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**RE: AMENDMENT No. 1
to PREDESIGN MANUAL – 4rd Edition (dated September 2007)**

1. PURPOSE:

A. This amendment to the State's Predesign Manual is for the purpose of incorporating legislative mandates

1. Alternative Energy Sources: MN Statute 16B.32. Plans for a new building or for a renovation of 50 percent or more of an existing building or its energy systems must include designs which use active and passive solar energy systems, earth sheltered construction, and other alternative energy sources where feasible.

2008 legislation: 16B.32, is amended to add:

a. 2% Onsite energy generation from renewable sources required. A new building must consider meeting at least two percent of the energy needs of the building from renewable sources located on the building site. For purposes of this subdivision, "renewable sources" are limited to wind and the sun. The project design shall include an explicit cost and price analysis of complying with the two-percent requirement compared with the present and future costs of energy supplied by a public utility from a location away from the building site and the present and future costs of controlling carbon emissions. If the analysis concludes that the building should not meet at least two-percent of its energy needs from renewable sources located on the building site, the analysis must provide explicit reasons why not. The building may not receive further state appropriations for design or construction unless at least two percent of its energy needs are designed to be met from renewable sources, unless the commissioner finds that the reasons given by the agency for not meeting the two-percent requirement were supported by evidence in the record.

2. MN Statute 16B.325 (Sustainability) is amended to add:

Lowest possible cost; energy conservation. Projects are to achieve the lowest possible lifetime cost for new buildings and major renovations, and allow for continual energy conservation improvements in new buildings and major renovations. "Major renovations" are more than 10,000 square feet or involve the complete replacement of the mechanical, ventilation, or cooling system of the building or a section of the building.

a. Sustainable Design Guidelines required by 16B.325 are still in effect: For all new buildings receiving funding on January 1, 2004 and beyond, sustainable design goals and strategies, in accordance with *The State of Minnesota Sustainable Building Guidelines*, are to be incorporated into the design; and the building design must exceed the current Energy Code by thirty (30) percent (%). For remodel/renovation projects comply with the Department of Administration's *Sustainability Guidelines for Consultants*.

b. Life Cycle Costing: In conjunction with *The State of Minnesota Sustainable Building Guidelines*, conduct a Life-Cycle Cost Analysis on all major systems of the building:
Structural System (including foundation)
Envelope....Roof, Wall & Window systems
Mechanical Systems & Components
Major Electrical systems & components (including lighting).

3. 2007 legislation: MN Statute 16B.326 Geothermal and solar applications for Heating & Cooling Systems – for State Funded Buildings:

When practicable, geothermal and solar thermal heating and cooling systems must be considered when designing, planning, or letting bids for necessary replacement or initial installation of cooling or heating systems in new or existing buildings that are constructed or maintained with state funds. For the purposes of this section, "solar thermal" means a flat plate or evacuated tube with a fixed orientation that collects the sun's radiant energy and transfers it to a storage medium for distribution as energy for heating and cooling.

4. Consider future recycling reuse of all assemblies. Designs should consider non-destructive detailing for future removal of assemblies for reuse. For remodeling projects, evaluate the life expectancy of the assembly or components for potential reuse.

5. The Predesign Manual shall include in the project requirements to require building equipment that meets or exceeds efficiency standards and qualifications for utility rebate programs. Upgraded equipment specifications that have incremental costs covered by project budget are to be pursued. Indicate that the contractor(s) shall be required to provide necessary documentation, including invoices, required by the utility(s) for the purpose of processing and approving rebate applications. And that the contractor(s) shall work with State facility staff to assist in obtaining all possible utility rebates on the project.

6. Standards for state-funded outdoor lighting fixtures. Minnesota Statutes 2007 - 16B.328, is amended by adding a subdivision to read:

- (a) An outdoor lighting fixture may be installed or replaced using state funds only if:
 - (1) the new or replacement outdoor lighting fixture is a cutoff luminaire if the rated output of the outdoor lighting fixture is greater than 1,800 lumens;
 - (2) the minimum illuminance adequate for the intended purpose is used with consideration given to nationally recognized standards;
 - (3) for lighting of a designated highway of the state highway system, the Department of Transportation determines that the purpose of the outdoor lighting fixture cannot be achieved by the installation of reflective road markers, lines, warning or informational signs, or other effective passive methods; and
 - (4) full consideration has been given to energy conservation and savings, reducing glare, minimizing light pollution, and preserving the natural night environment.
- (b) Paragraph (a) does not apply if:
 - (1) a federal law, rule, or regulation preempts state law;
 - (2) the outdoor lighting fixture is used on a temporary basis because emergency personnel require additional illumination for emergency procedures;
 - (3) the outdoor lighting fixture is used on a temporary basis for nighttime work;
 - (4) special events or situations require additional illumination, provided that the illumination installed shields the outdoor lighting fixtures from direct view and minimizes upward lighting and light pollution;
 - (5) the outdoor lighting fixture is used solely to highlight the aesthetic aspects of a single object or distinctive building; or
 - (6) a compelling safety interest exists that cannot be addressed by another method.
- (c) This subdivision does not apply to the operation and maintenance of lights or lighting systems purchased or installed, or for which design work is completed, before August 1, 2008.

(d) This section does not apply if a state agency or local unit of government determines that compliance with this section would:

- (1) require an increased use of electricity;
- (2) increase the construction cost of a lighting system more than 15 percent over the construction cost of a lighting system that does not comply with this section;
- (3) increase the cost of operation and maintenance of the lighting system more than ten percent over the cost of operating and maintaining the existing lighting system over the life of the lighting system; or
- (4) result in a negative safety impact.

2. PREDESIGN MANUAL CHANGES

- A. Include the above requirements in the project narratives in order for future architectural / engineering design teams to be aware that these requirements are to be incorporated into project designs.

3. SUBMITTAL REQUIREMENT

- A. The proposer of the project must submit a written plan for compliance with energy and sustainability requirements recorded above. This plan is to be incorporated into the Pre-design submittal.