UNIVERSITY OF MINNESOTA
SESQUICENTENNIAL
RESEARCH CAMPUS

Executive Summary

I. BACKGROUND
The University’s property at Rosemount/ Empire — a 7500-acre contiguous land area in Dakota County, part of the metropolitan Twin Cities region — was acquired as a public trust from the federal government in 1947 for agricultural research and education purposes.

The very availability of the Rosemount/Empire property gives the University of Minnesota a unique advantage. No other regional land-grant institution has an asset of this kind adjacent to a growing metropolitan area, near an international airport, and thirty minutes from the Minneapolis campus.

The resources at Rosemount/ Empire are ideally suited to address the complex social, economic and environmental problems that arise where rural land use competes with urban development. There may be no other place in the land-grant institution system where critical issues related to the rural/urban interface can be treated as comprehensively.

Since the University will celebrate its sesquicentennial in 2001, the Rosemount Task Force proposes that the Rosemount/ Empire property be called the University of Minnesota Sesquicentennial Research Campus.

II. GOALS AND VISION
The University’s goals for the Rosemount/ Empire property set the planning and decision-making process in context and underpin the philosophy for its future:

Academic Mission
To afford opportunities for research and education initiatives that reflect the University’s land-grant mission and take advantage of the unique characteristics of the property — its size, range of natural and cultural features, and proximity to a major land grant university, metropolitan area population and international airport.
Physical Resource Stewardship
To promote an integrated and comprehensive land management framework based in an ecological understanding of the property that assumes continued ownership by the University.

Administration and Financial Management
To create a single management and operational structure that recognizes the need to protect University academic interests in the property while acknowledging the value of partnering with other agencies, business and individuals, through land leases and joint projects that support the planning principles.

Taking the strategic location of the property into account, the University envisions the future of the Rosemount/Empire property as:

1) Becoming a leader in modeling land use planning, development, and management in Minnesota and North America through the next century - particularly at the urban/ rural edge.

2) Becoming a major global influence on agricultural and environmental research and education.

3) Becoming a center for public/private and public/public partnerships to illustrate new and innovative ways to finance research and education.

4) Becoming an international focus for agribusiness and biotechnology research.

The integrated land planning framework that is proposed utilizes ecosystem-based management, which addresses the multiple elements within the whole ecosystem, that are affected by the decisions.

The planning framework provides a structure for managing physical change that will sustain the Rosemount/Empire property as a significant place for agricultural and environmental research and education at the urban/ rural interface. The approach crosses disciplinary interests and engages members of affected communities and agencies as active participants in planning, research, outreach to the community, and support infrastructure needs of the University and the community.

III. STRATEGIC PLAN
The key components of the planning framework are six guiding principles that set the tone for decision-making about land-use and the specific strategies to carry decisions through. Each principle has guidelines to identify specific efforts that are to be made to implement the principle. The actions identify issues to be resolved through on-going planning.
**Principle 1 - Integrated Management**

To utilize an integrated management approach to land use that promotes partnerships in research and education and balances financial return on future investment with social benefits and environmental health.

**Guidelines:**

Establish a single management entity with authority over physical changes and operations.

An Executive Director will be hired to promote the research campus, create partnerships, and be responsible for overall management reporting to the Board of Directors.

The existing Advisory Council will be expanded to include agencies and citizens.

The management entity will operate through current funding.

**Actions:**

A decision-making process will be utilized based on clear criteria for evaluating the financial, social and physical implications of any initiative. Each proposal must respond to the criteria, including a financial plan.

The management relationships of the existing Agricultural Experiment Station to the overall vision will be clarified.

Partnerships with interested business, other agencies and communities will be sought to enhance the research and education goals of the University. If capital funding requests are included they will relate to University procedures.

An organizational structure will be created that is responsible for ensuring the integrated planning framework forms the basis for land use and development decisions. Marketing, land-use planning, and financial planning will be added to the existing operational staff.

**Principle 2 - Balance between Land Uses**

To recognize long term land uses while phasing in new uses and ensuring capacity to respond to changing critical research needs.

**Guidelines:**

Direct future land initiatives to locations on the property that fit within the natural systems.

Maintain flexibility in land-use decisions so that land-use can be reversed as research needs change.

**Actions:**

Establish a dedicated natural corridor system as the physical framework for organizing land use decisions for the property. See conceptual land-use sketch.
Land will be managed to accommodate core agricultural research programs, new programs, and public/private initiatives.

Land will be managed to accommodate reversible and flexible land uses.

**Principle 3 - Ownership and Mission**
To preserve University ownership of the total 7,500 acres for uses that reflect the University’s academic mission while allowing for innovative and creative, as well as necessary, ways to use the land in partnership with the surrounding communities.

**Guidelines.**
Promote an environment for world-class research and education that addresses complex and interconnected urban/rural issues and stewardship at the landscape scale.

Develop an on-going formal dialogue with adjacent communities to identify issues of mutual interest, such as stormwater, alternative waste management systems, and experimental housing ideas on the urban/rural edge.

**Actions:**
The University will adopt a comprehensive, integrated land management approach in which land use decisions are made based on an ecological understanding of the resource.

The University will take advantage of adjacent land use initiatives to partner with surrounding property owners.

Land will be leased only – not sold or mortgaged – to non-University interests.

Property entries and boundaries will be clearly identified with signs and orientation features to establish an image for the property and improve the interface with the surrounding communities.

**Principle 4 - Opportunities for Research and Education**
To create opportunities for research and education linked directly to a University of Minnesota collegiate or departmental program that illustrate innovative ways to accommodate institutional, business and community interests.

