December, 2000

The guidelines documented in the January, 1995 Campus Master Plan defined the inherent guiding forces which have successfully provided a flexible framework for the past six years - a period of vital growth and development. The Campus Master Planning Advisory Committee and the Master Planning Office directed the Minneapolis firm of oslund and assoc. in the preparation of this Master Plan Update.

With the order and basic physical form of the campus already established, the guiding principles, policies, and strategies of this update planning document will continue to accommodate a reasonable degree of growth within the context of the physical form shaped by the 1995 plan.

The University Board of Regents approved this Plan Update at the June 8-9, 2000 meeting affirming its use to direct growth and development that will produce a more attractive and functional campus. The success of the plan depends on the continuing participation of the faculty, staff, students, surrounding communities, public agencies and the continuing commitment of the University to enhance the natural qualities and key values unique to the UMD campus.

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Associate Vice President
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Cover photographs of the campus
Background to the Master Plan Update 2000

The master plan update efforts took place from fall 1999 through spring 2000, marked by the approval at the Regents' meeting in June. The Master Plan Update Committee members were appointed by UMD to work with the master planning consulting firm, oslund.and.assoc. of Minneapolis. A number of the 1995 Master Planning team members also served on the 2000 Update team.

The Committee offered progress reports to the UMD Campus Assembly's Physical Facilities Committee at critical stages of the process for review and comments. In addition, two campus forums were held for public review and discussions. In February 2000, the updates were ratified at the UMD Campus Assembly. The updates were then presented for a review at the Regents' meeting of May and were approved at the Regents' meeting of June.

This master plan update report used the 1995 report as a base. All text revisions and additions that reflect the 1999-2000 efforts are incorporated in this report with the updated illustrative drawings.

The graphic striping of the plans is intended to represent the future expansion sites or spatial concepts diagrammatically. It expresses neither the actual footprint nor the layout of the building or building complex. Not all striping is intended for buildings but rather to show option sites for future developments. Those option sites can be interim parking lots until future structured buildings come into existence.
Executive Summary

The 1995 master plan for the University of Minnesota Duluth grew out of a comprehensive analysis of the physical/geological and architectural layers of the campus and the solicitation of broad campus and community input. This research revealed the values special to the mission of the University of Minnesota Duluth that should guide future development.

Since the 1995 master plan, UMD has experienced considerable growth in student enrollment. The University has strengthened its reputation academically as well as a university with a high level of sports participation. While the students' enrollment continues to increase, the retention of the existing housing facilities has become one of the priority issues. This has led to a decision to keep Vermilion and Burntside Halls at the current locations.

Several significant building projects are in the process of construction or planning. The new library is currently under construction and will open in fall 2000 on the north side of the Business and Engineering complex. The Music Performance Facility is planned for construction on the south-east side of Ordean Court to become an integral addition to the Arts complex. The Bulldog Sports Center is planned for construction on the north-west of Griggs Field. The new Science Laboratory is planned on the west of the existing Life Science Building.

In order to accommodate the increasing needs of the University’s functions, the 1995 campus master plan needed to be revisited and modified. Updates were needed to reflect the changes over the last five years and to realize campus expansion in a harmonious manner. For this reason, the master plan updates were conducted.

The key values and the plan elements of the 1995 master plan remain primarily the same except where the plan elements are already completed or are currently considered for future realization. Clarification of several expressions from the 1995 master plan book are added in this 2000 update for better understanding of the original intentions. The key values and the plan elements are:

Executive Summary continues next page
Concentrated Academic Core

- Establishing future building sites that preserve the concentrated campus core and build on its inherent functional as well as operational efficiencies.

- Given the fact that Vermilion and Burntside Halls are scheduled to remain at the current locations, the Academic Core is required to expand to the north and the south, while maintaining and continuing the circulation grid.

- Reinforcing and extending the internal courtyard system to bring light and natural landscape into view.

Outreach and Access

- Creating greater visibility of the campus and a primary point of public access through a ceremonial entrance off of Woodland Avenue leading to the center of the campus.

- Developing a new transit center and campus gathering space near the old library as an identifiable focal space and a local transit access point to the campus core.

- Re-shaping and adding to existing roads and drives to create a new Ring Road. The plan designates public parking enclaves at key entrance locations that support public access to core academic and service functions.

Executive Summary continues next page
Regional Setting

- Restoring the native Hillside tree cover by bringing the native northwoods landscape along Tischer Creek tributaries.

- Reclaiming (or uncovering) natural attributes of the campus—its streams, drainage paths, holding ponds, and rock outcroppings—that have been neglected by prior development.

- Linking the Rock Hill and Bagley Nature area to the campus so as to make them more accessible, physically or visually, to the campus core.

- Preserving open space and wooded areas by restricting the expansion of surface parking, incorporating future parking in new development projects.

The master plan is intended to be a living document, a forum for open and inclusive discussion and a means of making visionary, yet practical and cost-effective decisions on physical changes to the campus. Its success will be dependent upon how well it is followed. Rigorous adherence to the implementation goals and strategies called for in the master plan can result in the UMD campus achieving its unique potential.
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Introduction
UMD Campus Master Plan

The success of a campus master plan is determined many years after its completion. This report reflects the input of numerous interests at UMD. The involvement of many insures that the external physical Master Plan is a true reflection of a plan that can be realized and act as a guide for UMD in the twenty-first century.

This report begins with the Master Plan for the UMD campus, its philosophies and components. The Campus Master Plan, with its vision of a concentrated academic core rising confidently out of a restored forest, serves as the fruition over a year of research and broad community involvement.

Chapter Two outlines the analysis process undertaken to document the state of the existing campus, its needs and position in the community.

Chapter Three created planning and design priorities for UMD that adapt the Regent’s of the University of Minnesota four principles of planning to achievable goals in Duluth.

The resulting plan is imbued with the values set forth in Chapter Four and influenced by the Guidelines for Future Development. Guidelines for buildings and the landscape will enhance UMD’s unique northern character, create a sense of entry and welcome, and maintain asset value over time. These guidelines create the framework for future planning at UMD.

The challenge now is to implement the plan, to ensure that members of the UMD community will apply its agreed-upon goals to every project and opportunity for change on the campus. This long-term commitment to achieving and applying the plan will be the true test of its success.
Summary of this Report

Chapter One Summary:

Campus Master Plan
The Campus Master Plan takes direction from a concept of the Northland: the idea that UMD can develop as a comprehensive University woven into the city and its wealth of green space.

The plan calls for a compact campus that rises up from a restored forest cover. Such distinctive features as Tischer Creek tributaries will be uncovered and lined with walks that link into surrounding neighborhoods. Rock Hill and the Bagley Nature Area embrace a compact campus rising from a northern forest hillside.

Major plan concepts include:

- Potential sites for new facilities such as housing, academic expansion and sports and recreation fields.
- Parking is concentrated to prevent further intrusion on the campus landscape and surrounding areas
- UMD should retain a concentrated academic core
- A visible image and front door entrance for UMD from Woodland Avenue
- Restoring the hillside treecover surrounding the concentrated academic core
- Reclaiming natural attributes such as streams, lake views and ponds
- A campus focal space with drop-off and access to short term parking in front of the Campus Center
- A new Ring Road and improved parking access
- Improved and more visible building entries
Chapter Two Summary:

Campus Planning Process

The UMD Master Plan is grounded in a clear understanding of Historic Precedents, Program Analysis, Site Analysis and Perceptions of the campus. In Chapter Two, this research is coupled with input from the UMD Master Planning Committee. The master planning process has emphasized only the exterior elements of the campus. However, the recurring concerns on the functioning of the built core are included for the record.

The site analysis describes the microclimate, circulation, utilities and infrastructure, parking, historic evolution, and open space relationships. This knowledge of the region, its natural systems and the patterns of development reveal key strategies for future campus growth and development. Major findings include:

- UMD should maximize its long-view of the lake and the green ravines that tie it into Duluth’s park system
- Woodland Avenue currently has significant traffic and congestion problems at rush hour
- UMD lacks a clearly-defined public entry approach
- Direct and clear access is needed between parking lots and entry doors
- UMD’s compactness and accessibility is one of its most valued physical qualities
- More exterior circulation options and courtyard spaces are desirable.

The campus community and neighbors contributed to the master plan through a participatory photography study, a neighborhood picnic and a public forum conducted during the Fall of 1994. Major findings of public input include:

- the high value that community members place on the green space of Duluth
- concern over traffic
- praise for planted spaces such as Ordean Court.
Chapter Three Summary:

Goals and Priorities for the UMD Plan

This chapter addresses key issues and problems found in the campus and community analysis. Chapter Three opens with the Regents' four principles, a stated goal for the plan, philosophical priorities that serve as a basis for translating the Regents' principles for planning into an appropriate plan for UMD and its unique needs. The goal and priorities for the UMD campus plan are:

Goal
To shape a campus that supports the UMD mission in the region and the state. The plan should provide a physical framework for a comprehensive University with applied learning opportunities, research, and broad regional outreach.

Planning Priorities

Priority 1: A Medium-Sized University on the shores of Lake Superior as the Distinctive Campus Vision

Priority 2: Welcoming Access and Entry

Priority 3: Maximizing the Existing Campus

Priority 4: An Accountable and Timely Process
Chapter Four Summary:

Campus Master Plan Guidelines
Campus values and guidelines translate the Principles for Planning adopted by the University Regents to achievable goals. In this chapter, guidelines outline the means by which the UMD mission as a regional university can achieve a physical presence.

Guidelines for the Campus Landscape
Restoring the hillside forest and preserving important natural features will reinforce the importance of the unique setting and UMD's connection to the region.

Guidelines for Campus Buildings
Future development will reinforce the compact and connected campus structure already in place at UMD while establishing clear zones for housing, services and recreational facilities.

Guidelines for Campus Circulation
Clear and logical entry progression is the strongest signature of a welcoming campus. As an Entry and Ring Road are developed and pedestrian corridor enhanced, UMD can capitalize on its existing accessibility.

Guidelines for Campus Growth–Land Acquisition
Land should be acquired with a clear mission of fulfilling the goals of the master plan.

Guidelines for UMD Outholdings
UMD's outholdings are its defining image for the larger region and changes in their status must be viewed with consideration of the master plan.
Chapter Five Summary: 

Long-Term Implementation and Commitments

This final chapter outlines strategies for implementation of the master plan, approaches by which it can be accountable and relevant, timely and cost effective.

