Overview of Code Enforcement Ordinance

May 1, 2017

By:
Thomas E. Powers III, City Attorney’s Office
Ben Krise, Code Enforcement

Discussion Outline

• Background and Timeline
• Purpose of Health & Sanitation Ordinance Review
• Review Revised Health & Sanitation Ordinance (Chapter 10) Structure
  • Civil Penalties
    – General
    – Chronic Offender/Repeat Offender
    – Signs
• Questions
Background and Timeline

• Background
  – Previous discussions about Health and Sanitation ordinance, specifically Solid Waste Services, occurred during budgetary process
  – Council referral to Environment Committee to review Health & Sanitation (Chapter 10) ordinance

• Committee reviews proposed revisions
  – Solid Waste ordinance sections – April
  – Code Enforcement ordinance sections – May
  – Article I ("Definitions")/Solid Waste administrative guidelines – June

• Committee adopts proposed revisions
  – Summer 2017

• Committee refers proposed revisions to full Council
  – Summer 2017

Purpose of Health & Sanitation Ordinance Review

• Creates stand-alone Code Enforcement ordinance
  – Complete Health and Sanitation Ordinance rewrite

• Informs citizens regarding:
  – What actions are impermissible
  – Who is responsible for remedying the violations
  – How the enforcement action will be conducted

• Updates ordinance language
Revised Health & Sanitation (Chapter 10) Ordinance Structure

- Article I
  - Definitions
  - Persons responsible for compliance
  - Discussion in June 2017

- Article II
  - Solid Waste Ordinance provisions
  - Discussed in April 2017

- Article III
  - Code Enforcement Ordinance provisions
  - Discussion in May 2017

Civil Penalties – General

- Current Dollar Amounts
  - $50:
    - Most violations fall into this category
    - Examples: failing to remove containers/items from curbside, placing containers/items at curbside too early for collection, neglect of property, ailing to properly place waste in containers, overgrown weeds and grass
  - $100:
    - Examples: hazardous waste, industrial waste, hypodermic needles
  - $500:
    - Example: illegal dumping

- Proposed Dollar Amount
  - $150 for all violations
Civil Penalties –
Chronic Offender/Repeat Offender

- Definition of Chronic Offender and Repeat Offender
  - Formal definition to be presented during June meeting
  - Chronic offender would involve: same property owner, different premises, and repeat violations of ordinance.
  - Repeat offender would involve: same property owner, same premise, and repeat violations of ordinance

- Current Dollar Amount
  - $0

- Proposed Dollar Amount
  - Second Violation: $250
  - Third or more Violation: $500.

Civil Penalties – Signs

- Current Dollar Amount
  - $100:
    - If the number of signs are between one and five
    - Maximum fine is $500
  - $500:
    - If the number of signs are between six and ten
    - Maximum fine is $3,000 ($500 + 2,500)
  - $1,000:
    - If the number of signs are eleven or more
    - Maximum fine is unlimited

- Proposed Dollar Amount
  - $100 for all violations not matter the frequency
  - Standardizes the violation regardless of number of signs
• QUESTIONS/COMMENTS?
Infrastructure Background

- Alternative Fuels and Technologies Strategic Study 2013
  - 2013 study highlighted that one of the challenges with alternative fuels is the lack of infrastructure.
    - Infrastructure developments in our area:
      - TRILLIUM and Frito-Lay partnered together to build a CNG fast fill station on Westinghouse Boulevard in South Charlotte.
      - CLEAN ENERGY has built a Liquefied Natural Gas (LNG) facility that is visible from I-85 and Statesville Avenue.
      - GAIN™ Clean Fuel has built a CNG facility that is visible from I-85 and Graham Street.
    - Study recommended piloting onsite CNG fuel station
Pilot Time-fill Station

October 5, 2015 issued an Invitation to Bid; three bids were received from interested service providers.

- Piedmont Natural Gas was selected as the lowest responsive, responsible bidder.


Current Operations

- SWS CNG fleet drivers travel daily to Piedmont Natural Gas (PNG) located at 112 Verbena Street.
Future Operations

- Station will fuel 25 vehicles.
- Onsite time-fill stations fill tanks to capacity in 8-10 hours, overnight.
- No fuel capacity loss versus fueling at a fast-fill station.

Fueling Information

- SWS has 20 CNG vehicles in service and another eight ordered.