**Guidelines.**
Create incentives and promote opportunities for integrated advance studies across disciplines and across agencies and other development interests.

Existing leases with private entities will be phased out unless they become linked to an academic program.
An interpretive/recreational trail looping through the property will be established with Dakota County to provide public information and interpretation about the research taking place on the property.

Actions:
The property will be marketed and promoted for research and education purposes.
Partnerships with other agencies will be encouraged as a way of developing the full research and educational potential for the property.
Opportunities to undertake interdisciplinary research and education related to urban/rural interface questions will be actively sought, to take advantage of the strategic location of the property.

**Principle 5 - Natural Systems**
To encourage land uses that protect and enhance the area’s natural systems.

Guidelines.
A dedicated natural corridor system will be created to connect to the regional open space system and enhance the long-term health of the land.
Native vegetation will be planted to promote biodiversity and build connections to the area’s natural corridors.
Stormwater will be managed onsite so that surface runoff is cleaned before entering the Vermillion River system.

Actions:
Discussions will be continued with Minnesota Department of Natural Resources to identify ways the University and DNR can work together to enhance the natural systems.
A state of zero waste will be targeted for all initiatives, including maximizing recycled materials and emphasizing development which reclams, recycles and restores.
Shared and adaptive use of existing facilities will be encouraged before new facilities are built.
Flexibility in building code, zoning and land use rules will be sought to encourage innovative research focused on sustainable alternatives to agriculture and natural resource management.
Confirm the Rosemount/Empire property as a separate Responsible Government Unit (RGU) under the University’s authority for Environmental Assessment. This does not include transportation projects by Dakota County on its easements.
Principle 6 - Involving the Public
To provide an opportunity for citizen and public agency participation in on-going planning for the University's property at Rosemount/Empire.

Guidelines:
Opportunities will be promoted for citizens and public agencies to work cooperatively on land use issues.

Innovative land use ideas will be explored that promote synergy and crossing of jurisdictional boundaries.

Actions:
A liaison person from the single management entity will be identified to communicate on a regular basis with regulatory agencies and surrounding communities.

Dialogue with the surrounding communities and agencies will be regularized.

IV. OPERATIONAL ASSUMPTIONS
The following describe some of next steps that are necessary to achieve the vision for the Rosemount/Empire property:

1. A land-use plan will be created to assess land uses. This plan will incorporate several critical existing agricultural research programs, as well as exciting new initiatives to strengthen the University's role in research and education in the global marketplace:
   - An interpretive trail to explain research and education to the public
   - Restoration and enhancement of the natural landscape systems and watershed corridors
   - An overall landscape plan that allows research and education projects to be nested within it, such as:
     - Small farming research and a demonstration farm
     - Urban/rural interface issues
     - Precision agricultural management
     - Existing core agricultural research and teaching programs
     - Agribusiness/Biotech Research Park
     - Turf and Grounds Research and Education Center
     - Transitional uses like hazardous waste sites, police range, bomb disposal site, and existing leases
2. Land management procedures that promote a comprehensive integrated approach that ensures integration of research and education initiatives while providing opportunities for engaging members of affected communities and agencies in decisions about land management.

3. Interdisciplinary research and education between colleges as well as public/public ventures and public/private partnerships will be promoted as creative financial means for the University to accomplish its academic goals.

4. The unique circumstances of the property’s location at the urban/rural interface suggest the integration of established and new agricultural and environmental research programs into a broader focus on urban/rural interface issues that must deal with the regional landscape scale.

V. ACTIONS BY THE BOARD OF REGENTS

The Rosemount Task Force recommends that Central Administration and the Board of Regents:

• approve the proposed planning framework and principles for on-going decision making regarding the University’s 7500 acre property at Rosemount/Empire

• approve and establish as soon as possible a single management entity (managed by an Executive Director) with authority for the property; expand the existing Advisory Council to include agencies and citizens; and create a Board of Directors representing interested University Colleges (COAFES, CNR, VM, CALA) and others selected by Central Administration, including agri-business, communities and citizens

• authorize the Center for Rural Design to continue to plan and guide the design of future facilities to ensure incorporation of the history, current planning in process, and the development of a financial plan.
Appendix:

I. Managing the Rosemount/Empire Asset

These management recommendations set out the organizational structure, decision-making process and financial implications that should govern the University’s response to research and education proposals and guide overall management of the Rosemount/ Empire asset. The recommendations are based in the planning principles and, considering analysis of both program and the site, they are written to express the vision for an integrated land planning framework. Diagrams of the planning framework, management structure and decision-making process accompany these recommendations.

A. Organizational Structure

Recommendation:

Single Management Entity

In order for the planning framework to be most effective and to take advantage of the fact the property is already in single ownership, it is proposed that a single management entity be created.

Guidelines:

The integrative nature of the planning framework anticipates a mix of small-scale land uses that would run concurrent with landscape-scale research and long-term evaluations of the interactions between projects, as a way of modeling real-world situations. Selecting the actual mix of land use projects that would be carried out becomes critical to achieving this objective, reinforcing the logic of vesting a single entity with authority to make programmatic decisions.

In guiding the proposed integrated land use program, a single management entity would accomplish University research and education objectives and additionally could extend the idea of an integrative framework to include citizen involvement in on-going planning and cooperative initiatives with adjacent municipalities and other agencies.

