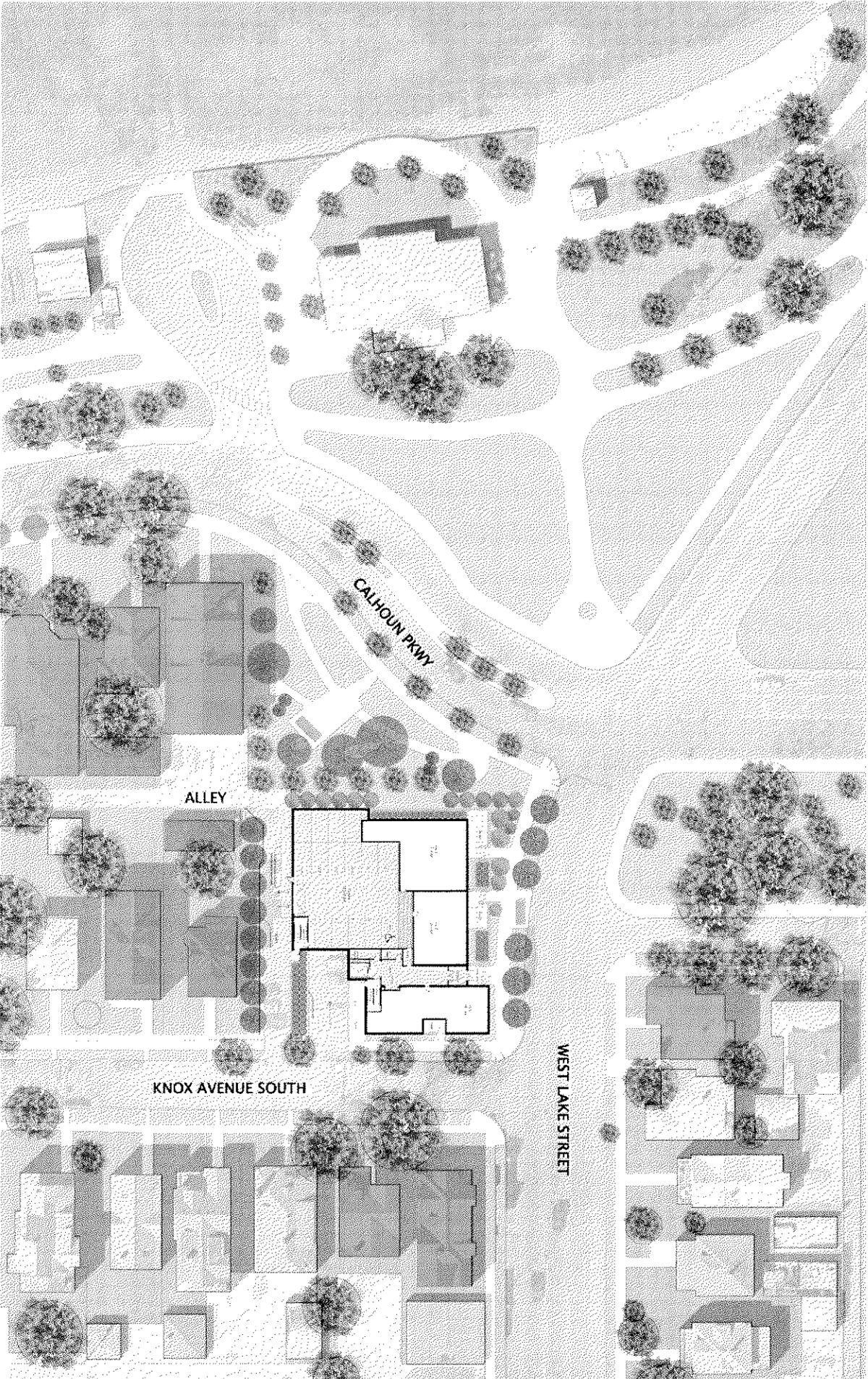


support from immediate surrounding property owners



BIOCLIMATIC CHART

Minneapolis, Minnesota

Lat 44 degrees 53 seconds N; Long 93 degrees 13 seconds W

Elevation 581 ft (255 m)

<u>MONTHS</u>	<u>WINDS (KNOTS)</u>	
	<u>PREVAILING</u>	
	<u>Direction</u>	<u>Speed</u>
January	NW	12
February	NW	12
March	NW	11
April	NW	12
May	SE	9
June	SE	9
July	S	9
August	SE	8
September	S	10
October	NW	12
November	NW	12
December	NW	11

SOURCE:

Brown, G.Z. & DeKay, Mark. *Sun, Wind & Light: Architectural Design Strategies*. Second Edition. 2001. John Wiley & Sons, Inc., New York.

SUN, WIND & LIGHT

ARCHITECTURAL DESIGN STRATEGIES

second edition

G. Z. Brown

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*School of Architecture
Washington University in St. Louis*

Illustrations

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JOHN WILEY & SONS, INC.

New York • Chichester • Weinheim • Brisbane • Singapore • Toronto

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Text printed with ASA certified soy based ink.

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Published simultaneously in Canada.

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Library of Congress Cataloging-in-Publication Data

Brown, G. Z.

Sun, wind & light: architectural design strategies / G.Z. Brown, Mark DeKay ; illustrations, V. Cartwright ... [et al.] ; research team, D. Barbhaya ... [et al.] -- 2nd ed.

p. cm.

Includes bibliographical references and indexes.

ISBN 0-471-34877-5 (pbk. : alk. paper)

1. Architecture and energy conservation. 2. Architecture and solar radiation. 3. Interior lighting. I. Title. II. Sun, wind, and light. III. DeKay, Mark. IV. Barbhaya, D. IV. Title.

NA2542.3 .B76 2000

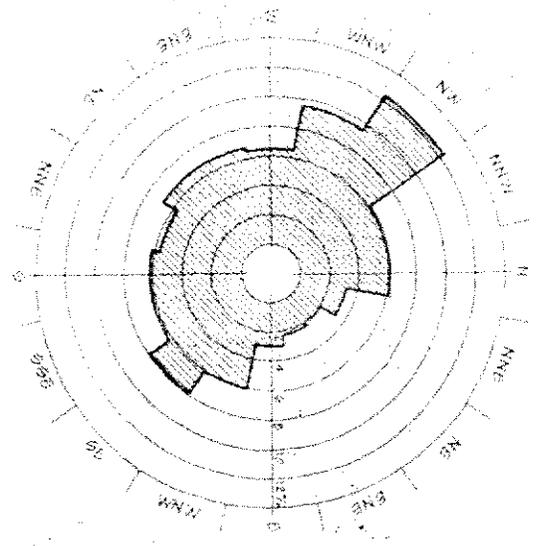
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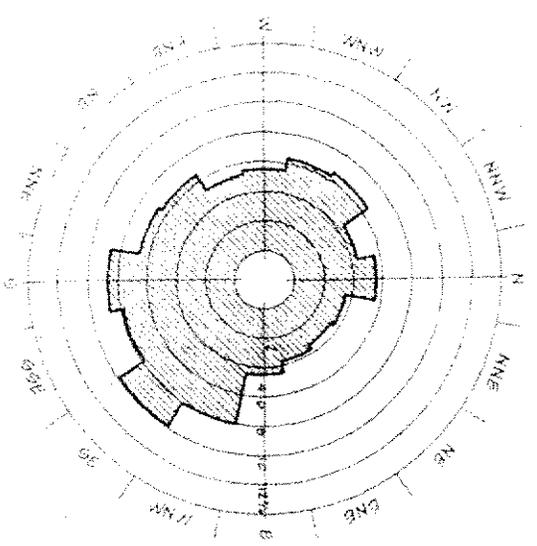
Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

4 WIND ROSE



December Wind Rose, Minneapolis



January Wind Rose, Minneapolis

5 WIND SQUARE

Wind Speed (mph)	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
1 mph	10	10	10	10	10	10	10	10	10	10	10	10
2 mph	20	20	20	20	20	20	20	20	20	20	20	20
3 mph	30	30	30	30	30	30	30	30	30	30	30	30
4 mph	40	40	40	40	40	40	40	40	40	40	40	40
5 mph	50	50	50	50	50	50	50	50	50	50	50	50
6 mph	60	60	60	60	60	60	60	60	60	60	60	60
7 mph	70	70	70	70	70	70	70	70	70	70	70	70
8 mph	80	80	80	80	80	80	80	80	80	80	80	80
9 mph	90	90	90	90	90	90	90	90	90	90	90	90
10 mph	100	100	100	100	100	100	100	100	100	100	100	100
11 mph	110	110	110	110	110	110	110	110	110	110	110	110
12 mph	120	120	120	120	120	120	120	120	120	120	120	120

Mean Airport Wind Conditions, direction group

6 AIR MOVEMENT PRINCIPLES

Technique 6 uses data from Techniques 4 and 5.

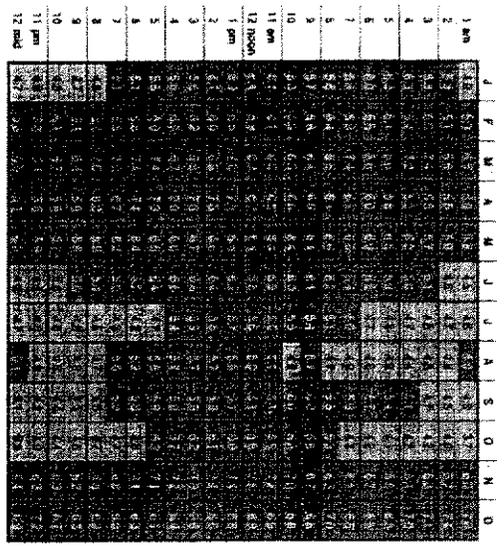
7 SITE MICROCLIMATES

Technique 7 uses data from Techniques 1, 2, 4, and 5.

