

2017 Chicago Sustainable Development Policy Handbook

The purpose of this handbook is to describe the sustainable strategies that development projects must choose from to comply with the Chicago Sustainable Development Policy. The handbook provides:

1. A definition of each sustainable strategy
2. A description of the documentation required to verify compliance
3. Links to more information about the strategies.

There are two compliance paths available to meet the requirements of the Chicago Sustainable Development Policy. The first pathway involves earning the required number of points without achieving any of the listed building certifications. The required number of points must be achieved from the Menu of Sustainable Strategies explained below.

The second pathway is for projects to achieve one of the listed building certifications. Projects obtaining one of the certifications will start with a certain number of points depending on the type of certification and in certain cases the level of certification. The remaining number of required points will need to be reached through the strategies listed in the menu. Certain strategies are not applicable (NA) because they will have been met by obtaining the certification.

The strategies in the menu have been categorized as follows: Health, Energy, Stormwater, Landscapes, Green Roofs, Water, Transportation, Solid Waste, Work Force and Wildlife.

STRATEGIES

Health

1.1 WELL Building Standard

The WELL Building Standard™ is an evidence-based system for measuring, certifying and monitoring the performance of building features that impact health and well-being. WELL is administered by the International WELL Building Institute™ (IWBI), a public benefit corporation whose mission is to improve human health and well-being through the built environment.

Compliance Documentation: Provide WELL precertification award OR proof of registration and checklist of targeted WELL features.

For more information:

<https://www.wellcertified.com/>

Energy

2.1 Design to earn the Energy Star

The U.S. EPA's Energy Star program has developed energy performance rating systems for more than 80 building types. These ratings, on a scale of 1 to 100, provide a means for benchmarking the energy efficiency of specific building types against the energy performance of similar facilities. A score of 75 or higher is required to earn the ENERGY STAR recognition. Once built, these buildings will use, on average, 35 percent less energy than comparable buildings nationwide.

Compliance Documentation: Provide a Statement of Energy Design Intent. The Statement of Energy Design Intent (SEDI) is a two-page summary in PDF format of the design energy inputs and results data that can be generated using either Portfolio Manager or Target Finder. A score of 75 or higher is required to achieve Energy Star and meet the requirements of the Chicago Sustainable Development Policy.

For more information:

- Multi-family residential projects: https://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_mfhr_prgrm_reqs
- Commercial Buildings and Plants: <https://www.energystar.gov/buildings/facility-owners-and-managers/new-construction/design-earn-energy-star/apply-designed-earn-energy-star>
- EUI definition: <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/understand-metrics/what-energy>

2.2 – 2.5 Exceed Energy Code by 5%-40%

As of January 1, 2016, the Energy Conservation Code adopted by the State of Illinois, based on the International Energy Conservation Code (IECC) of 2015, is in effect in Chicago. This strategy involves exceeding the baseline model currently required in the Chicago Energy Conservation Code by a minimum of 5%. Additional points will be provided according to how much the project exceeds the current code requirements. The points associated with this strategy are cumulative so a project can only choose one based on how much it is exceeding the code requirements.

Compliance Documentation: Provide a signed and stamped letter from the project’s architect or mechanical engineer pledging the project will exceed the requirements of the Chicago Energy Conservation Code by a specified amount and one of the following to verify how the project will exceed the code:

- COMcheck certificate report – Prescriptive path
- ASHRAE Energy Cost Budget (ECB) Compliance Form – Performance Path

For more information:

https://www.cityofchicago.org/city/en/depts/bldgs/supp_info/chicago-energy-conservation-code.html

<https://www.ashrae.org/standards-research--technology/standards-forms--procedures>

2.6-2.7 Onsite Renewable Energy

Onsite renewable energy includes solar power, geothermal power, wind power or combined heat and power (CHP). A project must provide onsite renewable energy capacity to meet at least 3% of the total modeled energy use for the project at full occupancy. Additional points can be achieved according to how much capacity is provided. The points associated with this strategy are cumulative so a project can only choose one based on how much onsite renewable energy capacity is being provided.

Compliance Documentation: Submit the results of an energy model documenting the percentage of the project's total modeled energy use at full occupancy that is being provided by onsite renewable energy systems.