Recommendation:

Formal Approval Process

A formal structure is needed to administer the Framework on behalf of the Regents and Central Administration. The key components of such a structure are:

• A single management entity with authority over physical changes and operations
• A decision-making process based on clear criteria for evaluating the financial, social and physical implications of any initiative
• An organizational structure responsible for ensuring the Planning Framework forms the basis for all land use and development decisions at Rosemount/Empire and complements the University’s decision-making process, including the Capital Development Processes

Management Structure Diagram
B. Decision-making Process

Recommendation:
Decision-making Process

To keep the planning and project review process as straightforward as possible, several steps are suggested that would build on the University’s present system of campus planning and project management (including the University’s Capital Development Processes) and allow the Management Entity a continuing role through all phases of the project:

Step 1. Project proposal.
The initiator (proponent) of a project submits a project brief that requires a summary of relative contribution of the project to the University’s academic mission and an assessment of how the project supports the guiding principles, what measures will be used to monitor and evaluate the project, funding sources and/or partnership arrangements, what are the environmental, social and economic impacts of the particular land use and the consequences of locating near other types of land use on the property.

Step 2. Review of proposal.
The completed brief is reviewed by the Management Entity for conformance with the Guiding Principles; works with the proposer on site location, access, and infrastructure; and prepared for presentation and review with the external Advisory Council and internal Board of Directors. If necessary, the proposal may be returned for an altered submission to ensue compliance with the guiding principles and land use criteria.

Step 3. Recommend to Executive VP and Provost
If there is agreement that the project supports the spirit and intent of the Planning Framework, the Management Entity will forward the project to the Executive Vice President and Provost. For routine research and education (such as locations and preparation of research plots) the Management Entity may directly approve the proposal for development and implementation.

Step 4. Project Approval.
When the project involves partnership arrangements or is of significant scale or cost or involves capital improvements, the project will be forwarded to the Board of Regents for review utilizing the University’s Capital Development Processes.*

Step 5. Project Evaluation.
With the project proponent, the Management Entity, through its planning staff and Advisory Council and Board of Directors, follows a cyclical process of project monitoring and evaluation, reassessment of project goals and new planning, to ensure a consistently high quality of projects in terms of research and education, and the highest benefit to the physical resource in terms of ecological health.
Refer to Office of Associate Vice President for Budget & Finance and Chief Financial Officer

Decision-Making Process Diagram
C. Financial Implications of the Planning Framework

Future financial impacts at Rosemount/Empire will fall into two categories:

- overall infrastructure and operation costs
- project costs

Infrastructure: These costs relate to management and operations that will incorporate activities of the existing Agricultural Experiment Station and Research Center. Major infrastructure improvements will be identified in the next steps with analysis of return on investment.

Project costs: These costs relate to the establishment, operation, and reporting on research and education projects that might be conducted on the property. These costs and benefits will be an integral part of each project proposal.

Of these two categories, the majority of costs for Rosemount/Empire will be focused on individual projects.

Funding:

Current funding will allow for the establishment of the single management entity; ongoing planning for infrastructure improvements; pursuing potential partnerships with Dakota County, City of Rosemount and other public and private groups; and consultation with academic groups on proposed projects to fit the planning framework and decision-making process.

Infrastructure improvements, partnering proposals, and costs/benefits will be developed utilizing the University’s Capital Development Processes.

Individual projects will be required to outline costs, revenues and benefits for submittal to the single management entity through the decision making process.

In the future, the income from renting land to farmers and leases to private firms will be phased out and other sources of revenue will need to be identified, as the land is used for research and educational purposes.
D. **Recommended University Actions:**

The Task Force recommends that Central Administration authorize the Center for Rural Design to work with the Management Entity by continuing to provide planning and guidance for the project, to accomplish the following:

- Work with DNR, Dakota County, Vermillion River Watershed District, and PCA to define and enhance the natural corridors on and off site, prepare guidelines for development near and within the corridors, and ensure environmental compliance - particularly on the southern portion of the site. Explore research partnerships for their management and operation, and funding mechanisms.

- Continue planning to clarify land use criteria and management methodology based on the planning framework and principles to assess proposed land uses that are consistent with the planning framework and the methodology to ensure responsible management of the property and emphasize long term benefit.

- Research governance and financial models for the property, including financial analysis of infrastructure improvements, costs and benefits to the University.

- Continue planning refinements for academic program initiatives to clarify their location, design criteria and access. These include the existing Experiment Station, proposed Turf and Grounds Research and Education Center, Precision Agriculture, new Animal Science facilities, Agricultural Research Park, and other active faculty proposals.

- Work with Dakota County on the details of County Road 46 and other types of access, including roads, landscape, recreational and interpretive trails, as they impact on University research and education initiatives.

- Continue discussions with the Met Council, City of Rosemount/Empire, and Dakota County on what happens at the urban/rural interface along County Road 42.

- Assist in the preparation of a multi-year operating and capital budget plan for consideration by the University and Board of Regents. The capital budget plan will be 1) in conformance with the University's internal capital improvement process, 2) include the financial implication of additional operating costs, 3) include infrastructure and other related costs and 4) include appropriate community consultation.

- Work with area historical societies to create an oral history of the site from people affected by site developments that could be used in developing a public education program.

- Explore the potential to acquire 160 acres on the south side of the Experiment Station to fill out the property to improve buffering for research opportunities.

- Pursue decisions regarding length and phase-out of existing leases.
II. Precedents to the Planning Framework

The evolution of the Rosemount/Empire property from presettlement character through agricultural and industrial use is part of a larger pattern of change associated with agricultural land adjacent to growing metropolitan regions. Characterized by the conflict that can arise when market pressures to build out urban areas interfere with smaller communities’ interest in preserving a sense of ruralness, this pattern is nowhere more obvious than at the southeast edge of the Twin Cities metropolitan region, where the University of Minnesota property is situated. The conflict is compounded by the University’s research and education priorities for the property that to date have been focused on conventional agriculture, not issues related to an expanded urban infrastructure or preservation of rural character.

