

W. J. ...  
... of Physical Science

# Strategy for Focus (Review Document)

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Note: This is a Compilation of Focus Documents  
Submitted by Each Division in the Department.

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STRATEGY FOR FOCUS  
PHYSICAL PLANNING OFFICE

MISSION

Support and enhance the natural physical environment of the University, provide planning assistance to the research and experiment stations, provide interior design and graphic services to the University community and provide landscape architectural services and management of planning for major University projects.

The Physical Planning Office relates to a wide range of support units within the University. Units in which there is a degree of continuing coordination activities are the Engineering and Design Office, Construction Administration, Police Department, Parking Services, and the Code Officials Office. Other support units where there is less frequent interaction but still occasional coordination of activities are Housing Services, Physical Plant, Health Sciences Planning and Administration, Intercollegiate Athletics and Recreational Sports, Food Services, University Mail Services and Student Unions.

GOAL

To insure that the built and natural physical environment of the University supports and enhances the institutional mission, goals and objectives of the University.

- Objective: To provide, promote, and maintain a rational and current framework for the future physical development of all University property.
- Objective: To act as the prime source of Physical Planning information and as a point of internal and external coordination regarding future plans and present issues with respect to the University's physical environment.
- Objective: To be the institutional source for information concerning present and future plans.

GOAL

To serve as a liaison for the long range planning, technical assistance, and project implementation of physical facilities at the Research and Experiment Stations within the University.

- Objective: To coordinate effective implementation of Station needs and University physical facility requirements through the application of planning techniques and procedural systems.

- Objective: Provide technical assistance to the Stations in their developing projects to ensure adequate budget, completeness of plans and specifications and to codes and University standards.
- Objective: Monitor building project construction to ensure construction conforming to project specifications and program requirements and effect project close-out.

#### GOAL

To provide complete professional interior design and graphics services to the University community by addressing needs and solving problems relative to the function and quality of the interior physical environment including fundamental design, design analysis, space planning and programming, and directional graphics and signage programs.

- Objective: Planning of furnishing and equipment to satisfy academic and non-academic program requirements for interior spaces of University facilities; maintaining quality in furnishings standards and achieving a professional relationship in procurement and management.
- Objective: Preparation of furnishings and equipment specifications, bidding and management through the purchasing process.
- Objective: Provide the building programs with quick and efficient bid analysis and purchase ordering.
- Objective: Effect furnishings and equipment installation, site inspection, and formal acceptance through invoice approval for payment.

#### GOAL

To provide landscape architectural services, and manage the planning for new and remodeled University facilities to meet current and projected needs.

- Objective: To assist in the preparation of the University's Capital Improvement Request, prepare facility programs, effectively manage the planning of the project with respect to design, quality, budget, and schedule and carry out special assignments.
- Objective: Perform services for the development, enhancement, and maintenance of campus landscaping.

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## Strategy for Focus Changes and Projections

### PLANNING

The planning section has changed considerably over the past 10-12 years. Primarily as a result of retrenchment, the professional staff has gone from a high of 8 or 9 to the present 4 including the Assistant Director. The primary effect of this evolution has been in a significant reduction of long range planning activities.

Of all the activities and responsibilities of the planning section, it is the long range planning which has become the lowest priority; not because of the ultimate value but because the value is not readily apparent to an administration that has more immediate concerns. As a result, physical planning has come to focus, almost exclusively, on the immediate and shorter range planning and operational issues at the expense of comprehensive long range planning. The long range plans which used to provide a rational context for the evaluation of new issues are now so out dated that the value as an evaluation tool is limited.

The new goals and changing directions of Commitment to Focus will undoubtedly further the obsolescence of our Long Range Campus plans which are now over ten years old and were developed under the direction of an administration which has long since gone. It seems clear to us that a comprehensive long range physical planning response to Commitment to Focus is necessary to facilitate, as well as help redefine, the institutional values and goals.

A serious examination of the impacts of 'focus' might yield surprising recommendations. For example, one might assume that, with fewer undergraduate students, some of our congestion and parking problems might diminish. However, further examination might suggest the opposite might be the case. An increase in research activity could increase the demand for vehicular access to campus, while the corresponding decline would be insignificant because the demand for student parking will still be much greater than the supply.

## INTERIOR DESIGN & GRAPHICS

The unit of Interior Design and Graphics is performing basically the same tasks as a professional in-house interior design group as originally established at the creation of the department in November, 1971. In actuality, and because the existing staff has matured professionally, and because also of the systemized procedure for handling projects, both large and small, this unit can and does perform tasks faster and more efficiently than ten or fifteen years. Moreover, the scope of its operation has matured, noting a reduction of staff personnel within the Interior Design and Graphics unit.

We perceive in the future a larger degree of work activity in the areas of remodeling of existing structures on the Minneapolis campus, particularly as relates to a potential increase in altering of some programs within existing facilities. It is absolutely necessary to note, however, that should Interior Design's workload increase in internal remodeling construction, a much more professionalized and businesslike relationship has to occur with in-house units like Shops, Personnel, in order to facilitate solving potential gaps in procedures and lapses in communication.

## PROJECTS

Major changes in the last ten years for the Projects Sections are outlined below as follows:

- The scale of projects is now much larger. Ten years ago a project \$10,000,000 - \$15,000,000 was a very large project. Now we have projects that are in the \$30,000,000 - \$50,000,000 range as our larger projects.
- Projects are technically more complex, i.e., building system controls, handicap requirements are more specific, more options in building materials and technologies.
- We are now handling more major remodeling projects that also tend to be more complex. They often involve relocating occupants on permanent or temporary basis. There is greater need to carefully schedule work for phasing, relocation, and construction.
- Our office has more formal involvement in the construction phase. We now approve all modifications and review them for consistency with program.
- Code and safety requirements are now more thoroughly incorporated in planning process. Also more vigorously enforced.
- Working with consultants, in a contractual sense, has become more difficult. They are more prone to seek extra services for unexpected conditions and changes. We have more requests for special consultants when they feel expertise is lacking.
- It was about ten years ago that we shifted from having the architect selected by the University to use of the State Designer Selection Board. This has reduced the amount of staff time devoted to architect selection. The time required for architect selection has increased. The University also has less control in selecting architects that specifically meet our needs.
- Considerable increase has occurred in the proportion of project cost in the non-construction category. This has come about primarily through greater tendency for contractors to seek change orders, greater insistence upon code related modifications during construction, project management fees, increase in construction administration fees, building permit fees, increase in BSAC system costs, and telecommunication system.

Predicted changes due to commitment to focus are listed below as follows:

- More remodeling due to academic units being contracted, expanded, and/or consolidated.

- More remodeling due to "star" faculty hired for endowed chairs. "Star" quality research and office space needed. This also creates secondary remodelings due to space reallocations.
- Upgrade quality of classrooms in terms of comfort, lighting, audio visual, and aesthetics.
- Increased amount of student study/commons type space.
- Greater emphasizes on landscape quality and pedestrian orientation.
- Increased emphasizes on quality and legibility of access points to campus for students, staff, and visitors. I foresee this affecting specific areas for both buildings and landscape quality.
- Increased staff time and emphasizes given to selection and incorporation of artwork into campus environment. Some of this is due to art allocation as part of the legislative request. I would also expect it to occur through increased activity by the sculpture committee and donations of artwork to the University.
- Increased emphasizes on cost effectiveness analysis as it relates to long term operating and maintenance costs.
- Greater cost pressure and difficulty of estimating equipment related needs for projects. Specialized needs becoming more integral to the building (i.e. Microelectronics). Goes beyond what is normally the "building." Since life of such special facilities will be much shorter than the building, is capital appropriation best way to fund such space?
- Greater need for spaces adaptable for new research and development opportunities. I see a greater trend towards research and development space that is suitable for contracted research the University may take on in connection with private industry. As a particular project is completed, space assignment and use may change dramatically. Greater need for pilot plant type research spaces which bridge the gap between traditional basic research type laboratories and industrial application.

NOTE: As I foresee it, the initial stages of implementing Commitment to Focus will cause a bulge in our work level; particularly, as academic units are eliminated/expanded and as endowed positions are filled. I could see this reorientation period perhaps taking five years before returning to a more normal pace of space reallocation and remodeling.

## RESEARCH AND EXPERIMENT STATIONS

Several research and experiment stations are approaching a 100 years of existence in their various locations scattered across the state. Within this time frame the institution has developed new building project processes. The affects are that many building projects can require 6 to 10 years from the time the need becomes identified to the point of being occupied. A growing importance is coordinating between the Station and University to find economically and timely methods to facilitate the construction of physical facilities according to procedures, standards, and codes as they affect both the central administration and the rural community.