For more information:

https://www.cityofchicago.org/city/en/progs/env/energy_efficiencyandrenewables.html

Stormwater

3.1 Exceed Stormwater Ordinance by 25%

The stormwater management plan must provide storage for 125% of the volume required by both the Rate Control and Volume Control components of the City of Chicago's Stormwater Ordinance.

Rate Control: The required Rate Control volume is calculated in the typical manner. Storage must be provided for 125% of this required volume. The release rate must be reduced in order to completely fill the volume provided.

Volume Control: The required Volume Control volume is calculated in the typical manner. Storage must be provided for 125% of this required volume. This strategy does not apply when the Volume Control requirement is met through a 15% impervious area reduction.

The project must be a regulated development under the Stormwater Ordinance.

Compliance Documentation: In addition to a complete stormwater management plan including final engineering plans and calculations, a narrative must be submitted that describes which strategy is proposed to meet the Sustainable Development Policy with a description of how the requirements of the strategy are achieved.

For more information:

City of Chicago Stormwater Management Requirements:

https://www.cityofchicago.org/city/en/depts/water/provdrs/engineer/svcs/2009_sewer_construction_andstormwatermanagementrequirements.html

3.2 Exceed Stormwater Ordinance by 50%

The stormwater management plan must provide storage for 150% of the volume required by both the Rate Control and Volume Control components of the City of Chicago's Stormwater Ordinance.

Rate Control: The required Rate Control volume is calculated in the typical manner. Storage must be provided for 150% of this required volume. The release rate must be reduced in order to completely fill the volume provided.

Volume Control: The required Volume Control volume is calculated in the typical manner. Storage must be provided for 150% of this required volume. This strategy does not apply when the Volume Control requirement is met through a 15% impervious area reduction.

The project must be a regulated development under the Stormwater Ordinance.

Compliance Documentation: In addition to a complete stormwater management plan including final engineering plans and calculations, a narrative must be submitted that describes which strategy is proposed to meet the Sustainable Development Policy with a description of how the requirements of the strategy are achieved.

For more information:

City of Chicago Stormwater Management Requirements:

https://www.cityofchicago.org/city/en/depts/water/provdrs/engineer/svcs/2009_sewer_construction_andstormwatermanagementrequirements.html

3.3 100% Stormwater Infiltration

The stormwater management plan must manage stormwater by discharging 100% of the stormwater into the ground through infiltration or by a combination of infiltration and stormwater capture and re-use. Geotechnical investigation including soil borings and infiltration testing will be required to confirm the presence of sandy soil on the site and establish an adequate infiltration rate. No stormwater discharge to the combined sewer system, Waters or adjacent property will be allowed for any storm less than a 100-year critical duration storm. The project must be a regulated development under the Stormwater Ordinance.

Compliance Documentation: In addition to a complete stormwater management plan including final engineering plans and calculations, a narrative must be submitted that describes which strategy is proposed to meet the Sustainable Development Policy with a description of how the requirements of the strategy are achieved.

For more information:

City of Chicago Stormwater Management Requirements:

https://www.cityofchicago.org/city/en/depts/water/provdrs/engineer/svcs/2009_sewer_construction_andstormwatermanagementrequirements.html

3.4 Sump Pump Capture & Re-use

The stormwater management plan must indicate that all sump pumps will be discharged to an infiltration BMP, a stormwater capture and re-use facility or the detention system.

Compliance Documentation: In addition to a complete stormwater management plan including final engineering plans and calculations, a narrative must be submitted that describes which strategy is proposed to meet the Sustainable Development Policy with a description of how the requirements of the strategy are achieved.

For more information:

City of Chicago Stormwater Management Requirements:

https://www.cityofchicago.org/city/en/depts/water/provdrs/engineer/svcs/2009_sewer_construction_andstormwatermanagementrequirements.html

3.5 100-year Detention for Lot-to-lot Building

For a lot-to-lot building, provide detention (Rate Control) for the 100-year storm instead of the 10-year storm. A lot-to-lot building is defined as a building with 85% or more lot coverage. The project must be a regulated development under the Stormwater Ordinance.

Compliance Documentation: In addition to a complete stormwater management plan including final engineering plans and calculations, a narrative must be submitted that describes which strategy is proposed to meet the Sustainable Development Policy with a description of how the requirements of the strategy are achieved.