Viewed with an eye to the future, however, the very availability of the Rosemount/Empire property so close to a growing metropolitan area gives the University of Minnesota a unique advantage among regional land grant institutions. Located within the seven-county metropolitan Twin Cities region, the resources at Rosemount/Empire are ideally suited to address the complex social, economic and environmental problems that arise where rural land use competes with urban development. No other regional land-grant institution has an asset of this kind.

Already a leading research University, the U of Minnesota through the Rosemount/Empire resources can build on its long history of service to agriculture and rural residents by expanding its focus to include urban and suburban dwellers and non-agricultural rural communities that comprise the larger population of the Twin Cities region and other urban centers.

The property contains a remarkable geological and hydrological diversity – rolling upland prairie, glacial river tributaries and sandstone outcrops – which translate into high ecological value with significant potential for habitat management and recreation. As a cultural landscape, the Rosemount/Empire property is filled with stories that could be interpreted as part of a public history program, especially the stories associated with the munitions plant that was built during World War II and is still visible as architectural remains, and the recollections of the families whose farms were displaced by the plant, or the even older story of the explorer Nicollet’s stopping at Lone Rock in the 1700’s to record the view of this segment of the Vermillion River.

In fact, the educational possibilities of an extended program, or “special mission” as it was dubbed in a consultant’s review of the Rosemount Long-Range Development Framework Plan, are almost limitless, given the University’s commitment to seeking to serve in new ways that meet the critical needs of a changing society. The traditional focus at Rosemount/Empire on agricultural research and education can only be enhanced by extending the program and broadening the partnerships – to include citizens, communities, public agencies and business – with University faculty.
Against this background, the University through this planning initiative has set out to accomplish an exciting and clear vision of the future Rosemount/Empire property that supports the academic mission, values the environmental qualities and economic importance of the property, and recognizes the significant public and private interest in being part of its future.

The University’s property at Rosemount/Empire — a 7500-acre contiguous land area in Dakota County, part of the metropolitan Twin Cities region — was acquired as a public trust from the federal government in 1947 for agricultural research and education purposes. Appropriated from area farmers in 1941 for construction of a World War II gunpowder manufacturing plant, the property has remained relatively undeveloped since then, particularly the southern section, where tributaries of the Vermillion River have carved ravines and rock outcrops from the underlying St. Peter sandstone. The northwestern and west central part, characterized by rolling upland prairie on a rich till deposit, is operated as the University’s Agricultural Experiment Station, while the eastern half of the property hosts various University research projects as well as land and building leases to non-University interests whose rent supports the costs of the land.

A. Planning Process

The focus on academic agricultural research and education stipulated in the original gift of property from the federal government was confirmed as a land-use priority in the Rosemount Long-Range Development Framework Plan approved by the Board of Regents in 1977. Subsequent reviews of the Plan, in 1993 and 1996, reconfirmed this focus.

In the spring of 1998, the President declared the property not for sale and the Executive Vice President and Provost appointed a Task Force to develop a planning framework to synthesize the ideas of the community with those of faculty and staff that could be approved by the Regents and implemented by the University. The Rosemount/Empire Task Force, chaired by Tom Fisher, dean of CALA, consisted of Mike Martin, former dean of COAFES; Gene Allen, former provost and director of Global Outreach; Sue Weinberg, Director of Real Estate; Clint Hewitt, Associate VP for Master Planning; Al Sullivan, dean of the College of Natural Resources; and Phil Larsen, interim dean of COAFES.

The University’s Center for Rural Design was named to lead the planning effort. It consisted of Dewey Thorbeck, adjunct architect professor and Director, Thora Cartlidge, landscape architecture adjunct assistant professor and Research Fellow; Michael Byrd, architecture graduate student, and Yolanda Yu, a Ph.D candidate in the Carlson School of Management. Other members of the planning team were Warren Sifferath, Extension Educator and Professor for Dakota County Extension Office; Kathy Boudreau, Administrator of the Rosemount/Empire Research Center;
and Richard Levins, Professor of Applied Economics. Additional resource persons were named, including Bob Mugaas, Coordinator, Turf and Grounds Research and Education Center; and Don Wyse, Director, Minnesota Institute for Sustainable Agriculture.

The planning process was organized to include the communities surrounding the Rosemount/Empire property through a series of open meetings that build upon the planning efforts of the Rosemount/Empire Advisory Council. Discussions were ongoing with the Metropolitan Council, Minnesota Department of Natural Resources, Dakota County, Vermillion River Watershed Management Organization, and Minnesota Pollution Control Agency on the idea working with natural systems as a framework. Other meetings were held with elected county and city officials to clarify their issues and concerns for the property.

Under direction from the Rosemount/Empire Task Force, and with citizen input, the Center for Rural Design has taken a comprehensive approach to the planning effort that considers the University’s current and proposed operations and research activities, unique setting, physical constraints, and current development patterns in the area.

In leading the planning effort, the Center for Rural Design is bringing the design process to bear on the complex problems that arise at the rural/urban edge. Using design as a problem-solving technique allows a two-track process to run, one that explores the significance and possibilities of the property at the landscape, or watershed, level, the other that identifies principles for scrutinizing existing uses and proposed initiatives for their effect on the ecosystem as well their contribution to the University mission.

As a methodology, design provides a means of integrating issues to resolve problems associated with conflicting values; and as an interdisciplinary effort, design brings synergism into the creative process.

