



Associated Schools of Construction

**Student Competition – Sparks, NV
February 10 – 13, 2010**

**Open Problem Statement
Leadership in Energy and Environmental Design
(LEED®)**

Introduction

Welcome to the 2010 ASC Open Problem Statement focusing on Leadership in Energy and Environmental Design (LEED®) projects.

As one of the top Contractors of sustainable construction projects, Skanska USA Building 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, along with forward-thinking project teams and design partners, we have sought to move farther down the path of “green building” 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 a LEED certification program for a new healthcare facility in the western United States. The project is a full service, community based service and offers inpatient care and features emergency, diagnostic and treatment services.

The building is a structural steel tower on a concrete podium with masonry, precast concrete and glazed curtainwall exterior skin elements.

This problem involves the identification, analysis, comparison and proposed recommendation for five or more aspect points or alternates considered for the project; and presentation and defense of the proposed points and recommendations.

The problem you are working on is a real project in the design and construction process. The decisions made at the beginning of a project have the greatest impact and often determine the feasibility and overall success of a project. Your team's review and recommendations to the project team before the start of construction are 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 **LEED-NC version 2.2** and **LEED 2009 for New Construction**.
- Attendance at a LEED charrette for the project. Recognize and implement from the charrette Owner goals, aspirations, limitations and overall objectives for the new building.
- Provide a thorough evaluation of identified points per the project conditions, drawings and specifications. Detail and assess the accuracy

of each point. Verify and substantiate whether each point 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 additional points that may be awarded to the project at little to no cost to the Owner.
- Detail opportunities for innovation credits.
- 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.
- Clearly note LEED 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.

Scoring

The judging panel will be made up of four or more members from the hospital, project architect 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 firm's history, personnel, experience and commitments to sustainable design and green building, presented as a pre-conference submittal.	5
• <u>Problem Statement 1</u> – Identification, evaluation and determination of efficacy of selected points on project	15
• <u>Problem Statement 2</u> – Evaluation and determination of economic feasibility and cost aspects of points and alternate methods of compliance	30
• <u>Problem Statement 3</u> – Evaluation and presentation of schedule impacts of selected points and alternate methods of compliance	15
• <u>Problem Statement 4</u> – Innovation and design points	15
• <u>Oral Evaluation</u> : Oral group presentation and defense to	20

challenge of any one proposed presentation item

Total Possible Points **100**

Sig-up for the competition **will not** be limited to a fixed number of teams. Depending on the number of teams submitting Prequalification Statements, additional judging panels may be convened for the oral presentations. Additional details and requirements for this Prequalification Statement will be communicated later in 2009.