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THE LIVING BUILDING CHALLENGE: 16 PREREQUISITES, NO CREDITS

SITE

Prerequisite	Living Building Challenge Requirements	Real-World Implications
Responsible Site Selection*	Projects may not be located within 50–225 feet (15–70 m) of wetlands (depending on site specifics); within 120 feet (37 m) of dunes; within 200 feet (60 m) of old-growth forest; within 100 feet (30 m) of virgin prairie; on prime farmland; or within the 100-year floodplain.	This provision takes a stringent stance on protecting sensitive areas from development. Exceptions allow for farms and interpretive centers on certain sites.
Limits to Growth	Projects may be built only on previously developed land.	This provision limits development—and sometimes new development is called for.
Habitat Exchange	Building owners must protect one acre of land from development for 100 years for every acre that is developed as part of a project.	It's still unclear how this will work, and whether "development" includes other uses such as agriculture, logging, or recreation.

ENERGY

Net-Zero Energy	Onsite renewable energy systems must produce 100% of a building's needed energy on a net-annual basis. Scale-jumping is allowed.	Net-zero energy may make more sense on a larger scale. Meeting this requirement requires aggressive conservation to make renewable energy systems affordable.
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MATERIALS

Materials Red List*	Projects cannot contain cadmium; chlorinated polyethylene and chlorosulfonated polyethylene; chlorofluorocarbons (CFCs); chloroprene (Neoprene); added formaldehyde; halogenated flame retardants; hydrochlorofluorocarbons (HCFCs); lead; mercury; petrochemical fertilizers and pesticides; phthalates; polyvinyl chloride (PVC); or wood treatments containing creosote, arsenic, or pentachlorophenol.	This list, drawn from the work of the Healthy Building Network, puts severe limits on the materials used. For example, banning halogenated flame retardants excludes almost all kinds of spray-foam insulation and furniture foam. Exceptions are available if project teams demonstrate that a needed material isn't red-list compliant and show that they've asked the manufacturer to eliminate red-listed ingredients from its products.
Construction Carbon Footprint	Project teams must offset the carbon footprint of a building's construction and materials; the offset is based on size and construction type.	Cascadia is still working out which carbon calculators to use; details will be available in the user guide for LBC 2.0.
Responsible Industry	All wood must be certified to Forest Stewardship Council (FSC) standards, from salvaged sources, or from cleared timber on site.	Finding structural lumber certified to FSC standards can be a challenge, especially when it also needs to be locally sourced.
Appropriate Materials and Services Radius*	Materials and services must come from within the following distances: ideas (12,429.91 miles, 20,004 km); renewable energy technologies (9,000 mi, 14,500 km); assemblies that contribute to building performance once installed (3,000 mi, 4,800 km); consultant travel (1,500 mi, 2,400 km); light, low-density materials (1,000 mi, 1,600 km); medium-weight and -density materials (500 mi, 800 km); heavy, high-density materials (250 mi, 400 km).	Except for ideas (which can come from anywhere on earth), materials must come from within somewhat arbitrary distances that are not based on any rigorous life-cycle or carbon-footprint analysis of the transportation of materials. Exceptions allow product teams to use products from farther away if they are able to prove they are necessary.
Leadership in Construction Waste	Project teams must divert construction waste from landfills in the following percentages: metals (95%); paper and cardboard (95%); soil and biomass (100%); rigid foam, carpet, and insulation (90%); all other materials (80%, using a combined weighted average).	Although the percentages of diverted material are high, they are not impossible. This prerequisite requires extensive instruction of contractors and management of the construction site.

WATER

Net-Zero Water*	All water used in the project must come from captured rainwater or closed-loop water systems.	This can be difficult in certain climates, even with the exceptions available.
Sustainable Water Discharge	All stormwater must be managed on site and integrated into the project's water-supply system.	Local codes can make this prerequisite tricky, but working with code officials often makes it possible to achieve.

* These prerequisites allow exceptions for certain situations.

Prerequisite	Living Building Challenge Requirements	Real-World Implications
INDOOR QUALITY		
A Civilized Environment*	All occupants must have access to operable windows.	This prerequisite, more than any other, dictates building form (large floor plates won't work).
Healthy Air: Source Control	All projects must have external and internal dirt track-off systems; proper ventilation for kitchens, bathrooms, copy rooms, janitorial closets, and chemical storage spaces; finishes, paints, and adhesives that comply with SCAQMD 2007/2008; interior materials that comply with California Standard 01350; prohibitions on smoking.	This prerequisite is similar to many LEED credits and, although it requires some advance planning, is readily achievable.
Healthy Air: Ventilation	Projects must comply with California Title 24 air-change rate requirements.	This prerequisite should not present a problem to most teams.
BEAUTY AND INSPIRATION		
Beauty and Spirit	Project teams must include features intended only for "human delight and the celebration of culture, spirit, and place."	Perhaps the most discussed prerequisite, this requires a narrative from the project team about the aesthetic features it included in the building. Since no buildings have yet been certified, it's difficult to tell how Cascadia will judge those narratives.
Inspiration and Education	Building owners must provide educational materials about the design and operation of the building, and open the building to the public at least one day a year.	This should not present a problem to most teams.

* These prerequisites allow exceptions for certain situations.