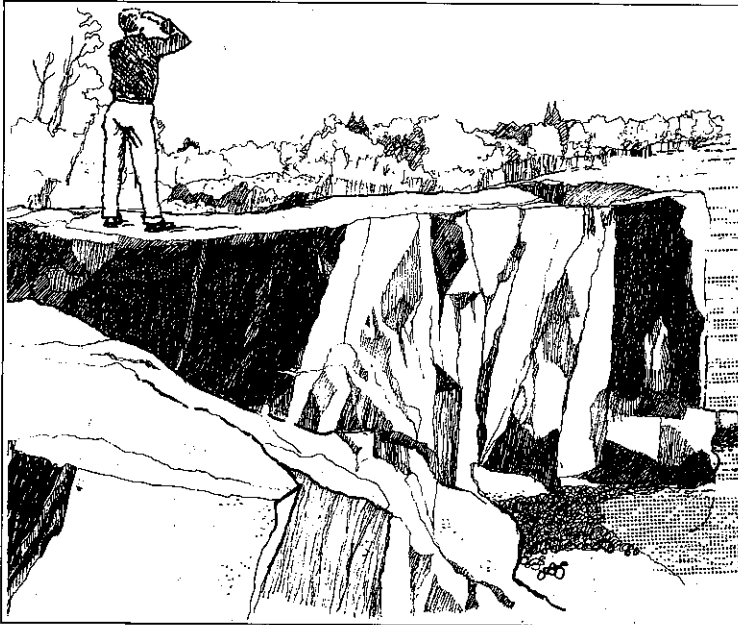


Lake Superior Shoreline

The Lake Superior shoreline from 12th Avenue East to 27th Avenue East promises to be a unique environmental and recreational resource for the Endion neighborhood, City residents and visitors to Duluth.

The shoreline's gently undulating edge creates two shallow bays west of 24th Avenue, a deeper bay at 28th Avenue, and three promontories that provide excellent views in both directions. Two creeks from the upland areas flow to the shoreline: Chester Creek at 13th Avenue and Oregon Creek east of 19th Avenue.

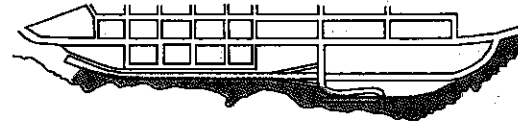
Rock outcrops occur along the shoreline between 24th and 27th Avenue East.



The dominant features of the shoreline are the spectacular rock outcrops. The most extensive bedrock outcrops are located between 24th Avenue East and 27th Avenue East, rising 10 to 30 feet above the lake. The rocks are easily explored on foot and support many fascinating types of grasses, mosses and lichens.

The shoreline west of 24th Avenue East is a mixture of narrow beachfront, sometimes severely eroded, with haphazard and unsightly attempts at stabilization, and smaller areas of bedrock interspersed with mixed deciduous vegetation. As part of the I-35 construction program, MnDOT has undertaken a clean-up of the shoreline from 20th Avenue East westward.

Duluth's Lakewalk East extends to the Endion shoreline through Leif Ericson Park. Public access from this point and from the three pedestrian access points across I-35 helps to make this area more accessible to the general public. Planning issues to be addressed for the shoreline east of 20th Avenue East involve the type and scale of recreation and open space areas suitable along the shoreline (e.g., active versus passive uses); the ability to provide for continuous public access along the water's edge from 20th Avenue East eastward; the provision of public parking near public access points to the shoreline; the development of pedestrian links between the shoreline and the upland areas; and the scale and suitability of new land uses on the water's edge.

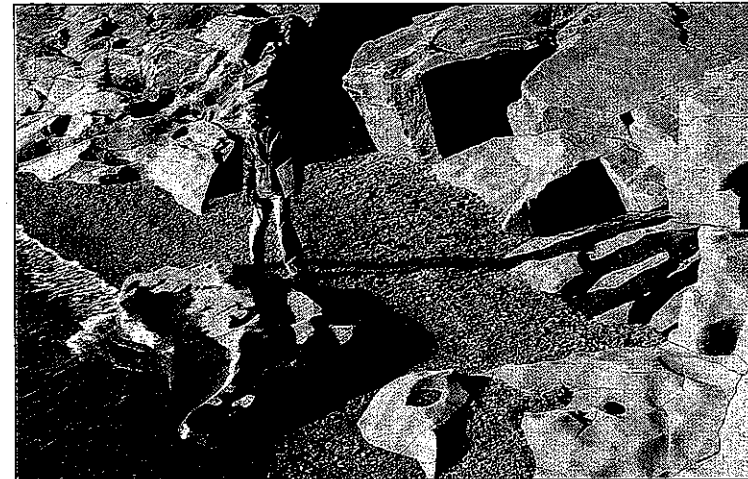


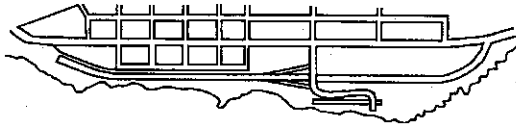
In conclusion, the shoreline's assets include:

- unrestricted views of the lake
- continuation of Lakewalk East and additional shoreline access (in addition to the existing walkway along Water Street and the freeway)
- open space resources for the Endion and South Street neighborhoods
- a unique bedrock ledge ecology which could become an "outdoor classroom"
- access points for fishing and recreation such as passive sitting, lake watching and picnicking



Views along shoreline showing bedrock formations.





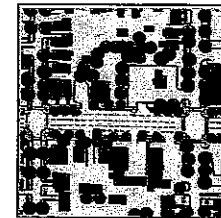
DESIGN PRINCIPLES

London Road

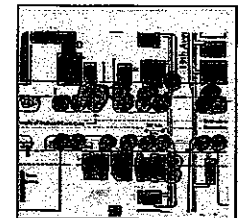
- (a) Establish a new image for the corridor.
- (b) Provide new landscape and streetscape image.
- (c) Reduce roadway width.



a



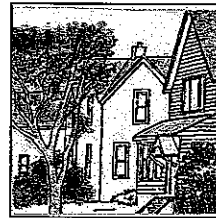
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c

South Street and Water Street

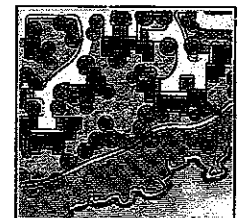
- (a) Maintain most existing residences.
- (b) Promote new low-rise residential development.
- (c) Encourage public access to the lakeshore.



a



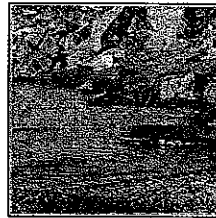
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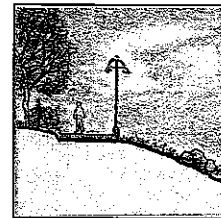
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Shoreline

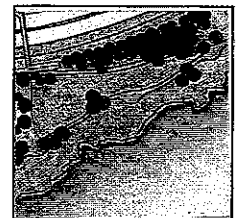
- (a) Preserve existing landscape.
- (b) Extend Lakewalk East.
- (c) Provide new public open space called Endion Ledges.



