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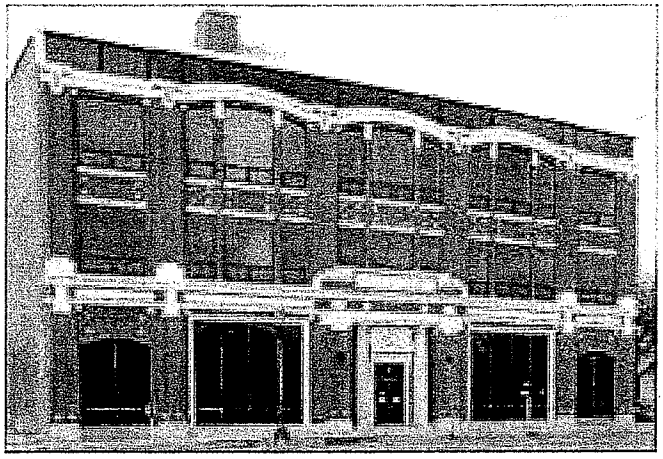
Report to the Legislature:

Ford Building Preservation and Use



Ford Building Working Group

January 15, 2006

This information will be made available in alternate format, for example, large print, Braille, or cassette tape, upon request by contacting

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Executive Summary

The Commissioner of Administration convened the Ford Building Working Group on Sept. 15, 2005. The group, chaired by Jim Rhodes of the Department of Administration, met five times over the course of five months to develop recommendations to the Legislature regarding the desirability and potential means of preserving and using the state-owned Ford Building at 117 University Avenue in St. Paul. The following are the consensus findings and recommendations of the Ford Building Working Group:

1) The Ford Building has historical significance and should not be sold, moved or demolished.
   - It is one of 18 similar buildings constructed by Ford Motor Company in early 1900s.
   - The Preservation Alliance lists it as one of Minnesota's "Ten Most Endangered Buildings of 2004."
   - The Minnesota State Historic Preservation Office has determined that the Ford Building is eligible for listing on the National Register of Historic Places.
   - Minnesota statutes 86A.04, 86A.05 and 116B.02, subd. 4, recognize the importance of preserving and restoring historic buildings and structures.

2) The building should be minimally heated (approximately 45 degrees) while it is "moth-balled." The exterior of the building and the surrounding grounds should be maintained at a level that is expected in the Capitol area.
   - Minimal heat will reduce further internal cosmetic damage from the shock of the freeze/thaw cycle.

3) The building should be used for interim office space during restoration of the State Capitol.
   - It is anticipated that the 2006 Legislature will consider a State Capitol restoration project. The Ford Building, because of its location and connection to the Capitol tunnel system, could be a practical, cost-effective solution for use as interim space for Capitol offices that will be relocated during the renovation.
   - Because the State Capitol restoration project could begin after the 2007 legislative session, renovation work at the Ford Building, expected to require 18 months, would need to commence as soon as possible.

4) The building and building site should be evaluated in the context of state government, neighborhood and regional objectives, including historic preservation and sustainable community goals.
   - Under federal and state laws, the state can lease up to 5 percent of floor space in the building (approximately 2,500 square feet) for "unrelated purposes."
   - The first floor should include a use that would extend the hours of activity in the area beyond the end of the workday. Some examples include a coffee shop, restaurant or similar "social" business. Longer-term, consideration should be given to including a "one-stop shop" for state government citizen services on the first floor.

5) Minnesota's cultural and historic resources are important civic assets. While the redevelopment of historic structures can present unique financial challenges, their preservation and rehabilitation can serve to strengthen communities. The State Legislature

should identify and employ financial strategies and tools that encourage stewardship and facilitate reinvestment in the preservation and enhancement of historic buildings. The Legislature should consider, on a case-by-case basis:

- A policy that would exempt the costs of historic renovation from lease rates. Current policies require the recovery of depreciation and bond interest through lease rates. In the case of the Ford Building, these policies can impede historic preservation.
- Direct funding of the depreciation and bond interest for renovation costs of state-owned historic structures that are financed with proceeds from the sale of state general obligation bonds. This would de-couple these costs from lease rates, lowering the cost of rents for state offices that would locate in the building.

Ford Building Working Group
Report to the Legislature

Introduction

The Ford Building, 117 University Avenue, St. Paul, is one of 14 state-owned buildings in the Capitol Complex that are under the custodial management of the Department of Administration. The Minnesota State Historic Preservation Office has determined that the Ford Building is eligible for listing on the National Register of Historic Places. The Department of Administration, within its mission, strives to provide safe, comfortable and efficient facilities for employees, citizens and visitors. In a larger context, the department, representing state government, recognizes the significance of the Capitol Complex in the social and cultural fabric of the community and surrounding neighborhoods. The Ford Building site, situated near the major St. Paul intersection of Rice Street and University Avenue, is viewed by many as a bridge from the Capitol Complex to the adjacent Rice/University neighborhood. Stakeholders are vigorously working toward improving the neighborhood. It is also worth noting that the nearby Capitol Heights neighborhood, further east, is undergoing significant residential revitalization.

Legislative charge

The 2005 Legislature placed a moratorium on the demolition of the Ford Building until June 30, 2007 and directed the Commissioner of Administration to report to the Legislature by Jan. 15, 2006, with recommendations regarding the desirability and potential means of preserving and using the Ford Building. The report was to include:

- The availability of potential lessees for the building.
- Constraints on leasing the building, including the requirement to pay off any state general obligation bonds previously used in maintaining or rehabilitating the building.
- The cost of restoring and rehabilitating the building, and the feasibility of various means of paying these costs, including potential use of revenue bonds.

The Commissioner of Administration convened a working group of interested legislators, private sector real estate professionals, historic preservation specialists and representatives of the City of St. Paul, neighboring property owners and St. Paul neighborhood associations. A list of members is included as an appendix of this report. The Commissioner appointed Jim Rhodes, Legislative Director of the Department of Administration, as chair of the working group. The group met initially on Sept. 15, 2005. Subsequent meetings were held Oct. 19, Nov. 22, Dec. 14 and Jan. 10 at the State Administration Building.

Responsibility for preservation of historic structures

The Minnesota Historic Sites Act and the Minnesota Environmental Rights Act, among others, help protect public and private historic structures. Additional details on these statutes, as well as standards for the treatment of historic structures, can be found in Appendix D.

History

Ford ownership – The Ford Motor Company constructed the University Avenue building in 1913-14 as a retail, service and sub-assembly facility, with a production rate of 500 vehicles per year (St. Paul Pioneer Press, Feb. 1, 1914). Ford paid $10,199 for the building site and $56,000 for construction of the building (Brian McMahon, "The Ford Building: An Historical Overview").

The three-story building (plus basement) is constructed of cast-in-place reinforced concrete and masonry. The building has approximately 56,000 net square feet (51,000 square feet rentable [Department of Administration Space Management Inventory]) and a footprint of approximately 100 feet by 150 feet. The overall site is slightly more than 2.25 acres, or 98,400 square feet, and is located on the north side of University Avenue, east of Rice Street, in the State Capitol Planning District.

The University Avenue building is one of 18 plants built by Ford throughout the country that shared the same architect and design motifs. It is worth noting that none of the Ford buildings have been demolished and a number of them have been adapted for other uses. The manufacturing components utilized a "vertical feed" hand-assembly method that became obsolete with Ford's introduction of the assembly line in the early 1920s.

Assembly operations on University Avenue ceased in 1924 when the Highland Park Ford plant opened, but the company continued operating a sales and service business at the site until the mid-1930s. The building was vacant from 1937 until at least 1941 and quite possibly until 1947, when the Kedney Warehouse Company was listed as the building's occupant (McMahon).

Public ownership – The Ford Building was converted to office space for the federal government sometime around 1951. The state acquired the Ford Building in the late 1960s as part of a larger redevelopment effort in the Capitol area that was directed by the Capitol Area Architectural and Planning Commission.

The building was remodeled for state office space in the late 1970s. A cement stucco finish was also applied to the building's exterior walls at about this time. In early 1999, building personnel noticed significant deterioration of the stucco facade. Subsequent tests revealed that the stucco was separating from the underlying concrete block. For safety reasons and to prevent further damage, the most severely deteriorated veneer was removed. Chain-link fencing was installed to anchor the remaining stucco.

The most recent occupants of the Ford Building included Minnesota's Bookstore, the state printing operations and a variety of Department of Administration offices. These uses ceased or were transferred to other facilities in 2002-03 because of the closure of the state printing operations; the building's deterioration and the need for major repairs; and high projected lease rates that were a reflection of the costs of maintaining and operating the building, which made it economically challenging to occupy.

As custodial manager of the Ford Building, the Department of Administration has utilized bond appropriations from the Legislature for maintaining, improving and remodeling the building for various uses. State policy is that capital debt is reimbursed through lease rates charged by the Department of Administration to the entities leasing space in the building.

As a part of the capital budget planning process, the Department of Administration in 2001 commissioned a study to assess options for the site. The results of the study provided an objective look at the current building and future needs of the state based on the "1993 Strategic Plan for Locating State Agencies."

The study determined that the building was in need of major structural, mechanical, electrical, interior and exterior repairs in order to return it to a viable use for office space. The study presented seven scenarios along with estimated costs, which are in 2001 dollars and do not consider inflation or further deterioration that can occur in a vacant building.

The seven scenarios from the report, along with resulting square footage and 2001 cost estimates, are:

- Renovate existing building (51,218 rentable square feet), $9.3 million.
- Renovate existing building and expand the second and third floors (resulting in 68,500 rsf), $12.7 million.
- Demolish existing building and construct a new building of comparable footprint (89,500 rsf), $18.8 million.
- Renovate and expand building to maximize the site (106,000 rsf), $20 million.
- Demolish existing building and construct a new building to maximize the site (128,500 rsf), $25.9 million.
- Renovate and expand existing building (106,000 rsf) and build a 218-stall parking ramp, $24.2 million.
- Demolish existing building and construct a new building (128,500 rsf) and a 324-stall parking ramp, $32.5 million.

CPMI, an author of the 2001 assessment, recently estimated that these costs would be about 35 percent higher in current dollars. Further analysis would be required to determine accurate cost estimates.

One member of the working group, a private developer, expressed reservations regarding the cost figures and noted his firm's work on a similar-sized office building that was renovated for residential and commercial use, which was completed for less than $6 million.

In 2004, the Department of Administration sought about $1.2 million in bonding money from the Legislature for demolishing the building, replacing it with 50 parking stalls and constructing a roundhouse-style building (similar to the building at University Avenue and Capitol Boulevard) for tunnel access. The Legislature did not act on a Bonding Bill in 2004. The Department of Administration re-submitted its request the following year, but it was rejected by a House committee. Language was then added to the Omnibus State Government Finance Bill placing a moratorium on demolition and directing the Commissioner of Administration, in consultation with interested parties, to report to the Legislature on potential preservation and use of the building.

Historical significance – A Historic Sites survey completed in 1982 by the Ramsey County Historical Society and the St. Paul Heritage Preservation Commission listed the Ford Building as historically significant and potentially eligible for designation on the National Register of Historic Places and for listing as a St. Paul city landmark. The Minnesota State Historic Preservation Office

subsequently determined that that the Ford Building is eligible for listing on the National Register of Historic Places.

The Preservation Alliance named the Ford Building one of its "Ten Most Endangered Historic Properties of 2004." Architecture Minnesota magazine in its July-August 2004 issue listed the Ford Building as "endangered." The National Trust for Historic Preservation is on record supporting preservation of the Ford Building.

Based on discussions of the Ford Building Working Group, staff members from the Capitol Area Architectural and Planning Board, the St. Paul Heritage Preservation Commission and the Minnesota Historical Society/State Historic Preservation Office will continue discussions and recommend appropriate statutory changes to clarify ambiguities among federal, state and local laws that regulate how required reviews of historic structures are considered by these various governmental entities.

Current status

The Ford Building is in "mothball" status and does not have an occupancy permit. The Department of Administration currently pays an average of $25,000 a year for minimal maintenance of the building. The Department of Administration spent about $79,000 in 2005 for additional exterior repairs when further deterioration was observed during an annual review. Since then, some of the brickwork on the front of the building has fallen or loosened. Bricks removed during the repair work are stored in the building. The exterior stucco covering the masonry is retained with chain-link fencing. The mechanical system is not repairable; salvageable parts have been used for systems elsewhere in the Capitol Complex.

The only current use is as a critical access point to the Capitol Complex tunnel system for employees using Parking Lot C.

Discussion

The working group members, representing a broad cross-section of interests, presented their views and ideas during wide-ranging discussions, mostly focused on potential uses for the building. Suggestions included residential condominiums, a "one-stop shop" for government services, retail businesses such as a health club and coffee shop and interim state-office space during the Capitol renovation project. Neighborhood representatives especially expressed a strong interest in uses that are not limited to the 8-5 workday/week.

Over the course of meeting, the members received briefings regarding the history of the building; Constitutional, regulatory and financial issues that impact the site; and previously proposed use scenarios. The following points represent a consensus of the members of the working group:

1. The building and land are intertwined. Both were purposefully acquired for state government use. The Ford Building is of historical significance and offers an opportunity for neighborhood revitalization. The building should not be destroyed, sold or moved. The land is of significant value to the state because of its location on the Capitol Complex and its proximity to the State Capitol and State Office Building, including direct access to the tunnel system.

2. No substantive changes are currently proposed for the building or land. The building should be maintained in "mothball" status pending further decisions regarding its future. In order to reduce further building deterioration from the shock of freeze-and-thaw cycles, minimal heating (45 degrees) could be provided during colder months through the use of space heaters. However, the potentially expensive costs of operating space heaters would be borne by the entire Capitol Complex. The restoration of central heating would require reconstruction of the building's HVAC system at significant expense.

3. Utilizing the building as interim state office space during the proposed Capitol renovation project may be convenient and cost-effective for those offices that will need to be temporarily relocated. The Capitol Area Architectural and Planning Board is developing a proposal in which Capitol restoration would begin following the end of the 2007 legislative session. At least 35,000 square feet of interim office space, and possibly more, will be required over the following six years. The complete renovation is expected to occur over eight to 10 years. Using the Ford Building for interim office space during Capitol restoration could be advantageous because of the building's location and connection to the Capitol Complex tunnel system. Preparing the Ford Building for interim use would require the approval of funding during the 2006 legislative session. Preparations would need to be completed by the summer of 2007.

4. Leasing up to 5 percent of the building (the maximum allowable under federal tax code regarding tax-exempt bonds) for unrelated purposes, such as a coffee shop, restaurant or similar business. Longer term, consideration should be given to the concept of a "one-stop shop" for state government citizen services at the Ford Building. These uses would be located on the first floor, along University Avenue, and might serve to expand the building's use beyond the end of the work day. Another option would be office space for lobbyists.

5. Re-opening the building for any use would require substantial renovation work. These costs, if bonded, would be recovered through the lease rates that would be paid by occupants. The Department of Administration estimated in FY2001 that this rate would be approximately $36 per square foot, per year (based on estimated renovation costs of $10.8 million), which is significantly above current market rates in downtown St. Paul and in state-owned facilities in the Capitol Complex. The rental rate would decrease after 20 years when the debt is retired. A possible solution would be a "historic preservation" allocation by the Legislature that would "buy down" the lease rate and make the space more competitive with what is available in the market.

Leasing vs. ownership analysis

The facility needs of the state can be addressed in leased space or state-owned space financed by the proceeds from the sale of general obligations bonds or revenue bonds. The evaluation of alternatives includes, among other things, a comparison of rent costs for alternative locations to determine the impact on the state agency's operating budget (cash flow). However, in comparing lease vs. ownership costs, several additional factors are considered, including an evaluation of life-cycle costs on a net present value basis. In many cases, building ownership will save the state money in the long term, however, each project is considered on a case-by-case basis.

The lease rates for state-owned buildings managed by Admin include depreciation and bond interest on past improvements and all building operating costs. The projected lease rate for the Ford Building includes bond interest and depreciation on past improvements. This accounts for approximately $1.84 of the projected square-foot lease rate. The depreciation and bond interest on the renovation of the building would account for $15.46 of the projected rent (based on estimated cost of $10.8 million).

The useful life of the Ford Building upon completion of the renovation would likely be extended 30 years or more. The benefits of ownership include creating equity or residual value in buildings. This benefit is realized to the greatest extent during the period after debt retirement and before the building is fully depreciated.

2005 legislation responses

The following points are in direct response to the charge by the Legislature to the Commissioner of Administration contained in 2005 session law.

Availability of potential lessees:

The Department of Administration continually reviews the availability of state-owned space for leasing to state entities, as well as space needs for those entities. The Ford Building was vacated because the cost of maintaining it as viable office space at low lease rates paid by the state printing operation became prohibitive. In addition, the condition of the building made it undesirable to prospective tenants. The costs of renovating or renovating and expanding the building would result in a high lease rate under current policies. Future potential leasing considerations include:

- A number of state boards, councils and/or agencies could possibly utilize the space in a renovated Ford Building. However, rent costs would likely be significantly higher than those at their current locations.
- The building could be utilized for temporary office relocation space during the Capitol restoration project, but this would depend on scheduling for both projects. The Department of Administration estimates that preparing the Ford Building for use would take about 18 months under normal circumstances.
- The Department of Administration in its 2004 Capital Budget Request projected the annual rental rate at $36.21 per square foot, including the cost of renovation. The rental rate would decrease after 20 years, when the bond funds used to finance the renovation would be paid off.
- The state can contract for building-related services, such as a cafeteria or food service, at the Ford Building. The Department of Administration currently contracts with a private firm for food service in several Capitol Complex Buildings. Further, Minnesota Statute 248.07 provides Services for the Blind the ability to provide food service at this location.

Constraints on leasing:

Past improvements to the Ford Building have been financed with proceeds from the sale of state general obligation bonds. Therefore, the Ford Building is considered bond-financed property and is subject to certain federal and state requirements (constitutional and statutory) related to the use, management and/or sale of the property. Bond-financed property must be used for the express purpose of carrying out a government program established or authorized by law. Under federal and state laws, the state can lease up to 5 percent of a state-owned building for "unrelated purposes."

Private leases over the 5 percent limit would have to be for a government program established or authorized by law. In these instances, the state is required to retain control of the program and would act similar to a board of directors.

Cost of restoration/rehabilitation:
The 2001 assessment estimated costs ranging from $9.3 million for renovation (substantially for new mechanical systems) to $32.5 million for the construction of a new 120,800 square foot building with a 324-stall parking ramp. A summary of these scenarios is included earlier in this report. The costs are in 2001 dollars and do not consider inflation or further deterioration that can occur in a vacant building. CPMI, one of the authors of the 2001 assessment, recently estimated that these costs would be about 35 percent higher in current dollars. Further analysis would be required to determine accurate cost estimates.

Appendix A: Ford Building Working Group members
Appendix B: The Ford Building: An Historical Overview
Appendix C: Sustainability and Historic Preservation Guidelines
Appendix D: Ford Building Predesign Assessment & Renovation/Reuse Scenarios

Appendix A
Ford Building Working Group members

John Arlandson
Rep. Greg Blaine
Kathleen Blair
Britta Bloomberg
Gerrie Boice
Carol Carey
Sen. Satveer Chaudhary
Rep. Matt Dean
Rep. Dan Dorman
John Errigo
Rep. Pat Garofalo
Karl Haddeland
Sen. Linda Higgins
Jerry Hoffman
Rep. Carl Jacobson
Rep. Sheldon Johnson
Jared Jordal
Rep. Phyllis Kahn
David Kelliher
Christine Kiel
Sen. Sheila Kiscaden
Rory Koch
Charles Liddy
Sven Lindquist
Rep. Diane Loeffler
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Krysta Niedernhofer
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Rep. Mark Olson
Sandy Pappas
Pastor Patrick Patterson
Dick Pellow
LaRissa Peltola
Rep. Neil Peterson
Helen Roberts
Marge Romero
Patricia Rooney
Rep. Marty Seifert
Rep. Loren Solberg
Amy Spong
Rep. Kathy Tingelstad
Pastor Sue Tjornehoj
Renee Tyler

Department of Administration Staff
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Wayne Waslaski
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Benjamin Brandenberg
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Appendix B:
The Ford Building: An Historical Overview

In 1913, only 10 years after Henry Ford founded The Ford Motor Company in Detroit, plans were announced for building assembly plants in Minneapolis and St. Paul. The architectural firm Kees and Colburn of Minneapolis designed both buildings under the direction of Ford architect John Graham. The structures were built during 1913 and 1914, and share stylistic motifs. At ten stories in height, the Minneapolis plant, still standing at 419 N. 5th Street, was likely the tallest structure ever built for the purpose of manufacturing automobiles. The smaller sub-assembly plant in St. Paul, at 117 University Avenue, was more ornate than the utilitarian Minneapolis plant, in deference to its prominent location adjoining the new state capitol and its more sales-oriented purpose.

In anticipation of the new plants, Ford had already been assembling cars in leased space in Minneapolis, in a loft building at 616 S. Third Street. In the final three months of 1912, one hundred workers assembled 750 Model T's at this location. The movable assembly line had not yet been introduced, so the manufacture of cars was a fairly laborious manual process. Workers who started at the original facility recalled that the car parts were shipped in, seven to a boxcar, and were put together on wooden benches with just a few hand tools.

Ford had an even earlier sales presence in Minnesota. The second Ford dealership ever established by the company, Tenvoorde Motor Company in St. Cloud, received its franchise in March, 1903, three months ***before*** the company's incorporation. In Minneapolis, six weeks after the company was founded in Detroit, a distributorship known as the Northwestern Automobile Company received the 13th Ford car produced, and handled sales for the next nine years. Minnesota has the distinction of having more Ford dealers in continuous service for 50 years or longer than any other state.

A 1913 Ford Company newsletter stated:

> *From the very first the Northwest was a very good market for Ford cars. There is something about the hardy life of the farmers, most of them descendants of the Vikings, that led them to appreciate peculiarly the clean-cut strength of the Ford. In a way, the Ford is like one of these farmers. . . As the years passed, the Ford cars rolled out of Minneapolis in numbers increasingly large. Year by year the business of the Ford dealers in that territory grew. Year by year the demand for cars became greater. This increasing demand made it absolutely necessary to establish a Ford branch in Minneapolis this year, with a sub-branch in St. Paul.*

The Minutes of the Ford Motor Company Board of Directors, April 15, 1913, report the company spent $10,199 purchasing the St. Paul site on University Avenue and was projecting a construction cost of $56,000 for the new building. The Minneapolis site cost $66,803, and the building was projected to cost $300,000.

The Minneapolis project ran into early difficulty. In January, 1913, a dispute over an alleyway issue was raised at a City Council meeting and threatened to stall the project. St. Paul officials

immediately took advantage of that opening and lobbied hard to have the larger assembly plant located in St. Paul, as reported in an article in the St. Paul Dispatch, January 30, 1913:

> *Factory Architect Graham of the Ford Motor Company came to St. Paul to look over the site recently purchased by the Ford people on University avenue. The land is just south of the North Central Commercial Club. It was originally planned to build a large retail store on the site and to erect a big assembling plant in Minneapolis. A difference over the running of an alley through the Minneapolis site has come up and the Ford people are now thinking of building the factory in St. Paul. Officials of the Ford company said today that all matters would be held in abeyance until it was a settled fact in which city the factory would be located.*

Needless to say, the threat of pulling out of Minneapolis led the City Council to quickly resolve the alley issue and allow for construction to proceed.

A lengthy article in the St. Paul Pioneer Press on February 1, 1914, described the St. Paul Ford building just prior to its opening:

> *It is of reinforced concrete construction, 100 by 150 feet, with three stories and basement, and contains a total of 60,000 square feet of floor space, being the largest of its kind in the city. A unique feature of this newest of automobile branches is a tile roof constructed in such a way that cars can be tested, and worked out on top of the building, the walls extending nine feet above the tiling. . . The output of this company in St. Paul alone for 1914, is estimated at 500 cars. The local plant is but one of many. The Ford plant at Detroit alone would support a city of from 75,000 to 100,000 people. Branch assembling plants are located at Buffalo, Cambridge, Chicago, Columbus, Dallas, Denver, Houston, Kansas City, Long Island City, Los Angeles, Memphis, Minneapolis, Philadelphia, Pittsburgh, Portland, Ore.; San Francisco, Seattle and St. Louis in this country. Besides those there is the Ford Motor Company, Ltd. of Canada with a factory at Ford, Ont., across the Detroit river from Detroit, and Canadian service stations at Montreal, Toronto, Vancouver, London, Ont.; Calgary, Montreal, Hamilton, Saskatoon, and Winnipeg. Then there is the Manchester, England, factory, and service stations at Hamburg, Germany, and Paris France. The whole purpose of this gigantic system of branch plants is to facilitate manufacturing and shipping and to assure Ford owners in every part of the world the highest type of service after they have purchased their cars.*

An article in the St. Paul Pioneer Press, February 13, 1921 described an auto mechanics school that later operated at the Ford Building:

> *A course of instruction for mechanics in charge of Ford cars and trucks for commercial houses has been started by the W. H. Schmelzel company, and the first session of school was held Friday at 7:30 P.M. at the Ford building, 117 University avenue. The subjects to be dealt with include front system, motor, transmission, rear axle, starting and lighting and general care and operation. The*

course may be taken free of charge by any mechanics handling Ford cars and sessions will be held at the Ford building, February 18, 25 and March 4. The Schmelzel Company has made 1800 hundred feet of animated film showing the operation of motor, cooling system, etc., to illustrate the points that will be made by the experts in charge of the course. The first session was attended by about 75 mechanics.

During the time that the Ford buildings were being constructed, Henry Ford was experimenting in Detroit with the assembly line, which essentially made the multi-story gravity feed "factory" obsolete. A sprawling one-story assembly plant, incorporating the new assembly line "process," opened in 1924 in the Highland neighborhood of St. Paul, and is still in operation today. Assembly operations at the 117 University Avenue plant ceased, but Ford Company continued to hold the building as a sales and service center for a number of years. City directories and photographs show the Ford Building was vacant from 1937 through at least 1941. In 1947, the Kedney Warehouse Co was listed as occupying the building. By 1951 the structure was converted to federal offices and housed the US Division of Conciliation, and the Division of Social Welfare. The State of Minnesota occupied the building in 1952 with offices for the Department of Labor, Taxation, and Barbers Examination, among others, and has owned it to the present day.

In a Historic Sites Survey done by the Ramsey County Historical Society and the Saint Paul Heritage Preservation Commission in 1982, the Ford Building at 117 University Avenue was listed as historically significant and potentially eligible for designation on the National Register of Historic Places, and for listing as a St. Paul city landmark. Formal designation applications are currently being prepared and have received the support of the Preservation Alliance of Minnesota and other groups.

Brian McMahon
St. Paul

Appendix C

Sustainability and Historic Preservation Statutes and Guidelines

1. Sustainability Guidelines

The U.S. Green Building Council, a national organization of building industry leaders, works to promote buildings that are environmentally responsible, profitable and healthy places to live and work. The council has developed a 100-point rating system, first published in 1999, that are designed to improve the quality of buildings while reducing their impact on the environment before, during and after construction. The LEED-NC (Leadership in Energy and Environmental Design-New Construction) rating system is applicable to new commercial construction and major renovation projects. The six subject areas of the rating system are:

- Sustainable sites
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation and design process

Information about the U.S. Green Building Council and LEED-NC are available online at www.usgbc.org.

2. Minnesota Statutes and Historic Resources

Several state statutes offer protection for historic structures. These include:

- The Minnesota Environmental Rights Act, specifically Chapter 116B.02, subd. 4.
- The Outdoor Recreation Act of 1975, specifically M.S. 86A.04 and M.S. 86.05, subd. 11.
- Minnesota Statutes 2005, Chapter 138,665, Duties of state in regard to historic properties.
- Minnesota Statutes Chapter 16B.24 sub. 6 states a preference for the use of historic structures when needs cannot be accommodated in state-owned structures.

3. Historic Preservation Guidelines (U.S. Department of the Interior)

According to the National Park Service, "*The Secretary of the Interior's Standards for the Treatment of Historic Properties* are the Secretary's best advice to everyone on how to protect a wide range of historic properties. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* are intended to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors and project reviewers prior to treatment. These standards are accompanied by more detailed guidelines that provide additional direction for those undertaking preservation of historic structures."

Additional Information is available online at:
http://www.cr.nps.gov/hps/tps/standguide/index.htm.

Standards for Rehabilitation of Historic Structures

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Appendix D

Ford Building Predesign Assessment and Renovation/Reuse Scenarios

Property Report for:

FORD BUILDING
Predesign Assessment & Renovation/Reuse Scenarios

Saint Paul, Minnesota

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In association with

CPMI

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and

Arthur W. Pearce

Ithaca, NY

LHB Project No. 01645
DSBC Project No. 02206FBX

Owner:

State of Minnesota

Department of Administration

Division of State Building Construction

Saint Paul, MN

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Executive Summary

The existing Ford Building is still a viable building and its renovation will provide the following:

- Upgrades and repairs of exterior envelope that are; weather-tight, sustainable, and design conscious.
- Interior renovation that will provide a work environment that is more efficient, sustainable, and comfortable.
- The most cost effective scenario for the State to consider and pursue.

Assessment

The existing building and property are in satisfactory condition, with exception of 1) the building's envelope, namely the exterior wall finish, 2) an inefficient floor plan and poor work environment, and 3) mechanical systems that inefficient and worn-out.

Each of the renovation scenarios addresses these deficiencies by providing for extensive renovations.

Scenarios

This report looked at both renovation and replacement scenarios. Two scenarios were reviewed that looked at maximizing the floor area within the existing building's footprint (amount of area covered on the site). And two additional scenarios looked at maximizing the use of the site, resulting in larger building areas and corresponding parking areas. These different scenarios were developed without extensive program input or detailed design, but are to provide possible scenarios that the state might pursue.

The scenarios then were used to provide the basis for developing some costs and financials for comparison. The scenarios and the associated costs and financial information in this report provide a framework for the state to overlay their program/space needs and budget planning for the future.

The (4) possible renovation or replacement scenarios reviewed in this report are summarized as follows:

Scenario #1 - Renovate Existing:
Renovate and expand the existing building within its current footprint to correct conditions of exterior envelope, unused floor areas, circulation/access issues, low sustainability, code compliance issues, and structural/mechanical/electrical conditions. These renovations and expansions will result in a renovated building of approximately 81,200 Gross SF (57,170 SF currently), with 68,500 rentable SF (51, 218 SF now).

Scenario #2 - Build New Building Comparable in Size to Existing:
Demolish the existing building and construct a new steel-framed building of 5 stories plus basement. The new building would approximate (but in a more efficient footprint) the existing building's volume (after renovation in Scenario #1 outlined above). Resulting new building would be approximately 100,000 Gross SF, with 89,500 rentable SF.

Scenario #3 – Renovate and Expand Existing to Maximize Site:
This scenario would retain the existing building, as in Scenario #1, but the building would be expanded to maximize the site. The existing building's volume (after renovation in Scenario #1 outlined above) would be increased by adding a new 4 story addition (plus basement) to both the east and west sides of the existing building. Resulting new building would be approximately 129,800 Gross SF, with 115,000 rentable SF.

Scenario #4 - Build New to Maximize Site:
Demolish existing building and construct a steel-framed, 5-story building, plus basement. The resulting new building would be approximately 146,000 Gross SF, with 128,500 rentable SF.

Costs

The following project costs, as of July 2001, were prepared for each of the four scenarios for the property redevelopment.

Scenario #1 – 81,200 SF	**$12,712,300**
Scenario #2 – 100,000 SF	**$18,813,470**
Scenario #3 – 129,800 SF	**$24,219,611**
Scenario #4 – 146,000 SF	**$32,510,824**

Financial Modeling(s)

The total bonded cost of the proposed renovation or rebuild scenarios ranges from $13.7 million to $35. million.

The least costly of the scenarios evaluated is Scenario #1 in which the existing building is extensively renovated within its current footprint. It has the lowest total bonded cost of $13.7 million and the lowes discounted cost on a life cycle basis of $22.9 million. This lowest cost ranking may not be particularly surprising given that Scenario #1 is the smallest of the alternatives evaluated. However, Scenario #1 is also the least expensive of the scenarios on a per square foot basis.

LHB Review Team:

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Review Date:

September 2001

Client:

State of Minnesota
Department of Administration
Plant Management Division

Objective:

- Answer the question "Should we tear the building down and build new or renovate the existing building?"
- If the answer is to tear it down, provide a report with rationale, including data and financial modeling to support the demolition.
- If the answer is to renovate the existing, provide a report of the proposed use, scope of the renovation, cost (life cycle), financial model(s), etc. to support the renovation.
- The maximizing of the site's potential should also be addressed. Can the site support more space than it currently does? And is this done by renovating and adding on to the existing or as noted above building completely new?
- Any renovation should be as sustainable as economically and financially feasible.