If the end result of the Commitment to Focus were to provide more research funds, facilities to accommodate the increased research on the research and experiment stations should intensify. Due to the relatively easy access to building sites on the Station grounds, most facilities will probably be new, low-cost, short life span (10 to 15 years) buildings. The short life span buildings permit more rapid flexible response to the changing research requirements to maximize the efficiency of the research dollar. Yet many station buildings were originally built for short-term projects which have evolved into long-term research, or the building has been removed several times to accommodate other programs, which extends the usefulness of the building interior, but does not usually account for the deterioration of the building exterior and its structure. The aging of the Stations will accelerate the necessity of dealing with building repair and replacement.

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## STRATEGY FOR FOCUS

### Criteria to Measure and Evaluate Achievement of Goals

Based on a five year plan, and assuming reallocation of resources and additional resources needed in order to put the plan in effect, the important criteria relate to the three sections where substantive change is anticipated. The first, which is the Planning Section, is the completion and acceptance of updated, long range development plans for the Twin Cities Campuses. The second, which is the Coordinator of Experiment Stations, is to see a comprehensive management plan developed for handling long range capital improvement requirements and building repair and replacement needs for the Experiment Stations, laying out in five year terms these categories of improvement expenditures. The third, which is the Project Section, is the budgeting of projects that reflects known experience in building costs and can provide a relatively current and forecasted status of individual project budgets along with a total close out of all budget accounts within one year after project completion. There are no changes forecast in the allocation of funds for Interior Design services, and consequently it is assumed that the status quo is sufficient to satisfy expectations of the usefulness and appropriateness of this service to the University.

STRATEGY FOR FOCUS  
PROGRAM PRIORITIES

TABLE 1: INCOME

<u>SOURCE</u>	<u>1985-86</u>	<u>1991-92</u>
0100 Revenue	\$ 816,784	\$ 857,789
Sales and Services	241,384	281,384
Other:		
Transferred from other unit	0	40,000
TOTAL	\$1,058,168	\$1,179,173

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TABLE 2: STRATEGY FOR FOCUS - PROGRAM PRIORITIES

PROGRAMS	CONSTANT DOLLAR EXPENDITURES BY PROGRAM	
	1985-86	1991-92
◦ To provide, promote, and maintain a rational and current framework for the future physical development of all University property.	\$95,575	\$224,575
◦ To assist in the preparation of the University's Capital Improvement Request, prepare facility programs, effectively manage the planning of the project with respect to design, quality, budget, and schedule and carry out special assignments.	\$72,154	\$ 72,154
◦ To act as the prime source of Physical Planning information and as a point of internal and external coordination regarding future plans and present issues with respect to the University's physical environment.	\$75,112	\$ 60,112
◦ Perform services for the development, enhancement, and maintenance of campus landscaping.	\$19,161	\$ 26,161
◦ To be the institutional source for information concerning present and future plans.	\$29,001	\$ 29,001
◦ Provide technical assistance to the Stations in their developing projects to ensure adequate budget, completeness of plans and specifications and to codes and University standards.	\$18,333	\$ 11,333
◦ Provide the building programs with quick and efficient bid analysis and purchase ordering.	\$77,384	\$ 77,384
◦ Effect furnishings and equipment installation, site inspection, and formal acceptance through invoice approval for payment.	\$83,939	\$ 83,939
◦ To coordinate effective implementation of Station needs and University physical facility requirements through the application of planning techniques and procedural systems.	\$69,663	\$ 69,663
◦ Preparation of furnishings and equipment specifications, bidding and management through the purchasing process.	\$76,772	\$ 76,772
◦ Planning of furnishing and equipment to satisfy academic and non-academic program requirements for interior spaces of University facilities; maintaining quality in furnishings standards and achieving a professional relationship in procurement and management.	\$375,866	\$411,866
◦ Monitor building project construction to ensure construction conforming to project specifications and program requirements and effect project close-out.	\$61,213	\$ 36,213
	TOTAL	
	\$1,058,168	\$1,179,173

## STRATEGY FOR FOCUS

### Explanation of Priority Rankings for Functions

The priority rankings reflect, in part, the extent to which individual functions contribute to the essence of the overall purpose of the Planning Office. They also reflect the extent to which there are deficiencies in achieving the central purposes of this unit. And in addition, there is the practical aspect that if these functions were not provided by the University to a degree or another, they could be accomplished outside of this unit.

Generally speaking, within the context of these heuristics the planning and project functions tended to rate higher than station coordinator functions and Interior Design. Although, there are some cost deficiencies, quality control values and certainly, some learning curve advantage to having the Interior Design Office internal to the University, it is quite possible to contract these services external to the University. It is also possible that if the station coordination functions are important, not only to the University, but to the stations themselves, that the stations could retain this function just as well as the Physical Planning Office. Although, it is true that the project management functions in large part can be handled by outside consultants, somewhere in the University, there has to be an official University representative on behalf of the project and preferably, one who is fully cognizant of how the University does business, so that the implementation process can be expedited. In a similar manner, the University needs to have a planning section that can assist in interpreting situational needs with respect to long term interest of the University and can be the interface point, both externally and internally to the University for all development matters. In a sense, the Planning Office becomes the rudder whereby the University can steer its course through the complexities of development considerations.

STRATEGY FOR FOCUS  
PHYSICAL PLANNING

1. The sections outside of the Planning Office performing similar or related functions and with whom we communicate are Engineering and Design and Construction Administration. On the whole, communications with these units are reasonably good. The planning section relates quite frequently to the civil section of Engineering and Design. The projects section relates to all of the sections of Engineering and Design as a part of the project design review process. The projects section also relates to construction administration during the construction phase for the most part, but occasionally during the building design process. The meetings where design review occurs and the occasional meetings where University standards are updated and the interface with the Engineering and Design sections implementing non-building design needs keeps the interactions sufficiently frequent. Communications with related units benefit substantially from the informal relationships as well as those specifically structured. With the project managers frequently attending the construction progress meetings and reviewing contingency expenditures, a degree of communication occurs with construction administration. A relatively sensitive area to the project section is the contingency budget as well as the supervision budget. These seem to be areas where communication could be improved through better budget reporting to help avoid budget overruns and where that is not possible, to at least alert in advance of the completion of work where the trend in expenditure is going to exceed the budget expectations established at award of construction.
2. I am not aware of any other units that might more effectively undertake tasks currently being done by the Planning Office. I do think, however, that there might be some value gained in smoothing out the peaks and valleys of maintaining constant staffing levels by integrating more than has been in the past, the project management and the construction administration sections. More fully integrating these two sections would constitute more of a total project delivery process. To do so, requires physical proximity. Such proximity would tend to eliminate duplication of effort in maintaining construction phase documentation of projects and enhance the sharing of information useful in staying on top of problems.
3. Although there is some informal communication with academic programs, by and large, the method used for this communication is the structured process used for creating a building program in terms of the project section. The support service areas to which the Planning Office relates requires more informal communication based on establishing good rapport with support service staff who tend to have jurisdictions over areas concerning physical improvements or design changes. In some cases the informality stems from repeated dealings over reoccurring types of problems. In this category would be relationships with City agencies and support units within the University such as the Police Department, Housing, and Parking Services. The kinds of communications we have developed do not impose undue hardships on the users of our services. We seriously try to emphasize that ours is a service

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unit to the University and for that reason, we are genuinely interested in addressing problems and offering solutions that although they may not satisfy all the constituencies within the University, are intended to reflect a stewardship of the resources at the University over which our involvement has some direct affect.

4. The one primary example an instructional program that we have instituted to acquaint new and continuing users of one of our services is the building project pre-programming document. This document includes a topic covering an explanation of the relationships between the Physical Planning office, the architects, and the users indicating how our resources are utilized in the project implementation process and introduces to the principal players in the process so that their availability can be known to the users.
5. Major strengths and weaknesses of each of the units within the Planning Office can be described as follows:
  - a) Interior Design and Graphics - A strength of this unit is the extent to which it is familiar with and can optimize the use of the University's purchasing process and the "hit the decks running" capability that can be brought to each new assignment. A major weakness of this unit would perhaps be that of not having a systematic way of better informing the users on time and budget developments. This is to say that because of the internal nature of providing the service, the public relations aspect of the service tends to be slighted in favor of getting on with addressing the problem and providing solutions.
  - b) Experiment Station Coordination - A major strength of this section is the leadership provided in the area of capital improvements and technical assistance in major repair and improvement work at the stations. This unit provides a more comprehensive look at facility needs and orderly planning for development of facilities. The weakness of this unit is the inherent difficulty in being able to get procedures in place that can reflect the scale and operational characteristics of the stations. This weakness exists because the University procedures and regulations make it virtually impossible to do otherwise.
  - c) Planning Section - A major strength of this unit is the extent to which it has built good relationships both internally and externally that bear upon solving a constant flow of problems facing the University and in making the incremental adjustments to constant change in its environment. A major weakness of this unit is the fact that virtually no resources are allocated to long range planning issues and comprehensive planning that can serve the University Twin Cities campuses in addressing issue resolutions. The effect of this is that much of the physical develop-

ment decision making is made on an ad hoc basis and without the benefit of updated policies and plans.

