

Town of Newtown, CT

3 Primrose Street, Newtown, CT

THESE MINUTES ARE SUBJECT TO APPROVAL BY THE SUSTAINABLE ENERGY COMMISSION

10-15-15

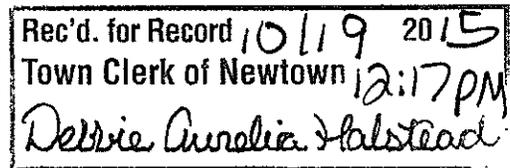
The Sustainable Energy Commission held a regular meeting Thursday, October 15, 2015 in shared meeting room 3 of the Municipal Center located at 3 Primrose Street, Newtown, CT 06470.

The meeting was called to order by Chairman, Kathy Quinn at 7:05 pm.

Present: Chairman, Kathy Quinn, Joe Borst, Steven Gogliettino, Mark Sievel, Dave Stout, Barbara Toomey

Also Present: Fred Hurley

Absent: Bryan Dougherty



Communications:

Ms. Quinn shared the design guidelines from the Public Building & Site Committee (*attachment*). Ms. Quinn shared correspondence with Robert Walker III of Voltrek relative to Electric Vehicle Charging Stations, offering a free station; the town would pay for the installation. Mr. Hurley said that some fleet vehicles need to be replaced and he will start looking into electric vehicles in the next budget year. Mr. Stout said it makes more sense to have EV stations at work or shopping areas than it does to have them at a commuter parking lot. Mr. Sievel said people use them as range extenders; a study shows being adjacent to a highway is important. Mr. Hurley said grant money can be used for installation; town would contribute the balance. Mr. Stout suggested addressing certain businesses in town to see if they would pay for the installation in exchange for free use. Edmond Town Hall area meets the criteria with the bank and the general store in the area. Ms. Quinn asked Mr. Sievel to follow up with Mr. Walker.

Public Comments: None.

Acceptance of Minutes: Mr. Borst made a motion to accept the minutes of the Sept. 17, 2015 meeting minutes Mr. Stout seconded. The motion passed unanimously.

Business:

Solar Projects

Status of Landfill Project: Solar City has about a dozen towns trying to move forward with their project. State Representatives and Senators will be meeting with them regarding virtual net metering. Mr. Hurley believes Senator Hwang is hoping to force a legislative solution to the problem. The federal 30% tax credit expires 12/31/16. The town has committed to have project operational by Oct. 2016.

Batchelder Property Potential: This will have to be for a round of community net metering; Mr. Hurley reported this was 3-5 years down the road.

Newtown Energy Challenge (Solarize II)

The kick off had one potential person in attendance. Mr. Stout said it was more of a timing issue; not enough communication with the town. Mr. Hurley suggested using the Edmond Town Hall for advertising on the screen prior to the movies. Stop and Shop allowed Ms. Quinn to set up inside with information.

Organic Recycling Program startup

(Attachment) No landfill permit is required but persons dropping off organic recycling must be registered thru www.hrra.org. Bridgewater and New Fairfield have an organic recycling program. The biggest contamination problems are tight knots in the recycling bags; bags should be tied loosely. Ridgefield and Newtown are beginning the program on November 14. Free compost, when available, will be on a first come, first serve basis.

Web Site update

The logo for Energy CT will be put on the website. Mr. Stout will add the information on the awards received by Sustainable Energy Commission, and also the single stream recycling flyer, to the website.

Clean Energy Community Reward

There was discussion as to how to use the \$9,000 reward. Mr. Hurley suggested holding onto some of it; there are projects it can be put toward. Mr. Stout suggested using some of the money for marketing. Mr. Hurley agreed community outreach and education is a perfect use. Mr. Stout moved to authorize the chairman to use \$5,000 of the \$9,000 grant toward marketing as opportunities arise, if needed. Marketing strategies, such as open space kiosks, fliers at board meetings, advertising on the Edmond Town Hall movie screen and a link to the website were further discussed. Mr. Sievel seconded. The motion unanimously passed.

Energy Savings Program Update – Celtic projects

Celtic will be putting together information relative to the Municipal Center; hopefully we will be moving forward on this project fairly soon. They were asked to put out an RFP for qualifications on the various projects.