Wind Speed (mph)	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
1 mph	10	10	10	10	10	10	10	10	10	10	10	10
2 mph	20	20	20	20	20	20	20	20	20	20	20	20
3 mph	30	30	30	30	30	30	30	30	30	30	30	30
4 mph	40	40	40	40	40	40	40	40	40	40	40	40
5 mph	50	50	50	50	50	50	50	50	50	50	50	50
6 mph	60	60	60	60	60	60	60	60	60	60	60	60
7 mph	70	70	70	70	70	70	70	70	70	70	70	70
8 mph	80	80	80	80	80	80	80	80	80	80	80	80
9 mph	90	90	90	90	90	90	90	90	90	90	90	90
10 mph	100	100	100	100	100	100	100	100	100	100	100	100
11 mph	110	110	110	110	110	110	110	110	110	110	110	110
12 mph	120	120	120	120	120	120	120	120	120	120	120	120

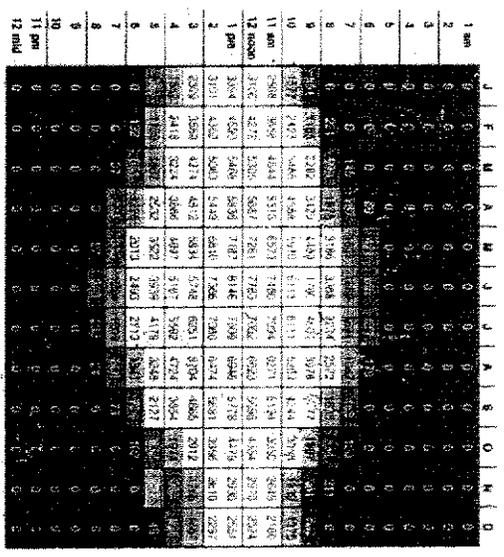
Mean City Center Wind Conditions, direction group

8 SKY COVER



Mean Hourly Sky Cover, tenths of sky covered

9 DAYLIGHT AVAILABILITY



Mean Hourly Global Horizontal Illuminance, foot-candles

HOUR	J	F	M	A	M	J	J	A	S	O	N	D	Jan
CLR DAYS 07-26	8	9	7	7	7	10	10	10	10	5	6	5	5
PT CO DAYS 18-03	1	1	2	2	2	1	1	1	1	2	2	2	2
CLR DAYS 70-85	15	14	17	16	15	12	9	10	12	14	15	16	15
CLR %	27	26	23	23	23	25	24	23	23	17	17	20	26
PT CO %	29	24	23	23	23	24	24	24	27	23	21	20	28
CLR	27	26	23	23	23	25	24	23	23	17	17	20	26
PT CO	29	24	23	23	23	24	24	24	27	23	21	20	28
CLR	27	26	23	23	23	25	24	23	23	17	17	20	26
PT CO	29	24	23	23	23	24	24	24	27	23	21	20	28

9.9g cover Monthly Normalized
fraction of sky covered, % days for each sky condition

HORIZ	M. Clear	June												December				
		9 am	11 am	1 pm	3 pm	5 pm	9 am	11 am	1 pm	3 pm	5 pm	9 am	11 am	1 pm	3 pm	5 pm		
NORTH	M. Clear	46	60	97	94	79	7	30	39	23	0	0	0	0	0	0		
	M. Cloudy	28	52	67	65	48	6	19	24	15	0	0	0	0	0	0		
	M. Clear	16	15	12	12	16	1	8	7	0	0	0	0	0	0	0		
	M. Cloudy	13	17	12	18	16	2	8	10	0	0	0	0	0	0	0		
EAST	M. Clear	75	79	30	17	19	25	37	9	7	0	0	0	0	0	0		
	M. Cloudy	24	49	24	18	19	7	15	19	8	0	0	0	0	0	0		
SOUTH	M. Clear	11	98	54	51	26	22	22	72	73	87	60	0	0	0	0		
	M. Cloudy	11	1	39	37	22	8	8	23	23	53	16	0	0	0	0		
WEST	M. Clear	11	16	16	46	26	3	8	8	16	16	15	0	0	0	0		
	M. Cloudy	11	17	18	35	46	2	4	4	12	14	14	0	0	0	0		
M. Clear	15	15	37	31	32	26	21	21	27	27	25	0	0	0	0	0		

Average Horizontal Illuminance (foot-cd)

10 DAYLIGHT OBSTRUCTIONS

Obstruction list charts are in Appendix B. For clear sky day charts, see Appendix B.

WEI

Wenzel
Engineering
Incorporated



10100 Morgan Ave. South
Bloomington, MN 55431
PHONE 952-888-6516
FAX 952-888-2587

May 28, 2004

Mr. Clark A. Gassen
Financial Freedom Enterprises
1406 West Lake Street, Suite 2301
Minneapolis, MN 55408

Re: Edge water Court
1805 West Lake Street, Suite 201
Minneapolis, MN
WEI 042-271.06

Dear Clark;

At your request I visited the Edgewater Court Apartment building at 1805 West Lake Street, in Minneapolis to review the current condition of the building. The building and adjoining parking lot occupy the eastern end of the block on Lake Street from Knox Ave. to the Calhoun Parkway.

Background

The building is a four story wood frame structure with a brick exterior. The lowest floor is half-a-level below grade. The footprint is just less than 7500 sq. ft. There are 28 apartments with a mix of efficiency units and one bedroom and two bedroom units. The building was built in 1923.

The building has a shape rectangular in plan. The north and south sides are longer. The north side fronts on Lake Street. On the south is a surface parking lot for the residents. The west side faces Lake Calhoun.

Observations

I visited the site on Monday May 24, 2004 to view the exterior and I returned on Tuesday, May 25, 2004 to look at the roof, some of the units and the stairwells. I noted evidence of differential movement and settlement on both the outside and the inside.

There is substantial evidence of repaired brick joints on the east and west sides. In some locations on the west wall I noted that the windowsills were sloping. This is particularly true at units 206 and 108. At other locations I noted the windowsills had been replaced. It is common to see the vertical panel of brick between windows, from floor to floor, is not level. The indication of movement on the west wall is most prevalent to the north end.

The north face of the building also shows movement. The windows and the brick in the middle section, at the stairwell and entry indicate movement. The windowsills are not level and the vertical brick panels between windows are not straight.

Unit 305, in the north west corner of the third floor, has warped floors. It is most evident in the entry. I found the slope a little surprising as I walked in. At one point, I measured a 5/16 inch drop of the floor over a 9 inch horizontal distance. Viewed from the hallway, the entry door is not aligned with the frame.

The floors are not as uneven in Unit 303, on the north side of the building. But there is evidence of building movement in cabinetry around the refrigerator and interior door frames.

The hallway from Unit 305 to the west stair well is uneven. Like the floor in Unit 305 I found the condition slightly surprising and therefore possibly dangerous.

The windows in the west stairwell have gaps at the bottom between the sliding window and the sill. The sash is not square with the frame. This condition occurs at two landings.

Conclusions

The movement of the building, i.e. movement of the building footings, is well documented. The settlement is inconsistent and differential. I thought the uneven floors can be a 'stumbling hazard' to people unfamiliar with the building.

Wenzel
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WEI



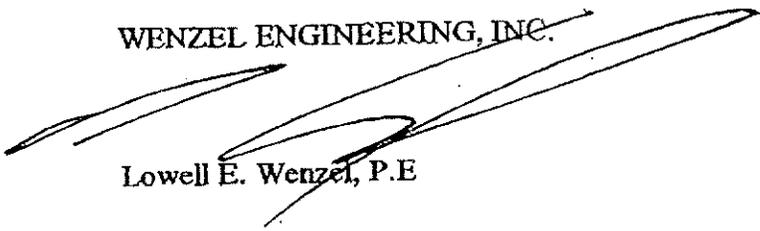
10100 Morgan Ave. S. • Bloomington, MN 55431
PHONE 952-886-6516 • FAX 952-886-2587

Future moments will of course increase the unevenness of the floors, the slope to the brick and the skew of the window and door frames. These areas will be continuous maintenance issues and possibly other items will appear in the future. There are no effect methods to lift the building and restore it to the original condition, with level floor and windows.

If this letter generates any comments or questions, please feel free to contact me.

Sincerely,

WENZEL ENGINEERING, INC.



Lowell E. Wenzel, P.E

Wenzel
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PHONE 952-888-6716 • FAX 952-888-2587

**BRAUN
INTERTEC****Braun Intertec Corporation**
11001 Hampshire Avenue S
Minneapolis, MN 55438Phone: 952.995.2000
Fax: 952.995.2020
Web: braunintertec.com

April 28, 2004

Project BL-04-03143

Mr. Clark Gassen
Financial Freedom Development
1406 West Lake Street, Suite 201
Minneapolis, MN 55408

Dear Mr. Gassen:

Re: Summary Letter for Geotechnical Evaluation, Proposed Lofts, 1805 West Lake Street,
Minneapolis, Minnesota

As part of our geotechnical evaluation services for the proposed lofts building to be located at 1805 West Lake Street, we performed six standard penetration soil borings. Of these borings, three (ST-2, ST-4, and ST-5) were located around the perimeter of the existing multi level apartment building located at 1805 West Lake Street.

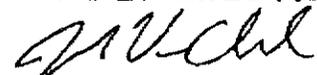
Borings ST-5 and ST-4, performed along the south building line, encountered 4 to 7 feet of sandy fill soils over native sands. Boring ST-2, performed near the northwest building corner, encountered 9 feet of fill over a 5-foot layer of swamp-deposited peat underlain by native sands. At the boring locations, the native sands generally appear suitable for foundation support. However, the peat we encountered at Boring ST-2 is highly organic and would be subjected to significant decomposition and consolidation over time.

Based on conversations with Mr. John Hayden with Kraus-Anderson Construction Company, we understand the existing structure at 1805 West Lake Street has suffered significant differential settlement. We understand the settlement has primarily occurred in the northwest building corner, near Boring ST-2. It is our opinion the presence of peat below part of the existing foundations has likely caused the excessive differential settlement problems as described to us by Mr. Hayden. It is also our opinion this amount of differential settlement ($\frac{1}{4}$ to $\frac{1}{2}$ foot) could result in problems with the building's structural framing.

If you have any questions regarding this letter or the associated geotechnical evaluation, please contact Josh Van Abel at (952) 995-2310 or Ray Huber at (952)-995-2260.

