

# CITY OF CLEVELAND GREEN DESIGN GUIDELINES

SEPTEMBER 18, 2008

## PROJECT COMPLIANCE PATH:

1. Approved master plan
2. Approved design district boundaries
3. Approved district design guidelines, Green design guidelines and updated zoning

**PURPOSE:** A set of design and development guidelines intended to support the conservation of energy and material resources, innovation in sustainable design and the development of healthy and vibrant neighborhoods for the City of Cleveland.

## A. SITE

### 1. GENERAL CONSERVATION

- a. **HABITAT** - For any previously undeveloped land within the project site, habitat of endangered or threatened species must be protected.
- b. **PROTECTION OF ENDANGERED SPECIES** - If endangered species occur on the project site, the project must comply with or exceed local standards for endangered or threatened species protection. To check whether endangered species exist on site, the project can submit a site map to the Ohio Department of Resources' Natural Heritage Program, which will check the map against its surveys in the Natural Heritage Database for endangered flora and fauna.
- c. **WETLANDS** – If wetlands occur on project site, project must comply with or exceed State of Ohio EPA standards for wetlands protection. Projects that are within Watercourse Protective Zone Districts as defined by the City of Cleveland must comply with all guidelines that apply to those districts.
- d. **FLOODPLAIN** – Projects may not incorporate land within the 100-year floodplain as determined by the Federal Emergency Management Agency.

### 2. NEIGHBORHOOD PATTERN AND DESIGN

- a. **OPEN COMMUNITY** – Streets and sidewalks that are built as part of the project shall be available for general public use and not gated. Gated areas do not qualify, with the exception of education and health care campuses where gates are used for security purposes.
- b. **ACCESS TO SURROUNDING VICINITY** – The project shall have at least one through-street at the project boundary every 800 feet, or at existing abutting street intervals, whichever distance is smaller. This does not apply to connections that cannot physically be made: e.g. wetlands, rivers, railroads, extreme topography,

- natural gas lines, pipeline easements, electric power easements, highways, expressways and other limited-access roads.
- c. **WALKABLE STREETS** – The project shall achieve each of the following (*blanks to be filled in by CDC or other neighborhood organization*):
    - i. Each building in the project shall have a principal functional entry with a front façade facing a public space such as a street, square, park or plaza, AND
    - ii. A minimum of 30% of all street frontages located within the project shall have minimum building-height-to-street-width proportions of 1:3, AND
    - iv. All streets along exclusively residential blocks within the project, whether new or existing, shall be designed for a maximum speed of 25 mph.
  - d. **ACCESS TO PUBLIC OR ACTIVE SPACES** – The project shall be located/designed so that either:
    - i. 90% of all dwelling units and business entrances are within a 1/4 mile walk distance of a park, green plaza or square at least 1/6 acre in area, OR
    - ii. 90% of all dwelling units and business entrances are within a 1/2 mile walk distance of an active open space (e.g. general playfields, soccer, baseball, basketball and other sports fields) of at least 1 acre in area.
3. **PARKING, HEAT ISLAND EFFECT and PAVING MATERIALS**
- a. **REDUCED PARKING ALLOWANCE** – The minimum off-street parking requirement for various uses shall be 50% of what is required in Section 349.04 of the Zoning Code, so long as the project is supported by availability of shared parking, on-street parking and/or alternative transportation options including public transportation, car sharing, and bicycle facilities. (Adapted from 344.08)
  - b. **BICYCLE FACILITIES** – Secure bicycle parking shall be provided for 15% of residential units for multifamily and mixed-use buildings and 5% of full-time equivalent employees for commercial and institutional buildings.
  - c. **HEAT ISLAND EFFECT** – To reduce the heat island effect, the project shall provide any combination of the following strategies for at least 50% of the site’s hardscape area (including roads, sidewalks, courtyards and parking lots):
    - i. Shade (within 5 years of occupancy) – either through roof overhangs with an SRI of 29 or greater, or through shade trees. For surface parking lots, an alternate compliance path is to plant one tree for every 10 parking spaces.
    - ii. Paving materials with a Solar Reflectance Index (SRI) of at least 29
    - iii. An open-grid or permeable pavement system (which achieves the secondary benefit of facilitating on-site infiltration of stormwater)
  - d. **RECYCLED MATERIALS IN INFRASTRUCTURE** – The project shall use recycled materials in any new roadways, parking lots,

sidewalks and curbs constructed as part of the project. Examples of recycled materials include crushed Portland cement concrete and crushed asphalt concrete; scrap tires; asphalt roofing shingles; and recycled mineral admixtures (e.g. coal fly ash, blast furnace slag, rice hull ash and silica fume).