<table>
<thead>
<tr>
<th></th>
<th>FY 2016 CNG</th>
<th>FY 2016 Diesel</th>
<th>FY 2017 CNG</th>
<th>FY 2017 Diesel</th>
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<tr>
<td>Jul - Sep</td>
<td>$1.38</td>
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<td>$1.48</td>
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<td>Apr - Jun</td>
<td>$0.90</td>
<td>$1.69</td>
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<td>N/A</td>
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</table>

- Daily fuel stops average 45 DGEs per vehicle. FY 2017 **daily** fuel savings ranging from $810 in the summer, $855 in the fall and $423 in the winter.
Benefits Summary

- Improves local air quality and reduces greenhouse gas emissions
- Estimated annual overtime savings total $100,000
- Decrease in miles driven
- 100% fuel capacity

Questions
Electric Vehicle Charging Program

Environment Committee

May 1, 2017

Overview

- Electric Vehicle (EV) Trends
- Charlotte EV Charging Program
- Path Forward
- Consultant Study and Recommendations
- Next steps
National Electric Vehicle (EV) Trends

• National EV growth in excess of 50% per year

• Most charging takes place at home

• Most multi-family complexes do not provide EV chargers

• 2014 census data shows 300,000 coming into Charlotte per day to work

![EV Charger South Blvd](image)
Current City EV Charging Program

- City owns 43 charging stations
  - Total of 68 charging ports
    - One or two cords per unit
    - 14 EV Chargers at the Airport

- In 2012, 34 EV chargers were funded by a Department of Energy, Energy Efficiency & Conservation Block Grant

ChargePoint EV locations

ChargePoint provides EV Chargers with networking, location and status capabilities.

Drivers can locate EV chargers and are provided real time Status
**EV Growth & Charger Usage**

- **February 2016**
  - 73 Charging sessions
  - Saved 44 gallons of gas
  - 353 kwh ($31.77 @ .09/kwh)

  *6 units were inoperable for several months due to limited funding.*

- **February 2017**
  - 612 Charging sessions
  - Saved 469 gallons of gas
  - 3,734 kwh ($336 at .09/kwh)
  - Due in large part to increased EV ownership

**Path Forward: Make Charlotte an EV Charging Destination**

- Participation in the Unified Development Ordinance (Zoning Ordinance re-write)
- Codification of parking restrictions
  - Ordinance: EV only parking
- Install chargers
  - Public use
  - Employee charging
  - City facilities
  - Goal is up to 5 new units/year
- Pursue grant opportunities
- Educational outreach- Developers, Retail, and Commercial
Brightfields Transportation Solutions Study

Recommendations:

- Develop a “Back of the House” City EV strategy
  - Increase the City owned EV fleet
  - Increase fleet charging locations
  - Workplace charging (EV market stimulator)

- Deploy more public EV chargers
  - Support economic growth
  - Lower greenhouse gas emissions
  - Cleaner air
  - Promotes the City's brand as a smart, innovative and sustainable City

Recommendations Continued

- Develop favorable deployment policies

- Engage with developers & Property managers
  - Private sector deployment

- Explore third party vendor to manage the system

- Continue pursuing grant opportunities
Recommendations Continued

- Staff to determine if access to EV chargers should remain free.
  - Help offset:
    - Network fees
    - O&M
    - Electricity consumption

- Increase in expenses:
  - Increased EV ownership
  - Increases in battery size
  - Longer range EV’s traveling into Charlotte

Current EV Charging Program

- Sustainable Facilities Policy:
  - All newly constructed City-owned, City-managed and City-funded occupied buildings and major renovations (5,000 sq. ft. & greater)... shall have installed at least one... electric vehicle charging station...
<table>
<thead>
<tr>
<th>Next Steps</th>
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<tr>
<td>• Implement consultant recommendations</td>
</tr>
<tr>
<td>• Identify high impact locations for EV chargers</td>
</tr>
<tr>
<td>• Codify parking restrictions</td>
</tr>
<tr>
<td>• Pursue grant opportunities</td>
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<tr>
<td>• Provide workplace charging for City employees</td>
</tr>
<tr>
<td>• Expand City EV fleet charging (City facilities)</td>
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</table>
City of Charlotte Sustainable Facilities Presentation

Engineering and Property Management – Patrick Cerri

Presented to: Environment Committee

5/1/2017

Agenda

1) Overview of the Sustainable Facilities Oversight Team (SFOT)
2) City of Charlotte Sustainable Facilities
3) FY 2017 Achievements
4) Old City Hall LEED EBOM Strategy
Background

- Original Sustainable Facilities Policy approved in 2008
- Sustainable Facilities Oversight Team (SFOT) was formed to oversee implementation of the policy
- Revised version of Sustainable Facilities Policy approved by Council March 2016
- Last Sustainable Facilities update was presented to committee in May 2016

City of Charlotte Sustainable Facilities

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<tr>
<td>LEED EBOM</td>
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<tr>
<td>Energy Star</td>
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<tr>
<td>Green Globes</td>
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<tr>
<td><strong>TOTALS</strong></td>
<td><strong>13</strong></td>
<td><strong>826,653</strong></td>
<td><strong>+2</strong></td>
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</table>

LEED Building Design and Construction (BD+C): Applicable to new construction projects only

LEED Existing Buildings Operations and Maintenance (EBOM): Applicable to a facility that has already been constructed
### FY 2017 Achievements

- CMPD Westover received LEED v4 certification
- Maintained current Energy Star certification for all our current five certified facilities
- CMPD Law Enforcement Headquarters received Energy Star certification making it the 6th Energy Star certified City facility
- Contracted with UNC Charlotte to develop a LEED EBOM strategy for all applicable City facilities
- Charlotte Water has reached 98% completion of a Combined Heat and Power (CHP) plant for McAlpine Waste Water Treatment Plant, making it a Renewable Energy Facility

### LEED EBOM Study

#### Background
- Currently, no LEED EBOM City facility
- Environment Committee supported a pilot project to determine a yearly EBOM fund
- City partnered with UNC Charlotte for LEED EBOM pilot at Old City Hall

#### Team
- Office of Sustainability
- Building Services
- Procurement
- Landscape Management
- UNC Charlotte
- Old City Hall Tenants
LEED EBOM Study

- In 2011, a $464,000 Energy Efficient Conservation Block Grant renovation involved interior lighting and HVAC equipment, and building automation/control upgrades.

