



TOWN OF CORTLANDT YOUTH CENTER

Environmental features incorporated into the design,
construction and operation to achieve a
HIGH PERFORMANCE GREEN BUILDING.

In September of 2007, the Town of Cortlandt retained Mr. William Bobenhausen, principle of “Sustainable Design Collaborative, LLC” to review the proposed Youth Center project and determine the feasibility of a LEED Certification. Mr. Bobenhausen has over 25 years of experience related to the development of Energy/Green Codes and Standards and specializes in providing comprehensive sustainable design services including those related to the LEED Green Building Rating System.

After a site visit, a meeting was conducted on October 4, 2007 at the Town of Cortlandt municipal building to review the environmental features that should be incorporated into the planned Youth Center. It was determined at that meeting that a formal LEED rating would not be sought for the project due to its scale, site conditions and cost considerations. It was further decided that a whole-building approach based on the LEED rating system in five key areas of human and environmental health would be incorporated and adhered to during design, construction and operation of the proposed Youth Center wherever deem applicable.

The following document outlines the approach to sustainability to achieve a high performance green building in the following areas:

Sustainable Site Development

Water Efficiency

Energy & Atmosphere

Materials & Resources

Indoor Environmental Air Quality

BUILDING DESIGN

Mark Day Engineering, P.C.

Consulting Engineers

3 Van Wyck Lane

Suite 2

Wappingers Falls, NY 12590

(845) 223-3202

NGL Engineering

Consulting Engineer

2045 Route 94

Salisbury Mills, NY 12577

(845) 497-0977

Pebbleworks, Inc.

Design Consultant

207 7th Street

Verplanck, NY 10596

(914) 290-3743

BUILDING CONSTRUCTION

Giordano Builders

General Contractors

19 Pine Avenue

Ossining, NY 10562

(914) 941-9044

Southeast Mechanical Corp

Mechanical Contractors

568 Main Street

Brewster, New York 10509

Phone: (845) 279-3793

Giordano Electric

Electrical Contractors

(914) 271-3696

Mercury Solar Panels

Solar Energy Contractors

15 Coligni Avenue

New Rochelle, NY 10801

(914) 637-9700

SUSTAINABLE SITE DEVELOPMENT

Alternative Transportation: Public Transportation Access

This objective was achieved in two ways:

- Site location in proximity to the Cortlandt train station.
- Bus transportation to site from local public schools.

Site Development: Protect or Restore Habitat

Existing wetland restored by removing invasive species and replanting with native species which will help to provide habitat and promote biodiversity.

Stormwater Design: Quantity and Quality Control

Through the use of pervious paving and rain gardens the disruption of natural hydrology was limited by reducing impervious cover, reducing water pollution, increasing on-site infiltration and managing stormwater runoff.

Heat Island Effect: Non-Roof

An open grid pavement system was incorporated to reduce heat island (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human wildlife habitat.

WATER EFFICIENCY

Water Efficient Landscaping

The landscape was designed with native and adapted plants to reduce or eliminate irrigation requirements.

Water Use Reduction

Through the use of water-conserving fixtures (water closets, urinals) the potable water demand and generation of wastewater for the building were reduced.

ENERGY AND ATMOSPHERE

Fundamental Refrigerant Management

To reduce ozone depletion, zero use of CFC-based refrigerants were used.

ENERGY AND ATMOSPHERE (CONTINUED)

Optimize Energy Performance

The building envelope (Exterior doors, windows, walls and roof) and systems (Lighting and HVAC) were designed to achieve increasing levels of energy performance above the baseline standard to reduce environmental and economic impacts associated with excessive energy use.

On-Site Renewable Energy

Solar panels on the building's roof were installed to reduce environmental and economic impacts associated with fossil fuel energy use.

Enhanced Refrigerant Management

Refrigerants and HVAC&R were selected that minimize or eliminate the emissions of compounds that contribute to ozone depletion and global warming.

MATERIALS AND RESOURCES

Storage and Collection of Recyclables

An easily accessible area that serves the entire building and is dedicated to the collection and storage of non-hazardous materials for recycling was incorporated to facilitate the reduction of waste generated by building occupants that is hauled to and deposited in landfills.

Recycled Content

Building products that incorporate recycled content were specified and installed for both the exterior and interior of the building thereby reducing impacts resulting from extracting and processing of virgin materials.

Regional Materials

Building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation were specified whenever possible.

Rapidly Renewable Materials

To reduce the use and depletion of finite raw materials and long-cycle renewable materials, rapidly renewable materials were specified whenever possible.

MATERIALS AND RESOURCES (CONTINUED)

Certified Wood

Specified and installed wood-based materials and products which are certified in accordance with the Forest Stewardship Council's (FSC) Principles and Criteria for wood building components.

INDOOR ENVIRONMENTAL QUALITY

Outdoor Air Delivery Monitoring

A permanent monitoring system was designed and installed to provide feedback pertaining to the ventilation system performance ensuring occupant comfort and well being.

Increased Ventilation

Additional outdoor air ventilation provided to improve indoor air quality, occupant comfort, well-being and productivity. In addition, to minimize the additional energy consumption associated with higher ventilation rates, heat recovery technologies were used.

Construction IAQ Management Plan – During Construction

Permanently installed air handlers were not used for the temporary heating/cooling during construction. The HVAC system was protected during construction to control pollutant sources and interrupt contamination pathways into the system.

Construction IAQ Management Plan – Before Occupancy

After construction ends, prior to occupancy and with all interior finishes installed, a building "flush-out" will be performed to reduce indoor air quality problems resulting from the construction process.

Low-Emitting Materials – Adhesives and Sealants

To reduce the quantity of indoor air contaminants that are odorous, irritating and harmful, low-emitting adhesives and sealants used on the interior of the building were specified and used whenever possible.

INDOOR ENVIRONMENTAL QUALITY (CONTINUED)

Low-Emitting Materials – Paints and Coatings

To reduce the quantity of indoor air contaminants that are odorous, irritating and harmful, low-emitting paints and coatings used on the interior of the building were specified and used whenever possible.

Low-Emitting Materials – Carpet Systems

To reduce the quantity of indoor air contaminants that are odorous, irritating and harmful, low-emitting carpets that meet the requirements of the Carpet and Rug Institute Green Label Program were specified and installed.

Low-Emitting Materials – Composite Wood

To reduce the quantity of indoor air contaminants that are odorous, irritating and harmful, low-emitting composite wood and agrifiber products used on the interior of the building were specified to have no added urea-formaldehyde resins.

Controllability of System – Lighting

The building's lighting system was designed and installed with a high-level of system control by individual occupants or by specific groups in multi-occupant spaces (i.e., activities area, lounge or conference).

Controllability of System – Thermal Comfort

The building's HVAC system was designed and installed with a high-level of system control by individual occupants or by specific groups in multi-occupant spaces (i.e., activities area, lounge or conference).

Daylight and Views

The building was designed to provide the occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.