Sincerely,

BRAUN INTERTEC CORPORATION

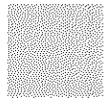


Joshua J. Van Abel
Staff Engineer



Ray A. Huber, PE
Vice President-Principal Engineer

rptj



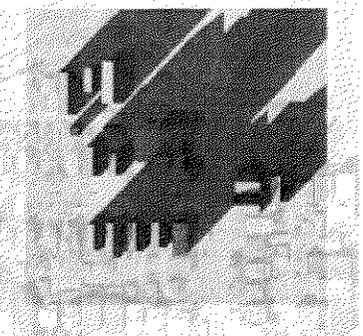
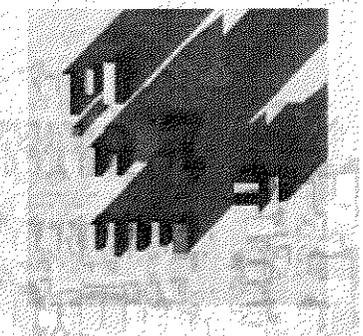
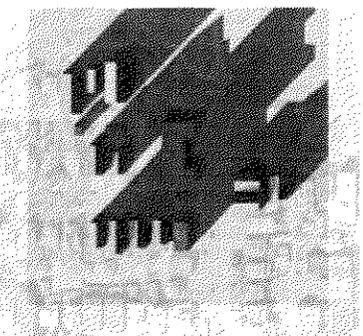
minimal change to shadowing of residential properties or significant public spaces : winter shadow study

Existing

Proposed
6 Story - 82'

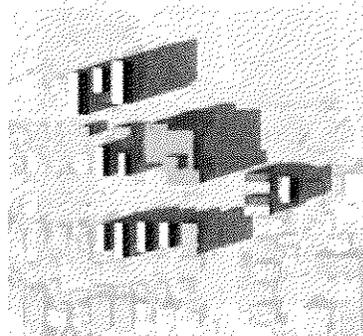
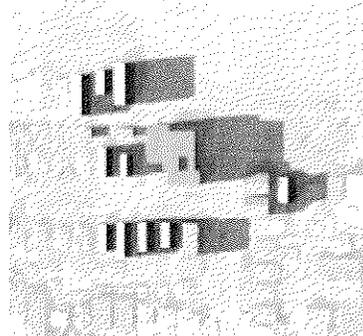
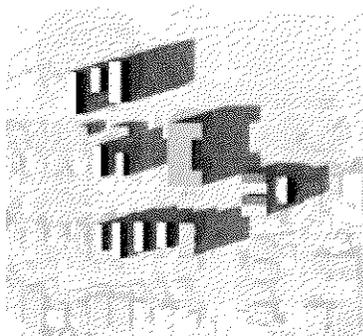
Alternative
4 Story - 56'

9am



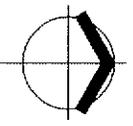
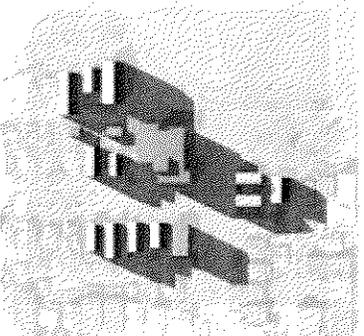
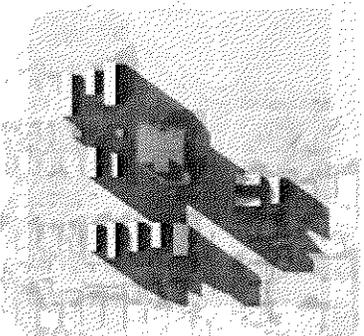
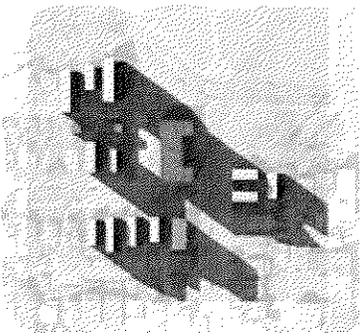
The site is at the North edge of ECCO, having little shadowing effect on the neighborhood to the south.

12pm



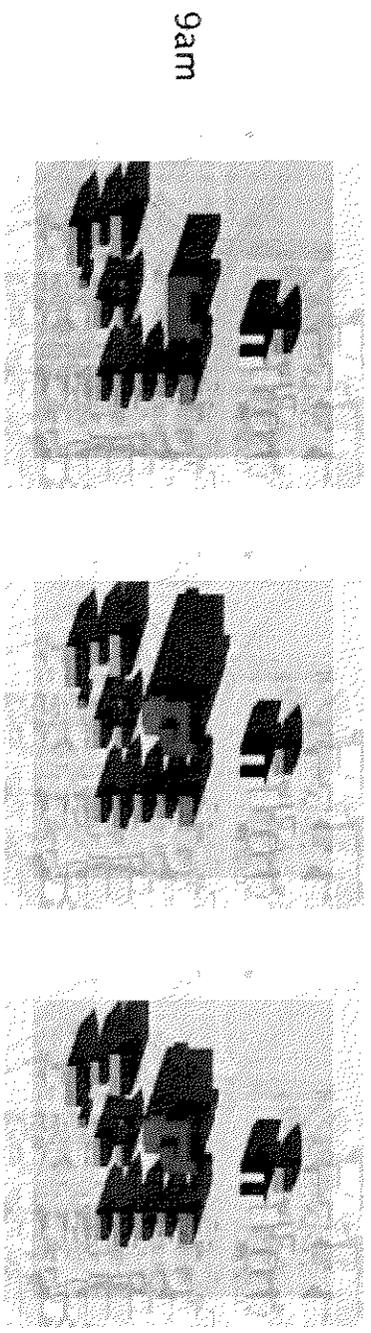
Primary shadowing occurs over busy roadway infrastructure.

3pm

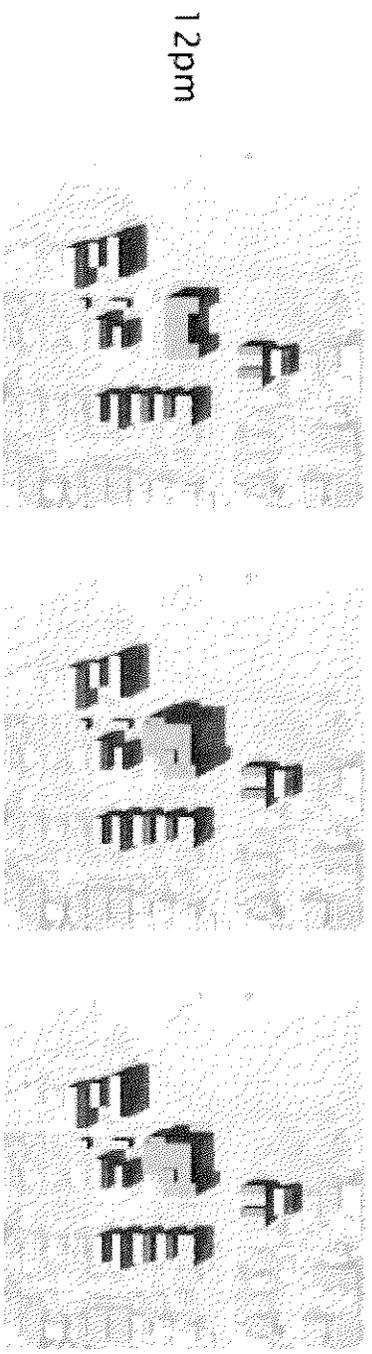


minimal change to shadowing of residential properties or significant public spaces : spring shadow study

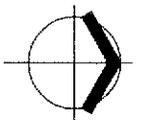
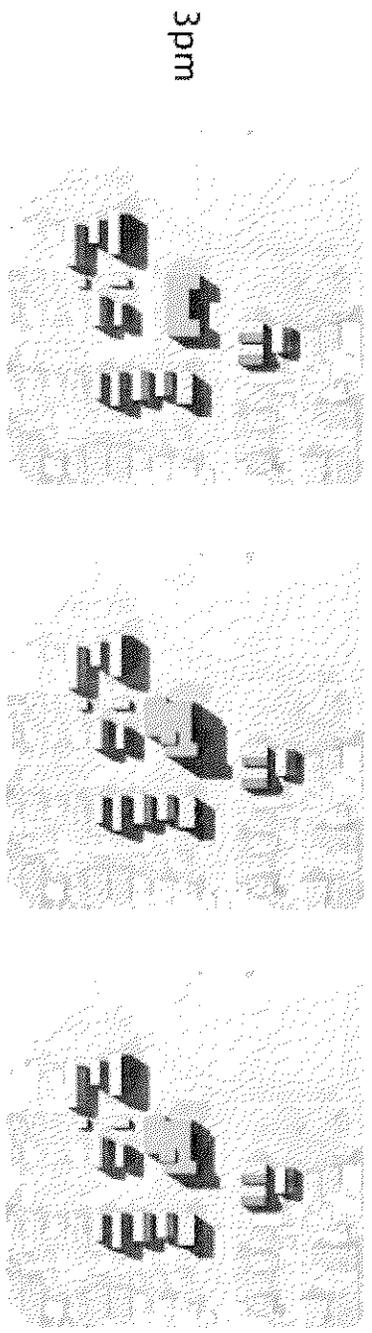
Existing Proposed 6 Story - 82' Alternative 4 Story - 56'



The site is at the North edge of ECCO, having little shadowing effect on the neighborhood to the south.

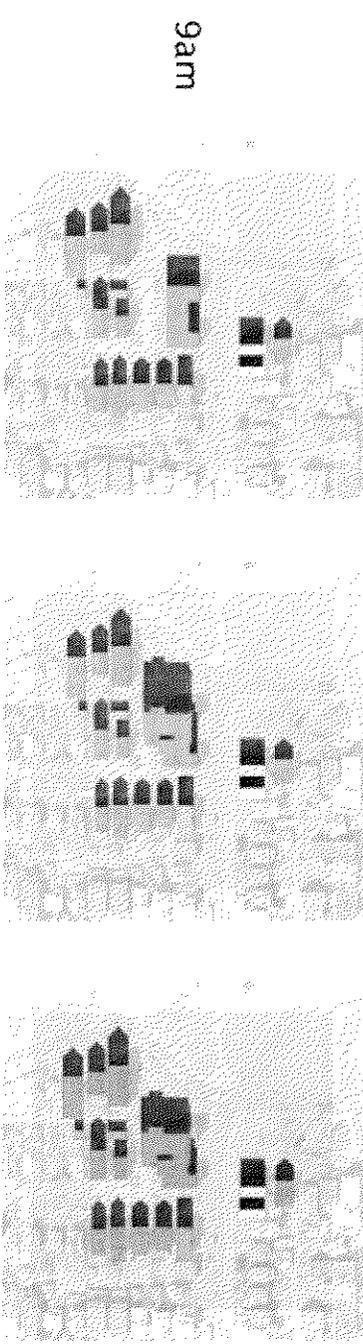


Primary shadowing occurs over busy roadway infrastructure.