RESULTS:
- Energy use reduction of 51%.
- Accumulated energy cost avoidance of $164,000.
- ENERGY STAR certification score of 89 in 2016.

LEED EBOM Strategy

High Level
- City of Charlotte LEED EBOM Checklist

Mid Level
- Policies and Procedures Documents

Detailed
- Tracking Forms
LEED EBOM Strategy

LEED EBOM Outcomes

High Level
A more cost effective, data & document driven (operational efficiency), lower environmental impact facility

Mid Level
A LEED EBOM facility report for Old City Hall will be prepared after certification to discuss the successes & challenges. This will be used as a lessons learned for future LEED EBOM facilities

Detailed Level
LEED EBOM of Old City Hall will help several focus area goals:
- Reduce energy usage
- Increase green purchasing
- Increase recycling
- Reduce water usage

Questions?
FY 2017 Sustainable Facilities Report

Prepared for the Environment Committee of City Council

Published May/June 2017
During FY 2016, the SFOT created this revised reporting document that will be used for future FY Sustainable Facilities reports.

This report is to be presented to the environment committee of City Council at the end of every fiscal year to inform the committee of the SFOT accomplishments for the fiscal year.

The SFOT FY2017 accomplishments are listed below:

1) CMPD Westover received LEED v4 certification
2) Charlotte Water has reached 98% completion of a Combined Heat and Power (CHP) project for McAlpine Waste Water Treatment Plant
3) E&PM and Office of Sustainability began contract with UNC Charlotte for LEED EBOM strategy for all applicable City facilities with Old City Hall as the first candidate.
4) Decreased Fire Station 1 EUI from 117 in 2015 to 106 in 2016 after upgrading the old HVAC system to a more efficient system. This equates to a 10% energy reduction.
5) As a result of last year’s report, Engineering & Property Management is in the process of finalizing the energy auditing of CMPD’s three worst performing divisions in terms of EUI: Metro, Freedom, and Eastway. Results will be available by June.
6) CMPD LEC received Energy Star certification making it the 6th Energy Star certified City facility
7) Maintained current Energy Star certification for the facilities below:
   - CMGC
   - Old City Hall
   - Spratt Street
   - CLT Water Brookshire Administration Building
   - Landscape Management Administration Building

SFOT Recommendations to Evnironment Committee:

1) With the incorporation of future LEED EBOM facilities, the SFOT recommends City Council to approve a budget line item pertaining to sustainable facilities for the next fiscal year. This budget would be used to retrofit older facilities to LEED EBOM through energy efficiency and other sustainability measures thereby decreasing their current operating expenses. SFOT would like to team up with the environment committee to identify a few facilities to take into consideration for future LEED EBOM certification.

2) SFOT welcomes any additional reports, data, or other information that the environment committee of City Council would like include in the FY 2018 report.

We believe these two recommendations will increase the success of the City’s sustainable facilities and further align with the goals of the environment committee of City Council.
In March 2016, City Council approved a revised sustainable facilities policy. As part of this policy, the Sustainable Facilities Oversight Team will deliver a sustainable facilities report at the end of each fiscal year for all City owned and Maintained facilities. The main section of the policy is described below. A complete copy of this policy can be found at the SFOT SharePoint Site.

**Policy Statement:** The City of Charlotte (“City”) is committed to environmental, economic, and social stewardship of City buildings and facilities and continues to demonstrate environmental leadership in the community. Effective July 1, 2016, the City Manager signed the policy therefore making all newly constructed City-owned, City-managed and City-funded occupied buildings and major renovations (5,000 sq.ft. & greater) will be designed and constructed to meet LEED Version 4 Certification Level, as a minimum, be formally LEED certified, and achieve Designed to Earn ENERGY STAR Certification. In addition, through consultation with the Sustainable Facilities Oversight Team (SFOT), city Staff will choose existing City-owned facilities to become LEED Existing Building: Operations & Maintenance (EBOM) certified and achieve ENERGY STAR Certification over a 10-year phased approach. Staff’s work under this Policy will be guided by the City’s sustainability goals, as detailed in the Policy and in Appendix A.

