3.0 Design outdoor spaces

The impact of a building can be reduced significantly by decisions made early in the design process. The relative location of other buildings, windows, and outdoor areas ditectly impacts on the amount of energy, water and materials required to keep a building comfortable.

The buildings orientation and massing has to be planned in relation to its urban and natural environment. Building should be designed to reduce internal heat gains and harness daylight so that their energy demand will be reduced. This can be achieved by using materials in the buildings envelope that comply with the minimum U values specified in credit RE-R1 and also by careful selection the glazing elements in the facade. When selecting building materials, the requirements of credit SM-R1 that forbids the use of chromated copper arsenate (CCA) treated timber and asbestos containing materials (ACM).

Buildings can also contribute to improve pedestrian comfort by providing external shading and shielding pedestrians from prevailing hot winds hence contributing to the requirements specified in credit LBo-R3. Local weather data sets are available to analyse how the building elements will perform and the effect the building will have in its surroundings.

The buildings plot landscape should be designed to protect and link natural habitat around it. The building should also be adequately linked to the adjacent streets to facilitate pedestrian and vehicle movements. In particular, credit SM-R3 requires to provide access to waste collection vehicles.

Finally, the design of the building outdoor spaces should meet credit LBi-R2 requirements to designate smoke free zones around sensitive areas of the building but also to allocate dedicated external smoking areas.

Useful resources:

- Abu Dhabi weather data from EnergyPlus (http://apps1.eere.energy.gov/buildings/energyplus)

Related Credits

- NS-R1: Natural Systems Assessment & Protection
- LBo-R3: Outdoor Thermal Comfort Strategy
- RE-R1: Minimum Energy Performance
- SM-R1: Hazardous Materials Elimination
- SM-R3: Storage & Collection of Waste & Recyclables
- LBi-R2: Smoking Control