The Campus Assembly Physical Facilities Committee

Currently, the Physical Facilities Committee (PFC) of the UMD Campus Assembly is charged with the responsibility for advancing the Campus Master Plan. The membership of this committee includes the director of facilities management, one faculty member from each collegiate unit, two student representatives, one professional staff representative, two civil service representatives, and one representative appointed by each of the vice chancellors.

This committee will make an annual evaluation and written report for the Campus on the effectiveness of physical changes during the prior year in advancing the Master Plan. The committee will also report annually to the Campus on projects for the coming year. The annual evaluation and written reports will include input and consultation from appropriate municipal and community representatives.

Implementation Review Policy

The master plan must be supported by a project review process which assess the impact of all capital projects in the context of the Master Plan objectives. This assessment process applies to all University facilities in Duluth, regardless of the reporting structure of the unit affected.

Faculty, student, staff, and community participation in the plan review process is essential for the success of the plan. The review process will be established within the Campus governance structure and result in recommendations to the Campus administration for adoption.

All individual projects are expected to contribute to the advancement of the essential elements of the Master Plan.

To achieve the overall objectives of the Master Plan, all projects should contribute to the long term funding of non-project-specific developmental objectives, such as concourse interconnections, utility distribution systems, road and infrastructure improvements, landscaping, land acquisition, etc.

No project should be recommended for approval/support until it has completed the accepted review process.
Chapter One
UMD Campus Master Plan

The chapter to follow outlines the future vision for the UMD campus. This vision calls for an Academic Village that rises from a restored forest cover. This strong identity is established by the adoption of clear land uses. The plan clusters related facilities into zones of development. This approach insures an integrity of connected open space which sweeps through the campus, inviting Rock Hill and the Bagley Nature Area to define the image of the campus.

The plan builds upon the compact connections of the existing campus to introduce grid circulation and building arrangement. This grid layout extends the pattern of courtyard development to the north and south and allows necessary expansion of the academic core. UMD will establish a strong image to the city with open space and a new front entry adjacent to Woodland Avenue. This new entry sweeps up the hill through sports fields to terminate with a “Clearing in the woods” that will serve as UMD’s ceremonial heart. This heart acts as the centerpoint to the encompassing Ring Road, and serves as the focus of new public facilities.
Natural Structure
The UMD Master Plan embraces its Northland setting by recognizing the underlying natural structure of the campus. The occurrence of such notable area open spaces as Rock Hill and the Bagley Nature Area on the UMD property are celebrated in the plan and used as the catalyst for reintroducing nature into the campus. These areas are protected and enlarged. The new plan calls for the Rock Hill open space to sweep along Tischer Creek tributaries, embracing the campus core by natural northwoods landscape. The path of open space continues with a series of courtyards and entry courts, then through and beyond the Clearing at the Campus Center. While Tischer Creek tributaries reintroduce natural northwoods landscape, the courtyards and entry courts will reflect the similar group of trees that will more formally frame the space.

The ponds and creeks on the campus are given new importance in the plan and provide the basis for the UMD campus to become the link to many of Duluth’s premier open spaces, namely Congdon Park and the Hartley Nature Area. The campus creek corridors characterize UMD as a Northland campus. Currently a subsurface water flows south of St. Marie Street into Tischer Creek tributary. The plan proposes that this ground water be uncovered to reinforce the Northland character of the campus. The corridors act as a strong visual and environmental connector to the larger natural structure of Duluth.
The master plan designates many open areas to be replanted with canopy trees specified in the guidelines. The plan shows a buffer of forest to the west of campus. Tischer Creek tributaries invite the forest cover into the campus to re-create the natural Northland setting. Spatially, courtyards and entry courts will be more formally stated by the indigenous trees, which will evoke memories of northwoods. In the fall, the trees will add color to the campus. The restoration of this distinctive native landscape will accentuate the unique Northland setting of UMD while providing important habitat for wildlife.

**The Academic Village Concept**

The plan concentrates connected growth within a core defined by an open space of forests and courtyards. This ring of green will define UMD’s image of a Northland University.

The plan builds upon the compact connections of the existing campus to emphasize a grid of circulation and building arrangement. Given the fact that Vermilion and Burntside Halls are scheduled to remain where they currently are, the academic district will expand to the north, and to the south and southeast where possible.
Oakland Avenue will be re-aligned towards the hill to create space for academic expansion. Academic buildings will stay on the east side of Oakland Avenue, which allows the campus to keep its compactness while permitting necessary expansion. As the campus grows, the UMD tradition of courtyards will continue with small, enclosed spaces that provide sunlight, outdoor public spaces, and stands of indigenous vegetation. Expansion should continue to ensure outward views of Lake Superior, so important for orientation on the campus.

Facilities that draw visitors from the larger community should be sited at good visible locations in order to reinforce their presence as important UMD gathering spaces.

The position to the northeast of the Clearing would be ideal for new performing arts facilities such as a recital hall. Currently, a new music performance facility is planned for construction at this location. This location builds on the Performing Arts grouping and provides a clear front door access to Woodland Avenue. To the southwest of the Clearing, next to Darland Administration Building, another high visibility site providing direct access to parking would be ideal for visitors. To the northeast of the Sports and Recreation Center, the Bulldog Sports Center is planned for construction.

Within the existing academic core, additional expansion building sites have also been located near the Medical School, Health and Sports Recreation. Re-alignment of Oakland Avenue towards the hill will allow the academic core to expand while reinforcing the existing circulation spine. The ideal locations for future academic buildings are proposed to the north of the new library, to the south and west of Life Science and Alworth Halls, to the east of Medical School, and to the east of Darland Administration Building.
The blending of native trees with hard surfaces and seating will typify courtyards at the campus core.

The Pattern of Courtyard Development
The expansion of the campus will build on a tradition of UMD courtyards. These spaces should be light filled and humane. Future corridors will flow along courtyards planted with native trees. Light and access to the outside are central in maintaining a welcoming campus where much of the pedestrian circulation is indoors. Thus, courtyards will be accessible and designed to make possible outdoor classes, studying, and conversation in islands of nature within the large campus. The indoor/outdoor relationship available at the courtyards must be enhanced with visual and physical barriers reduced to encourage interaction between them.
Housing Expansion
Two clusters offer choices in residential character that form the structure of future housing. The first cluster will build on existing housing at the northwest side of campus providing indoor connections to the campus for students who wish closer contact, while the second builds on the natural setting along Tischer Creek tributary. The Ground Maintenance and Facilities Building is scheduled to remain at the current location near Griggs Field. This opens up an opportunity for another housing expansion to occur along Tischer Creek tributary on the north of St. Marie Street.

Housing clustered on the northwest side of the campus core is encouraged to promote optional living arrangements, capitalizing on the existing connected campus. This housing should help extend linkages into previously isolated sections of the connected campus.

Lining Tischer Creek tributary, the second cluster will provide views of surrounding woods and direct access to the Tischer Creek trail and links to larger open space systems. These residential facilities will be near recreation fields and offer adjacent parking.

Recreational Expansion
One of the unique features of UMD, is its extensive accessible recreation facilities. These facilities are an important resource in drawing students to UMD and in enhancing the quality of campus life. Most organized recreational activities should be grouped with ample parking provided. Casual activities should be located near the housing clusters with hiking and biking trails and sports fields incorporated in the development.

Recreational expansion to the southwest will allow more and varied sports field development.

The Clearing can become the site of informal gathering with low-impact activities such as frisbee and volleyball.
The view west through the forest canopy, up the entry road to the Clearing with the academic core in the backdrop.

Entry Road
A key feature of the proposed Campus Master Plan is a new entry road from Woodland Avenue near Clover Street. The importance of a main entry road stems from the necessity to establish a clear image and direct access of UMD in the community. By establishing a view of the campus from sites along Woodland, a striking panorama of the campus is revealed which will render UMD truly memorable.

The necessity of a primary campus entry was also driven by the need to establish visual clarity along Woodland to correct current traffic safety difficulties.

To the right of the entry drive, the sports fields, woven with strands of restored forest cover, will proclaim the vitality of recreation on the campus while also serving as a defining front yard from the city. The new entry road terminates at the Ring Road with the Clearing providing a striking foreground to the Campus Center, Darland Administration Building, and Kirby Student Center.
The Clearing
The plan calls for a campus in the hillside forest of the larger city of Duluth. At the front of UMD, a new drop-off will allow access and short-term guest parking for student services. A rectangular central lawn stretching to the southeast from the new Campus Center will serve as a symbolic “clearing” that will provide UMD a central gathering place. As a setting for events such as reunions, festivals and public speaking, this “clearing” will be a transition at the edge of the built campus that opens out to long-views of Lake Superior and the athletic fields in the sloping foreground. The space, a broad level lawn, will become the ceremonial heart of the campus and terminus of the main entry road. From this center, development will radiate out with a ring of activity.
The Ring Road and Parking Access
The Woodland Avenue entry along with entries from College and St. Marie Streets will bring traffic to a new Ring Road for access to individual drop-off areas and parking. The new Ring Road will be two-way traffic without curb parking. This road will serve as a boundary between the academic core of the campus and its auxiliary services of parking, housing, health and sports recreation, heating plant, and campus services. Within the Ring Road, the academic core is surrounded by open space. Trees that are reminiscent of Northland woods will formally frame building entries. This articulation of entries will help visitors find their destinations. The design of parking areas, as described in the guidelines, break up parking areas with edges of restored forest. All parking areas feed into pedestrian links which have visual access to entry doors. Short-term visitor parking is located closer to the divisional entries described below.

Side Entries
With the new Woodland Avenue entries, the master plan accommodates occasional visitors from the area who are not familiar with local streets. For students and staff, the master plan provides side entries from College and St. Marie Streets for direct access to long-term parking. The east entry off of St. Marie Street (currently Stadium Drive) will also serve as a destination drive the major event facilities and a proposed structured parking facility. There is an increasing amount of fast traffic on St. Marie and College Streets. To ensure traffic and pedestrian safety, stop signs should be installed at each campus entry intersection for all directions.

Individual Entries
As UMD has grown, a lack of program identity has occurred, and public access has become increasingly confusing. The master plan responds to these needs by extending side entries directly to drop-off points at three key outreach areas: the Medical School, Ordean Court, the heart of the arts and health and sports recreation district, and a proposed new transit center. The transit center would function as a service hub for the local transit authorities. By encouraging the use of bus system among students, faculty, and staff, the improved transit service is expected to alleviate parking issues on campus. The transit center should incorporate some of the service functions of the university. This multi-functional development will become another active focal point of campus to provide a place for social and cultural
interaction. From the Ring Road, there will be individual drop-off areas as well as an entry court at the Darland Administration Building to the south. To the northeast drop-offs are provided at the Fine Arts, Education and Health and Sports Recreation Complex at the existing Ordean Court, and to the east of the new library site.

