2.08 SUSTAINABLE DESIGN STRATEGIES

BASIS OF DESIGN

This section provides an overview of sustainable design strategies that can be incorporated into the design and construction of sustainable buildings on campus. Sustainable design strategies address energy and water efficient building systems, resource efficient building materials, siting and construction management strategies, and mechanical and passive systems to enhance indoor air quality and occupant comfort.

Incorporating sustainable design strategies will lead to reduced operational costs, healthy work environments for students, faculty and staff, as well increased productivity of building occupants. The table below provides a comprehensive list of widely accepted sustainable design strategies.

At the outset of a project, project managers, user groups and project consultants should participate in a design “charette” to identify the goals of the project. Use this table to identify energy performance targets, water use reduction targets, waste management targets, and other sustainable design strategies that are the most applicable to the project and stakeholders’ needs.

For projects seeking LEED Certification, it is intended that projects on the University campus achieve performance equal to a minimum a silver LEED rating.

SITE REQUIREMENTS

<table>
<thead>
<tr>
<th>SSP1</th>
<th>Activity Pollution</th>
<th>The project will implement an soil and erosion control plan that conforms to the Alabama Department of Environmental management, Stormwater and Erosion control guidelines, HPDA permits. This strategy is already required by state guidelines. There is no cost premium to achieve this point.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSP1</td>
<td>Site Development</td>
<td>Projects on the University campus will not be located on sensitive or restrictive sites. There is no cost premium to achieve this point.</td>
</tr>
<tr>
<td>SS2</td>
<td>Development Density</td>
<td>Most Campus locations are not near the 10 basic services. Campus will not usually meet the density requirements.</td>
</tr>
<tr>
<td>SS3</td>
<td>Brownfield Redevelopment</td>
<td>Usually University projects will not be on Brownfields.</td>
</tr>
<tr>
<td>SS4.1</td>
<td>Public Transportation Access</td>
<td>The University is served by Jag Tram, the University bus system, and WAVE, the city of Mobile transit system. 2 stops will be located within 1/4 mile of all areas on campus. There is no cost premium to achieve this point</td>
</tr>
<tr>
<td>SS4.2</td>
<td>Bicycle/ Changing Rooms</td>
<td>Bicycle Racks and shower/changing rooms will be another building. There is minimum cost to achieve this point. This will also reduce car traffic congestion on campus.</td>
</tr>
<tr>
<td>SS4.3</td>
<td>Low Emitting/Efficient Vehicles</td>
<td>Marked Spaces for Vehicles will be provided if any new spaces are incorporated in this project. Minimum cost involves striping and signage.</td>
</tr>
<tr>
<td>SS4.4</td>
<td>Parking capacities</td>
<td>Preferred method is to provide no new parking. If parking is necessary, preferred parking for carpools and vans will be provided. Minimum cost involves striping and signage.</td>
</tr>
</tbody>
</table>
SS5.1 Reduced site disturbance 1 POINT
Natural areas of campus will be preserved. Damaged areas will be restored by choosing plants native to the area. Minimum additional cost involves selecting indigenous plantings.

SS5.2 Maximize open space 1 POINT
The campus master plan will provide permanent open space around all campus buildings. New buildings will be designed with minimum footprints to minimize additional site disturbance.

SS6.1 Quantity - Stormwater 1 POINT
Campus storm water will be discharged either to the USA owned and maintained Retention Lake for water shedding to the North before being discharged into the stream channel, or along Old Shell road for water shedding to the south. There is no cost premium to achieve this point.

SS6.2 Quality - Stormwater 0 POINTS
The University is not currently treating storm water.

SS7.1 Heat Island - Non roof 1 POINT
All campus projects will meet the required values for hardscaping by sufficient shading, paving materials with compliant solar reflectance, and open grid paving where practical. There is no cost premium to achieve this point.

SS7.2 Heat Island - Roof 1 POINT
Roof material on all campus buildings will meet required SRI Values. There is no cost premium to achieve this point.

SS8 Light Pollution 1 POINT
All exterior and interior light fixtures will be designed to meet dark sky requirements. Off site lighting and night sky pollution will be minimized.

WATER EFFICIENCY

WEP 20% Water Use Reduction REQUIRED
Buildings will reduce potable water use by 20%, using high efficiency fixtures.

WE1.1 50% Irrigation reduction 1 POINT
Buildings will reduce irrigation use by 50%, by using limited planting with drought tolerant plants capable of surviving on natural rain fall.

WE1.2 100% Irrigation reduction 1 POINT
Buildings will reduce irrigation use by 100%, by using limited planting with drought tolerant plants capable of surviving on natural rain fall.

WE2 Innovative Wastewater 0 POINTS
At this time the University does not use grey water or no-flush systems.

WE3.1 30% Water Use Reduction 1 POINT
Buildings will reduce potable water use by 30%, using high efficiency fixtures.

WE3.2 35% Water Use Reduction 1 POINT
Buildings will reduce potable water use by 35%, using high efficiency fixtures.