Municipal Energy Plan & Energy Star Portfolio Manager

No update

Street Lighting

Esco is working through Connecticut Conference of Municipalities; will talk to Mr. Hurley about an LED conversion process. Mr. Hurley has their package with cost estimates; he will include it with the letter of interest and circulate to the board. Mr. Hurley has received some audit figures from CL&P on some accounts. The energy savings pays for the project. The town would own the lamps and pay for the energy.

Bridgeport Eco-Tech Park – next steps

No update from Ms. Quinn. Mr. Hurley said that if our composting volume got to a substantial level we would have to look at the vendor in Bridgeport, as they are our vendor for very large quantities.

Outreach to Schools

Mr. Hurley said we will eventually reach out to the schools and local businesses regarding the organic recycling.

Term Limits for Commission Members

The ordinance committee and the Legislative Council recommended 3 year terms, with no term limits for the Sustainable Energy Commission. However, the Charter Revision Commission specifies four year terms for the Sustainable Energy Commission. Ms. Quinn followed up with persons from each group and is waiting to hear the outcome.

Adjournment: Ms. Toomey made a motion to adjourn the meeting at 8:27pm. The motion was seconded by Mr. Borst. The motion was carried unanimously.

The next regular meeting will be held on Thursday, November 19, 2015 at 7:00 pm at the Newtown Municipal Center in Shared Meeting Room 3.

Submitted, Susan Marcinek, clerk

Attachments

Sustainable Design Guidelines

Town of Newtown, CT

May 26, 2015

OPTION A - FINAL PLAN TBD



Environmental Design Consultants + Lighting Designers
195 Church Street, Suite 10C New Haven, CT 06510 T +1 (203) 777 1400 atelierten.com

Sustainable Programming

The following document is a summary of potential environmental design strategies that may be implemented during future construction in the town of Newtown, Connecticut. It is meant as a high level reference to guide the sustainable performance of future buildings towards meeting and/or exceeding previously set design priorities.

Design Priorities

The design priorities for the town of Newtown (the Town) is to provide buildings and structure guidelines that will enhance the community's interaction with their environment and its citizens. With respect to sustainability, the the Town's goal is to reduce operation and maintenance costs, reduce energy and the overall carbon emissions, and provide methods for water conservation. In comparison to other building types and programs, the design team should target a minimum Energy Use Intensity (EUI - kBtu/ft²/yr) that is at least 30% less than the baseline set by the Commercial Buildings Energy Consumption Survey (CBECS). CBECS is a national sample survey that collects information from U.S. commercial buildings on their energy-related building characteristics. The table below categorizes each building by type and floor area indicating the CBECS rated EUI, along with targeted minimum design EUI future buildings in the Town should aspire to achieve. The remaining sections of the document provide guidance to how these minimum EUI could be achieved.

BUILDING TYPE	CBECS EUI			SUGGESTED MINIMUM DESIGN EUI		
	1,001 TO 10,000 FT ²	10,001 TO 100,000 FT ²	OVER 100,000 FT ²	1,001 TO 10,000 FT ²	10,001 TO 100,000 FT ²	OVER 100,000 FT ²
EDUCATION	78	78	91	55	55	63
RETAIL	81	64	88	56	46	62
OFFICE	74	90	104	52	63	73
PUBLIC ORDER	94	-	-	66	-	-
LODGING (NON-RESIDENTIAL)	111	91	107	78	63	75

Site, Landscape & Transportation

Located in suburban southwestern Connecticut, the Town is comprised of colonial and saltbox-style housing, where both businesses and families occupy such structures. Future buildings should take into account this local aesthetic and design with these references in mind, while complying with performance and sustainability standards of their particular building use type. Given the abundant foliage and rural landscape of the Town, there are many opportunities to maintain vegetation and natural landscaping surrounding the footprint of the future buildings. High-albedo materials and landscape features, such as shade trees, that reduce the heat island effect and provide outdoor thermal comfort can be considered. Native vegetation should be incorporated wherever possible, including the use of a vegetated or green roof system. Green roofs have many benefits, including reduced stormwater run-off, stormwater filtration, potential views for occupants on upper floors, increased insulation value, and providing habitat for local species. If possible, irrigation will not be used on the site. Techniques such as xeriscaping should be investigated and employed where possible to reduce or eliminate irrigation needs as well as eliminate pesticides.