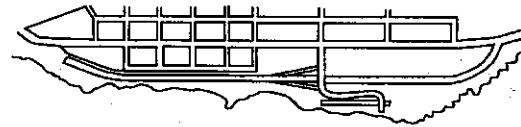
a



b



c



3. THE PLAN

The plan for the Endion waterfront is designed to establish a long-term master guide that enhances the land use elements. The recommendations focus on upgrading the character and image of the neighborhood, and involve the following design principles:

London Road:

- (a) Establish a new image for the corridor, one that reacts positively to the fact that it now must rely more on local customers in drawing additional business to the street.
- (b) Provide new landscape and streetscape features that help to create a coordinated design image for the corridor.
- (c) Reduce roadway width by eliminating one or more traffic and parking lanes but creates better turning lanes.
- (d) Encourage a broad variety of retail and commercial uses while creating buffers adjacent to residences.

South Street and Water Street Area:

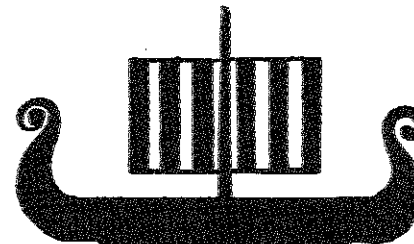
- (a) Safeguard most existing residences through zoning, design guidelines, etc.
- (b) Promote new low-rise residential development on vacant and underutilized properties.

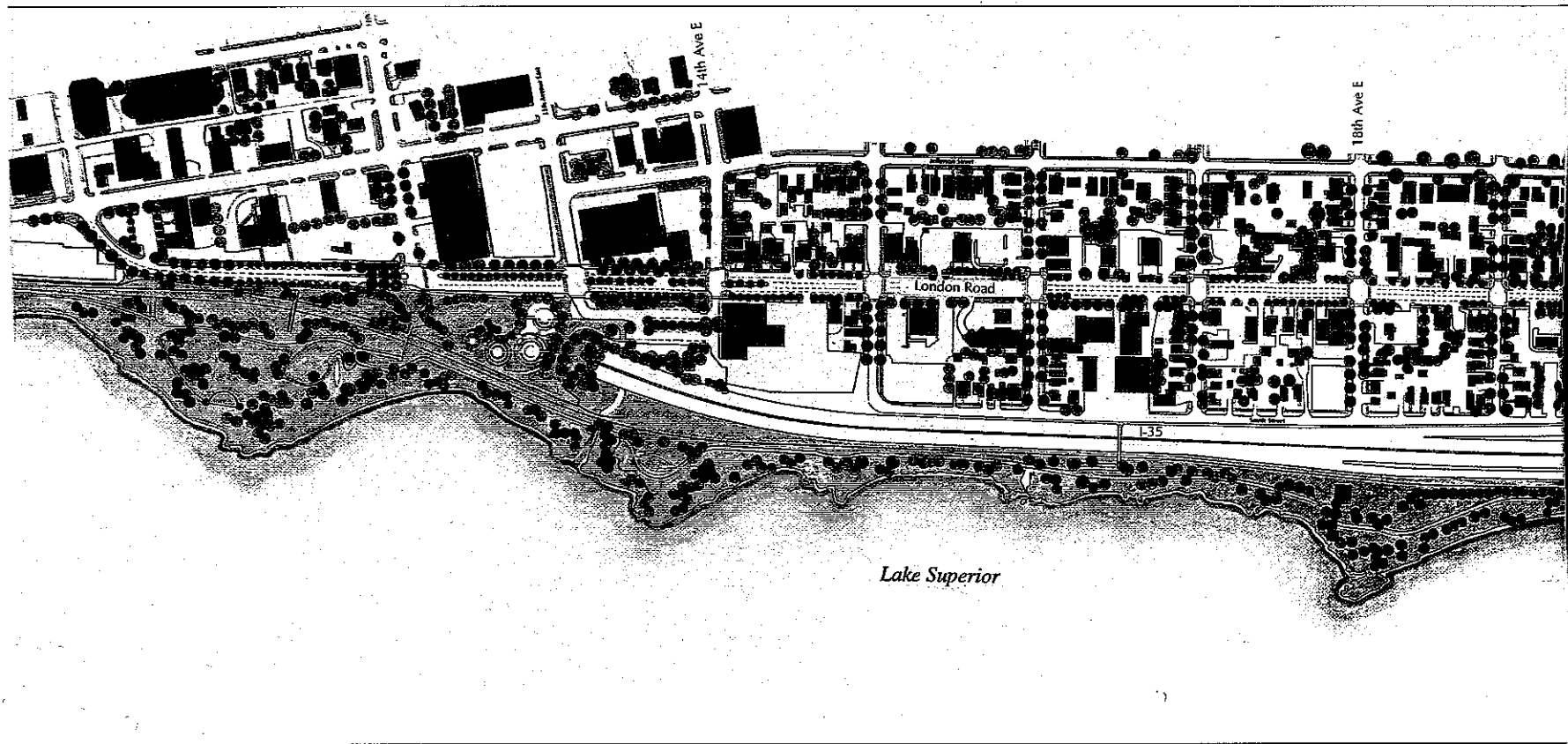
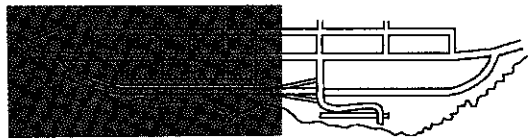
- (c) Encourage public access to the lakeshore by north-south access routes and provision of visitor parking lots.