Parking
Parking will move away from the academic core with large lots along the Ring Road to the north and south. Small special interest parking lots are located near individual entries to the core. These lots are designated for high priority parking only, such as disabled and short-term. Should development occur in these areas, parking should be incorporated into the new structure as underground ramps. This must be adhered to and the expense realized as new projects are planned.

Walkways
Walkways are a key to providing clear wayfinding and orientation. They are planned to serve as an extension of the structure of academic buildings so that the route from parking to doorway is clearly visible. These walks are to be lined to the north with an evergreen window which will screen pedestrians from fierce winter winds. Oakland Avenue will be re-aligned and serve as an important internal circulation artery as academic expansion occurs towards north following the road. The campus will be lined with walks that link the campus core with parking, housing and trails into the nature areas.

The Clearing at the front door of the Campus Center will be lined with a new walk providing direct access from Health and Sports Recreation and Performing Arts areas to Darland Administration and the sciences on the west.

On the regional scale, UMD will become the hub of a larger trail system that links the Duluth greenbelt, nature areas, campus facilities, streams, and city parks. Paths for walking, skiing, and biking will follow stream corridors and other available fingers of open space.
Signage
The intricately woven academic core of the UMD campus can be a challenge for visitor orientation. An accessible campus includes a clear coordinated signage system. This signage must begin in the surrounding neighborhoods and continue into the campus. Large entry signs at the campus edge provide the initial welcome; while directional signs and maps are necessary to direct one from the entry to their destination. Parking lots and bus drop-offs must offer a clear visual connection to individual campus core entries. Once inside the core, maps and signage can clarify routes and promote easy wayfinding. A clear system promotes UMD as an accessible campus and enhances the daily lives of its users.

Off Campus Holdings
The UMD outholdings are a key part of the UMD presence in the greater region. As each piece is evaluated, its contribution to the mission of UMD, its history and the importance of the area must be considered.

The old campus is a vital part to the legacy of UMD. There is a desire to maintain a presence with the development of a future plan for site stewardship. The establishment of a task force should be encouraged to develop a long-range plan for the site and to stabilize its position within the University and the community.

The Natural Resources Research Institute (NRRI) on the Miller Trunk Highway houses laboratories, a library, and other facilities for its regional outreach mission of sustainable economic development. UMD planning should be coordinated with NRRI for future outreach.

Completed in 1908, Glensheen was designed by Clarence H. Johnston of St. Paul, the architect of many University of Minnesota buildings. The manor house and grounds are a highly visible presence for tourism in Duluth.

With facilities ranging from research labs to Glensheen, UMD now has a diverse presence in the region. The master plan to follow does address these diverse facilities and sites. A future addition to the plan is needed that addresses historic preservation, environmental, reuse and real estate strategies where relevant for each of these sites.

University of Minnesota Duluth Master Plan Update 2000
Skyline Drive
Following ravines and traversing forests, Skyline Drive offers dramatic views of the lake and city. UMD's property is divided by what is being called Skyline Drive. To lessen its impact on the campus and promote Duluth's Northland image, a cooperative effort should be undertaken to design a road which reflects both interests.

The new road should be residential in scale with intermittent parking pullouts. The area near Rock Hill must be as unobtrusive as possible with parking moved down hill. The road should introduce curves to slow traffic and allow nature to dominate the image and provide sweeping scenic views over the campus and lake.

Land Acquisition
The acquisition of land is essential to provide a front door image and long view to the campus core. Long term plans call for parcels to be acquired along Woodland Avenue and the west corner of campus to help define campus boundaries and to accommodate the Woodland Avenue entry and recreational space needs.

The land along Woodland Avenue is deemed necessary for acquisition to provide clear University presence on a major Duluth arterial roadway. This area includes the Chester Park school site which is primarily needed as a clear visual corridor to the campus. While temporary use may be made of the existing structure, it should not be considered for long term maintenance investment. Such extraneous holdings are not encouraged and do little to enhance the quality image of UMD.

To the northeast of the campus, exists a residential neighborhood, the area defined by St. Marie Street, Woodland Avenue, and Tischer Creek tributary. This area is ideal for UMD's future expansion. Being adjacent to the current campus, the area feels a part of the campus. It also provides a substantial land area for cohesive development. This is the only site in the vicinity of the current campus that satisfies those requirements. The university should proceed to acquire this area as opportunities arise.

There is a significant need for improved and expanded grounds maintenance and service facilities. The existing facility will remain and expand at the current location by Griggs Fields with appropriate screening and landscaping considerations.
**Land Use Districts**  
The image of UMD as a reflection of the Northland is insured for the future by the creation of land use districts. These designated areas cluster like-facilities, which promote the compact academic village idea. The clustered development allows ample open space and invites nature to sweep through the site.

- **No Build District**  
To achieve a campus in harmony with its surroundings, areas have been set aside, free from development pressures, to encourage nature to permeate the site.

- **Housing District**  
Housing is divided into three zones that offer choices in residential character. One builds upon the interconnectivity of the existing campus while a second is located to take advantage of its Northland setting. The Stadium Apartments, with their streamside location, provide a third housing zone.

- **Recreational District**  
The new plan builds on the extensive layout of recreational fields, expanding to increase their presence and contribute to the campus open space.

- **Service and Maintenance District**  
Service and maintenance zones areas are located with respect to their surroundings. They fall outside of the Ring Road but with internal campus access to the core.

- **Long-term Expansion Possibility District**  
The new plan proposes future expansion of the University to the northeast of the current campus. Because the area provides a land large enough to accommodate multiple types of use, it is envisioned as a location for future fields, housing, and various other university functions to coexist.
Chapter Two
Campus Planning Process

The UMD Master Plan is grounded in understanding of Historic Precedents, Program Analysis, Site Analysis and campus perceptions. This research and analysis is merged with input from the UMD Master Planning and Facilities Committees.

Historic Precedents and Regional Patterns
During the 1930s, citizen committees in Duluth worked to urge the legislature to bring a UM campus to the northern part of the state. With the return of GIs after World War II, a branch campus committee was formed with Duluth lawyer James G. Nye as chairman and the acclaimed Duluth writer Margaret Culkin Banning among its members. With the support of Duluth Regent Richard L. Griggs and the branch committee, newly-installed University President J.L. Morrill encouraged the legislature to approve the creation of UMD. On July 1, 1947, the Duluth State Teachers College (DSTC), founded as the State Normal School in 1895, was officially designated a branch campus of the University of Minnesota. At that time, the DSTC had 1,432 students, six buildings, and a ten-acre campus. (Duluth News-Tribune, April 30, 1972).
When Richard Griggs donated the funds to purchase the 160 acre Nortondale Tract to the north and west of the old campus, UMD was presented with an extraordinary planning opportunity to create one of the first entirely new campuses with a comprehensive plan. In 1947, the Minneapolis landscape architecture and planning firm of Morell & Nichols was hired to draw up a master plan for the 160 acre campus. With a formality that evoked their earlier work at Carleton, Gustavus Adolphus and many other colleges, Morell & Nichols called for a bilateral arrangement of freestanding buildings, all of similar size and massing. Arranged like the wings of a palace, the campus was arranged around the northwest end of an open space that cascaded down the hill.

In July 1948, R. Reinhold Melander, working with University advisory architect, Roy C. Jones, unveiled their design for UMD’s first structure, the Science Building. Intended to set the pattern for future buildings, the architects sought functional simplicity for the project. They sought an architecture that was flexible to meet future expansion and changing needs. In an interview with the Duluth Herald, Melander stated that he was “interested in developing a general design that will express a feeling of easy, informal, pleasant use instead of big-scale, stiff formal monumentality.” He continued: “The style should not be dated or classed as of a certain type of period, but suggested by the site, the topography and the purpose.” (Duluth Herald, July 9, 1948)
The postwar era marked the height of American modernism in architecture with clean lines, exposed structural systems, and pure expression of function. For this reason, Melander sought a building and a campus that would break free of the traditions of campus formality and historical ornament. His desire for informality and expression of purpose set the tone for expansion at UMD for the next thirty years. Both Melander and Jones were aware of similarly informal contemporary campuses at the Cranbrook Academy in Bloomfield Hills, Michigan and Goucher College in Baltimore. Designed by Eliel Saarinen, Cranbrook is a landmark collection of intimate and simple buildings built of well-crafted material.

Perhaps it was Duluth's continued desire for such an informal campus “suggested by the site, the topography and the purpose” that led to the rejection of Morell & Nichols's symmetrical master plan by the early 1950s. In 1951, Advisory Architect Winston A. Close completed a new plan that connected buildings and broke down the exacting symmetry of the earlier scheme. Close's plan anticipated a student enrollment of 3,500 by 1970. In June 1953, Architectural Record published the plan, its expansion phases and illustrations by Harlan McClure. "After several studies," the text states, "a free yet compact plan closely related to the topography, and with buildings interconnected to offset the severe winter climate, was determined..." (Architectural Record, June 1953, p. 124)
The 1951 Winston A. Close Plan.

The plan followed the general outline of the Morell & Nichols concept but broke the campus into three zones that stepped up the hill. Each zone paralleled contours of the hill for ease of circulation and there were no roads except a service drive beneath enclosed corridors. In repose to the long winters, most buildings were connected by interior corridors.

Near the athletic fields on the southern tier of the campus, a "semi-public zone" framed by new buildings was planned out to the Lake and serve as a front door. Behind this space, "the Classroom Zone" flowed across the hill with space allocated to the east for a possible new secondary school. In an innovative solution, students were to be housed eight to a cottage with connecting ramped enclosed corridors in the housing zone uphill from the classrooms. Because faculty, enrollment projections, and curriculum were largely in place, Close was able to plan the campus for phased implementation over twenty years—a most unusual planning opportunity even for that period.
To great extent, the Close plan was followed and has set the circulation framework for the campus today. Nonetheless, the 3,500 student figure envisioned for 1970 was quickly surpassed so that the campus had 5,367 students by the fall of 1971. (*Duluth News-Tribune*, April 30, 1972) By the fall quarter of 1977, enrollment had reached 6,500 full time equivalent students. In 1978, the University of Minnesota Office of Physical Planning completed a *Long Range Development Plan* for UMD. With student population continuing to expand, the plan addressed long-term needs, land use, campus access, circulation, parking, utilities, and physical facilities. The plan made recommendations for property acquisition and disposal along with encouraging periodic review for long-term application. A specific physical plan was not created; instead guidelines provided reference for future decisions.