The SFOT made the determination to require a certification recognizing the value the process will bring to the City’s goal of being a global environmental leader. LEED, Green Globes or an equivalent certification process brings several benefits to the building and renovation process; these certifications have become customary practice in the building community as entities have seen the proven benefits and reduction of associated premium costs. Recognized benefits include:

- A comprehensive industry-accepted process and framework to guide design, building, renovation, operation and maintenance;
- A community of professionals to offer support, guidance and practical experience;
- Access to the latest technologies and practices;
- A vehicle to measure the City against other municipal environmental leaders globally;
- A rigorous third party commissioning process;
- An ongoing method to assist with measurement, verification, recording and reporting of sustainable features;
- Cost savings and improved working conditions; and
- A consistent city-wide method by which the City will design, construct, renovate operate and maintain its occupied facilities.

However, recognizing that no system is perfect, SFOT has written the policy to allow for flexibility where a certification process conflicts with the City’s environmental, economic or societal values.

**Policy Purpose:**

This Policy for Sustainable Facilities (“Policy”) is intended to direct City staff to locate, design, construct, operate and maintain sustainable City-owned, City-managed, and City-funded facilities, which meet the functionality and service delivery needs of the citizens of Charlotte while minimizing environmental impacts and conserving and protecting all resources, now and in the future. Sustainable facilities not only provide environmental benefits to the community, they result in economic savings to the City, support the region’s sustainable building industry, and protect occupant health, maximize productivity and encourage sustainable employee behaviors. All these elements are crucial for staff to address when striving to achieve the City Council’s goal of Charlotte becoming a global leader in environmental sustainability.
LEED, or Leadership in Energy and Environmental Design, is changing the way we think about how buildings and communities are planned, constructed, maintained and operated. Leaders around the world have made LEED the most widely used third-party verification for green buildings, with around 1.85 million square feet being certified daily.

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.

LEED-certified buildings are very resource efficient. These buildings use less energy & water, produce less waste, and also support employee productivity and health compared to traditional buildings.

To your right, are all the public and private LEED certified buildings in the City of Charlotte as of 2015. The City of Charlotte’s public sector buildings contained in this report are marked with green circles. Source: GIS Green Tour.

ENERGY STAR certified buildings save energy, save money, and help protect the environment by generating fewer greenhouse gas emissions than typical buildings. How? To be certified as ENERGY STAR, a building must meet strict energy performance standards set by EPA.

Specifically, to be eligible for Energy Star certification, a building must earn an Energy Star score of 75 or higher, indicating that it performs better than at least 75 percent of similar buildings nationwide.

In 2014 alone, American families and businesses have saved $34 billion on utility bills and prevented greenhouse gas emissions equal to the annual electricity use of more than 63 million vehicles. To date, more than 1.6 million new homes and 25,000 buildings and plants have earned the Energy Star Certification.

To your right, are all the public and private LEED certified buildings in the City of Charlotte as of 2015. The City of Charlotte’s public sector buildings contained in this report are marked with green circles. Source: GIS Green Tour.
The Sustainable Facilities Oversight Team (SFOT) was formed as a result of the sustainable facilities policy. The SFOT Charter can be viewed at the SFOT SharePoint Site.

The purpose of SFOT is to direct City staff to locate, design, construct, operate and maintain sustainable City-owned, City-managed, and City-funded facilities, which meet the functionality and service delivery needs of the citizens of Charlotte while minimizing environmental impacts and conserving and protecting all resources.

Sustainable facilities not only provide environmental benefits to the community, they result in economic savings to the City, support the region’s sustainable building industry, protect occupant health, maximize productivity and encourage sustainable employee behaviors. All these elements are crucial to achieve the City Council’s goal of Charlotte becoming a global leader in environmental sustainability.

The following are the fifteen members of the SFOT representing eight City departments:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rob Phocas</td>
<td>Sustainability Director</td>
<td>Office of Sustainability</td>
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<tr>
<td>Erika Ruane</td>
<td>Sustainability Coordinator</td>
<td>Office of Sustainability</td>
</tr>
<tr>
<td>William Haas</td>
<td>Building Services Division Manager</td>
<td>Engineering &amp; Property Management</td>
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<tr>
<td>Laurie Sickles</td>
<td>Building Services Manager</td>
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<tr>
<td>Patrick Cerri</td>
<td>Energy &amp; Sustainability Coord.</td>
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<td>David Miller</td>
<td>Energy Manager</td>
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<tr>
<td>David Wolfe</td>
<td>Engineering Program Manager</td>
<td>Engineering &amp; Property Management</td>
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<tr>
<td>Kristen O’Reilly</td>
<td>Water Quality Program Spec.</td>
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<tr>
<td>Steve Warren</td>
<td>Transit Operation Services Manager</td>
<td>CATS</td>
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<td>John Pierson</td>
<td>Facilities/Property Supervisor</td>
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<tr>
<td>Bill Becker</td>
<td>CRVA</td>
<td>Planning</td>
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<tr>
<td>Jonathan Wells</td>
<td>Planning Program Manager</td>
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<tr>
<td>Sarah Poulton</td>
<td>Contracts Admin Specialist</td>
<td>Management &amp; Financial Services</td>
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<tr>
<td>David Czerr</td>
<td>Deputy Director</td>
<td>Charlotte Water</td>
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<tr>
<td>Alicia Roh</td>
<td>Energy &amp; Sustainability Coord.</td>
<td>Aviation</td>
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Following is a detailed summary on all City sustainable facilities:

### LEED BD+C

<table>
<thead>
<tr>
<th>Name/Type</th>
<th>SF</th>
<th>Fiscal Year Certified</th>
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<tr>
<td>Charlotte Water Environmental Services Facility</td>
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<td>Fire Station 41</td>
<td>20,300</td>
<td>2011</td>
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<td>Silver</td>
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<td>CMPD Steele Creek</td>
<td>12,500</td>
<td>2013</td>
<td>v3 (2009)</td>
<td>Gold</td>
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<td>Fire Station 42</td>
<td>11,598</td>
<td>2013</td>
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<td>Gold</td>
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<td>CMPD Providence</td>
<td>12,210</td>
<td>2014</td>
<td>v3 (2009)</td>
<td>Silver</td>
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<tr>
<td>CMPD Westover</td>
<td>16,656</td>
<td>2017</td>
<td>v4</td>
<td>Certified</td>
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<tr>
<td>Joint Communication Center</td>
<td>Pending</td>
<td>Pending</td>
<td>v3 (2009)</td>
<td>Registered</td>
</tr>
<tr>
<td>CMPD Hickory Grove</td>
<td>Pending</td>
<td>Pending</td>
<td>V4</td>
<td>Pending</td>
</tr>
<tr>
<td>East Terminal Phase II</td>
<td>Pending</td>
<td>Pending</td>
<td>v3 (2009)</td>
<td>Registered</td>
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Total BD+C Facilities: 6 114,964

### LEED EBOM

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<th>Certification Level</th>
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<tr>
<td>Old City Hall</td>
<td>41,600</td>
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<td>v4</td>
<td>Pending</td>
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Total LEED EBOM Facilities: 0 0

### ENERGY STAR

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<td>Charlotte-Mecklenburg Government Center</td>
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<td>Old City Hall</td>
<td>41,600</td>
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<td>87</td>
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<td>Spratt Street</td>
<td>36,576</td>
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<td>76</td>
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<td>Charlotte Water Brookshire</td>
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<td>CMPD LEC</td>
<td>150,825</td>
<td>2017</td>
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Total Energy Star Facilities: 6 697,009

### GREEN GLOBES

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<td>CMPD Eastway</td>
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<td>N/A</td>
<td>Three Globes</td>
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Total Green Globes Facilities: 1 14,680

Total Sustainable Facilities: 13 826,653
Since 2008 when the first version of the policy was adopted, thirteen City facilities have achieved three of four types of certifications, with another four pending or registered.

Since 2008 when the first version of the policy was adopted, 826,653 SF of City facilities have achieved three of four types of certifications.

At this time, police stations and fire stations are unable to be Energy Star certified because Energy Star does not recognize them into their own category. However, the SFOT believes that these facilities play an important role in the City’s facility portfolio, so SFOT has included them below with their 2016 Energy Use Intensity (EUI). A Green Bar represents a LEED facility.

University City and Central are leased facilities which the utility costs are paid for by the property management company and therefore unavailable.
**CMPD Westover LEED Certification:** During the final months of construction and for several months after occupancy, the certification process was finalized through the collaborative efforts of the project team. “The Westover station is the City’s first LEED v4 facility and certification was not an easy task,” said Monifa Hendrickson-Woodside & E&P M Special Projects Project Manage, however, we are very proud to be the first LEED version 4 facility. This project has given us some great experience that allows us to better prepare for the new rating system on our future projects.”

The 16,250 square-foot facility is located at 2550 West Blvd and is also home to the Neighborhood & Business Services (N&B) Southwest Service Area Team. Construction began in January 2015 and the facility opened its doors in April 2016.

**CMPD LEC:** To be certified as ENERGY STAR, a building must perform better than 75% of buildings of its type. Laurie Sickles in Engineering & Property Management holds a key role in the program by working with departments and building services staff to identify eligible buildings. Most facilities require energy equipment upgrades and in some cases large energy renovations. CMPD’s Law Enforcement Center (LEC) underwent a large energy renovation project which included upgrading the chiller, cooling tower, installation of interior LED light fixtures and retro-commissioning of control systems. *This has resulted in an accumulated cost savings avoidance of $269,000 and a 25% energy reduction.* The result of energy upgrades turned LEC from an energy hog, to an Energy Star with score of 85, making it the City’s 6th Energy Star Certified building. A plaque was installed in the lobby for visitors to see.

