

Section 3: Sustainability

LEED Narrative:

In this section I will explain how each LEED credit is earned and how my project will be LEED certified. For a project to be LEED certified it will have to achieve 40 LEED credit points which this project will.

Location and Transportation:

Sensitive Land: To earn credit for sensitive land, the site cannot be located on farmland, in the FEMA designated flood zones, near a wetland, or where endangered species live. Since all the criteria for this credit are met, this project will receive 1 point for sensitive land uses.

Surrounding Density and Diverse Uses: This credit is awarded based on the project's location within a ¼ mile radius, meaning if this project is within walking distance of diverse uses such as banks, restaurants, or supermarkets it will contribute to compact development. This project will be within walking distance of 8 or more diverse uses which will credit 2 points. Since the criteria for this credit is met, this project will receive 2 points for surrounding density and diverse uses.

Bicycle Facility: 1 bicycle spot is required for every 10 regular vehicle spots, but LEED gives 1 point credit for having 4 spots on site. Because of this, we will have a bicycle rack with 40 spots taking up 60 SF of parking. Since the criteria for this credit is met, this project will receive 1 point for bicycle facilities.

Reduced Parking Footprint: For this project, there will be no additional parking other than what is required by Alachua County code. This project will have 33 regular, 2 ADA, 1 motorcycle, 4 bicycle spots. As well as 1 loading area and 5 tree islands which is the minimum required parking by Alachua County code. Since the criteria for this credit is met, this project will receive 1 point for reduced parking footprint.

Green vehicles: This credit is awarded based on electric operated things. All the 12' X 12' overhead doors for this project are electrically operated. Since the criteria for this credit is met, the project will receive 1 point for green vehicles.

Sustainable Sites:

Construction Activity Pollution Prevention: While the construction process is happening, we will have a soil erosion and dust prevention plan implemented. This credit is a prerequisite and required by LEED so no points will be earned.

Rainwater Management: This credit is awarded based on the project's runoff volume of water. This project will have an exfiltration system on site that will be in the 90th percentile which will credit 3 points. Since the criteria for this credit is met, the project will receive 3 points for rainwater management.

Light Pollution Reduction: This credit is awarded for reducing light pollution. This project will use energy efficient lights that will be facing downwards. Since all the lights will be facing downwards this will reduce light pollution in surrounding areas. Since the criteria for this credit is met, this project will receive 1 point for light pollution reduction.

Water Efficiency:

Outdoor Water Use Reduction: Part of this criteria is a prerequisite and required but this project will go above and beyond the required criteria to earn points. To earn the 2 credits for this section, there must be 100% reduction from the calculated baseline for the site's peak watering month. Since this project is a service warehouse and tractor dealership there will not be any grass or plants other than what is required by Alachua County code. The trees on site will get enough water from the rain and drip irrigation system to reduce outdoor water use. Since the criteria for this credit is met, this project will receive 2 points for outdoor water use reduction.

Indoor Water Use Reduction: Part of this criteria is a prerequisite and required but this project will go above and beyond the required criteria to earn points. To earn the 6 credits for this section, there must be a 50% reduction from the fixture and fitting water use from the calculated baseline. To accomplish this, the project will have touchless sensor fixtures, waterless urinals, high efficiency toilets (HET) which reduce the gallons per flush. Since the criteria for this credit is met, this project will receive 6 points for indoor water use reduction.

Building Level Water Metering: This credit is a prerequisite and required by LEED so no points will be earned. 1 water meter will be installed in this warehouse to measure the total potable water use for the building and associated grounds.

Cooling Water Tower Use: This credit is awarded by conducting a water analysis that measures the calcium carbonate, total alkalinity, silicon dioxide, chlorine, and conductivity of the water. 2 points can be earned for achieving the maximum number of cycles without exceeding any filtration levels or affecting the operation of condenser water system. The maximum number of cycles is 10. Since the criteria for this credit is met, this project will receive 2 points for cooling water tower use.

Energy and Atmosphere:

Fundamental Commissioning and Verification: This credit is a prerequisite and required by LEED so no points will be earned. Inspections will be conducted to ensure all process activities for mechanical, electrical, plumbing, and renewable energy systems and assemblies, in accordance with ASHRAE Guideline 0-2005.

Minimum Energy Performance: This credit is a prerequisite and required by LEED so no points will be earned. To accomplish this prerequisite the contractor will make sure all subcontractors are complying with ANSI/ASHRAE/IESNA Standard 90.1–2016.

Building Level Energy Measuring: This credit is a prerequisite and required by LEED so no points will be earned. 1 energy meter will be installed in this warehouse to measure the total building energy consumption.

Fundamental Refrigerant Management: Part of this criteria is a prerequisite and required but this project will go above and beyond the required criteria to earn points. It is a requirement to not use CFC based refrigerants in HVAC&R systems. To receive 1 point for this section, this project will only use refrigerants that have an ozone depletion of zero. Since the criteria for this credit is met, this project will receive 1 point for fundamental refrigerant management.

