

SKANSKA



Associated Schools of Construction

Student Competition - Sparks, NV
February 5 - 8, 2014

National Problem Statement:

Sustainable Building & LEED





Introduction

Welcome to the 2014 ASC National Problem Statement focusing on Sustainable Building and Leadership in Energy and Environmental Design (LEED®) projects.

As one of the top Contractors of sustainable construction projects, Skanska USA has strived to create projects that have minimal, if any, impacts on the environment throughout their construction and lifecycle. Utilizing the programs set forth by the U.S. Green Building Council, the International Living Future Institute, and other green certification agencies, along with forward-thinking project teams and design partners, we have sought to move farther down the path of sustainability using any and all methods available. With your help and participation in this problem statement, we hope that you will gain understanding and appreciation of the green building methods that the construction industry can employ in our day-to-day operations. More than that, we hope that you will look to implement these ideas into your daily lives outside the workplace.

Problem Statement

Our problem statement this year will look to analyze and develop sustainability practices for the new construction of a two (2) story steel structure with a significant amount of earthwork. The occupied space will be approximately 95,000 square feet, split between the above ground concourse and below ground boarding area. The civil elements include excavation, building demolition, structural concrete, landscaping and hardscapes. The building structure is a combination of steel and concrete. The building site is in the western United States and the building is designed to achieve many of the best practices of a state specific building rating system. The construction cost is approximately \$55M.

This problem involves the identification, analysis, comparison and proposed recommendation for five or more aspects of the project.



The problem you are working on is a real project in the construction phase. The decisions made during a project have a great impact and often determine the feasibility and overall success of a project. Your team's review and recommendations to the project team will be instrumental in determining the overall success of the project.

At a minimum, these required skills and tasks will be involved:

- Knowledge of the requirements of the **LEED 2009** certification systems for new construction.
- Knowledge of the standards of the **Living Building Challenge, Version 2.0**.
- Knowledge of sustainable building practices that may not be covered by either LEED or the Living Building Challenge.
- Attendance at a LEED charrette for the project. Recognize and implement from the charrette the Owner goals, aspirations, limitations and overall objectives for the project.
- Provide a thorough evaluation of identified points or standards per the project conditions, drawings and specifications. Detail and assess the accuracy of each point or standard. Verify and substantiate whether each point or standard will likely be "Awarded" or "Denied" through the formal certification process.
- Provide an item-by-item determination of costs associated with each specified point and its components, above and beyond typical construction costs and methodologies. Detail the path used to develop these costs and be able to explain clearly how costs were developed.
- Develop insight and proposals for sustainable practices that may help the Owner achieve their sustainable building goals.
- Detail opportunities for sustainable innovations.
- Present a detailed explanation, for presentation to the project Owner, as to how and why the costs of sustainability are, or are not, outweighed by the benefits of the sustainable features that have been incorporated into the project.

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- Clearly note LEED and Living Building Challenge activities and impacts on the project schedule, budget and logistics plan.
- Detail the assignment of responsibility for each selected point - Owner vs. Architect vs. Contractor. Develop methods of tracking and submitting those areas that you, as the General Contractor will be in control of. Determine who has the greatest control of achieving the desired points.

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Scoring

The judging panel will be made up of four or more members from the project architect, engineers and general contractor. Point scales will be assigned to several elements of the written and oral presentations.

The final point and scoring system has not yet been developed. The written work product created during the competition will be worth approximately 75 percent of the available points. For review and use in your preparation, a previous year's problem utilized a point and scoring system as follows:

	<u>Available</u> <u>Points</u>
• <u>Prequalification</u> : Your team's actual resumes describing personnel, experience and commitments to sustainable design and green building, presented as a pre-conference submittal.	5
• <u>Problem Statement 1</u> – Sustainable Wood.	15
• <u>Problem Statement 2</u> – Water Efficiency and Re-use.	20
• <u>Problem Statement 3</u> – Alternative Transportation.	10
• <u>Problem Statement 4</u> – Sustainable Site Selection.	15
• <u>Problem Statement 5</u> – Indoor Environmental Quality – Low Emitting Materials.	15
• <u>Oral Evaluation</u> : - Prepare and present a persuasive argument and recommendation for a problem unrelated to the written problems.	20
Total Possible Points	100

Additional details and requirements for this Prequalification Statement will be communicated later in 2013.