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BU Green Roof Feasibility Study
Project Goal: BU SOLAR to Green Roof Feasibility Study
BU Climate Action Plan Recommendations
Green roofs can address flooding and heat waves

- Heat Transpiration
- Infiltration

RURAL AREA

CITY

- Heat
- Transpiration
- Infiltration

3°C to 10°C hotter

CITY

- Heat
- Transpiration
- Infiltration

1-5°C less
Community Engagement: Green roofs can also produce food
Community Engagement: Great places for community events
Developed a BU Building Green Roof Suitability Grading System

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>% of Subcategory</th>
<th>State</th>
<th>Grades</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof Structure/Site</td>
<td>Condition</td>
<td>20.0%</td>
<td>Excellent or Failed</td>
<td>10</td>
<td>6.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Good</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Satisfactory</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bad</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Capacity</td>
<td>15.0%</td>
<td>&gt;155 lbs</td>
<td>10</td>
<td>4.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>55 - 155 lbs</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 - 55 lbs</td>
<td>8</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>15 - 30</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;15 lbs</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td>Roof Age</td>
<td>25.0%</td>
<td>&lt; 3 years or &gt; 18 years</td>
<td>10</td>
<td>7.5%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>3 - 8 years</td>
<td>7</td>
<td></td>
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<td></td>
<td></td>
<td>8 - 18 years</td>
<td>2</td>
<td></td>
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<tr>
<td></td>
<td>Parapet Height</td>
<td>10.0%</td>
<td>High</td>
<td>10</td>
<td>3.0%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Small</td>
<td>1</td>
<td></td>
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<td></td>
<td></td>
<td>None</td>
<td>1</td>
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<tr>
<td></td>
<td>Draining System Condition</td>
<td>15.0%</td>
<td>Good</td>
<td>10</td>
<td>4.5%</td>
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<tr>
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<td></td>
<td></td>
<td>Satisfactory</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bad</td>
<td>1</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Solid wide stairs</td>
<td>10</td>
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<td></td>
<td></td>
<td>N/A</td>
<td>10</td>
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<tr>
<td></td>
<td>Roof Access</td>
<td>15.0%</td>
<td>Narrow wood stairs</td>
<td>7</td>
<td>4.5%</td>
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<td></td>
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<td></td>
<td>Stairs+Fixed ladder</td>
<td>6</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Extension ladder</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Stairs+Fixed ladder</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
Developed a BU Building Green Roof Suitability Grading System

- Community Benefits: 20%
- Roof Structure/Site: 30%
- Garden: 25%
- Economics: 10%
- Env Benefits: 15%
- Condition: 15%
- Capacity: 20%
- Parapet Height: 15%
- Roof Age: 15%
- Parapet Height: 15%
- Roof Access: 25%
- Drainage System Condition: 10%
1.5 – 4.0 MW Total
12 - 23 Sites

Feasibility Study:

§ CRC/Fenway
§ BUMC
§ Existing Conditions

• Structural
• Roof
• Electrical
• Space

§ System

Economics

§ Grid Connection
§ Construction

Logistics

BU Green Roof Feasibility Study
A Vision of Campus for the Future, in an Ideal World and Lessons Learned
Project Goal

- What is your project?
  - Describe the theme of your project, its scope, and mission
  - How does your project benefit the community?
  - Where are you doing this work?
  - Who are your partners?
  - How far along are you in your project?
  - Any other details you think help the audience understand what you are working on
How do you engage with the community?

- If partner organization, how do you engage the community during new projects?
- If faculty, how does your department's or institute’s project goals engage with the community?
- If student, how will the outcome of your project engage the community?
In an ideal world…

- If partner organization, describe what urban environmental projects you would like to carry out if you had an endless budget.
- If faculty, describe what (additional) tools and skillsets are available to carry out community engaged partnership projects that can make a difference.
- If students, describe what new skills you think other students should develop to engage with partners in the future OR describe what you learned and what skills you applied.