Enhanced Commissioning: This credit is awarded if the commissioning authority reviews contractor submittals, verify inclusion of the requirements in construction documents, and develops an on-going commissioning plan. These requirements will be met to receive credit for this section. Since the criteria for the credit is met, this project will receive 3 points for enhanced commissioning.

Optimize Energy Performance: As stated above, there is a requirement for minimum energy performance, but this project will go above and beyond to earn extra credits for this section. This project will achieve 24% improvement in energy performance by recycling all the water and having the most efficient appliances on the market. This project will start off by achieving 24% and may achieve more in the future depending on the costs. Since the project will achieve 24% improvement, the project will receive 10 points for optimizing energy performance.

Advanced Energy Metering: This credit is awarded if the project has advanced energy metering. Since the criteria for this credit is met, this project will receive 1 point for advanced energy metering.

Materials and Resources:

Storage and Collection of Recyclables: This credit is a prerequisite and required by LEED so no points will be earned. This project will have waste bins to collect recycles. A waste stream study will be conducted to identify the project's top 5 recyclables.

Construction and Demolition Waste Management: Part of this criteria is a prerequisite and required but this project will go above and beyond the required criteria to earn points. The required part of this section is having a construction and demolition waste management plan. To earn 2 points for this section, this project will divert 75% and have at least 4 material streams. Since the criteria for this credit is met, this project will receive 2 points construction and demolition waste management.

Building Product Disclosure and Optimization – Environmental Product Declaration: this credit is awarded by using products and materials from manufacturers who have verified improved life cycle impacts. To earn 2 points for this section, this project will use at least 20 different permanently installed products from at least 5 different manufacturers that meet the environmental product declarations. Since the criteria for this credit is met, this project will receive 2 points for environmental product declaration.

Building Product Disclosure and Optimization – Sourcing Raw Materials: This credit is awarded by using products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life cycle impacts. This project will use products sourced from at least 3 different manufacturers that meet at least one of the responsible

sourcing and extraction criteria. Since the criteria for this credit is met, this project will receive 1 point for sourcing raw materials.

Building Product Disclosure and Optimization – Material Ingredients: This credit is awarded by using products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. This project will use at least 20 different permanently installed products from at least 5 different manufacturers that use any of the programs to demonstrate the chemical inventory. Since the criteria for this credit is met, this project will receive 2 points for material ingredients.

Indoor Environmental Quality:

Minimum Indoor Air Quality Performance: This credit is a prerequisite and required by LEED so no points will be earned. To accomplish this prerequisite the minimum requirements of ASHRAE will be met.

Environmental Tobacco Smoke Control: This credit is a prerequisite and required by LEED so no points will be earned. To accomplish this prerequisite smoking inside of the building will not be allowed. This project will have designated smoking zones at least 25' from all entries, air intakes, and windows.

Low-Emitting Materials: This credit is awarded for reducing concentrations of chemical contaminants that can damage air quality and the environment. This project will use low-emitting materials to meet the requirements for this credit. Since the criteria for this credit is met, this project will receive 2 points for low emitting materials.

Construction Indoor Air Quality Management Plan: This credit is awarded by developing and implementing an IAQ management plan for the construction and occupancy phases. Since the criteria for this credit is met, this project will receive 1 point for construction indoor air quality management plan.

Indoor Air Quality Assessment: This credit is awarded by conducting a baseline indoor air quality assessment which must demonstrate that, prior to occupancy, pollutants do not reach the allowable concentration levels. Since the criteria for this credit is met, this project will receive 2 points for indoor air quality assessment.

Thermal Comfort: This credit is awarded for providing quality thermal comfort. This project will meet all ASHRAE, ISO, and CEN standards. Individual thermal comfort controls for occupant spaces also must be provided. Since the criteria for this credit is met, this project will receive 1 point for thermal comfort.

Interior Lighting: This credit is awarded for providing high quality lighting. The lighting inside the office area will have 3 levels (on, off, and midlevel) so that the lighting can be adjusted to each person's liking. Since the criteria for this credit is met, this project will receive 1 point for interior lighting.

Daylight: This credit is awarded by connecting building occupants with the outdoors. This project will have windows that allow sunlight into the office area as well as skylights on the roof

that allow some sunlight into the office area. To earn 1 point for this section, a computer simulation for spatial daylight will be performed and show the average value of regularly occupied floor area is at least 40%. Since the criteria for this credit is met, this project will receive 1 point for daylight.

Innovation:

LEED Accredited Professional: To earn a point in this section, the project must have a LEED accredited professional on site. This project will have a LEED accredited professional always on site. Since the criteria for this credit is met, this project will receive 1 point for a LEED accredited professional.

LEED Certification Points:

Figure 3.1 of the LEED Project Checklist is shown below as well as figure 3.2 of the LEED Responsibility Matrix.

Total Points Earned: 51

Certification Level: Silver