Procedures and Limitations:

On-site reviews of the property were made to determine the conditions of the various property component and systems. During the on-site visits, the review team did not operate any specific equipment, and no construction material finishes or coverings were removed to inspect underlying conditions, nor were any tests performed of materials or systems. Further the findings in the report are not based on any comprehensive design or engineering studies, and therefore is not intended to warrant or guarantee the performance of any building component or system.

General:

Property Name:
Ford Building

Property Address:
117 University Avenue, Saint Paul, Minnesota

Year Built:
1913

Occupancy:
Originally: Office / Auto Showroom/ Auto Assembly/ Repair Garage
Currently: Office / Sales / Print Shop

Construction Type:
Cast-in-place Concrete frame (foundation, columns, beams, floors and roof deck)
Cast-in-place concrete and masonry exterior walls.

Gross SF: 57,170

Net SF: 55,586

Rentable SF: (using BOMA standards) – 53,887 SF
(using State's "Space Management Inventory") – 51,218 SF

Useable SF: 43,575 SF

Number of Stories:
3 stories plus a basement.

Site:

Site Area:
Approximately 98,400 SF; a little more than 2 ¼ acres.

Site Access:
Drives: Multiple from West (Dale St.) and North (Sherburne Ave)
Sidewalks: South (12' wide), West (10' wide) and North (10' wide)

Parking:
Number of spaces: 185 total spaces (181 plus 4 accessible)
Pavement Type: Bituminous concrete
Type of Drainage: surface to catch basins
Type of Curbs: concrete

Underground Tanks: Unknown

Flood Plain: Not applicable

Landscaping: Trees and shrubs mostly in southwest plaza and parking area.

Lawn Irrigation: Unknown.

Zoning: Part of "Capitol Area Architectural Planning Board" jurisdiction; zoned Government G-1.

Construction:

Foundation:

18" thick cast-in place reinforced concrete.

Structural Frame:

Columns: 28" diameter cast-in-place reinforced concrete with mushroom head and 6' square drop panels.

Beams: Various widths and depths of cast-in-place reinforced concrete. Beams used to frame stair and elevator shaft openings and to frame exterior wall openings.

Floor Slabs:

Basement: Concrete slab on grade.

First, Second, Third and Roof Deck:

12" thick cast-in-place reinforced concrete flat two-way slab system.

Bay Spacing:

East and West Perimeter: 14'-8" x 24'-4"

Interior: 22'-4" x 24'-8".

Floor to Floor Heights:

Basement to First: 11'-10"

First to Second: 17'-2"

Second to Third: 12'-10"

Third to Roof: 13'-10"

Floor Construction:

12" thick cast-in-place reinforced concrete flat two-way slab system.

Wall Construction:

Exterior:

North: 12" thick cast-in-place concrete, with 1"+/- portland cement plaster (stucco) finish.

South: 4" face brick with glazed terra cotta trim and ornamentation, over 12" thick cast-in-place concrete.

East: 12" thick cast-in-place concrete, with 1"+/- portland cement plaster (stucco) finish.

West: 12" thick cast-in-place concrete, with 1"+/- portland cement plaster (stucco) finish.

Interior:

Exposed Concrete: Basement foundation, elevator shafts, northwest stair, and boiler room walls.

Exposed Concrete Masonry: Basement interior walls.

Gypsum Board: Most tenant space walls.

Roof Construction:

Ballasted (washed river rock 1"+) IRMA/EPDM, with fixed/tapered insulation 2-1/2" minimum thickness.

Roof Drainage and Accessories:

Internal roof drains.

Concrete paver roof equipment access paths.

Windows:

Aluminum fixed and operable (awning).

Doors:

Aluminum storefront on South facade.

Hollow metal exit/access doors on other exterior facades.

Docks: Open dock with covered cast-in-place concrete platform. Access is a sloped concrete apron down from parking lot to platform.

Stairs (Number and Type):

Northwest: Cast-in-place reinforced concrete (original)

Northeast: Steel framed with concrete-filled tread and landing pans.

Canopies:

Dock: Steel deck on steel joist and beam.

Accessory Buildings:

N/A

Building Interior Elements:

Floor Finishes:

Basement:

Combination of exposed concrete or VCT in most areas. Offices had either VCT or carpet. Restrooms were ceramic tile.

First Floor:

Combination of exposed concrete or quarry tile in most areas. Offices had carpet. Restrooms were ceramic tile.

Second Floor:
Mostly carpet in all areas. Restrooms were ceramic tile.
Third Floor:
Mostly carpet in all areas. Restrooms were ceramic tile.

Ceiling Materials:
Basement:
Exposed Concrete*
Adhered Acoustical Tile
Exposed Spray-applied Acoustic Plaster
Suspended Acoustic Lay-in
First Floor:
Exposed Concrete*
Adhered Acoustical Tile
Exposed Spray-applied Acoustic Plaster
Suspended Acoustic Lay-in
Second Floor:
Exposed Concrete*
Adhered Acoustical Tile
Exposed Spray-applied Acoustic Plaster
Suspended Acoustic Lay-in
Third Floor:
Exposed Concrete*
Adhered Acoustical Tile
Exposed Spray-applied Acoustic Plaster
Suspended Acoustic Lay-in

Toilet Room Fixtures:
Basement:
Men's:
Waterclosets: 3
Urinals: 1
Lavatories: 3
Women's:
Waterclosets: 4
Lavatories: 3
First Floor:
Men's:
Waterclosets: 2
Urinals: 1
Lavatories: 2
Women's:
Waterclosets: 2
Lavatories: 2

Second Floor:
Men's:
Waterclosets: 2
Urinals: 1
Lavatories: 2
Women's:
Waterclosets: 2
Lavatories: 3
Third Floor:
Men's:
Waterclosets: 2
Urinals: 1
Lavatories: 2
Women's:
Waterclosets: 2
Lavatories: 2

Tenant Spaces:

Basement:
Communications Media – 224 SF Office + 9,540 SF Service = 9,764 SF
Vacant – 793 Office + 298 SF Storage = 1,091 SF
First Floor:
Communications Media – 6,988 SF Office + 4,340 SF Service = 11,328 SF
Second Floor:
MN Department of Transportation = 11,120 SF Office
Third Floor:
MN Plant Management = 2,547 SF Office
Communications Media = 1,242 SF Office
Resource Recovery = 827 SF Office
MN Department of Transportation = 3,490 SF Office
Volunteer Services = 2,166 SF Office

Elevator(s):

Passenger:
Type: Hydraulic
Capacity: 2,500 lbs.
Cab Size: 4'-3" x 6'-9"
Freight:
Type: Traction
Capacity: 6,000 lbs.
Cab Size: 8' x 14'

Building Additions and Alterations:

1978: Dock Addition
1978: Renovation of exterior walls and windows, roof, interior partitions and finishes, stairs, elevator cab/entrances, mechanical and electrical systems upgraded.

1978: Concrete column repair – 2 columns structurally reinforced with new concrete, other columns receiving cosmetic repair for cracking. {Note – refer to article Repair and Rehabilitation of Concrete Structures, ACI Journal, 1984}

Mechanical:

Mechanical Services: 10" Storm Sewer, 8" Sanitary Sewer, 2" Domestic Water, 6" Fire Protection Water, District Hot Water Heat, Natural Gas.

Mechanical Insulation: Fiberglass

Fire Protection: Wet system throughout.

Plumbing: Standard commercial vitreous china.

Plumbing Equipment: Water heaters, air compressors.

HVAC: Constant volume rooftop air handling units with integral DX cooling serve each of the upper two floors, Variable air volume central station air handling units with remote DX condensing units serve the basement and first floors. Dedicated HVAC systems are provided for the print shop and printing center.

Heat Generation: District Hot Water heat source with heat exchangers for hot water heating.

Refrigeration: See HVAC above, plus dedicated 30T unit for print shop and two 10 ton dry coolers for Printing center.

Heat Transfer: Fintube radiation at exterior walls zoned by exposure.

Air Handling: See HVAC above, plus centrifugal roof exhausters are provided for toilet exhaust.

Air Distribution: Galvanized sheet metal ductwork, spiral round exposed in the majority of spaces.

Controls: Pneumatic with central monitoring of systems. Limited controls are provided.

Electrical:

Electrical Services: 2000A 208/3/60 service from pad mount transformer with 980 KVA maximum demand main power with 100A 480/3/60 emergency service feed from state office building.

Service and Distribution: 208/3/60 generally with two 225A panels on each upper floor and multiple panels on the first and basement levels.

Lighting: Upgraded fluorescent fixtures.

Special Systems: 4 year old addressable fire alarm system with visual and audible devices. Camera security system.

Communications: Standard telephone, fiber optic network backbone with standard Ethernet to desktops.

Electric Resistance Heating: None.

Controls: None.

Design:

Building Configuration: Rectangular with "I" plan for 2nd – 3rd floors.

Core(s) location: Slightly off-center and scattered core (restrooms, elevator and stair not directly adjacent to each other)

Plan:

Width:	99' width
Bay spacing:	22'-4" x 24'-4" central front-back and 14'-8" x 24'-4" east and west sides
Circulation path(s):	Basement; cross pattern "+" First Floor; cross pattern "+" Second Floor; open plan Third Floor, open plan
Floor to floor heights:	Basement – First = 11'-10" First to Second = 17'-2" Second to Third = 12'10" Third to Roof = 13'-10"
Ceiling heights:	Basement = 8' @ suspended, 10'-10" @ exposed concrete First = 10' @ suspended, 16'-2" @exposed concrete Second = 8'-3" @ suspended, 11'-10" @ exposed or glued on acoustic tile areas Third = 12'-10" @ exposed concrete

Access/control:

Clients/customers: Through Main Lobby (first floor "open" to stair and elevator, east side accessible entry through stair)
Employees: Through main lobby and east side entry
Service: Through main lobby or west side dock

Daylight:

North: One window at first floor mid-side only.
South: Full bay near floor to ceiling
East: Few at lower level, most inside "I" of plan at both second and third floors only.
West: Few at lower level, most inside "I" of plan at both second and third floors only.

Acoustics/sound control:

Basement: Lay-in ceiling, carpet in offices. Spray acoustic material to bottom of concrete structure in printing company suite. Exposed concrete in mechanical and storage areas. Lay-in and VCT in corridors.
First floor: Lay-in ceiling and carpet in offices. Spray acoustic material to bottom of concrete structure in lobby and corridors.
Second Floor: Lay-in ceiling and carpet in offices and corridors.
Third Floor: Carpet and spray acoustic material to bottom of concrete structure in offices, lobby and corridors.

Views: Mostly south, but some at second and third floors to the east and west in areas with windows.

Efficiency Ratio: Rentable SF to Net SF ratio = 51,218* / 54,344 = 94%
* (Rentable is from State's "Space Management Inventory")

Gross SF to Net SF Ratio: 57,170/53,887 = 1.06 multiplying factor

Site:

Access:

Parking: Good Condition

Loading: Good Condition.

Site Utilities:

Storm Sewer: Unknown, installed after 1979.

Sanitary Sewer: Unknown, installed before 1979.

Electric Service: Good Condition.

Fire Protection: Fair Condition.

Drainage: Good Condition.

Landscaping: Good Condition.

Zoning:

Uses: State Government; executive/judicial/legislative capitol uses, executive/judicial/legislative office uses, museum, history center, heating and maintenance, parking, pedestrian/system circulation systems, public open space, and accessory buildings/structures.

Existing uses comply.

Height: 944' above sea level = Capitol cornice approx. 4-6 stories.

Existing building is approximately 1 story less than this.

Setbacks: Front yard = 5', zero at all other sides.

Existing building complies.

Parking: Zoning required parking and loading is as follows:

Parking: 3 spaces per 1,000 useable (43,575) SF = 132

Loading: 1 space per 20,00 useable (43,575) SF = 3

Existing (185 and 3 respectively) is in compliance.

Building Envelope:

Exterior Walls:

North, East and West Walls:

Performance assessment

U-Value (type insul. -rigid):	R-value of 8.72 – below average
Resistance to exterior sound:	Good
Fire Resistance Rating:	4 hours (highest)
Maintenance:	Washing/sand-blasting, sealing.
Remarks:	Walls have very high heat storage capacity.

Physical condition

Aesthetics: Poor to Very Poor:

Stucco finish has either been removed or is in the process of becoming detached.

Concrete was original concealed by adjacent buildings and was not designed or intended to be exposed, except in the 2nd/3rd floor light well areas.

Installation of stucco along with the absence of moisture/vapor control in building has slowly caused deterioration of walls. (See Structural for stability)

Function: Poor to Fair:
Walls do provide good sound barrier and thermal mass, and a lower than average thermal transmission resistance factor is causing excessive, energy consumption, and the lack of a vapor barrier is part of the cause of exterior finish damage.

South Wall:

Performance assessment

U-Value (type insul. – rigid): R-value of 8.63 – below average
Resistance to exterior sound: Good
Fire Resistance Rating: 4 hours (highest)
Maintenance: Washing, re-pointing joints.
Remarks: Walls have high heat storage capacity.

Physical condition

Aesthetics: Very Good:
Brick veneer is in very good condition. Some of the joints could be pointed to give a better appearance and uniform shadow line.

Function: Good:
Walls do provide good sound barrier and thermal mass, but thermal transmission resistance is below average and is a cause of excessive energy consumption and lack of vapor barrier is allowing high vapor/moisture transmission. Weatherability is good, but could be better if joints were repointed.

Roof:

Performance assessment

Structural Load Range: 100 psf +/- (assumed)
Relative Thermal Capacity of Structure: High
Resistance to sound transmission:
Airborne: Good
Impact: Good
Fire resistance: 3-4 hours
Remarks: Suitable for heavy roof loads.
Slope: 1/8'/foot + - lower than code allowed (14"/Ft)
Drainage: Internal roof drains – good, but low slope could use more drains.
Penetrations: Minimal
Substrate:
Concrete with rigid insulation.
Roofing system life expectancy: 20 years with maintenance **(10-15 yrs. remaining)**

Roofing Durability factor: Good (membrane protected, but flashing is exposed)

Physical condition

Roof is only 7 years old and is not showing any signs of deterioration except that there are low spots without drains in each of the four corner areas of the roof. Water is standing in these locations and growth on rocks and membrane is occurring in these areas.

Also, HVAC units drain troughs; drainpipes and hoses from HVAC condensers are too small for the water flow witnessed during site visit. Water is overflowing onto roof and some is migrating to drains as designed, but most of the water is migrating to the previously mentioned low spots.

Windows:

Performance assessment *

Air Infiltration Resistance: Less than 0.06 cfm/ft @ 6.24 psf
Water Infiltration Resistance: No leaks @ 9 psf
U-Value: 0.48
Shading Coefficient: 0.58
Condensation Resistance Factor: 58
Glass: Bronze tinted insulated with 42% visible light transmission.
Fire Resistance Rating: None
Maintenance: Washing, perimeter sealing.
Remarks: Windows meet AAMA standards for "Commercial/Heavy Commercial" windows (*using manufacturers listed performance for windows when new)

Physical condition

Aesthetics: Windows do look good.
Function: Windows do operate as intended in the limited sampling made.
Remarks: It was noted that some windows/window sills had evidence of moisture on interior, probable from condensation. However, drawings for remodeling, when windows were installed, do not show any flashing being installed at heads or sills at perimeter stucco. If stucco has moisture behind it (as condition of it indicates it probably has) then there is a chance of water entering window framing at heads and leaking in at head or traveling to sill and since no flashing is present at sill allowing water to enter building and wall at sill level.

Elevators: Elevators are operating properly and appear to be in good working order.

The existing elevators comply with existing codes, except as follows:

- The frieght elevator doors are not automatic opening.
- The size of the existing passenger elevator provides for wheelchair access. However if the building were over 3-stories tall, as in the renovated building scenarios #1 and #3, a building of 4 stories or more, would be required by code to have one elevator to handle a stretcher, the existing passenger elevator cannot handle a stretcher.
- As noted in the "Building Design" assessment below, the building is of a size that should have at least two passenger elevators.

Building Design:

Building Configuration: "I" plan is typical evolution from rectangle of early industrial/factory buildings (building was originally "Ford Motor Company" dealer/assembly facility). Narrow rectangles of industrial/factory buildings were expanded at each end with narrow wings typically. These narrow spaces were used to maximize daylight, since artificial light was very expensive and inefficient in those days.

Core(s) location: Central core (even though off-center) maximizes rentable space at perimeter areas where windows would normally be (although in the case of this building windows have been infilled over time and minimized at the perimeter). Separation of core services (elevator, stair and restrooms) has made circulation at each floor inefficient and awkward, thus squandering precious rentable floor area.

Plan:

Width: Main body of building (minus end wings of "I") is 67' within the optimum, 60 to 70 feet for double-loaded office floor plans. Spaces 20 to 30 feet from exterior walls are premium rentals, but end bays without windows and 99' wide are well outside the optimum for office space, more suited for windowless functions.

Bay spacing: The column spacing of bays roughly 24' x 24' does lend it self very well to the standard 4'x 4' office planning module (most partitions, work stations, ceiling and floor systems are based on this module.

Circulation path(s): The existing location of the separated central core with the diagonally located northwest stair does not allow for an efficient simple permanent circulation pattern. A permanent closed circulation corridor is best for plans for multiple small tenant spaces (as witnessed by the existing "+" pattern at both the basement and first floor, although not very efficient).

But the existing inefficient circulation pattern is more suited to an open office plan (as witnessed on the second and third floors).

Efficiency: Even with two floors with an inefficient circulation pattern the Rentable to Net SF ratio is very good at 94%.

Floor to floor height: The existing floor to floor heights (12' to 14' except the 1st to 2nd of 18') is within the range of office design (11' to 14'), except as noted for the first floor. which is more for industrial/factory uses (which it originally was). Current office functions on the floors with the large floor to floor heights (namely 1st floor) for the most part do not take advantage of this volume, except in one storage area has a pre-engineered metal mezzanine area.

Ceiling heights: Office space generally requires 8-10 feet of ceiling height. Existing ceiling heights range from 8' – 16'-2". Those excessive ceiling height areas leave a large volume of space unusable. In addition, these large unused volumes of space required excessive heating and cooling and do not allow for good ventilation patterns, especially with high ceiling mounted diffusers. The tall ceilings do however allow for deep penetration of daylight in the few areas that have windows and the use of indirect light fixtures.

Access/control:

Clients/customers: Privacy and security control to individual tenant spaces is mixed. Basement and First floor with permanent lobbies and corridors have the best control. Second floor with a reception area for the entire floor tenant provides control when occupied. The third floor with an open plan with multiple tenants has the least control.

Access from parking to building requires clients to enter non-descript east side entrance (good for handicapped clients) or walk all the way around building to front doors.

Employees: Access appears good, except that parking is all the way around to rear. (Noted that back exit door of first floor is sometimes blocked open). Some employees might have keys to this door and this would provide better access.

Service: Service access is very good with straight access to freight elevator from loading dock area.

Elevators: Office building standards suggested 1 passenger elevator for every 25,000 SF of rentable area. Based on 51,218 rentable SF this building should have two passenger elevators. The freight elevator could act as the second elevator, but currently the two are not linked by controls and the freight elevator has limited access and is kept at first floor in the off position until needed. Also the freight

elevator is very large for an office building, but does serve building tenants with large equipment.

Daylight:

Daylighting to a level that would allow the lights to be turned off can be achieved at a distance of approximately 2.5 times the height of the windows.
Based on this the following assessment was made of each floors ability to provide daylight:

Basement: None provided, no ability to add.
First through Third Floors:
North: None provided. Ability to add up 37% of wall area.
South: Maximum provided at 36% of wall area.
East: 17% provided. Easily add up to 20%. Ability is there to add up to 41% of wall area as windows.
West: 15% provided. Easily add up to 20%. Ability is there to add up to 32% of wall area as windows.

Efficiency Ratio:

Rentable SF to Net SF ratio = 51,218* / 54,344 = 94%

Structural:

Foundation: Moisture problems are evident in the basement of the building, being worst at the areaway structure under University Avenue sidewalk. Evidence of water penetrating the wall was also noted in the breakroom and the electrical room.

Severe scaling of the concrete wall was noted in the areaway room, with exposed, corroded reinforcement. Previously applied paint has flaked off the wall. It has been reported that water drains into this room during heavy rain events and typically during the spring thaw season.

The electrical room also exhibited areas of spalled concrete and cracks in the wall.

Framing (not including exterior walls):

The majority of the interior concrete framing was not exposed to view. The walls are covered with gypsum board, while the ceiling is covered with the spray acoustical material. A crack was noted on the underside of the roof concrete deck when observed above the dropped ceiling tiles. One exposed rebar was also seen on the underside of the roof structure. Overall condition of the concrete seen on the 3rd floor (looking at underside of roof structure) is "average" to "good."

With the majority of the 1st, 2nd and 3rd floors being carpeted, the structural condition of the floor slabs could not be ascertained by visual observation. Some exposed concrete floor could be seen on the 1st floor, with some cracking present. Cracks noted did not appear to be excessive and it is felt that the condition of the floor seen was "average."

The building does have a history of "soft" concrete in the columns and floor slab. {Refer to article Repair and Rehabilitation of Concrete Structures, ACI Journal, 1984}. It is not certain to the amount of repair and / or testing that was performed around 1978.

Mechanical:

Services: Appear to be adequate to support any projected use of the building, could add district cooling if desired.

Insulation: Appears to be adequate. Minimal insulation of mechanical systems is provided due to the extensive exposed ductwork.

Fire Protection: Some system piping is quite old, remodeled areas may need to be repiped instead of being revised due to the age of the piping.

Plumbing: Appear to be adequate to support any projected use of the building, adjustments in toilet fixture count may be necessary to comply with change in occupancy.

Plumbing Equipment: Appear to be adequate to support any projected use of the building.

HVAC: Current thermal comfort expectations are higher than that provided by the systems. Existing VAV terminal units require replacement.

Heat Generation: Appear to be adequate to support any projected use of the building.

Refrigeration: Equipment is near or at the end of expected life and requires replacement.

Heat Transfer: Appear to be adequate to support any projected use of the building.

Air Handling: Roof top equipment is past the midpoint of expected life and requires replacement in the near future.

Air Distribution: Appear to be adequate to support any projected use of the building.

Controls: Current thermal comfort expectations are higher than that provided by the systems, upgrade to digital controllers without a graphic interface is recommended.

Electrical:

Services: Appear to be adequate to support any projected use of the building.

Service and Distribution: Appear to be adequate to support current uses, but an increase in electrical load will require additional electrical distribution.

Lighting: Appear to be adequate to support any projected use of the building.

Special Systems: Appear to be adequate to support any projected use of the building.

Communications: Appear to be adequate to support any projected use of the building.

Electric Resistance Heating: N/A

Controls: N/A

Sustainability:

The existing building was assessed using the "Minnesota Sustainable Design Guide Checklist". Sustainable design of the existing site achieved a "Minnesota Design Guide" scoring of 11 out of a possible 100 points.

The main sustainable strategies that are part of the existing building are listed below. See Appendix.

Site:

- Building located appropriately for efficient modes of transportation; pedestrian tunnels and bus.

Energy:

- Use of integrated mechanical systems for control and district heating.

Interior Environmental Quality:

- Effective lighting.
- Appropriate sound and vibration control

Materials:

- Use of materials that can be recycled and/or reused.

Waste:

- Reuse of existing building.

Code Compliance:

ADA Compliance

Site:

Number of Spaces and Size: ADA requires 6 accessible spaces for parking lots with 151 – 200 spaces. This building has 184 spaces and should have six accessible spaces as a minimum with at least one space being accessible for van parking.

Non-compliant: Currently the parking lot has only 4 accessible spaces, one of which could be van accessible (but is not labeled as such).

Accessible Route: Accessible spaces are directly adjacent to accessible entry.

Compliant: Route is direct and practical.

Signage: Accessible entry is marked, but not all parking spaces are marked with required "Minnesota" required signage.

Compliant: Signage of parking spaces.

Non-compliant: Path from lot entry to accessible parking is not clearly posted.

Entrance: Accessible entry.

Compliant: Accessible entry, although not at front of building, is clearly accessible. Entry is clearly marked with proper signage as being accessible entry. Doors have power assist at exterior and interior to allow access to main floor lobby and corridor.

Building Access:

Restrooms:

Compliant.

Elevator:

Non-Compliant: No audible signal at each floor.

Stairs:

Compliant.

Drinking Fountains:

Compliant.

Building Code:

Occupancies: B; Offices and Print Shop
M; Sales

Construction Type: Type II – 1 hr. (one hour fire-rated, non-combustible) As can best be determined without larger investigation.
Automatic fire sprinkler system throughout.

Compliant: As best that could be seen, all construction complies with Type II-1hr.

General Building Limitations:

Allowable Area:

Basic Area Allowed:	18,000 SF
Multi-story increase:	18,000 SF
	36,000 SF
Sprinkler Increase:	72,000 SF
	108,000 SF *

* Additional increases may be obtained for increased yard and public way separations on two or more sides that are in excess of 20 feet.

Compliant: Existing Area is 57,170 GSF, and is within allowed limits.

Height and number of stories:

Allowed Height: 65 Feet

Allowed Stories: 4 Stories

Compliant:

Existing Height: 50 feet

Existing Stories: 3 Stories

Openings in exterior wall:

- No openings allowed when less than 5 feet to property line.
- Openings must be protected less than 10 feet to property line.

Construction Materials:

- Limited to non- combustible materials throughout.
- All walls and partitions are to be 1-hour fire rated construction.
- All floors/ceilings and roof/ceilings are to be 1-hour fire rated construction.
- All Shafts are to be 1-hour fire rated construction.
- Stairs are to be of non-combustible construction.

Compliant: As best can be determined all construction materials comply with these requirements.

Means of Egress:

Occupant Load:

Basement:	15,216 / 100 =	152 occupants
First Floor:	14,298 / 60 =	238 occupants
Second Floor:	13,036 / 100 =	130 occupants
Third Floor:	13,036 / 100 =	130 occupants
Total Occupant Load		650 occupants

Number of Exits:

Basement:	2 exits minimum
First Floor (grade):	3 exits minimum
Second Floor:	2 exits minimum
Third Floor:	2 exits minimum

Compliant: The number of exists required is provided.

Required exit width:

Basement:	152 x 0.3 = 45.6 inches minimum
First Floor:	238 x 0.2 = 47.6 inches minimum
Second Floor:	130 x 0.3 = 39 inches minimum
Third Floor:	130 x 0.3 = 39 inches minimum

Compliant: The required exit width from each floor is provided.

Distance between exits:

No more than ½ of diagonal maximum dimension of floor.

Basement: 92 feet

First – Third: 85 feet

Compliant: Diagonal distance between exists is provided.

Travel distance to exits:

No more than 250 feet.

Compliant: The distance to an exit from anywhere in building is within 250 feet.

Fire-Extinguishing Systems:

All buildings and all occupancies require the installation of a automatic sprinkler system unless the following conditions are met:

- Every story and basement level is 1,500 SF or less, or
- 20 square of opening provided entirely above the adjoining ground level in each 50 lineal feet of the exterior wall of every story or basement on at least one side. Openings are to be a minimum of 30 inches wide, and
- Openings are provided on at least one side and the opposite side is not more than 75 feet away. If not within 75 feet openings on two sides have been provided, and
- There are no floors with over 30 occupants over 55 feet above grade.

Compliant: An automatic sprinkler system is provided to offset the requirement for openings in every 50 feet of exterior wall and openings in opposite sides over 75 feet apart.

Minimum Plumbing Fixtures:

Assuming the entire building "B" – Office occupancy:

Basement: 15,200 / 200 = 76 occupants (39 men / 38 women)

Men	Women
3 waterclosets	3 waterclosets
2 lavatories	2 lavatories

1 drinking fountain

First Floor: 14,200 /200 = 71 occupants (36 men / 36 women)

Men	Women
3 waterclosets	3 waterclosets
2 lavatories	2 lavatories

1 drinking fountain

Second Floor: 13,000 / 200 = 65 occupants (33 men / 33 women)

Men	Women
2 waterclosets	2 waterclosets
1 lavatories	1 lavatories

1 drinking fountain

Third Floor: 13,000 / 200 = 65 occupants (33 men / 33 women)

Men	Women
2 waterclosets	2 waterclosets
1 lavatories	1 lavatories
1 drinking fountain	

Non-Compliant: On 1st through 3rd floors the required number of fixtures are not provided, each floor is short one watercloset for both men and women. Only the basement floor level complies with the required number of fixtures.

Roof Access:

A stair leading to a scuttle must be provided when the roof contains equipment that requires service.
Stair must be at least 24 inches wide with treads a minimum of 6 inches deep and risers no more than 9 inches. Handrails must be provided on each side.
Scuttle must not be less than 9 SF of area with a minimum dimension of 24 inches.
Compliant: One of the stairwells has a ships ladder that continues to the roof and provides the required access.

Recycling Space:

A space for the collection, separation and temporary storage of recyclable materials must be provided within or adjacent to buildings over 1,000 SF.
Location must be as convenient as the location for the solid waste collection space.
Minimum space required:

57,170 SF x .0025 = 142.925 SF

Compliant.

Additional Requirements:

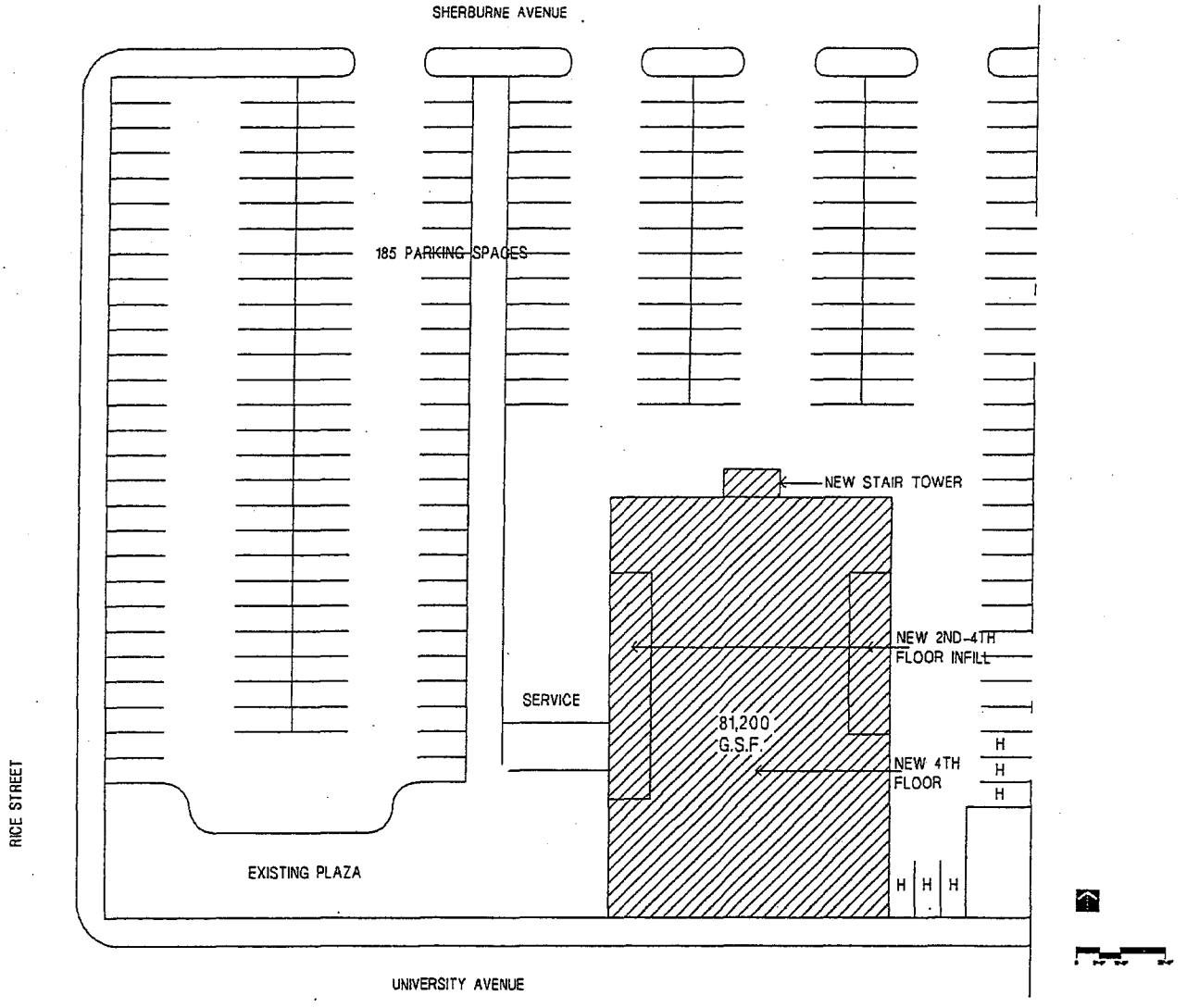
Boiler Room:

Rooms over 500 SF with fuel-fired equipment in excess of 400,000 BTU's; 2 exits and a one- hour fire rated occupancy separation.
Compliant: The boiler room construction meets these requirements.