#### 4. LANDSCAPING

- a. TREE PRESERVATION – For multifamily, institutional and commercial projects, applicants must submit a tree preservation plan and indicate how existing trees will be preserved. Where they cannot be preserved, trees with a DBH (diameter at breast height) between 2 and 6 inches shall be replaced with new trees of 2 inch caliper or larger. Trees with a DBH greater than 6 inches shall be replaced with new trees of 4 inch caliper or larger. Replacement trees shall be planted on-site where practical, or elsewhere in the district.
- b. PLANT SPECIES –The use of invasive species for landscaping is prohibited. The Ohio Department of Natural Resources' Division of Natural Areas and Preserves maintains a list of invasive plants and a list of alternative plants. The division may be contacted directly at (614) 265-6453.
- c. IRRIGATION – Multifamily, institutional and commercial projects shall be designed so as to limit or eliminate use of municipal potable water supplies for the purposes of irrigation. This can be accomplished through selection of native, locally adapted and drought-resistant species. Projects may also reuse graywater and storm water through use of cisterns, rain barrels or other rainwater harvesting techniques. Potable water may be used for irrigation only if water-efficient irrigation systems are installed, such as drip systems, micro misters or subsurface irrigation systems where applicable.
- d. STORMWATER – Projects over an acre in size must comply with the U.S. EPA's Stormwater Phase II regulations. Multifamily, institutional and commercial projects that are smaller than one acre (new construction or major renovation) shall submit a stormwater management plan that considers strategies for the on-site retention and infiltration of stormwater, such as porous or permeable paving, tree pits with integrated bioretention, green / vegetated roofs, rain harvesting, bioswales, etc. Newly constructed single-family subdivisions with 6 or more contiguous lots shall also submit a stormwater management plan. (Ref: Residential Design Review process.)

#### 5. SITE LIGHTING

- a. Energy-efficient Fixtures – Applicants shall use high-efficiency lighting for site accent and safety lighting fixtures. These may include T5 or T8 fluorescent lamps, LED lamps, fluorescent ballasts and high-intensity discharge ballasts or lamps.
- b. Light Pollution Controls – Site lighting shall minimize light pollution through the use of cut-off fixtures that direct light in a 90 degree or lower angle from nadir (straight down).

6. ON-SITE RENEWABLE ENERGY GENERATION

The Design Review Board is encouraged to waive requirements that might prohibit the application of on-site renewable energy generation systems.

7. BUILDING ORIENTATION

Buildings and site features are encouraged to be oriented wherever practical to take advantage of solar orientation. This may include building orientation / configuration to use passive and active solar energy, natural ventilation and other passive heating and cooling strategies, the location of parking areas to the north side of buildings to enable partial shading of pavement, the incorporation of landscape features to optimize passive heating and cooling effects, etc.

B. BUILDINGS – NEW CONSTRUCTION AND SUBSTANTIAL RENOVATION

These guidelines apply only to projects involving new construction or substantial renovation of buildings. “Substantial renovation” is defined as involving elements of major HVAC renovation, significant envelope modifications and major interior rehabilitation.

1. RESIDENTIAL – Single-family, two-family and townhouse projects (residential buildings 3 stories or lower) are encouraged to be certified under LEED or Enterprise Green Communities rating systems. At a minimum they shall qualify as Energy Star homes, and have plumbing fixtures that meet EPA WaterSense standards.
  - a. Construction Waste – Project must document the recycling of a minimum of 50% of construction waste.
2. MULTIFAMILY, MULTIFAMILY MIXED-USE, COMMERCIAL, INSTITUTIONAL – Commercial and institutional projects shall be certified under the appropriate LEED rating system (New Construction, Hospitals, Schools etc.). Multifamily buildings may be certified under either LEED or Enterprise Green Communities.
  - a. Roofing Materials - Roofing materials must be Energy Star compliant or the project shall install a vegetated roof over at least 50% of the roof area.
  - b. Construction Waste – Project must document the recycling of a minimum of 50% of construction waste.
3. MULTIPLE BUILDINGS – Projects involving more than one building shall individually certify each building under LEED or Enterprise Green Communities, OR shall certify the overall project under LEED for Neighborhood Development.
  - a. Construction Waste – Project must document the recycling of a minimum of 50% of construction waste.

C. DESIGN / DEVELOPMENT PROCESS

1. DESIGN REVIEWS / APPROVALS

- a. This is a Design Review District. All new development and exterior building alterations in the district shall be reviewed by the City Planning Commission before being approved for a Building Permit. The purpose of the Design Review District is to ensure that new development and building alterations in the district will meet high standards of design and will be respectful to the character of the neighborhood. A set of *Design Guidelines* has been prepared and adopted by the City Planning Commission for use in reviewing projects in the district. The guidelines will help ensure that the design review process is straightforward and is easy to understand and will be effective in accomplishing the goal of achieving good design for the neighborhood.
- b. All applicants in this district shall complete a project checklist provided by the City Planning Department that may include an explanation of how the green zoning guidelines will be implemented. Copies of the checklist shall be submitted to the Design Review Committee as a mandatory prerequisite to the formal public review process.

DRAFT