For more information:

City of Chicago Stormwater Management Requirements:

https://www.cityofchicago.org/city/en/depts/water/provdrs/engineer/svcs/2009_sewer_constructionandstormwatermanagementrequirements.html

3.6 100-year Detention for Bypass

For sites with significant off-site tributary flow, provide detention (Rate Control) for the 100-year storm instead of the 25-year storm. The project must be a regulated development under the Stormwater Ordinance.

Compliance Documentation: In addition to a complete stormwater management plan including final engineering plans and calculations, a narrative must be submitted that describes which strategy is proposed to meet the Sustainable Development Policy with a description of how the requirements of the strategy are achieved.

For more information:

City of Chicago Stormwater Management Requirements:

https://www.cityofchicago.org/city/en/depts/water/provdrs/engineer/svcs/2009_sewer_constructionandstormwatermanagementrequirements.html

Sustainable Landscapes

4.1 Working Landscapes

To achieve 5 points the at-grade landscaped areas must meet two of the following three criteria for a minimum of 5 years.

1. 60% of the species types must be native (straight species or cultivars)
2. The landscape plan must provide at least 3 of the following plant structure types: trees, shrub, forbs or graminoides, excluding turf grass
3. 40% of the landscaped area must be dedicated to the production of food for landscaped areas larger than 500 square feet

Compliance Documentation: A landscape plan detailing how the criteria have been met.

4.2 Natural Landscapes

Natural features provide many ecological functions and services as well as shoreline stabilization. To earn the 5 points projects must restore or replicate a nature feature along at least 25% of the shoreline or no less than 50 feet.

Compliance Documentation: A landscape plan detailing how the criteria have been met.

4.3 Tree Planting

The average lifespan of a parkway tree in Chicago is 10 to 15 years. Providing more soil volume will extend the life and the canopy of a tree. To earn 5 points projects must provide a minimum of 500 cubic feet of soil volume per tree, with a minimum depth of 2.5 feet. When planted together, trees can share soil volumes and overlap up to 33% with each tree having a minimum soil volume of 300 cubic feet.

Compliance Documentation: A landscape plan detailing how the criteria have been met.

For more information:

<http://www.deeproot.com/products/silva-cell/landing-page/silva-cell-2/overview>

<http://citygreen.com/products/stratavault/>

<http://citygreen.com/products/stratacell/>

<http://www.hort.cornell.edu/uhi/outreach/pdfs/CU-Structural%20Soil%20-%20A%20Comprehensive%20Guide.pdf>

<http://us.wlabs.com/structuralgap-graded-soils/>

4.4 Achieve Sustainable SITES Certification

SITES is the culmination of years of research and development by leading professionals in the fields of soil, water, vegetation, materials and human health. By providing performance measures rather than prescribing practices, SITES supports the unique conditions of each site, encouraging project teams to be flexible and creative as they develop beautiful, functional and regenerative landscapes. SITES-certified landscapes help reduce water demand, filter and reduce stormwater runoff, provide wildlife habitat, reduce energy consumption, improve air quality, improve human health and increase outdoor recreation opportunities.

Compliance Documentation: A sealed letter from the landscape architect of record stating they will achieve certification and a scorecard detailing the credits that will be pursued.

Links:

<http://www.usgbc.org/education/sessions/introduction-sites-program-6749989>

<http://www.sustainablesites.org/certification>

<http://www.usgbc.org/resources/sites-rating-system-and-scorecard>

Green Roofs

5.1 and 5.2 Green Roof 50-100%

A green roof is a conventional roof that is covered with a layer of vegetation. There are multiple benefits to green roofs. Green roofs absorb stormwater that would otherwise drain into the City's overburdened combined sewer system, they lower urban temperatures thereby helping to reduce the City's urban heat island effect, they supply habitat for wildlife, they provide additional insulation and they lengthen the life of the roof's membrane.

A project can earn 10 points if 50-100% of the building's net roof area is covered with vegetation. It can achieve 20 points by covering 100% of the net roof area. Net roof area is defined as the gross roof square footage area minus the square footage of area used for mechanicals, maintenance pathways, window washing systems, swimming pools and skylights. Up to 10% of the required green roof square footage can be hardscape if the roof is to be used by the tenants of the building.