Scenario #1 - Renovate Existing

The following describes the conditions and deficiencies that would be corrected in a renovation of the existing building and the characteristics of the renovated design and performance:

Renovate and expand the existing building within its current footprint to correct conditions of exterior envelope, unused floor areas, circulation/access issues, sustainability, code compliance issues, and structural/mechanical/electrical conditions. These renovations and expansions will result in a renovated building of approximately 81,200 Gross SF (57,170 SF now), with 68,500 rentable SF (51, 218 SF now).



Site:

- Site remains as is. No changes needed. See "Appendix C" for a scaled plan of Scenario #1.

Building Envelope:

Correct Exterior wall finish failure:

North, East and West Walls:

- Remove existing Stucco.
- Remove previous infill from original window openings now blocked.

- Install Aluminum curtainwall with insulated vision and spandrel glass from grade to top of parapet on all walls.
- Install brick veneer on an insulated metal stud wall with gypsum board interior finish.

South Wall:

- Tuckpoint, repair masonry, paint trim.
- Re-caulk all sealant joints in window/storefront and door framing.

Building Design:

Rentable Space and Space Plan:

- Remove existing roofing above third floor, and enclose for a new 4th floor with new roof above, adding approximately 14,800 SF
- Remove existing roofing at 2nd floor recesses at east and west sides of building, and install expanded 2nd through new 4th floor areas totaling approximately 1,800 SF. Exterior of brick veneered insulated metal stud walls with gypsum board interior finish.

Circulation:

- Remove existing passenger elevator and infill shaft for use as rentable floor area.
- Remove existing freight elevator and install in its place two new elevators; one 5'x7', 2,500 Lb. capacity (160 fpm) passenger elevator and one 6'x10', 5,000 lb capacity (160 fpm) passenger/freight elevator, each are geared traction.
- Remove existing Northwest stair and install new 10' x 24' stair tower outside of footprint on north side.
- Provide elevator lobbies at all floors between new elevators and existing restrooms and south stair with a new north/south one-hour rated corridor from this lobby to new north stair tower. New lobbies would expand existing restrooms to provide 4 waterclosets and 4 lavatories for men and for women on each floor.
- Design each floor with a simplified common corridor between core and exit stairs. Push tenant build-outs to open-office floor plans, with minimal full height permanent partitions.

Sustainability: Renovation could allow scoring, based on the Minnesota Sustainable Design Guide, up to 45 of a possible 100. This scoring is an increase of almost 250% over the existing building's score. The main sustainable strategies that would be incorporated into this scenario are listed below. See Appendix B.

Site:

- Development is appropriate for area and environment.
- Use native trees, shrubs and plants in landscaping.
- Development location takes advantage of efficient modes of transportation to site; bus and pedestrian (tunnel).

Water:

- Install a "Green Roof" on building, to manage roof water run-off, and lower impact on site water run-off.
- Conservation of building water consumption with the use of efficient fixtures.

Energy:

- Maximize mechanical equipment energy efficiency.
- Use energy efficient equipment and appliances.
- Install energy efficient lighting and controls; i.e. no incandescent and occupancy sensors.

Interior Environment Quality:

- Control indoor moisture and humidity.
- Use of low VOC materials.
- Provide ample ventilation to achieve appropriate air changes and thermal comfort.
- Provide effective lighting; both daylight and energy efficient artificial lighting, and views.

Materials:

- Use low life cycle environmental impact materials; carpet, paint., etc.
- Use salvaged/remanufactured, recycled content, and renewable resource materials in renovation; furnishings, carpet, paint, aluminum windows, brick veneer, etc.

Waste:

- Reuse existing building.
- Design renovations for adaptability and disassembly; raised flooring system for HVAC, electrical etc. Open office designed floor plans.
- Salvage construction waste from renovation.

Building Code:

- All construction will comply with Type II-1 hour construction, meaning 1-hour fire-rated structural frame, wall, floors, and roofs.
- All construction will also comply with Group "B" occupancy (offices) requirements.

Structural:

Repairs:

Foundation: Repair concrete wall by epoxy injection to make watertight. Route and seal all cracks seen, patch walls to original thickness with concrete patching material.

Framing: A thorough structural testing and evaluation program should be conducted on the entire building to verify the structural integrity of the building, making sure that all the "soft" spots in the concrete have been repaired. It is recommended to retain the services of a testing agency specializing in this kind of work to perform the testing. It is recommended to allocate at least $10,000 to the evaluation program. Any structural repairs will be in accordance to the evaluation program.

Infill and Top Floor Superstructure:

Infill Floors: Fireproofed steel frame (on existing grid), steel joists a steel deck/form with concrete slab.

Roofs: Fire-proofed steel frame (on existing grid) 12' existing roof deck to new roof deck, steel joists an steel deck with insulated single-ply EPDM roof membrane.

Exterior Walls: Fireproofed steel frame with metal stud with brick veneer with aluminum curtainwall.

Mechanical:

HVAC:

- Upgrade existing constant volume system and shut-off VAV systems to VAV with reheat system.

Refrigeration:

- Replace existing DX cooling units with chilled water connection to district cooling system.

Electrical:

Distribution:

- Upgrade existing electrical distribution to meet higher power distribution requirements.

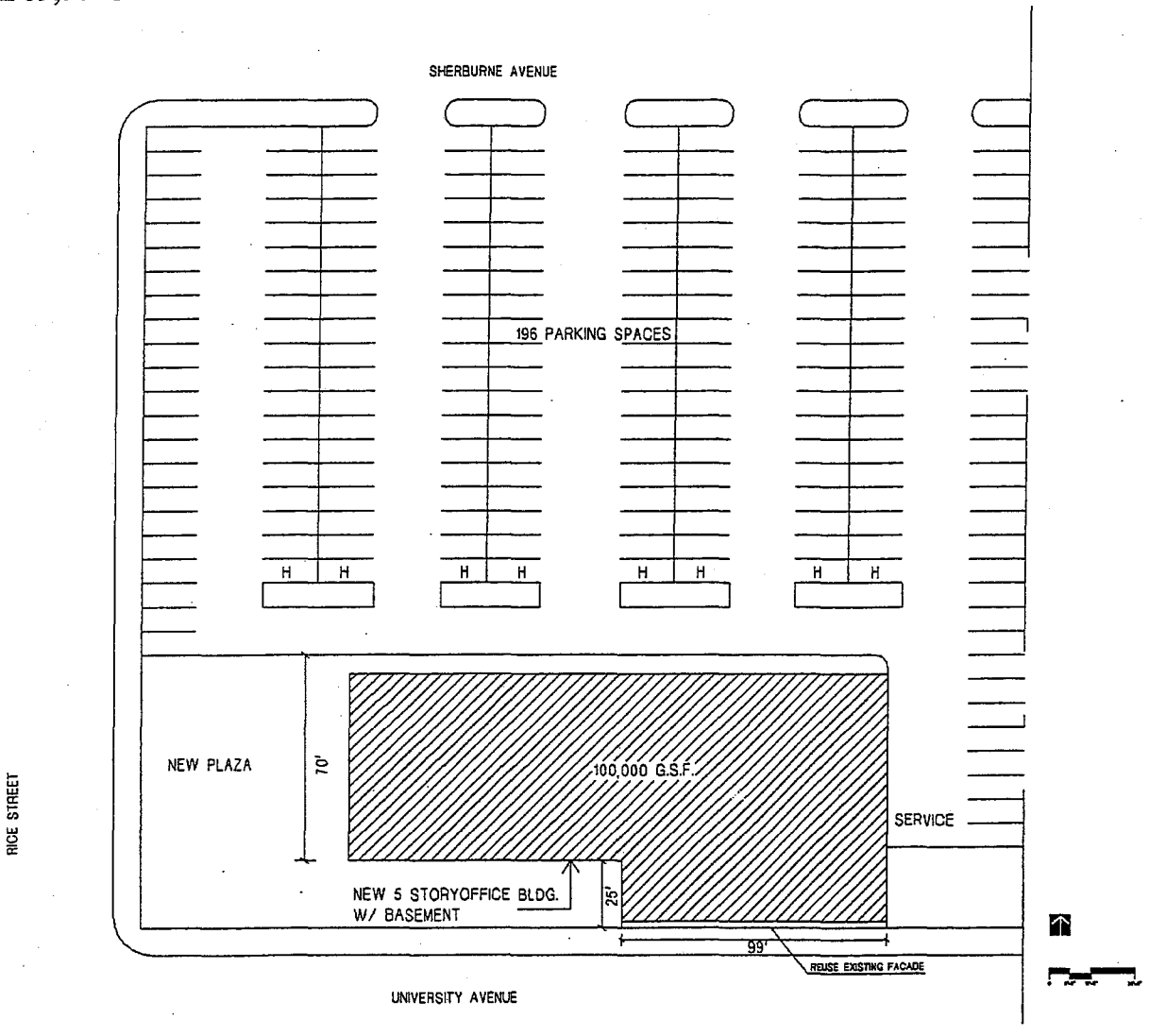
Lighting:

- Occupancy controls and dimming fixtures used where possible.

Scenario #2 - Build New Comparable in Size to Existing

The following describes a new building of comparable size (footprint and overall height) to the existing building as a comparison of what is achieved if building was totally replaced with new construction, and its characteristics of design and performance:

Demolish existing building and construct a steel-framed, 5 story building, plus basement. The new building would approximate (but in a more efficient footprint) the existing building's volume (after renovation in Scenario #1 outlined above). Resulting new building of approximately 100,000 Gross SF, with 89,500 rentable SF.



Site:

- Extend parking of existing pattern to the south to provide additional parking for new building volume. See "Appendix C" for a scaled plan of Scenario #2.

Building Envelope:

- Reuse existing building south facade and the first 24' bay to support it and create a three-story atrium in front of new building. Renovate facade as in Scenario #1.

- A new 5 story (12' floor to floor = 48' plus a basement) steel framed (30' x 30' bays with corridor spine of 10' between bays) with composite metal deck/concrete floors and roof decks, with a masonry and aluminum/glass curtainwall.

Building Design:

- Construct a new vertical core for 4 elevators (3 passenger and 1 passenger/freight) with restrooms on each floor with 4 waterclosets and 4 lavatories for men and for women on each floor.
- Design each floor with a simplified common corridor between core and exit stairs. Push tenant build-outs to open-office floor plans, with minimal full height permanent partitions.

Sustainability:

Sustainable design on the existing site could achieve a "Minnesota Design Guide" scoring up to 62 of a possible 100 points. This scoring is an increase of almost 375% over the existing building's score. The main sustainable strategies that would be incorporated into this scenario are listed below. See Appendix B.

Site:

- Development is appropriate for area and environment.
- Use native trees, shrubs and plants in landscaping.
- Development location takes advantage of efficient modes of transportation to site; bus and pedestrian (tunnel).

Water:

- Install a "Green Roof" on building, to manage roof water run-off, and lower impact on site water run-off.
- Conservation of building water consumption with the use of efficient fixtures.

Energy:

- Maximize mechanical equipment energy efficiency.
- Use energy efficient equipment and appliances.
- Install energy efficient lighting and controls; i.e. no incandescent and occupancy sensors.
- Integrate all systems and reduce total energy usage.

Interior Environment Quality:

- Control indoor moisture and humidity.
- Use of low VOC materials.
- Provide ample ventilation to achieve appropriate air changes and thermal comfort.
- Provide effective lighting; both daylight and energy efficient artificial lighting, and views.

Materials:

- Use low life cycle environmental impact materials; carpet, paint., etc.
- Use salvaged/remanufactured, recycled content, and renewable resource materials in renovation; furnishings, carpet, paint, aluminum windows, brick veneer, etc.

Waste:

- Design for use of less materials; open-plan floor layouts, etc.
- Design renovations for adaptability and disassembly; raised flooring system for HVAC, electrical etc. Open office designed floor plans.
- Salvage construction waste from renovation.

Building Code:

- All construction will comply with Type II-1 hour construction, meaning 1-hour fire-rated structural frame, wall, floors, and roofs.
- All construction will also comply with Group "B" occupancy (offices) requirements.

Structural:

- Foundation:
  Cast-in-place concrete, with concrete and piers footings for steel frame above.

- Superstructure:
  Floors: Fireproofed steel frame (on 30' x 30' grid at perimeter and 10'x 30' along corridor spine), steel joists a steel deck/form with concrete slab.
  Roofs: Fire-proofed steel frame (on existing grid) 12' existing roof deck to new roof deck, steel joists an steel deck with insulated single-ply EPDM roof membrane.

Exterior Walls: Fireproofed steel frame with metal stud with brick veneer with aluminum curtainwall.

Mechanical:

Services:

- District heating and cooling.

HVAC:

- VAV with reheat.
- Heat recovery exhaust/outside air ventilation system.

Electrical:

Service:

- 480/277 power service.

Distribution:

- 480/277 lighting and HVAC.
- 120/208 power.

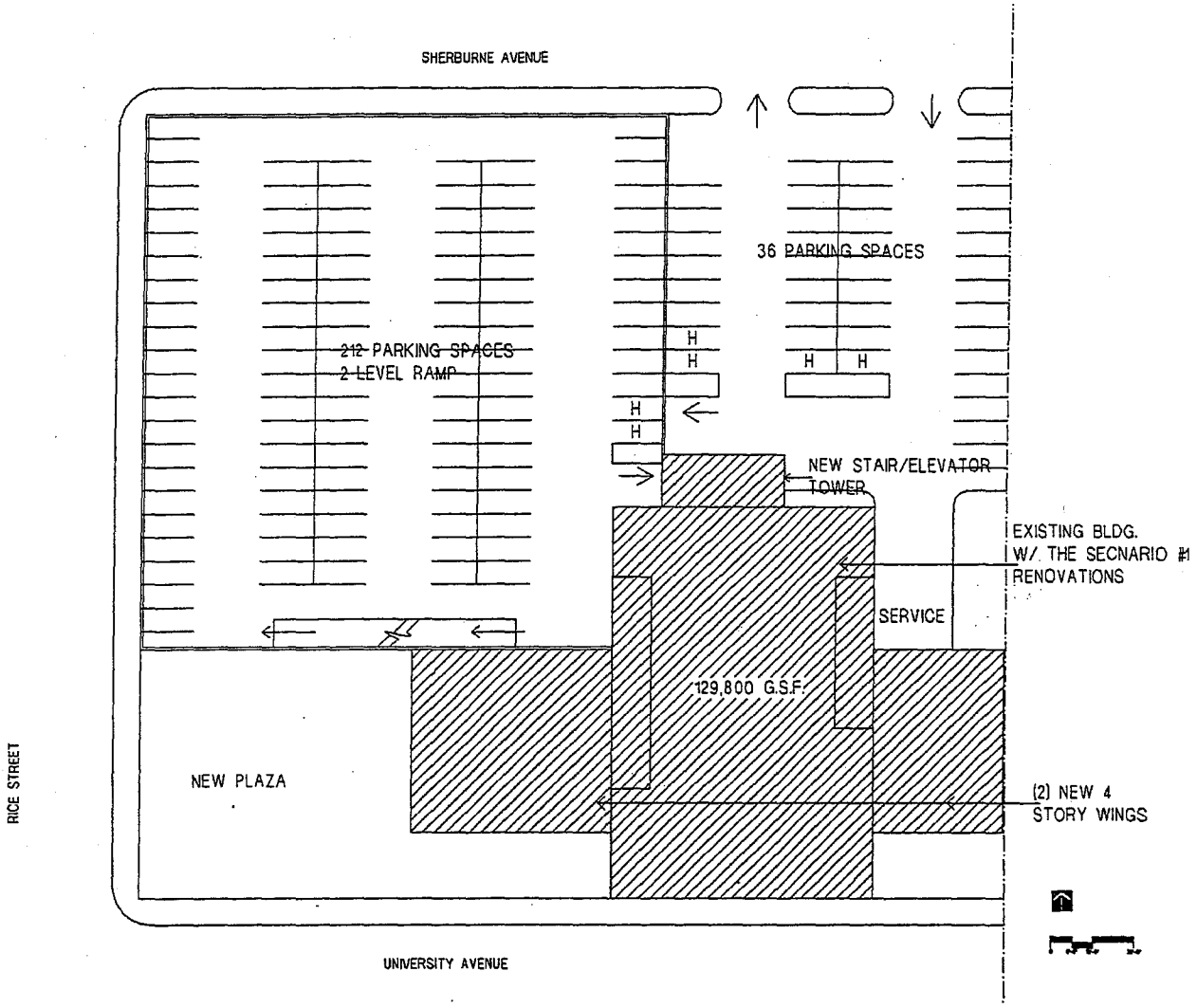
Lighting:

- Occupancy controls and dimming fixtures used where possible.

Scenario #3 – Renovate and Expand Existing to Maximize Site

The following describes, in addition to the items in Scenario #1, how the building may be expanded to maximize the site, and how the characteristics and design of the reconfiguration:

This scenario would retain the existing building and renovate and add to it. The existing building's volume (after renovation in Scenario #1 outlined above) would be increased by adding a new 4 story addition (plus basement) to both the east and west sides of the existing building. Resulting new building of approximately 129,800 Gross SF, with 115,000 rentable SF.



Site:

- Construct a two level concrete and brick veneered parking ramp on northwest and west side of site to provide additional parking for new building volume. See "Appendix C" for a scaled plan of Scenario #3.

Building Envelope:

- Reuse existing building south facade and first 24' bay to support it and create a three-story atrium in front of new building. Renovate facade as in Scenario #1.

- A new 5 story (12' floor to floor = 48' plus a basement) steel framed (30' x 30' bays with corridor spine of 10' between bays) with composite metal deck/concrete floors and roof decks, with a masonry and aluminum/glass curtainwall.

Building Design:

- Construct a new vertical core for 4 elevators (3 passenger and 1 passenger/freight) with restrooms on each floor with 4 waterclosets and 4 lavatories for men and for women.
- Design each floor with a simplified common corridor between core and exit stairs. Push tenant build-outs to open-office floor plans, with minimal full height permanent partitions.

Sustainability:

Sustainable design on the existing site could achieve a "Minnesota Design Guide" scoring up to 52 of a possible 100 points. This scoring is an increase of almost 300% over the existing building's score. The main sustainable strategies that would be incorporated into this scenario are listed below. See Appendix B.

Site:

- Development is appropriate for area and environment.
- Use native trees, shrubs and plants in landscaping.
- Development location takes advantage of efficient modes of transportation to site; bus and pedestrian (tunnel).

Water:

- Install a "Green Roof" on building, to manage roof water run-off, and lower impact on site water run-off.
- Conservation of building water consumption with the use of efficient fixtures.

Energy:

- Maximize mechanical equipment energy efficiency.
- Use energy efficient equipment and appliances.
- Install energy efficient lighting and controls; i.e. no incandescent and occupancy sensors.

Interior Environment Quality:

- Control indoor moisture and humidity.
- Use of low VOC materials.
- Provide ample ventilation to achieve appropriate air changes and thermal comfort.
- Provide effective lighting; both daylight and energy efficient artificial lighting, and views.

Materials:

- Use low life cycle environmental impact materials; carpet, paint., etc.
- Use salvaged/remanufactured, recycled content, and renewable resource materials in renovation; furnishings, carpet, paint, aluminum windows, brick veneer, etc.

Waste:

- Reuse existing building.
- Design renovations for adaptability and disassembly; raised flooring system for HVAC, electrical etc. Open office designed floor plans.
- Salvage construction waste from renovation.

Building Code:

- All construction will comply with Type II-1 hour construction, meaning 1-hour fire-rated structural frame, wall, floors, and roofs.
- All construction will also comply with Group "B" occupancy (offices) requirements.

Structural:

- Repairs:

  Foundation: Repair concrete wall by epoxy injection to make watertight. Route and seal all cracks seen, patch walls to original thickness with concrete patching material.

  Framing: A thorough structural testing and evaluation program should be conducted on the entire building to verify the structural integrity of the building, making sure that all the "soft" spots in the concrete have been repaired. It is recommended to retain the services of a testing agency specializing in this kind of work to perform the testing. It is recommended to allocate at least $10,000 to the evaluation program. Any structural repairs will be in accordance to the evaluation program

- Foundation:

  Cast-in-place concrete, with concrete and piers footings for steel frame above.

- Superstructure:

  Floors: Fireproofed steel frame (on 30' x 30' grid at perimeter and 10'x 30' along corridor spine), steel joists a steel deck/form with concrete slab.

  Roofs: Fire-proofed steel frame (on existing grid) 12' existing roof deck to new roof deck, steel joists an steel deck with insulated single-ply EPDM roof membrane.

Exterior Walls: Fireproofed steel frame with metal stud with brick veneer with aluminum curtainwall.

Mechanical:

HVAC:

- Upgrade existing constant volume system and shut-off VAV systems to VAV with reheat system.
- VAV with reheat in expansion.
- Heat recovery exhaust/outside air ventilation system in expansion.

Refrigeration:

- Replace existing DX cooling units with chilled water connection to district cooling system.

Electrical:

Distribution:

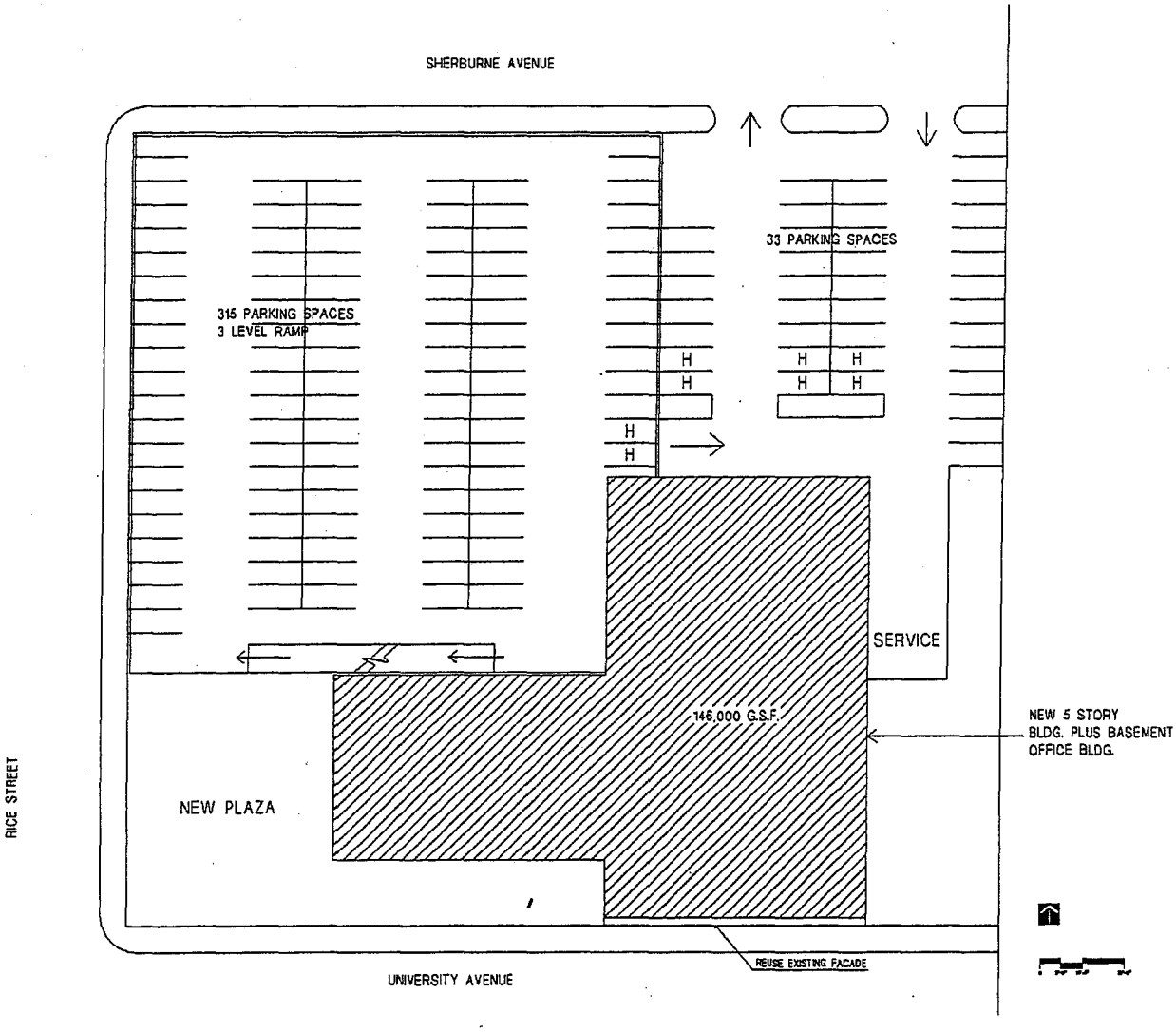
- Upgrade existing electrical distribution to meet higher power distribution requirements.

Lighting:

- Occupancy controls and dimming fixtures used where possible.

Scenario #4 - Build New to Maximize Site
The following describes what a new building that maximizes the site could achieve:

Demolish existing building and construct a steel-framed, 5 story building, plus basement. The new building would approximate (but in a more efficient footprint) the existing building's volume (after renovation in Scenario #1 outlined above). Resulting new building of approximately 146,000 Gross SF, with 128,500 rentable SF.



Site:

- Construct a three level concrete and brick veneered parking ramp on northwest and west side of site to provide additional parking for new building volume. See "Appendix C" for a scaled plan of Scenario #4.

Building Envelope:

- Reuse existing building south facade and first 24' bay to support it and create a three-story atrium in front of new building. Renovate facade as in Scenario #1.

- A new 5 story (12' floor to floor = 48' plus a basement) steel framed (30' x 30' bays with corridor spine of 10' between bays) with composite metal deck/concrete floors and roof decks, with a masonry and aluminum/glass curtainwall.

Building Design:

- Construct a new vertical core for 5 elevators (4 passenger and 1 passenger/freight) with restrooms on each floor with 5 waterclosets and 5 lavatories for men and for women on each floor.
- Design each floor with a simplified common corridor between core and exit stairs. Push tenant build-outs to open-office floor plans, with minimal full height permanent partitions.

Sustainability:

Sustainable design on the existing site could achieve a "Minnesota Design Guide" scoring up to 62 of a possible 100 points. This scoring is an increase of almost 375% over the existing building's score. The main sustainable strategies that would be incorporated into this scenario are listed below. See Appendix B.

Site:

- Development is appropriate for area and environment.
- Use native trees, shrubs and plants in landscaping.
- Development location takes advantage of efficient modes of transportation to site; bus and pedestrian (tunnel).

Water:

- Install a "Green Roof" on building, to manage roof water run-off, and lower impact on site water run-off.
- Conservation of building water consumption with the use of efficient fixtures.

Energy:

- Maximize mechanical equipment energy efficiency.
- Use energy efficient equipment and appliances.
- Install energy efficient lighting and controls; i.e. no incandescent and occupancy sensors.
- Integrate all systems and reduce total energy usage.

Interior Environment Quality:

- Control indoor moisture and humidity.
- Use of low VOC materials.
- Provide ample ventilation to achieve appropriate air changes and thermal comfort.
- Provide effective lighting; both daylight and energy efficient artificial lighting, and views.

Materials:

- Use low life cycle environmental impact materials; carpet, paint., etc.
- Use salvaged/remanufactured, recycled content, and renewable resource materials in renovation; furnishings, carpet, paint, aluminum windows, brick veneer, etc.

Waste:

- Design for use of less materials; open-plan floor layouts, etc.
- Design renovations for adaptability and disassembly; raised flooring system for HVAC, electrical etc. Open office designed floor plans.
- Salvage construction waste from renovation.

Building Code:

- All construction will comply with Type II-1 hour construction, meaning 1-hour fire-rated structural frame, wall, floors, and roofs.
- All construction will also comply with Group "B" occupancy (offices) requirements.

Structural:

- Foundation:
  Cast-in-place concrete, with concrete and piers footings for steel frame above.

- Superstructure:
  Floors: Fireproofed steel frame (on 30' x 30' grid at perimeter and 10'x 30' along corridor spine), steel joists a steel deck/form with concrete slab.
  Roofs: Fire-proofed steel frame (on existing grid) 12' existing roof deck to new roof deck, steel joists an steel deck with insulated single-ply EPDM roof membrane.

Exterior Walls: Fireproofed steel frame with metal stud with brick veneer with aluminum curtainwall.

Mechanical:

Services:

- District heating and cooling.

HVAC:

- VAV with reheat.
- Heat recovery exhaust/outside air ventilation system.

Electrical:

Service:

- 480/277 power service.

Distribution:

- 480/277 lighting and HVAC.
- 120/208 power.

Lighting:

- Occupancy controls and dimming fixtures used where possible.

The following project costs were prepared by Peter Goodwin, of CPMI for each of the four scenarios for the property redevelopment. A detailed breakdown of costs is provided in Appendix –3.

SCENARIO #1 - 81,200 SF	**12,712,300**
SCENARIO #2 - 100,000 SF	**18,813,470**
SCENARIO #3	
BUILDING - 129,800 SF	**20,084,981**
RAMP - 218 Cars	**4,134,630**
SUBTOTAL SCENARIO #3	**24,219,611**
SCENARIO #4	
BUILDING - 146,000 SF	**25,853,664**
RAMP - 324 Cars	**6,657,160**
SUBTOTAL SCENARIO #4	**32,510,824**

There are four scenarios under review for the site of the current Ford Building:

1. Renovate the current building within its current footprint: 68,500 Rentable Sq. Ft.

2. Demolish the existing building and construct a 5 story plus basement building with a comparable footprint to the existing building: 89,500 Rentable Sq. Ft.

3. Renovate and expand the existing building by adding an addition, maximizing the use of the site: 106,000 Rentable Sq. Ft. plus 218 car parking ramp.

4. Demolish the existing building and construct a 5 story plus basement building maximizing the use of the site: 128,500 Rentable Sq. Ft plus 324 car parking ramp.

For purposes of this financial anlysis, parking costs have been removed from Scenarios #3 and #4, and then added back to create Scenarios #5 and #6. The total bonded cost of these scenarios, after allowing for inflation to the construction mid-point, ranges from $13.7 million to $35.1 million.

Ford Building Alternatives	*Total Project Cost*
Sr#1 Renv. Existing	$13,719,000
Sr#2 New, Modest Addl.	$20,303,000
Sr#3 Renv. & Max Expand	$21,680,000
Sr#4 New, Max Size	$27,930,000
Sr#5(Sr#3 with Parking)	$26,141,000
Sr#6(Sr#4 with Parking)	$35,112,000

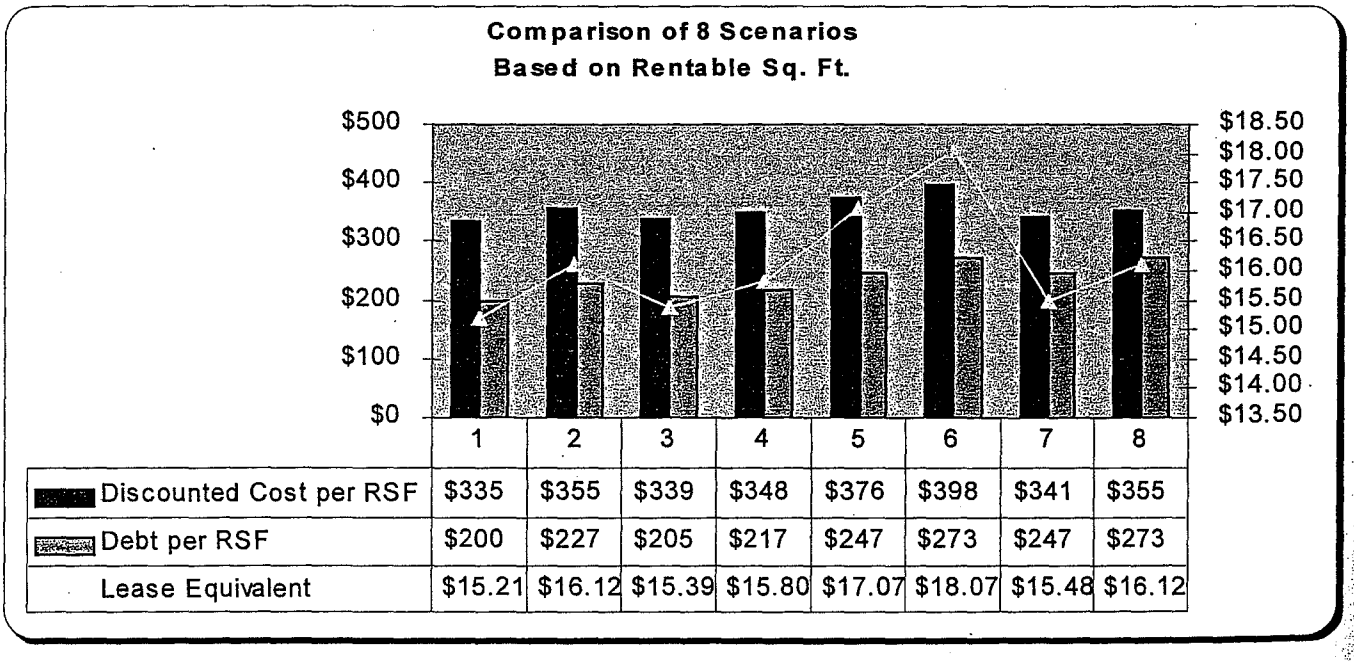
In addition to the differences in initial construction costs, each of these alternatives has its own set of operating expenses over the 30 year period covered by this analysis. These include charges for State Plant Management operating expenses and replacement reserves, security expenses, and any parking fee income and expenses. Scenarios #5 and #6 assume that parking fee income is adequate to cover projected operating expenses ($40 per month). In order to further assess the impact of providing parking, two additional scenarios (Scenarios #7 and #8) have been evaluated in which parking fee income is set at a much higher level ($125 per month) in order to cover both the operating expenses and the debt service incurred in providing parking

The table below presents summary information for each scenario on both a cash basis and a discounted present value basis. The discounted present value comparison is the most meaningful measure of the long term costs of a project on a life cycle basis because it recognizes the differences in the timing of key cash receipts and expenditures. Of particular importance is the discounted value of the building at the end of the 30 year analysis period.

