



AARDEX

Developer of User Effective® Buildings

ELEMENTS OF A 21st CENTURY OFFICE BUILDING

User Effective® sustainable development should contain many of the following elements:

Design:

It is critical to a project to incorporate all disciplines early in the concept and design phase to incorporate every opportunity for savings into the original design. All building systems are so interrelated that choosing from an a la carte menu of “green” design features is a recipe for failure!

Sustainable design is an inherent aspect of design excellence. Projects should express sustainable design concepts and intentions, and take advantage of innovative programming opportunities.

Specific concepts and intentions to include in the design:

Create a life-sustaining, human interactive and productive business environment.

Bring natural daylighting and individual temperature and ventilation control to the entire building including temperature, air volume, natural and task lighting, visual and sound privacy.

Reduce energy and fossil fuel consumption by 40%.

Meet or beat total cost of conventional construction models.

Maximize a hygienic environment through one-time pass through air and hands-free restroom facilities.

Increase use of green, recycled materials and sustainable methodologies.

Enhance human health, comfort and happiness, reducing absenteeism by 20%.

Champion worker achievement and improve productivity by 20%.

Reduce cost of lease turnover through modular and movable component strategies.

Daylighting:

Daylighting is a strategy to maximize the amount of natural light throughout the floor area of the building, which will reduce the energy requirement for artificial lighting, and contribute significantly to quality of life and occupant’s productivity.

Some elements include:

Optimize the building’s solar orientation, to south/south east enabling better control of solar heat gain and sun glare.

Maximize daylighting and outside views for the building and incorporate glare control strategies with permanently installed exterior and interior light shelves for shading, and adjustable window shades.



AARDEX

Developer of User Effective® Buildings

Utilize energy efficient high performance low-e coated glass (e.g., clear glass on the sun-protected areas, grayish green tinted glass on all remainder of building) on windows for enhancing colors of the outdoor, better viewing and reducing heat gain and glare.

Pendant mount indirect & direct lighting fixtures on photo lighting sensors to adjust to day lighting level and provide soft shadowless general illumination.

Individual control task light at work stations tailored to individual lighting needs.

High light reflectance ceiling to reflect and bounce more daylight into building.

Outside views to connect with nature as an important contributor to quality of life for mankind, enhance occupant's creativity & productivity and creating strong sense of place and clear sense of orientation.

Site:

Landscaping to control erosion, create shade for people and cars and screen vehicular traffic and parking from pedestrian areas.

Parking lots separated by trees and shrubs on landscaped islands, and shaded by trees, designed to provide human scale and people friendly environment.

Clear building and site layouts communicate a clear sense of orientation. Land marking, lighting and signage used throughout to enhance and provide a clear sense of navigation.

Local materials, colors and references are used on exterior of building(s) and in landscape planting to create a clear sense of belonging and sense of place.

Incorporation of sensible design in harmony with the environment and reinforcement of the local neighborhood.

Comfortable Place to Work:

Individual air temperature and volume control throughout the workplace.

Energy efficient, flexible and convenient under-floor air, power and data distribution.

Flexibility, ease of moving or adding air diffusers, power plugs or data ports on the floor.

All building systems designed to provide for flexibility, changeability and adaptability.

Low velocity air distribution and higher air temperature delivery result in low energy, higher efficiency systems, and equipments that saves not only energy but initial cost as well.

HVAC – Clean and Healthy Indoor Air Quality environment for people.

Increase human productivity and save human resources costs.

Energy efficient HVAC systems with both outside air supply and inside air return filtered.



AARDEX

Developer of User Effective® Buildings

Select only non toxic, non off gas, recyclable and “Green” materials for interior applications.

Air supply intakes located to bring in fresh air, away from car traffic, truck loading docks and trash pick up areas.

Separate supply and exhaust air to toilet rooms, kitchens and garages.

Hands-free no touch toilet rooms, preventing germ spread and cutting down sickness and absenteeism, saves HR and training costs.

Water:

Incorporate auto faucets with infrared sensors in all building restrooms.

Install low-flow hydropowered lavatories, dual flush toilets and waterless urinals.

Install low flow showerheads that use less than 1.5 gpm.

Acoustics and Noise Control:

Acoustical ceilings in common areas for sound control.

Sound level: Open office 40 dB, private office and conference room 30 dB.

Sound barrier in common walls between tenants, conference rooms and private offices.

Hidden heating radiator under the floor reduces noise transfer between spaces and provides clean floor and wall ready for tenant fit up.

Ease of Maintenance for Systems:

Central computer controls for HVAC / Lighting / Security / Life Safety systems.

Systems selection and materials selection for durability, maintainability, cleanability and accessibility.

Under-floor air, power and data distribution systems provide easy access for tenant fit up, maintenance and future modifications.

Easy to move, maintain and control individual air diffuser on removable raised floor tile.

Lighting:

Indirect/direct fluorescent ambience lighting connected to daylight photo sensor.

Daylighting system provides ample natural light deep inside the building, reducing lighting energy requirement and cost.



AARDEX

Developer of User Effective® Buildings

Individual controlled task lighting at desk or under shelving (plug into underfloor electrical grid).

Special lighting in lobbies, entrances and toilet rooms.

Other Sustainable Design / Building Green Goals:

Maximize LEED certification level.

Control runoff, erosion and improve water quality during and after construction.

Use “Green” and recyclable construction materials and processes.

Avoid interior materials that give off gas and volatile organic compounds.

Recycle all construction wastes.

Water conservation flow controlled faucets, showers, toilets and waterless urinals.

Conserve energy through efficient light fixtures, light sensors and ballast.

Conserve energy through hi efficiency HVAC systems and equipments selection.

Conserve energy through electrical and communication equipment selection.

Recommend electronic ballast and hi-efficiency bulbs to clients for TI.

Participate in Energy STAR program.

Landscape to create shade, block wind and prevent erosion.

Provide preferred parking spaces for high efficient and alternative fuel vehicles.