B. Charge to the Task Force

The Task Force, in accepting the planning charge from Central Administration, agreed to accomplish the following:

- prepare an integrated framework for initiatives at Rosemount/Empire that further the University’s teaching, research and outreach mission, make ecological sense and add economic value to the State
- involve the University community and surrounding communities in the planning process
- recommend a financial planning framework and action plan
III. Philosophy of the Planning Framework

The Planning Framework tests the idea of ecosystem-based management as a way of extending focus from single resources to address the multiple elements within the whole ecosystem that are affected by the decisions made for one resource. This represents an important shift in management towards a comprehensive and integrated approach – viewing the landscape at Rosemount/Empire in its entirety – and moves toward addressing, inviting and promoting research and education projects that value the integrity of the site as a whole.

The Framework establishes a process for making decisions about land use based in an understanding of the ecological systems within the boundaries of the property and the larger systems of which the Rosemount/Empire property is a part, the Vermillion River watershed at one scale and the metropolitan urban region at another scale. If the concept of an ecosystem is about the interacting assemblage of living things and their nonliving environment at different scales, then the Framework is about the process of sustaining ecosystem integrity through partnerships and interdisciplinary teamwork. Defined by the Minnesota DNR as ecosystems-based management, the focus is on three interacting dimensions: the economy, the social community and the environment.

Applied to the University’s Rosemount/Empire property, ecosystem-based management means ensuring that land use decisions made at the property, or landscape scale, consider the implications for the larger ecosystems at the watershed and metropolitan regional scales; and balance ecological health with the University’s academic mission and community interests.

It is an approach that provides a way to view a single land use proposal within the context of the larger landscape and explore the social, economic and environmental impacts of implementing a proposal that is not possible through component research. The Task Force believes it is only within such a holistic framework that individual research and education projects can co-exist with larger scale studies while ensuring the long-term health of the resource is protected and neighboring communities’ interests accounted for.

The variety in topography, soils and plant communities on the Rosemount/Empire property already accommodate diverse uses, from agricultural research plots to wildlife habitat. Its location in the Vermillion River watershed suggests a range of new research possibilities, from water quality monitoring to turf management and recreational design. It is precisely because the unique assemblage of characteristics of the University’s property creates significant value and potential for research and education at the landscape, and larger, scales that an ecosystem-based management approach is recommended.
Conceptual Sketch: Natural Corridor/Interpretive Trail Framework
IV. Site Analysis

Digital GIS data provided by the Metro Region, Department of Natural Resources, were used to map existing natural systems within the surrounding subwatershed district of the Vermillion River watershed. Land use commitments were added, including roads, utilities, research programs, and other long-term land leases, and a conceptual natural corridor system overlaid as a potential framework for development that uses the underlying natural systems to determine land use suitability.

As a physical resource, the Rosemount/Empire property may best be understood in the context of the metropolitan region and the watershed of which it is an integral part.

A. Metropolitan Context:
A key factor to creating an integrated framework for planning future use at the Rosemount/Empire property is understanding its metropolitan context. The 7500-acre holding is situated just a half-hour’s drive by major highways from downtown Minneapolis, downtown St. Paul and the University’s Twin Cities campuses. As documented in earlier studies of the property (BRW, Inc., 1996, not completed; DSU, Inc., 1993, U of M, 1977), the size and proximity of the property to a major metropolitan area and a land-grant University is at once an important advantage to land-based research and education, and a significant constraint to the urban growth that is expanding into the rural surrounds.

According to the 1990 U.S. Census, Dakota County has experienced the largest overall increase in population within the seven-county metropolitan Twin Cities region, with the effect that agricultural land use is steadily being replaced by suburban expansion from the north and west. The Rosemount/Empire property is located essentially in the direct path of residential development in Dakota County and as such is considered prime real estate for housing and industry. Its northern portion (north of 160th Street, proposed County Road 46) is included in the Metro 2040 Regional Growth Strategy as part of an Urban Reserve that could become part of an expanded Metropolitan Urban Services Area (Met Council, 1996). At the same time, the 7500-acre parcel remains the largest contiguous public land area in single ownership in the region and has high public value as an educational and research land resource, for both the University and the metropolitan Twin Cities region.

Socioeconomic Influences/Cultural Features

The socioeconomic influences directly affecting the future of the Rosemount/Empire property are best understood in a regional map showing built-up urban areas to the north and northwest of the University's holding and rural agricultural areas to the south and east. The strategic location of the Rosemount/Empire property, at a point where urban and rural meet, and the sizeable area it holds, makes the case for a new programmatic focus on urban/rural interface issues.
The nearness to significant public open space – Lebanon Hills Regional Park and the Minnesota Zoo to the northwest, the Mississippi National River and Recreation Area to the east, the proposed Vermillion River Trail to the south and the proposed Koch Refinery Preserve to the northeast – recommends the property as another connection in a linked open space system that would support the State’s current initiative to extend a metropolitan natural areas and greenways initiative that would build on the Metropolitan Council’s Parks and Open Space System.

The proximity of the Rosemount/Empire property to major markets and corporate business headquarters in the Twin Cities also suggests the possibility for expanded partnerships with agribusiness and other new technologies firms interested in collaborating on land-based research.

Finally, the close presence of some 2.5 million people living in the metropolitan Twin Cities region and the relative ease with which they can reach the site by an expanding interstate and county road system is a reminder of the significant impact the public voice can have on the future of the University’s property and the importance of having an agreed long-term planning framework which the public and the public land-grant institution can support.

**Metro Area Showing Location of Property**
B. Planning within the Watershed

The Rosemount/Empire property is located entirely within the Vermillion River Watershed, a 290 square mile area drained by the Vermillion River and its tributaries that flows into the Mississippi River at Hastings. The Vermillion River Watershed is managed by the State-legislated Vermillion River Watershed Management Organization through its Watershed Management Plan (1989, currently being updated).