- d) Projects Section - A major strength of this section is in its ability to maintain a degree of detachment in the process of implementing projects by maintaining a focus on meeting the objectives of the program, maintaining momentum in the implementation of projects and keeping them within the established budget parameters. By representing the University at large in this process, no one element within the process is likely to dominate or distort the intent of the project development. A major weakness of this unit is more of a structural weakness in the sense that the projects section being the focal point for all communications is seen as an obstruction to the natural desire lines of communication occurring throughout the project development process. In this respect, the projects section takes on a little bit of the "policeman" role in enforcing communication that centralizes the information concerning the project for the purpose of having a broad view of how this information bears upon with the interest of the University and the projects program and budget objectives.

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## A STRATEGY FOR FOCUS

### OFFICE OF UNIVERSITY BUILDING OFFICIAL

#### I. Mission Statement

Establish and follow a realistic code enforcement program thereby providing a required and valuable service to the statewide University community.

#### II. Background

The Regents, at their July, 1974 meeting, determined that the provisions of the Minnesota State Building Code were to be adopted as the University's standard, effective August 1, 1974. They further established that compliance with this building code was to be administered and monitored by the University Building Official. The Office of the University Building Official was established to administer the codes on all University properties statewide.

#### III. Functions

Provide code enforcement and interpretation for the following codes:

- A. 1985 Uniform Building Code
- B. 1987 National Electric Code, 1987 Edition
- C. 1978 American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks
- D. 1985 Minnesota State Plumbing Code
- E. 1983 Minnesota State Heating, Ventilating, Air Conditioning and Refrigeration Code
- F. Minnesota Floodproofing Regulations
- G. 1985 Minnesota Physically Handicapped Code
- H. 1985 Minnesota State Energy Code
- I. National Standards of Performance for Solar Energy Systems and Subsystems
- J. Minnesota State High Pressure Steam Code

Income From Building Permit Charges

Average permit fee income when department was fully manned 1982-86,  
average income per year - \$253,304.

Cost comparisons if individual municipalities (over 20) were to administer  
codes on University properties:

University Building Official's office average year's charges: \$253,304.  
Average yearly charges by municipalities throughour Minnesota: 476,777.

Yearly Difference \$223,473

In the past five years the cost of code enforcement to the University has  
been \$1,241,568. If the individual municipalities would have charged for  
code enforcement, it would have cost the University \$2,383,885 over the  
five year period. This represents a savings to the University during that  
time period of \$1,142,317.

Advantages

1. One code enforcement agency, issuing permits, inspecting construction  
and interpreting the code, instead of having to deal with over 20 dif-  
ferent jurisdictions for the same service.
2. More timely plan review is accomplished by one agency instead of 20+  
different agencies. Result is less field modifications which repre-  
sents a tremendous saving to the University.
3. More timely inspections of projects by the University inspectors, which  
represents saving of time to project completion.
4. More knowledgeable inspectors. University inspectors understand the  
University system. They are also more qualified than most municipal  
inspectors in their fields.

IV. Goals and Objectives

- A. Goal: Streamline the plan review and field inspection procedures.

Objective: Reorganize the plan review/field inspection procedure. May 30, 1987 one of the electrical inspectors will retire. I plan to replace the electrical inspector position with a plan reviewer position. This will put the plan review of all projects under one person which will standardize and streamline the process, thus allowing the inspectors to devote more time to field inspections.

Budget Impact: None (replacing a retiring position).

- B. Goal: Develop and present to the University Physical Planning and Physical Plant personnel 1986-87 state code update seminar.

Objective: To update the code knowledge of key design, construction and maintenance personnel. This will have a significant impact on the reduction of field modifications during construction which represents a tremendous saving to the University.

Budget Impact: None (in-house personnel).

- C. Goal: Establish and develop a code abatement program for all University facilities.

Objective: Inspect all existing University facilities state-wide to identify any significant code deficiencies that would have a negative impact on the facility's use or proposed use.

The resulting document would be available to designers, engineers, and maintenance personnel to aid them in future planning for remodeling and maintenance of the facility.

From this study we will develop a five or ten-year plan to eliminate major code deficiencies in all University facilities.

Budget Impact: This study will require the employment of one individual for a two-year period to coordinate the inspection, the development, and publication of the study. Approximate cost: \$150,000.

D. Goal: Establish a computer system for functions of the office.

Objective: Establish computer programs for permits, inspector's daily activity reports, coordinate campus reports, monthly activity reports, annual reports and plan reviews.

Budget Impact: Unknown at this time.

## STRATEGY FOR FOCUS

### ENGINEERING AND ARCHITECTURE DIVISION - OFFICE OF PHYSICAL PLANNING

#### MISSION

The mission of the Engineering & Architecture Division of the Office of Physical Planning is to provide a variety of engineering and architectural services which respond to need generated by University commitments to education, research and public service. Provision for adequate, economical and safe facilities, and support in the use of these facilities, are basic elements of this service. The Division also provides support to the Planning Office and consultants retained for the design of major building projects through design, estimating and consultation on University utility systems. It also provides consultation to the Construction Administration Division of the Planning Office on design issues that arise during construction of major building projects.

#### FUNCTIONS

Eight functions are performed by the E & A Division as follows:

1. Design

This involves the preliminary design and planning, design development and preparation of plans and specifications for University construction and remodeling projects. Documents are prepared according to State and National Codes in conformance with regulations enforced by the State Board of Architects, Engineers, Land Surveyors and Landscape Architects. This requires documents to be certified by staff who are registered as professional architects or engineers in the state of Minnesota.

2. Cost Estimating

This activity ranges from the budget type estimate, such as prepared for legislative requests to estimates based on preliminary project programs and estimates required upon design completion.

3. Consultation and Reports

This activity includes technical consultation on University facilities and systems and the preparation of technical reports projecting campus infrastructure and electrical/mechanical/building requirements.

4. Design and Construction Reviews

This activity consists of reviewing plans and specifications prepared by outside consultants for conformance to the University Standards and Procedures for Construction, good design practices and state codes. It also includes the review of shop drawings and maintenance manuals submitted by construction contractors for compliance with the contract documents.

5. Record Maintenance

This activity involves the maintenance of all construction documents for reference and record purposes, the assembly of project bid documents, and the operation of document reproduction facilities.

6. Utility Mapping

This activity provides for the development and maintenance of utility system maps of all campuses and agriculture experiment stations, building master maps and atlas maps which show the as-built location of all utilities and surface features for the Minneapolis and St. Paul Campuses and the coordinate campuses. This function also includes the administration of the excavation control program.

7. Construction Engineering and Supervision

This function relates to construction projects designed by E & A and includes contract document interpretation, the solving of construction related technical problems and construction staking. Construction supervision is provided for outside utility and sitework projects.

8. Land Surveying Services

This function includes the preparation of legal land descriptions requested by others, and preparation of property surveys.

## GOALS AND OBJECTIVES

GOAL: Reduce the time it takes to complete a design project from initiation to bid award.

OBJECTIVE: Modify the University bidding procedures in fiscal year 1986-87

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GOAL: Expand computer capability for estimate design and project scheduling.

OBJECTIVE: Purchase and utilize computers in the 1986-87 fiscal year.

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GOAL: Improve project estimating accuracy.

OBJECTIVE: Obtain estimating accuracy within 10% of actual bid cost in 1987-88.

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GOAL: Improve staff morale through better communication.

OBJECTIVE: Establish frequent and regular staff performance reviews in 1986-87.

## RESOURCE PROJECTION

Approximately 80% of the division budget is provided by clients in the University community that use our services. This percentage will change every fiscal year and it is solely dependent on the work load from the requestor.

Within the division, a continuous process of anticipating future workload is undertaken by reviewing the needs of capital projects funded by the legislature, by considering the probability of completed preliminary estimates being funded, and by discussions with University departments concerning their future capital plans.

Short term heavy workloads are accommodated by hiring consultants or technical contract personnel. When the workload changes over an extended period of time, additions to staff or layoffs will (and have) become necessary.

The project scheduling, that is now performed in this division, will be expanded in the 1986-87 fiscal year to provide project scheduling to the Planning Office and also the Construction Administration Division in the Office of Physical Planning. Because of the expansion of the scheduling responsibility additional staff will be added to this effort.

#### PROGRAM BUDGETS

The 1985-86 program budget was calculated through the summation of the functions of the six basic staff groups. They are:

1. Administration - Included are the Division Director and four Section Heads.
2. Support - Consists of the clerical staff, the scheduling group, and the records staff including one to two part-time students.
3. Architectural Design Section - Consists of three registered architects and three technical staff.
4. Civil Engineering Section - Consists of five registered professional engineers, one registered land surveyor, and five technical staff. One to two student interns are also employed each year.
5. Electrical Engineering Section - Consists of three registered professional engineers and five technical support staff.
6. Mechanical Engineering Section - Consists of five registered professional engineers and three technical support staff. One to two student interns are also employed each year.

