AGENDA
COMMUNITY SUSTAINABILITY ADVISORY BOARD
CITY OF GOLDEN, COLORADO

Regular Meeting
September 22, 2010
6:30 PM

City Hall Council Chambers
911 10th Street

1. Roll Call
2. Approval of the Agenda
3. Approval of the Minutes from September 14, 2010
4. Staff Update
5. Board Updates
6. Public Comment
7. Action Items
   A. Community Solar Gardens Program 7:00 – 7:30 pm
      The Board will discuss next steps toward developing community interest in a
      jointly-owned solar photovoltaic cooperative.
   B. Residential Energy Efficiency Program 7:30 – 8:15 pm
      The Board will draft a scope of work to continue efforts toward improving energy
      efficiency of existing residential homes.
8. New Business
   A. Agenda topics for next meeting October 11th 8:15 – 8:30 pm
9. Adjourn
CALL TO ORDER – BUSINESS MEETING:

Tom Atkins, Chair, called the business meeting to order at 6:30.

APPROVAL OF AGENDA:

Agenda was approved as written.

APPROVAL OF MINUTES FROM AUGUST 25, 2010:

With no changes, the minutes were unanimously approved.

PUBLIC COMMENT:

None

STAFF UPDATE:

Theresa gave a quick overview of her updated memo. Topics discussed were:

- Waste – Karen and Theresa suggested going to www.golden.com to see an amateur but informative Q&A video that was recently done. Great information about recycling.
• 2011 Quizno’s Pro Challenge – Theresa submitted a letter of support from this Committee expressing the City’s interest in helping the event being sustainable.

BOARD UPDATES:

__Tom__ - Golden will host the next meeting of the regional Community Solar Garden group on Monday, September 20th at 1pm in the Council Chambers. Anyone interested should plan on attending.

__Hillary__ – Stated that the packets sometimes are confusing because there are extra documents that are sent as part of the packet, but are not on the agenda. Theresa agreed to start sending the packet separate from the other documents that she sends as information only items.

ACTION ITEMS:

**A. Strategic Plan**

The Board finalized a recommendation to City Council to adopt a Sustainability Strategic Plan.

September 13 is the most recent draft and Theresa distributed it at the meeting. Tom and Karen and Theresa met prior to this meeting to fine tune a few items. Once the meeting started, other committee members had changes that Theresa noted.

Theresa will make the last minor edits as requested by the Board and send the memo and final plan to CSAB prior to sending to Council.

**B. Future Projects**

The Board reviewed a list of projects that address the City’s sustainability goals and prioritize funding for 2010 and 2011.

__Residential Energy Efficiency Project:_

Karen asked Peter and Michael to explain the Phase 2 Analysis and Design and what would be included in the 30%, 60% and 90%. Peter stated that Gunter has always stressed that his final goal is net zero. Karen stated that she did not think that this committee is large enough; with a big enough budget to do a project of this size. Would like to see the budget used for more, much needed, education that would benefit a larger audience; maybe they could build on what the report has and tweaking it a bit. Tom asked Peter and Michael if this Committee came up with a different scope of work; based on what you have done, would you be willing to continue? Peter said yes, his firm would be interested in continuing. Hillary suggested finding grant money to partner with this project. Consensus by the Committee was to discuss further and give a new Scope of Work and budget to Peter Ewers. Chuck suggested trying to partner with NREL.
**Budget Recommendations:**
The Committee reviewed the remaining budget for 2010 and prioritized them based on the new Strategic Plan and decided on the following:

- **Education** $10,000
- **CU Denver - Home Energy Meter program, Industrial energy efficiency program** $8,000 to $10,000
- **Residential Energy Efficiency Project w/Ewers** - $10,000 (to be defined)
- **Community Solar Gardens Project** - $7,500
- **Park Recycling Pilot** - $600
- **Event Waste Reduction Program** - $2,000
- **Wind Turbine Project** - $5,000
- **Compost Drop Off Site** - $5,000
- **Shop Local bag fundraiser** - $0 (if costs are recovered)

**ADJOURN:**

Meeting was adjourned at 8:35.

**NEXT MEETING:**

Wednesday, September 22, Council Chambers, at 6:30pm
Community Sustainability Advisory Board
Six Month Schedule - 2010

Meeting Date | Agenda Item 1 | Agenda Item 2 | Agenda Item 3 | Agenda Item 4
--- | --- | --- | --- | ---
9/22 | Community Solar Gardens | Residential energy efficiency project | | |
10/11 | Education Scope of Work | | | |
10/27 | 2011 Progress Report | | | |
11/8 | | | Local Living Economy (Hillary) | |
Future meeting topics:
- International partnership opportunities (Gunter)
- Traffic reduction strategies for Washington Avenue (Gunter)
- Large-scale wind projects in Golden (Dr. Greg Poulous)
- CSM Compost needs for cafeteria waste
- Recycling pilot program for downtown park
Ms. Worsham:

I am excited about continuing to work with you and Gunter Ritter to develop a project in Golden to improve our existing homes from energy users to homes that have zero net energy use. This next step that we are calling Phase 2 Analysis and Design is to select one to three residences to be used as examples and demonstrations and develop a design specific to that residence.