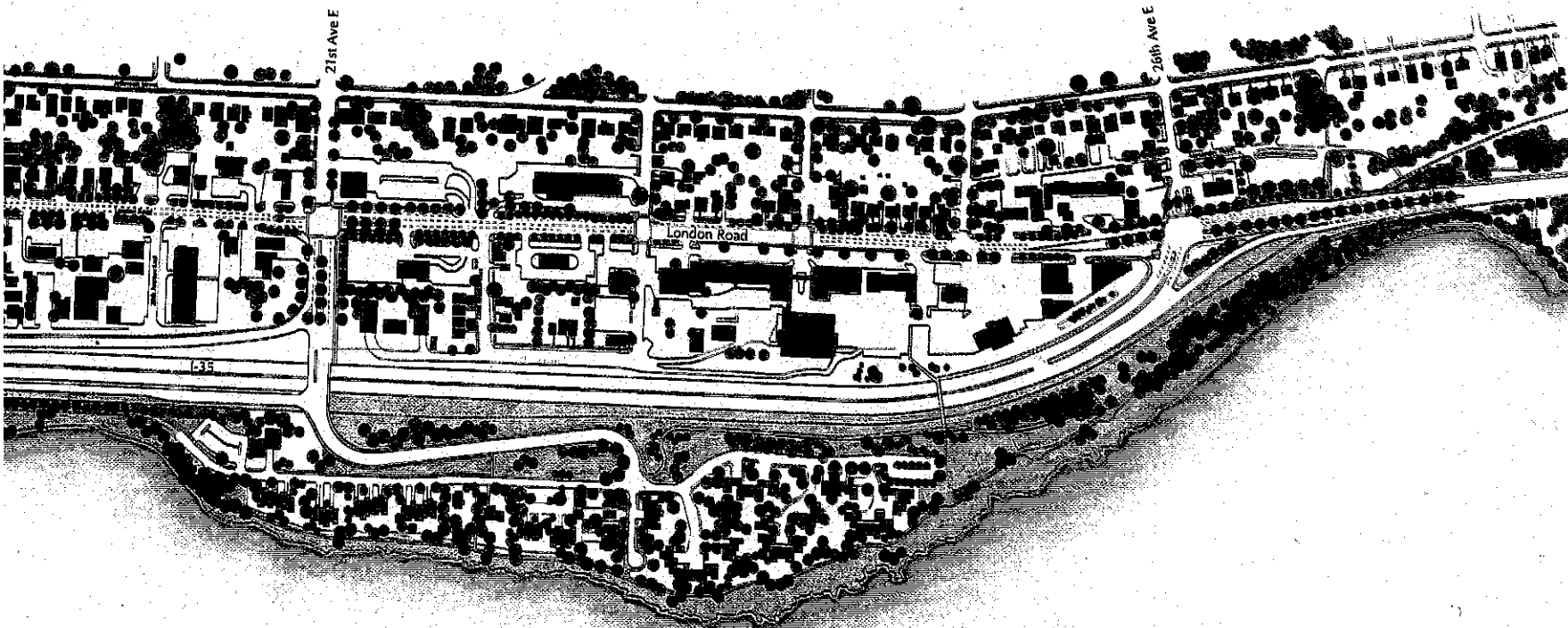
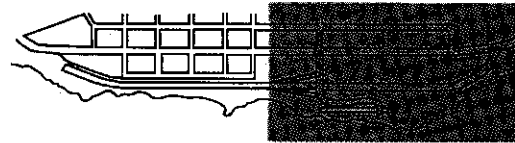
Shoreline Area:

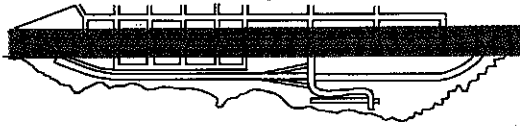
- (a) Maintain and enhance the natural landscape quality of the shoreline, including the major rock outcrops.
- (b) Provide an extension of the Lakewalk East trail along the water's edge.
- (c) Develop a public open space at the eastern end of the study area.

The following pages summarize the proposals for these three major zones within the study area.









LONDON ROAD

The overall objective of the London Road Corridor Plan is to create a positive visual image which will foster economic development, encourage an upgrade in building and site design, and reinforce pedestrian linkages between residential, commercial and shoreline properties.

The specific features of the plan focus on:

- circulation improvements and additional parking
- new street tree plantings
- corridor guidelines

The following elements are illustrated in the proposed corridor plan:

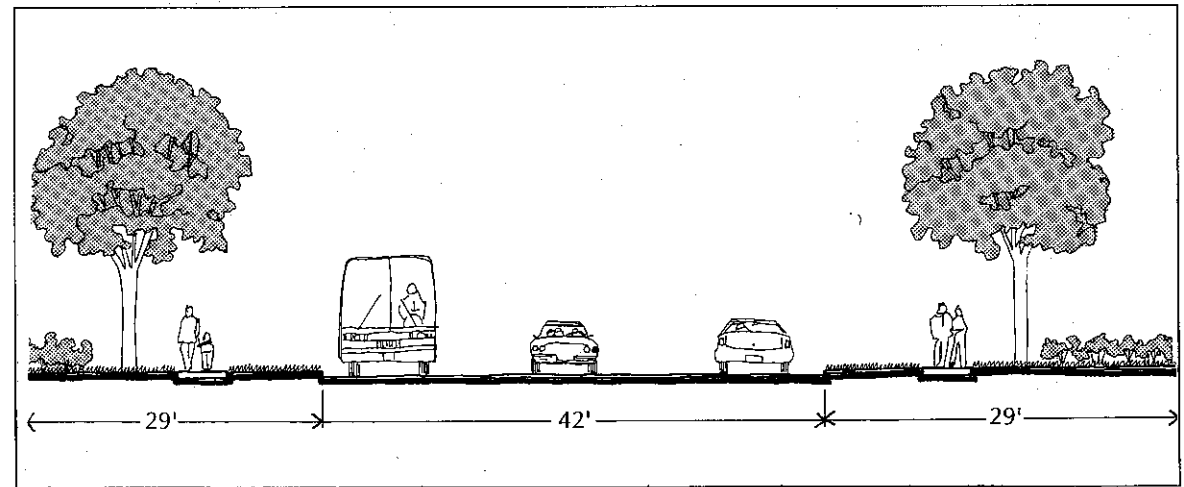
Vehicular Circulation

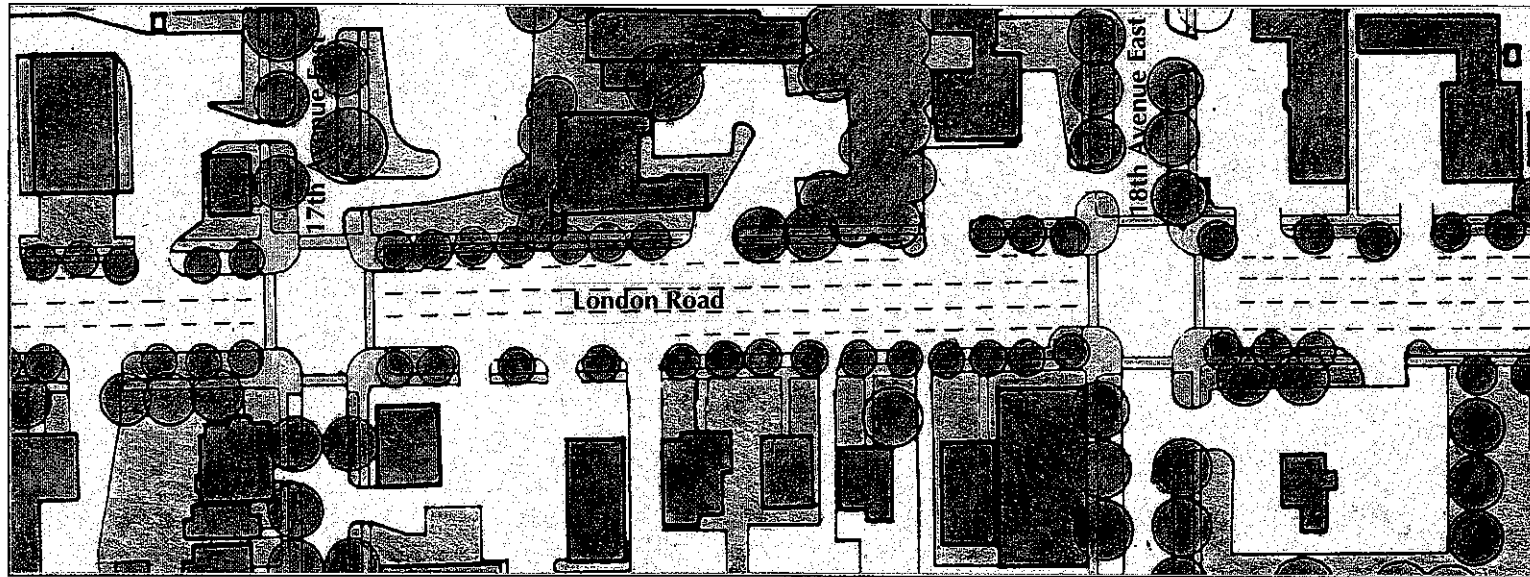
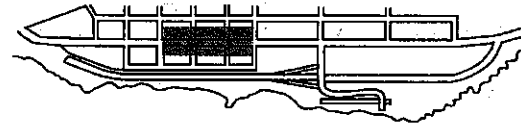
Overall roadway width is reduced and curb cuts are eliminated or combined wherever feasible. Minimum road width is three lanes including one through lane in each direction and a center turning lane. Along portions of the roadway, a parking lane or right turning lane is provided at the curb. This also allows additional "off street" parking at several locations.