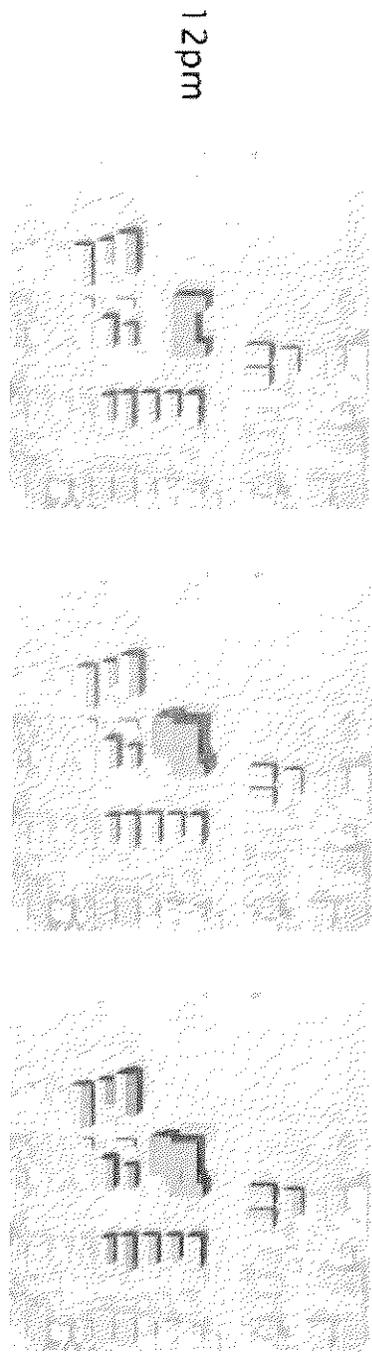


minimal change to shadowing of residential properties or significant public spaces : summer shadow study

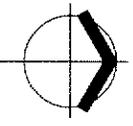
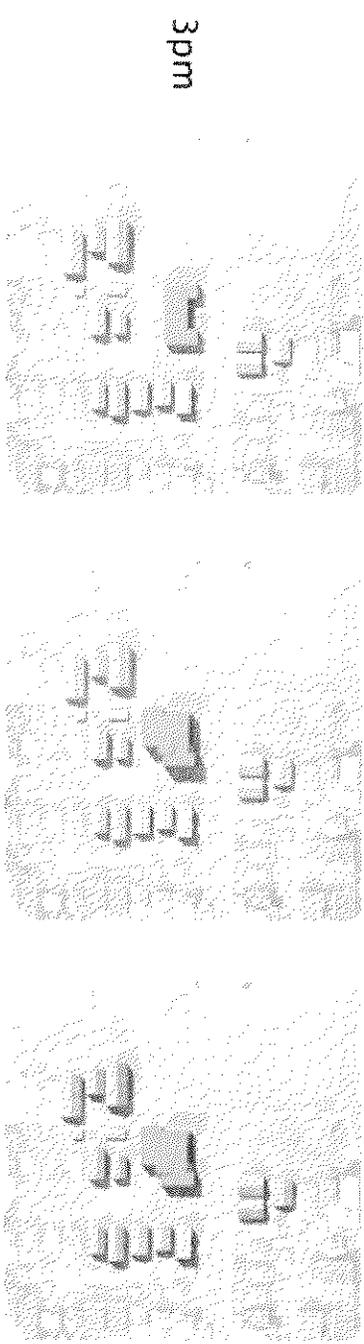
Existing Proposed 6 Story – 82' Alternative 4 Story – 56'

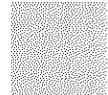


The site is at the North edge of ECCO, having little shadowing effect on the neighborhood to the south.



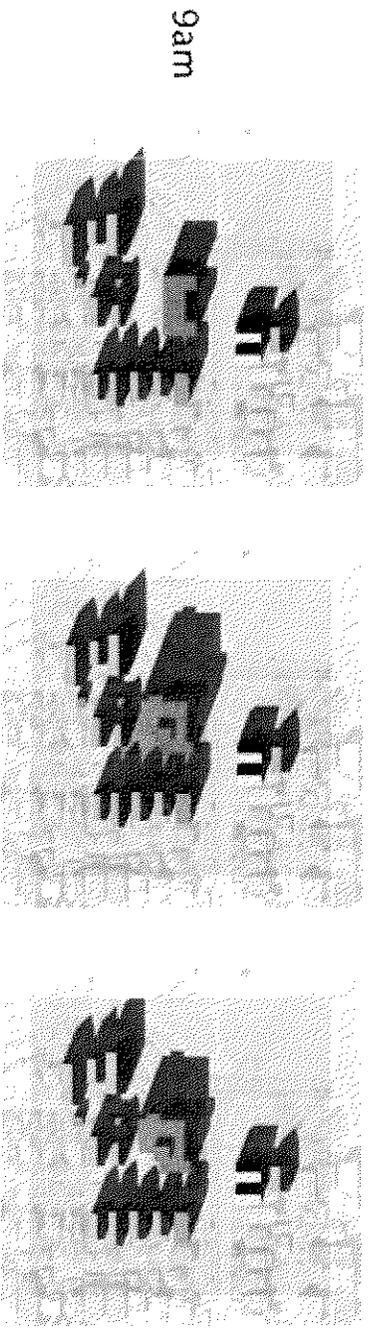
Primary shadowing occurs over busy roadway infrastructure.



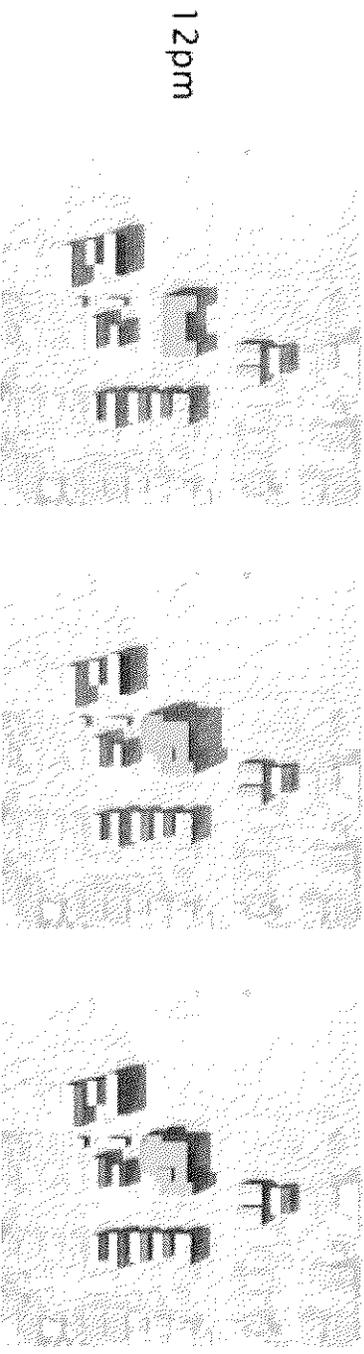


minimal change to shadowing of residential properties or significant public spaces : fall shadow study

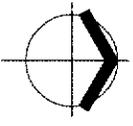
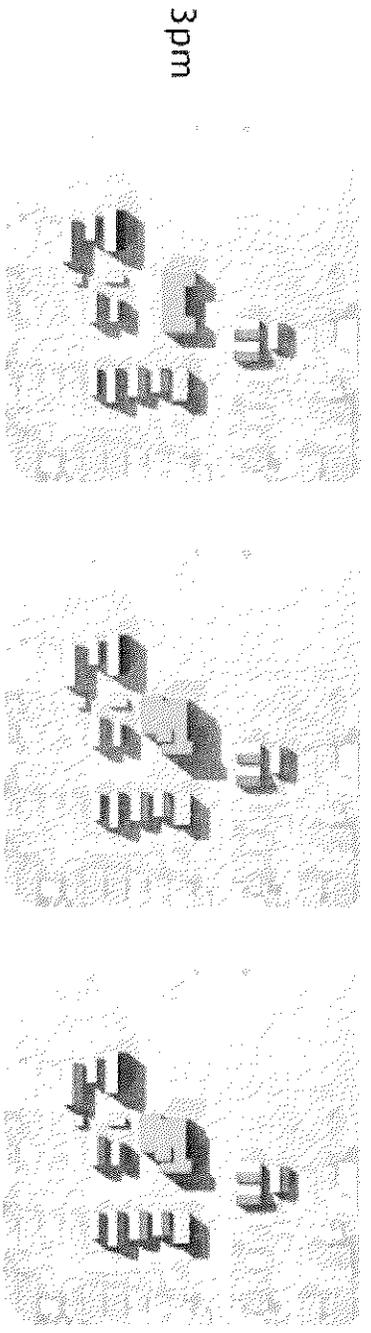
Existing Proposed 6 Story - 82' Alternative 4 Story - 56'



The site is at the North edge of ECCO, having little shadowing effect on the neighborhood to the south.



Primary shadowing occurs over busy roadway infrastructure.



Remarks from Perry Thorvig

I am a city planner who has been working for 36 years in Minneapolis and the surrounding area. I am currently a planning consultant.

I have been involved in several high rise controversies around the edges of Lake Calhoun. Those controversies have involved buildings that have ranged from 12 to 30 stories in height. I have recommended some of those high rise projects and recommended against others. I also wrote the original shoreline ordinance in the 1980s and the original provision in the Minneapolis zoning code that allowed for conditional uses to be used to consider height increases rather than the variance mechanism. I have been asked by the development team to say a few words about the CUP process and criteria, the issue of *vicinity*, *surroundings*, and *context* as it relates to the Edgewater Project, and what, if any, would be the precedent set if you granted the Edgewater the CUP for height.