The 1978 Long Range Development Plan provided direction for the completion of a number of buildings at UMD including: the PE building addition (1986), the Engineering Building (1987), the Tweed Museum addition (1989), Goldfine Hall/Oakland Hall (1988), Griggs Hall Expansion (1990), and the Campus Center.
The History and Future of Related Holdings
Glensheen, the Congdon Family estate, was completed in 1908 with Clarence Johnston as architect and Charles Leavitt of New York as landscape architect. Leavitt brought with him Anthony Morell and Arthur Nichols to work as project landscape architects on Glensheen. Morell and Nichols stayed in Minnesota and their firm eventually developed the first UMD campus plan in 1947.

The Natural Resources Research Institute was established by the Minnesota Legislature in 1983 to promote economic development of the state’s natural resources in an environmentally sound manner. Institute priorities have three areas of focus: 1.) providing technical and business assistance to near and long-term economic development efforts; 2.) emphasizing applied research and technology development leading to products, processes and services for the future; and 3.) performing innovative research on Minnesota’s lakes, streams and wetlands and contributing to environmental chemistry research.

Regional Geography: UMD and the Northland
In the early 1950s, the UMD campus was master planned unlike any other in the country. With precedents such as Cranbrook Academy, the campus responded to the climate and hillside of Duluth and developed into a compact and connected University. Throughout the site analysis, public participation, and program interview process, participants have stated repeatedly that they value these unique qualities: the accessibility of the campus in all seasons, its compactness and the interweaving of open spaces with the surrounding neighborhoods.

This plan builds on the concept of the “Northland”—the notion that there are unique geographic and cultural qualities of the Lake Superior region which can be a basis for future campus planning. Whereas other campuses may gain identity from pre-war historic buildings, UMD is a post-war campus whose landscape and setting make the greatest contribution to its character. Thus, this plan develops the concept of a northern landscape and site plan to create a sustainable and welcoming campus at UMD, one that will age well and achieve increasing distinctness over time.

What is the Northland? One trait is the resource-based economy that has prevailed in the Arrowhead since European settlement. This economy based in minerals and mining is clearly rooted in the ground, in the iron deposits beneath the surface and the top soils that allowed the growth of lumber-rich forests. Yet, Duluth
is also a shipping city, not only for these resources but, historically, for the wheat grown in the Red River Valley and other areas. The region is one of contrasts between the weight of grounded resources and the movement of goods eastward on the lake.

The landscape of Duluth displays a similar balance of movement and groundedness in the rapid flow of streams and hydrology down the city bluffs and the vermilion granite that characterizes the outcroppings of Skyline Drive and the foundations of older buildings.

Today, Duluth’s economy benefits from tourism based in the beauty of Duluth’s open spaces and lake side setting. UMD is the major employer in the city. Although students come and go, the campus remains as permanent testimony to the state’s investment. The campus should celebrate the transmission of knowledge and wisdom within an environment that is safe and enduring. Where appropriate, the campus should consider incorporating elements, conceptually or physically, that are reminiscent of the regional landscape. However, architectural expressions should be free in order to achieve individual goals within the framework of campus harmony. This balance of urbanism on the edge of nature is Duluth’s enduring legacy—and it is the basis for this master plan for UMD.
Site Analysis

The site analysis process is used to identify opportunity areas for development and those that should be protected. The site analysis in this report involves an inventory of natural forces of the region and functional aspects of UMD itself. These individual systems are then documented as layers. When these layers are composited, an image of the campus emerges. We have inventoried and mapped the features of several key natural systems such as watersheds, soils, topography and climate. The information documented in this section serves as the foundation for the expansion and planning recommendations that will be made in later sections of this report.

Map1

Location and Topography

- UMD is the University of Minnesota in northeastern Minnesota with a strong tradition of outreach.
- UMD is long-standing member of the Duluth community.
- UMD is located in three strong Duluth neighborhoods: Chester Park, Hunter's Park and Kenwood.
- There are ridges below Brainerd Avenue and University Circle.
- UMD is sited on a bluff overlooking the city and harbor with distinct long views over the lake and the city.
- The campus view is oriented to the southeast with vistas from glassed-in walkways and terraces.
- Low point on campus is near the Heating Plant and the high point is Rock Hill.

Implications for the Master Plan

- As the local public institution of higher learning, UMD must be easily accessible to its constituents and provide a sense of welcome.
- Boundaries and buffers need to be clearly defined to lessen any conflicts with surrounding neighborhoods.
- Long views must be preserved and shorter views enhanced.
- The campus should build on its unique regional identity in the Northland with preserved views to Rock Hill and other geographic features.
Map 2

Climate and Shadows

- UMD sits on the hills, which rise abruptly from the lake.

- The lake effect moderates the weather in the city, although the campus has conditions more similar to plateau areas.

- Winters are cold with below freezing temperatures from late September to late May. There are 229 days a year with some trace of snow. The campus averages 60-70 inches of snow per year.

- Summers are temperate with an average of only two days a year over 90 degrees. In summer, clear air flowing over the cool lake surface has a stabilizing effect that results in cooler weather over the city.

- Duluth’s low winter sun can produce long shadows that deplete natural light in corridors and classroom space.

Implications for the Master Plan

- Outdoor spaces must be developed to take full advantage of good weather and to preserve long views and enhance short views.

- Pedestrian circulation should have protected resting points along the way.

- Vehicular circulation must be designed to cope with inclement weather.

- Buildings should be placed with consideration for solar gain.

- Snow removal must be directed to areas that do not impede traffic and have adequate drainage.
Map 3
Hydrology
The campus generally drains as it slopes to the southeast towards Lake Superior. However, the campus divides into two watersheds. North and east of the dividing line, water flows into Tischer Creek. Water falling to the south and west of the divide emerges from the storm sewer system at College Street and Fay Avenue and flows through the south campus on the way to Lake Superior. Spring thaws stress this system to the point of overflow.

Subsurface Hydrology
The soil water level at UMD is generally less than 20 feet except on the southeast corner of campus where it lies deeper. The sources of this groundwater are stream-associated water tables, springs, organic soils with a high water holding capacity, and permeable mineral soils acting as conduits of ground water form the watershed to Lake Superior.

Implications for the Master Plan
- Important topographic features should be accentuated in the direction of key views and building siting.
- The UMD campus should work to cleanse runoff from the campus and be considerate of neighbors down stream.
- Waterproofing of structures is necessary.
Map 4
Soils
The soils of the campus ranged from Ontonagon Clay to fine sand loams and Loxley Muck. All of these soil types have different suitability for building. The implications for master planning and the soil type suitability for development are outlined below.

Implications for the Master Plan

- Duluth Clay Loam is a fairly good material for general development. It is moderately well drained and has medium potential for frost heave, compressibility, and shrinks well. It makes a fairly good mineral fill material but is slightly stony. This material is often quite dense.

- Automba is a sandy loam that is well-drained, has a low potential for shrinking and swelling, and will frost heave only if saturated. It can be problematic for workability because of many stones and boulders. Generally suitable for development.

- Ontonagon Clay is a problematic material in that it has high potential for shrinking and swelling, compression, and slow permeability. It is a mineral soil that is almost free of stone.

- Alluvial Lands composed of loamy soils formed in alluvial materials, which occur along Tischer Creek. They are wet and frequently flooded.

- Loxley Muck has severe limitations for any use. It has low bearing capacity, is poorly drained and has a high potential for shrinking and swelling, compression, and frost heaving. It is of value as a topsoil if mixed with a mineral soil.

- Bedrock areas have severe limitations due to the shallow depth of igneous rock formations.
CAMPUS SOILS

DULUTH CLAY LOAM

AUTOMBA
FINE SANDY LOAM

ONTONAGON CLAY

CAMPUS MASTER PLAN
EXISTING CONDITIONS
Map 5
Circulation
- Building circulation is primarily through interconnected corridors.
- There is no priority or hierarchy in current campus entries.
- The campus loop road is composed of city streets.
- There is no obvious visible front door to the campus.
- Side door entries are generally hard for visitors to find but offer many access points.
- Service access and docks are well handled and appropriately separated from auto and pedestrian traffic.
- Pedestrian hallways serve as the major paths of walking yet bear little visible relation or obvious connection to sidewalks outside.

Implications for the Master Plan

- All future academic buildings should be attached to the corridor system at the time of construction. It is desirable that existing buildings within the core of UMD be connected as soon as possible in order to promote both access and community; these include Health Services and new residential units north of Lake Superior Hall.
- More obvious visual connections between inside hallways and outside sidewalks should be developed to orient the visitor.
- Campus access and entries must be clearly defined.
Buildings by Age

- The oldest structures are at the center of campus and may require the most immediate renovation or replacement.
- The interconnected structures have developed a campus that grows with great density.
- The main academic buildings of the campus fall along two spines running northeast to southwest.
- Housing sited in the Winston Close plan of the 1950s echoes the spine and topography whereas more recent housing is placed more informally.
- The new campus center can provide a front door that has been heretofore lacking.

Implications for the Master Plan

- Should academic expansion occur along the main east-west spine and can this corridor handle the added traffic?
- Is infill between buildings an option or should it be resisted to preserve natural light?
- Do aging facilities provide an opportunity for opening up the site plan for natural light and improved inside/outside connections?
Program Analysis
Through a series of interviews held at UMD in June 1994, a number of recurring concerns about the UMD campus and its functioning surfaced. The following are summaries of the perceived problems.

Educational Delivery
UMD is a comprehensive University with extensive research and outreach capabilities. UMD provides strong training in a multitude of disciplines often having unique space needs. Changes in education delivery needs brought up in the analysis process include:

Multimedia Classrooms
UMD needs additional multimedia classrooms with access to CD-ROM and video projection. Because of the outreach component of the campus mission, distance learning (ITV) will become increasingly important. Currently, there are two facilities.

Classroom Space
Future needs for classrooms include a continued demand for large lecture halls, particularly those equipped with new communication technologies. Smaller seminar spaces with break-out rooms for team work are also desired. Unprogrammed spaces for informal teaching and computer access will be increasingly needed.

Laboratory and Research Space
The need for new or improved laboratories is clear from interviews with the various disciplines.
**Boundaries**

Improved access to Woodland Avenue and College Street will require expanding campus boundaries. The plan should include consideration to acquire Chester Park School and include it within campus boundaries.