#### PROGRAM PRIORITY

The eight functions currently being performed by the E & A Division are ranked in priority from one to eight as follows. Also included is a brief explanation of how that priority was determined.

1. Design

The budget for this function clearly indicates it to be the most time consuming service E & A provides the University community. The E & A staff familiarity with, proximity to, and personal interest in University facilities make it advantageous for University departments to utilize E & A professional services.

The records indicate the average design cost for the division in FY 1985-86 was 3.7% of the construction on projects that averages \$32,000 in construction cost. If typical overhead costs, not including profit, were included, the engineering cost would be approximately 7%. These compare favorably with typical fees paid to consultants for designs for remodelling projects considerably larger than the division range.

2. Estimating

Estimating is a necessary companion to design; an estimate generally precedes the design, and a refined estimate follows completing the design.

The E & A staff advantages noted under design also apply to project construction estimating.

3. Consultation and Reports

The extensive experience of the E & A staff provides the University with a unique resource for providing technical back-up for Construction Administration, for providing facility data, information and appropriate design direction to Architect/Engineer consultants, and for assisting University departments with application of equipment or problems relating to University systems or facilities.

Technical reports provide the requestor department statistical data, cost estimates and recommendations to aid in their making informal decisions. E & A staff experience provides a definite advantage in the satisfactory performance of this activity.

4. Design and Construction Review

Review of consultant design is an important function of this division. Again the experience the staff has with the utility distribution systems and the building systems give them the proficiency to properly review the consultant's design. Very often the review results in changes to the consultant's design documents that provide the University with better designed buildings and at less cost. Shop drawings and maintenance manual reviews aid the Construction Administration in assuring that the contract documents are complied with.

5. Record Maintenance

The extensive collection of construction documents is a valuable asset to the University because they provide accurate information for the designer, especially on remodeling projects. These records also provide a source of reference information that is made available to the University community upon request.

6. Utility Mapping

Provides as-built maps of the utility systems on the Twin City and coordinate campuses and the agricultural experiment stations. The atlas maps that are maintained through this function not only show utility systems but also surface features, such as buildings, streets, parking areas, etc. This information is key to the designer in determining utility connections for proposed buildings and also the location of utilities that must be relocated because of the new building location. A task performed in this function is the location of existing utilities before excavation proceeds. This information is critical in preventing utility disruptions and is especially true with the underground primary electrical distribution system. Accidental penetration of these facilities could result in severe personal injury or death.

7. Construction Engineering and Supervision

This is a necessary responsibility associated with the design work accomplished by E & A. Contract document interpretation may be required; technical solutions to field problems encountered in remodeling projects must be provided as expeditiously as possible. It also can include rapid response to programmatic changes requested during construction that require re-design and contractor negotiation.

8. Land Surveying Services

A registered land surveyor is on the staff in the Civil Engineering Section who is responsible for the maintenance of property records that pertain to easements, street vacations and land transactions. A registered land surveyor is required to prepare the legal land descriptions for property transactions at the University. His services are also required for the placement or replacement of property corners. The intimate knowledge of University property allows these services to be performed in an economical and timely manner by in-house staff.

The program priority and classification is shown in table 3A, which assumes a constant budget. The only functions that can be shown in this table are those that contain 0100 costs. No changes are proposed in those functions, therefore, they are listed only under the category titled programs that should have steady state budgets. Those programs that are budgeted from design fees vary with workload and cannot be predicted with any degree of accuracy, therefore, they are not shown in this table. The same is true for table 3B, which assumes an increased budget. Again, the assumption is made in this report that the 0100 budget would not be increased, therefore, there are no changes shown in this proposed budget.

## PROGRAM EVALUATION

### Communication with other Sections

There are other sections within the University that perform similar or related functions with which this division communicates. A critique of this level of communication is as follows:

1. Physical Plant Department - Physical Plant, through its Maintenance and Operations Division, is responsible for facilities that are designed by this Division. Input on the building equipment and systems performance is not always made available to E & A. Changes made to these facilities after construction are not noted on the documents in the Records Maintenance Section. A procedure should be established to accomplish this task.
2. Planning Office - The project managers in the Planning Office and the E & A Division professional staff work very closely together through the planning, design, and construction of major building projects. The Planning Office manages these projects and the E & A Division plays a partnership role with them in many facets of the management. Both units are committed to providing quality facilities that will be economical to operate and maintain. There are times where there are perceived differences in the sharing of responsibility. Regularly scheduled meetings between the involved staff from both units to discuss areas of mutual concern may be one step in resolving the issues that arise from time-to-time.
3. Coordinate Campuses - The Plant Services units in some of the coordinate campuses perform similar functions with the E & A Division such as, utility mapping and construction supervision. The E & A Division works cooperatively with these other units and provides a service to these units through the functions it performs. Communication could be improved in regard to the sharing of as-built information on utility and site work construction. Complete cooperation in these areas would help to provide the information this division needs to properly maintain the utility mapping program.

## FUNCTION JURISDICTION

The E & A staff currently does not review the functional aspects of the Architectural documents prepared by outside consultants. We feel that such a review could be advantageous to the University to issue the use of materials and details which have proven successful usage in University buildings.

## CLIENT COMMUNICATION

There are a number of methods that the E & A Division presently uses to communicate with the clients that it serves. They are as follows:

1. The Form 14 - Form 14 is an instrument that the clients use when they request a service from the division. Such as request for a preliminary cost estimate on a project or a technical report or study to be made on various issues. The Form 14 is an accepted known method of communicating the clients ideas to the E & A Division.
2. Scheduling Letter Series - These letters are sent to the clients at various stages of the life of the project. These letters do elicit response from the clients, especially when they feel that the schedule outlined in the letters is not timely enough for their needs.
3. Person-to-Person Contact With Client - The E & A staff assigned to the project holds frequent meetings with the client during the formation of the project program and at other times when additional information is needed by the client.

All three of these methods provide sufficient communication on most of the projects. There are times when "rush jobs" require priority handling. There are also times when the client is concerned that the schedule does not meet their needs. The E & A Division is studying the procedures that are presently followed to process a project and intends to make recommendations soon to eliminate or to modify some of these procedures. If these changes are approved, the time it takes to complete a project will be greatly reduced.

Another communication tool that would greatly facilitate and mollify some of our clients concerns about the timeliness of our services, would be a news letter published by the Office of Physical Planning. A news letter presently in the planning stages, would provide an excellent tool to acquaint the clients with the scope of services that the division offers.

Instructional Program - Various information has been published by the E & A Division to acquaint the University community with the services that it provides. They are the Engineering & Architecture Operating Procedures, the University of Minnesota Standards and Procedures for Construction, and the Engineering & Architecture Operations Processing Procedures and Flow Sequence Charts. The division Director does make a conscious effort to meet with key persons among our cliental to keep them abreast of the services that the division provides. The departmental news letter, mentioned earlier, will also be an excellent tool to acquaint the client with our services and resources.

### Program Strengths and Weaknesses

1. Design - Design is presently being accomplished at a very low fee to the client, utilizing governing codes and good design practice.
2. Project Estimating - The level of accuracy of the estimates made in the division is very high. Final pre-bid estimates average approximately within 10% plus or minus accuracy of the actual bid project cost.
3. Consultation and Reports

The E & A staff is able to provide highly professional and timely consultation or written report at the request of the clients. Their intimate knowledge of the University utility distribution systems and the building systems enable them to provide the information that the client requests in order to make a judicious decision.

4. Design and Construction Reviews

The E & A Division provides a very important contribution to the University community when it reviews the documents prepared by outside consultants on major projects. The staff has an intimate knowledge of the University utility distribution systems and various building systems. The staff has knowledge, through experience, of systems that have worked successfully and those that have not performed successfully in the existing University buildings. This experience is put to good use through their involvement in the design of these major projects, and especially in the review of the consultants design documents with respect to design features and selection of materials and equipment to be used in the design of the buildings. The staff acts as a watchdog in this process to protect the University's interest and to insure that the buildings are designed to give a high level of service with low maintenance. The only weakness in carrying out this function is that the division is not always given adequate time to make a proper review of the documents. This problem can be overcome through a serious effort during the design process, to give the division ample time within the constraints of the schedule to provide this service.

5. Record Maintenance

The division maintains an extensive collection of construction documents. This information is relied upon heavily by the designers, especially in the case of remodeling projects. Without this information, it would be impossible to know the location and/or existence of the various building, utility and structural systems.

A serious deficiency does exist because of the limited suitable space available for the storage of records. A crowded condition exists in which it is impossible to properly store these documents. Some records are stored in two other areas that lack fire protection and security. As a result of their constant use, the quality of the records have been seriously impaired. The use of computer aided design record keeping and alternate types of storage of construction documents is now being studied as a partial solution to the space problem.