**Renewable Energy:** Charlotte Water’s McAlpine Waste Water Treatment Plant (WWTP) is one of the largest WWTP’s in North Carolina and is now the first municipal WWTP in North Carolina to use Combined Heat and Power (CHP) as a renewable energy method to reuse and retain the value of digester gas. The project was first conceived about 10 years ago via various reports from NC State. The implementation started about 2.5 years ago with the purchase of the engine. Design was done by CDM Smith and Construction was done by State Utility. It is estimated to produce about 8,000,000 kWh of energy annually for McAlpine, which is a value of around $300,000. The project is expected to be complete by end of May. Duke Energy will soon be in the process of sending McAlpine’s first Renewable Energy Credit (REC) since this wastewater treatment plant is now also a renewable energy facility!
**LEED EBOM: Existing Buildings Operations & Maintenance**

City of Charlotte LEED Project Checklist & Strategies used to Achieve Points

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Old City Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Phase:</td>
<td>N/A</td>
</tr>
<tr>
<td>Today's Date:</td>
<td>4/28/2017</td>
</tr>
<tr>
<td>Project Contact:</td>
<td>EPA - Patrick Cerri</td>
</tr>
</tbody>
</table>

![Spreadsheet](image)

**NOTE:** This document will be used to identify and develop the necessary documents, practices, and products for the LEED EBOM Certification of Old City Hall. A budget estimate will be sent to the Office of Strategy & Budget for the incorporation of funds for the next fiscal year.
## SFOT LEED Project Checklist

### Strategies used to Achieve Points

### 2.1 Project 1: Indoor Water Use Reduction

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Intent</th>
<th>UNCC Question/Statement</th>
<th>City Response/Strategy</th>
<th>City Requirement</th>
<th>Cost</th>
<th>Credits</th>
<th>Credits Required</th>
<th>Ongoing Cost/Savings</th>
<th>Documentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>Indoor Water Use Reduction</td>
<td>To reduce indoor water consumption</td>
<td>Required</td>
<td>$11,680.00</td>
<td>$669.00</td>
<td>$7,680.00</td>
<td>1) Indoor Water Use Reduction Policy 2) Indoor Water Use Reduction Calculator</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Building-Level Water Metering</td>
<td>To support water management and identify opportunities for additional water savings by tracking water consumption</td>
<td>Required</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>1) USGBC Building Level Water Metering Form 2) Commitment Letter</td>
<td></td>
</tr>
</tbody>
</table>

### City Response/Strategy

- Performed a walkthrough and completed the indoor water use calculator
- Walkthrough performed and results obtained. We can meet this prerequisite for a cost of $7,680 per the water audit report conducted by HiCAPS

### City Requirement

- Identify and individual who will track the building’s monthly water usage and submit documentation via USGBC template to USGBC

### City Requirement/Strategy

- Patrick to track monthly water data

### City Requirement/Strategy

- To reduce outdoor water consumption

### UNCC Question/Statement

- Is this a possibility for the City Hall?

### City Requirement/Strategy

- Patrick to address this credit when also addressing Sustainable Sites credits with landscape management

### City Requirement/Strategy

- Because of the Old City Hall’s very outdated toilets, this credit will not be possible of being pursued without a high cost. A water audit report by HiCAPS is available with these costs.

### UNCC Question/Statement

- Do you currently perform studies on maximum cycles?

### City Requirement/Strategy

- David Miller sent an email to David Taylor to ask the current vendor if this credit is possible. If yes, then the vendor will be responsible for this credit and creating the needed documentation for Patrick to submit to USGBC during the performance period.

### City Requirement/Strategy

- To support water management and identify opportunities for additional water savings by tracking water consumption.

### UNCC Question/Statement

- What does the City Meter now?

### City Requirement/Strategy

- Once we are already metering the cooling tower, we can meter domestic hot water to earn 1 out of 2 points for this credit. Engineering & Property Management connect a metering vendor to install the water meter and make sure it has the capability to monitor it online so we can use the data in the forms to submit to USGBC.

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**SFOT LEED Project Checklist Strategies used to Achieve Points**