**Parking**

Each year a larger percentage of students bring cars to school for internships and jobs. Issues include parking, not only quantity of spaces, but type. Protected walkways should be considered to bring shelter closer to the remote lots. More decal spaces are needed and short-term visitor parking should be made visible.

Many participants have stated that the campus looks like a shopping mall in a sea of asphalt and that further expansion could damage the environmental image and marketing attractiveness of UMD. In addition, there are also significant public and environmental costs that arise from on-site parking including the use of a massive portion of UMD land and the effects of snow plowing and hard surface runoff. Discussion of parking issues should begin with the understanding that UMD may be subsidizing parking through the provision of land and services. Although the venture appears self-sustaining on the surface, it may incur sacrificed opportunities for the campus.

In order to alleviate the parking problems, an on-campus transit center is being conceptualized at the old library site on Oakland Avenue. The local transit authorities are interested in cooperating with UMD on this idea. It is expected that the new transit hub could also serve as a campus focal point.

**Environmental Concerns**

Because of UMD's siting on a hill, a large amount of paved area can cause significant runoff and its effects should be studied. This direct runoff into local creeks also calls for prudent use of fertilizers and pesticides. A reduced "maintained" lawn area may be beneficial in the long run.

**Entry and Access**

Currently there are traffic conflicts with the surrounding neighborhood. Beginning at the intersection of College Street and Woodland Avenue, conflicts occur at each campus access point. There is a clear necessity for a new front door and/or clear access points to the campus for it to achieve its desired outreach.
mission. The most important consensus to arise from the survey is the lack of a logical front door for individual buildings and the campus as a whole. Whether a single main entrance or several clear campus entries are needed, the master plan must address the confusion of access at both the building and campus scale.

With changes in program, the new campus center will have a stronger academic component and fewer of the public space activities associated with a “front door”. For this reason, the master plan and future discussion should seek to improve the connection between the new Campus Center and Kirby Student Center so that direct access to the social core of campus can be improved.

“Access” can be achieved not only through improved circulation links from the outside to the campus public facilities, but through visual access. For this reason, the plan will address how to open up key vistas from College and Woodland Avenues so that the sloping setting of the campus can be revealed as a dramatic introduction for the visitor.

Changes within Buildings
There is a significant need to improve the informal gathering spaces, lounge/computer lab spaces, faculty lounge spaces, and restaurant facilities within the buildings. Natural light should be used to guide circulation and improve connections to courtyards and exterior spaces. Furthermore, circulation should be improved with alternative options for outside paths to reach other facilities.

Recreational Facilities
There is a need for increased recreational area development. This includes both structured fields and informal nonprogrammed areas. UMD currently has the highest recreational sports participation of peer institutions nationwide and this is crucial to its continued success in recruiting of new students. The recreational area needs to consider expansion in the near future and this will require land acquisition adjacent to current facilities. The new plan identifies the existing residential neighborhood to the northeast of the campus as an area for “long-term expansion possibility.” This area provides opportunities for various university facilities including future recreational fields.
Maintenance Facility
The need for a new grounds maintenance facility is also a clear priority. Proximity to neighbors, proximity to campus, and noise issues are key concerns of the neighbors and campus community. After thorough discussions on those issues, it is decided that the maintenance facilities will remain at the current location by the Griggs Fields. The facilities are being reconstructed at this location.

Community Perceptions

Participatory Photography Studies
In the spring of 1994, approximately 25 members of the master planning committee and the facilities committee photographed places on the campus that they felt contributed or detracted from the sense of campus community or offered significant potential for improvement. In early August 1994, at a neighborhood forum, neighbors were encouraged to write comments adjacent to the photos taken by campus residents. The following is a composite of these two sets of comments.

Attractive Precedents
Several photographers took photos of Ordean Court with such comments as a peaceful space that can serve as a model for future campus improvements. Well designed entrances such as Oakland Avenue were also praised for their positive impact on the visitor.

Implications for the Master Plan

• The plan should take cues from Ordean Court and include unprogrammed outdoor areas for study and gathering.

• The plan should build on successful plant species already introduced to the campus or native to the site.
Building Access
ADA compliance and general accessibility problems were photographed and mentioned particularly at the entry to Health Services. Visibility and a sense of orientation for visitors to the campus were also mentioned with particular reference to the parking areas. There is a lack of exterior signage from parking areas and clear views to building entries. Because UMD serves as a regional arts and educational center, better visual and physical access are clearly needed.

Considering the access question for UMD, one must consider the front doors, the entries to the campus from the City of Duluth. In our neighborhood workshop, many of the participants were most concerned about the entrances and the traffic snarls that occur during student rush hours.

Implications for the Master Plan
The general consensus of both the photographers and the neighbors who responded is that more entries are probably needed from Woodland and from St. Marie. St. Marie has particular traffic problems in the morning and afternoon and all entrances need improved signage. Implications for the Master Plan include:

- Certain key access points must be made more visible.
- All parking areas on the exterior need to have improved signage directing visitors to the campus core.
- Critical buildings such as the Health Services complex require entrances that not only comply with ADA regulations, but are easily accessible throughout the long Duluth winters.
- The campus should devise an improved snow removal plan so that large piles do not impede access and orientation in the winter.
- The plan should consider encouraging multi-modal transit, overflow parking and clear pedestrian crossings to reduce traffic conflict.
- All entrances should be devised to provide a good initial first image and clear orientation within the campus including provisions for long views.
Social Gathering Spaces
The photography survey is a powerful tool in revealing valued public spaces and places where people gather on the campus. Leading subjects of photography for social gathering spaces included the concourse to the dorms, the lounge in Kirby, and the recreational sports fields.

The Concourse
Comments concerning the concourse include the belief that ADA accessibility is enhanced by the concourse. There are flow problems by the bookstore that will be improved by the new Campus Center. Commuters need a place to put things. Several participants desired to break down the high school image of the interior.

Recreational Sports Fields
One photographer commented about the recreational sports fields: "These are probably the heaviest used parts of campus. Every night during Fall and Spring quarter, these fields are packed until midnight. There is never enough green space. Recreational areas like these must be preserved, promoted and protected. UMD is very lucky to have facilities like these right on campus."

Kirby Student Center and Recreational Facilities
Many photographers felt that the Kirby Student Center is important; however, there are not enough activities on campus (especially nights and weekends). There is only one small game room off the Kirby 1st Floor. A coffeehouse, video rental, dance club, bowling alley, movie theater, expanded game rooms are all suggested additions.

Implications for the Master Plan

- Especially in the winters of Duluth, a vibrant inner core of campus is essential in maintaining student interest and contentment. Although campus master plans traditionally deal with exterior space issues, planning for the University of Minnesota Duluth must carefully consider the connections within the inside of buildings.

- In addition to the need for more green spaces and recreational spaces, the photo surveys have also revealed a shortage of facilities and programs for night and weekend activity.
Bagley Nature Area
The natural area on the north side of campus is valued by students, staff and faculty alike. Several photographers took pictures of this natural area in the early spring and commented on both its visual qualities and maintenance problems. The hiking trails are very popular.

Automobile and Pedestrian Conflicts
Another concern is the intersection of pedestrian and auto traffic. One neighbor noted that sidewalks are needed at Junction Avenue around the nature area and that a car accident is just waiting to happen. Another neighbor commented that the section of Niagara Street one-half block off Brainerd Avenue should be closed because there is far too much traffic on a residential street.

Implications for the Master Plan

- The Master Plan must address how the campus boundaries can be better defined and how signage and circulation structures can reinforce the separation between public and privately owned land.
- UMD can probably improve its outward image to the neighborhood by improving maintenance of the nature area.
- Path systems should be linked into public open space only where appropriate and where circulation would not impinge on private property or conflict with automobile traffic.
**UMD Holdings**
The Glensheen estate on Lake Superior and the Research Lab Building at the old campus are both historic properties controlled by UMD. Photographers took images of both of these places with essentially open-ended questions about what their future may be.

**Implications for the Master Plan**

- Although historic, the fish hatchery, Glensheen and the old campus buildings lack a defined image that complements the main campus.
- Strategies should consider how these buildings can be vibrantly incorporated into the research or academic programs of campus life.
- Careful consideration must be given to potential uses of the properties relative to long-term campus needs.

**Neighborhood Forum and Survey**
In a neighborhood forum held in early August 1994, over 100 neighbors from within a two-block radius of UMD attended a picnic and informal presentation of the master plan process. The neighbors wrote their comments on the already completed participatory boards and filled out a written survey. When asked to identify major problems, assets and needs on the campus that they perceive, the neighbors mentioned several key categories that relate to aesthetics, traffic noise, and student disturbances. The most frequently cited issues were:

- Traffic is too fast on St. Marie Street. The intersection of St. Marie and Carver could improve with lights. Traffic controls should be placed at all intersections with the campus.
- There is a need for UMD to control off-campus-housing rentals to reduce visual blight and noise. An option often suggested would be to provide more inexpensive housing and a range of housing on the campus itself.
- Parking ramps are preferred because they encourage vertical development, reduce the visual image of the campus as a parking lot, and reduce the noise and runoff problems associated with snow plowing.
• A new maintenance facility is needed. The current building is in a poor location and is in poor condition. Heavy equipment is always on roads and does not have clear access to campus.

• The Bagley Nature Area is one of the most sacred areas associated with the campus, and future development should stay out.

A second tier of issues that were mentioned by several residents is as follows:

• Improved intercampus roads for ease of maintenance and to lessen exterior traffic.

• There was an appreciation of the new flowers and vegetation planted in the last few years, and encourage additional planting wherever possible.

Implications for the Master Plan

• Traffic conflicts resulting from campus/neighborhood proximity must be considered.

• Expanding up rather than out should be considered.

• Expansion towards Woodland Avenue should be considered along with alternate uses for some of the athletic field area.

• Consider the addition of new entries to lessen traffic problems.
UMD Drop-In Forum
On October 4, 1994, a drop-in forum was held in Kirby Student Center for all members of the UMD community. The day-long open-house included two presentations of the master plan process by the HGA team and Clinton Hewitt, Associate Vice President for Campus Master Planning. Findings of the photography surveys were presented and initial site analysis maps were displayed for participants to review. Their updates and corrections were subsequently applied to the site analysis maps. Participants also filled out a written survey that addressed four key issue areas that emerged from the mission, the program interviews and the photography studies. These issues will have a direct impact on the success of the master plan. They include:

- The future of education and teaching.
- UMD outreach and presence in the region.
- UMD as part of Duluth and the Northland.
- A welcoming and effective campus.