Protecting the site from flooding is a design driver that can be mitigated through proper design of the landscape and site. Stormwater collection and reuse shall be explored and implemented where possible in addition to best management practices that will control the rate and volume leaving the site during a storm event. Additionally, these practices will help to enhance the quality of the stormwater leaving the site and eventually entering into the Housatonic River.

Current transportation methods are dominated by individual car use. Expanding to more sustainable transportation methods through increased bus ridership, designated bike lanes (and associated increase in bike parking opportunities) should be incorporated into future building function.

FEATURES TO BE INVESTIGATED/APPLIED:

- Native and adaptive vegetation that does not require irrigation
- Intensive or extensive green roofs
- Accessible bicycle storage and travel lanes
- Stormwater system to control rate and volume and leaving the site, enhancing the quality
- Light colored paving and shade trees to reduce urban heat island effect and enhance outdoor thermal comfort
- Ease of access to public transportation
- Full cut-off site lighting fixtures

Massing & Envelope

Buildings should be properly oriented to the north where it will receive the best access to daylight. The quantity of glazing should be properly controlled to minimize solar heat gain and loss. Glazing, where applied, should be properly design to take advantage of beneficial solar gain, and have adequate shading to reduce glare. All regularly occupied spaces shall be located along the perimeter of buildings, giving the occupants instant access to daylight. The daylight will reduce lighting energy use (through use of daylight responsive lighting) and will provide a visually comfortable environment for occupants. The precise configuration of skylights and fenestration shall be optimized during design. Interior partitions and material finishes should also be optimized to promote daylight distribution.

Solar heat gain as well as envelope heat losses will also be under consideration it is designed. Proper window to wall ratios on each facade will be considered. A target of 35 % window to wall ratio shall be established. Each design team should investigate the magnitude of heat gains and losses, along with daylight levels, and will design skylight geometries and shading that improve the energy performance of the buildings. Thermal or cold bridging shall be identified in the facade and mitigated appropriately. Specifically, protecting the south from the peak sun angles and the east, west facades from the lower sun angles will reduce incident loads that will reduce the overall cooling load, while reducing glare potential. All opaque walls and roofs should be designed with high performance exterior insulation, with a target of R-40 roof and R-25 walls. Operable windows shall be implemented as a first means of conditioning to increase user control of thermal comfort and promote natural ventilation.

FEATURES TO BE INVESTIGATED/APPLIED:

- Atrium with skylights will bring daylight to lower levels of the building
- Major facades shall be oriented to the north/south
- Proper shading techniques shall be implemented to protect facades from incident loads

- Highly insulated walls and roof will should be provided (insulated towards the exterior)
- Provide opportunities for natural ventilation for offices and other perimeter spaces

Mechanical Systems

There are many possible options for the design of building conditioning and lighting systems. With respect to sustainability, energy conservation and the thermal comfort of the occupants are the top priorities when choosing a system type. The building systems should be designed to support that of the occupant load as well as meeting the EUI targeted goals. Design teams should investigate the application of such heating and cooling technologies as decoupled ventilation systems, induction units, radiant systems and the like. Examples include chilled ceilings, chilled beams, fan coil units, and displacement systems in high volume spaces. Earth coupled systems such as ground source heat pumps, earth ducts and labyrinth technologies shall also be investigated for applicability. Heat recovery should be provided at the air handling units to preheat incoming air, e.g. enthalpy or glycol heat recovery. Occupant comfort at the perimeter during the colder seasons is a priority and therefore a radiant-type heating system should be provided at the perimeter to ensure thermal comfort at those areas.

The industry is ever evolving with new efficient technologies. Application of these technologies such as phase change materials should be investigated as well. This would add additional thermal mass to the interior of the building, allowing for spaces to maintain temperatures for a longer period of time without mechanical assistance. It would also allow for night ventilation to occur to help save cooling energy during certain periods of the year. Feasibility for renewable technologies such as photovoltaics, biogas shall also be investigated and evaluated for cost as well as potential local, state and federal incentives.