6. Utility and Site Mapping

The utility site maps and developed and maintained by the division provide a very valuable tool for the designer. These documents are used to plan for the economical utility services to the building being designed and to also indicate to the consultant and the Planning Office the location of existing utilities that may be major factor in the siting of a building.

7. Construction Engineering and Supervision - This function is performed in

This function is performed in a timely manner because staff is on the campus and available whenever an issue arises that requires design input. If a project has been designed in-house, the staff persons involved in that design are qualified to handle any design issue that may arise during construction. The staff who reviewed the consultants design on major projects are familiar with the design of that project because of their participation in the design and their review of the construction documents. They provide valuable backup for the Construction Administration Division in the matter of design issues during the construction phase. The only deficiency that occurs periodically is that the design staff are not always made aware of issues that arise during construction

8. Land Surveying Services

The preparation of legal land descriptions and the placement of property corners should be done by a registered land surveyor. The registered person on our staff can provide this service in a timely manner at a cost far below the fees charged by outside firms.

9. Space Needs

The only program proposed to be expanded is the scheduling service to the Planning Office and the expansion of this service to the Construction Administration Division. This expanded service will not require additional space. Additional space is required for the Record Maintenance function. See comments made earlier in this section.

## HEALTH SCIENCES PLANNING OFFICE

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The Health Sciences Planning Office (HSP0) mission is to assist the University and the Health Sciences Community in an active systematic coordination of the contributions of all those whose efforts are required for a capital physical facilities project to succeed. The primary service function is coordinating physical planning and design efforts during construction of new facilities and in conducting major remodeling projects under the Health Sciences' Commitment to Focus.

The multi-functional nature of health care and research facilities and the specialized needs of the various departments add considerable complexity to the planning process. HSP0 must observe the requirements of facility and departmental program needs, federal, state, and municipal guidelines for health care, building code regulations, provisions for the handicapped and energy conservation measures.

A healthsciences project typically includes teaching, research laboratory, patient-care and shared facilities: thus it is necessary to analyze each program from several perspectives to take into account the opinions and needs expressed by in-house personnel and outside consultants alike. HSP0 provides a forum for this sort of interchange as part of its planning process. HSP0 ensures that facility and department requirements are evaluated, assists architects in defining and understanding the requirements, and oversees each project from conception through final occupancy.

The primary goal of this office is to provide a quality service to the health Sciences Community and the Office of Physical Planning. This service is best described by the following:

1. Satisfy facility and department program requirements within the scope of Master Plan.
2. Advise departments, consultants and administration to insure compliance with HEW, FDA guidelines, state/federal/city building code requirements and regulations.
3. Assist with preparation of the budget, monitor expenditures to insure adherence to the budget.
4. Assist in the interpretation and execution of contracts associated with the mission.
5. Insure that all projects reflect intent of mission and Master Plan in both present and future time frames.

### Objectives:

1. Provide a form for evaluation of facility and departmental requirements and interface between departments and architects/consultants.

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2. Assist in preparation for grants and legislative requests and review requests. Provide written information and evaluation for proposals.
3. Review documents at every phase of development and coordinate review and approval process with departments and other pertinent agencies/offices.
4. Assist in the preparation of budget calculations and compose various cost assumptions into one overall project for approval and funding assignment.
5. Act as a clearinghouse for all problems emanating from departments, consultants and contractors.
6. Monitor all construction progress meetings to insure schedules are met and to exercise responsibilities related to modifications to contracts. Exercise overview responsibility and quality control to protect program intent and the best interest of the University as it relates to modifications to contracts.
7. Exercise persuasive communication in regard to all phases of development approval or disapproval and execution of planning efforts to preserve intent of the mission.

This HSP0 approach has benefited the University with substantial savings over the past seventeen years. This office will continue to demonstrate our management expertise in the future as it has in the past. The Health Sciences Planning Office is self-supporting, generating operating funds from assigned projects.

The criteria to measure and evaluate success in achieving my goals and objectives is complicated due to the fact we are involved in a multi-dimensional decision-making process because of potential conflict between multiple objectives and also because of difficulties of measurement. However, perhaps a simple level of scoring of one through five, not unlike the University's Employee Performance Appraisal Form, would achieve your goal.

1. The H.S.P.O. provides a forum for the interchange of information and direction as part of our planning process. Therefore, we interface with several University departments as well as outside consultants, state and federal departments. The present communications are above average. No changes required.
2. The current structure of the University would appear to be well balanced at this point in time. If one were to take over the tasks of the H.S.P.O. it would require additional staff, funds and time. I would guess it would take more than one year on-the-job experience and training to do the normal projects in this office. I have developed and demonstrated management expertise after seventeen years that provides me with successful negotiating skills that only come with age.
3. The methods of communications I use depend upon the circumstances, but normally we use the following: written, phones, meetings, gestures, listening, lunch meetings, and other nonverbal forms of communications. The current approach appears to be above average, therefore, no change is required.
4. We try to keep it simple in the H.S.P.O. for the Health Sciences community. If they have a problem or a question of any nature, they call. We are located in the complex to provide this blanket service function.
5. My major strength would be that I have developed and demonstrated project management expertise in a very complex atmosphere after seventeen years that provides me with successful negotiating and persuasive communication skills that come with age and job exposure. My major weakness would be perhaps in the area of cost estimating. However, normally we use the service of consultants for our cost estimating requirements.

PM: jr:eo

March 9, 1987

STRATEGY TO FOCUS  
FOR THE OFFICE OF PHYSICAL PLANNING  
CONSTRUCTION ADMINISTRATION DIVISION

I. MISSION STATEMENT

Construction Administration Division has the responsibility to provide Construction Services on a wide variety of projects in the post contract award phase. These projects provide new or remodeled facilities that are required by the University Students, Faculty and Staff.

This division works very closely with the Planning Office, the Engineering & Architecture Division, the Building Official's Office, The Department of Environmental Health & Safety and Physical Plant Operations.

II. RESPONSIBILITIES

1. Provide Construction Administration Services on all construction projects done with outside contracts. This is a significant change, that occurred approximately one year ago, and has increased the number of projects significantly.
2. We are the University representative to Contractors, Architects/Engineers and speciality consultants during the project construction.
3. We appraise the Associate Vice President of Planning, the Planning Office and the User Department of the projects on-going status for their respective planning and evaluation purposes.
4. We constantly review and update procedure guidelines to maintain consistency and improve our Construction Administration Services.
5. We provide required support and liason on projects as special problems warrant.
6. We input and make recommendations to the Planning Office, and Engineering & Architecture Division during the design phase of the project that may result in an improved product.
7. We closeout the project and turn it over to the Using department and Physical Plant for Maintenance and Operations as quickly and efficiently as possible.

### III. A. GOALS

1. Establish criteria and procedures for uniformity in the staff's management of all construction projects.
2. Develop a computerized record keeping and reports system on all contracts. This is especially important to improve our interface with the Planning Office.
3. Improve the divisions capabilities to respond to problems in the processing of required documents and keeping all members of the project team properly informed.
4. Be able to staff for fluctuating work loads in a more expeditious manner.
5. Develop strong communication links between the Planning Office, Engineering & Architecture Division, Building Officials Office, Environmental Health & Safety and Physical Plant so that proper information flows automatically.

### B. OBJECTIVES

1. Complete computerization of contract record keeping and reporting systems. Investigate having individual screens at key locations to easily call up data.
2. Identify recurring problem areas in construction work so that the University can take corrective measures. An example would be through changes in the University standards.
3. Continue periodic in-house seminars with the staff to keep them informed of improvement in organization of projects, developing trends in construction, possible litigation trends and related professional activities.
4. Explore the possibility of redefining or changing the resident construction superintendent's classification so that they would be easier to employ to match the fluctuating work load.
5. Improve the productivity and performance levels of the entire staff by technical development and streamlining of procedures.
6. Participate more in the Planning and Design process in order to contribute to realistic schedules and construction methods.
7. Strengthen the review process for evaluating contractor performance.
8. Explore the implementation of some type of estimating system that would assist in reviewing cost changes to a project.

IV.

A successful project is one that is completed on time, without any major complications and within budget. In addition to this, we should be able to provide project budget information, in a variety of reports, quickly and efficiently when we are fully computerized. That will help evaluate our performance.

TABLE 1

SOURCE	1985 - 86	1991 - 92
Ø1ØØ Revenue	\$151,297	\$151,297
OTHER SOURCES OF INCOME (Projects)	665,88Ø	665,88Ø
	<hr/>	<hr/>
	\$817,177	\$817,177

TABLE 2 - TOTAL EXPENDITURE BY FUNCTION

PROGRAM	1985 - 86	1991 - 92
ADMINISTRATION	\$151,297	\$151,297
SENIOR COORDINATORS	125,268	125,268
GENERAL SUPERINTENDENTS	27Ø1Ø8	27Ø1Ø8
MECHANICAL SUPERINTENDENTS	158,988	158,988
ELECTRICAL SUPERINTENDENTS	111,516	111,516
	<hr/>	<hr/>
	817,177	817,177

V, VI, VII & VIII

These questions are really not applicable. We have one main function and that is to administer Construction Contracts. Our main source is tied directly to the number of projects and our budget will fluctuate according to that need.