Pedestrian Circulation

Improved crosswalk markings are provided at each intersection. Distinctive pavements provided at key intersections linking upland and waterfront properties: 17th, 21st and 25th Avenues East.

*London Road:
The roadway width is
reduced to three lanes
wherever feasible.*





Example of proposed landscaping along London Road.

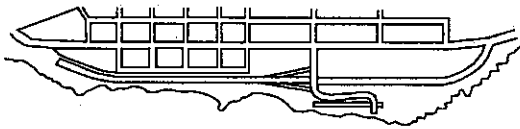
Street Tree Plantings

A consistent tree planting scheme is proposed along London Road, both at the curb and within median islands. The corridor's new landscaped edge will contribute significantly to the visual and environmental quality of London Road — on-street parking will be shaded, tree-lined sidewalks will become pedestrian-friendly, and the corridor will present a distinct image to travelers and residents alike. The use of native vegetation is recommended and species selected should be salt tolerant.

The landscape plan illustrates two types of tree spacing: large canopy trees spaced approximately 40 feet on center to reflect scale of the roadway or existing patterns of mature vegetation, and medium-sized canopy trees planted approximately 25 feet on center to reinforce the corridor edge and create a strong visual image. Use of tree species which do not have dense foliage will assure that building fronts and signs will be readily seen.

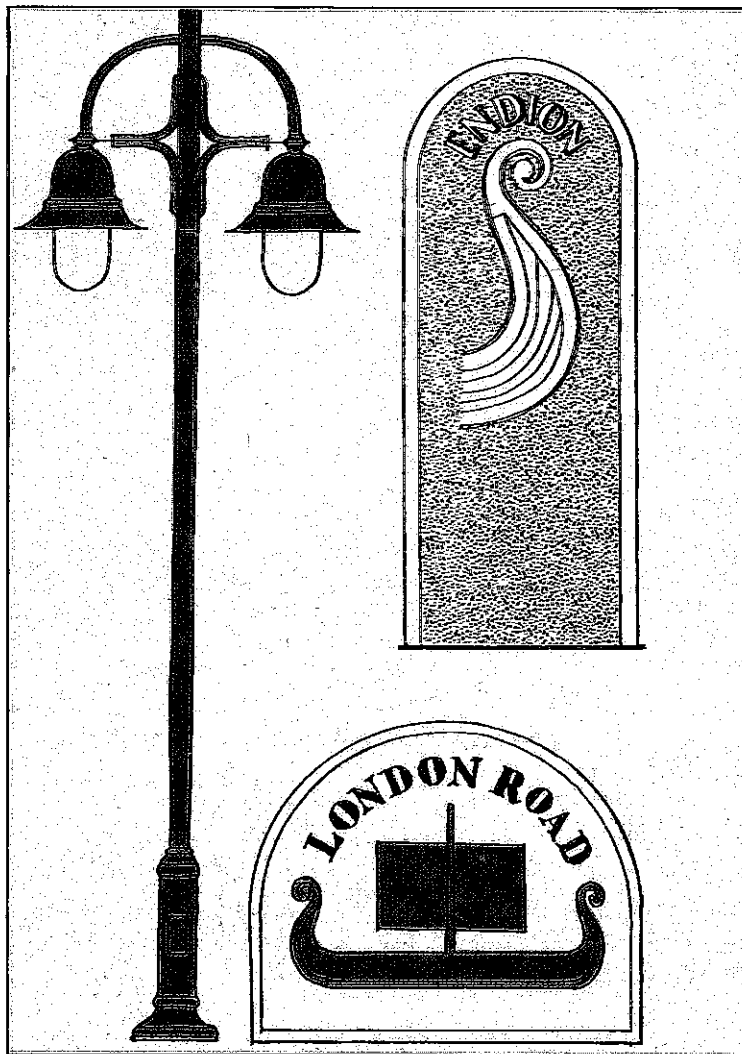
Corridor Guidelines

Design guidelines related to signage, lighting, facade improvements, parking lot design and buffer treatment will



Example of possible street lighting for London Road.

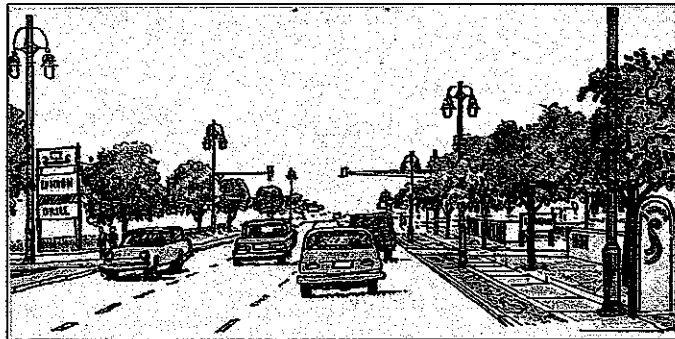
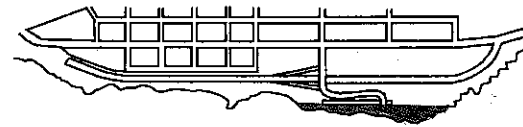
The theme of a viking ship symbol could be adopted for gateway monuments or signs along London Road.



be developed for the corridor as a whole. As a follow-up to this study, it is recommended that an ad-hoc group of design professionals and local merchants be established to address design, implementation, costs and maintenance. The following general recommendations may be considered a basis for follow-up work.

Three types of signage may be considered: corridor signage, retail or general signage, and informational signage. Corridor signage should be developed with a consistent theme. One theme proposed is the Viking ship which can be incorporated in the two gateway monuments at each end of the corridor, at locations for major signs (for example, at 21st Avenue), and in logo images which may be mounted on light poles, at parking lot entries or on special street signs. Consideration should also be given to new mounting or formatting of signs at existing retail or general business establishments. Whenever feasible, business signs should be grouped to reduce the negative visual impact of traditional strip signage.