The Watershed Plan identifies four watershed subdistricts, approximately 100 square miles in area, directly affected by activity on the University’s property. To meet the spirit and intent of State legislation, and to demonstrate the proposed Planning Principle related to protecting the area’s natural systems, decisions on land use at the Rosemount/Empire property should evaluate individual project proposals for impact on the watershed and ensure all projects are designed to protect the water quality of the rivers, streams and wetlands that comprise the watershed onsite, prevent flooding and enhance wildlife habitat and recreation opportunities.

Ecological History and Current Conditions

Like previous studies of the Rosemount/Empire property, this planning effort calls out the importance of defining the natural and cultural features as community (public) amenities, rather than impediments to development. The Rosemount/Empire property contains some key natural features that characterize the region, including (with reference to Dakota County Environment and Natural Resource Management Plan, 1998 draft):

- A varied topography as a result of various glacial advances and retreats over 10,000 years ago that resulted in gently rolling sandy areas where water from melting glaciers reworked debris carried by the glaciers (in the northern section of the property); and deep valleys and terraces cut through as a result of flooding from the release of water from Glacial Lake Agassiz (in the southern half of the property) where Vermillion River tributaries have created steep slopes and exposed outcrops of St. Peter Sandstone bedrock

- Rich gravel deposits and well-drained soils suitable for agriculture (in the northern section of the property) derived from glacial outwash plains; and (in the south half of the property) floodplains and river terraces rich with loamy, silty, clayey soils that are poorly drained, derived from the fluvial landforms created by floodwaters from Glacial Lake Agassiz

- A strong mix of natural communities, including wetlands, grasslands and wooded areas that, due to the size and public ownership nature of the property, present significant potential for habitat management and restoration and recreational amenity
C. Rosemount/Empire's Unique Natural and Historic Qualities

The University’s property at Rosemount/Empire is a highly valuable resource that presents unique opportunities for landscape, and watershed, level research and management that can have national and international significance (reference letter to President Yudof from DNR Commissioner Sando, December, 1997). The proposed Planning Framework builds on this idea and the COAFES/ MISA proposal (1997) cited in the letter, to create a long-term framework for land use planning based on an integrated understanding of the resource’s ecological, economic and social values.

An inventory of the property’s natural and historic cultural features is critical to understanding the resource base. The following list includes the significant natural and cultural features to be considered in a long-term land use plan because of their historic cultural significance and ecological value to the property within the watershed setting and the metropolitan region:

- One of the few remaining oak-woodlands natural areas in a County where less than 2% (7,400 acres) of native forest and prairie still remain; noted in the State’s County Biological Survey for Dakota County
- Hydric soils that indicate the former existence of wetlands (in the northeast and central parts of the property) in a county where more than 80% of the original wetlands have been drained or filled
- Home to two State threatened species, the Loggerhead Shrike and the Blanding’s Turtle; noted in the State’s County Biological Survey for Dakota County
- Architectural and structural remnants of the 1942-46 Gopher Ordnance Works, a World War II ammunitions plant built on 11,500 acres in Empire and Rosemount Townships, including all of the present University property, that displaced hundreds of farmers and forced a dramatic change agricultural landscape to industrial; a visible reminder of an important chapter in the social history of the site, with educational value as part of a recreational and interpretive trail system
- Several 1900’s farmsteads remaining from the pre-GOW period with re-use potential and interpretive value
- Railroad R.O.W. (abandoned) from the 1860’s railroad construction, by Chicago, Milwaukee and St. Paul Railroad and the Central and Great Western Railroad, with interpretive value and recreational trail potential
V. Program Analysis

In this section, the University’s long-term commitments are documented, along with potential program initiatives, to confirm the programmatic base for the Planning Framework.

- **Current Land Uses and Long-Term Commitments**

Currently the Experiment Station utilizes 2860 acres, with nearly 75% programmed for core experimental research plots having historical data and records. The Research Center is responsible for 4670 acres with a variety of uses and activities. These include:

- Veterinary Medicine’s research facilities
- Minneapolis Police Department Bomb Squad
- Proposed University Police Facility
- Dakota County Technical College
- Meteorological Research Center
- Federally approved Hazardous Research Storage Sites
- Several public service operations leasing sites for police training, military training
- CALA foundation/soils research site
- Several private businesses leasing land or building
- Leased farmland

Land leases (>30 yr.) and easements include:

- U.S. Navy Tracking Station
- WCAL Tower
- County Rd. 42
- Utilities (storm and sanitary sewers, pipelines, electric transmission lines)

Proposed long-term uses and easements include:

- 160th St. extension (proposed County Rd. 46)
  An agreement to convey easement was signed by the University and Dakota County (April 1997).
B. Program Opportunities

The Rosemount/Empire property holds rich potential as a base for a range of programmatic interests, across disciplines and across the research and education mission.

1. College of Agricultural, Food and Environmental Sciences Programmatic Interests

In a 1997 report “Agricultural Research and Education at Rosemount/Empire” to Central Administration, faculty from COAFES and other colleges presented ongoing program needs and identified future [and associated funding] that could be reasonably anticipated to be underway within a short time frame (five years). Included in these needs are definitions of the type and kind of buffering and/ or isolation needed to insure that other types of development would not adversely impact their use and the research conducted.