First, a word about the CUP process. The Conditional Use Permit process allows the city to ensure the proposed use meets certain criteria. You are very familiar with those criteria - ensuring a project will not endanger public health or general welfare, will not be injurious to uses in the area, won't impede normal and orderly development, will have adequate access to utilities, won't add to traffic congestion, consistency with the comprehensive plan and compliance with other regulations in the code. These criteria are designed not to prohibit uses or place high-bars which would prevent development. They are designed to give the City a chance to ensure that a development is consistent with the City's comprehensive plan and won't burden the City's infrastructure.

In the case of the Edgewater, a CUP is required to increase the height of the project not because of the underlying zoning district, but because the project lies within the Shoreland Overlay District. The Code states the purpose of this district is

“to preserve and enhance the environmental qualities of surface waters and the natural and economic values of shoreland areas within the city, to provide for the efficient and beneficial utilization of those waters and shoreland areas, to comply with the requirements of state law regarding the management of shoreland areas, and to protect the public health, safety and welfare.”

In order to meet those goals, the district sets forth 4 criteria:

- whether the project impedes light and air to surrounding properties,
- the impact on shadowing of residential properties and significant public spaces,
- a consideration of the scale and character of surrounding uses, and
- whether the project will preserve the view of landmark buildings, significant open

spaces and water bodies.

Let's look at each of these criteria.

1. The planning department has determined the project will not impact the amount of light and air to the surrounding properties.
2. The new shadow studies speak for themselves – there will be negligible differences between the shadows cast on surrounding properties by the 6-story project versus those cast by a 4 story building.
3. Regarding preservation from views from the east, which was the planning department's concern, I was on the site, and the current building blocks the view toward Lake Calhoun of all but one building. In fact, by building a taller building, the building is more slender, and it will actually preserve the view of the one house that will continue to have a view to Lake Calhoun.
4. The real issue here is whether the Edgewater at 6 stories is consistent with the scale and character of surrounding uses.

The key question is what does "surrounding uses," "in the vicinity," and "surrounding property," mean?

These terms are not defined. Furthermore, they are terms that are not unique to the Minneapolis zoning code. They are used in most city ordinances regulating conditional uses. I have been exposed to these same terms in a number of cities in which I have worked. I have prepared hundreds of conditional use reports over the years that have required me to make judgements about what the terms *vicinity* and *surrounding uses* mean.

Here are some possible locations where the terms "vicinity" or "surrounding uses" could be applied.

1. Next door and across the street or alley.
2. Physically contiguous properties.
3. Within the 350' mailing distance or some other, somewhat arbitrary distance such as 100', 200', or 500'.
4. On the same block.
5. In the same contiguous zoning district.
6. The area out to a line where the character of the area shows a definite change.
7. In the neighborhood.

impede the normal and orderly development and improvement of surrounding property.

The building is clearly similar in scale and character to some of the surrounding uses and consistent with the eclectic and diverse character of the Uptown area. This building is the natural gateway to Uptown. Coming around Lake Calhoun going from west to east, you see the Edgewater site and you know you are entering the Uptown area. This site deserves the high-quality type of development that the 6-story Edgewater will bring. I believe that the freshness and superb architectural quality and features of the building will have a positive effect on the development and maintenance of surrounding property. And, perhaps, most important, the "lakes experience" will not be adversely impacted by a six story building.

Lastly, I want to address the question of what will be the precedent if the Edgewater is granted a CUP. This project will not set a height precedent. It will only blend in with some of the taller buildings that are already in the Uptown area. The Edgewater will comply with the underlying R-6 district height standards. Many of the other projects seeking CUPs for height in other parts of the city do not comply with their underlying height requirements – and that makes a huge difference here. Also, I want to flip that question a bit and ask what will be the precedent if the Edgewater is *not* granted a CUP for height for 6 stories? If not here, then where? This site is on a major transit and traffic roadway - Lake Street, and in a commercial corridor. The uses from Lake Calhoun to Hennepin on both sides of Lake Street are zoned either high-density residential or commercial. This project does not need a variance for FAR. The site, under the current zoning, could accommodate 41 dwelling units, but the Edgewater only proposes 28. It complies with the underlying zoning district.

These conditions are why I talked about the CUP process in the beginning – the CUP process is not designed to prevent development. If the City really wanted to restrict height, it would have made it a variance process. The Edgewater meets the CUP height criteria and purposes of the Shoreland Overlay District. This is an exciting project worthy of the CUP for height at 6 stories.

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October 19, 2004

Mr. Dan Niziolek
Minneapolis City Council
Minneapolis, MN 55415

Re: Edgewater

Dear Council Member Niziolek:

David Graham and I have been discussing the role of incremental infill architecture as a way to build cities. As part of that discussion David showed me the Edgewater proposal and the analysis and research that his firm, ESG, has done as the basis for the design.

I have reviewed their proposal, and have visited the site, and in my opinion, this is the type of thorough and respectful urban design thinking we need more of in the Twin Cities. The project matches the height of neighboring multi-family buildings, and has a scale and level of detail appropriate to the neighboring residential community. The building also provides an attractive gateway to the Uptown commercial area.

I gather that some in the adjoining neighborhood object to the project, even though I hear from David that the proposal fits within the site's R-6 zoning and satisfies the Shoreland Overlay District Purpose and Criteria. The Planning Commission vote of 6-1-1 supports my opinion that this is a worthy and appropriate project for that site.

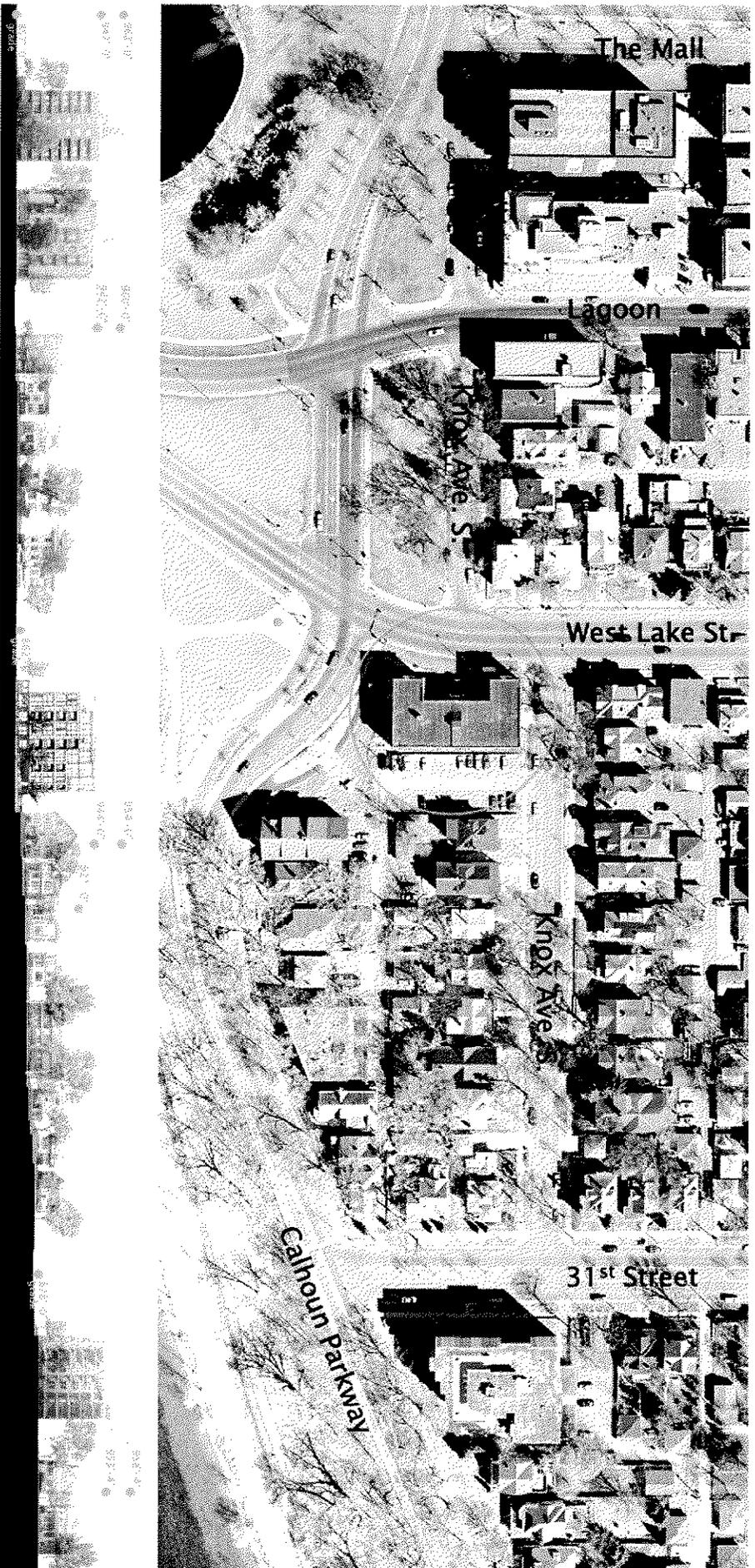
I would encourage your support of it, and would be happy to discuss this further with you if you would like.

Sincerely,



Thomas Fisher
Professor and Dean

fit the scale and character of surrounding uses



9-
Story

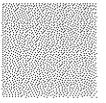
6-
Story

4-
Story

The Edgewater

6-
Story

- East Calhoun Parkway rises 16' from the West Lake Street Commercial Corridor Gateway to 31st Street.
- The 6 story proposal allowable in the sites R-6 zoning is in keeping with its context along East Calhoun Parkway which is a mix of 9, 6, 4 and 2 story buildings.