Summary:			
Cash Basis	***Cash Flow***	***Residual Value***	***Total***
Sr#1 Renv. Existing	$55,604,043	($18,050,948)	$37,553,095
Sr#2 New, Modest Addl.	$77,096,953	($26,712,921)	$50,384,031
Sr#3 Renv. & Max Expand	$86,886,606	($28,525,539)	$58,361,066
Sr#4 New, Max Size	$108,411,258	($36,749,168)	$71,662,090
Sr#5(Sr#3 with Parking)	$93,676,037	($28,497,361)	$65,178,676
Sr#6(Sr#4 with Parking)	$119,342,441	($36,705,757)	$82,636,684
Sr#7(Sr#5 withFullFee)	$84,837,185	($28,497,361)	$56,339,824
Sr#8(Sr#6 withFullFee)	$106,205,799	($36,705,757)	$69,500,042

Summary:			
Discounted Present Value	***Cash Flow***	***Residual Value***	***Total***
Sr#1 Renv. Existing	$27,152,654	($4,176,582)	$22,976,072
Sr#2 New, Modest Addl.	$37,974,691	($6,180,768)	$31,793,923
Sr#3 Renv. & Max Expand	$42,490,516	($6,600,166)	$35,890,350
Sr#4 New, Max Size	$53,240,895	($8,502,929)	$44,737,966
Sr#5(Sr#3 with Parking)	$46,470,361	($6,593,647)	$39,876,714
Sr#6(Sr#4 with Parking)	$59,648,449	($8,492,884)	$51,155,565
Sr#7(Sr#5 withFullFee)	$42,709,989	($6,593,647)	$36,116,342
Sr#8(Sr#6 withFullFee)	$54,059,639	($8,492,884)	$45,566,755

Given the variation in rentable square feet of space available under each of these scenarios, they need to be compared based on cost per square foot of rentable space. An additional comparative measure is also useful: the "Lease Equivalent". The Lease Equivalent is the amount per square foot that the State would need to charge for the space starting in 2004 in order to cover all of its costs. For purposes of this analysis, it is assumed that the lease rate would increase at an average of 4% per year.



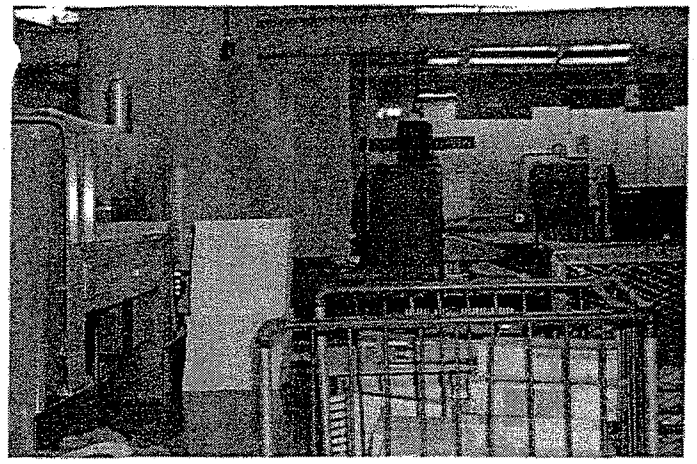
	1	2	3	4	5	6	7	8
Discounted Cost per RSF	$335	$355	$339	$348	$376	$398	$341	$355
Debt per RSF	$200	$227	$205	$217	$247	$273	$247	$273
Lease Equivalent	$15.21	$16.12	$15.39	$15.80	$17.07	$18.07	$15.48	$16.12

Conclusion

The least costly of the scenarios evaluated is Scenario #1 in which the existing building is extensively renovated within its current footprint. It has the lowest total bonded cost of $13.7 million and the lowest discounted cost on a life cycle basis of $22.9 million. This lowest cost ranking may not be particularly surprising given that Scenario #1 is the smallest of the alternatives evaluated. However, Scenario #1 is also the least expensive of the scenarios on a per square foot basis.

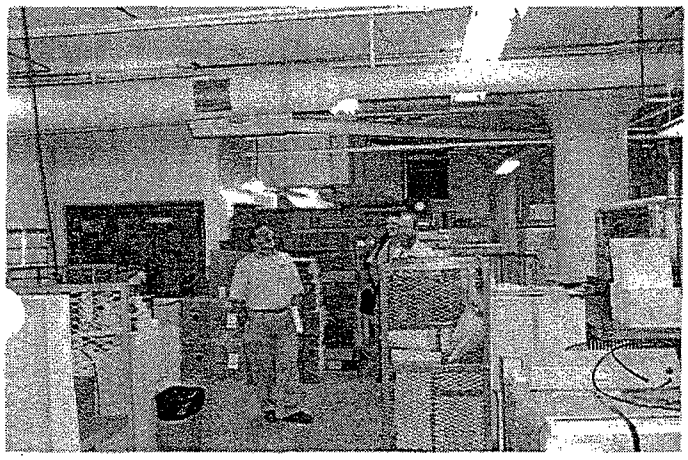
APPENDIX A

Photographs

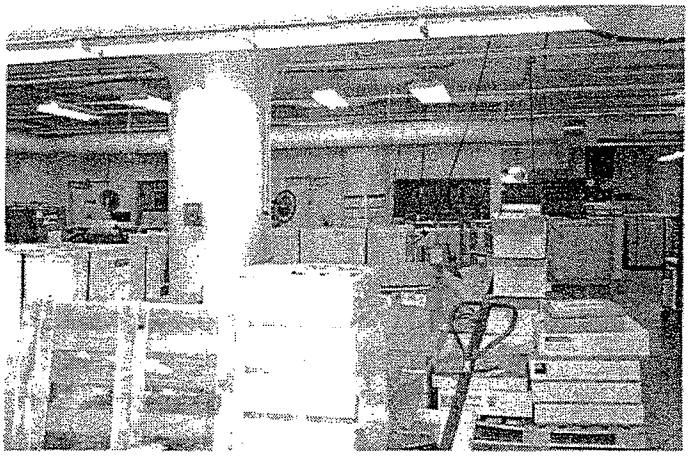


Basement - 1.1.jpg

Basement - 1.2.jpg



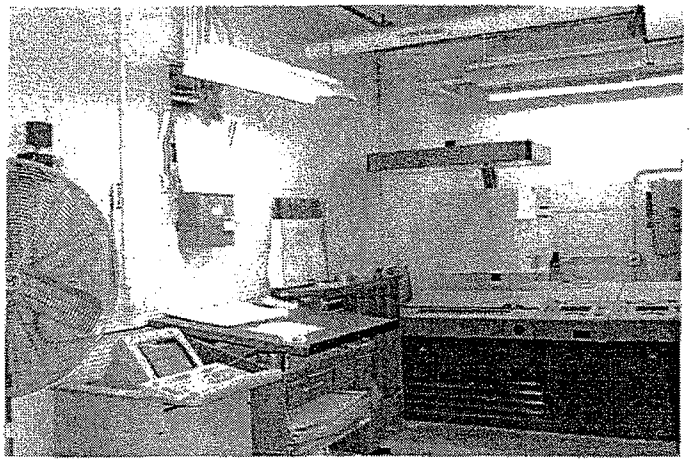
Basement - 1.3.jpg



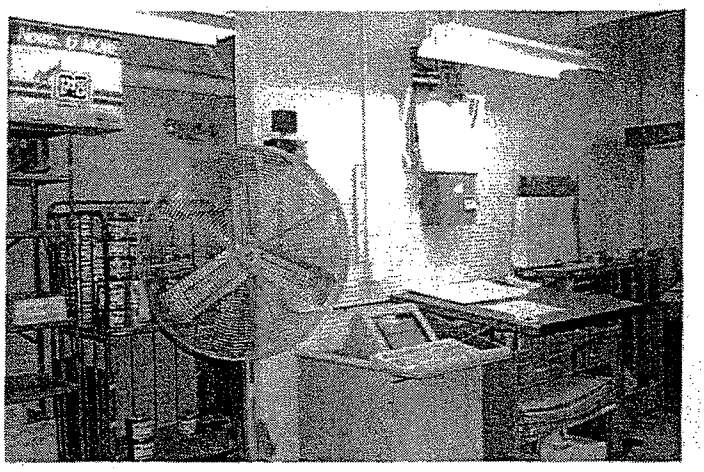
Basement - 1.4.jpg

Basement - 1.5.jpg

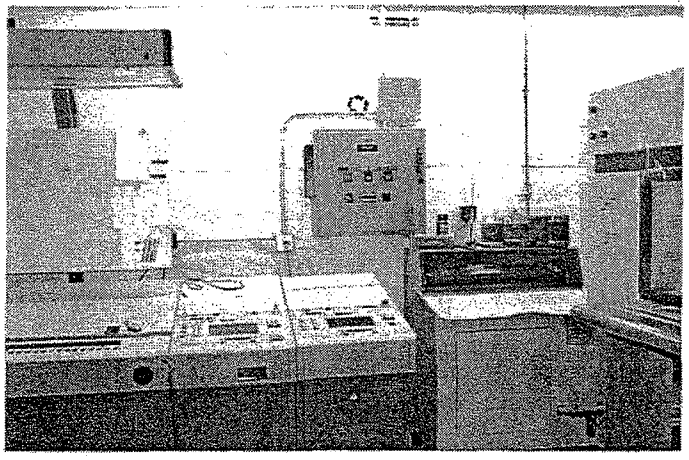
Basement - 1.6.jpg



Basement - 2.1.jpg

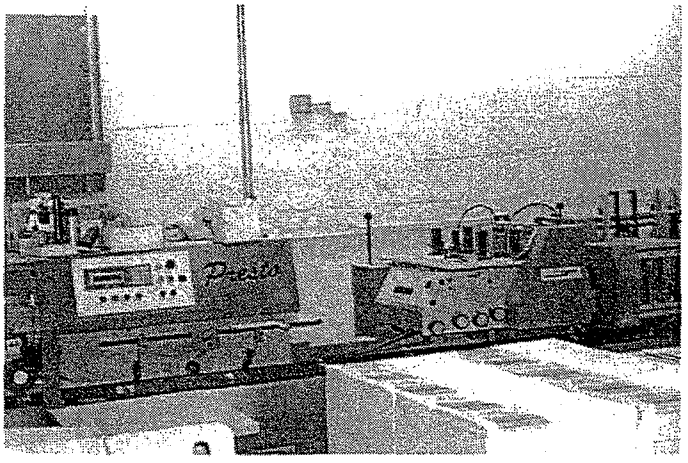


Basement - 2.2.jpg



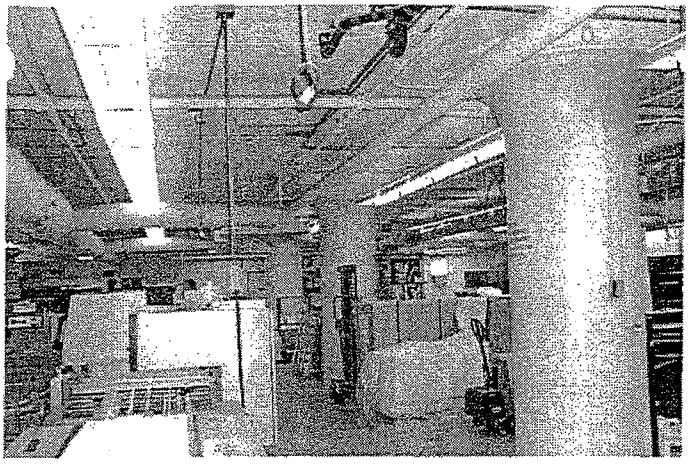
Basement - 2.3.jpg

Basement - 2.4.jpg

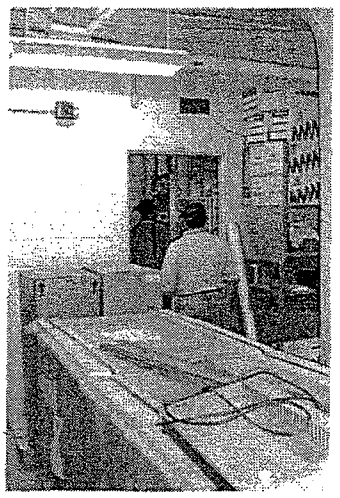


Basement - 2.5.jpg

Basement - 2.6.jpg

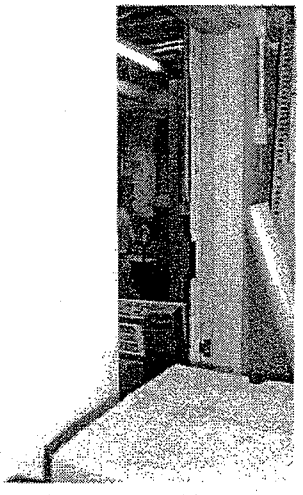


Basement - 3.1.jpg



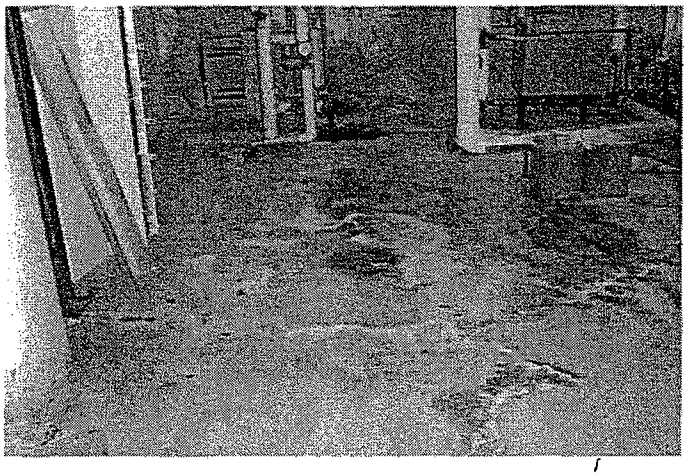
Basement - 3.2.jpg

Basement - 3.3.jpg

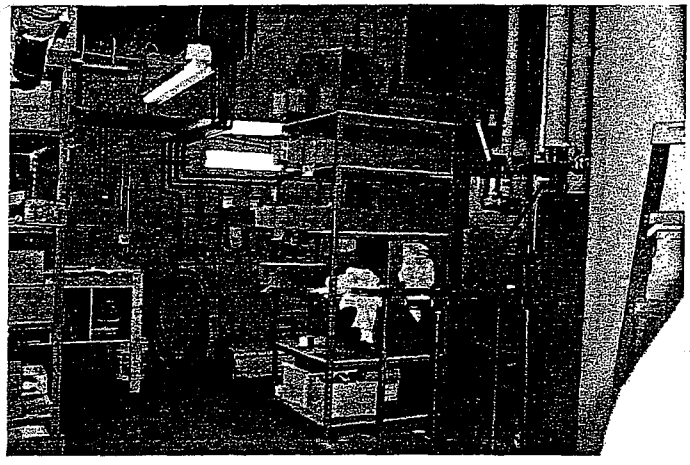


Basement - 3.4.jpg

Basement - 3.5.jpg



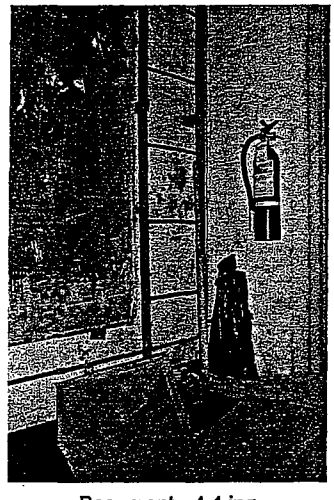
Basement - 3.6.jpg



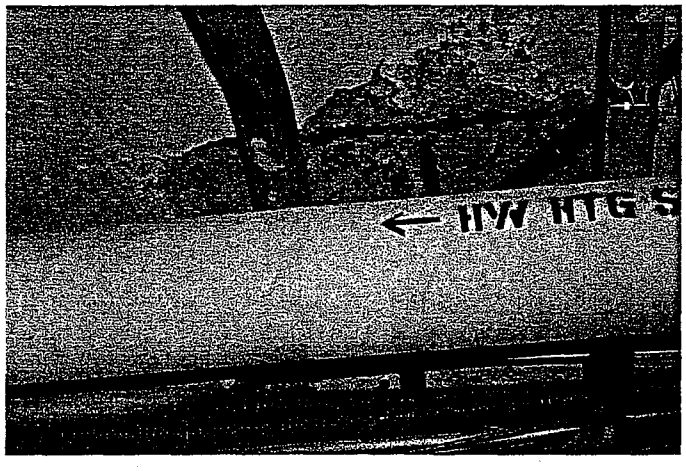
Basement - 4.1.jpg

Basement - 4.2.jpg

Basement - 4.3.jpg

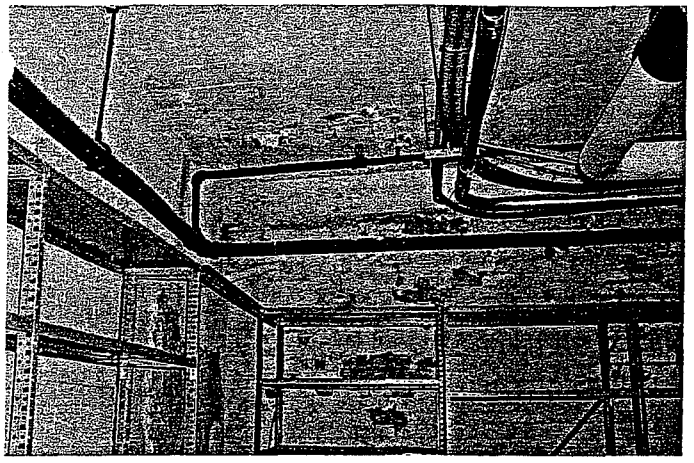


Basement - 4.4.jpg

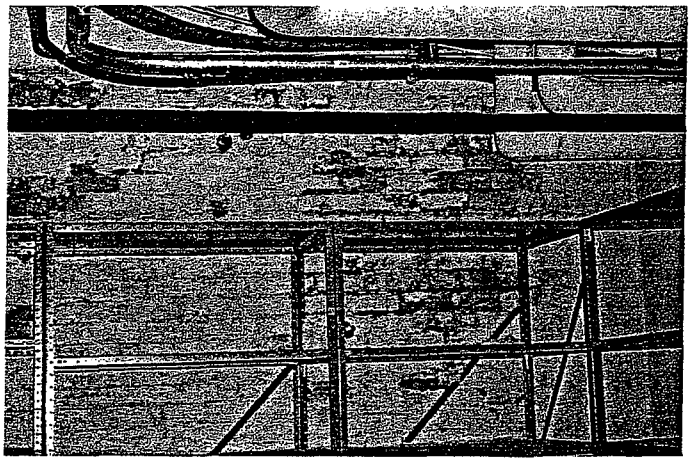


Basement - 4.5.jpg

Basement - 4.6.jpg

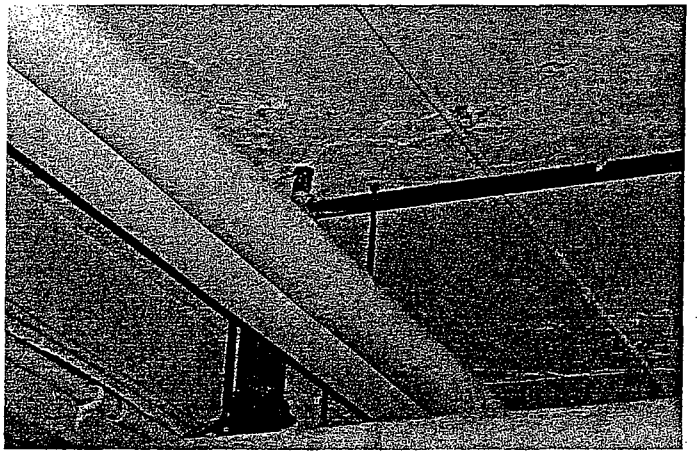


Basement - 5.1.jpg

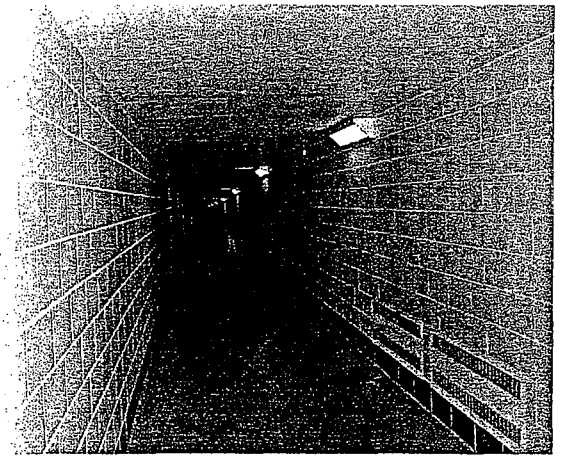


Basement - 5.2.jpg

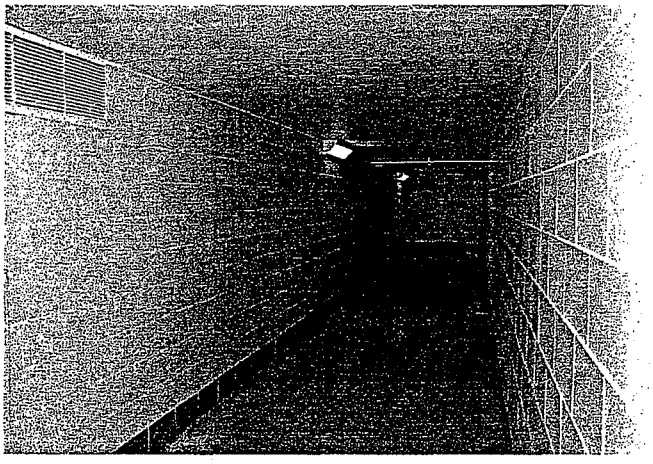
Basement - 5.3.jpg



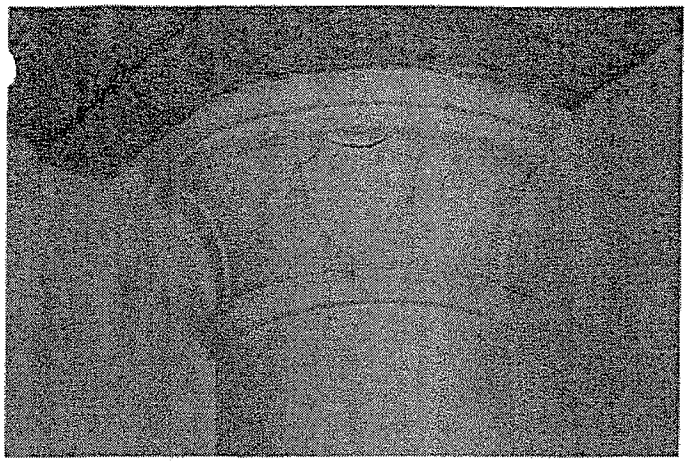
Basement - 5.4.jpg



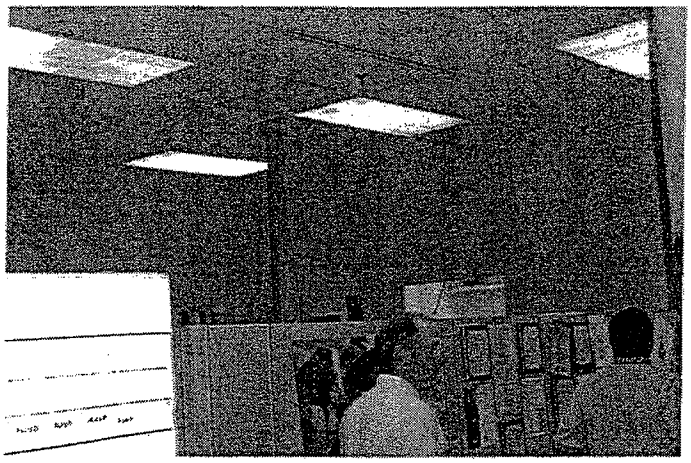
Basement - 5.5.jpg



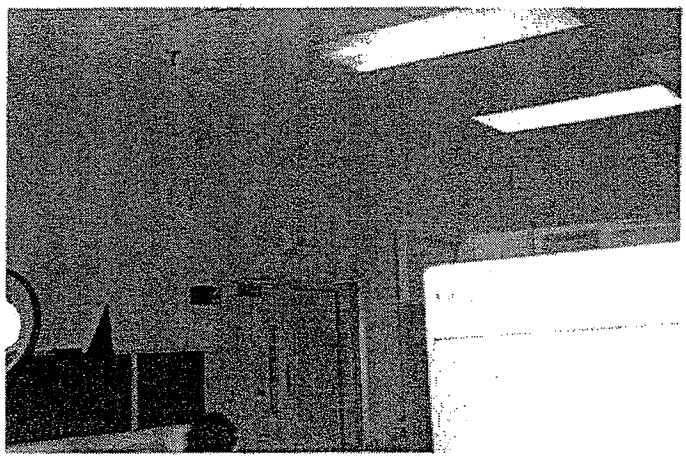
Basement - 5.6.jpg



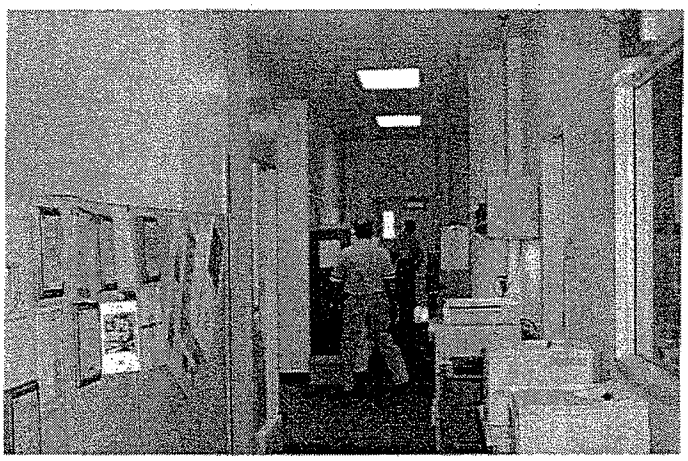
1st - 1.1.jpg



1st - 1.2.jpg



1st - 1.3.jpg



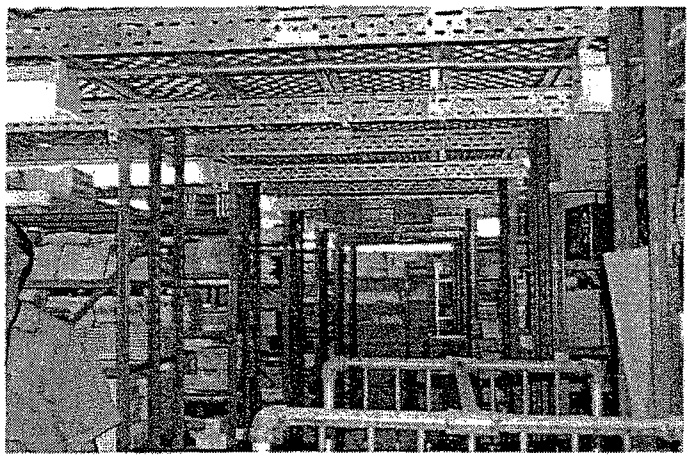
1st - 1.4.jpg

1st - 1.5.jpg

1st - 1.6.jpg

1st - 2.1.jpg

1st - 2.2.jpg



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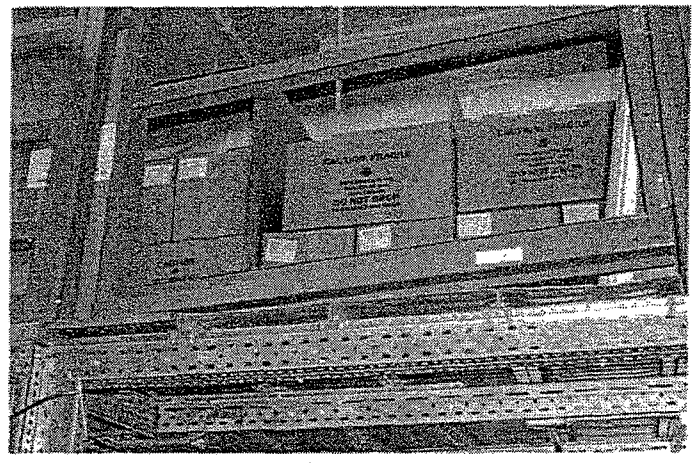

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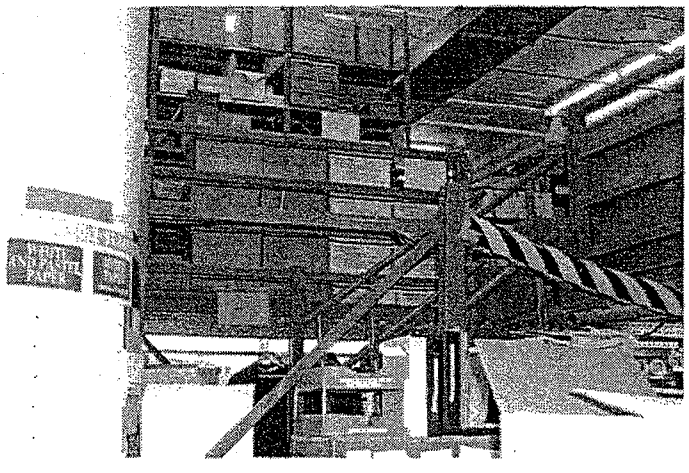
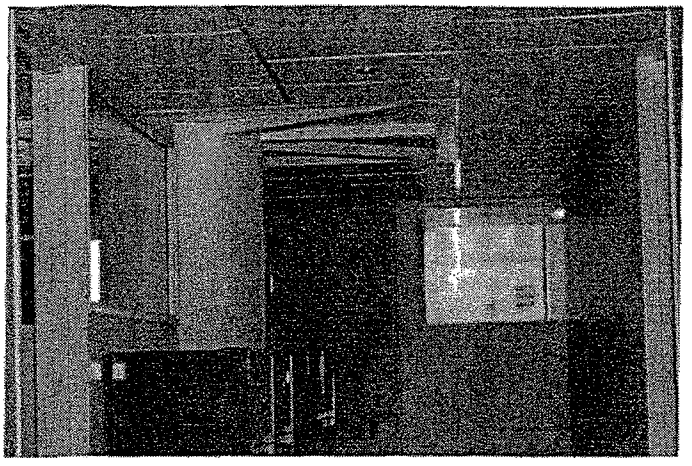
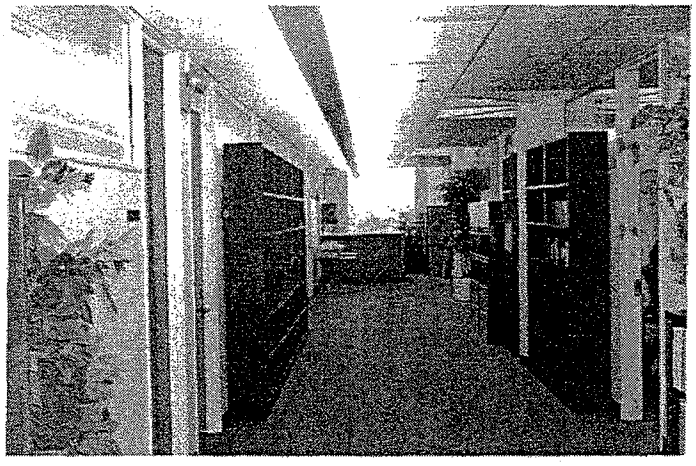