Creating openings in buildings to provide natural ventilation during swing periods of the year. This could be design to occur via buoyancy or be mechanically assisted or combination of both depending on the space type. Executing controls systems that are functional and usable for building operators is critical by providing transparency and allowing operators to manage the building the way it is designed. Ensuring a good commissioning agent is hired to review and verify the design and also provide training on the systems for the facilities group is highly advised. Monitoring of the buildings performance and operation is necessary to maintain its efficiency and satisfaction of the occupants. Providing meters where data can be collected, trended and evaluated is recommended. At the space level, providing vacancy sensors that control the lighting and mechanical systems will be investigated. Transparency of how the building operates can be provided via “dashboards” that allows the public to view real-time energy performance. Additionally, dashboard visualization will allow for friendly competition among faculty members or other colleges in the university, which will reduce utility costs.

FEATURES TO BE INVESTIGATED/APPLIED:

- Analyze proper application of conditioning systems - air versus water delivery, system type, earth coupled, decoupled ventilation systems
- HVAC systems should be designed to take advantage of the latest technological advancements and performance efficiencies
- Heat recovery should be provided
- Controls at the building and individual space level will reduce lighting and HVAC loads
- Transparency of building performance allows occupants to gauge their behavior

Water

Water conservation should be considered for the future buildings design. A reduction target of 30-40% potable water use shall be established with each new project for interior fixtures. If irrigation is in the design, the design team should endeavor to achieve at least a 50% reduction in irrigation water use. Metering and monitoring of interior and exterior water usage shall be implemented. Buildings shall contain ultra-low flow flush and flow fixtures. High efficiency water closets (1.28 gpf) are recommended over dual flush toilets (1.1/1.6 gpf). Pint flush urinals (.125 gpf) should be installed in men's restrooms. Lavatory fixtures should be designed to a flow rate of 0.5 gpm and include meters to control the flow and shut off automatically. Kitchen or cafe fixtures should be designed to not exceed 1.5 gpm. Showers shall have a flowrate of less than or equal to 1.8 gpm.

Stormwater may also contribute to the potable water reduction strategy. Collection from the roof or landscape for reuse can be applied to non-potable water uses such as toilet flushing. Reuse of graywater building wide or localized should also be explored.

FEATURES TO BE INVESTIGATED/APPLIED:

- High efficient irrigation
- High efficiency toilets (1.28 gpf)
- Waterless or pint flush urinals (.125 gpf)
- Low flow metered taps (0.5 gpm) for lavatories
- Low flow metered taps (1.5 gpm) for kitchen/cafe areas
- Low flow fixtures (1.8 gpm) for showers
- Localized graywater and stormwater reuse

Environmental Quality

Materials in newly designed buildings should contain high recycled content, be non-toxic and low-emitting. FSC certified woods should be installed where possible. However, durability shall remain as a high priority. Three main material priorities have been identified that have the potential to improve building performance and minimize environmental impact: Efficient, Healthy, and Smart.

EFFICIENT

Efficient design and construction strategies cut overall material use and waste through rigorous design and careful waste management.

HEALTHY

This priority addresses the link between the selection and specification of interior materials and indoor environmental quality. It shows the reduction of health risks and increased productivity for employees occupants resulting from the selection of materials with low amounts of volatile organic compounds (VOCs) and toxicants.

SMART

Smart material decisions minimize environmental impacts while meeting performance goals. This category addresses the importance of considering low embodied carbon as a primary factor in the selection of materials that will comprise the largest material packages on the project. It also addresses the impact of material selection on habitat destruction and distance from where the material or product originated.

When the materials palette is chosen, teams should endeavor to identify the potential impact of each of these priorities with the goal of providing specific strategies and recommendations to address material design decisions.