Recurring comments included the need for more informal public gathering spaces on the campus, including indoor and outdoor areas. Many participants saw a need for more cafes, coffee shops and meeting areas on the campus. The corridors were often mentioned with orientation concerns, lack of natural light and the appearance of rows of lockers. Wayfinding from the city and once on campus are also issues. Beyond the campus, several people saw a need for a "campus district" similar to Dinkytown in Minneapolis. Many people included regional newspaper articles concerning this need that are also included in the Appendix. Experience from Minneapolis indicates that the area should be close to campus, there should be clear transportation and parking, and the area should be promoted with a district identity.

Campus identity also arose with regard to a front entrance. Many people saw a need for a clear road to the front of the campus center. Ease of access should also be improved with clearly marked short-term lots for visitors.
Implications for the Master Plan

- Exploration should be continued for a new college commercial district, possibly to be shared with St. Scholastica.

- UMD should improve its presence in the region by becoming more visible from Woodland Avenue and more welcoming at its entries and access points.

Committee Pre-Planning Review
On December 20, 1994, the Master Plan Steering Committee reviewed three broad directions for physical planning at UMD.

Academic Village (A Concentrated Campus Core)
The first model was UMD as an “Academic Village”, a concept that emphasized a self-contained, compact village surrounded by open space. This plan emphasized vertical growth and brought all of the campus functions including parking, and incorporated them into the village structure. The campus was approached from a main entry road off of Woodland Avenue revealing a grand image of a confident University on the hill.

Academic Main Street
The second model examined the idea of the University as an integral part of its town structure and de-emphasizes the institutional mass of UMD. Existing Oakland Avenue and an extended Snelling Avenue become the linear framework which weaves the University into the neighborhood fabric. Each of the Colleges, Schools and Departments developed around a central court with entry and parking.

Academic Northland
The third model created a Northland image of UMD by relying upon the natural features of the site. A main entry to the campus was established from Woodland Avenue and meandered along Tischer Creek. Terminating at an enlarged pond area with clustered outreach-oriented facilities, the plan reoriented the campus front door to the north.
Implications for the Master Plan
Reactions to the three experimental models resulted in the following values that confirm findings from the site and program needs analyzed in this chapter. These seven values, as expressed by the committee, all point the direction for the planning priorities in the chapter to follow. The expressed planning values from the committee are:

The Preservation of Views
Views to the lake and to the open spaces that surround the campus should not be blocked by new buildings or by the addition of floors to existing buildings. New construction should be planned so as to not block sunlight in existing buildings and key public outdoor spaces.

The Preservation of Open Space
Open space that is valued for its recreational, visual or natural qualities should be protected from future UMD development.

The Wilderness Character of Duluth
Residents of Duluth value highly the woodlands and ravines of the city. Future development at UMD should encourage the regeneration of forests, views to ponds and streams, and access to larger open space systems such as Congdon Park.

Arrival Image
The most important impression for prospective students and faculty is shaped upon arrival at the campus. The arrival image should include clear orientation, attractive views to existing buildings, and, where possible, north woods elements such as trees and streams.

A Distinct Identity for UMD Schools, Colleges and Departments
Exterior and interior transitions should give the user a sense of identification with the physical and programming activities of any given area.
Preserve the Northern Nature Area at UMD
The wooded northern quadrant of the campus should be preserved from future development. Forest plantings and views should be preserved and enhanced.

Shape Height Limits to Accent the Hill
A datum line should be established to create an overall envelope for building massing at UMD. This massing may not necessarily mimic the slope of the hill, but accent it with a well-proportioned grouping of structures whose scale does not overwhelm the site or other buildings at UMD.
Chapter Three
Goals for the Master Plan

Responding to the Regents’ Four Principles
The master planning project, carried out in 1994 and early 1995, is based around four campus master planning principles developed and approved by the Regents of the University of Minnesota. The following pages describe each of these principles and provide a general overview of how this master plan will address them.

Principle #1 – Creating and maintaining a distinctive and inspiring vision for the physical development of UMD.

Because the Mission of UMD is to serve as a diverse medium-size University, the campus master plan should convey an image of quality, reinforce the importance of public education, and emphasize the structure of an applied liberal arts curriculum. The compact and interconnected building of UMD should express a vital community of learning.

Principle #2 – Enriching the experience of all who come to the UMD Campus.

The experience of all who come to the campus begins with how they arrive there. The campus should proclaim a unique, geologic, cultural and ecological history. Above all, the plan should promote the “sense of welcome” at UMD through the creation of entrances that are clearly defined and circulation that helps the visitor find his or her destination.

Principle #3 – Maximizing the value of existing physical assets while responding to emerging/changing needs.

The plan should seek to develop a campus that builds on the efficiencies of its existing densities while preserving light and green space at the core. All new buildings should be sited to make use of existing infrastructure and parking/transit facilities.
Principle #4 – An inclusive, accountable and timely process for creating and implementing the master plan vision.

This master plan will be accountable and timely through involving the public and all members of the UMD community at appropriate points in the planning process. The plan arises not from a private set of agendas, but from a broad network of ideas that were reported back to the Campus Master Planning Committee, University staff and administrators throughout the process. Because the President and the UMD Chancellor are directly responsible for plan implementation, clear benchmarks should be established.

Master Plan Goal
To shape a campus that supports the UMD mission in the region and the state. The plan should provide a physical framework for a comprehensive University with applied learning opportunities, research, and broad regional outreach. The four priorities to follow translate the Regents' four principles into strategies for reaching the master plan goal.

Planning Priorities

Priority 1
A Medium-Sized University in the Northland as the Distinctive Campus Vision

To create and sustain a campus that encourages interdisciplinary exchange and social vitality with compact and connected academic, recreation, housing and service facilities. To enhance regional identity and to build on a strong history of outreach to the Northland.

Built on a solid foundation of the liberal arts, UMD's interconnected building system promotes and encourages the chance meeting and interdisciplinary exchange of ideas in lively social structures. UMD is one of the most physically interconnected campuses in the country. The facility has become a leader in addressing needs of accessibility while fostering the interwoven fabric of disciplines. The campus should work to continue its commitment to being a comprehensive University while enhancing its stature as a research institution and role as a culture center for the Northland by:
• Maintaining a pattern of growth in which all structures are interconnected and accessible to all.

• Building on its reputation in research and as regional leaders with unique facilities such as RLB, NRRI and the Limnology Lab.

• Developing nodes along major interior hallways to provide destinations and places for chance meetings.

• Enhancing public spaces such as courtyards and drop-off points by improving their visibility and appearance while contributing to internal organization.

A Northern Location
UMD is one of the northernmost universities in the continental United States. Set high on the hill, surrounded by open space with dramatic views of Lake Superior, UMD rests between the historic East Side neighborhoods in Duluth and expansive forests. Students have long enjoyed hiking and skiing on campus and the proximity of Lutsen and Spirit Mountain now serves as an additional attraction for prospective students.

A planning priority is to accentuate the Northland qualities that make UMD unique. The blend of north woods forests, seasonal recreation, and cultural events with a regional draw distinguish UMD within the University of Minnesota system. The campus should proclaim its unique geologic, cultural and ecological history. Guidelines and parameters for planning should.

• Preserve long views to Lake Superior
• Encourage the reintroduction of northern forest trees to the campus and its courtyards.
• Encourage the establishment of trail links to Duluth’s park system and other recreational areas.
• Provide space for outdoor winter events such as skating, sledding, and cross-country skiing.
• Provide shelter and wind protection for key public spaces, entrances and paths to parking areas
• Discourage the sprawl of building and parking lots into peripheral open space
• Encourage creative expressions of ideas and use of materials reminiscent of regional characters.
• Work to increase the inside/outside relationship and the functioning of the campus
• Develop environmentally sensitive practices of building and campus maintenance so as not to harm ecosystems in the area and down the bluff in the future.
Enhance the Courtyard Campus
Since the 1940s, UMD has grown along connected passageways that look over scattered courtyards. The checkerboard of courtyards throughout the interconnected buildings of UMD offer an unusual opportunity to create public spaces for gathering, outdoor classrooms, research gardens, and solar gain. Each courtyard can offer an individual identity while adding to the interweaving of the campus with the natural setting around it. Birch, pine, aspen and other northern forest trees can be planted in some of these spaces to celebrate the regional context and to soften the mass of buildings.

Efforts must be made to improve accessibility into the courtyards and break down the perceived barrier between inside and out. Each courtyard can then function as an extension of the interior space it abuts.

Outdoor designed areas for classes, gathering and dining can help to bring students and faculty outside during the warm months of spring, summer and fall. Part of the UMD experience should be an experience with the outside.

Because regional outreach and applied learning are part of the distinctive mission of UMD, the campus should be welcoming in its entries and clearly understood by visitors and related to surrounding communities. For this reason, planning guidelines must:

- Provide parameters for new entry signage, parking signage, and outdoor visitor maps
- Identify a desired “front door” image
- Provide parameter for the design and location of future entrances.
Priority 2
Welcoming Access and Entry

To promote a campus that is welcoming and accessible to all yet retains a strong academic identity as a comprehensive University.

Access for All
Every person who arrives at the UMD campus must find equal access to all campus facilities. This equality of access begins at the campus edge and resonates through parking and circulation routes and the interiors of buildings.

The Entry Experience
The experience of all who come to the UMD campus begins with how they arrive there. Each entry should be distinctive and portray different aspects of the campus. Signage and improved directional devices can ensure that visitors reach their destination quickly, without disorientation.

Visibility and Connections to Duluth
Public transit, streets, long views, trails and open space systems should all tie UMD into the City of Duluth and the areas that surround it. For this reason, the master plan should denote key opportunities for visual and circulation connections with the city.

Welcoming throughout the Year
The campus is not a neutral background for the education of students, but an active part of the UMD experience that can create a sense of place and orientation. The campus should serve as a welcoming destination for all seasons. The campus should be friendly all year round, especially in the winter.
Priority 3
Maximizing the Existing Campus

To build upon the connected structure of UMD along with its dramatic lake views so as to develop a campus that respects the past, anticipates the future, and gains environmental value over time.

Building with the Contour
In the late 1940s, UMD was fortunate to receive a parcel of land located at one of the highest points in the built areas of Duluth. All future building should celebrate this elevation and reflect the slope of the hill with terraced buildings and open spaces.