1st - 2.5.jpg

1st - 2.6.jpg

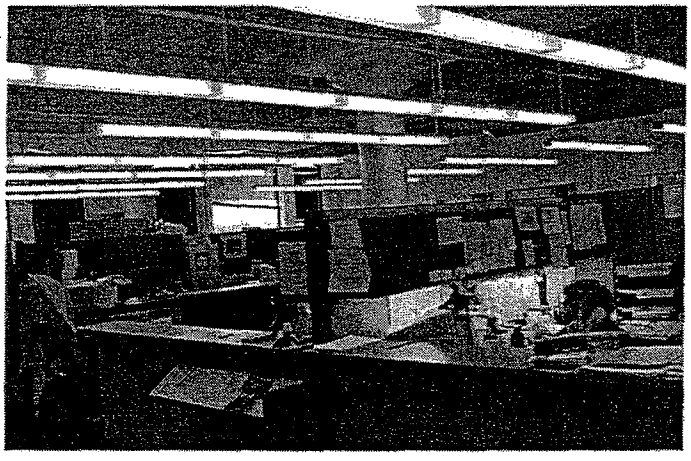


2nd - 1.1.jpg

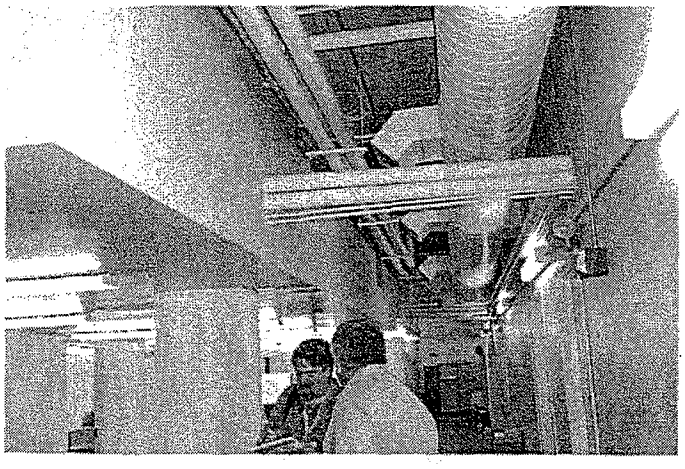


2nd - 1.2.jpg

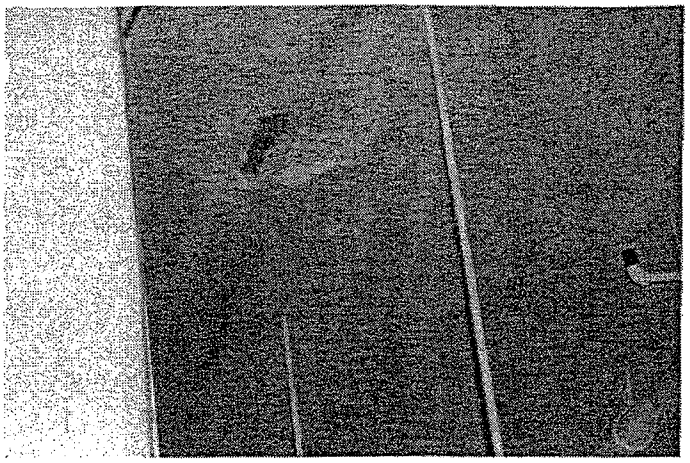
2nd - 1.3.jpg



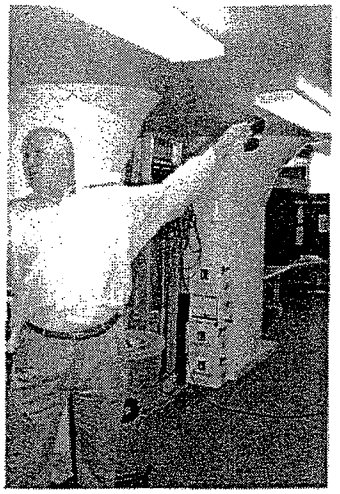
2nd - 1.4.jpg



2nd - 1.5.jpg



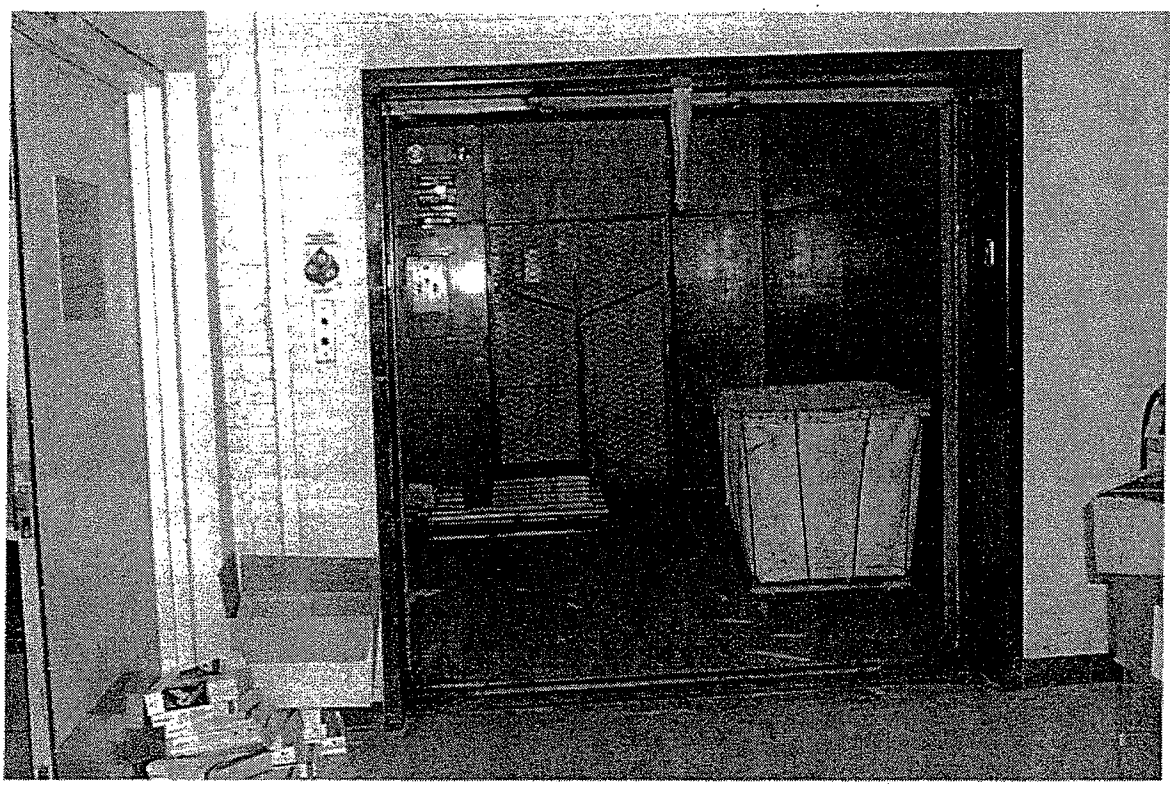
3rd - 1.1.jpg



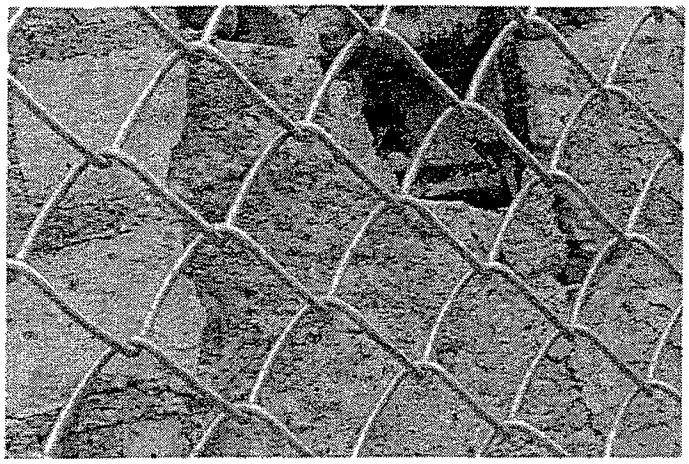
3rd - 1.2.jpg

3rd - 1.3.jpg

3rd - 1.4.jpg

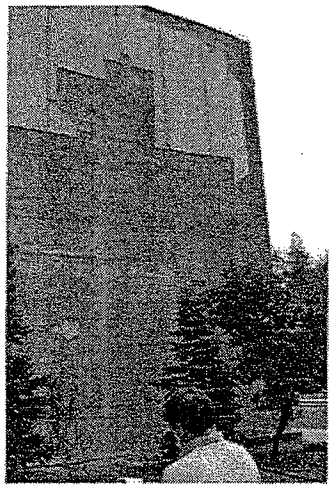


Elevator - 1.1.jpg



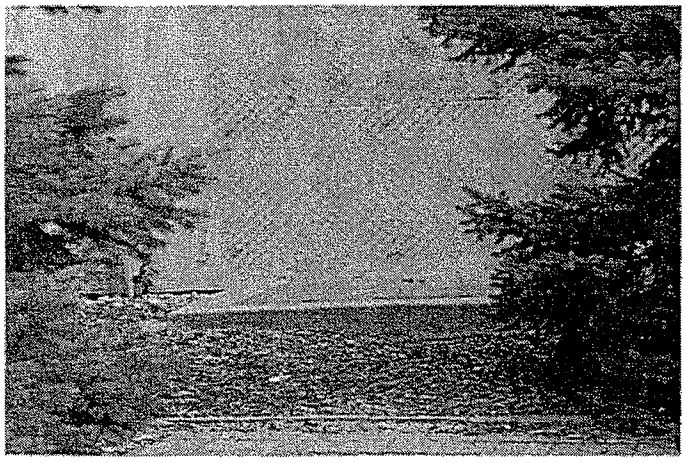
Exterior - 1.1.jpg

Exterior - 1.2.jpg

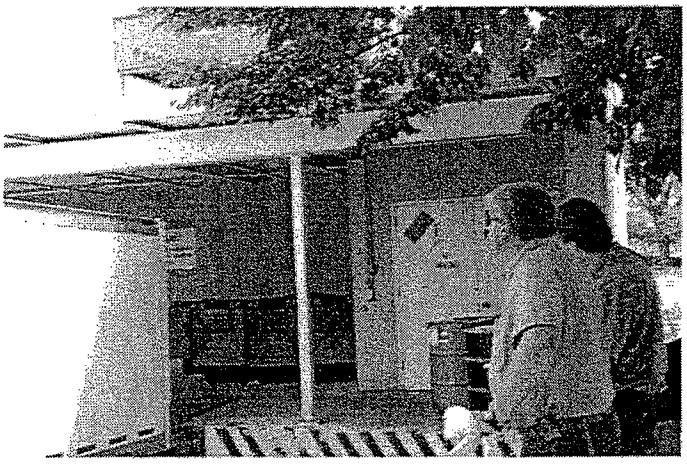


Exterior - 1.3.jpg

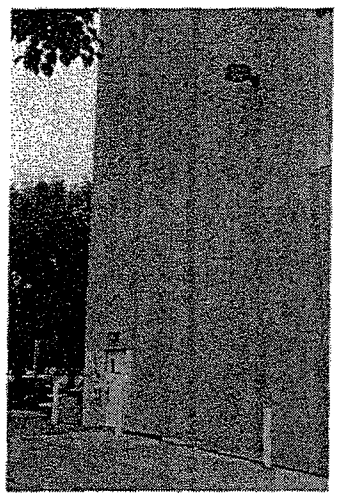
Exterior - 1.4.jpg



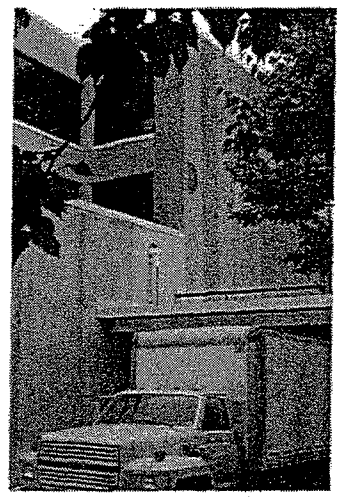
Exterior - 1.5.jpg



Exterior - 1.6.jpg

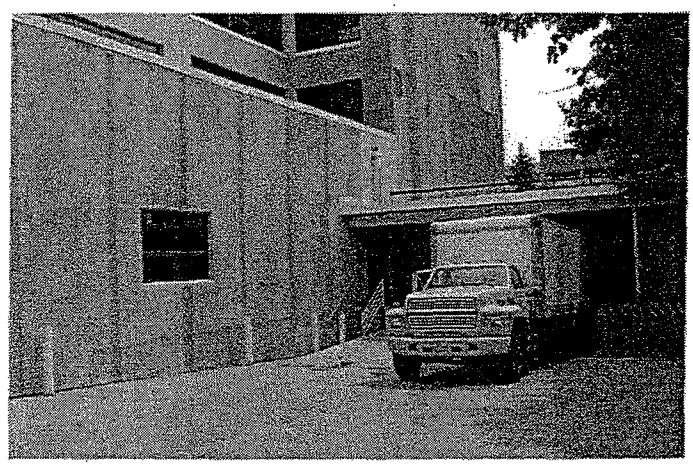


Exterior - 2.1.jpg

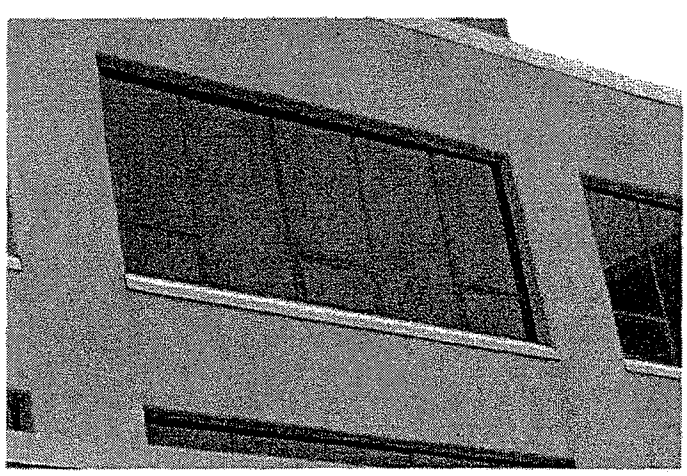


Exterior - 2.2.jpg

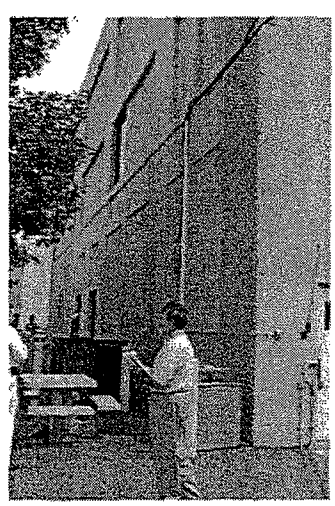
Exterior - 2.3.jpg



Exterior - 2.4.jpg



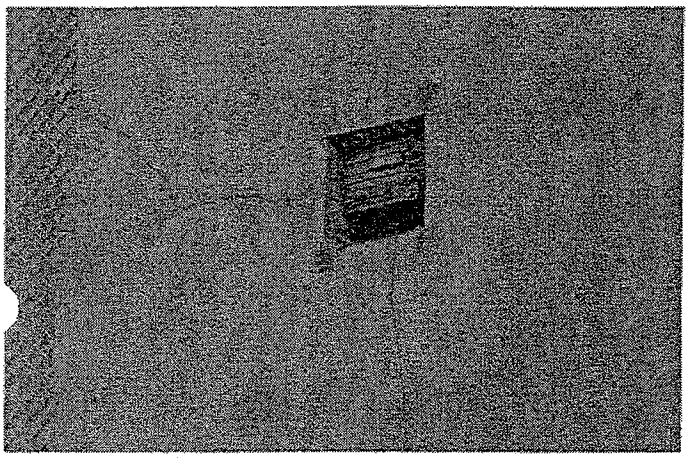
Exterior - 2.5.jpg



Exterior - 2.6.jpg

Exterior - 3.1.jpg

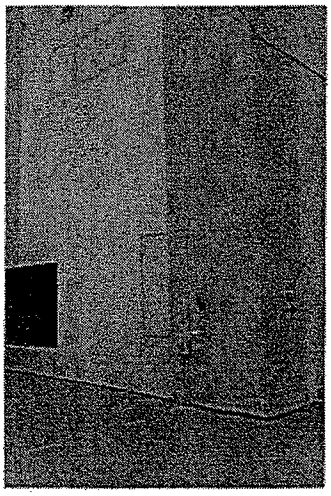
Exterior - 3.2.jpg



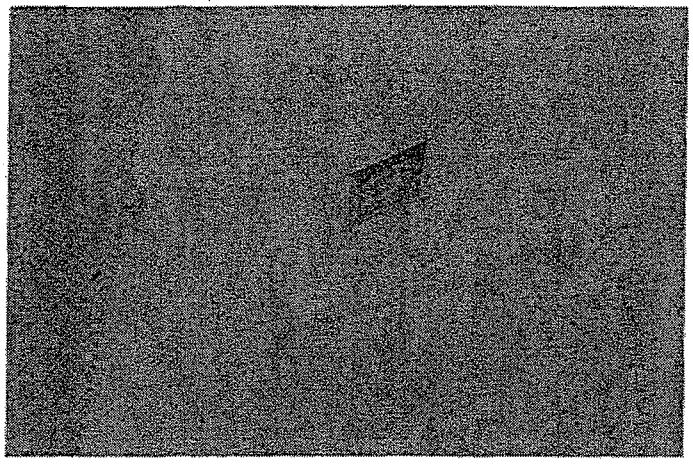
Exterior - 3.3.jpg

Exterior - 3.4.jpg

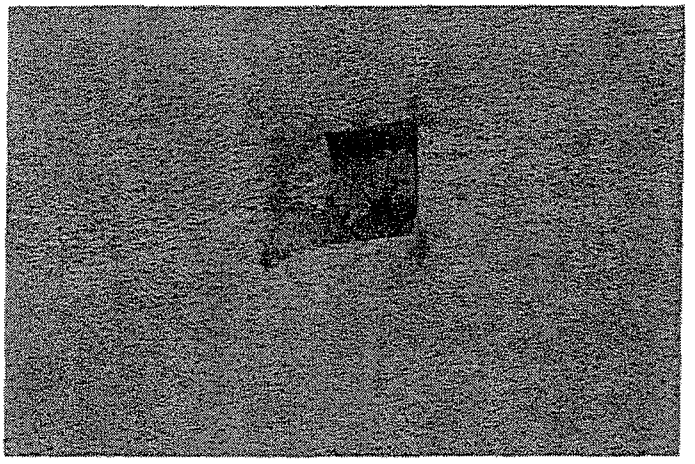
Exterior - 3.5.jpg



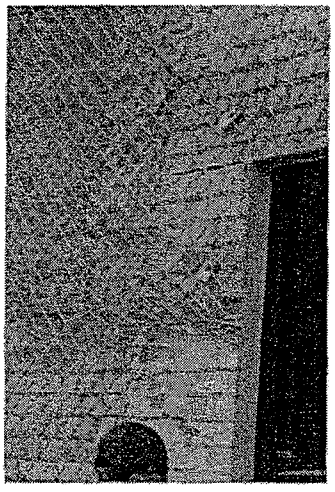
Exterior - 3.6.jpg



Exterior - 4.1.jpg



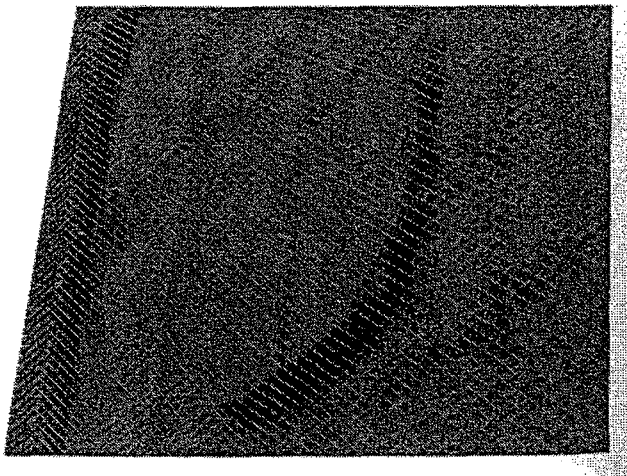
Exterior - 4.2.jpg



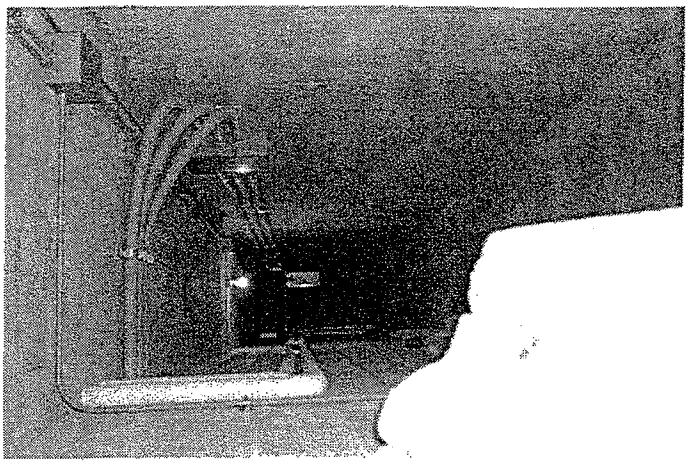
Exterior - 4.3.jpg

Exterior - 4.4.jpg

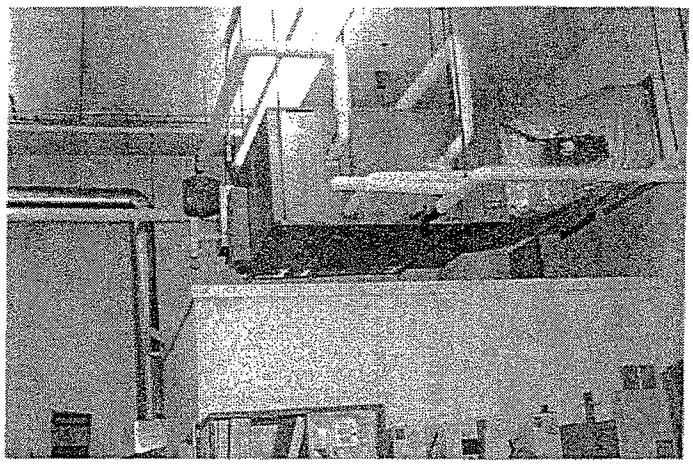
Exterior - 4.5.jpg



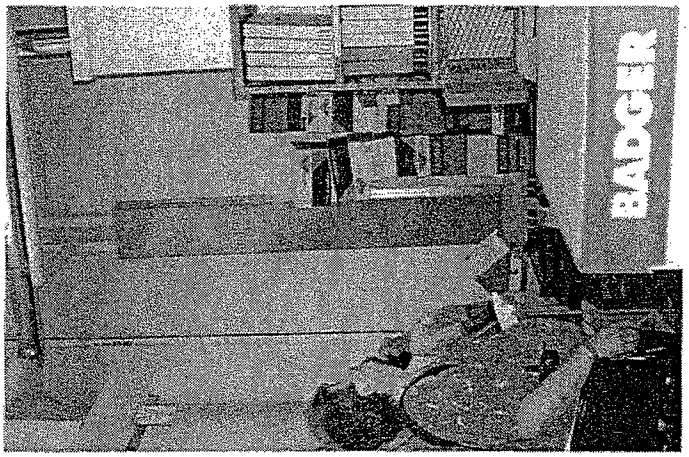
Exterior - 4.6.jpg



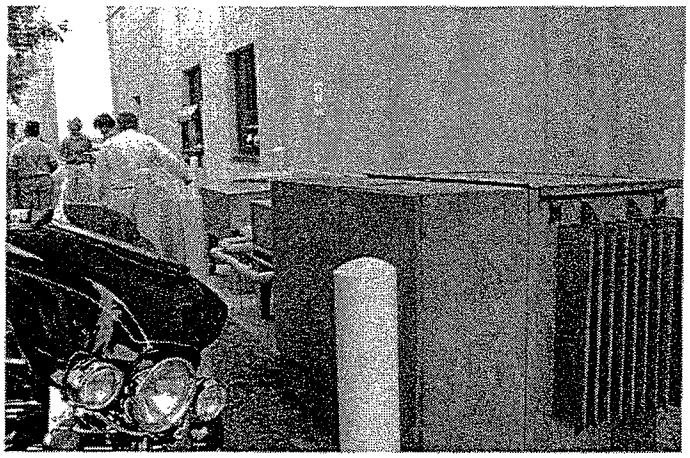
M-E - 1.1.jpg



M-e - 1.2.jpg

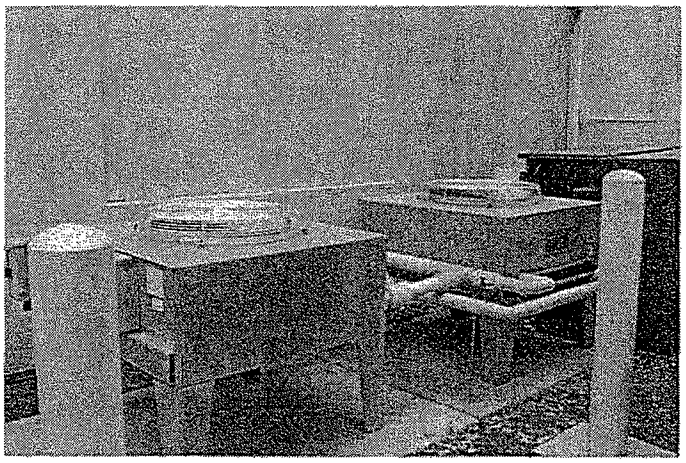


M-e - 1.3.jpg



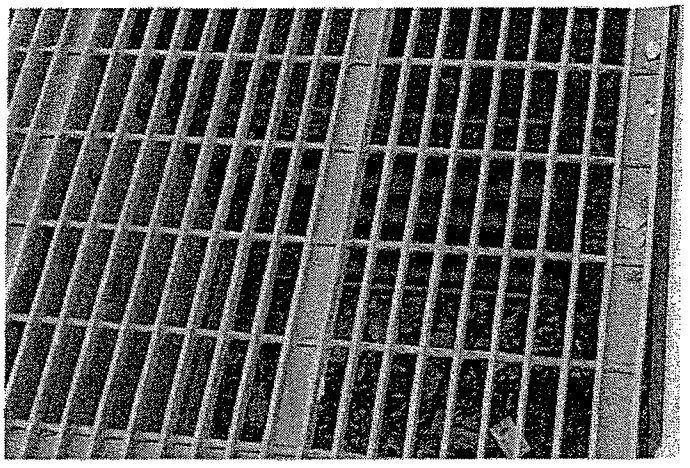
M-e - 1.4.jpg

M-e - 1.5.jpg



M-e - 1.6.jpg

M-e - 2.1.jpg



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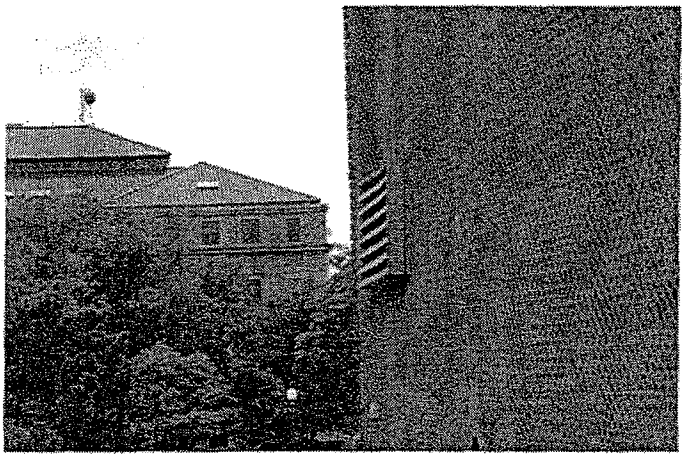

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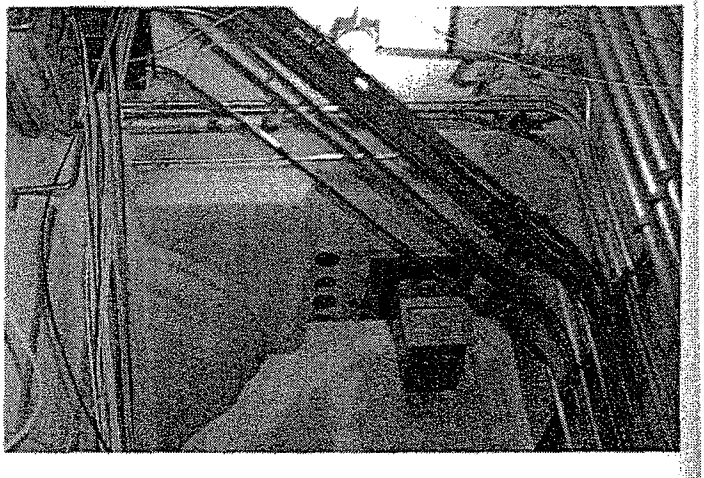

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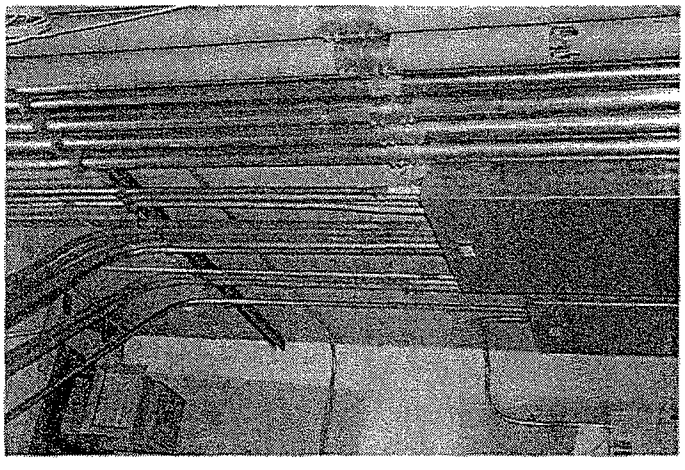

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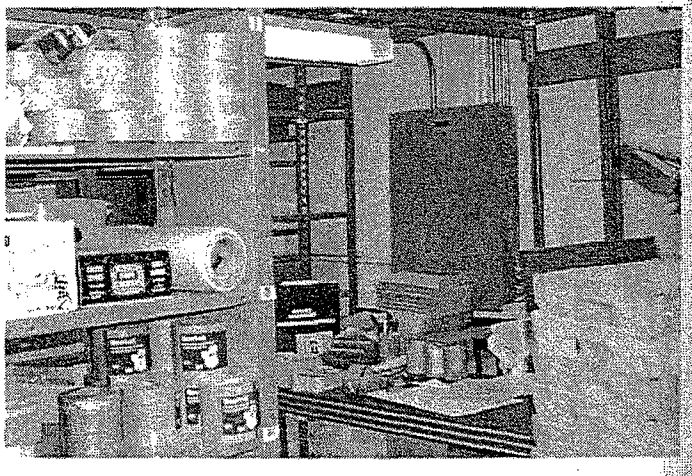

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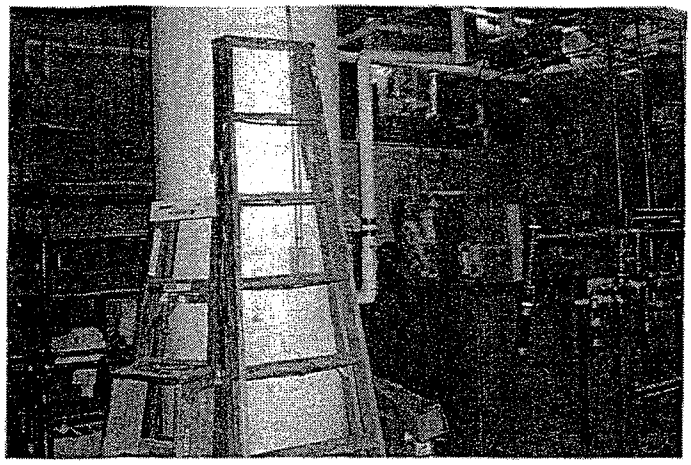