An additional 10 points can be achieved if the project's green roof includes one of the following characteristics.

- The green roof growing media is at least 6 inches deep.
- The plant list chosen for the green roof contains plants from at least 30 genera.

Compliance Documentation: Each project will need to provide a roof plan illustrating where the vegetation will be located. The exhibit shall also include a table documenting the project's (1) gross roof area; (2) area being subtracted from the gross roof area; (3) net roof area; (4) area being used as hardscape, where appropriate and (5) a plant list. All projects earning points for a green roof must also supply a copy of a maintenance agreement/contract for the green roof for a minimum of two years.

For more information:

<http://www.greenroofs.org/index.php/about/aboutgreenroofs>

<http://www.greenroofs.com/>

https://www.cityofchicago.org/city/en/depts/dcd/supp_info/chicago_green_roofs.html

Water

6.1 and 6.2 Indoor Water Use Reduction

Indoor water usage in new buildings and buildings undergoing major renovations as part of the project must be an average 25% less than in baseline buildings. The baseline usage is based on the requirements of the United States Energy Policy Act of 1992 and subsequent rulings by the Department of Energy, the requirements of the United States Energy Policy Act of 2005, and the fixture performance standards in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code as to fixture performance.

Calculations are based on estimated occupant usage and include only the following fixtures and fixture fittings (as applicable to the project scope): water closets (toilets), urinals, lavatory faucets, showers, kitchen sink faucets, and pre-rinse spray valves.

The water efficiency threshold is calculated as a weighted average of water usage for the buildings constructed as part of the project based on their conditioned area.

Compliance Documentation: Provide a stamped letter from the project's architect or general contractor committing to compliance with the LEED Credit WE2 and reaching the required reduction of indoor water use to obtain 10 or 20 points.

For more information:

<http://www.usgbc.org/credits/we2>

Transportation

7.1 Proximity to Transit Service

Mixed-use developments near transit stations expand access to transit, bring new amenities to neighborhoods, and foster economic growth across the city. A project can earn 5 points if they are located in the area defined in Section 17-10-0102-B of the Chicago Municipal Code.

Compliance Documentation: The project must provide a map verifying the distance from the project's property line to the door of the transit station. This map must be approved by the Zoning Administrator.

For more information:

[http://library.amlegal.com/nxt/gateway.dll/Illinois/chicagozoning/chicagozoningordinanceandlanduseordnanc?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:chicagozoning_il](http://library.amlegal.com/nxt/gateway.dll/Illinois/chicagozoning/chicagozoningordinanceandlanduseordnanc?f=templates$fn=default.htm$3.0$vid=amlegal:chicagozoning_il)

7.2 Bikeshare Sponsorship

A project can earn 5 points if it provides financial sponsorship of a bikeshare docking station. The station's location must be reviewed and approved by the Chicago Department of Transportation (CDOT).

Compliance Documentation: A signed, bikeshare docking station sponsorship agreement between the property manager and the City of Chicago must be provided.

7.3 Bike Parking Residential

The project can earn 5 points by providing at least one secure, indoor bicycle parking space for each residential unit.

Compliance Documentation: The required number of secure, indoor bicycle parking spaces must be verified on the appropriate project floor/site plan.

7.4 Bike Parking Commercial and Industrial

The project can earn 5 points by providing at least two secure, indoor or outdoor bicycle parking spaces for every five automobile parking spaces.

Compliance Documentation: The required number of secure bicycle parking spaces must be verified on the appropriate project floor/site plan.

7.5 EV Charging Stations

The project can earn 10 points if a dual Level 2 Electric Vehicle Charging Station is installed within the project's site area.

Compliance Documentation: A description of the station must be provided and the station's location must be verified on the appropriate site plan.

Links:

http://www.afdc.energy.gov/fuels/electricity_infrastructure.html

7.6 EV Charger Readiness

The project can earn 5 points for providing parking spaces with panel capacity and dedicated conduit for 208-240V at up to 80 Amps or enough electrical capacity to fully power a Level 2 Electric Vehicle charger for at least 20% of the total parking spaces.