Appropriate Renovation and Reuse
Because some buildings at UMD are now nearly fifty years old, renovations are needed for new instructional technologies, new classroom sizes, energy efficiency and indoor air quality.

Efficiency of Expansion
The master plan must offer flexibility in its vision for growth. The plan should accommodate a large expansion that will not overburden circulation, parking, or natural areas while retaining a visual integrity and access for the campus.

Economy of Location and Infrastructure
A key to the master planning process is a sensitive siting for expansion through a sound understanding of infrastructure. Building expansions, additional athletic fields, parking lots and open space all affect existing infrastructure and their placement must be carefully studied. Traditional infrastructure along with the expanding demands of information technologies must be met to ensure quality education. This early vision of a public institution is still viable in today's mission and can inform future development patterns.
Priority 4
An Accountable and Timely Process

To develop a planning process for creating a plan for UMD with broad input and a committee structure that will be responsible for its implementation over time.

Public Input
The master plan addresses accountability and timeliness through involving the public and all members of the UMD community at appropriate points in the planning process. The plan arises not from a private set of agendas, but from a broad network of ideas that are reported back to the campus master planning committee, University staff, and administrators throughout the process.

Implementation
Once the master plan is ratified, a clear system of checks and balances will be in place to review each new project. This review process will reflect the public and open quality of UMD.
Chapter Four
Guidelines for Future Campus Development

Applying the Guidelines to Future Projects and Proposals
From the priorities of the previous chapter, guidelines are developed to apply the Regents' planning principles to campus planning at UMD. Future decision-makers at UMD should apply specific guidelines outlined in this chapter to each potential landscape, architectural, or infrastructure project.

To begin discussion, they should ask the following three questions of each proposed project:

**Concentrated Academic Core**
Will the physical change build upon the campus' unique physical attributes, namely: its connectedness, compactness, and operational efficiency?

**Outreach and Access**
How will the physical change affect UMD's outreach and accessibility to the city and region?

**Regional Setting**
Will the physical change celebrate or detract from UMD's natural settings—the lake view, forestation, and ravines—that are unique to the campus?
Guidelines
The UMD planning guidelines are customized to categories of landscape and building type. These categories range from such specific building types as "Administration" to general guidelines for restoring the north woods tree cover at UMD. Within each category, guidelines are grouped by the three key questions mentioned above: Regional Setting, Efficiency and Compactness, and Outreach and Access.

Guidelines for Campus Landscape
After its years as a dairy farm, the campus is largely denuded of its original northwoods forest cover. Significant planting of trees and other vegetation on roadway boulevards and at campus entrances over the past decade have dramatically improved the campus visual image. The original forest cover should be restored with indigenous trees from the area, including those of a northern mesic forest. The restoration of this character will highlight UMD as a uniquely northern university that blends into its hillside setting in all seasons. Restoring the forest in and around the parking areas, fields, and open spaces will also create a welcoming image for the visitor and increase the asset value of the campus over the decades. These benefits all reflect the Regents’ principles for planning that underlie this master plan.

Planting Strategies
Along Tischer Creek tributaries, trees should be planted in groves and with the random density that characterizes forest growth. There, trees should not be planted as evenly spaced ornamentals, but should be woven into a species rich forest of canopy, understory, and groundlayer trees and plants. Courtyards and entry courts should use the same palette of trees. However, the trees should more formally frame the space in order to achieve clear spatial presence. Entry points into campus need to be easily identifiable for people who visit the campus. Orderly spaced and matched trees should articulate the primary entry drives into campus off of St. Marie Street, and College Street, and Woodland Avenue. Those trees will create a boulevard-like atmosphere, which will heighten spirits among people who enter UMD campus.

Recommended tree cover species for UMD as a whole include:

For forest canopies and edges:
Acer saccharum—sugar maple
Betula platyphylla japonica—white spire birch
Pinus resinosa—red pine
Tilia americana—American linden
For parking areas, salt tolerant species:
Acer platanoides—Norway maple
Pinus nigra—Austrian pine
Tilia americana—American linden

For visual screening, wind protection and forest edges:
Pinus resinosa—red pine
Viburnum lentago—nannyberry viburnum
Cornus racemosa—gray dogwood
Cornus sericea—redosier dogwood
Larix laricina—larch family
Ostrya—ironwood family

Clustered trees along roads:
Acer platanoides—Norway maple
Acer saccharum—sugar maple
Betula platyphylla japonica—white spire birch

Seasonal Needs and Microclimate
The cold Duluth winters require special attention to windbreaks and winter color. For this reason, many of the species listed above for screening keep their leaves through the winter or are evergreen.

Nature Areas
Nature areas such as Rock Hill are one of the most unique features of UMD. Nature areas can include large tracts or quiet places of retreat as small as a courtyard.

- The Bagley Nature Area should be restricted from future development of buildings and roads. The existing forests and ponds should be managed and interplanted where needed.

- Natural links to Duluth's open space system should be preserved and planned. The exterior paths systems should improve links to nature areas around the edge of the campus. No roads should be allowed in nature areas, yet car access and limited parking should be provided at their edges for handicap accessibility.
Stream Corridors and Water Areas
UMD, like the city of Duluth, gains character from streams and ravines that pass through the site. With proper restoration, on-campus streams and ponds can serve to filter runoff pollution such as salt and oil before they percolate into the ground or flow downhill towards Lake Superior.

- Planning should enhance the patterns of streams and armatures of open space throughout the campus.
- Where appropriate, new buildings should take advantage of views to streams and ponds.
- Sound runoff management and ecological preservation will convey the message of UMD’s concern for and appreciation of its natural amenities.

Protected areas
Streams and nature areas should be protected from development. They should be used for recreation and research but remain the wooded places that define that northern character of UMD. Protected areas include:

Rock Hill: The site possesses unique features that are of irreplaceable scenic value. Rock Hill provides natural study and recreation areas for the entire campus. Constructed and vegetative screening should be integrated with all roads, parking areas and adjacent maintenance facilities in the area.

Bodies of water, including ponds, creeks, and adjacent wetlands: These areas and their shorelines should be protected from runoff effects and building encroachment.

Viewsheds: All open spaces that allow major views from buildings to Lake Superior and the city should be preserved from view blocking buildings.

Habitats: Primary wildlife habitat suitable for research or educational use should be protected.

Buffer areas: Woodlands often serve to define the edge of UMD and to buffer it from surrounding streets and neighborhoods. These buffers should be preserved and their tree canopy expanded inward where possible.
Guidelines for Campus Buildings

Academic Buildings
- Academic buildings should provide views to Rock Hill, the lake, campus trees, and other natural features. They should overlook courtyards that meet the courtyard design guidelines.
- In some of these cases, adherence to the core values would encourage add-ons or add-ups to be designed to increase compactedness and efficient use of existing utilities and circulation systems.
- Laboratory buildings should be clustered in a district to promote shared facilities such as large scale equipment and hazardous waste disposal facilities.
- Future lab expansion should be contiguous with existing labs for staff efficiency, storeroom sharing and safety.

Fine Arts Buildings
Fine Arts buildings are often large and serve as the sites of concerts, exhibits, and other outreach activities.
- Fine Arts buildings should be free to explore artistic expressions within the harmony of campus image and identity. For this reason, indigenous stone and plantings from the specified plant list should be used where possible.
- Fine Arts buildings should be connected to the interior campus circulation system.
- For regional visitors, Fine Arts buildings should be located close to visitor parking areas with clearly marked walkways to entrance.
- Fine Arts buildings should offer a sense of welcoming transparency so that they glow during the winter nights and provide inward views of their studios and activities.
Administrative Buildings or Centers
Darland Administration Building is the most visible center of campus administration. Yet, other smaller facilities or centers exist or may be built throughout campus.

- Administration buildings or centers should respect ideas and materials that are reminiscent of Northland. Indigenous trees should clearly frame the entry courts in order for visitors to easily find their destinations.
- Administrative buildings should be closely linked to visitor parking with close connections to the Academic Core and interior circulation.
- Administrative buildings should be easily identifiable to the first time visitor.
- Administrative buildings should serve as an entry point with clear orientation and access to the Academic Core. They should offer clear views in and out so as to provide orientation.

Service and Support Space
- Locations near watershed areas, recreational areas, and natural open and wooded spaces should be carefully sited, screened and unobtrusive.
- Service facilities should be grouped where possible to create a zone of ancillary support spaces.
- All service areas must be adequately screened.
- Service facilities should be located close to the Ring Road or other major points of access to campus buildings and ground, yet be screened from surrounding neighborhoods.
Sports and Health Facilities
Sports and Health Facilities take a great deal of space but are an important asset to the quality of campus life. Intercollegiate events draw large crowds of campus members and visitors and adequate parking is essential.

- Sports and Health buildings should be sited at lower elevations so as to reduce the impact of their mass.

- The mass of Sports and Health buildings should be broken up with smaller structures and articulated edges or corners.

- Sports and Health facilities should be clustered in a district. However, some Recreational Sports space should be located close to housing.

- Sports and Health facilities should be linked to the interior corridor system where possible.

- All Sports and Health space should be clearly linked to parking areas for regional visitors and nonresidential students.
Housing
Future development should consider proximity to open space and recreational fields along with a direct or nearby connection to the interior corridor system.

- A variety of housing should be provided with attached units clustered around the link through food service and others dispersed from the academic core but created in community clusters with massing that complements the hillside environment.

- Housing should be planned for solar gain with many south facing rooms and heights that do not shade other buildings.

- Some housing options should be attached to the Academic Core for those wanting interior access and security. Such attached housing should address the needs of not only freshmen, but for a more diverse population such as foreign students; the design of housing can help to integrate these groups with the larger UMD community.

- Housing should be ADA compliant and limited in height so as to reduce visual intrusion on neighbors.

- Housing should be low rise and intimately scaled so that residents know one another and the social problems of larger complexes are avoided.

- Housing should be built of lasting materials such as brick and be designed with patterns such as roofs and window patterns that tie into the larger campus.

- Housing should be accessible for all campus users. It must address the diverse ages and needs of the student body, including a wide range of disabilities and changes in family structure.

- Housing should be designed for use in the summer during the Split Rock institute conferences, and other events. Needs of the elderly and other nontraditional tenants must be considered. Windows should open and be oriented to catch summer breezes. The successful summer rental program should be encouraged.
Guidelines for Campus Circulation

Interior Corridors
At UMD, the interior corridors are the defining public experience, especially during the winter months. The corridors serve as the lifeline and the linear space that unites the diverse components of UMD. These interior spaces need to be carefully analyzed and a master plan developed for them.