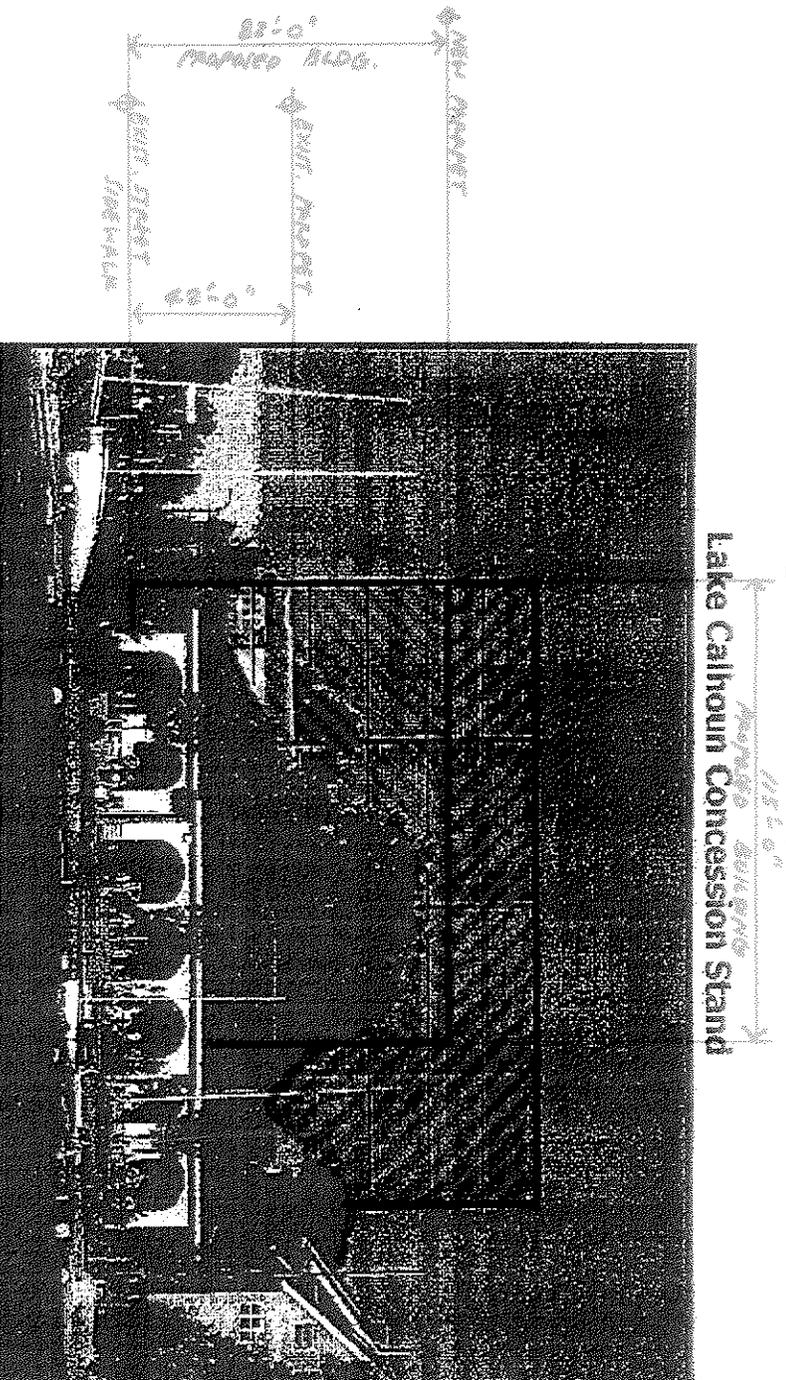


view from pier



analysis of exhibit 9 from the edgewater appeal

“Anticipated height of The Edgewater in comparison to Lake Calhoun Concession”



	As Illustrated Exhibit 9 from Appeal	Actual Proposal	Difference between Appeal Exhibit 9 and Actual
Height	110' ±	82'	28', 134% of actual height
Width	160' ±	112'	48', 143% of actual width
Surface Area	17,600 SF	9,184 SF	8,416 SF, 190% of actual area

- The Appellants have grossly exaggerated the building size (190% of actual) and height (134% of actual).
- The technique of overlaying a two dimensional image on a three dimensional photograph also distorts and exaggerates the height and size of the proposal. Please refer to the exhibits for an accurate illustration of the proposal in context.

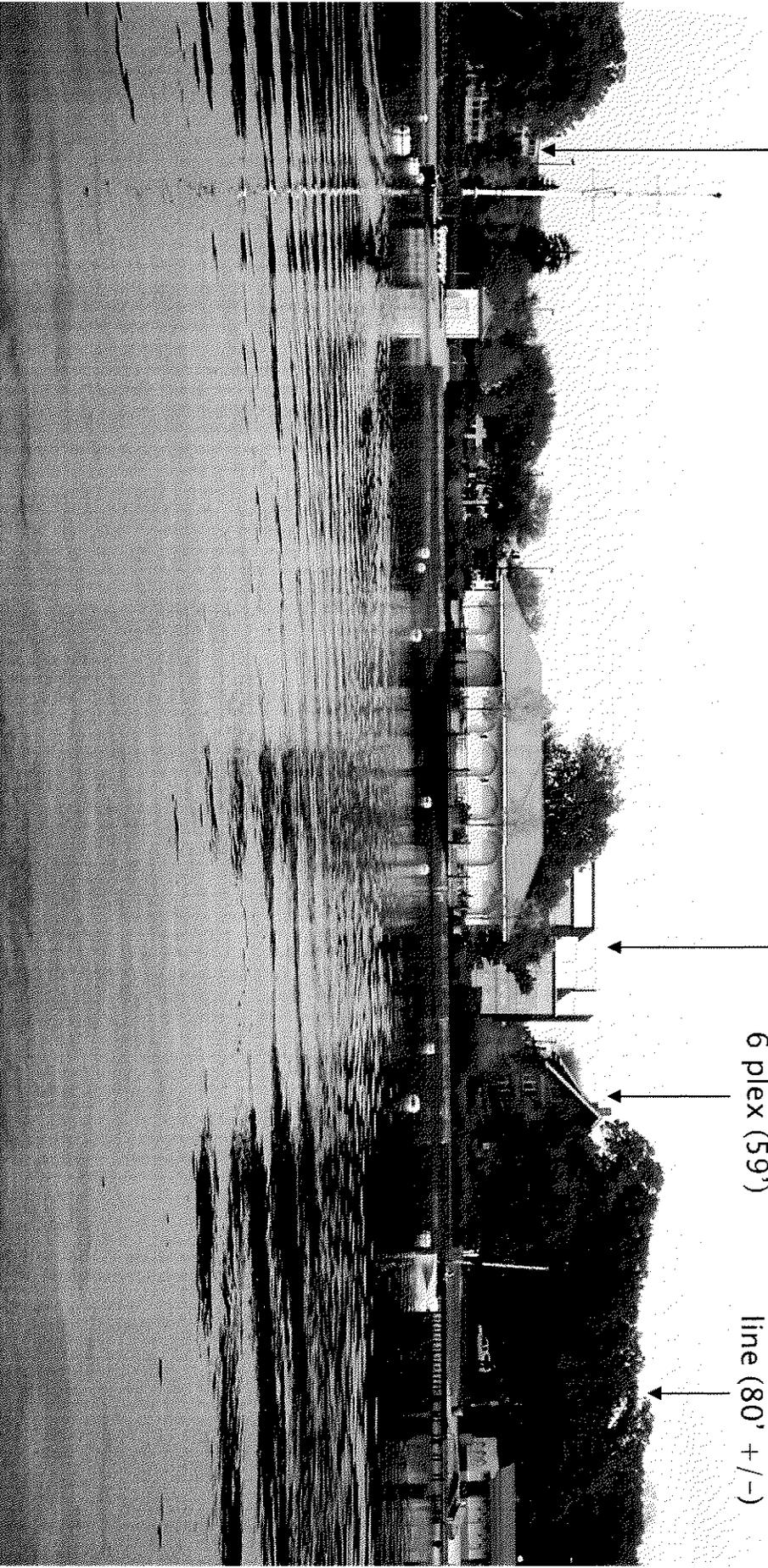
View from lake at refectory (from city G.I.S. topographic data)

6 story existing residential building on Lagoon (80' +/-)

6 story Edgewater massing (82'-78')

4 1/2 story 6 plex (59')

Existing tree line (80' +/-)



10 year tree canopy analysis : existing/projected growth of trees

Projected height of tree canopy at ten years (see arborist research)

Existing tree canopy (see arborist research)



mature tree canopy analysis : existing/projected growth of trees

6 story existing residential building on Lagoon (80' +/-)

Projected height of mature tree canopy (see arborist research)

6 story Edgewater massing (82' - 78')

4 1/2 story 6 plex (59')

Existing tree line (80' +/-)





Landscape Architecture

Ecological Design

Natural Areas Planning

Delineation, Permitting, Mitigation

Environmental Master Planning For:
Wetlands, Lakes, Rivers, Prairie,
Savanna, Woodland

October 18, 2004

Technical Memorandum:

Tree Inventory and Rates of Growth for Edgewater site adjacent northeast Lake Calhoun

To:

Domain Architecture

By:

L. Peter MacDonagh, Reg. Land. Arch. (MN, WI, IL - 1991), Int'l. Soc. Arboriculture Cert. Arborist (1991), Royal Hort. Society Certified Horticulturist (England - 1979)
Adj. Faculty Landscape Architecture Dept., Univ. of Minnesota (1999);
Lecturer: Univ. of MN. Landscape Arboretum (1998) & Morton Arboretum (Chicago, IL - 1992)
VP The Kestrel Design Group, Inc. (1990)

Introduction:

Lars Peterssen, AIA and Gabriel Keller, AIA of Domain Architecture, and the author, met on site 10/11/04 to identify and inventory the trees adjacent the Edgewater site. This 3 hour assessment of 64 trees was followed by 1 subsequent site assessment by the author on 10/18/04.

The inventory included the trees on the Edgewater site, its boulevards, ECCO Park, and northeast Calhoun Park adjacent the Refectory.

Tree Inventory Methodology:

Trees were first identified, DBH (diameter at breast height), and height measured with a Cruising Stick. The average rate of growth was observed using the standard methodology (shoot extension to terminal bud scars measurements for last 3 years of growth, averaged). Tree trunks were then examined for wounds, calluses, presence/absence of diseases. Root/trunk collars were examined for the presence/absence of girdling roots. Scaffold branches attachments were examined for integrity and included bark. Tree mortality was estimated. These conditions were recorded, as were cultural care, and replacement recommendations for the inventoried trees.

Rates of Growth Methodology:

Following assessment of current conditions, the author calculated projected rates of growth methodology, based on research literature by: Dirr, Hightshoe, Harris, Green and Watson. Rates of Growth were calculated for all trees, based on size and age class, and species, projected at 10 years, 30-40 years, 50-60 years. Likely mortality of urban trees vs. naturally occurring trees was based on Urban's research. Cultural care recommendations were based on research by Coder, Shigo, Harris, Green and Watson.