Compliance Documentation: Plans must be submitted that include location(s) and type of the Electric Vehicle Supply Equipment (EVSE), raceway method(s), wiring schematics and electrical calculations to verify that the electrical system has sufficient capacity to charge simultaneously all the electrical vehicles at all designated EV charging spaces at their full rated amperage. Plan design shall be based upon Level 2 EVSE at its maximum operating capacity. Conduit pathways must be identified in construction drawings.

Links:

<http://www.nature.com/nclimate/journal/v5/n4/full/nclimate2564.html>

7.7 CTA Digital Display

To earn 5 points the project must provide a readily-visible, digital display of CTA train and bus arrival times in the main lobby and/or at appropriate building exits. They can also be located to be visible from the sidewalk through a window.

Compliance Documentation: Plans must be submitted that include the location and description of the digital display.

Solid Waste

8.1 80% Waste Diversion

10 points will be earned if the project recycles or reuses more than 80% of the construction and demolition debris produced on site as part of the project's construction or demolition activities.

Compliance Documentation: A signed letter from the General Contractor must be submitted committing to recycling or reusing at least 80% of the project's construction and demolition debris. This must be followed up with a completed City of Chicago Construction and Demolition Debris Recycling Compliance Form verifying at least 80% of the projects construction or demolition waste was recycled or reused.

Links:

https://www.cityofchicago.org/city/en/depts/cdph/supp_info/environmental_permitsandregulation/construction_anddemolitiondebrisrecycling.html

https://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/RevC_D_RecyclingComplianceForm8152016.pdf

Work Force

8.2 Workforce Development

Conscious workforce development is achieved when nodes of economic development are intentional about sourcing candidates from a jobseeker pool that is lesser advantaged and defined as of minority status, of veteran status, with household incomes below the poverty line, affected by homelessness, or affected by the justice system. There are two options for achieving the 10 points in this category. Each project must choose one option.

Option 1: Qualified Sourcing

A project can earn 10 points if it enters into an operating agreement with a non-profit organization sourcing candidates from the target population and commits to hiring no less than 5% of the workforce created through the project from said population with a potential for long-term employment. Given variables in hiring, the sourcing partner or partners must be prepared to source ample candidates to ensure the best talent match.

Compliance Documentation: Signed MOU with an organization(s) serving the target population articulating their commitment to source candidates and applicant’s commitment to hire. Total commitments to hire must amount to no less than 5% of the workforce created by the project.

Option 2: Strategic Contracting

A project can earn 10 points if it enters into a contract for hire or contract for services with a non-profit or for-profit or hybrid-profit corporation (often called a “social enterprise”), for whom at least 75% of the workforce is of the target population. Depending on the scope of the project, typical social enterprises that may apply are those that offer contract staffing, or those that offer basic general labor with the potential for long-term employment.

Compliance Documentation: Signed contract with a social enterprise where scope of work constitutes no less than 5% of the total workforce created by the project, and inventory of workforce at the time of contract signing to demonstrably prove that the workforce fits the target population.

For more information:

<http://cjc.net/membership/member-directory/>

Wildlife

9.1 Bird Protection (Basic)

Definition: Chicago Bird Collision Monitors collects data on bird collisions from around the Chicago area. Through empirical observation, they have developed a set of criteria common to buildings that experience a high number of migratory bird and insect collisions. These items either aim to minimize collisions or increase the likelihood of survival after a non-fatal collision. Additionally, the lighting criteria listed seeks to reduce the impact of light pollution on nocturnal migrating animals.

Compliance: Achieve all appropriate items on the “Bird Safe Buildings: Best Practices Checklist.”

For more information:

<http://www.birdmonitors.net/BestPractices.php>

<https://abcbirds.org/program/glass-collisions/bird-friendly-design/>

9.2 Bird Protection (Enhanced)

Definition: Collision with glass claims the lives of hundreds of millions of birds each year in the United States. Birds that have successfully flown thousands of miles on migration can die in seconds on a pane of glass; impacts kill fledglings before they can truly fly. Because glass is dangerous for strong, healthy, breeding adults, as well as sick or young birds, it can have a particularly serious impact on populations.

The American Bird Conservancy, in partnership with New York City Audubon has developed a guide to help architects, planners, and developers minimize the threats of the building environment on bird populations.

