

## **Charting a Course towards Water Independence: Achieving Net -Zero Water in Living Buildings**

Water, one of our most valuable resources, is likely to become more precious with the pressures of increased population and global warming. To address these concerns, the building industry is moving towards conservation based decentralized, water neutral systems. In order to reach the next level — fully independent, net-zero buildings — water management systems must be coordinated between municipalities, owners, architects and engineers. Yet, all are facing challenges as they consider strategies to achieve water independence. From encouraging behavioral change among tenants to employing technological solutions to navigating code requirements — implementing a net-zero water strategy is complex.

To aid code officials in understanding this complex issue, Lisa and Jon will discuss a jointly developed *water independence pathway* prepared for the Pearl Family Development – a mixed-use, high-rise with 175 affordable family apartments being designed to meet the Living Building Challenge in Portland, Oregon. They will also describe how the Pearl Family Housing work has been translated, transformed, and implemented on two current projects – the Edith Green Wendell Wyatt Building and the Oregon Sustainability Center.

### **OBJECTIVES**

- Attendees will gain an understanding of why water conservation is important
- Attendees will gain familiarity with the code appeals necessary to achieve various aspects of the Living Building Challenge Net-Zero Water imperative
- Attendees will obtain an understanding of the three statewide alternate means and methods passed as a result of the *water independence pathway* study
- Attendees will gain insight on the code appeal path to achieve water independence in Oregon's mixed-use buildings
- Attendees will learn the basic technical components of water conservation systems via systems diagrams

*Bios:*

**Lisa Petterson, LEED AP, SERA Architects, Associate and Architect**

Lisa's work as an architect is focused on the development of projects with green building goals. Currently, she is working on four Living Buildings, including coordinating the team working on a grant whose goal is to provide solutions to the regulatory barriers preventing the achievement of Net-Zero Water. Lisa is a regular speaker on the subject of the Living Building Challenge and other green building topics and has been teaching design at the University of Oregon as an adjunct professor for the past ten years. Conferences and seminars she has spoken at include: LightFair, Solar Expo 2006, Focus the Nation, the Oregon Chapters of ASHRAE and IESNA, the Office of Sustainable Development's Green Building Program, the AIA Committee on the Environment and the Corvallis City Club. Lisa is a part of the team awarded the Demonstrated Leadership Award at the 2007 Living Futures conference.

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**Jonathan Gray, CPD, Interface Engineering, Principal and Senior Plumbing Designer**

Jon is a Principal at Interface Engineering. He serves as Interface's lead plumbing designer, participating in investigations and studies, and the design and construction administration of plumbing, piping and mechanical systems. Jon's team was an integral part of the *Center for Health & Healing*, an innovative medical office building which was recently awarded LEED Platinum certification. Jon is a current member of the Oregon State Plumbing Board, and is actively involved in the American Society of Plumbing Engineers and the International Association of Plumbing & Mechanical Officials organization.

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