The street lighting which was recently installed at the western end of the corridor (near the Rose Garden) signifies the quality and character of that formal landscape. Along the remainder of the corridor length, it is recommended that traditional streetlights, at regular intervals along each block, replace the existing program which is now one light per intersection. A continuous lighting pattern along each curb would reinforce the corridor image, provide additional opportunities for logo treatment or banners, and reduce the need for high-level lighting at individual business signs. These ornamental lights should be of a design that is distinct from others in the Downtown



area. This will clearly establish the character of the commercial area.

Facade improvements at individual sites should reinforce the new corridor image while maintaining individuality through architectural detail. Parking lots should be upgraded to include shade trees and buffer plantings, particularly where commercial and residential uses abut. Particular effort should be made to reduce the visual impact of cars parked at the sidewalk edge along London Road. Shrubs, small trees and fencing are recommended as buffers.

A good example of an effective simple treatment is the planted hedge at the chiropractic office on 18th Avenue East and London Road.

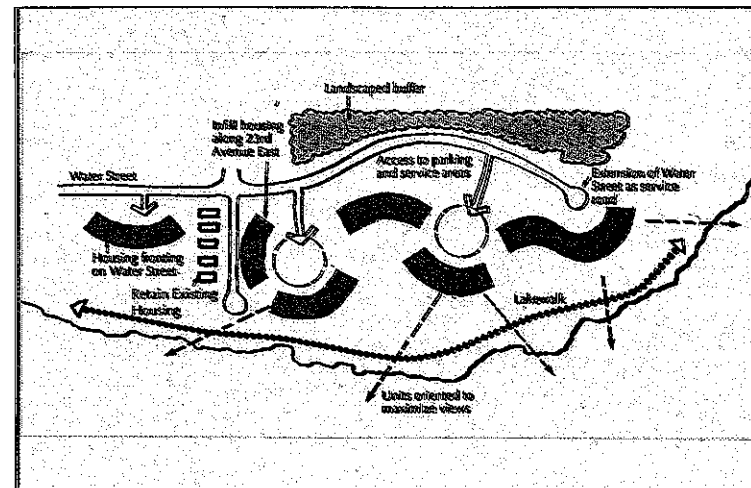
In order to implement these parking lot improvements, without significant reduction in parking spaces, consideration will need to be given to revised circulation patterns within lots and striping for compact cars. The proposed

elimination of multiple curb cuts at lots will also help compensate for the new areas dedicated to landscape improvements.

WATER STREET AREA

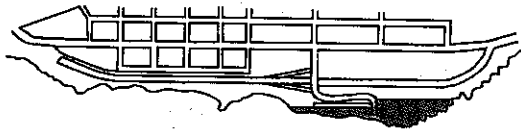
The study area south of the I-35 freeway and extending eastward from 20th Avenue East represents an important redevelopment opportunity for the Endion neighborhood area. The results of two public meetings showed support for new housing construction in this area, provided that buildings are designed to reflect the scale and character of nearby development.

The Water Street shoreline area offers significant advantages for residential development. The site has direct shoreline access, affords excellent views across the lake, is



London Road showing proposed reduction in width and new landscaping.

Proposed residential clusters take advantage of views across the lake.



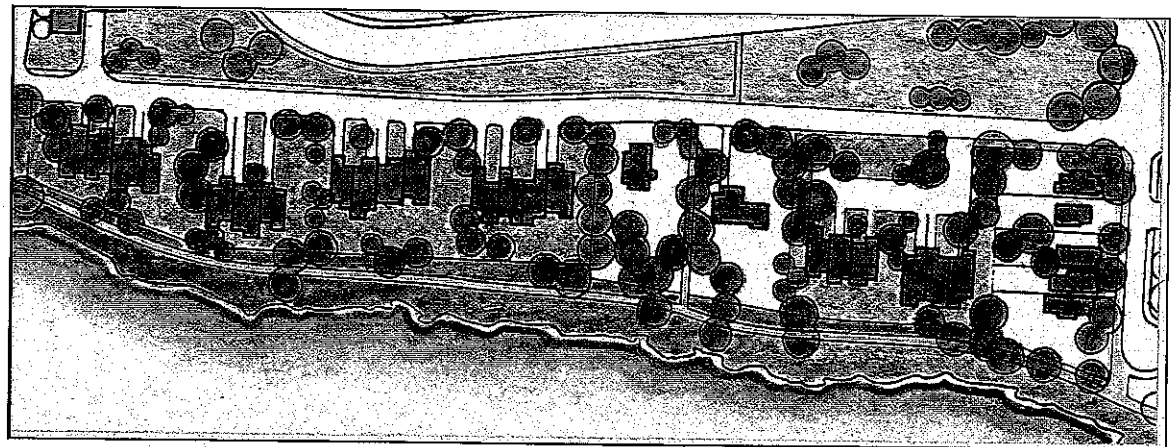
convenient to downtown facilities and has good highway connections via the 21st Avenue East intersection. A¹ market analysis carried out as part of the study recommended the development of townhouses or low-rise apartment development, uses that would be compatible with the existing two-story houses already in the area .

The plan illustrates a mix of townhouses and garden apartments involving between 75 and 100 units. Townhouses are sited along the narrower development parcel to the west of 23rd Avenue East. Garden apartments, comprising a mix of two and three levels of attached units within walk-up buildings, are planned for the larger development parcel to the east of 23rd Avenue East.

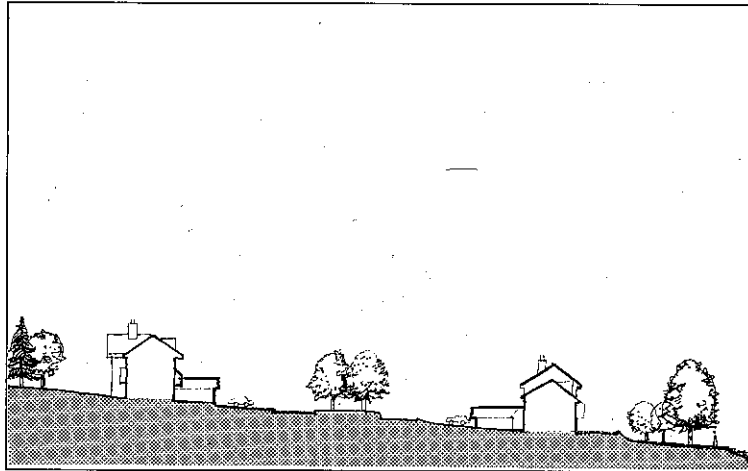
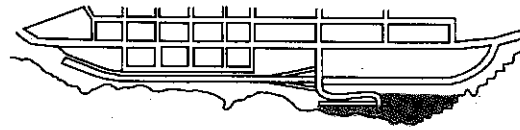
The layout includes the following features:

- Building clusters take maximum advantage of views across the lake, with parking and service areas located away from the shoreline on the north side of the building clusters.
- Access is provided from an extension of Water Street along the upland side of the development area. In this way, the access right-of-way will form part of the buffer between development sites and the I-35 freeway, and the entire residential development will adjoin the lake with no bisecting roadway.

Groups of townhouses could be developed on sites between Water Street and the shore.



