



**State of Minnesota  
Department of Human Services**



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**Facilities Master Planning Studies**

***Sustainable Planning Report***

**August 1999**

## Sustainable Planning

### Sustainable Design

Sustainable design is a broad concept that seeks to raise awareness of the critical impacts and consequences that inevitably occur when we build. While this report will highlight many of the high priority concerns, sustainable design is not a formula. Issues raised should stimulate further consideration and care in making the best decision among many without obvious criteria. It is clear, however, that conventional building practices and design decisions in the last half of this century have led to the development of unhealthful work places, ecologically stagnant and harmful environments, and wasteful practices. Though standard industry practice and economic trends have favored short term views of building costs, increased awareness and concern for the environment offer opportunities to build “green.”

#### *Introduction*

Green buildings have common features but cannot be reduced to type, form, or style. Their success can be measured, however, in terms of use of materials that do not release toxic chemicals into the air; their energy efficiency; their use of natural daylight; and their sensitivity and regard to the environment through their integration with the site. Green buildings are conceived in terms of occupant satisfaction and health. They are well ventilated, comfortable places where people connect with other dwellers including, the natural environment, and the surrounding community as well as other people. Ideally, a green building would produce its own energy and recycle its own waste. Generally, to build “green” one must carefully consider and protect the quality of indoor and outdoor environments throughout the entire life-cycle of a building from schematic design to demolition or recycling of the structure 50 - 60 years from now.

### Summary of Topics

Sustainable design, like any complex design, is comprised of sets of interrelated issues or topics. This report identifies building and site design criteria specific to the Minnesota Department of Human Services project. Preliminary sustainable goals have been assumed and preliminary objectives have been developed. These goals and objectives will provide a framework for determining priorities in project planning phases. Further details on sustainable issues, specific strategy checklists, and comparative information will help readers become acquainted with key issues in sustainable building design. Case examples have also been included.



## Sustainable Planning

### Planning

Sustainable design depends on a diversity of input. Because there are many complex issues a “green” expert or expert committee, should be designated. To sort out priorities and to make decisions about issues pertaining to sustainability, the Minnesota Department of Human Services (DHS) must establish goals and objectives for sustainable design in the master planning phase. In the planning and pre-design phases significant building and site concepts are formed that will directly impact other design decisions throughout the project.

To manage and coordinate adequate formulation of sustainable goals, a facilitated design approach through internal and external participation is recommended. The primary objective is to first determine and organize a design team strategy. Designers might include a broad array of architects, engineers, landscape architects, scientists, technologists, and occupant representatives who have experience and interests in building green. If possible include potential contractors in the preliminary phases. Seek contractors with experience managing their own construction wastes and/or those who work with alternative building systems.

Sustainable design places a regard for impact to things and beings that lack voices. It deals with abstract qualities difficult to concretize. Essentially, choices should be informed by the organization’s central values and these must be informed by the evaluation of clear sustainability concepts. **It is inevitable that not all green principles will be met, but it should be clear to the occupants and designers how decisions about energy, waste, and use of natural resources are made.** In the planning process it is important to make and maintain meaningful connections about sustainable design priorities. When the priorities change it is important to understand how the changes will impact the sustainable design principles.



## Sustainable Planning

### Sustainable Goals for DHS

Sustainable goals for any project should have a holistic approach that is followed throughout the project and into the life of the building.

The following are recommended goals for the Minnesota Department of Human Services:

1. Design a building that allows natural light to penetrate into the interior office spaces
2. Design a building that has maximum exterior wall area that incorporates operable windows
3. Design a building that provides excellent indoor environmental quality
4. Design a building that is energy efficient
5. Design into the project ways to reduce construction wastes and re-use salvage or recycled building materials

Incorporating goals into the master plan allows the design team to work from the same set of guidelines throughout the project. DHS should review these goals and have an understanding of what these goals can do for DHS. To help DHS understand the implications of sustainable design this report develops objectives for each of the goals listed above.

*Goals*