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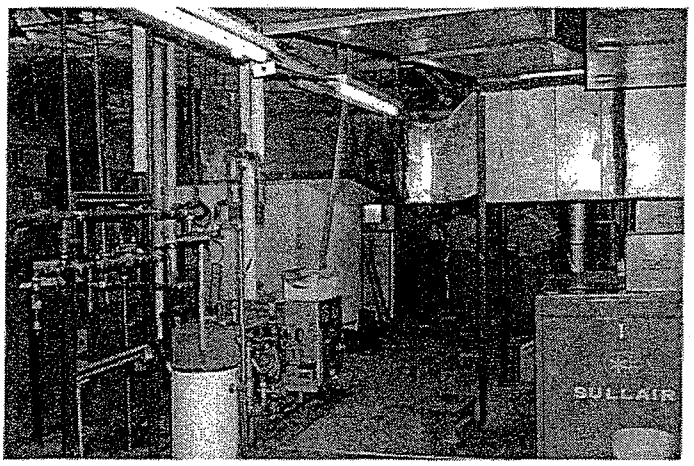

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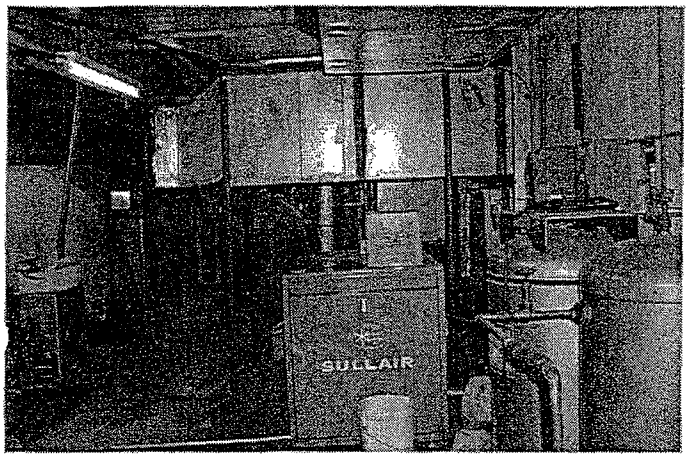

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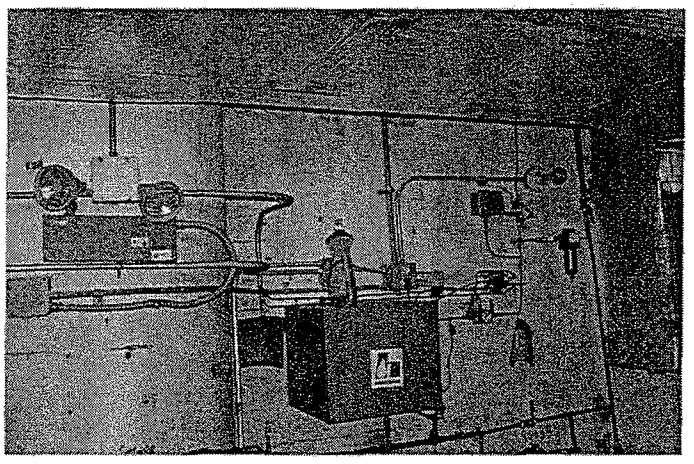

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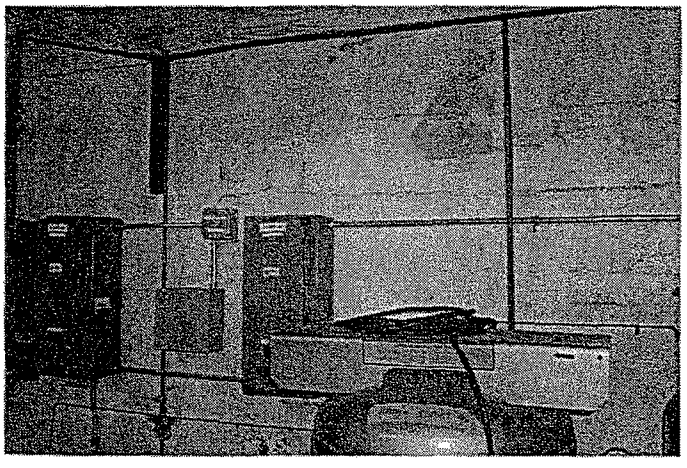

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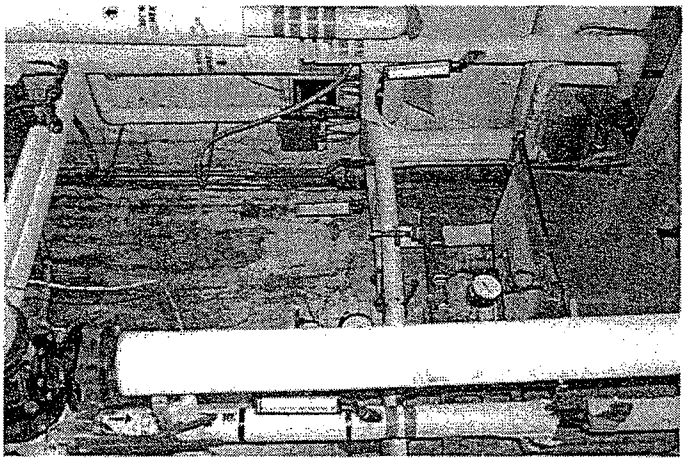

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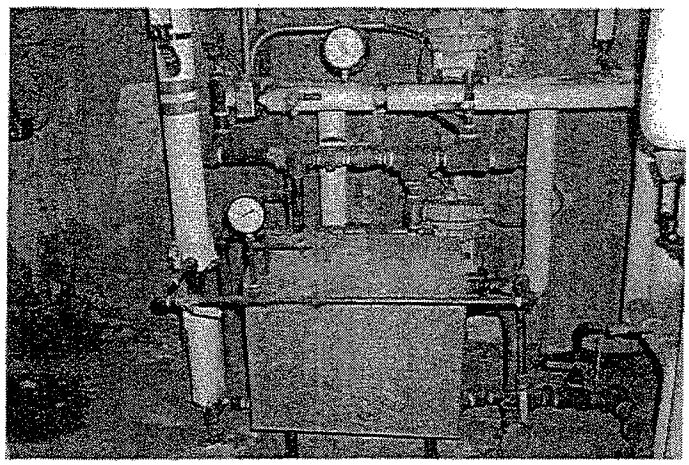

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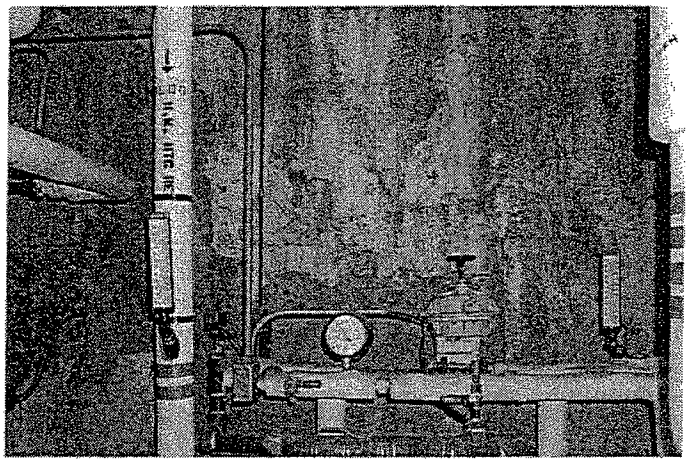

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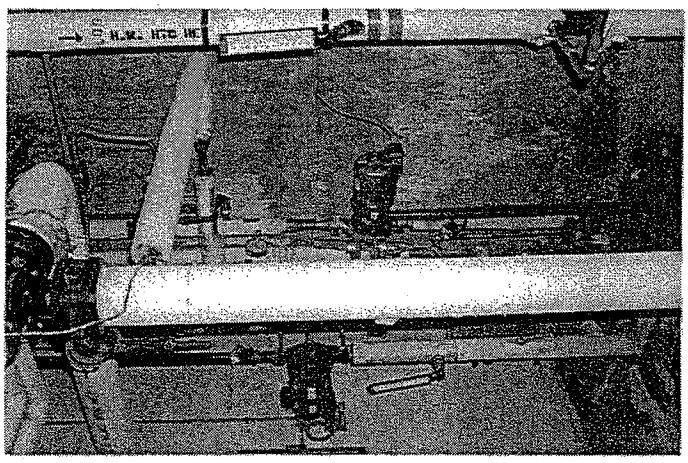

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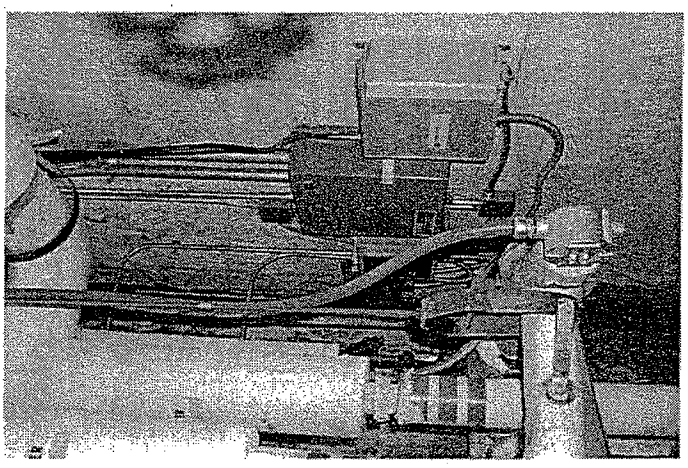

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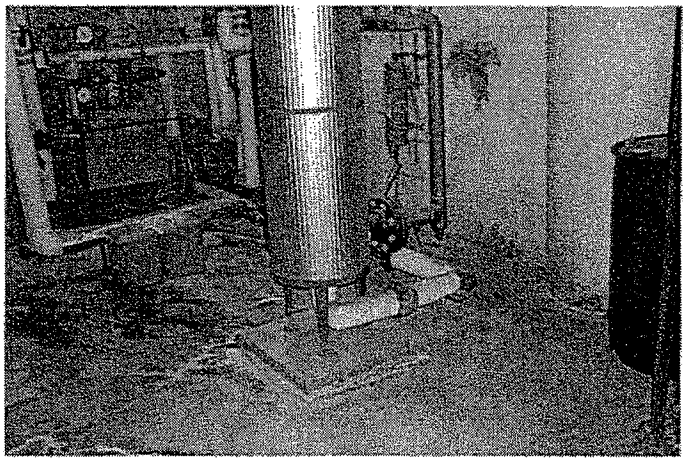

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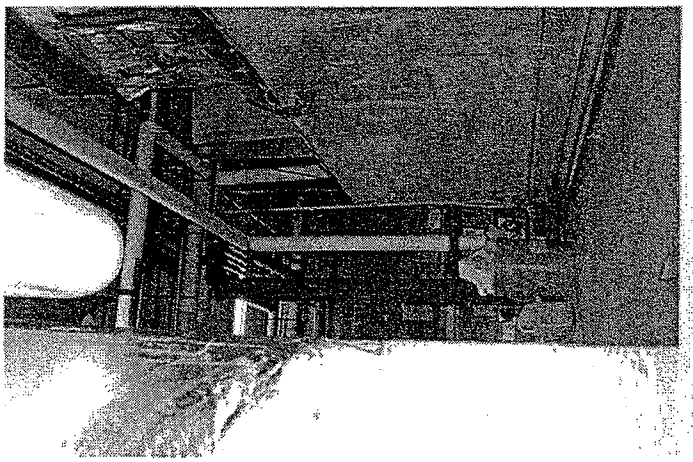

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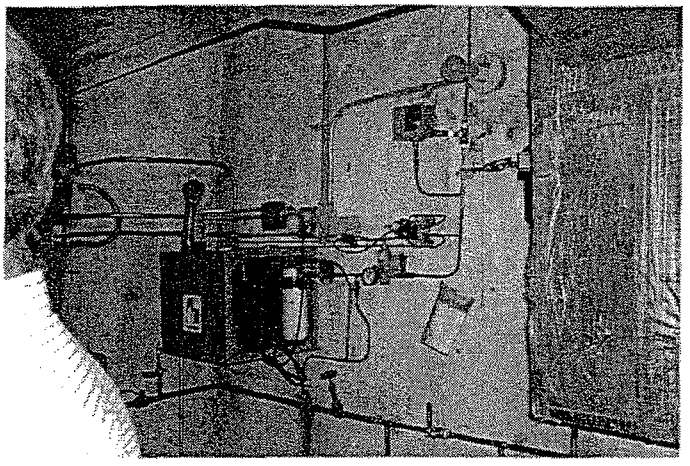

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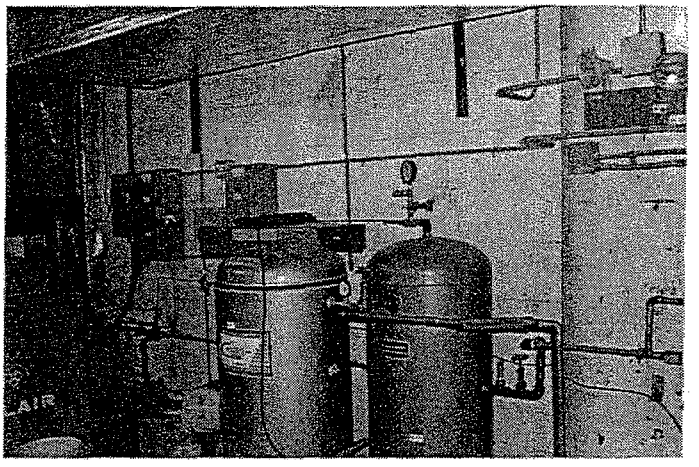

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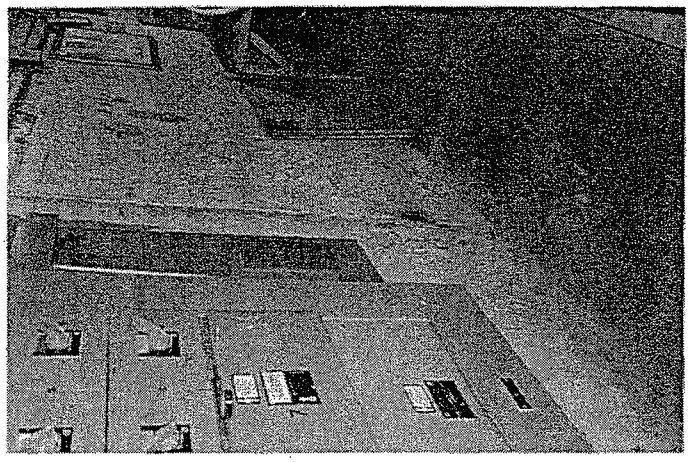

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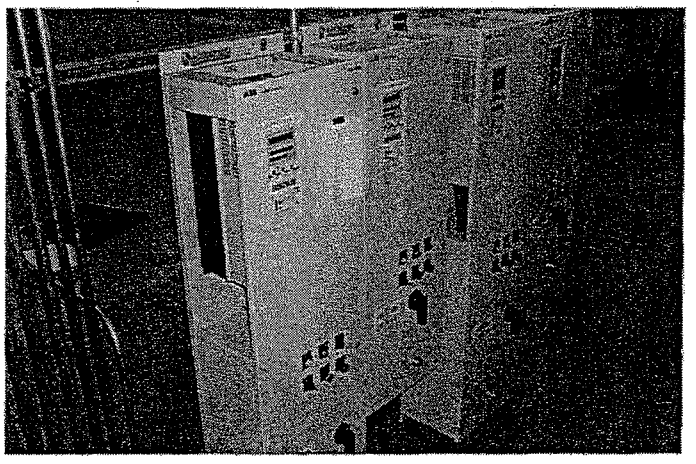

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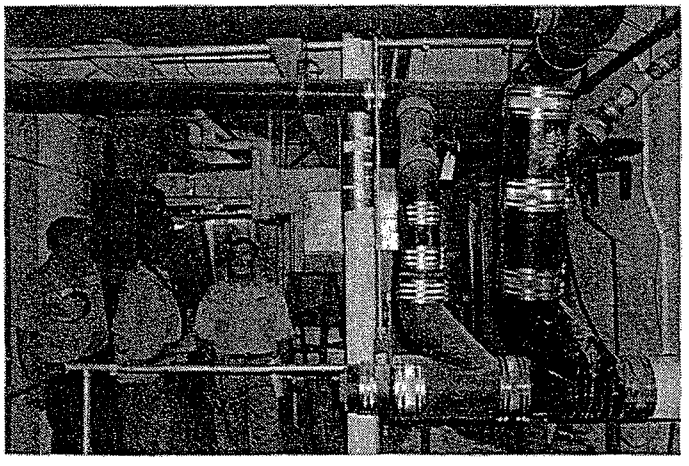

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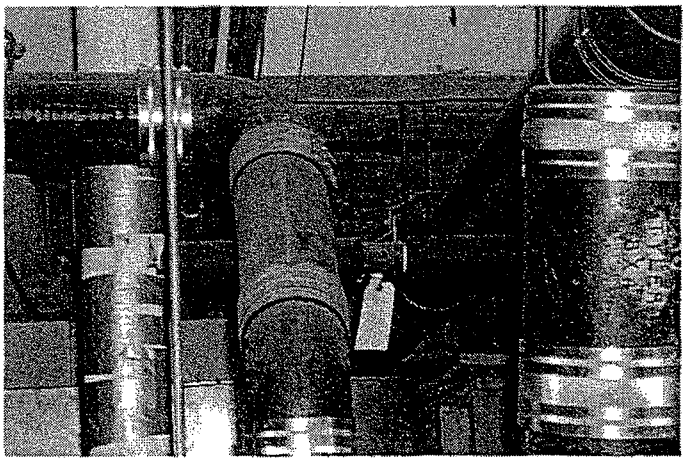

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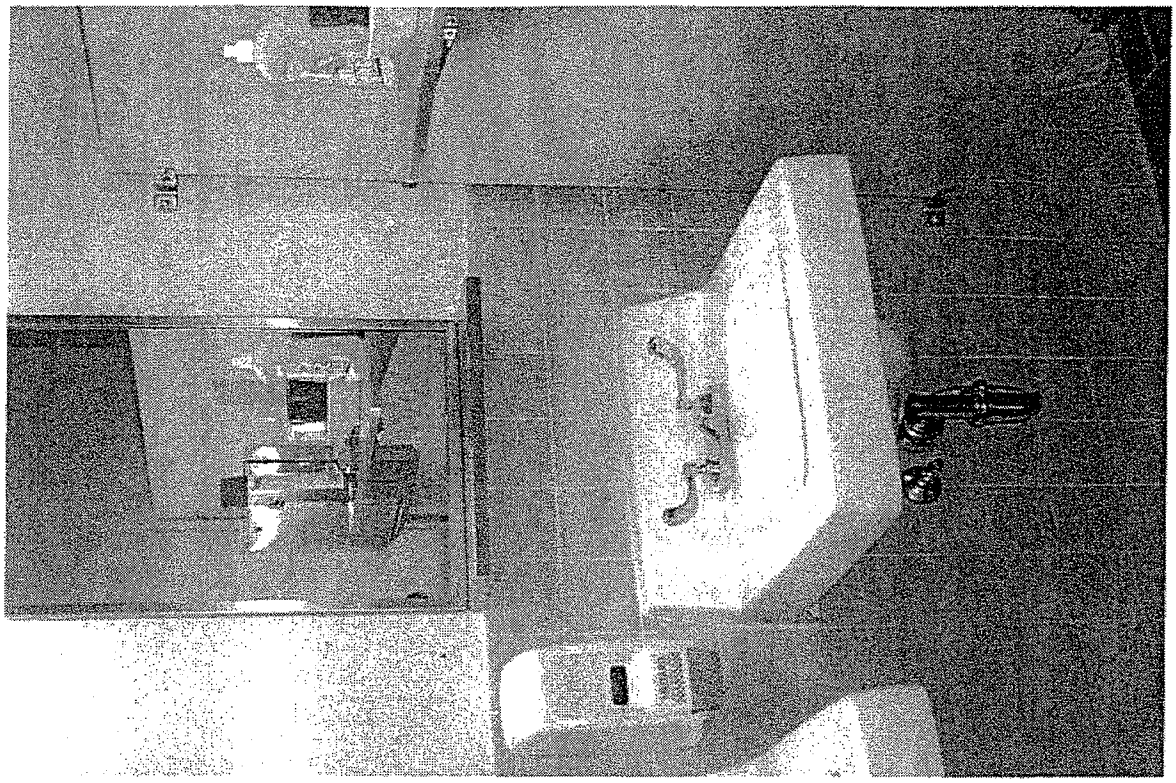
M-e - 6.1.jpg

M-e - 6.2.jpg



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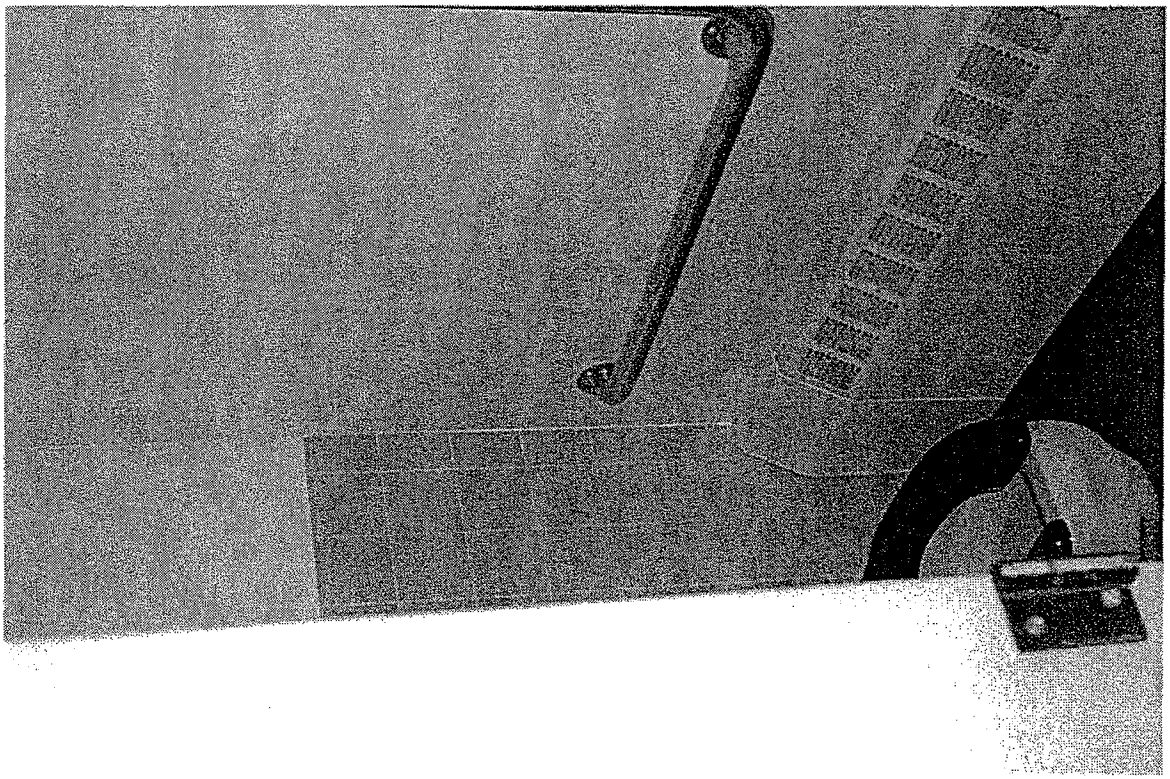

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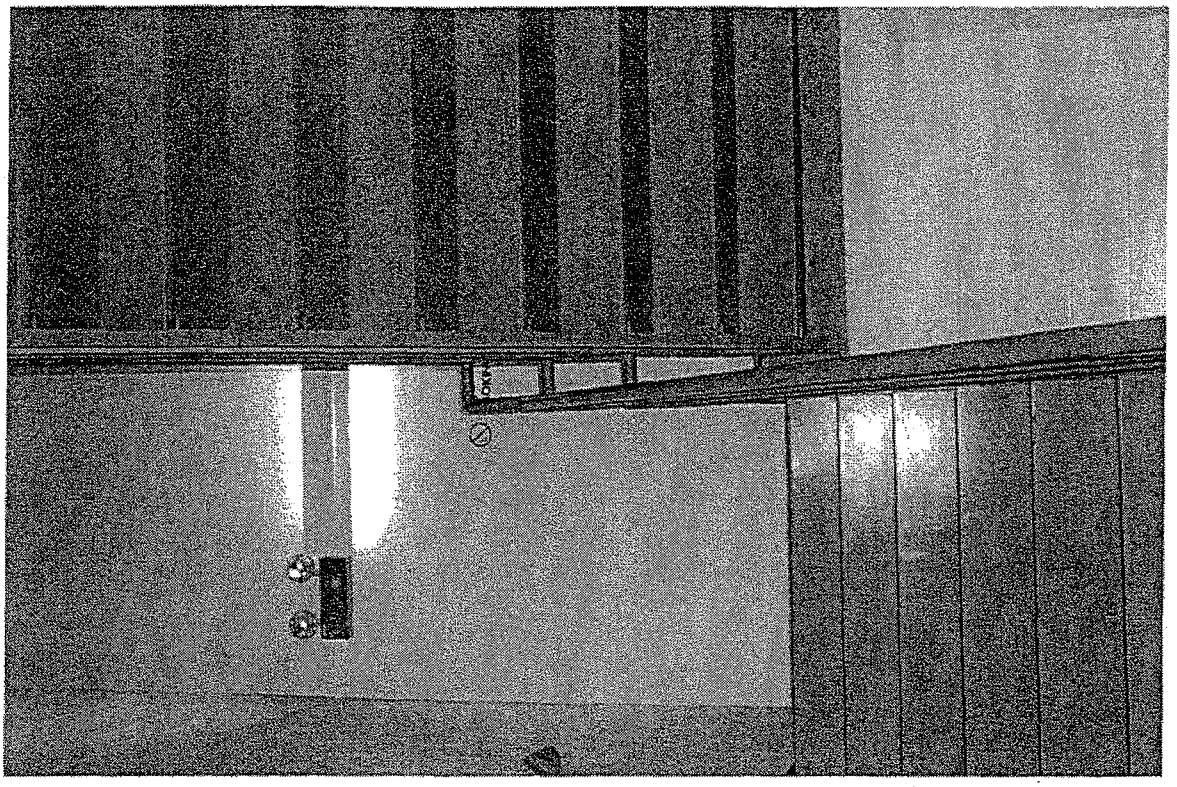
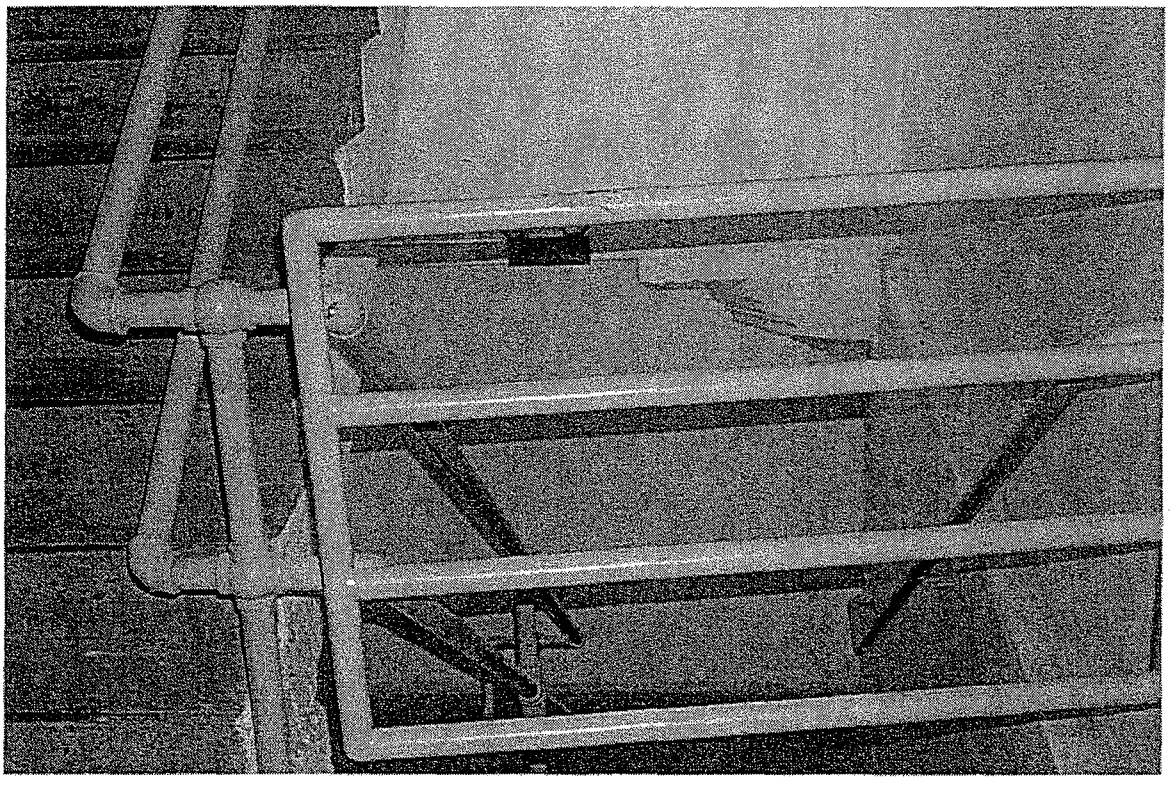


Stairs - 1.1.jpg



Stairs - 1.2.jpg

APPENDIX B

Sustainability

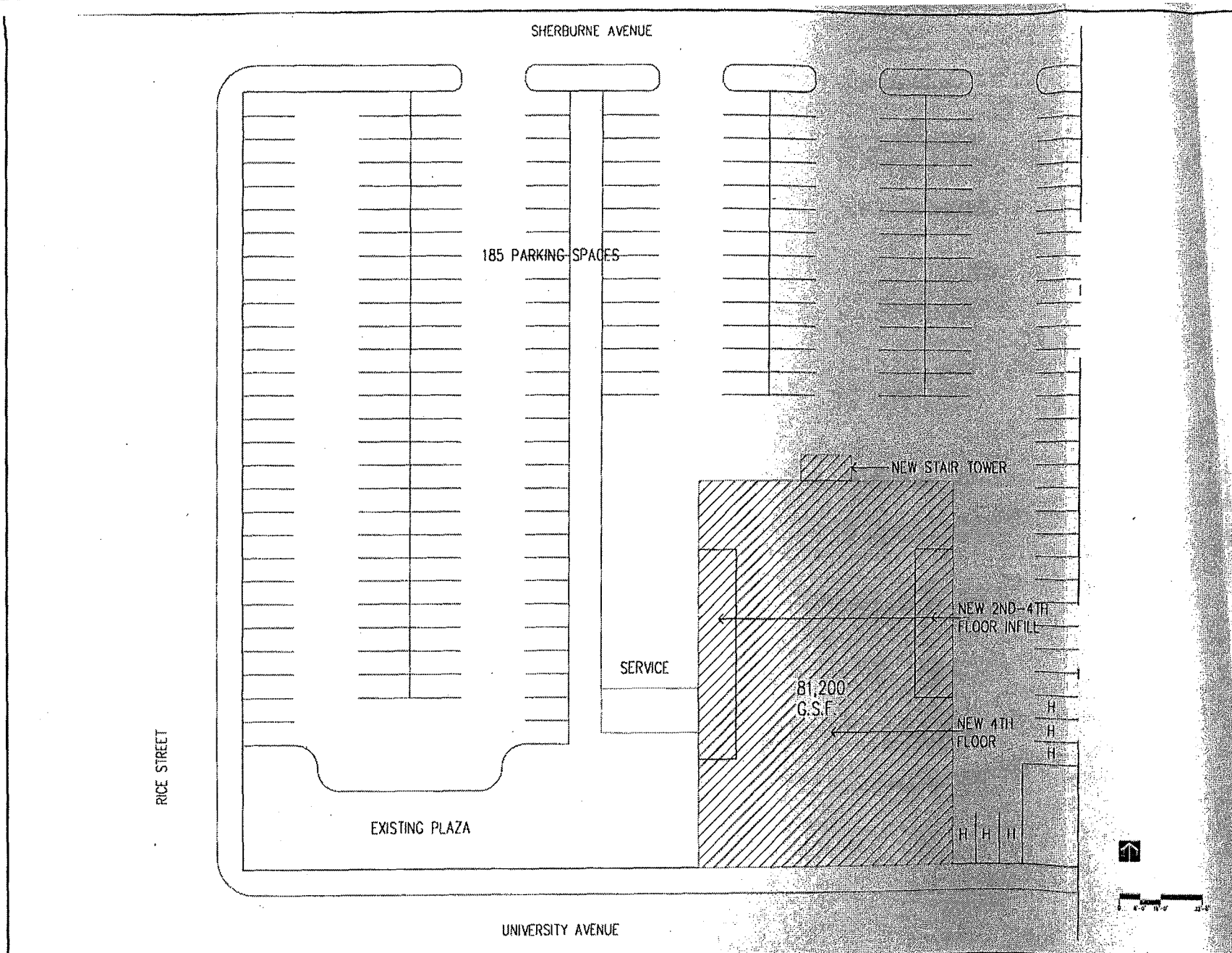
MINNESOTA SUSTAINABLE DESIGN GUIDE
SCORING SUMMARY
DATE: September 11, 2001