Along with Ewers Architecture, Silvertip Integrated Engineering Consultants continue to partner with us on this project. Michael Haughey of Silvertip Integrated Engineering Consultants has partnered with us to develop the phase one report.

We envision that this phase of the project would develop the concepts in the Phase One report for a specific building(s) through analysis of the building and development of construction documents. The final product of this phase would be a set of documents that could be used as the basis for obtaining bids for construction or presentation to possible grant organizations.

This Phase 2 Analysis and Design would include the following services:

1. Kick-off meeting
   - Discuss overall case study strategy and begin coordination of each party’s efforts

2. Case Study Selection Assistance
   - Review candidates residences against criteria (assume maximum 10 candidates selected)
   - Review blower door test results of each candidate residence
   - Provide summary comments for each candidate residence
   - Meet with City of Golden to discuss selection
3. **Existing Condition Assessment and Documentation of Selected Residence(s)**
   - Review, document, and summarize energy bills
   - Measure building and develop three-dimensional Building Information Model (BIM), including documentation of windows and apparent insulation
   - Perform thermal imaging
   - Perform computerized load calculation
   - Evaluate energy balance and document existing appliances, lighting, plug loads, etc.
   - Develop spreadsheet of existing energy balance condition and validate with energy bills

4. **Develop concept level upgrade scenarios for evaluation**
   - Evaluate each scenario with the spreadsheet tool
   - Evaluate renewable energy options and make recommendations
   - Comment on each scenario and make recommendations
   - Meet with Owner and City to discuss options and make decisions

5. **30% Cost estimate**
   - With the aid of a professional cost estimator or general contractor well-versed in sustainable construction, create a cost estimate of the work to be performed on the test home(s), using the design information available at this time.

6. **30% Progress Submittal**
   - Document project to the point of alternative selection
   - Provide summary information for public use regarding the evaluation methods and selection criteria and reasoning behind decisions
     - Breakdown of load calculations for the example house
     - Summary of measured electrical use for the example house
     - Summary for building if modified as-recommended
       - Energy use breakdowns
       - Passive solar contributions
       - Brief discussion of alternatives considered and reasons for recommendations made at this stage
     - Cost estimate

7. **Detailed Systems Evaluations**
   - Evaluate details of the solution such as specific R-values, insulation types and thickness, addition of mass, window modifications, sealing of air leaks, passive solar heating and cooling, mechanical and electrical systems sizing, and renewable energy system sizing.
   - Meet with Owner and City to discuss options and make decisions
• Prepare schematic design drawings and sketches

8. 60% Cost estimate
• Update the previous cost estimate using more refined design information available.

9. 60% Progress Submittal
• Document details selected and decision process behind each
• Augment information for public use to include the evaluation methods and selection criteria and reasoning behind decisions
  o Energy use breakdowns
  o Passive solar contributions
  o Active solar contributions (PV and Solar Thermal if applicable)
  o Brief discussion of alternatives considered and reasons for recommendations made at this stage
  o Challenges faced integrating the modifications into the existing building
  o Cost estimate

10. Construction Documents
• Develop the designs and documentation for Owner review and possible submittal to the building department for first review.
• Meet with Owner and City to discuss options and make decisions

11. 90% Cost estimate
• Update the previous cost estimate using more refined design information available.

12. 90% Progress Submittal
• Prepare drawing package for final Owner review
• Augment information for public use to include important details in the documents, construction details that may be useful on similar projects, and updated cost estimate data.
The following fee proposal is arranged to allow ending the project at the 30%, 60%, or 90% progress stage and further to apply to a first residence case study, a second additional residence, and a third residence. The fees listed below are complete to the stage shown (so the fee for studying two residences to the 60% level would be the amount shown in the center box). Therefore, any of the nine fees stated below may be selected to proceed with this Phase 2 Analysis and Design.

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<th>30%</th>
<th>60%</th>
<th>90%</th>
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<tbody>
<tr>
<td>1 residence</td>
<td>$22,000</td>
<td>$31,000</td>
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<tr>
<td>2 residences</td>
<td>$33,000</td>
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<td>3 residences</td>
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These proposed fees include all expenses such as blower door testing (using Xcel program for $125 per residence only), outside consultants such as cost estimators, and reimbursable expenses such as printing and mileage.

Please let me know if you have any questions about this proposal. I look forward to working with you on the next step of this important project.

Sincerely,

[Signature]

Peter J. Ewers, AIA, LEED AP
Ewers Architecture