Trees primarily fell into the Slow/Moderate category of Growth Rate (12" to 24" per year average), with growth rates of Moderate to Fast during the first 15 years of life (24" to 36" per year average).



Summary:

In general terms, the tree population surveyed was largely healthy. The largest problem observed was the lack of proper cultural care of the tree population: mulch, compost, competition from turf roots, compaction in root zone, lawn mower damage to tree trunks, salt spray, and urban stormwater dewatering. These problems are endemic to urban tree populations and are the primary limiting factor in more optimal growth and longer life spans of these trees.

The locations that had the most problems in terms of cultural care were the boulevard trees and Calhoun Park trees, these trees averaged the lowest growth rates 8" to 16". The trees that had the least problems in terms of cultural care were the ECCO Park trees, all of them Oaks, all growing at the rate of 16" to 24" per year. The main issue affecting optimal growth here was urban stormwater dewatering. This issue can be mitigated with redirection of storm water directed towards these trees. The recommendation of this Technical Memorandum is to invest in proper Cultural Care of Trees throughout the study area.

Of the 64 (100%) trees surveyed; 53 (83%) were generally healthy by urban tree standards; and 11 (17%) had problems that would lead near to term mortality.

They were as such:

>5 (8%) immature trees were in need of replacement due to trunk injuries and/or root girdling. These were recorded on the Calhoun Parkway Boulevard and ECCO Park site.

>7 current or imminent disease problems were recorded in mature trees only: 3 American Elms (DED – Dutch Elm Disease), 1 Hackberry (Heartrot), 2 Colorado Spruce (Cytospora canker causing defoliation). All of these trees were on the Calhoun Park site.

Strategy:

Cultural Care of the healthy population offers the best probability of healthy individuals and a thriving urban tree population in the study area.

The methods recommended are the following:

- Enlarge and supplement mulch rings with compost/mulch layers (per Coder) to 5' diameter for juvenile trees, and 10' diameter for mature trees.
- Remove turf grass away from all tree trunks to avoid mower damage and tree root compaction and turf grass root competition.
- Provide supplemental water recycling urban stormwater directed towards tree roots.

These measures will ensure sustained growth rates of 12" to 24" per year for decades in the study area.

Research Citations:

Coder, K.; Compost/Mulch Rings Mitigating Root Compaction during Construction at UGA, Minnesota Shade Tree Conference, 2000

Dirr, Michael A. Manual of Woody Landscape Plants. Champaign, Illinois: Stipes Publishing, 1998.

Flint, Harrison L. Landscape Plants for Eastern North America. New York: John Wiley and Sons, 1983.

Harris, Richard W. Arboriculture: Care of Trees, Shrubs, and Vines in the Landscape. Engelwood Cliffs, New Jersey: Prentice Hall, 1983.

Hightshoe, Gary L. Native Trees, Shrubs, and Vines for Urban and Rural America. New York: Van Nostrand Reinhold, 1988.

Shigo, Alex L. Modern Arboriculture: A Systems Approach to the Care of Trees and Their Associates. Durham, New Hampshire: Shigo and Tress, Associates, 1991.

Watson, T., Green, T.; Personal Communications, DuPage County Technical College 10 year study of Boulevard Trees using Mulch to Improve Growth Rates, 1988 – 1999

EDGEWATER TREE INVENTORY

The following measurements and observations were made in the field with Peter MacDonagh of The Kestrel Design Group on October 11th 2004. Mr. MacDonagh is a certified Arborist and Landscape Architect. Please refer to the enclosed map for the location of existing and proposed trees.

Boulevard:

- A) American Linden (Basswood)
 - 4 ½" D.B.H., 15' Height
 - 10 year estimated height: 25'-30'
 - 30-40 year estimated height: 60'
 - Some damaged noted at base.
- B) American Linden (Basswood)
 - 4" D.B.H., 12' Height
 - 10 year estimated height: 22'-24'
 - 30-40 year estimated height: 60'
- C) American Linden (Basswood)
 - 3 ½" D.B.H., 14' Height
 - 10 year estimated height: 24'
 - 30-40 year estimated height: 60'
- D) American Linden (Basswood)
 - 3 ½" D.B.H., 15' Height
 - 10 year estimated height: 25'
 - 30-40 year estimated height: 60' if tree survives
 - Some damaged noted at base
 - Possible replacement suggested
- E) American Linden (Basswood)
 - 3 ½" D.B.H., 10' Height
 - 10 year estimated height: 20'
 - 30-40 year estimated height: 60' if tree survives
 - Very damaged, will require replacement
- F) American Linden (Basswood)
 - 28" D.B.H., 70' Height
 - 10 year estimated height: 75'
 - 30-40 year estimated height: 80'
- G) Burr Oak
 - 25" D.B.H., 70' Height
 - 10 year estimated height: 75'
 - 30-40 year estimated height: 80'
- n5) New Planting Recommended: Linden (Basswood)
 - Plant: 2" D.B.H., 14' Height

- 10 year estimated height: 22'
 - 30-40 year estimated height: 50'-70'
- n6) New Planting Recommended: Linden [Basswood]
- Plant: 2" D.B.H., 14' Height
 - 10 year estimated height: 22'
 - 30-40 year estimated height: 50'-70'

ECCO Park/Edgewater Site:

- H) Burr Oak
- 2 ½" D.B.H., 14' Height
 - 10 year estimated height: 24'
 - 30-40 year estimated height: 55'-65'
 - 50-60 year estimated height: 70'-80'
- I) Burr Oak
- 2 ½" D.B.H., 14' Height
 - 10 year estimated height: 24'
 - 30-40 year estimated height: 55'-65'
 - 50-60 year estimated height: 70'-80'
- J) Burr Oak
- 2" D.B.H., 12' Height
 - 10 year estimated height: 22'
 - 30-40 year estimated height: 55'-65'
 - 50-60 year estimated height: 70'-80'
- K) Burr Oak
- 2 ½" D.B.H., 10' Height
 - 10 year estimated height: 20'
 - 30-40 year estimated height: 55'-65'
 - 50-60 year estimated height: 70'-80'
- L) Burr Oak
- 2 ½" D.B.H., 12' Height
 - 10 year estimated height: 22'
 - 30-40 year estimated height: 55'-65'
 - 50-60 year estimated height: 70'-80'
- M) Burr Oak
- 3" D.B.H., 15' Height
 - 10 year estimated height: 25'
 - 30-40 year estimated height: 55'-65'
 - 50-60 year estimated height: 70'-80'
- N) Burr Oak
- 2 ½" D.B.H., 12' Height
 - 10 year estimated height: 22'
 - 30-40 year estimated height: 55'-65'
 - 50-60 year estimated height: 70'-80'
- O) Burr Oak
- 2 ½" D.B.H., 10' Height
 - 10 year estimated height: 20'
 - 30-40 year estimated height: 55'-65'
 - 50-60 year estimated height: 70'-80'

P) Burr Oak

- 2 ½" D.B.H., 12' Height
- 10 year estimated height: 22'
- 30-40 year estimated height: 55'-65'
- 50-60 year estimated height: 70'-80'

Q) Burr Oak

- Severally damaged tree, suggest replacement with a similar size tree—2 1/2" D.B.H. and 12'-14' high.
- 10 year estimated height: 22' if replaced
- 30-40 year estimated height: 70'-80' if replaced

R) Burr Oak

- 3" D.B.H., 18' Height
- 10 year estimated height: 33'
- 30-40 year estimated height: 55'-65'
- 50-60 year estimated height: 70'-80'

S) Burr Oak

- 2 ½" D.B.H., 12' Height
- 10 year estimated height: 24'
- 30-40 year estimated height: 55'-65'
- 50-60 year estimated height: 70'-80'
- Some damaged noted at base

n1) New Planting Recommended: Burr Oak

- Plant: 2" D.B.H., 14' Height
- 10 year estimated height: 22'
- 30-40 year estimated height: 50'-70'

n2) New Planting Recommended: Burr Oak

- Plant: 2" D.B.H., 14' Height
- 10 year estimated height: 22'
- 30-40 year estimated height: 50'-70'

n3) New Planting Recommended: Swamp White Oak

- Plant: 2" D.B.H., 14' Height
- 10 year estimated height: 22'
- 30-40 year estimated height: 50'-70'

n4) New Planting Recommended: Sugar Maple

- Plant: 2" D.B.H., 14' Height
- 10 year estimated height: 22'
- 30-40 year estimated height: 50'-70'

n7) New Planting Recommended: Burr Oak

- Plant: 2" D.B.H., 14' Height
- 10 year estimated height: 22'
- 30-40 year estimated height: 50'-70'

Parkway Median:

T) Little Leaf Linden

- 6 ½" D.B.H., 18' Height
- 10 year estimated height: 23'
- 30-40 year estimated height: 40'

- Damaged noted at base, tree is also boxed in by median.
- U) Little Leaf Linden
 - 5 ½" D.B.H., 18' Height
 - 10 year estimated height: 23'
 - 30-40 year estimated height: 40'
 - Tree is boxed in by median.
- V) Little Leaf Linden
 - 5 ½" D.B.H., 12' Height
 - 10 year estimated height: 17'
 - 30-40 year estimated height: 40'
 - Tree is boxed in by median.
- W) Little Leaf Linden
 - 4" D.B.H., 12' Height
 - 10 year estimated height: 17'
 - 30-40 year estimated height: 40'
 - Tree is boxed in by median.
- X) Little Leaf Linden
 - 2" D.B.H., 10' Height
 - 10 year estimated height: 15'
 - 30-40 year estimated height: 40'
 - Tree is boxed in by median.