PROJECT: Ford Building

	STRATEGY	Existing		Scenarios			
		Points Possible	Assessment Points	Scenario #1	Scenario #2	Scenario #3	Scenario #4
1.1	Direct Development to Environmentally Appropriate Areas	3	1	1	1	1	1
1.2	Maintain and Enhance the Biodiversity and Ecology of the Site	3	0	0	0	0	0
1.3	Use Microclimate and Environmentally Responsive Site Design Strategies	2	0	0	1	1	1
1.4	Use Native Trees, Shrub, and Plants	2	1	1	1	1	1
1.5	Use Resource Efficient Modes of Transportation	2	2	2	2	2	2
	SITE STRATEGIES TOTAL	12	4	4	5	5	5
2.1	Manage Site Water	5	0	3	3	3	3
2.2	Use Gray Water Systems	2	0	0	0	0	0
2.3	Use Biological Waste Treatment Systems	1	0	0	0	0	0
2.4	Conserve Building Water Consumption	1	0	1	1	1	1
2.5	Conserve Cooling Tower Water Consumption	1	0	0	0	0	0
	WATER STRATEGIES TOTAL	10	0	4	4	4	4
	REDUCE LOADS						
3.1	Optimize Building Placement and Configuration for Energy Performance	2	0				
3.2	Optimize Building Envelope Thermal Performance	2	0				
3.3	Provide Daylighting Integrated with Electric Lighting Controls	2	0				
	DESIGN EFFICIENT SYSTEMS						
3.4	Provide Efficient Electric Lighting Systems and Controls	2	1				
3.5	Maximize Mechanical System Performance	2	1				
3.6	Use Efficient Equipment and Appliances	1	0				
	USE ENERGY SOURCES WITH LOW ENVIRONMENTAL IMPACT						
3.7	Use Renewable or Other Alternative Energy Sources	3	0				
	SIMULATE TOTAL BUILDING ENERGY USE						
3.8	Integrate All Systems and Reduce Total Energy Use	12	0				
	ENERGY STRATEGIES TOTAL	26	2	0	0	0	0
	INDOOR AIR QUALITY						
4.1	Provide a Clean and Healthy Environment	3	0				
4.2	Control Moisture to Prevent Microbial Contamination	3	0				
4.3	Provide Ample Ventilation for Pollutant Control and Thermal Comfort	6	0				
	HUMAN FACTORS						
4.4	Provide Appropriate Thermal Conditions	3	0				
4.5	Provide Effective Lighting	3	1				
4.6	Provide Appropriate Building Acoustic and Vibration Conditions	3	1				
4.7	Provide Views, Viewspace and Contact with the Natural Environment	3	0				
	INTERIOR ENVIRONMENTAL QUALITY STRATEGIES TOTAL	24	2	0	0	0	0
	RAW MATERIAL EXTRACTION						
5.1	Use Materials with Low Impact During Their Life Cycle	3	0	3	3	3	3
	PRODUCTION						
5.2	Use Salvaged and Remanufactured Materials	2	0	1	1	1	1
5.3	Use Recycled Content Products and Materials	1	0	1	1	1	1
5.4	Use Materials from Renewable Sources	1	0	0	1	0	1
	DISTRIBUTION						
5.5	Use Locally Manufactured Materials	1	0	1	1	1	1
	INSTALLATION						
5.6	Use Low VOC-emitting Materials	3	0	3	3	3	3
	USE						
5.7	Use Durable Materials	1	0	1	1	1	1
	EVENTUAL REUSE OR RECYLING						
5.8	Use Materials that are Reusable, Recycleable or Biodegradable	2	1	1	1	1	1
	MATERIALS STRATEGIES TOTAL	14	1	11	12	11	12
	CONSERVING RESOURCES						
6.1	Reuse Existing Buildings	3	3	3	1	3	1
6.2	Design for Less Material Use	2	0	1	2	1	2
6.3	Design Buildings for Adaptability	2	0	2	2	2	2
6.4	Design Buildings for Disassembly	2	0	1	1	1	1
	WASTE MANAGEMENT						
6.5	Salvage and Recycle Demolition Waste	1	0	1	1	1	1
6.6	Reduce and Recycle Construction Waste	1	0	1	1	1	1
6.7	Reduce and Recycle Packaging Waste	1	0	1	1	1	1
6.8	Reduce and Recycle Waste from Building Users	1	1	1	1	1	1
6.9	Reduce and Properly Dispose of Hazardous Waste	1	0	0			
	WASTE STRATEGIES TOTAL	14	4	11	10	11	10
	GRAND TOTAL	100	13	30	31	31	31

APPENDIX C

Scenario Drawings



LHB ENGINEERS & ARCHITECTS
DULUTH • MINNEAPOLIS
250 Third Avenue N., Minneapolis, MN 55401
TEL 612/338-2029 • FAX 612/338-2088

DATE	NO	REVISION

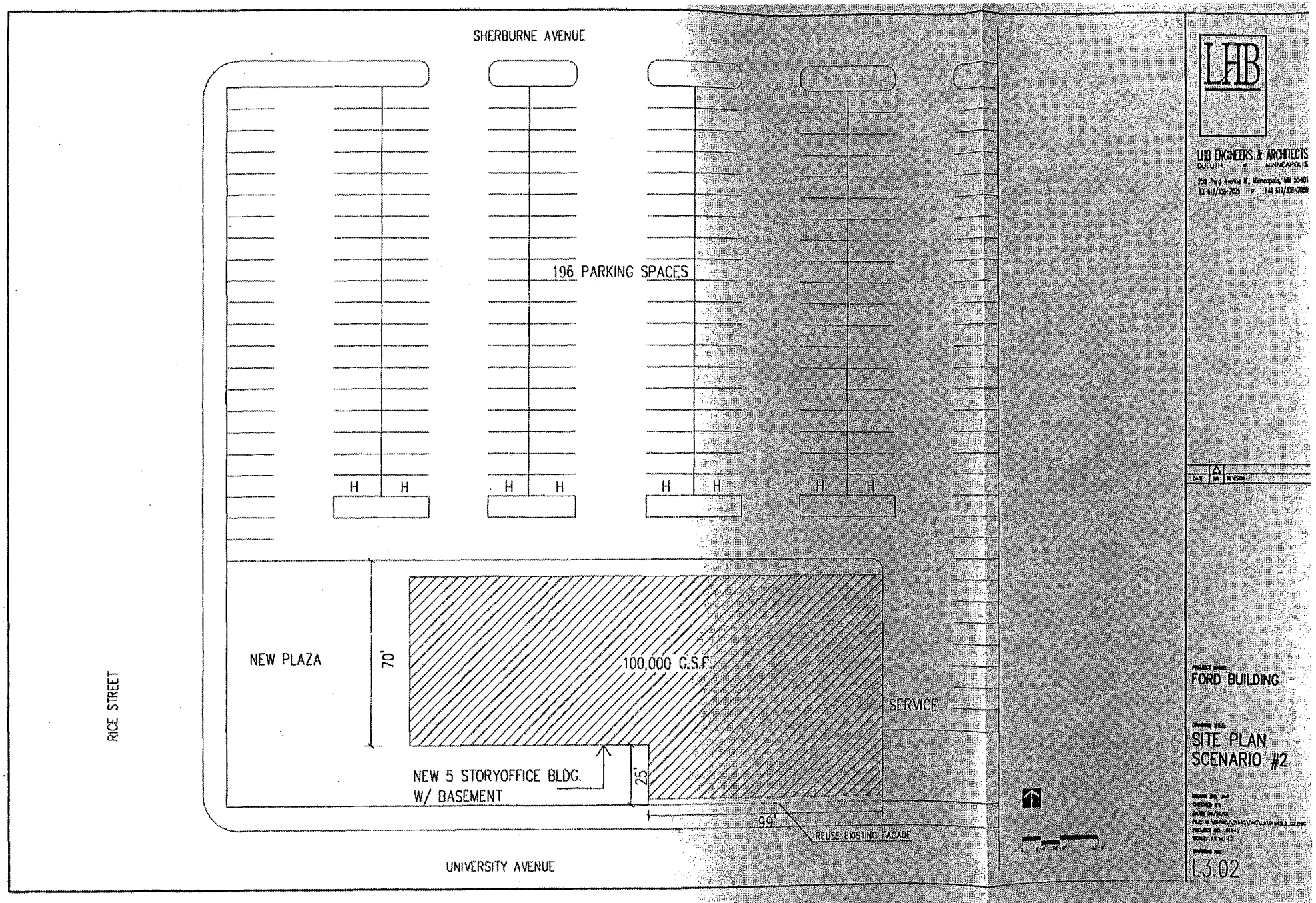
PROJECT NAME
FORD BUILDING

DRAWING TITLE
SITE PLAN
SCENARIO #1

DRAWN BY: JAP
CHECKED BY:
DATED: 09/12/01
FILED AS: X:\01PROJ\01645\DWGS\LA\01645L3_01.DWG
PROJECT NO. 01645
SCALE: AS NOTED

DRAWING NO.
L3.01

X:\01PROJ\01645\DWGS\LA\01645L3_01.dwg Fri Oct 12 07:50:35 2001



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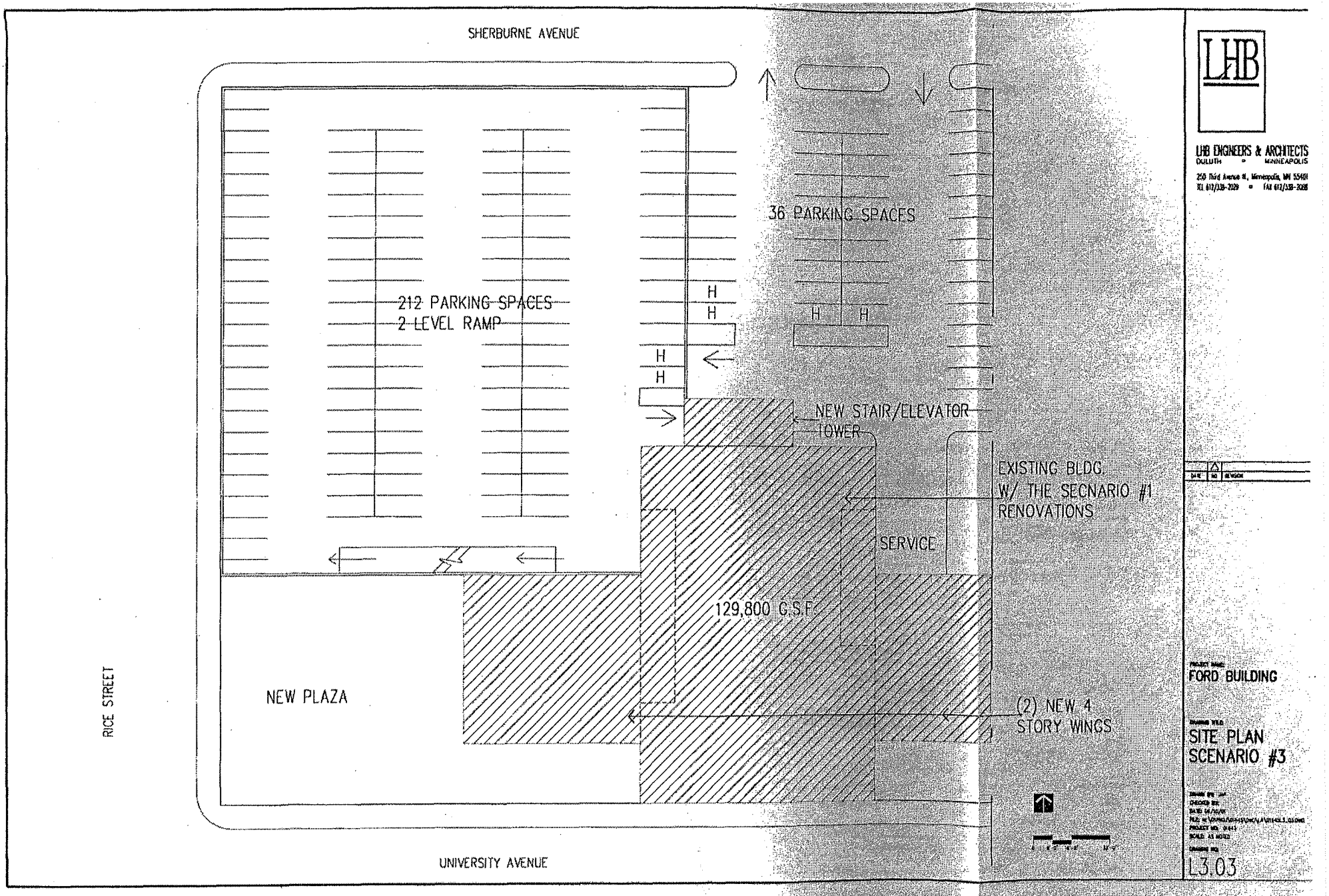
LHB ENGINEERS & ARCHITECTS
DULUTH MINNEAPOLIS

FORD BUILDING

SITE PLAN
SCENARIO #2

L3.02



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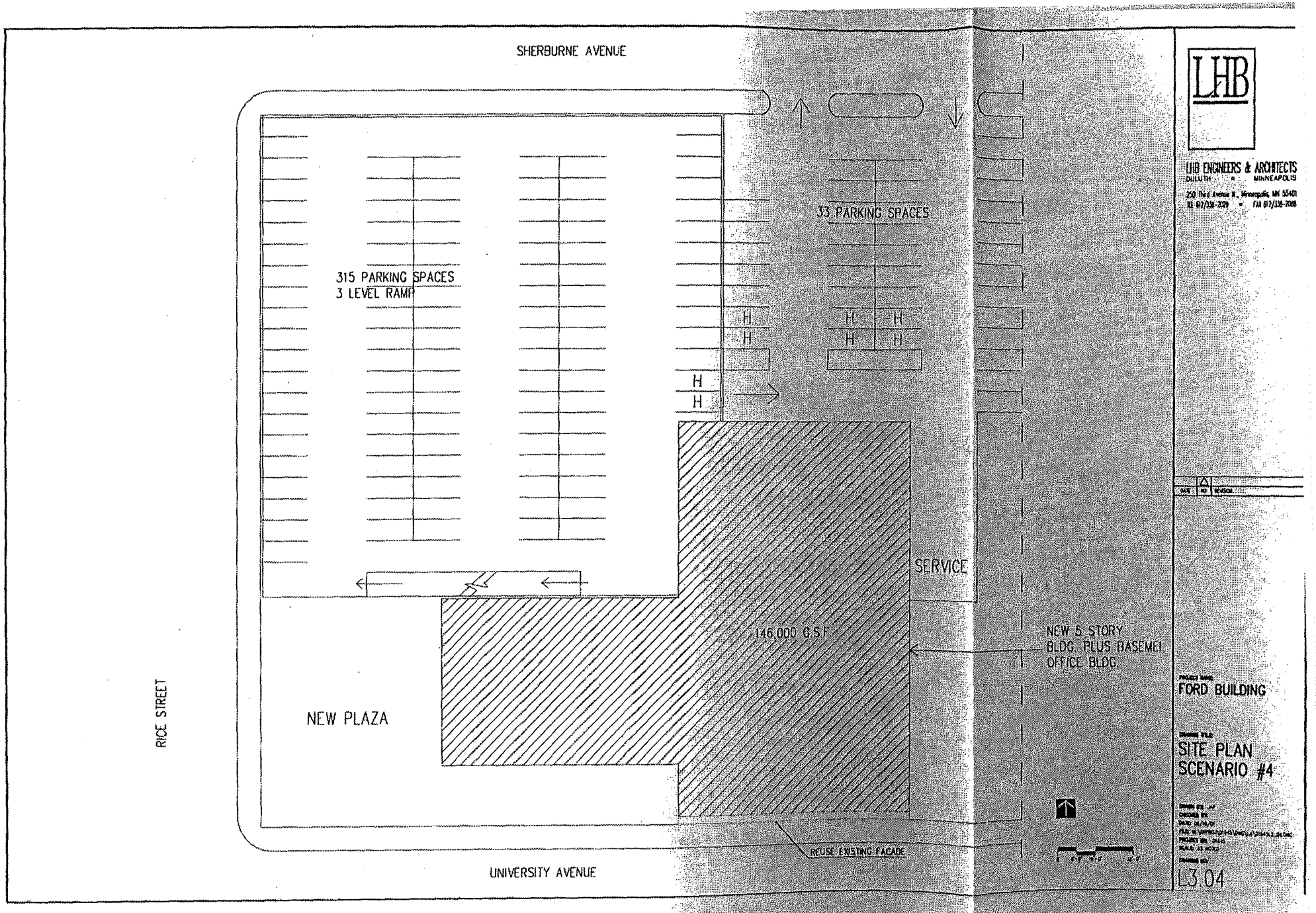
DULUTH • MINNEAPOLIS
250 Third Avenue N., Minneapolis, MN 55401
TEL 612/338-2029 • FAX 612/338-2088

PROJECT NAME:
FORD BUILDING

DRAWING TITLE:
SITE PLAN
SCENARIO #3

L3.03



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LHB ENGINEERS & ARCHITECTS
DULUTH MINNEAPOLIS
250 Third Avenue N., Minneapolis, MN 55401
TEL 612/338-2329 FAX 612/338-2088

DATE	NO	REVISION

PROJECT NAME
FORD BUILDING

DRAWING TITLE
SITE PLAN
SCENARIO #4

DRAWN BY
CHECKED BY
DATE
FILE
PROJECT NO.
SCALE AS NOTED

DRAWING NO.
L3.04

APPENDIX D

Costs

CONCEPTUAL COST MANAGEMENT REPORT
PROPERTY REDEVELOPMENT SCENARIOS
FORD BUILDING
STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION
SAINT PAUL, MINNESOTA
20 SEPTEMBER 2001

DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SCENARIO #1 - RENOVATE EXISTING			
Renovate & Expand Existing Building - Function Office Space.			
Areas Within Scenario #1			
Existing - 4 Floors	57,170 SF		
New Wings 2nd & 3rd Floors (1,730 SF x 2ea)	3,460 SF		
North Stairs - 5 Floors (10'x24')	1,200 SF		
New 4th Floor	14,870 SF		
Penthouse Allowance (90'x50')	4,500 SF		
Total GSF Scenario #1	81,200 SF		
No Sitework Changes Required.			
Building			
Demolition			
Remove Stucco From Exterioir Of Building	16200 SF	1.50	24,300
Remove CMU In Openings	2380 SF	8.00	19,040
Remove Parapet Coping	498 LF	10.00	4,980
Remove Windows	2400 SF	6.00	14,400
Remove Roof Structure/Roofing Elevator Towers	440 SF	15.00	6,600
Remove Exterior Walls Elevator Towers	1980 SF	12.00	23,760
Remove Concrete Walls Indented Areas	3020 SF	15.00	45,300
Remove Roof Membrane/Prepare For Floor	14440 SF	3.00	43,320
Remove NW Concrete Stair Treads/Landings	580 SF	20.00	11,600
Remove East Roof Structure For East Stair	180 SF	20.00	3,600
Demolition Interiors/Mech/Elect Systems	57170 SF	8.00	457,360
New Construction/Remodel			
Steel Columns/Fireproof/Gyp Enclosure	875 LF	95.00	83,125
Concrete Topping Existing Roof Structure For Floo	14440 SF	2.00	28,880
Struc. Steel Frame/Comp. Concrete Floor/Firepf.	7960 SF	22.00	175,120
Structural Steel Frame/Roof Deck	14870 SF	10.00	148,700
Roofing Memebrane/Insulation/Flashing	14870 SF	7.50	111,525
Infill Passenger Elevator Shaft Floor Structure	350 SF	20.00	7,000
Stair Enclosure - North			
Below Grade Exterior Wall With Footings	570 SF	22.00	12,540
Above Grade Cmu/Insul/Face Brick Load Brg.	2640 SF	30.00	79,200
SOG	240 SF	5.00	1,200
Roof Structure/Roofing/Flashing	240 SF	20.00	4,800
Metal Pan Stairs/Concrete Fill - Treads	480 LF	35.00	16,800
Metal Pan Stairs/Concrete Fill - Landings	320 SF	30.00	9,600
Railings - Flights	4 EA	2,500.00	10,000
East Stair - 3rd to Penthouse			
Metal Pan Stairs/Concrete Fill - Treads	192 LF	35.00	6,720
Metal Pan Stairs/Concrete Fill - Landings	160 SF	30.00	4,800
Railings - Flights	2 EA	2,500.00	5,000
Exterior			
Clean South Elevation Masonry/Tuckpoint	3220 SF	8.00	25,760
Support Ledge Perimeter Base	370 LF	45.00	16,650
Face Brick Columns/6' Band Top New Walls	7600 SF	18.00	136,800
Struct Stud/Insul/VB/Gyp Backing At Brick	7600 SF	7.00	53,200
Structural Lintel Top Band Brick/Stud	498 LF	75.00	37,350
New Curtain Wall/Caulking	16000 SF	55.00	880,000
New Terra Cotta Coping/Flashing	498 LF	50.00	24,900
Penthouse Walls/Louvers - 14' High	3920 SF	25.00	98,000

CONCEPTUAL COST MANAGEMENT REPORT
PROPERTY REDEVELOPMENT SCENARIOS
FORD BUILDING
STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION
SAINT PAUL, MINNESOTA
20 SEPTEMBER 2001

DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SCENARIO #1 - RENOVATE EXISTING			
Interior Remodeling/New			
Walls/Doors/Specialties/Finishes/Equip/Cswk	81200 SF	12.50	1,015,000
Passenger Geared Elevators - 5 stops	2 EA	155,000.00	310,000
Plumbing	81200 SF	3.25	263,900
Fire Protection	81200 SF	2.00	162,400
HVAC - Use Campus Steam/Chilled Water	81200 SF	23.00	1,867,600
Electrical	81200 SF	10.50	852,600
Special Electrical	81200 SF	5.00	406,000
Subtotal(81,200 SF)		**92.48**	**7,509,430**
Contractor Mark-up - 15%			1,126,410
Subtotal		**106.35**	**8,635,840**
Design/Market Contingency - 15.0%			1,295,380
Total July 2001		**122.31**	**9,931,220**
Construction Contingency - 5.0%			496,560
Architect & Engineer Fees - 8.0%			794,500
Owner Representative - 2.50%			248,280
Legal, Document Printing, Builders Risk, Misc - 1.00%			99,310
FF&E, Phones/Data, Security - 8.50%			844,150
Hazardous Abatement Allowance			50,000
Survey, Geotechnical, Testing - 1.00%			99,310
Percent For Art 1.0%			99,310
Commissioning - 0.50%			49,660
TOTAL PROJECT COSTS JULY 2001		**156.56**	**12,712,300**

CONCEPTUAL COST MANAGEMENT REPORT
PROPERTY REDEVELOPMENT SCENARIOS
FORD BUILDING
STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION
SAINT PAUL, MINNESOTA
20 SEPTEMBER 2001

DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SCENARIO #2 - BUILD NEW OF COMPARIBLE SIZE TO EXISTING			
Demolish/Save South Bay/Add 5 Story Plus Basement			
Areas Within Scenario #2			
Save Basement Existing	3,821 SF		
Save 1st Floor Existing	2,583 SF		
Save Roof Existing/Becomes 4th Floor	2,583 SF		
New 5th Floor Over Existing	2,583 SF		
Six Floors New (13,860 SF x 6)	83,160 SF		
Allowance Penthouse (117.11'x45')	5,270 SF		
Total GSF Scenario #2	100,000 SF		
Sitework			
Infill Removed Partial Basement Struct Fill	4000 CY	12.00	48,000
Site Area Demo Paving/Misc	23000 SF	1.00	23,000
New Plaza/Landscaping/Lighting	16000 SF	5.00	80,000
Paving/Striping/Lighting Parking Lot	7200 SF	3.00	21,600
Excavate For New Basement & Haul Off Site	8000 CY	8.00	64,000
Import Backfill At Overcut	1300 CY	15.00	19,500
Allowance New Utilities To Building	1 LS	40,000.00	40,000
Building			
Demolition			
Saved South Bay			
Demolition Interiors/M&E Saved 1st Bay South	11570 SF	8.00	92,560
Remove 2nd & 3rd Structural Floors @ Saved	5165 SF	20.00	103,300
Brace/Protect Façade South & First Bay	7270 SF	5.00	36,350
Remove Stucco From East & West Façade	1060 SF	1.50	1,590
Existing Building			
Demolish Existing Building - Concrete Frame	45600 SF	7.00	319,200
New Construction/Remodel			
Foundations - Assume Spread Footings	93600 SF	2.25	210,600
Floors - Structure/Finishes/Stairs/Fireproof/SOG	93600 SF	18.50	1,731,600
Steel Columns/Fireproof/Gyp Enclosure	93600 SF	2.30	215,280
Roof Structure/Fireproof/Ceilings/Roofing	16443 SF	20.00	328,860
Exterior			
Basement Concrete Wall/Waterproof	5680 SF	20.00	113,600
Clean South Elevation Masonry/Tuckpoint	3220 SF	8.00	25,760
New Curtain Wall/Caulking @ E&W South Bay	2110 SF	55.00	116,050
Support Ledge Perimeter Base	437 LF	45.00	19,670
Face Brick Columns/6' Band Top New Walls	9150 SF	18.00	164,700
Struct Stud/Insul/VB/Gyp Backing At Brick	9150 SF	7.00	64,050
Structural Lintel Top Band Brick/Stud	586 LF	75.00	43,950
New Curtain Wall/Caulking	20180 SF	55.00	1,109,900
New Terra Cotta Coping/Flashing	586 LF	50.00	29,300
Penthouse Walls/Louvers - 14' High	4620 SF	25.00	115,500

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PROPERTY REDEVELOPMENT SCENARIOS
FORD BUILDING
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20 SEPTEMBER 2001

DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SCENARIO #2 - BUILD NEW OF COMPARIBLE SIZE TO EXISTING			
Interior Remodeling/New			
Walls/Doors/Specialties/Equip/Cswk	100000 SF	9.00	900,000
Passenger Geared Elevators - 6 stops	4 EA	175,000.00	700,000
Plumbing	100000 SF	3.25	325,000
Fire Protection	100000 SF	2.00	200,000
HVAC - Use Campus Steam/Chilled Water	100000 SF	23.00	2,300,000
Electrical	100000 SF	10.50	1,050,000
Special Electrical	100000 SF	5.00	500,000
Subtotal(100,000 SF)		**111.13**	**11,112,920**
Contractor Mark-up - 15%			1,666,940
Subtotal		**127.80**	**12,779,860**
Design/Market Contingency - 15.0%			1,916,980
Total July 2001		**146.97**	**14,696,840**
Construction Contingency - 5.0%			734,840
Architect & Engineer Fees - 8.0%			1,175,750
Owner Representative - 2.50%			367,420
Legal, Document Printing, Builders Risk, Misc - 1.00%			146,970
FF&E, Phones/Data, Security - 8.50%			1,249,230
Hazardous Abatement Allowance			75,000
Survey, Geotechnical, Testing - 1.00%			146,970
Percent For Art 1.0%			146,970
Commissioning - 0.50%			73,480
TOTAL PROJECT COSTS JULY 2001		**188.13**	**18,813,470**

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DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SCENARIO #3 - RENOVATE & EXPAND EXISTING TO MAXIMIZE SITE			
Reuse Existing Bldg/Add East & West Wings/Add 5th Floor Plus Penthouse.			
New Floors Match Existing Floor to Floor Height, New Floor 12', Penthouse 14'.			
Areas Within Scenario #3			
Existing - 4 Floors	57,170 SF		
New Wings 2nd & 3rd Floors (1,730 SF x 2ea)	3,460 SF		
North Stairs - 5 Floors (10'x24')	1,200 SF		
New 4th Floor	14,870 SF		
West Wing New (70'x75'x5ea)	26,600 SF		
East Wing New (50'x70'x5ea)	17,500 SF		
Penthouse Allowance (90'x50')	4,500 SF		
Total GSF Scenario #3	120,800 SF		
Sitework			
Site Area Demo Paving/Misc	80700 SF	1.00	80,700
New Plaza/Landscaping/Lighting	12850 SF	5.00	64,250
Paving/Striping/Lighting Parking Lot	20060 SF	3.00	60,180
Excavate For New Basement & Haul Off Site	6400 CY	8.00	51,200
Import Backfill At Overcut	2400 CY	15.00	36,000
Allowance New Utilities To Building	1 LS	40,000.00	40,000
Building			
Demolition			
Remove Stucco From Exterioir Of Building	16200 SF	1.50	24,300
Remove CMU In Openings	2380 SF	8.00	19,040
Remove Parapet Coping	498 LF	10.00	4,980
Remove Windows	2400 SF	6.00	14,400
Remove Roof Structure/Roofing Elevator Towers	440 SF	15.00	6,600
Remove Exterior Walls Elevator Towers	1980 SF	12.00	23,760
Remove Concrete Walls Indented Areas	3020 SF	15.00	45,300
Remove Roof Membrane/Prepare For Floor	14440 SF	3.00	43,320
Remove NW Concrete Stair Treads/Landings	580 SF	20.00	11,600
Remove East Roof Structure For East Stair	180 SF	20.00	3,600
Demolition Interiors/Mech/Elect Systems	57170 SF	8.00	457,360
New Construction/Remodel			
Foundations - Assume Spread Footings - New	45300 SF	2.50	113,250
Steel Columns/Fireproof/Gyp Enclosure - New	66930 SF	2.85	190,751
Concrete Topping Existing Roof Structure For Floo	14440 SF	2.00	28,880
Floors - Structure/Finishes/Stairs/Fireproof/SOG	52060 SF	19.00	989,140
Roof Structure/Fireproof/Ceilings/Roofing	23620 SF	20.00	472,400
Infill Passenger Elevator Shaft Floor Structure	350 SF	20.00	7,000
Clean Existing Basement Wall/Penetrations To Ne	1970 SF	4.00	7,880
Stair Enclosure - North			
Below Grade Exterior Wall With Footings/Wtrpf	570 SF	22.00	12,540
Above Grade Cmu/Insul/Face Brick Load Brg.	2550 SF	30.00	76,500
SOG	240 SF	5.00	1,200
Roof Structure/Roofing/Flashing	240 SF	20.00	4,800
Metal Pan Stairs/Concrete Fill - Treads	412 LF	35.00	14,420
Metal Pan Stairs/Concrete Fill - Landings	320 SF	30.00	9,600
Railings - Flights	4 EA	2,500.00	10,000
East Stair - 3rd to Penthouse			
Metal Pan Stairs/Concrete Fill - Treads	176 LF	35.00	6,160
Metal Pan Stairs/Concrete Fill - Landings	160 SF	30.00	4,800
Railings - Flights	2 EA	2,500.00	5,000

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DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SCENARIO #3 - RENOVATE & EXPAND EXISTING TO MAXIMIZE SITE			
Exterior			
Basement Concrete Wall/Waterproof	5135 SF	20.00	102,700
Clean South Elevation Masonry/Tuckpoint	3220 SF	8.00	25,760
New Curtain Wall/Caulking @ E&W South Bay	2110 SF	55.00	116,050
Support Ledge Perimeter Base	573 LF	45.00	25,790
Face Brick Columns/6' Band Top New Walls	11780 SF	18.00	212,040
Struct Stud/Insul/VB/Gyp Backing At Brick	11780 SF	7.00	82,460
Structural Lintel Top Band Brick/Stud	573 LF	75.00	42,980
New Curtain Wall/Caulking	21450 SF	55.00	1,179,750
New Terra Cotta Coping/Flashing	617 LF	50.00	30,850
Penthouse Walls/Louvers - 14' High	4620 SF	25.00	115,500
Interior Remodeling/New			
Walls/Doors/Specialties/Equip/Cswk	120800 SF	9.00	1,087,200
Passenger Geared Elevators - 5 stops	4 EA	155,000.00	620,000
Plumbing	120800 SF	3.25	392,600
Fire Protection	120800 SF	2.00	241,600
HVAC - Use Campus Steam/Chilled Water	120800 SF	23.00	2,778,400
Electrical	120800 SF	10.50	1,268,400
Special Electrical	120800 SF	5.00	604,000
Subtotal(120,800 SF)		**98.24**	**11,866,991**
Contractor Mark-up - 15%			1,780,050
Subtotal		**112.97**	**13,647,041**
Design/Market Contingency - 15.0%			2,047,060
Total July 2001		**129.92**	**15,694,101**
Construction Contingency - 5.0%			784,710
Architect & Engineer Fees - 8.0%			1,255,530
Owner Representative - 2.50%			392,350
Legal, Document Printing, Builders Risk, Misc - 1.00%			156,940
FF&E, Phones/Data, Security - 8.50%			1,334,000
Hazardous Abatement Allowance			75,000
Survey, Geotechnical, Testing - 1.00%			156,940
Percent For Art 1.0%			156,940
Commissioning - 0.50%			78,470
TOTAL PROJECT COSTS JULY 2001		166.27	20,084,981
SCENARIO #3 - RENOVATE & EXPAND EXISTING TO MAXIMIZE SITE - RAMP			
Ramp - Two Levels			
Post Tension Ramp/Brick/Precast Façade - Cars	218 EA	12,000.00	2,616,000
Subtotal			**2,616,000**
Contractor Mark-up - 15%			392,400
Subtotal		**13,800**	**3,008,400**
Design/Market Contingency - 15.0%			451,260
Total July 2001		**15,870**	**3,459,660**
Construction Contingency - 5.0%			172,980
Architect & Engineer Fees - 7.0%			242,180
Owner Representative - 2.50%			86,490
Legal, Document Printing, Builders Risk, Misc - 1.00%			34,600
FF&E, Phones/Data, Security - 2.00%			69,190
Survey, Geotechnical, Testing - 1.50%			51,890
Commissioning - 0.50%			17,640
TOTAL PROJECT COSTS RAMP JULY 2001		18,966	4,134,630