¹ See "Preliminary Report", 1991, listed on the Appendix page of the booklet.



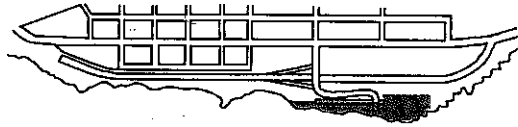
- New buildings are sited so that view corridors from upland areas (e.g. from the Avenues looking south over the freeway) are unobstructed.
- Housing is set back from the shoreline to retain open views along the shoreline and provide space for the Lakewalk East extension.

The design of new housing development needs to reflect local architectural detailing and incorporate features such as hipped or gabled roofs, dormer windows, porches and balconies. Varied roof planes, building setbacks and a range of building forms should also be considered to make units and entries individual and private. At the same time the various design elements should be consistent with the

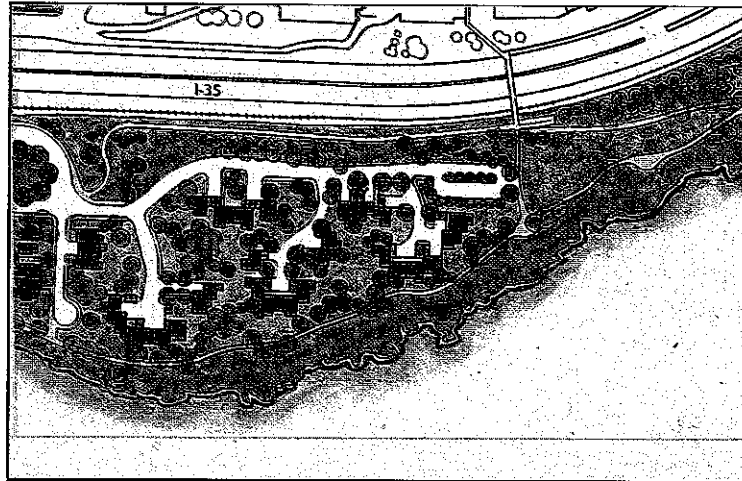
Section through proposed housing development in the vicinity of 24th Avenue East.



View of townhouses along the Lake Superior shoreline.



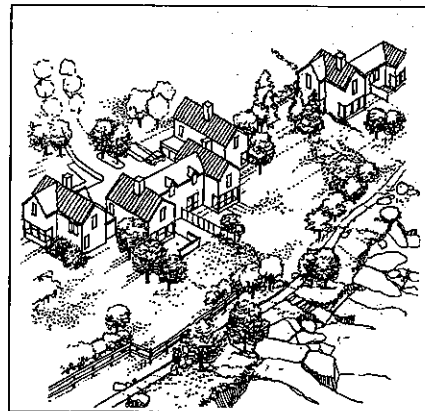
Proposed housing is set back from the shoreline to retain views along the shore.



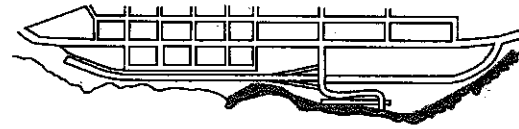
overall architectural theme of the project. The use of relatively simple building forms, accented with simple trim and the carefully selected use of one or two building materials can help achieve a successful design treatment.

The landscape plan for the development site should preserve existing tree masses, supplement existing vegetation with new specimens, and use plant materials that are indigenous to the site in order to enhance the project. The use of local features (e.g., nearby rock formations) within the landscape plan will help to ensure a local character and identity. Planting should also be used to screen development elements such as trash storage areas, air conditioning units, meters, etc.

Proposed housing should reflect local architecture, and incorporate features such as hipped roofs and dormer windows.



Local road access to the area will be provided by two existing streets: Water Street and the 23rd Avenue East cul-de-sac. In addition, an eastern extension of Water Street to serve new development sites will be added. Two public parking sites are proposed in the Water Street area: one at the western end of the Water Street extension at the gate and a second to the east, at a site near the pedestrian ramp bridge. These two facilities will provide convenient access to the shoreline park areas and lakewalk routes. Both of these proposed parking areas are located at the edge of the general development zone and would be limited to about 30 spaces each in order to reduce visual impacts on the area. And, in order to further minimize parking congestion, the city plans a parking lot on the upper side of London Road East of 26th Avenue East, adjacent the AMOCO Station.

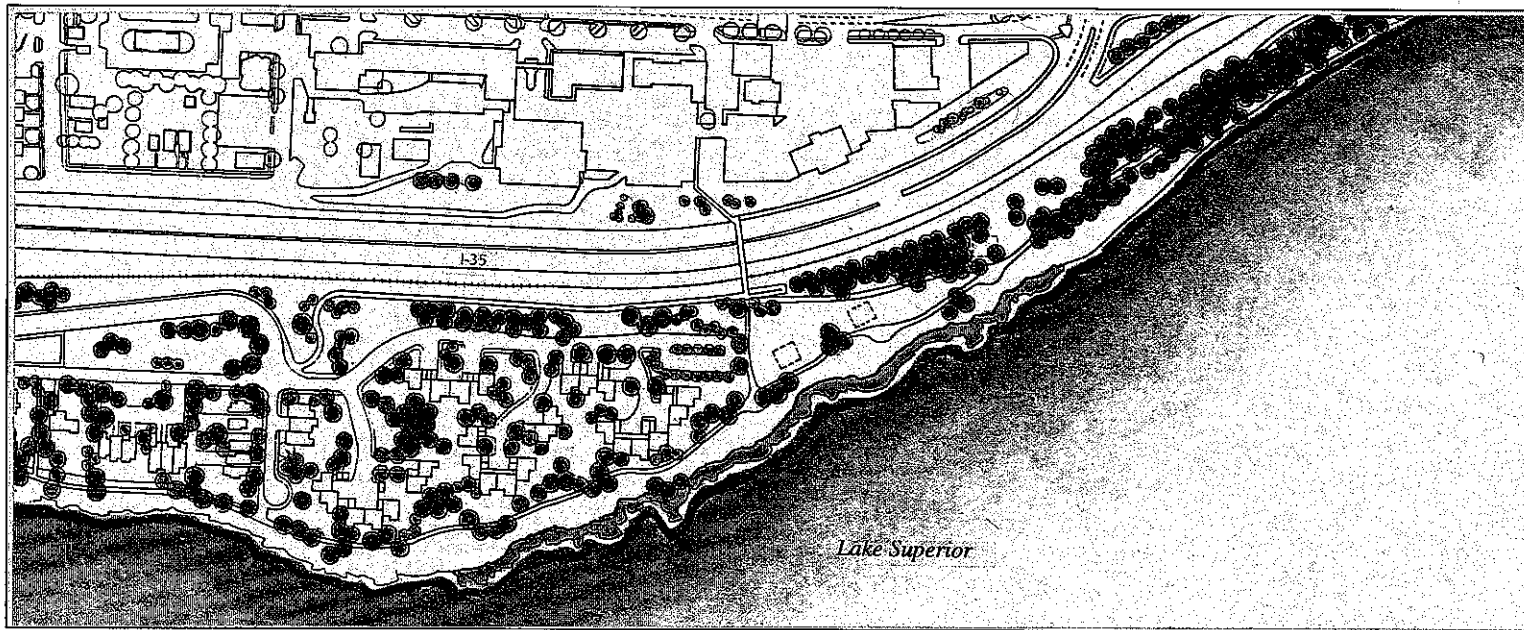


LAKESHORE

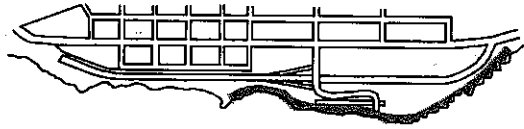
The plan for the lakeshore focuses on the need to preserve the existing natural quality of the lakefront and to maintain the views of the lake and adjacent shoreline. The key feature of the plan is an extension of a public access lakeshore trail from 20th Avenue East to about 800 feet east of 26th Avenue East. The existing trail along Water Street and along the freeway is not a lakewalk, but provides excellent access to the existing and future waterfront trail. The new trail will provide direct access to the extensive rock outcrop area between 24th Avenue East