• Core agricultural research and teaching programs.
  These core research and teaching programs include crops, crop pests, soils, animal sciences, genetics, and atmospheric sciences. These programs require uniform soils along with associated agricultural service facilities and buffering for isolation of research plots. Animal facilities for swine and poultry have existing locations that need to be renovated and updated, while a new large dairy facility is proposed. Examples of research include control of potato blight and barley rust, a long-term study of sewage sludge for agricultural production, weed control, biological control of insects and a variety of orchard studies. The National Oceanographic and Atmospheric Administration has also targeted Rosemount/Empire as a primary data collection site to test satellite based weather and climate models.

Other possible, though unfunded initiatives described in the COAFES report include:

• Turf and Grounds Research and Education.
  A proposal to study turf varieties and other plant species for environmental safeguards and enhancements in golf course and playing field settings, with a particular focus on the special design requirements for golf and sports facilities located in rolling topography and environmentally varied land such as the Rosemount/Empire property contains. A unique feature is fully-functional sports fields and golf courses that allow for the study of various turf uses under conditions encountered in the “real world”. The proposed Turf and Grounds Research and Education Center would provide areas for traditional turn and landscape research methods and projects while offering opportunities for short- and long-term evaluation of sustainable landscape design, landscape restoration, and tree and shrub maintenance practices including integrated disease and insect pest management strategies for woody and herbaceous landscape plants.

• Precision Natural Resource Management.
  A proposal to conduct precision research and education on turf and grounds,
soil/crop management, urban lawn management, agricultural machinery technologies, grazing, environmental protection, and a demonstration farm and teaching center. The University of Minnesota, through this initiative, could be a global leader in this area and the use of global positioning technology for land use and applications to the land.

- **Agricultural Research Park.**
  A proposal focusing on public/private partnerships for research and public education regarding plants, animals, crops, nutrition, medicine, food production techniques and systems, global marketing, bio-technology, genetics, and telecommunications.

- **Bioremediation of Contaminated Soils.**
  A proposal focusing on new methods to identify and measure contaminated sites and ways of using living organisms to remediate contaminated sites. The research would examine soils in areas of the property where contamination has occurred, including explosive contaminated soils associated with the Gopher Ordnance Works (1940's) and the Minneapolis Bomb Squad (current); agricultural pesticides and soils with high metals due to agricultural fertilization (1940's to present).

- **Landscape and Community Development.**
  A proposal for a Center for Landscape and Community Development that would promote a comprehensive integrated approach to land management, in effect a large-scale landscape design that would plan for smaller scale projects to be nested within it. The approach requires no specific land base, rather represents a management approach encompassing the entire 7,500 acres of the Rosemount/Empire property that ensures integration of research and education initiatives and provides opportunities for engaging members of affected communities in decisions about land management.

- Other opportunities for research and education that have been discussed include demonstration or experimental housing and land use alternatives along the rural/urban edge; agricultural marketing systems; agroforestry; sustainable farm demonstration site; landscape restoration and reclamation; and integration of agriculture with urban development.

- The University's Master Planning Office (1997) conducted a subsequent survey that asked other Colleges about their research or educational interests in the Rosemount/Empire property. Of the few proposals that were submitted, the most well-developed idea came from the College of Human Ecology, to undertake research and education in ecologically sound land-use and economic systems, that would take advantage of the size of the property to do a variety of interrelated projects, all benefiting from the economy of scale and connectedness that is not usually available to academic research.
2. **Potential Research and Education Programs in Urban/Rural Interface Issues**

The challenge to the current planning initiative, as noted in previous reviews of the University’s 1977 Plan (DSU, Inc., 1993; BRW, Inc., 1996, not completed) is to use the unique circumstance of the property’s location at the urban/rural edge of the Twin Cities to educational benefit. A physical framework and management structure are needed that integrate established research programs into a broader programmatic focus on urban/rural interface issues that must be dealt with at the landscape scale (with reference to a COAFES/MPO report, 1997; and previous consultant studies):

- crop and animal production systems that minimize the incompatibilities of urban residential with the dust, noise, odors, machinery traffic and waste associated with conventional crop and animal agriculture
- alternative stormwater management systems for residential, industrial and agricultural uses
- integrated urban waste management systems
- road designs that enhance the vehicular traffic experience and protect natural and cultural features
- innovative public recreational amenity designs – trails, playing fields, golf courses – that demonstrate sustainable land management practices, contribute to enhanced natural systems on the property and provide wayfinding information, research program history and environmental interpretation (guided or signed) about the areas being played on and moved through
- restoration and management of streams and wetlands, native vegetation and wildlife habitat as a component of all other developments, including core program research and new uses, to demonstrate responsible development
- K-12 educational programs to increase kids’ awareness of how agriculture functions, how natural systems work and what’s to be learned from observing the interactions between nature and people

3. **Other Potential Research, Teaching and Outreach Programs**

(Research) Plant, animal, natural resources, vet medicine, medical biological, genetic, nutrition, technology, demonstration or experimental housing, cluster residential design, water management, farm management, agroforestry, structural foundation construction

(Teaching) Geology, design, plant pest management, golf course management, landscape design, construction and maintenance
4. Community Interests
   Recreational
   Educational
   Planning
C. Potential Partnerships at Rosemount/Empire

Interdisciplinary research between Colleges as well as public/public ventures and public/private partnerships can be creative means for the University to accomplish its academic goals. Joint ventures are considered critical to achieving the desired rich mix of research and education that is possible at the Rosemount/Empire property. The University already has begun a tradition of partnering with the City of Rosemount and Dakota County on infrastructure and services to the Rosemount/Empire property. A broadened range of partnering opportunities is listed below.