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DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SCENARIO #4 - BUILD NEW TO MAXIMIZE SITE			
Demolish/Save South Bay/Add 5 Story Plus Basement			
Areas Within Scenario #4			
Save Basement Existing	3,821 SF		
Save 1st Floor Existing	2,583 SF		
Save Roof Existing/Becomes 4th Floor	2,583 SF		
New 5th Floor Over Existing	2,583 SF		
Six Floors New (21,350 SF x 6)	128,100 SF		
Dock	900 SF		
Allowance Penthouse	5,430 SF		
Total GSF Scenario #4	146,000 SF		
Sitework			
Site Area Demo Paving/Misc	80700 SF	1.00	80,700
New Plaza/Landscaping/Lighting	12850 SF	5.00	64,250
Paving/Striping/Lighting Parking Lot	19560 SF	3.00	58,680
Excavate For New Basement & Haul Off Site	6400 CY	8.00	51,200
Import Backfill At Overcut	2400 CY	15.00	36,000
Allowance New Utilities To Building	1 LS	40,000.00	40,000
Building			
Demolition			
Saved South Bay			
Demolition Interiors/M&E Saved 1st Bay South	11570 SF	8.00	92,560
Remove 2nd & 3rd Structural Floors @ Saved	5165 SF	20.00	103,300
Brace/Protect Façade South & First Bay	7270 SF	5.00	36,350
Remove Stucco From East & West Façade	1060 SF	1.50	1,590
Existing Building			
Demolish Existing Building - Concrete Frame	45600 SF	7.00	319,200
New Construction/Remodel			
Foundations - Assume Spread Footings	134430 SF	2.50	336,075
Floors - Structure/Finishes/Stairs/Fireproof/SOG	134430 SF	19.00	2,554,170
Steel Columns/Fireproof/Gyp Enclosure	134430 SF	2.30	309,189
Roof Structure/Fireproof/Ceilings/Roofing	24833 SF	20.00	496,660
Exterior			
Basement Concrete Wall/Waterproof	7670 SF	20.00	153,400
Clean South Elevation Masonry/Tuckpoint	3220 SF	8.00	25,760
New Curtain Wall/Caulking @ E&W South Bay	2110 SF	55.00	116,050
Support Ledge Perimeter Base	610 LF	45.00	27,450
Face Brick Columns/6' Band Top New Walls	13430 SF	18.00	241,740
Struct Stud/Insul/VB/Gyp Backing At Brick	13430 SF	7.00	94,010
Structural Lintel Top Band Brick/Stud	740 LF	75.00	55,500
New Curtain Wall/Caulking	25960 SF	55.00	1,427,800
New Terra Cotta Coping/Flashing	780 LF	50.00	39,000
Penthouse Walls/Louvers - 14' High	5040 SF	25.00	126,000

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DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SCENARIO #4 - BUILD NEW TO MAXIMIZE SITE			
Interior Remodeling/New			
Walls/Doors/Specialties/Equip/Cswk	146000 SF	9.00	1,314,000
Passenger Geared Elevators - 6 stops	4 EA	175,000.00	700,000
Plumbing	146000 SF	3.25	474,500
Fire Protection	146000 SF	2.00	292,000
HVAC - Use Campus Steam/Chilled Water	146000 SF	23.00	3,358,000
Electrical	146000 SF	10.50	1,533,000
Special Electrical	146000 SF	5.00	730,000
Subtotal(146,000 SF)		**104.71**	**15,288,134**
Contractor Mark-up - 15%			2,293,220
Subtotal		**120.42**	**17,581,354**
Design/Market Contingency - 15.0%			2,637,200
Total July 2001		**138.48**	**20,218,554**
Construction Contingency - 5.0%			1,010,930
Architect & Engineer Fees - 8.0%			1,617,480
Owner Representative - 2.50%			505,460
Legal, Document Printing, Builders Risk, Misc - 1.00%			202,190
FF&E, Phones/Data, Security - 8.50%			1,718,580
Hazardous Abatement Allowance			75,000
Survey, Geotechnical, Testing - 1.00%			202,190
Percent For Art 1.0%			202,190
Commissioning - 0.50%			101,090
TOTAL PROJECT COSTS JULY 2001		**177.08**	**25,853,664**
SCENARIO #4 - BUILD NEW TO MAXIMIZE SITE- RAMP			
Ramp - Three Levels			
Post Tension Ramp/Brick/Precast Façade - Cars	324 EA	13,000.00	4,212,000
Subtotal			**4,212,000**
Contractor Mark-up - 15%			631,800
Subtotal		**14,950**	**4,843,800**
Design/Market Contingency - 15.0%			726,570
Total July 2001		**17,193**	**5,570,370**
Construction Contingency - 5.0%			278,520
Architect & Engineer Fees - 7.0%			389,930
Owner Representative - 2.50%			139,260
Legal, Document Printing, Builders Risk, Misc - 1.00%			55,700
FF&E, Phones/Data, Security - 2.00%			111,410
Survey, Geotechnical, Testing - 1.50%			83,560
Commissioning - 0.50%			28,410
TOTAL PROJECT COSTS RAMP JULY 2001		**20,547**	**6,657,160**

CONCEPTUAL COST MANAGEMENT REPORT
PROPERTY REDEVELOPMENT SCENARIOS
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STATE OF MINNESOTA
DEPARTMENT OF ADMINISTRATION
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20 SEPTEMBER 2001

DESCRIPTION	QUANTITY	UNIT COST	TOTAL AMOUNT
SUMMARY PROJECT COSTS			
SCENARIO #1 - 81,200 SF			12,712,300
SCENARIO #2 - 100,000 SF			18,813,470
SCENARIO #3			
BUILDING - 129,800 SF			20,084,981
RAMP - 218 Cars			4,134,630
SUBTOTAL SCENARIO #3			24,219,611
SCENARIO #4			
BUILDING - 146,000 SF			25,853,664
RAMP - 324 Cars			6,657,160
SUBTOTAL SCENARIO #4			32,510,824

APPENDIX E

Financial Models

Financial Analysis Appendix

This appendix contains additional details from the Pre-design Financial Model used in this analysis.

Scenario Assumptions	Key assumptions used in the 8 scenarios evaluated.
Cash Flow & Net Present Value	Total cash flows and Present Values for each scenario
Debt Summary	State bonds issued and debt service for Scenario #1
Consolidated Analysis	Annual cash flows and discounted values for Scenario #1

Scenario Assumptions	1	2	3
Defined Scenario Date	9/26/01	9/26/01	9/26/01
Scenario Name	Sr#1 Renv. Existing	Sr#2 New, Modest Addl.	#3 Renv. & Max Expand
Base Year for Analysis	2001	2001	2001
Number of Years For Analysis	30	30	30
Scenario Type: Lease Existing (LE),			
New State Own (O), or Lease New (LN)	O	O	O
Minn State Discount Rate	5.0%	5.0%	5.0%
Ave State Borrowing Rate See Bond Calcs	4.95%	4.95%	4.95%
Facility & Site Assumptions	*1*	*2*	*3*
Enter an ID Name (text) or the D3Plan #	S#1 Renv. Existing	Sr#2 New, Modest Addl.	#3 Renv. & Max Expand
Office Building Construction Costs	$9,931,220	$14,696,840	$15,694,101
Special Use Construction Costs	$0	$0	$0
Property Acquisition	$0	$0	$0
Parking Construction	$0	$0	$0
To enter directly from D3 Form, type "D3" and enter values. Otherwise, leave blank and model enters values from the D3Plan or D3 Estimates.	*Using D3 Estimates*	*Using D3 Estimates*	*Using D3 Estimates*
Predesign Fees	$0	$0	$0
Design Fees	$794,498	$1,175,747	$1,255,528
Project Management	$248,281	$367,421	$392,353
1% for Art	$99,312	$146,968	$156,941
Office Space Occupancy	$893,810	$1,322,716	$1,412,469
SpecialUse Occupancy	$0	$0	$0
Parking Occupancy	$0	$0	$0
Inflation	$993,271	$1,469,904	$1,569,646
Other	$744,842	$1,102,263	$1,177,058
Total	$13,705,233	$20,281,860	$21,658,095
Base Year for Construction Costs (7/1/????)	2001	2001	2001
Does State Have Residual Value Rights(yes/no)?	yes	yes	yes
Maximum Useful Life: Office Building	75	75	75
Maximum Useful Life: Special Use	75	75	75
Maximum Useful Life: Parking Ramp	-	-	-
New Building's Rentable Sq. Ft. by WorkGroup: (If using a D3Plan, leave blank)			
Unused WorkGroup	68,500	89,500	106,000
(If using D3Plan,leave this section blank)			
Start of Const.(Fiscal Yr)	2003	2003	2003
Mid-point of Construction:(Fiscal Year)	2004	2004	2004
Mid-point of Construction: Calendar Month #	7	7	7
Progress of Construction by FY: 2003	50%	50%	50%
2004	50%	50%	50%
2005	0%	0%	0%
	100%	100%	100%

State Agency Operating Cost Assumptions	*1*	*2*	*3*
Annual Rates Based on Rentable Sq. Ft. ID	PlantMgt Fee	PlantMgt Fee	PlantMgt Fee
Utilities psf	$ -	$ -	$ -
Custodial psf	$ -	$ -	$ -
Maintenance psf	$ -	$ -	$ -
Security psf	$ 0.50	$ 0.50	$ 0.50
Churn Costs psf	$ -	$ -	$ -
Insurance psf	$ -	$ -	$ -
	$ -	$ -	$ -
Plant Mgt./5yr Replacement Reserve Offset	$2.67	$3.02	$2.72
Total Op.Costs During Interim Lease Periods	$ -	$ -	$ -
Management Fees psf	$ -	$ -	$ -
Plant Management Operating Fees psf	$ 10.50	$ 10.50	$ 10.50
Total	$ 13.67	$ 14.02	$ 13.72
Addl. Special Use Op.Costs psf (WorkGroup6)	$ -	$ -	$ -
Addl. Special Use Op.Costs psf (WorkGroup7)	$ -	$ -	$ -

Parking Assumptions (New Construction)	*1*	*2*	*3*
Annual Rates Per Space ID	No Parking	No Parking	No Parking
Is Ramp Parking Provided?	no	no	no
Demand for Ramp Space (as % of Total FTE's)	0%	0%	0%
Total Operating Costs per Ramp Space	$ -	$ -	$ -
User Fee per Ramp Space	$ -	$ -	$ -

Moving Dates and Moving, Equip, One-Time Expenses	*1*	*2*	*3*
Existing Staff (Moved or Re-fit at Current Sites): I	One Phase	One Phase	One Phase
6/30 of FY (If using D3Plan,leave dates blank)			
Unused WorkGroup	2004	2004	2004

Inflation Assumptions

Facility Inflation Assumptions	*1*	*2*	*3*
ID	base case	base case	base case
**("table" selects from State Inflation Table)*			
*Inflation During Construction	table	table	table
Land Value (long term)	3.00%	3.00%	3.00%
Building Value (long term)	3.00%	3.00%	3.00%

Operating Cost Inflation Assumptions	*1*	*2*	*3*
ID	base case	base case	base case
Security	2.50%	2.50%	2.50%
Plant Management Fees	2.50%	2.50%	2.50%

Lease & Parking Inflation Assumptions	*1*	*2*	*3*
ID	base case	base case	base case
Parking Operating Expenses	2.50%	2.50%	2.50%
Parking User Fees	2.50%	2.50%	2.50%

Scenario Assumptions	4	5	6
Defined Scenario Date	9/26/01	9/26/01	9/26/01
Scenario Name	Sr#4 New, Max Size	Sr#5(Sr#3 with Parking)	Sr#6(Sr#4 with Parking)
Base Year for Analysis	2001	2001	2001
Number of Years For Analysis	30	30	30
Scenario Type: Lease Existing (LE), New State Own (O), or Lease New (LN)	O	O	O
Minn State Discount Rate	5.0%	5.0%	5.0%
Non-State Participating Rate (See Read Cells)	4.95%	4.95%	4.95%
Facility & Site Assumptions	*4*	*5*	*6*
Enter an ID Name (text) or the D3Plan #	**Sr#4 New, Max Size**	**Sr#3 with Parking**	**Sr#4 with Parking**
Office Building Construction Costs	$20,218,554	$15,694,101	$20,218,554
Special Use Construction Costs	$0	$0	$0
Property Acquisition	$0	$0	$0
Parking Construction	$0	$3,459,660	$5,570,370
To enter directly from D3 Form, type "D3" and enter values. Otherwise, leave blank and model enters values from the D3Plan or D3 Estimates.	*Using D3 Estimates*	*Using D3 Estimates*	*Using D3 Estimates*
Predesign Fees	$0	$0	$0
Design Fees	$1,617,484	$1,532,301	$2,063,114
Project Management	$505,464	$478,844	$644,723
1% for Art	$202,186	$191,538	$257,889
Office Space Occupancy	$1,819,670	$1,412,469	$1,819,670
SpecialUse Occupancy	$0	$0	$0
Parking Occupancy	$0	$17,298	$27,852
Inflation	$2,022,159	$1,891,256	$2,539,980
Other	$1,516,392	$1,436,532	$1,934,169
Total	$27,901,908	$26,113,998	$35,076,322
Base Year for Construction Costs (7/1/????)	2001	2001	2001
Does State Have Residual Value Rights(yes/no)?	yes	yes	yes
Maximum Useful Life: Office Building	75	75	75
Maximum Useful Life: Special Use	75	75	75
Maximum Useful Life: Parking Ramp	-	25	25
New Building's Rentable Sq. Ft. by WorkGroup: (If using a D3Plan, leave blank)			
Unused WorkGroup	128,500	106,000	128,500
(If using D3Plan,leave this section blank)			
Start of Const.(Fiscal Yr)	2003	2003	2003
Mid-point of Construction:(Fiscal Year)	2004	2004	2004
Mid-point of Construction: Calendar Month #	7	7	7
Progress of Construction by FY: 2003	50%	50%	50%
2004	50%	50%	50%
2005	0%	0%	0%
	100%	100%	100%

State Agency Operating Cost Assumptions	*4*	*5*	*6*
Annual Rates Based on Rentable Sq. Ft. ID	PlantMgt Fee	PlantMgt Fee	PlantMgt Fee
Utilities psf	$ -	$ -	$ -
Custodial psf	$ -	$ -	$ -
Maintenance psf	$ -	$ -	$ -
Security psf	$ 0.50	$ 0.50	$ 0.50
Churn Costs psf	$ -	$ -	$ -
Insurance psf	$ -	$ -	$ -
	$ -	$ -	$ -
Plant Mgt +3% Replacement Reserve Offset	$2.90	$2.72	$2.89
Total Op.Costs During Interim Lease Periods	$ -	$ -	$ -
Management Fees psf	$ -	$ -	$ -
Plant Management Operating Fees psf	$ 10.50	$ 10.50	$ 10.50
Total	$ 13.90	$ 13.72	$ 13.89
Addl. Special Use Op.Costs psf (WorkGroup6)	$ -	$ -	$ -
Addl. Special Use Op.Costs psf (WorkGroup7)	$ -	$ -	$ -

Parking Assumptions (New Construction)	*4*	*5*	*6*
Annual Rates Per Space ID	No Parking	218 car ramp	324 car ramp
Is Ramp Parking Provided?	no	yes	yes
Demand for Ramp Space (as % of Total FTE's)	0%	80%	80%
Total Operating Costs per Ramp Space	$ -	$ 480.00	$ 480.00
User Fee per Ramp Space	$ -	$ 480.00	$ 480.00

Moving Dates and Moving, Equip. One-Time Expenses	*4*	*5*	*6*
Existing Staff (Moved or Re-fit at Current Sites): I	One Phase	One Phase	One Phase
6/30 of FY (If using D3Plan,leave dates blank)			
Unused WorkGroup	2004	2004	2004

Inflation Assumptions

Facility Inflation Assumptions	*4*	*5*	*6*
ID	base case	base case	base case
("table" selects from State Inflation Table)			
*Inflation During Construction	table	table	table
Land Value (long term)	3.00%	3.00%	3.00%
Building Value (long term)	3.00%	3.00%	3.00%

Operating Cost Inflation Assumptions	*4*	*5*	*6*
ID	base case	base case	base case
Security	2.50%	2.50%	2.50%
Plant Management Fees	2.50%	2.50%	2.50%

Lease & Parking Inflation Assumptions	*4*	*5*	*6*
ID	base case	base case	base case
Parking Operating Expenses	2.50%	2.50%	2.50%
Parking User Fees	2.50%	2.50%	2.50%

Scenario Assumptions	7	8
Defined Scenario Date	9/26/01	9/26/01
Scenario Name	Sr#7(Sr#5 withFullFee)	Sr#8(Sr#6 withFullFee)
Base Year for Analysis	2001	2001
Number of Years For Analysis	30	30
Scenario Type: Lease Existing (LE), New State Own (O), or Lease New (LN)	O	O
Minn State Discount Rate	5.0%	5.0%
Facility & Site Assumptions	*7*	*8*
Enter an ID Name (text) or the D3Plan #	**Sr#3 with Parking**	**Sr#4 with Parking**
Office Building Construction Costs	$15,694,101	$20,218,554
Special Use Construction Costs	$0	$0
Property Acquisition	$0	$0
Parking Construction	$3,459,660	$5,570,370
To enter directly from D3 Form, type "D3" and enter values. Otherwise, leave blank and model enters values from the D3Plan or D3 Estimates.	*Using D3 Estimates*	*Using D3 Estimates*
Predesign Fees	$0	$0
Design Fees	$1,532,301	$2,063,114
Project Management	$478,844	$644,723
1% for Art	$191,538	$257,889
Office Space Occupancy	$1,412,469	$1,819,670
SpecialUse Occupancy	$0	$0
Parking Occupancy	$17,298	$27,852
Inflation	$1,891,256	$2,539,980
Other	$1,436,532	$1,934,169
Total	$26,113,998	$35,076,322
Base Year for Construction Costs (7/1/????)	2001	2001
Does State Have Residual Value Rights(yes/no)?	yes	yes
Maximum Useful Life: Office Building	75	75
Maximum Useful Life: Special Use	75	75
Maximum Useful Life: Parking Ramp	25	25
New Building's Rentable Sq. Ft. by WorkGroup: (If using a D3Plan, leave blank)		
Unused WorkGroup	106,000	128,500
(If using D3Plan,leave this section blank)		
Start of Const.(Fiscal Yr)	2003	2003
Mid-point of Construction:(Fiscal Year)	2004	2004
Mid-point of Construction: Calendar Month #	7	7
Progress of Construction by FY: 2003	50%	50%
2004	50%	50%
2005	0%	0%
	100%	100%

State Agency Operating Cost Assumptions		7		8
Annual Rates Based on Rentable Sq. Ft.	ID	PlantMgt Fee		PlantMgt Fee
Utilities psf		$ -		$ -
Custodial psf		$ -		$ -
Maintenance psf		$ -		$ -
Security psf		$ 0.50		$ 0.50
Churn Costs psf		$ -		$ -
Insurance psf		$ -		$ -
		$ -		$ -
Plant Mgt 25yr Replacement Reserve Office		$2.72		$2.89
Total Op.Costs During Interim Lease Periods		$ -		$ -
Management Fees psf		$ -		$ -
Plant Management Operating Fees psf		$ 10.50		$ 10.50
Total		$ 13.72		$ 13.89
Addl. Special Use Op.Costs psf (WorkGroup6)		$ -		$ -
Addl. Special Use Op.Costs psf (WorkGroup7)		$ -		$ -

Parking Assumptions (New Construction)		7	8
Annual Rates Per Space	ID	218 car ramp	324 car ramp
Is Ramp Parking Provided?		yes	yes
Demand for Ramp Space (as % of Total FTE's)		80%	80%
Total Operating Costs per Ramp Space		$ 480.00	$ 480.00
User Fee per Ramp Space		$ 1,500.00	$ 1,500.00

Moving Dates and Moving, Equip, One-Time Expenses	7	8
Existing Staff (Moved or Re-fit at Current Sites): I	One Phase	One Phase
6/30 of FY (If using D3Plan,leave dates blank)		
Unused WorkGroup	2004	2004

Inflation Assumptions

Facility Inflation Assumptions	7	8
ID	base case	base case
("table" selects from State Inflation Table)		
*Inflation During Construction	table	table
Land Value (long term)	3.00%	3.00%
Building Value (long term)	3.00%	3.00%

Operating Cost Inflation Assumptions	7	8
ID	base case	base case
Security	2.50%	2.50%
Plant Management Fees	2.50%	2.50%

Lease & Parking Inflation Assumptions	7	8
ID	base case	base case
Parking Operating Expenses	2.50%	2.50%
Parking User Fees	2.50%	2.50%

Cash Flow & Net Present Value	*Scenario #1*	*Scenario #2*	*Scenario #3*
Scenario Name:	*Renv. Existing*	*New, Modest Addl.*	*Renv&Max Expan*
Total Bonds Sold	*$13,719,000*	*$20,303,000*	*$21,680,000*
Total Cash Flows:			
Operating Costs	$34,702,914	$46,165,104	$53,856,858
Amortization Costs: Parking	$0	$0	$0
Amortization Costs: Facility and Site	$20,901,130	$30,931,848	$33,029,748
Parking Operating Expenses	$0	$0	$0
Parking User Fees	$0	$0	$0
Cash Flow	$55,604,043	$77,096,953	$86,886,606
Residual Value	($18,050,948)	($26,712,921)	($28,525,539)
Total Cash Flow & Residual Value	$37,553,095	$50,384,031	$58,361,066
Present Value of Cash Flows:			
Operating Costs	$14,903,715	$19,847,246	$23,133,641
Amortization Costs: Parking	$0	$0	$0
Amortization Costs: Facility and Site	$12,248,939	$18,127,445	$19,356,875
Parking Operating Expenses	$0	$0	$0
Parking User Fees	$0	$0	$0
Cash Flow	$27,152,654	$37,974,691	$42,490,516
Residual Value	($4,176,582)	($6,180,768)	($6,600,166)
Present Value of Cash Flows & Residual Value	$22,976,072	$31,793,923	$35,890,350
Rentable Sq. Ft.	68,500	89,500	106,000
Present Value per RSF	$335	$355	$339
Bonded Debt per RSF	$200	$227	$205

Cash Flow & Net Present Value	*Scenario #4*	*Scenario #5*	*Scenario #6*
Scenario Name:	*New, Max Size*	*Sr#3 with Park*	*Sr#4 with Park*
Total Bonds Sold	*$27,930,000*	*$26,141,000*	*$35,112,000*
Total Cash Flows:			
Operating Costs	$65,859,551	$53,849,925	$65,848,871
Amortization Costs: Parking	$0	$6,077,263	$9,787,048
Amortization Costs: Facility and Site	$42,551,707	$33,748,849	$43,706,523
Parking Operating Expenses	$0	$4,159,460	$6,181,949
Parking User Fees	$0	($4,159,460)	($6,181,949)
Cash Flow	$108,411,258	$93,676,037	$119,342,441
Residual Value	($36,749,168)	($28,497,361)	($36,705,757)
Total Cash Flow & Residual Value	$71,662,090	$65,178,676	$82,636,684
Present Value of Cash Flows:			
Operating Costs	$28,303,727	$23,130,487	$28,298,868
Amortization Costs: Parking	$0	$3,561,567	$5,735,646
Amortization Costs: Facility and Site	$24,937,168	$19,778,307	$25,613,935
Parking Operating Expenses	$0	$1,769,587	$2,630,028
Parking User Fees	$0	($1,769,587)	($2,630,028)
Cash Flow	$53,240,895	$46,470,361	$59,648,449
Residual Value	($8,502,929)	($6,593,647)	($8,492,884)
Present Value of Cash Flows & Residual Value	$44,737,966	$39,876,714	$51,155,565
Rentable Sq. Ft.	128,500	106,000	128,500
Present Value per RSF	$348	$376	$398
Bonded Debt per RSF	$217	$247	$273

Cash Flow & Net Present Value	*Scenario #7*	*Scenario #8*
Scenario Name:	*Sr#5 withFullFee*	*Sr#6 withFullFee*
Total Bonds Sold	*$26,141,000*	*$35,112,000*
Total Cash Flows:		
Operating Costs	$53,849,925	$65,848,871
Amortization Costs: Parking	$6,077,263	$9,787,048
Amortization Costs: Facility and Site	$33,748,849	$43,706,523
Parking Operating Expenses	$4,159,460	$6,181,949
Parking User Fees	($12,998,311)	($19,318,591)
Cash Flow	$84,837,185	$106,205,799
Residual Value	($28,497,361)	($36,705,757)
Total Cash Flow & Residual Value	$56,339,824	$69,500,042
Present Value of Cash Flows:		
Operating Costs	$23,130,487	$28,298,868
Amortization Costs: Parking	$3,561,567	$5,735,646
Amortization Costs: Facility and Site	$19,778,307	$25,613,935
Parking Operating Expenses	$1,769,587	$2,630,028
Parking User Fees	($5,529,959)	($8,218,839)
Cash Flow	$42,709,989	$54,059,639
Residual Value	($6,593,647)	($8,492,884)
Present Value of Cash Flows & Residual Value	$36,116,342	$45,566,755
Rentable Sq. Ft.	106,000	128,500
Present Value per RSF	$341	$355
Bonded Debt per RSF	$247	$273

DEBT SUMMARY	Cash Flow For Construction and Bond Fees	New Debt Issued	Capital Budget Cycle Total	Annual Debt Service	Bi-Annual Total	Fiscal Year End Debt Outstanding
2001	-	-	-	-	0	0
2002	-	2,286,000		-		2,286,000
2003	6,859,469	4,573,000	6,859,000	756,675	756,675	6,487,500
2004	6,859,469	6,860,000		1,589,973		12,604,400
2005	-	-	6,860,000	1,348,753	2,938,727	11,889,850
2006	-	-		1,257,168		11,203,900
2007	-	-	-	1,225,585	2,482,753	10,517,950
2008	-	-		1,194,003		9,832,000
2009	-	-	-	1,162,420	2,356,423	9,146,050
2010	-	-		1,130,838		8,460,100
2011	-	-	-	1,099,255	2,230,093	7,774,150
2012	-	-		1,067,672		7,088,200
2013	-	-	-	1,035,904	2,103,576	6,402,250
2014	-	-		1,003,636		5,716,300
2015	-	-	-	970,681	1,974,317	5,030,350
2016		-		937,041		4,344,400
2017		-	-	902,714	1,839,755	3,658,450
2018		-		867,702		2,972,500
2019		-	-	832,097	1,699,799	2,286,550
2020		-		796,149		1,600,600
2021		-	-	760,014	1,556,163	914,650
2022		-		609,423		343,000
2023		-	-	353,426	962,849	0
2024		-		-		0
2025		-	-	-	0	0
2026		-		-		0
2027		-	-	-	0	0
2028		-		-		0
2029		-	-	-	0	0
2030		-		-		0
2031		-	-	-	0	0
2032		-		-		0
2033		-	-	-	0	0
2034		-		-		0
2035		-	-	-		0
TOTAL	13,718,938	13,719,000		20,901,130	20,901,130	

Consolidated Analysis

Summary of Projected Cash Flows for Defined Scenario

Year	Projected Square Ft. Owned or Leased	State Agency Operating Costs	State Bond Debt Service Parking Only	State Bond Debt Service Except Parking	State Bond Debt Service Total	Residual Value (Terminal Year)	Parking Operating Costs	Parking User Fee Revenue	Total Cash Flow	Total NPV
2001	-	$0	$0	$0	$0	$0	$0	$0	$0	$0
2002	-	$0	$0	$0	$0	$0	$0	$0	$0	$0
2003	-	$0	$0	$756,675	$756,675	$0	$0	$0	$756,675	$653,644
2004	-	$0	$0	$1,589,973	$1,589,973	$0	$0	$0	$1,589,973	$1,308,075
2005	68,500	$1,014,459	$0	$1,348,753	$1,348,753	$0	$0	$0	$2,363,213	$1,851,639
2006	68,500	$1,035,253	$0	$1,257,168	$1,257,168	$0	$0	$0	$2,292,420	$1,710,639
2007	68,500	$1,056,565	$0	$1,225,585	$1,225,585	$0	$0	$0	$2,282,151	$1,621,882
2008	68,500	$1,078,411	$0	$1,194,003	$1,194,003	$0	$0	$0	$2,272,414	$1,538,059
2009	68,500	$1,100,803	$0	$1,162,420	$1,162,420	$0	$0	$0	$2,263,223	$1,458,894
2010	68,500	$1,123,755	$0	$1,130,838	$1,130,838	$0	$0	$0	$2,254,592	$1,384,124
2011	68,500	$1,147,280	$0	$1,099,255	$1,099,255	$0	$0	$0	$2,246,535	$1,313,503
2012	68,500	$1,171,394	$0	$1,067,672	$1,067,672	$0	$0	$0	$2,239,066	$1,246,796
2013	68,500	$1,196,110	$0	$1,035,904	$1,035,904	$0	$0	$0	$2,232,014	$1,183,685
2014	68,500	$1,221,445	$0	$1,003,636	$1,003,636	$0	$0	$0	$2,225,080	$1,123,817
2015	68,500	$1,247,412	$0	$970,681	$970,681	$0	$0	$0	$2,218,093	$1,066,941
2016	68,500	$1,274,029	$0	$937,041	$937,041	$0	$0	$0	$2,211,070	$1,012,917
2017	68,500	$1,301,311	$0	$902,714	$902,714	$0	$0	$0	$2,204,026	$961,609
2018	68,500	$1,329,276	$0	$867,702	$867,702	$0	$0	$0	$2,196,978	$912,890
2019	68,500	$1,357,939	$0	$832,097	$832,097	$0	$0	$0	$2,190,036	$866,672
2020	68,500	$1,387,319	$0	$796,149	$796,149	$0	$0	$0	$2,183,468	$822,926
2021	68,500	$1,417,434	$0	$760,014	$760,014	$0	$0	$0	$2,177,448	$781,578
2022	68,500	$1,448,301	$0	$609,423	$609,423	$0	$0	$0	$2,057,724	$703,433
2023	68,500	$1,479,940	$0	$353,426	$353,426	$0	$0	$0	$1,833,367	$596,892
2024	68,500	$1,512,371	$0	$0	$0	$0	$0	$0	$1,512,371	$468,938
2025	68,500	$1,545,611	$0	$0	$0	$0	$0	$0	$1,545,611	$456,423
2026	68,500	$1,579,683	$0	$0	$0	$0	$0	$0	$1,579,683	$444,271
2027	68,500	$1,614,607	$0	$0	$0	$0	$0	$0	$1,614,607	$432,470
2028	68,500	$1,650,404	$0	$0	$0	$0	$0	$0	$1,650,404	$421,007
2029	68,500	$1,687,095	$0	$0	$0	$0	$0	$0	$1,687,095	$409,874
2030	68,500	$1,724,704	$0	$0	$0	($18,050,948)	$0	$0	($16,326,244)	($3,777,525)
Total Cash Flow		$34,702,914	$0	$20,901,130	$20,901,130	($18,050,948)	$0	$0	$37,553,095	$22,976,072
Net Present Value		$14,903,715	$0	$12,248,939	$12,248,939	($4,176,582)	$0	$0	$22,976,072	