Lighting & Equipment

Lighting is especially important all building types to ensure visual acuity and energy goals for the project. The lighting system should utilize a system of high color rendering index (CRI) LED and/or fluorescent luminaires to meet appropriate ambient and task lighting levels as recommended by the Illuminating Engineering Society of North America. The recommended lighting power density target should be between 30-45% better than the current energy code (ASHRAE 90.1-2007). Specifically, targets will be as follows: Classrooms - target 30 foot-candles (fc) average within the IES recommended 30-50 fc range; Offices and conference/seminar rooms - target 30 fc within IES recommended 30 to 50 fc range; atria and lounge type areas- 15-30 fc; Corridors - 10 fc. Providing a functional lighting system that responds to the diverse needs of each space, as well as responding to the time of day within the building can be achieved by an integrated building lighting control system to schedule lighting use. Adapting the type of color from lighting will also aid in the occupants health and well being within the building. Vacancy sensors should be used in spaces with access to daylight while occupancy sensors are to be installed in all other spaces. Each will reduce lighting energy when spaces are unoccupied. Photosensors, coupled with continuous dimmable lighting, will conserve energy by reducing the lighting load when sufficient daylight enters a space.

All appliances and equipment installed should be as efficient as possible, to reduce electricity use and lower cooling loads. Energy Star eligible equipment and appliances should be purchased.

FEATURES TO BE INVESTIGATED/APPLIED:

- Reduced lighting power density
- Appropriate target light levels for each space type
- Task lights to supplement ambient light
- Vacancy sensors in most spaces
- Dimmable fluorescent and LED lighting system
- Photosensors and daylight-responsive dimming in areas with sufficient daylight
- Energy Star appliances and equipment

Benchmarking

The Town has set a target to measure the design of newly designed buildings against the current LEED for New Construction standards. The goal or target shall be to achieve a minimum of LEED Silver equivalent score, which means that if the project were to register with the Green Building Certification Institute (GBCI), the project would achieve a LEED Silver certification under the version 3 of the Building Design + Construction - New Construction system. The current system has the following categorization for levels of certification:

- Certified 40 to 49 points
- Silver 50 to 59 points
- Gold 60 to 79 points
- Platinum 80 or more points

Adhering to the LEED for New Construction standards and strategies set within this guidance document will ensure that building design and construction will be conducted in such a manner that the sustainability goals of the Town are upheld and achieved. Incorporating this ideology into all newly constructed buildings will present the image of a town that embraces their community, natural environment and the symbiotic relationship between the two.

NEWTOWN ORGANICS (FOOD SCRAPS) Drop-Off Program

NEW
Recycling
Program
for Newtown
Residents



The Town of Newtown, in collaboration with the Housatonic Resources Recovery Authority, is pleased to announce a new recycling program for food scraps.

The food scraps will be taken to New England Compost in Danbury and will be made into compost.

The new drop-off program will start Saturday, November 14th at the Transfer Station.

Newtown will be a leader in the state for waste reduction. More food reaches landfills and incinerators than any other single material in municipal solid waste, nationwide.

Learn more and Sign-Up at:

www.HRRA.org

Click on the link:
Organics Collection

Acceptable material for Commercial Composting

- Meat, Poultry (bones also)
- Fish (including shellfish)
- Dairy Products
- Flower & Vegetable Garden Waste
- Houseplants & Flower Bouquets
- Fruits & Nuts (including pits)
- Vegetables *****Remove stickers, bands and ties*****
- Bread, Pasta & Grains
- Sauces, Soup & Gravy
- Coffee Grounds & Filters
- Tea Bags
- Egg Shells
- Plate Scrapings

 **Green
Newtown**
Sustainable Energy Commission



How It Works

It's easy!



- Program will begin Saturday, November 14th at the Transfer Station.
- There will be a Kick-Off event that Saturday. Participants will receive their starter kits that will include a kitchen counter collection bin, 6 months of compostable bags. There will be a chance for residents to ask questions.
- Participants will receive free compost annually from New England Compost.

*There's value in
our food scraps*



Instead of throwing out your food waste, spoiled foods, and leftover meats, vegetables, bread, etc., we can take this food waste and reuse it in an eco-friendly and environmentally beneficial way.

The more food waste we recycle, the less is dumped into landfill space or sent to waste to energy facilities. Large amounts of organic material in landfills produces methane, a greenhouse gas with a stronger warming effect than carbon dioxide. We can do our part to reduce methane emissions by improving our food waste management and organic recycling efforts.

Processed food waste compost produces organic fertilizers that are the “green alternative” to chemical fertilizers. When composted organic materials are used to nourish soil for other vegetables & grains to grow, or used as feed for livestock, the cycle of life is continued.

To sign-up for this program go to: www.hrra.org
Click on the link: Organics Collection