IX

1. There are three other units that perform similar tasks and they are:

- A. Interior Design lets contracts for the supply and installatiaon of furnishings and equipment for many of the projects that we administer.

- B. Facilities Engineering in Physical Plant awards a number of outside contracts that may range from elevator maintenance, automation center upgrades, fire alarm system upgrades, parking lot upgrades, to furniture repair and replacement, roof repair, etc.
- C. Physical Plant Operations, at various coordinate campuses, award and administer outside contracts.

The communication between these various units is not particularly good. I would recommend periodic meetings between selected representatives of each group so we can discuss mutual problems and develop uniform policies and procedures that could be applied to dealing with outside contractors and vendors.

- 2. I believe we could more clearly define the responsibilities of both the Construction Administration Division and the Planning Office when handling major projects.
- 3. We have developed a series of documents that outline procedures that attempt to fully inform all members of the project team of their involvement and responsibilities in the project. We are also invited to input at critical times during the design development process by the Planning Office, i.e., schematic design review, design development review, budget review, etc. We believe this works well.
- 4. Yes, by the methods outlined above, we have developed a standard method of indoctrinating and training new employees.
- 5. Major Weakness:

This function could be contracted out to private interests, i.e., architects, engineers and construction managers. The key question is whether such moves would be operationally superior and economically beneficial.

Strength:

The strength we present are as follows:

- A. At present, the costs incurred by the Contract Administration Division, for full time observation, are low by any standard of measurement. The reason for this is that the group is able apply economies-to-scale practices on the projects.
- B. Contractors on University projects receive consistent and even handed supervision geared to the owner's interest.
- C. At the University, the Construction Supervision process involves considerable work in keeping affected departments informed. In this regard, it helps to have people who know or have acquired information on how this institute functions. If they keep changing, outside parties would suffer in this area.

D. I find it difficult to visualize how individual Architectural/Engineering firms would cover supervision needs on both the large and a wide array of small projects. To be sure, one could contract with a limited number of firms to handle all University supervision work. However, if one does this, then all that is transpiring is the transfer of functions without any apparent advantages.

PEK:rmh

## MISSION STATEMENT

The main concern of the Real Estate Office is to centralize the leasing functions for the entire University system, to coordinate activities relating to real property acquisitions, and to provide a pro-active management program for the University's real property assets through use of the land inventory project.

The Real Estate Office is system-wide, serving all campuses and research facilities. It provides consultation and expertise in the acquisition and disposition of real property, leasing arrangements involving the University's use of real property as well as University property used by others, and management of the University's self-supporting buildings. The Real Estate Office is also responsible for resolution of tax problems, payments in lieu of taxes, special assessment payments, easements, permits, oil and gas leases, mineral rights and management of Trust Lands and Salt Spring Lands.

## FUNCTIONS

Real estate purchases, sales and exchanges

- Appraisals
- Bid documents/Sale advertisements
- Purchase agreements
- Approvals
- Closing (abstract, title opinion, deed, check)
- Update land inventory (street vacations, dedications)
- Abate taxes
- Relocation
- In conjunction with the following University departments:  
Civil Engineering, Attorney's Office, Space Programming and Management,  
Planning, Building Official
- Change in activity: No Change

Real estate leasing (building space, land, mineral rights, oil and gas, Trust lands, easements)

- Space identification
- Negotiation of terms
- Lease agreements
- Approvals
- Leasehold improvements
- Lease payments (rental budget)
- Occupancy problems
- Options, extensions, terminations
- In conjunction with the following University departments:  
Space Programming and Management, Planning Office, User departments, Physical plant Operations, Building Official
- Change in activity: University as Landlord - Up 50%  
University as Tenant - Up 10%

#### Real estate taxes

- Resolution of tax problems
- Payment in lieu of taxes
- Special assessments
- Change in activity: None

#### Land Inventory

- Computerization and maintenance of University land holdings and leases
- Quick and easy access to land and lease information for any University department
- Generate reports
- In conjunction with the following University departments:  
Property Accounting, Civil Engineering, Property Insurance, Planning,  
Administrative Information Services

### GOALS AND OBJECTIVES

#### Purchase and Sale of Real Estate

GOAL: Pursue a more pro-active management of real property assets

OBJECTIVE: Develop and maintain a computerized land inventory to give precise data of all University real property assets to aid in determining values and highest and best use.

GOAL: Increased involvement in the development of the University's real property - business outreach activities

OBJECTIVE: Recent hiring of Associate Administrator to eventually handle all leasing activities will allow Real Estate Coordinator more time for this goal. Hiring of a third professional in the Real Estate Office, as development of real property holdings becomes a greater priority.

#### Leases

GOAL: To provide more accurate and easily accessible lease information and reports to any University (or non-University) department.

OBJECTIVE: Computerization and maintenance of all University leases to be installed on the University's mainframe; future upgrading of the land inventory system to meet more diversified University/research needs.

GOAL: More knowledge and control of all types of University lease agreements along with centralized collection of rents in order to better negotiate and manage these agreements (and rents) and in order to minimize the University's liability.

OBJECTIVE: Continue to direct all University departments to provide the Real Estate Office with copies of all existing leases and to consult with Real Estate Office personnel regarding future leasing decisions. Continue to review leases that have not previously been handled by the Real Estate Office in order to update rents, legal verbiage and liability clauses.

#### Management of Self-Supporting Buildings

Continue management functions.

#### Real Estate Taxes

Continue support function.

#### Land Inventory Computerization Project

GOAL: To provide history and identification of the University's land holdings as well as current value and highest and best use of these assets.

OBJECTIVE: Complete the computerization project and continue to spend much time updating information, maintaining and upgrading the system and education as to new uses.

GOAL: Provide quick and easy access of University land holdings and lease information to all University departments and to generate reports in a timely manner.

OBJECTIVE: Complete the computerization project and continue to spend much time updating information, maintaining and upgrading the system as well as educating other University departments and officers to use the system.

#### MEASURE OF SUCCESS

Using the completed computerization of the land inventory, the most obvious measure of success will be in the ability to provide fiscal year-end and ad-hoc reports. For each land acquisition, these fiscal year-end reports will show accurate acreage, total amount paid and percent of ownership along with the total net mineral acres owned.

Generating a report of leased property (University as tenant or landlord) will provide the University valuable information by analyzing the cost per square foot of property, including rent and maintenance and operational costs.

More pro-active management of the University's real property assets will be measured by its own success, especially in providing information to University administrators aiding in decisions regarding University real estate.

#### TOTAL INCOME

See Table I

#### EXPENDITURE BY PROGRAM

Projection of changes in staff effort would involve shifting all leases (University as tenant and landlord) to the Associate Administrator and the Real Estate Coordinator shifting effort toward the development of University real property holdings.

See "Table 2 - Expenditure by Program" and "Expenditure by Program Worksheet", attached.

#### PROGRAM PRIORITIES FOR CONSTANT/INCREASED BUDGET

New programs to start include development of Rosemount Research Center, Gargill property and Shoreview property (in conjunction with shift in staff efforts). Any increase in budget would be for the addition of a third professional to aid in these programs. See Tables 3A and 3B, attached.

#### RELATION OF REAL ESTATE OFFICE TO OTHER UNIVERSITY DEPARTMENTS

1) The sections outside the Real Estate Office that perform similar functions are Space Programming and Management by handling some of the University leases involving the University as both landlord and tenant. Communication and cooperation are excellent.

2) The twelve low-level leases handled by Space Programming and Management could be more efficiently handled by the Real Estate Office.

Administrative changes would involve the addition of a third professional in the Real Estate Office, aiding in a more pro-active management of the University's real property assets.

3) The methods of communication used by the Real Estate Office are telephone, correspondence and meetings with various heads of academic programs, account representatives, user departments and members of the outside business community. Communication is very good.

4) Although no current instructional programs are provided by the Real Estate Office, education of use of the land inventory computer program will be implemented in the future, possibly through a printed instructional document.

5) Weaknesses in the services provided: Accessibility and availability of information regarding University land holdings and leases for all University departments; Volume and promptness in generating reports on Real Estate activities especially land holdings and lease cost information; Lack of professional hours to dedicate to a pro-active management of the University's real estate assets.

The major strengths of the Real Estate Office are the quality of the personnel and the manner in which professionals of the Office communicate their expertise in attending to the needs of other University departments.

#### IMPACT OF CHANGE

A minimal impact on Space Programming and Management would occur in transferring low-level leases to the Real Estate Office.