Exterior Walkways
Exterior walkways serve to bring people from cars and transit to the interior corridors. But they can also serve as an alternative to inside walking and offer views to the lake and Rock Hill.

- Exterior corridors should link all buildings within the UMD so that pedestrians have a choice of inside and outside walking experiences.
- Exterior corridors should link buildings to natural features and key views.
- The small courtyards can allow for short trips outside as a short cut between buildings.
- Exterior walkways can serve as a welcoming gesture for visitors. They should be well-lit and lined with benches where appropriate.
- Exterior walkways should provide a clear link between parking areas and main interior corridor entries.

Courtyards, Entry Courts
Courtyards and entry courts serve to bring light into connected buildings and to provide long views in a generally enclosed campus interior.

- The courtyards should reflect characters of the region where appropriate but should be free to explore possibilities in order to realize spatial identity unique to the nearby disciplines and departments.
- Some of the courtyards should be planned for winter color and texture.
• Courtyards should be designed to contribute identity to nearby disciplines and departments. They should be programmed with activities that will encourage "ownership" by these immediate neighbors.

• Courtyards should be designed as an extension of interior space to promote an easy flow visually and physically from one to the other.

• Rooftop courts such as that at Kirby Student Center terrace over the campus center and should be encouraged as elevated locations that allow optimal views to the lake and town.

• Courtyards should not be filled in by future growth. They should be preserved for future light and public space within UMD.

• The density of UMD has allowed the development of some rooftop terraces above building structures. In the future, where possible, those rooftop terraces should be encouraged.

• Entry courts should include maps and orientation signage. Trees and other barriers should be designed to block northern winds.

Roadways
Roadways introduce the visitor to UMD and its setting. They knit the campus together while also creating boundaries between districts.

• Roads should complement the slope of the hill and offer vistas.

• Roads should be planned with minimized regional effects of runoff.

• A plan for detention ponding and runoff filtration should be developed in response to hard surfaces.

• Development of a Ring Road will establish the boundary for the core of the campus, giving it a front yard on all sides. This yard will be especially visible from College and Woodland Avenues, the side from which most visitors arrive.

• The Ring Road near Tischer Creek tributaries establishes a more definitive setting for displaying the northern Minnesota landscape reintroduced to the campus.
• The formal access road from Woodland Avenue to the Ring Road should establish a vantage point for a panoramic view of the campus buildings and for appreciating its north woods setting. This road should be orderly planted with trees that create a boulevard-like atmosphere. This will provide the entry with a clear identity as a ceremonial drive and will be readily recognizable for visitors.

• Other access roads to the Ring Road should also have a well-defined character clearly setting them apart as featured entrances. Primary access road from each off-campus road should be planted by trees that create a boulevard-like atmosphere.

• Roads should be as compact and narrow as possible to preserve pedestrian space.

• Roads should be planned with regard to snow removal and melting.

• Campus entries and exits should minimize congestion on adjacent city streets.

• The Ring Road offers an efficient and effective way of distributing vehicles to their point of destination on campus. Served by three major access roads, it distributes traffic in ways that first siphons off the long-term parking while providing access to short-term interior parking. The new plan proposes Oakland Avenue at College Street be a possible exit only. This would ease the traffic flow of service vehicles that currently enter from St. Marie Street and exit to College Street.

• Roads should be planned to eliminate conflicts with surrounding communities.

• Roadway width should be kept to a minimum to emphasize pedestrian nature of the campus.

• All roads should be connected to pathway system and lined with sidewalks and bike paths to avoid car and pedestrian conflicts.

• Roads should lead to clearly defined locations.

• Where pedestrians must cross the Ring Road, measures will be taken to ensure their safety, including well-marked crossings.
• Signage will be provided at access points to the Ring Road to direct visitors to parking, to the access point closest to their destination, or to maps and information.

• The Ring Road will provide a parkway-like atmosphere. A green belt median should be introduced, where possible, to slow down traffic and provide visual interests. The median can be turf or can be accentuated by plant materials that do not hinder visibility.

• To ensure traffic and pedestrian safety, stop signs should be installed at campus entries.

Parking/Multi-Modal Transit
Parking areas are one of the largest space uses at UMD. In design guidelines, parking should be considered along with bus drop-offs and other transit alternatives. A future transit center should be located close to the campus core. It should be planned in conjunction with other service-oriented campus functions. The multifunctional facility will add lively features to the campus and provide another social and cultural focus.

• Parking areas should be planted with salt-resistant canopies of trees that reflect the northwoods character of the area. (see planting guidelines)

• Parking areas should serve as the transition from UMD to the campus entries. For this reason, they should be clearly marked with signage to interior corridors.

• Remote parking should be encouraged to relieve pressure on the closer parking areas of the campus.

• A planning goal should be to reduce the consumption of green space for surface lots. Parking should be re-designed to incorporate more efficient special purpose parking closer to departmental destination points and allow for prioritization of use. This strategy will enable the introduction of more planting indigenous to the campus between lots and reduce the overall consumption of land devoted to parking.

• In conjunction with the introduction of more direct and convenient access to departments for visitors and those with special needs, deck or ramp parking should be used to minimize the impact of parking and take advantage of the natural grade change afforded on the west side of the campus. Such grade changes can reduce visual intrusion.
Access from parking into the campus must be provided in such a way that when transit and car riders set out on foot, they are welcomed into the campus at clearly definable entry points. Building treatment and massing should create and define all modes of entry as important on the campus.

Because the continuity of open space is disrupted by parking, UMD’s parking lots should be compact. All replacement of green areas with parking should be prohibited.

If parking expands, it should do so with upward growth in ramps rather than outward into open space on the fringe of the campus core. Structured parking facilities should have direct access from off-campus roads and should be located near the event facilities.

Each new building project must speak to the questions of whether additional parking will be entailed and, if it is, then how this additional parking will be financed and where it should be located. The specific users of each new project and their transit needs should also be considered.

So that the Ring Road will not become a speedway around the campus, selected segments will have parallel parking provided as a traffic calming measure. This parking will be high cost parking devoted to the short-term parking needs of faculty, staff, students and visitors.

Parking should be clearly visible and accessible for visitors.

Short-term visitor parking should be located within proximity to each college, school and division.

All new roads and paths should include bike lanes.

Provision should be made for bike storage at key building entry points.

Long term daily transient parking should be in the first zone along the campus Ring Road related to the primary pedestrian entrances to the campus, primarily at the north and south ends of the campus core.
Service Access
Service vehicles, deliveries and fire/emergency access are essential to the successful functioning of the campus. Because these functions have unique needs, they are addressed with their own set of guidelines.

- Service areas, dumpsters and loading docks should be planted and screened with salt-resistant canopies of trees or fences that reflect the northwoods character of the area.

- Service areas should be compact. All replacement of green areas with parking should be discouraged.

- Loading docks should have a clear connection to buildings that does not interfere with interior or exterior student and staff circulation.

- Service areas should be limited to minimal locations, all of which are screened from outward views.

- Service areas should be located to minimize truck and service vehicle conflict with car and pedestrian circulation.

Land Acquisition Guidelines

- Land should be acquired with a clear mission of fulfilling the goal of the Master Plan.

- Options, such as purchase and leasing out of houses, should be considered to maintain revenue until an entire parcel is purchased and ready to be developed.

- Condemnation should be used only as a last-resort.

- It is likely that the future expansion of the Academic Core will require displacement of ancillary activities, such as sports fields, parking, and housing. The most ideal area for expansion will be the residential neighborhood located to the northeast of the current campus. Due to the fact that it is bounded on two sides by major streets and the campus completes the other two legs of this trapezoidal parcel of land, plus its exposure on Woodland Avenue (which we have been focusing as the front of the campus), it is a natural acquisition site.
Outholdings
UMD's outholdings such as research facilities are its defining image for the larger region.

- Off campus facilities should clearly contribute to UMD's mission in the education, outreach, research and regional economic partnerships.

- All facilities should be clearly marked with consistent signage that denotes their association with UMD. The facilities should be well maintained and expand and contribute to the quality presence of UMD throughout the region.

- All UMD holdings should contribute to the understanding of UMD, Duluth and on the Northland past and present.
Chapter Five
Conclusion: Long-Term Implementation and Commitments

The real success of any master plan is determined many years after its completion. The Campus Master Plan, with its new front door entries, restored tree cover, and views to ponds and fingers of open space, serves as the fruition of one year of research and broad community involvement.

This report began with the Regents' four principles—the guiding mandate for planning at UMD and other University of Minnesota campuses. The report creates planning and design priorities for UMD that adapt the Regents' principles to achievable goals in Duluth. One of the main goals is to foster a compact academic core on the edge of a northern city; and the resulting plan is imbued with this value.

Based on the Regents' Principles and the state of the existing campus, the plan sets forth guidelines for buildings and landscapes that enhance its unique northern character, create a sense of entry and welcome, and maintain asset value over time. These guidelines create the framework for future planning at UMD.

The challenge now is to implement the plan, to ensure that members of the UMD community will apply its agreed-upon goals to every project and opportunity for change on the campus.
Implementation Strategies

The Campus Assembly Physical Facilities Committee
Currently, the Physical Facilities Committee (PFC) of the UMD Campus Assembly is charged with the responsibility for advancing the Campus Master Plan. The membership of this committee includes the director of facilities management, one faculty member from each collegiate unit, two student representatives, one professional staff representative, two civil service representatives, and one representative appointed by each of the vice chancellors.

This committee will make an annual evaluation and written report for the Campus on the effectiveness of physical changes during the prior year in advancing the Master Plan. The committee will also report annually to the Campus on projects for the coming year. The annual evaluation and written reports will include input and consultation from appropriate municipal and community representatives.

Implementation Review Policy
The master plan must be supported by a project review process which assesses the impact of all capital projects in the context of the Master Plan objectives. This assessment process applies to all University facilities in Duluth, regardless of the reporting structure of the unit affected.

Faculty, student, staff and community participation in the plan review process is essential for the success of the plan. The review process will be established within the Campus governance structure and result in recommendations to the Campus administration for adoption.

All individual projects are expected to contribute to the advancement of the essential elements of the Master Plan.

To achieve the overall objectives of the Master Plan, all projects should contribute to the long term funding of non-project-specific developmental objectives, such as concourse interconnections, utility distribution systems, road and infrastructure improvements, landscaping, land acquisition, etc.

No project should be recommended for approval/support until it has completed the accepted review process.