and 27th Avenue East. The Endion lakeshore trail will make the bedrock area more accessible for the general public and for school children, who could visit the site as an "outdoor classroom". The outcrops are one of the truly unique features of the Endion waterfront.

The undulating edge and shallow bays along the shore line create a number of fine viewpoints, across the lake and along the shore. The proposed lakeshore trail will access a number of these viewing points. The path will provide picnic and seating areas in addition to special access points leading directly to the water's edge.

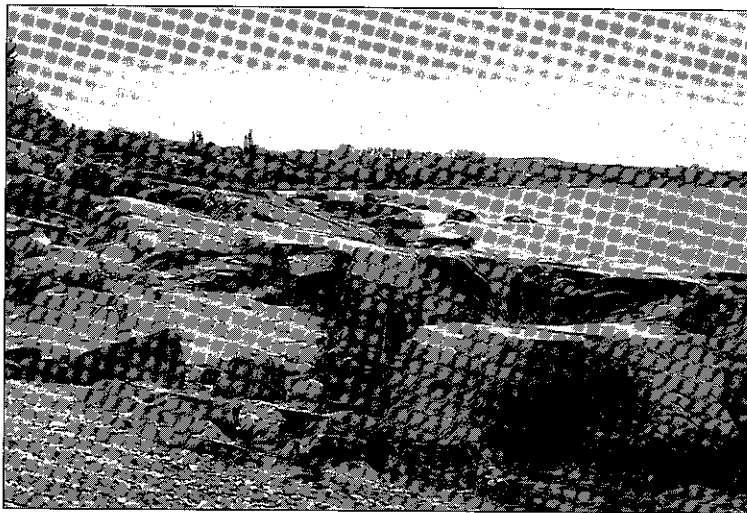


A new trail system will provide access to bedrock areas and a proposed "Endion Ledges" park.

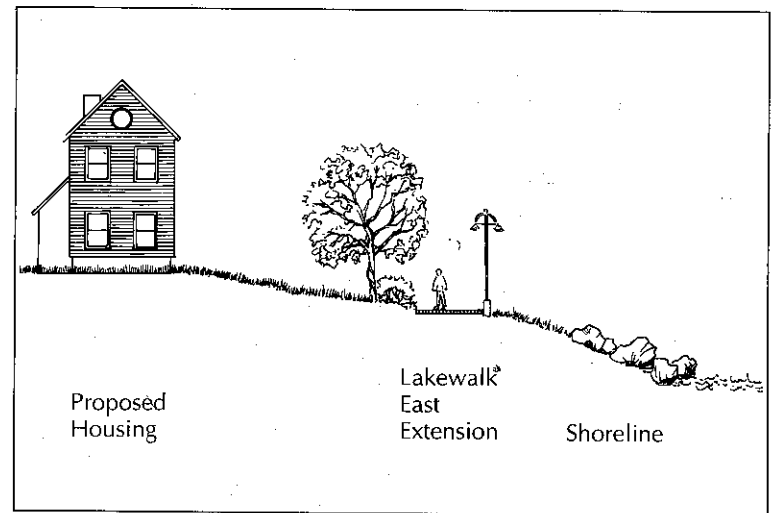


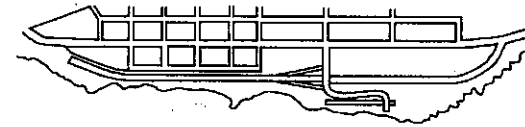
Preservation, enhancement and interpretation with descriptive markers along the lakeshore is also recommended. Native vegetation should be preserved to maintain the character of the shoreline and to help reduce the visual impact of the new townhouse development adjacent to the trail. Additional native planting in selected areas will help enhance this portion of the city's trail system. Special planting projects such as wildflower borders (similar to the ones planted by MnDOT on Lakewalk East) would provide seasonal interest and recognition for shoreline restoration projects. To preserve the natural setting of the lakeshore trail, earth berming and evergreen vegetation should be considered (when appropriate) to reduce noise and visual impact from the Water Street development.

Exposed bedrock extends along much of the Endion waterfront to the east of 23rd Avenue East.



Section of proposed residential and pedestrian trail along the shore.





4. IMPLEMENTATION

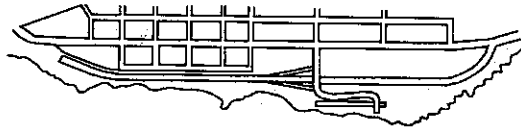
The recommendations for the Endion Waterfront study area include proposed improvements to the London Road Corridor; the development of new housing within the Water Street area; and provisions for new public access to the shoreline. Implementation of the London Road improvements can proceed somewhat independently of the proposed actions for sites in the Water Street area and the shoreline. The initial steps to be taken in the implementation program include the following actions.

(a) London Road corridor

- Establishment of a local designers/ business committee to work with the City Planning Division to review signage and landscape improvements.
- Selection of individual businesses as prototypes for revised commercial signage program.
- Set up program to establish financial resources for a storefront loan program for facade and site improvements.
- Preparation of prototype landscape design guidelines.
- Preparation of a preliminary reconstruction plan for London Road in order to identify specific design requirements and engineering issues.
- Replacement of existing "C-2" highway commercial zoning with "C-5" zoning to better coordinate needed improvements.



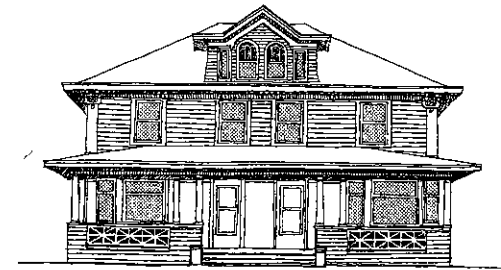
The use of design guidelines can encourage re-design of familiar fast food signs.

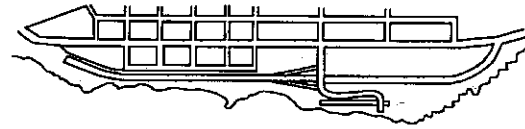


- Replace the existing "M-1" zone with "R-2" zoning to encourage maintenance and improvement of existing housing adjacent to South Street.