STRATEGY FOR FOCUS  
Office of Emergency Management  
Physical Planning

The mission of the Office of Emergency Management is to provide an orderly response to all emergencies, potential emergencies, disasters or any situation that may interrupt normal University routine, cause property damage, inflict injury or cause death. This mission is accomplished through comprehensive planning, organizing, training and coordination. Success in this mission depends on coordination with other units or agencies that have an emergency response capability, and/or responsibility; Police Department, Fire Department, Environmental Health, Physical Plant, Medical, Housing, University Relations, Telephone Services and Administration.

**FUNCTIONS**

PLANNING

Planning consists of an University of Minnesota Emergency Operations Plan (a separate document for each campus), University of Minnesota Hospital Emergency Preparedness Manual, Standard Operating Procedures for Emergency Response in Northrop Auditorium, the Metrodome, and/or other large attended events (Homecoming, Campus Carni, etc.)

The last decade has introduced an increase in materials that assist man in agriculture, science, health and medical procedures, and industry. In the deficit column these materials commonly described as Hazardous Materials can create emergency situations if improperly manufactured, transported or stored. The "Hazmat Era" has demanded an increase and evaluation of our comprehensive planning. Also, acts of terrorism which have taken place on foreign soil and directed at Americans or American activity are forecasted to be more of a domestic problem. As all functions of Emergency Management are closely related, interact, and depend on the success of other functions, consider this a demand statement for all functions.

ORGANIZING

All response activity, service annexes, and responsibilities as delineated in the Emergency Plans and Operating Procedures are assigned or accepted by a department, agencies or individual for accomplishment. Emergency Activities are or should be closely related to their everyday or normal responsibility. These are referred to as Emergency Organization.

## TRAINING

Training activities and requirements are best defined as three prong.

### 1. Organization Training

The training that is needed by the Emergency Organization team is to accomplish their mission in carrying out the responsibilities of the Emergency Plan: Emergency Operations Simulation Exercise, Table Top Exercise, Functioned Exercise and Full Scale Exercise.

### 2. Emergency Response Team Training (E.R.T.)

The training required by building or facility Emergency Response Teams. These are day persons recruited from their respective building and trained to manage an emergency situation during that short period until professional assistance (Police, fire or ambulance) arrives. Training consists of First Aid, CPR, Fire Procedures, Weather Procedures, Bomb Threats, or Hazmat policies.

### 3. University of Minnesota Emergency Medical Team (UMEMRT)

These are persons recruited and trained in CPR, Advanced First Aid or First Responder Course, or Emergency Medical Technician classes. They staff First Aid rooms at largely attended university events. First Aid rooms are located in Williams Arena, Mariucci Arena, Northrop Auditorium, the Metrodome, and Mobile First Aid stations are provided for outdoor events.

## WARNING

Warning capabilities must consist of primary, secondary and backup systems for receiving and disseminating emergency information and warnings. The University employs various methods of warning reception including telephones, radio, teletype, outdoor sirens and a Bell & Light systems. These are utilized at various locations. Dissemination can best be and is usually accomplished at the Police Dispatchers Desk.

### SHELTER SYSTEM DEVELOPMENT

The University of Minnesota Shelter System consists primarily of Fallout Shelters. This system is outmoded. The University, with its multifloored buildings, basements, sub-basements, and pedestrian tunnels inherits a substantial number of shelter spaces that would house the average, and in some situations, the maximum number of campus occupants from a variety of threats. (EX: weather, hazmat, radiation, etc.) To bring the shelter system to this level would require a resurveying, remarking, training and public information.

### PUBLIC INFORMATION SYSTEM UPDATING

An Emergency Management system will only be successful in an environment where it is recognized and understood. To this end we have regularly developed and distributed brochures, leaflets and booklets to the University community relating information on emergency situations, weather, fire, and medical problems. The collection and dissemination of emergency information as described in the University of Minnesota Emergency Plan is the responsibility of University Relations. It is anticipated that this would be accomplished in an Emergency Operations Center setting.

### EMERGENCY OPERATIONS CENTER (E.O.C.) DEVELOPMENT AND ASSESSMENT

The Emergency Operations Center is the nerve center for all actions and directions during an emergency or disaster situation. An E.O.C. requires adequate space for its staff (24 hour operation), communications, standby power, housing facilities, and a proper protection factor. No institution can afford the luxury of developing an E.O.C. based solely on that function hence it must have dual uses. (Training room, offices, etc.) To insure its workability and availability, it must be tested on a regular basis.

### COMMUNICATIONS SYSTEM TESTING AND UPDATING

In an emergency, all communication systems are usually extended to their limits. It is the responsibility of Emergency Management to assure that all systems landline, radio, paging and runners are assigned and used to their maximum capability.

## GOALS AND OBJECTIVES

### PLANNING

The goal is to review, update and enter all plans and procedures into a mechanical system. This should allow for a more orderly system of maintenance. This can be achieved in the next two years.

### ORGANIZING

Applying the organization to the plan or the plan to the organization is an ongoing process. Staff changes and new concepts dictate this.

### TRAINING

New concepts, staff changes and procedures that are not being used daily require a constant effort of training and retraining.

### WARNING

The goal is a system that insures that all campus occupants receive adequate and timely warning. Existing systems must be regularly tested, new concepts examined and public information programs conducted to insure that warning is understood.

### SHELTER

The shelter system to be adequate must be completely revitalized. The goal is to provide shelter for all campus occupants in all situation. To accomplish this would require a resurveying, remarking, training and a public information program. It would be possible to complete the resurvey and remarking in two-three years. The training and public information programs must be considered ongoing.

### PUBLIC INFORMATION

The goal is to provide a public information program that will have the capability to collect and disseminate emergency information to all campus occupants in a clear, understood and timely fashion under any circumstances. This system is in pace and requires only further testing and periodic review.

#### EMERGENCY OPERATIONS CENTER (E.O.C.) DEVELOPMENT AND ASSESSMENT

This center has been designated and tested on several occasions. A near future goal is to provide in-place standby power. It is anticipated this could be accomplished with connections to the Telecommunications Building without putting their operation in jeopardy.

#### COMMUNICATIONS SYSTEM TESTING AND UPDATING

All emergency communications rely on existing systems which are in place and have been tested in simulated emergency situations. A future goal would be to expand their area limits.

#### **EVALUATION**

It is difficult to measure or evaluate Emergency Management Projects without experiencing emergency or disaster situations. Simulated tests are helpful in recognizing deficiencies in some cases, however, the portrayal of time lapse becomes unmanageable.

#### **AVAILABLE RESOURCES**

The Office of Emergency Management received approximately 25% of its expenditure from the Federal Government through the Federal Emergency Management Agency, This has declined from 50% which was provided until 1976. The only reason this has been reduced is failure of the legislature to provide adequate funds. It is anticipated that these funds will be constant at this level.

Table 3A Program Priorities for Constant Budget

*New programs that should be started	0
*Programs that should receive increased support	0
*Programs that should have steady budgets: Planning, Organizing, Training, Warning, Shelter, Public Information, E.O.C., Communications	
*Programs that should be reduced or merged with other programs	0
*Programs that should be phased out	0

I would suggest that all programs remain their present level with a constant budget. It is difficult to prioritize emergency programs because they interact and rely on each other. Those listed are the basic elements of Comprehensive Emergency Management.

Table 3B Program Priorities for Increased Budget

*New programs that should be started	0
*Programs that should receive increased support: Shelter Modification	8,000
*Programs that should have steady state budgets: Planning, Organizing, Warning, Shelter, Public Info. E.O.C., Communication	
*Programs that should be reduced in size or merged	0
*Programs that should be phased out	0

1. A number of departments perform related functions. Communications with these departments is good.
2. I am not aware of any task moves that would make them more efficient. Some of these programs were the responsibility of other departments and the programs were fragmented. This fragmentation resulted in the establishment of the Office of Emergency Management.
3. We attempt to use any and all vehicles to communicate with academic programs and clients. I feel this program is good. We shall always pursue new or alternative methods of communicating. I am not aware of any hardships imposed on users, on the contrary, we have received many complements and expressions of gratitude.
4. We offer instructional programs in First Aid, CPR, Weather and Emergency Procedures.
5. I believe the major strength is the knowledge that there is a system and a program that provides for an orderly response to emergency or disaster situations. I do not feel there are any major weaknesses, however, all functions could be improved to a degree.

We must be constantly reviewing and updating our programs to keep abreast of physical changes to the campus and alterations in the staff.

DRAFT RESPONSE TO STRATEGY FOR FOCUS  
MARCH, 10, 1987  
DIVISION OF SPACE PROGRAMMING AND MANAGEMENT  
OFFICE OF PHYSICAL PLANNING

MISSION: The mission of the Division of Space Programming and Management is the inventory, analysis and management of space resources to meet current and projected needs of the university.

FUNCTIONS:

FUNCTION 1 - The space inventory is accurately maintained regarding the correct size, capacity, allocation and function of all university space.

