



Michaels Engineering LEED® Brief

MATERIALS & RESOURCES



SUGGESTIONS...

Do you have certain LEED® topics you'd like to know more about? Send an email with your suggestion to the author listed below and your topic might become a future LEED® Brief!

DID YOU KNOW...

...Construction and demolition wastes constitute about 40% of the total solid waste stream in the United States. (Taken from LEED NC Version 2.1 Reference Guide)

...Tipping fees have increased in the Midwest by 370% in less than 20 years.

MEET THE AUTHOR



Scott Siefkes is an Energy Engineer at Michaels Engineering. For more information on this topic or additional energy concerns, please contact Scott at:

(608) 785-1900 or
SFS@MichaelsEngineering.com

→ LEED® CATEGORY #4: MATERIALS & RESOURCES

Material selection for construction projects not only affects resource consumption, it can make a big impact in energy consumption, waste disposal costs, and local and regional economies, all of which can benefit YOU, the owner, over the life of your facility. Sustainable construction practices include (1) reusing existing building structures, (2) using building materials containing recycled material, (3) specifying materials that are extracted and manufactured regionally, and (4) recycling construction waste materials.

→ RECYCLING: NOT JUST FOR THE CURB

Many opportunities for recycling exist throughout a construction project. Reusing all or a portion of an existing building and/or property does not consume valuable and expensive raw materials, or the associated energy consumption (embodied energy) to produce the final building materials. Reusing existing structures also better preserves undisturbed land (greenfields).

Using construction materials that have been recycled from other buildings, products, or industrial scrap is another way recycling can help your construction project. Using materials that incorporate a significant amount of post-consumer and post-industrial recycled material will also help to reduce the amount of virgin materials used, and the embodied energy used to extract, manufacture and transport them.

Recycling combined with proper management of construction waste can divert material from landfills for use in other buildings or to make other products. Separating construction and demolition wastes into useable material can be completed with little construction - site management. It may be possible to use this material in your construction project, or it could be sold as scrap for use in other projects or products, often at a cost that is less expensive than landfill tipping fees. Tipping fees have increased in the Midwest by 370% in less than 20 years. Throwing things away isn't free!

→ SUSTAINABLE CONSTRUCTION

Using virgin natural resources in construction is probably unavoidable. However, there are practices that can be incorporated in your construction project that can limit the impact on the environment while providing potential economic benefits.

The cost of construction materials includes more than just the physical products themselves. Consider the cost of obtaining and transforming the raw materials into useable products for construction. Then there is the cost to ship that product to the job site. When considering the energy usage of a building, you must include this "embodied energy". Using products manufactured or harvested locally and/or regionally will have lower transportation costs and reduced emissions because of the lesser transportation requirements. Buying locally also helps to support local businesses, which helps keep the local economy strong and this is good PR for the building owner.

→ SAVE ENERGY AND MONEY WITH MATERIALS IN YOUR PROJECT

We all know the benefits of recycling: preserving natural resources, saving landfill space, and saving energy. Incorporating recycling and sensible natural resource use in your construction project is another way you can help reduce your costs now, strengthen the local/regional economies, and increase public perception of your project.