WE3.2 40% Water Use Reduction 1 POINT
Buildings will reduce potable water use by 40%, using high efficiency fixtures.
### ENERGY AND ATMOSPHERE

<table>
<thead>
<tr>
<th>Code</th>
<th>Strategy</th>
<th>Requirement</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAP1</td>
<td>Fundamental Commissioning</td>
<td>REQUIRED</td>
<td>This is a required strategy.</td>
</tr>
<tr>
<td>EAP2</td>
<td>Minimum Energy Performance</td>
<td>REQUIRED</td>
<td>Buildings will meet minimum standards for energy efficiency.</td>
</tr>
<tr>
<td>EAP3</td>
<td>Fundamental Refrigeration</td>
<td>REQUIRED</td>
<td>The university will use compliant refrigerant at the Central Plant.</td>
</tr>
<tr>
<td>EA1</td>
<td>Optimize energy</td>
<td>7 POINTS</td>
<td>Achieve 24.5% above baseline goal for energy performance.</td>
</tr>
<tr>
<td>EA2</td>
<td>On site Renewable</td>
<td>0 POINTS</td>
<td>The University is not currently using renewable energy systems. These systems would be simple to implement but the payback time is too great at the moment.</td>
</tr>
<tr>
<td>EA3</td>
<td>Enhanced commissioning</td>
<td>1 POINT</td>
<td>Owner will contract for enhanced commissioning services.</td>
</tr>
<tr>
<td>EA4</td>
<td>Enhanced refrigeration</td>
<td>1 POINT</td>
<td>All new buildings will be conditioned by the university central plants. Compliant refrigerants will be used in these facilities.</td>
</tr>
<tr>
<td>EA5</td>
<td>Measurement/Verification</td>
<td>1 POINT</td>
<td>A measurement and verification plan will be implemented.</td>
</tr>
<tr>
<td>EA6</td>
<td>Green Power</td>
<td>0 POINTS</td>
<td>Purchase off site renewable</td>
</tr>
</tbody>
</table>

### MATERIALS AND RESOURCES

<table>
<thead>
<tr>
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<th>Requirement</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRP1</td>
<td>Recyclable collection</td>
<td>REQUIRED</td>
<td>All new buildings will provide an area to store and collect recyclables.</td>
</tr>
<tr>
<td>MR1.1</td>
<td>55% - Building reuse</td>
<td>1 POINT POSSIBLE</td>
<td>Structural elements, applicable to renovations only.</td>
</tr>
<tr>
<td>MR1.1</td>
<td>75% - Building reuse</td>
<td>1 POINT POSSIBLE</td>
<td>Structural elements, applicable to renovations only.</td>
</tr>
<tr>
<td>MR1.1</td>
<td>95% - Building reuse</td>
<td>1 POINT POSSIBLE</td>
<td>Structural elements, applicable to renovations only.</td>
</tr>
<tr>
<td>MR1.2</td>
<td>55% - Building reuse</td>
<td>1 POINT POSSIBLE</td>
<td>Non-Structural elements, applicable to renovations only.</td>
</tr>
<tr>
<td>MR2.1</td>
<td>50% Waste management</td>
<td>1 POINT</td>
<td>A waste management program will be implemented.</td>
</tr>
<tr>
<td>MR2.2</td>
<td>75% Waste management</td>
<td>1 POINT</td>
<td>A waste management program will be implemented.</td>
</tr>
<tr>
<td>MR3.1</td>
<td>5% Material reuse</td>
<td>0 POINTS</td>
<td>May not be possible on a majority of buildings.</td>
</tr>
<tr>
<td>MR3.2</td>
<td>10% Material reuse</td>
<td></td>
<td>May not be possible on a majority of buildings.</td>
</tr>
</tbody>
</table>
### Indoor Environmental Quality

#### IEQ-P1 Minimum Indoor Air
- **Required prerequisite.**

#### IEQ-P2 Tobacco Smoke Control
- **Required prerequisite.**

#### EQ1 Outdoor air delivery
- Humid gulf coast location makes this point readily unachievable.

#### EQ2 Increased Ventilation
- Air ventilation will be increased by 30%.

#### EQ3.1 IAQ Plan-construction
- Project will have an indoor air quality plan during construction.

#### EQ3.2 IAQ Plan - Occupancy
- Project will have an indoor air quality plan during occupancy.

#### EQ4.1 Low emitting - adhesives
- Adhesives will meet South Coast Air Quality Management District requirements.

#### EQ4.2 Low emitting - paints
- Paints and coatings will meet Green Seal Standard GS11.

#### EQ4.3 Low emitting - carpet
- Carpet will meet Green Label Program Requirements.

#### EQ4.4 Low emitting - wood
- Adhesives will meet South Coast Air Quality Management District requirements.

#### EQ5 Indoor chemical
- Indoor pollutants will be minimized.

#### EQ6.1 Control - lighting
- 90% of occupants will have individual control.

#### EQ6.2 Control - thermal
- 50% of occupants will have individual control.
1 POINT

EQ7.1 Thermal comfort-design Building will meet ASHRAE 55-2004.

EQ7.2 Thermal comfort-verification Thermal comfort survey will be performed.

EQ8.1 75% Daylight 75% of building occupants will have natural daylight.

EQ8.2 90% Views 90% of building occupants will have exterior views.

INNOVATION AND DESIGN PROCESS

ID1 LEED Accredited Professional The University will engage a LEED consultant on all projects.

REGIONAL PRIORITY CREDITS

RP1 To be determined.