East of Refectory:

- 1) Burr Oak
 - 22" D.B.H., 25-30' Height
 - 10 year estimated height: 30'-40'
 - 30-40 year estimated height: 35'-45'
 - Tree's shape was in response to fire
- 2) American Elm
 - 28" D.B.H., 60' Height
 - 10 year estimated height: Replacement tree suggested
 - Tree does not have Dutch Elm Disease, but will probably acquire within next 3 years.
- 3) Burr Oak
 - 13" D.B.H., 50' Height
 - 10 year estimated height: 55'
 - 30-40 year estimated height: 65'
- 4) Burr Oak
 - 15" D.B.H., 35' Height
 - 10 year estimated height: 41'
 - 30-40 year estimated height: 50'
- 5) Ohio Buckeye
 - 6 ½" D.B.H., 25' Height
 - 10 year estimated height: 33'
 - 30-40 year estimated height: 45'-50'
- 6) Ginnala Maple
 - Ornamental Tree

North of Refectory:

- 7) Black Walnut
 - 2 ½" D.B.H., 15' Height
 - 10 year estimated height: 25'
 - 30-40 year estimated height: 60'-70'
- 8) Red Maple C.V.
 - 3" D.B.H., 15' Height
 - 10 year estimated height: 24'
 - 30-40 year estimated height: 40'
- 9) Red Maple C.V.
 - 4" D.B.H., 18' Height
 - 10 year estimated height: 28'
 - 30-40 year estimated height: 40'-50'
- 10) Red Maple C.V.
 - 4" D.B.H., 22' Height
 - 10 year estimated height: 32'
 - 30-40 year estimated height: 50'
- 11) Black Walnut
 - 3 ½" D.B.H., 20' Height
 - 10 year estimated height: 26'-28'
 - 30-40 year estimated height: 40'
- 12) Colorado Spruce
 - 10" D.B.H., 35' Height
 - Tree at end of life cycle, replacement suggested
- 13) Eastern Red Cedar
 - 13" D.B.H., 45' Height
 - 10 year estimated height: 50'
 - 30-40 year estimated height: 55'
- 14) American Elm
 - 15" D.B.H., 40' Height
 - Tree has Dutch Elm Disease, will be removed within 5 years.
- 15) Colorado Spruce
 - 13" D.B.H., 40' Height
 - Tree has blight, will not survive 5 years.

- 16) Thornless Honey Locust
 - 5" D.B.H., 25' Height
 - 10 year estimated height: 35'
 - 30-40 year estimated height: 50'-60'
- 17) Thornless Honey Locust
 - 4" D.B.H., 23' Height
 - 10 year estimated height: 32'
 - 30-40 year estimated height: 50'-60'
- 18) Maple C.V.
 - 4" D.B.H., 18' Height
 - 10 year estimated height: 24'

- 30-40 year estimated height: 40'
- 19) Thornless Honey Locust
- 3 ½" D.B.H., 12' Height
 - 10 year estimated height: 18'
 - 30-40 year estimated height: Replacement suggested.
 - Damaged noted at tree base.
- 20) Hackberry
- 20" D.B.H., 50' Height
 - 10 year estimated height: 55'
 - 30-40 year estimated height: Replacement suggested.
 - Tree has Heart Rot.
- 21) Hackberry
- 20" D.B.H., 50' Height
 - 10 year estimated height: 55'
 - 30-40 year estimated height: Replacement suggested
 - Tree towards end of lifespan.
- 22) Eastern Red Cedar
- 8" D.B.H., 30' Height
 - 10 year estimated height: 35'
 - 30-40 year estimated height: 45'
- 23) American Elm
- 21" D.B.H., 45' Height
 - Tree has Dutch Elm Disease, will be removed within 5 years.
- 24) Thornless Honey Locust
- 3" D.B.H., 12' Height
 - 10 year estimated height: 22'
 - 30-40 year estimated height: 50'
- 25) Thornless Honey Locust
- 4" D.B.H., 15' Height
 - 10 year estimated height: 22'
 - 30-40 year estimated height: 40'
- 26) Black Walnut
- 4" D.B.H., 18' Height
 - 10 year estimated height: 23'-26'
 - 30-40 year estimated height: 33'-38'
 - Tree limited because of concrete planters.

West of Refectory:

- 27) Black Walnut
- 4" D.B.H., 20' Height
 - 10 year estimated height: 25'-28'
 - 30-40 year estimated height: 35'-40'
 - Tree limited because of concrete planters.
- 28) Black Walnut
- 4" D.B.H., 18' Height
 - 10 year estimated height: 25'-28'
 - 30-40 year estimated height: 35'-40'
 - Tree limited because of concrete planters.

29) Black Walnut

- 4 ½" D.B.H., 22' Height
- 10 year estimated height: 28'
- 30-40 year estimated height: 37'
- Tree limited because of concrete planters.

South of Refectory:

30) Red Maple C.V.

- 3 ½" D.B.H., 18' Height
- 10 year estimated height: 24'-26'
- 30-40 year estimated height: Replacement suggested.
- Tree constrained by paving.

31) Red Maple C.V.

- 3 ½" D.B.H., 18' Height
- 10 year estimated height: 24'-26'
- 30-40 year estimated height: Replacement suggested.
- Tree constrained by paving.

32) Red Maple C.V.

- 3 ½" D.B.H., 18' Height
- 10 year estimated height: 24'-26'
- 30-40 year estimated height: Replacement suggested.
- Tree constrained by paving.

33) Red Maple C.V.

- 3 ½" D.B.H., 18' Height
- 10 year estimated height: 24'-26'
- 30-40 year estimated height: Replacement suggested.
- Tree constrained by paving.

34) Green Ash

- 11" D.B.H., 40' Height
- 10 year estimated height: 45''
- 30-40 year estimated height: Replacement suggested.
- Tree under stress.

35) Burr Oak

- 16" D.B.H., 35' Height
- 10 year estimated height: 40'
- 30-40 year estimated height: 50'-55'

36) Ohio Buckeye

- 7" D.B.H., 24' Height
- 10 year estimated height: 29'
- 30-40 year estimated height: 45'-50'

37) Green Ash

- 8 ½" D.B.H., 30' Height
- 10 year estimated height: 35'-40'
- 30-40 year estimated height: 50'

38) American Elm

- 19" D.B.H., 50' Height

- Tree has Dutch Elm Disease, will be removed within 5 years.

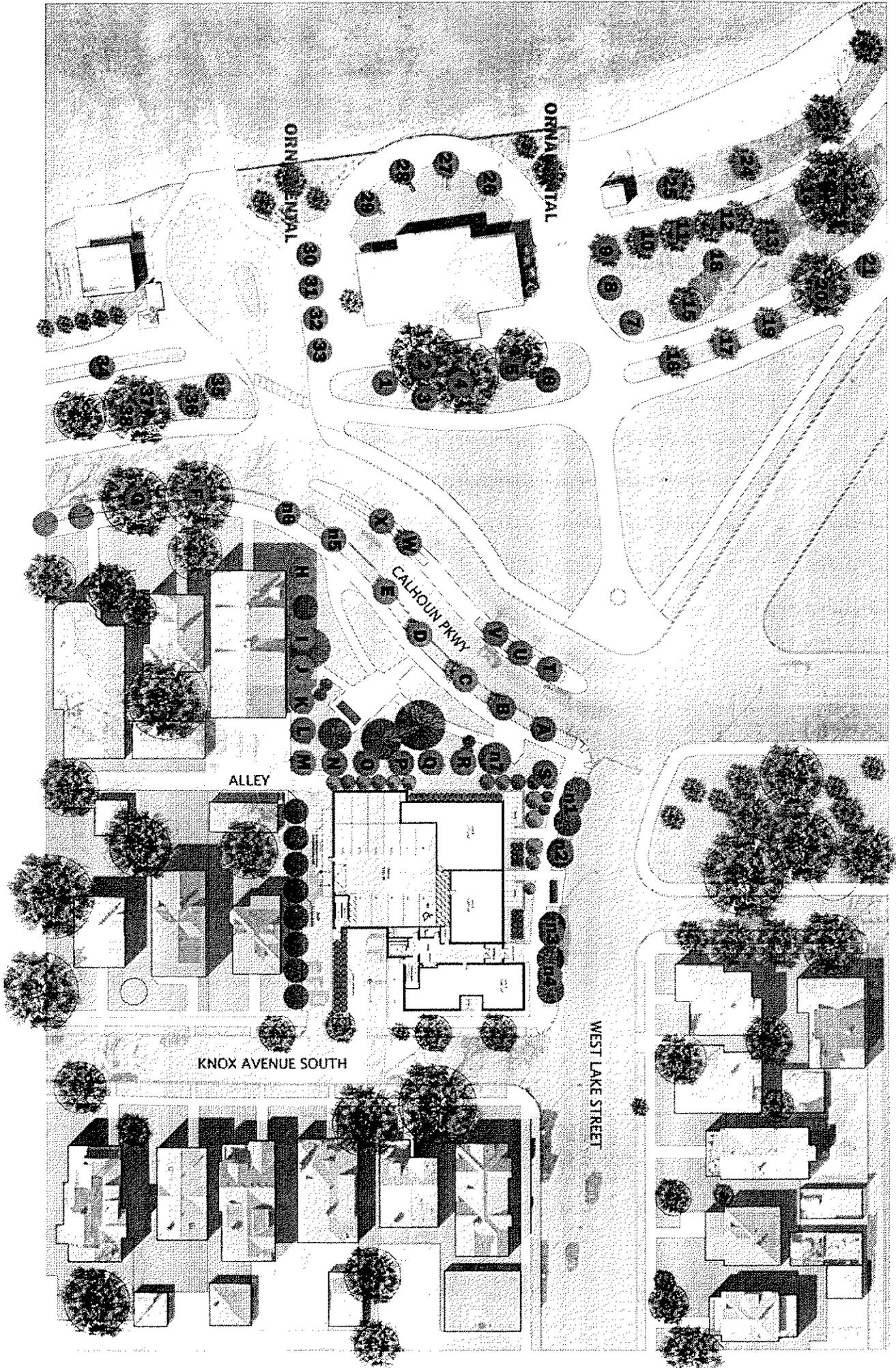
Summary:

10 Year Tree Canopy By Area:

- West of the refectory: 25'-28'
- South of the refectory: 24'-26'
- North of refectory: 25'-55'
- East of the refectory: 33'-55'
- Parkway Median: 17'-23'
- Boulevard: 25'-30'
- Trees at ECCO Park: 22'-30'

30-40 Year Tree Canopy By Area:

- West of the refectory: 35'-40'
- South of the refectory: 25'-55'
- North of refectory: 40'-70'
- East of the refectory: 40'-65'
- Parkway Median: 40'
- Boulevard: 60'-80'
- Trees at ECCO Park: 55'-65'



ORNAMENTAL

ORNAMENTAL

CALHOUN PKWY

ALLEY

KNOX AVENUE SOUTH

WEST LAKE STREET