Potential Public/Public Partnerships

- Trails development (w/ Dakota County, DNR)
- Watershed improvements (w/ Dakota County, Vermillion River WMO)
- Agricultural education (w/ Dakota County Technical College)
- Roads (w/ Dakota County)
- Landscape Management (w/ EPA/USDA/TGREC)

Potential Public/Private Partnerships

- TGREC (w/ turf business, Dakota County, City of Rosemount, School District)
- Agribusiness Research Park (w/ agribusiness)
- Housing demonstration (w/ developer and MN Housing Finance Agency)
- Model farm (w/ MISA, Precision Agriculture interests)
- Animal research (w/ industry)
- Adjacencies/ boundaries landscape treatment (w/ Dakota County, City of Rosemount, individual property owners)
VI. A History of Ideas for the Rosemount/Empire Property

A strong sense of community has grown – amongst neighbors, University researchers and citizen advisors – out of their collective interest in farming and their common love of the land, especially the big open space of the Rosemount/ Empire property. However, in spite of the strong tie this place has for many people, there is a legacy of conflict associated with its history that has yet to be resolved. Different interests and disparate worldviews over the decades have raised questions about the highest value for the land and resulted in dramatic shifts in use – from agricultural and military industrial to academic research and leasehold. In aggregate, the mix of current uses alongside remnants of earlier activity seems to obscure the intrinsic character and power of this place as a whole. It’s not always clear what’s being viewed.

The environment in which this report was written is perhaps best set by listing the many different impressions people have of the Rosemount/ Empire property. Assembling notes on some current positions provides the following diverse list of ideas about its value:

• as an agricultural academic research resource (Levins et al., 1997)
  • as a location for agricultural industry research near Twin Cities head offices (Levins et al., 1997; agri-business comments and letters, 1998)
  • as a teaching ‘lab’ setting, e.g. crop disease, geophysical surveying, golf course management (Levins et al., 1997; Hewitt, 1997)
  • as a storage site for hazardous waste, due to size of unused land area, relative isolation from population and interference (medical research comments and letters, 1998)
  • as a testing area for military defense systems, e.g. bombs, guns, tacticals (U of M Police and defense agencies’ comments and letters, 1998)
  • as part of an expanded municipal stormwater management system (City of Rosemount Stormwater Management Plan, 1998)
  • as right-of-way for an extended County Road 46 (Dakota County, 1998)
  • as part of the Metropolitan region urban preserve (Metropolitan Council Regional Blueprint, 1996)
  • as an opportunity to model design solutions for rural/ urban interface problems, e.g. odor associated with animal agriculture vs. rural residential (Levins et al., 1997; BRW, 1996; DSU, 1993)
  • as remaining open space within expanding urban development (DNR correspondence, 1997)
• as an important reservoir of native plant and animal diversity for the region (DNR correspondence, 1997)

• as a public environmental education resource (public comments, 1998; Levins et al, 1997; DNR, 1997)

• as part of the Vermillion River watershed (WMO Plan, 1989)

• as a place to practice sustainable agriculture, ecological landscape design and restoration ecology on a large scale — real world, actual size — basis (Levins et al, 1997; Regal, 1997)

• as a site to apply ecologically-sound land use and economic (marketing) systems (Levins et al, 1997; Regal, 1997)

• as a place worth re-integrating into the natural systems — the Vermillion River Watershed, upland prairie — that define its physical character and underlie its production value (DN, 1998)

• as an opportunity to use design to find solutions to physical planning issues and help shape policy (U of M Design Initiative, 1998)

• as real estate (U of M, 1996)
<table>
<thead>
<tr>
<th>Plan or Event</th>
<th>Issues Identified</th>
<th>Recommendations</th>
<th>Outcome</th>
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<tbody>
<tr>
<td>1947</td>
<td>30-yr. covenant to use land for facilities for research, education, public health, reforestation and State similar purposes</td>
<td>.</td>
<td>Agricultural Experiment Station establ’d. (1450 A.), Aeronautical Research Labs, Public Health and Cancer Research Programs, ROTC, under Rosemount/Empire Research Center</td>
</tr>
<tr>
<td>1977 Rosemount/Empire Long Range Development Framework Plan (by U of M)</td>
<td>Academic research and education interests identified</td>
<td>Land-based research mission confirmed, written as planning principles re animal and crop research activities</td>
<td>Adopted by the Regents, expected growth in academic and research land uses did not occur</td>
</tr>
<tr>
<td>1988</td>
<td>Growing community interest in property</td>
<td>Create citizens’ advisory committee</td>
<td>Rosemount/Empire Advisory Committee establ’d.</td>
</tr>
<tr>
<td>1993 Review of Long Range Development Framework (by DSU)</td>
<td>Metropolitan growth is considerably greater than in 1977 Facilities deteriorated Natural features intact</td>
<td>Research mission as preferred direction, over status quo or reduced site</td>
<td>Tabled by Central Administration</td>
</tr>
<tr>
<td>1996 Draft Master Development Plan (by BRW)</td>
<td>Use and disposition of property consistent w/ University research and support purposes, while maximizing value of any land determined to be excess and available for sale/ development</td>
<td>None; Plan not completed</td>
<td>None; Plan not completed</td>
</tr>
<tr>
<td>1997 Proposal “Agricultural Research and Education at Rosemount/Empire” (by COAFES)</td>
<td>Proposed research and education initiatives identified by COAFES faculty</td>
<td>Entire property to be used for agricultural research and educational purposes</td>
<td>President Yudof appoints Rosemount/Empire Task Force; kicks off Planning Framework process</td>
</tr>
<tr>
<td>1998 Planning Framework (by CRD)</td>
<td>Need for integrated framework for decision-making</td>
<td>Natural systems as armature for development, partnerships in planning, research, education, stewardship</td>
<td>Physical development framework, administrative and financial structure and decision-making process</td>
</tr>
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