

A. SITE

1. General

Decisions made early in the design can often have a significant impact on many other aspects of the design. By orienting a building effectively, designers can maximize solar access and boost the effectiveness of daylighting strategies, reducing the need for electrical lighting as well as heating and cooling loads. Orienting the building linearly on an east-west axis is one important example. By maximizing well-controlled, south-facing glass and minimizing east- and west-facing glass, the energy performance is greatly enhanced, comfort conditions are improved, and initial costs associated with cooling are reduced.

2. Selecting a Site

When selecting a building site, the highest priority should be given to sites that enable the building to be cost-effective and resource efficient.

- a. Consider the rehabilitation of an existing site or an urban in-fill area before choosing an undeveloped site.
- b. Select a site that can maximize solar access for daylighting and other solar systems and minimize east and west glass.
- c. Consider the availability and cost of utilities and infrastructure required to develop the site.
- d. Analyze mass transit and pedestrian accessibility as well as potential bus routes in the area.
- e. Consider the topography, the soil conditions and the probability of encountering subsurface rock or other unsuitable soils.

3. Building Orientation

To minimize energy use, maximize energy-saving potential by siting the building appropriately.

- a. Elongate the building on an east-west axis when possible.
- b. Develop a building design that minimizes east and west-facing glass.
- c. Employ one-story designs, when possible (and cost-effective), to maximize the potential for daylighting. In multiple-story buildings, minimize the depth of the rooms to maximize the daylighting contribution.

4. Maximize Site Potential

Evaluate ground conditions at the site since this typically determines, to a great degree, both the economic and environmental success of the design.

- a. Establish floor grades that least impact site grading.
- b. Consider existing trees and new landscaping as a means of providing shading in the warmer months.
- c. Stockpile appropriate rock from site development for later use as ground cover.