Compliance: Provide a stamped letter from the project’s architect or general contractor committing to compliance with the Bird Collision Deterrence LEED pilot credit SSp55. Please note that the performance monitoring plan is not required unless needed for other certification purposes.

For more information:

<https://abcbirds.org/program/glass-collisions/bird-friendly-design/>

<http://www.usgbc.org/credits/core-shell-existing-buildings-healthcare-new-construction-retail-nc-schools/v2009/pc55>

<http://www.usgbc.org/education/sessions/leed-pilot-credit-bird-collision-deterrence-6566155>

BUILDING CERTIFICATION PROGRAMS

LEED for New Construction & Major Renovation (BD+C)

LEED works for all buildings—from homes to corporate headquarters—at all phases of development. Projects pursuing LEED certification earn points across several areas that address sustainability issues. Based on the number of points achieved, a project then receives one of four LEED rating levels: Certified, Silver, Gold and Platinum.

Compliance: Projects must provide proof that the project is registered with the U.S. Green Building Council.

For more information:

Certification Overview: <http://www.usgbc.org/leed>

Scorecard: <http://www.usgbc.org/resources/leed-v4-building-design-and-construction-checklist>

Reference Guide: <http://www.usgbc.org/guide/bdc>

Green Globes for New Construction (NC)

Green Globes® is a science-based building rating system that supports a wide range of new construction and existing building project types. Designed to allow building owners and managers to select which sustainability features best fit their building and occupants, Green Globes recognizes projects that meet at least 35% of the 1,000 available points.

Compliance: Projects must provide proof that the project is registered with the Green Building Initiative or provide a copy of the Green Globes Assessor Stage 1 Report.

For more information:

Certification Overview: <https://www.thegbi.org/green-globes-certification/how-to-certify/new-construction/>

Checklist: http://www.thegbi.org/files/training_resources/Pre_Assessment_Checklist_-_NC_v3.xlsx

Reference Manual:

http://www.thegbi.org/files/training_resources/Green_Globes_NC_Technical_Reference_Manual.pdf

Living Building Challenge (LBC)

The Living Building Challenge is the world's most rigorous proven performance standard for buildings. People from around the world use our regenerative design framework to create spaces that, like a flower, give more than they take. The Living Building Challenge is organized into seven performance areas (Petals). Each performance area has a number of more detailed requirements (Imperatives).

Compliance: Contact Michael Berkshire at Michael.Berkshire@cityofchicago.org for compliance information.

For more information:

Certification Pathways & Overview: <https://living-future.org/lbc/certification/>

Resources: <https://living-future.org/lbc/resources/>

Standard & Guide: <https://living-future.org/wp-content/uploads/2016/11/Living-Building-Challenge-3.1-Standard.pdf>

Enterprise Green Communities

Enterprise Green Communities projects bring improved health, economic and environmental benefits of sustainable construction practices to low-income families. This green building framework is the first in the nation to address the unique needs of the affordable housing sector by providing a holistic approach to green building and development.

Compliance: Contact Michael Berkshire at Michael.Berkshire@cityofchicago.org for compliance information.

For more information:

Overview: <http://www.enterprisecommunity.org/solutions-and-innovation/green-communities/criteria-and-certification>

Certification Process: <http://www.enterprisecommunity.org/solutions-and-innovation/green-communities/certification>

Criteria & Guidance: <http://www.enterprisecommunity.org/solutions-and-innovation/green-communities/criteria>

Passive House Certification (PHIUS+)

The PHIUS+ Certification program is the leading passive building certification program in North America. It's the only passive building certification that combines a thorough passive house design verification protocol with a stringent Quality Assurance and Quality Control (QA/QC) program performed on site by highly skilled and specialized PHIUS+ Raters.

Compliance: Contact Michael Berkshire at Michael.Berkshire@cityofchicago.org for compliance information.

For more information:

Overview: <http://www.phius.org/phius-certification-for-buildings-and-products/phius-2015-project-certification/phius-overview>

Certification Process: <http://www.phius.org/phius-certification-for-buildings-and-products/phius-2015-project-certification/submit-a-project-for-certification>

Guidebook: http://www.phius.org/PHIUSplusdocs/PHIUS+CertificationGuidebook_v1.03.pdf