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**Notes:**

- Estimated cost of $4,000 for product & installation. Find out from landscape management if there is irrigation and if we meter it. This credit does not have any savings associated with it, but if we were to install a 3rd water meter for the fixtures & fittings, we can at least get data to verify what systems use the most water, thus we can study specifying more efficient and/or lower-water consuming products in future facilities.
<table>
<thead>
<tr>
<th>#</th>
<th>Status</th>
<th>Question/Statement</th>
<th>Repeat</th>
<th>City</th>
<th>UNCC</th>
<th>Strategy</th>
<th>Intent</th>
<th>Response</th>
<th>UNCC</th>
<th>Cost</th>
<th>Ongoing Credit/Tax</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>C</td>
<td>Credit 1: Building Building Commissioning – Analysis</td>
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<td>TBD</td>
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<td>TBD</td>
<td>TBD</td>
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<td>TBD</td>
<td>TBD</td>
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<tr>
<td>7</td>
<td>C</td>
<td>Credit 2: Building Commissioning – Implementation</td>
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<td>TBD</td>
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<td>TBD</td>
<td>TBD</td>
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<td>TBD</td>
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<td>TBD</td>
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<tr>
<td>7</td>
<td>C</td>
<td>Credit 3: Commissioning</td>
<td>3</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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<tr>
<td>1</td>
<td>C</td>
<td>Credit 4: Optimize Energy Performance</td>
<td>20</td>
<td>16</td>
<td>$0.00</td>
<td>$0.00</td>
<td>1) Energy Star certification for new building to be completed during construction or 2) Energy Star rating for existing building is maintained at or above 80</td>
<td></td>
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<tr>
<td>1</td>
<td>C</td>
<td>Credit 5: Minimize Energy Performance</td>
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<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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<tr>
<td>7</td>
<td>C</td>
<td>Demand Response</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>1</td>
<td>C</td>
<td>Renewable Energy and Carbon Offsets</td>
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<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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<tr>
<td>1</td>
<td>C</td>
<td>Alternative Energy Management Strategies</td>
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<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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SFOT LEED Project Checklist Strategies used to Achieve Points
<table>
<thead>
<tr>
<th>#</th>
<th>Prereq</th>
<th>Resource Type</th>
<th>Required</th>
<th>Cost</th>
<th>Capital Cost</th>
<th>Ongoing Cost/Change</th>
<th>Policy/Prereq</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2.2.1</td>
<td>Purchasing and Waste Policy</td>
<td>Required</td>
<td>$0.00</td>
<td>$0.00</td>
<td>1) M&amp;R Purchasing Calculator</td>
<td>1) M&amp;R Purchasing Calculator</td>
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<tr>
<td>2</td>
<td>2.2.2</td>
<td>Credit 1</td>
<td>Purchasing—Lamps</td>
<td>1</td>
<td>$0.00</td>
<td>$0.00</td>
<td>1) M&amp;R Purchasing Calculator</td>
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<tr>
<td>3</td>
<td>2.2.3</td>
<td>Credit 3</td>
<td>Purchasing—Facility Maintenance and Renovation</td>
<td>2</td>
<td>$1,000.00</td>
<td>$0.00</td>
<td>1) Waste Audit Report</td>
</tr>
</tbody>
</table>

**SFOT LEED Project Checklist Strategies used to Achieve Points**

- **UNCC Question:** To reduce the environmental harm from materials purchased, used, and disposed of in the operations within buildings.

**City Response/Strategy:**

- **Intent:** To reduce the environmental harm from materials purchased, used, and disposed of in the operations within buildings.

**City Response/Strategy:**

- **Policy:** To reduce the environmental harm from materials purchased, used, and disposed of in the operations within buildings.

**City Response/Strategy:**

- **Credit 1:** Purchasing—Lamps
  - **Intent:** To maintain and maintain a basic material source reduction program to reduce the amount of mercury brought onto the building site through purchases of lamps.
  - **Prereq:** Purchasing and Waste Policy
  - **Credit:** Credit 1
  - **Policy:** M&R Purchasing Calculator

**City Response/Strategy:**

- **Credit 3:** Purchasing—Facility Maintenance and Renovation
  - **Intent:** To reduce the environmental harm from materials used in building renovations.
  - **Policy:** M&R Purchasing Calculator

**City Response/Strategy:**

- **Credit 4:** Solid Waste Management—Ongoing
  - **Intent:** To divert construction, renovation, and demolition debris from disposal in landfills and incinerators and recover and recycle reusable materials.
  - **Prereq:** Credit 1, Credit 2, and Credit 4
  - **Credit:** Credit 4
  - **Policy:** M&R Purchasing Calculator