Space is an essential resource for the delivery of university programs and services. The prerequisite to management of any institutional resource is a clear understanding and definition of the resource to be managed. An accurate space inventory becomes the basis for all management activities related to the judicious allocation and use of space. The fiscal health of the institution is affected by the ability to minimize the ongoing maintenance and operation of its space through more effective space management.

FUNCTION 2 - Reports on the allocation and function of space based on the inventory are provided upon request and formatted to be most useful to the requestor.

The purpose of inventory reports is to provide decision-makers essential information related to the problem to be solved. The quality of the inventory report can affect the validity of space decisions. The conventions and terminology of space data reporting must be understood in order to clarify the data presented.

FUNCTION 3 - Floorplans of all university buildings are maintained in an accurate manner to ensure the validity of the inventory. Campus maps are maintained accurately reflecting the current building, parking and circulation layout of each campus.

Accurate floorplans are used to support 1) the space inventory with accurate individual building and room square footage areas and room numbers, and 2) space managers by providing a visual management aid for discussing space issues. The importance of floorplan maintenance is based on the need for accuracy of the space inventory and its relation to the judicious management of space which is a critical institutional resource.

Campus maps serve both university administrators as a visual aid but also the university community in publications which require the location of programs or services. Accurate campus maps are important to faculty and students in finding the location of individual departments, handicapped accessible buildings, parking, etc.

FUNCTION 4 - The space requirements of each department, college/division and campus are analyzed both for current and future programs and services.

This function provides decision-makers the ability to match the availability of space with the need for space. As the institution becomes more research oriented, concomittant efforts will be required to ensure adequate research facilities are available in the future.

FUNCTION 5 - On a continual basis, plans for the reallocation of space are prepared based on changes in university programs.

As departments shift emphasis among their various programs in response to Commitment to Focus, changes in space allocation will also be required. From the institutional-wide perspective changes in programs must be reconciled with changes in space allocation to ensure that all programs are adequately accommodated both now and in the future.

FUNCTION 6 - All capital request projects submitted to the Board of Regents for approval receive prior analysis and needs justification.

Because of the cost to maintain and operate space, requests for additions to the space inventory must be examined carefully to ensure an adequate but not excessive amount of space is being requested. Additionally, the impact of adding different types of space will be examined in relation to the campus-wide space distribution.

FUNCTION 7 - The relocation of equipment and furnishings are coordinated in a timely and cost efficient manner. Accounting for moving transactions is completed in a timely and fiscally responsible manner.

As a result of space reallocation decisions, the relocation of equipment and furnishings is often required. Besides the actual moving, there also may be remodeling, telephone and security issues which need to be addressed. Departmental moves will be planned to have the least disruptive impact on the ongoing operation of a program.

Departments utilizing moving services are billed for costs entailed. These costs are reconciled on a semi-monthly basis with invoices submitted by the contract mover. The accounting system minimizes the time and effort required by user departments to financially account for their transactions.

FUNCTION 8 - Requested in-house remodeling projects are reviewed and approved within the context of overall campus plans.

Preliminary review of remodeling requests is essential to avoid conflict with existing plans for buildings and to avoid a negative impact on other building occupants. Early identification of potential problems will allow the requesting department to modify its request with a minimum of wasted time and effort.

GOAL:

EFFORTS SHOULD BE MADE TO ESTABLISH AND STRENGTHEN AN INSTITUTIONAL-WIDE PERSPECTIVE ON THE CURRENT AND FUTURE DEVELOPMENT AND ALLOCATION OF FACILITY RESOURCES.

OBJECTIVES:

1) A master plan for the allocation of space should be developed, documented and updated on a periodic basis.

2) Procedures based on sound planning principles should be identified to guide the capital request development process.

3) Campus mapping and floorplan maintenance should be made more efficient through the acquisition of a computer aided design system.

EVALUATION CRITERIA:

Success in reaching the objectives will be measured by the percentage of projects which receive analysis and justification prior to its inclusion in the legislative request for capital improvements. Also the criteria will include the completion of an overall space allocation plan and its implementation.

PROJECTION OF RESOURCES:

The section is entirely funded through the 0100 budget. No other sources of income are currently obtained or anticipated.

PROJECTION OF EXPENDITURES:

The cost of the various major functions of the section are detailed below. The major change in projected expenditures is based on the assumption that the open position would be filled.

PRIORITY RANKING:

As the institution becomes more research-oriented, a concomittant realignment of facilities will be required. Because of this change it is anticipated that additional staff effort and expenditures will be required in the functions of space needs assessment and space allocation planning to guide future facility reallocation and development.

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TABLE 3A. PROGRAM PRIORITIES FOR CONSTANT BUDGET:

A. NEW PROGRAMS THAT SHOULD BE STARTED

B. PROGRAMS THAT SHOULD RECEIVE INCREASED SUPPORT

1. Space Needs Assessment
2. Space Allocation Planning
3. Campus Mapping/Floorplan Maintenance
4. Capital Request Development

C. PROGRAMS THAT SHOULD HAVE STEADY STATE BUDGETS

5. Relocation Coordination/Accounting
6. Inventory Maintenance
7. Inventory Reports

D. PROGRAMS THAT SHOULD BE REDUCED IN SIZE OR MERGED WITH OTHER PROGRAMS

8. Remodeling Request Review

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An increase in budget would not significantly affect the new or changed directions in which staff functions would be accomplished. The strengthening of an institutional perspective on responsible space programming and management would remain the overriding goal of the section.

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TABLE 3B. PROGRAM PRIORITIES FOR INCREASED BUDGET:

A. NEW PROGRAMS THAT SHOULD BE STARTED

B. PROGRAMS THAT SHOULD RECEIVE INCREASED SUPPORT

1. Space Needs Assessment
2. Space Allocation Planning
3. Campus Mapping/Floorplan Maintenance
4. Capital Request Development

C. PROGRAMS THAT SHOULD HAVE STEADY STATE BUDGETS

5. Relocation Coordination/Accounting
6. Inventory Maintenance
7. Inventory Reports

D. PROGRAMS THAT SHOULD BE REDUCED IN SIZE OR MERGED WITH OTHER PROGRAMS

8. Remodeling Request Review

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DISCUSSION:

i) Virtually all units are engaged in space management for their assigned facilities. Deans and major unit heads are actively involved in space management and are a frequent contact. Communication is generally good but could be improved for several units.

ii) Tasks currently performed within the section appear to be appropriate to its mission. Consideration should be given to combining the Offices of Room Scheduling and Real Estate with Space Programming and Management to provide a more unified and coordinated approach to facility services.

iii) Maintenance of the space inventory dictates frequent contact with academic programs. From the users' perspective space management policies regarding efficient levels of space utilization may be viewed as a hardship.

iv) Most of the services provided by the section are to academic administrative units. Contacts with individual faculty are less frequent. A guidebook describing services provided by Physical Planning units is currently under consideration.

vii) Major strengths and weaknesses of primary functions:

Inventory Maintenance -

The major strength of this function is the on-site audit procedures which ensure the inventory's accuracy. The major weakness of the inventory system is the cumbersome nature of the system's hard programmed update procedures which has been alleviated to some extent through the on-line update programs.

Inventory Reports -

The major weakness of the function is the lack of hard programmed reporting formats which also has been alleviated to some extent through software report generation packages. A major strength of this function is the developing ability of end users to access the space inventory directly through AS software.

Campus mapping/Floorplan maintenance -

The major strength of this function are the procedures set up to funnel changes in physical facilities into the space inventory. The major weakness of the function is the lack of computer aided drafting hardware to expedite space change record keeping.

Space Needs Assessment -

The major strength of this function is the acceptance and use of the Minnesota Facilities Model. The major weakness of this function is assessing the need for function specific space.

Space Allocation Planning -

The major weakness is a lack of emphasis on centralized planning which would result in better coordinated facility development programs. The major strength is again the Minnesota Facilities Model.

Capital Request Development -

The major weakness is a lack of coordination and justification in developing proposals for capital request projects. The major strength of the function is the increasing use of application of the Minnesota Facilities Model to determine project scope.

Relocation Coordination/Accounting -

The major strength of this function is the computerized billing system. The major weakness is forecasting the need for moving services to ensure an adequate supply of people and materials.

Remodeling Request Review -

The major strength of this function is early identification of problems associated with requested remodelings. The major weakness of this function is that often all issues associated with a project may not be immediately identified.

IMPACT ON OTHER UNITS OR NEED FOR SPACE:

The impact on other units of proposed changes in the Division of Space Programming & Management should be significant as facility resources are reallocated to meet program requirements in a more informed and judicious manner. With adequate facilities, the ability of academic units to achieve their objectives under Commitment to Focus will be enhanced.

No increase or decrease in the amount of space currently allocated to the section is anticipated. However, consideration should be given to physically consolidating in one location related sections within Physical Planning.