ABSTRACT
Santa Clara, a residence located in Dana Point, California, has been designed as a LEED Certified home. LEED, Leadership in Energy and Environmental Design, is a certification program for green building. There are various ratings that can be earned for homes including Certified, Silver, Gold and Platinum. In order to gain certification, a minimum of forty points must be obtained using the LEED V4 Homes and Multi-Family Midrise scorecard. This scorecard has eight categories, including: Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation, and Regional Priority. Each category consists of prerequisites that are required as well as credits that can be obtained to earn points. The purpose of fulfilling these credits is to create a home that has better air quality, uses less energy and has less impact on the environment. An added benefit of having a LEED Certified home means lower utility bills for the homeowner.

The site for Santa Clara is located at Lot Forty-One in the Strand Point community. Landscaping, including a pool and spa, are important to the homeowner. This must be considered while choosing LEED credits to obtain. The largest categories affected by the landscaping and pool are the Water Efficiency and Sustainable Sites. There are steps that can be taken to use less water even with the use of a pool and spa.

After evaluating the homeowner’s wants and needs, forty-six points will be earned, allowing the home to become certified as LEED Bronze. A detailed list of how to achieve each point will be created, and proper evidence and documentation will be provided to show completion of each one.

WHAT IS LEED?
LEED, or Leadership in Energy and Environmental Design, is the most widely used green building rating system in the world. Available for virtually all building, community and home project types, LEED provides a framework to create healthy, highly efficient and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement.

THE CERTIFICATION PROCESS
The process is designed to inspire project teams to seek innovative solutions that support public health and our environment, while saving building owners money over a project’s lifecycle. Based on the number of points achieved, a project then earns one of four LEED rating levels:

EARLY FOOTPRINTING
MID-CONSTRUCTION
POST-CONSTRUCTION
HAUS DESIGN

SS Credit: Non-Toxic Pest Control
• Each of the following measures will be taken to minimize pest problems and risk of exposure to pesticides. Each measure is worth ½ point. For below-grade walls, solid concrete foundation walls will be used. All cellulose structural material, such as wood framing, will be treated with a registered pesticide containing borates for preconstruction treatment. A registered termite bait system will be installed and ongoing maintenance as required by the manufacturer will be provided. All external cracks, joints, penetrations, edges and entry points will be sealed with appropriate caulking.

EA Credit: Envelope Insulation
• Insulation with an R-value exceeding the requirements listed in the 2012 International Energy Conservation Code, Chapter 4 by 20% will be used.

LT Credit: Site Selection
• I chose a previously developed area. More than 75% of the total buildable land has been previously developed by The Strands community for homes, golf course, spa, and other amenities. I also chose a location that is within ½ mile of a publicly accessible or community based open space that is at least ¼ of an acre. This includes the Strands beach as well as a public park.

LT Credit: Community Resources
The home’s main entrance is within a ½ mile walking distance from the building entrance of 8 other buildings specified under the Uses and Use Categories of LEED V4. This includes:
- Grocery Store (Rushmore Superfoods)
- Other Food Store (Purely Pomegranate Inc.)
- Services (Gym at The Strand)
- Restaurant (And Bar at The Strand)
- Public Park (Strand Vista Park)
- Medical Clinic (Practical Hospital Services)
- Family Entertainment Center (The Strand Golf Course)
- Community Center (Strand Beach Club)