(b) Water Street and Shoreline Area

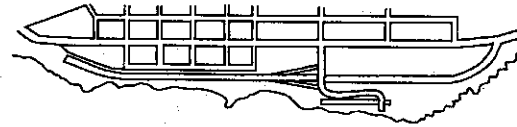
- Identification of residential development sites including land appraisal and acquisition programs.
- Identify a "land packaging agent," whether a private or public entity, which has the ability to coordinate the assembly of the land.
- Establishment of a Lakewalk easement along the water.
- Retention and acquisition of land to establish proposed "Endion Ledges."
- Replacement of the existing "M-1" industrial zoning with a new residential design review category. (It may be desirable to institute a temporary development moratorium to prevent further industrial development until the new zoning is in place.)
- Construction of Lakewalk East extension, including stabilization and clean-up of shoreline between 19th Avenue East and 24th Avenue East.
- Design and construction of proposed public parking lots.





The actions listed above represent the first important phase in the revitalization of the Endion Waterfront area. The enhancement of the London Road corridor, improved public access and parkland along the shoreline, and new residential development will help establish the Endion neighborhood as one of the most vital and attractive areas of the city.





Appendix

Additional Reports prepared as part of the Endion Waterfront Planning Process:

Technical Memo: Summary of Public Meeting, November 15, 1990.

Preliminary Findings Report, June 1991.

Water Street Area; Design Guidelines, August 1994.

Participants

City of Duluth:

Gary L. Doty, Mayor
Gerald Kimball
Bill Majewski.

City Council:

Neill Atkins
Dorothy Bohlmann
Chris Dahlberg
M. George Downs
Lynn Fena Hardesty
Scott Keenan
Yvonne M. Prettnner
Michael J. Talarico
David B. Wheeler

City Planning Commission:

Jane Gilbert
Pat Patronas
Chris Solon
Beth Brown
John Carlson
Ruth Ann Schnell
Richard Pearson

Ken Hogg
James Yeager
Al Billington
Stanley Gershgol
David Oberstar
Louis Pichetti

Major Contributors:

Richard Larson, Director,
Department of Public Works
Ken Larson, City Engineer
Gary Mueller, MnDOT
Dennis Johnson, MnDOT

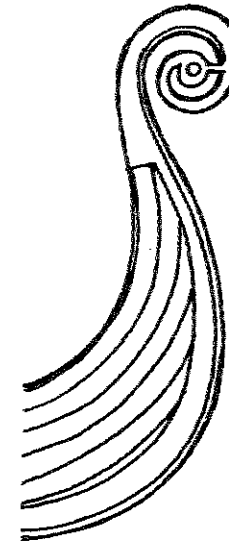
Consultants:

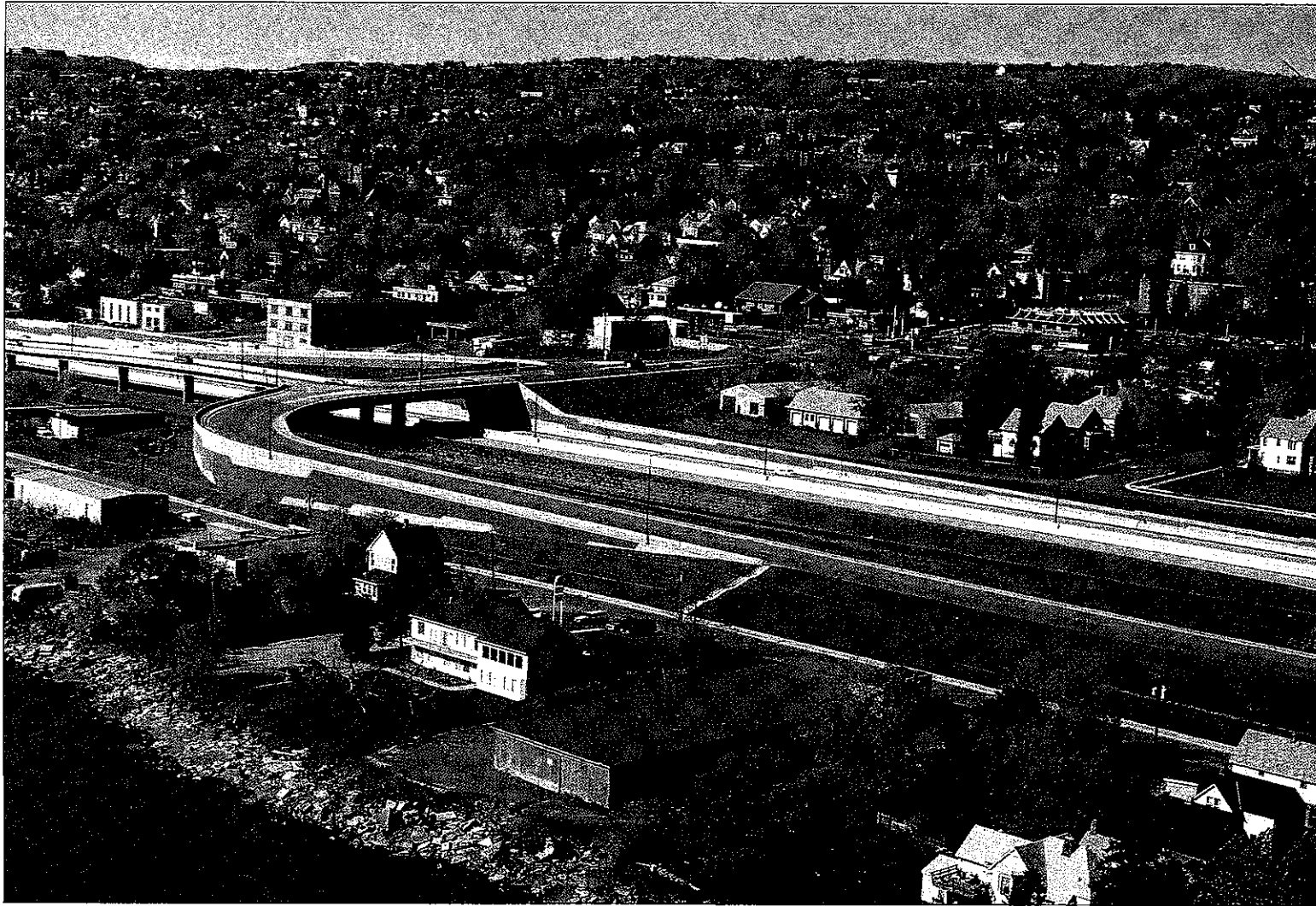
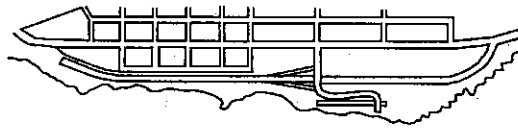
Buckhurst Fish & Jacquemart

Paul Buckhurst
Kim Mathews
Jane Mark
Donna Roberts

In association with:

Pei Group Holdings





*View showing
western half of
the study area
and the
I-35 freeway.*