See “Prereq 1, Credit 1, Credit 2, and Credit 4 Purchasing and Waste Policy” handout.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Credit</th>
<th>Description</th>
<th>Intent</th>
<th>UNCC Question/Statement</th>
<th>Possible Points</th>
<th>DEQ</th>
<th>Capital Cost</th>
<th>Ongoing Cost/Savings</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.1</td>
<td>Enhanced Indoor Air Quality Strategies</td>
<td>To improve occupants’ comfort, well-being, and productivity by improving indoor air quality.</td>
<td>UNCC Question/Statement: UNCC will provide sample of Wells Fargo Program. UNCC will provide three required items.</td>
<td>2</td>
<td>$5,000.00</td>
<td>0.00</td>
<td>TBD</td>
<td>1) Description of Thermal Comfort Plan 2) Confirmation of testing</td>
</tr>
<tr>
<td>2</td>
<td>6.2</td>
<td>Thermal Comfort</td>
<td>To promote occupant's productivity, comfort, and well-being by providing quality thermal comfort.</td>
<td>UNCC Question/Statement: We currently have temperature sensors but need to add a few humidity sensors to trend that data. Estimate a maximum cost of $4,000. Staff time required once per year for airflow and MRT measurements. Verification of existing alarm in the BAS.</td>
<td>1</td>
<td>$4,000.00</td>
<td>0.00</td>
<td>TBD</td>
<td>1) Table of individual occupant and multiscoping spaces and lighting controls in each space</td>
</tr>
<tr>
<td>3</td>
<td>6.3</td>
<td>Interior Lighting</td>
<td>To improve occupants’ productivity, comfort, and well-being by providing high-quality lighting.</td>
<td>UNCC Question/Statement: UNCC &amp; City performed walk through.</td>
<td>2</td>
<td>$9,000.00</td>
<td>0.00</td>
<td>TBD</td>
<td>Work with UNCC on this item</td>
</tr>
<tr>
<td>4</td>
<td>6.4</td>
<td>daylight and Quality Views</td>
<td>To connect building occupants with the outdoors, reinforce circadian rhythms, and reduce the use of electrical lighting by introducing daylight and views into the space.</td>
<td>UNCC Question/Statement: Seems like a wish but what if we meet this requirement? Erika and Patrick to do calculations.</td>
<td>4</td>
<td>TBD</td>
<td>0.00</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6.5</td>
<td>Green Cleaning - Custodial Effectiveness Assessment</td>
<td>To make sure that cleaning staff are provided with all the necessary tools and training to implement effective cleaning procedures.</td>
<td>UNCC Question/Statement: There should be no added cost for this, just time to do this 1-2 times a year. Estimate 2-4 hours per year. Erika to identify space types.</td>
<td>2</td>
<td>TBD</td>
<td>0.00</td>
<td>TBD</td>
<td>1) Green Cleaning Custodial Effectiveness Procedure 2) Audit Form</td>
</tr>
<tr>
<td>6</td>
<td>6.6</td>
<td>Green Cleaning – Products and Materials</td>
<td>To reduce the environmental effects of cleaning products, disposable janitorial paper products, and trash bags.</td>
<td>UNCC Question/Statement: Patrick, Erika, and Sarah to have initial meeting, then meeting with vendor to estimate costs.</td>
<td>1</td>
<td>TBD</td>
<td>0.00</td>
<td>TBD</td>
<td>1) Prereq 3, Credits 7,8,9 Green Cleaning &amp; IPM Policy 2) Green Cleaning Products &amp; Materials Form</td>
</tr>
<tr>
<td>7</td>
<td>6.7</td>
<td>Green Cleaning – Equipment</td>
<td>To improve the chemical, biological, and particulate contaminants from powered cleaning equipment.</td>
<td>UNCC Question/Statement: Patrick, Erika, and Sarah to have initial meeting, then meeting with vendor to estimate costs.</td>
<td>1</td>
<td>TBD</td>
<td>0.00</td>
<td>TBD</td>
<td>1) Prereq 3, Credits 7,8,9 Green Cleaning &amp; IPM Policy 2) Green Cleaning Equipment Form</td>
</tr>
<tr>
<td>8</td>
<td>6.8</td>
<td>Integrated Pest Management</td>
<td>To minimize pest problems and exposure to pesticides.</td>
<td>UNCC Question/Statement: Patrick to discuss this with building services or landscape management to get feedback and cost</td>
<td>2</td>
<td>TBD</td>
<td>0.00</td>
<td>TBD</td>
<td>1) Prereq 3, Credits 7,8,9 Green Cleaning &amp; IPM Policy 2) Green Cleaning Equipment Form</td>
</tr>
<tr>
<td>9</td>
<td>6.9</td>
<td>Occupant Comfort Survey</td>
<td>To assess building occupants' comfort.</td>
<td>UNCC Question/Statement: UNCC to send sample survey to Patrick</td>
<td>1</td>
<td>$0.00</td>
<td>0.00</td>
<td>TBD</td>
<td>1) Occupant Comfort Survey and Totals</td>
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<tr>
<td>Possible Points</td>
<td>Goal</td>
<td>Capital Cost</td>
<td>Ongoing Cost/Savings</td>
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<td></td>
<td></td>
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<td>Innovation</td>
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<td>Regional Priority</td>
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<td>$391.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### UNCC Question/Statement
- **Intent:** To encourage projects to achieve exceptional or innovative performance
- **UNCC Question/Statement:** Possibility to create a presentation board and educate the public on Old City Hall's sustainability efforts? Would need to verify this with USGBC

#### D/C Credit
1. **Intent:** To encourage the team integration required by a LEED project and to streamline the application and certification process
2. **UNCC Question/Statement:** Do we have anyone in the City who is a LEED AP that is working on this project? If not, does someone want to join the project or get their LEED accreditation?
3. **City Response/Strategy:** Patrick Cerri is a LEED AP BD+C so this counts

### SFOT LEED Project Checklist Strategies used to Achieve Points

1. **Credit 1:** Regional Priority
   - **Possible Points:** 4
   - **Goal:**
   - **Capital Cost:** $0.00
   - **Ongoing Cost/Savings:** $0.00
   - **Documentation:** N/A

2. **Credit 2:** SS Credit 1 - Outdoor Water Use Reduction
   - **Possible Points:** 2
   - **Goal:**
   - **Capital Cost:** $0.00
   - **Ongoing Cost/Savings:** $0.00
   - **Documentation:** Presentation Board

3. **Credit 3:** EA Credit 7 - Renewable Energy and Carbon Offsets
   - **Possible Points:** 5
   - **Goal:**
   - **Capital Cost:** $0.00
   - **Ongoing Cost/Savings:** $0.00
   - **Documentation:** Included in pursued credits

Certified 40 to 49 points | Silver 50 to 59 points | Gold 60 to 79 points | Platinum 80 to 110