The Women of QLIC

…and Why We Need More Women in Design and Construction

By Vicki Arbitrio, P.E., SECB, F.SEI

In August 2015, The American Society of Civil Engineers (ASCE) finally recognized Nora Stanton Blatch Barney as an ASCE Fellow, 110 years after she graduated from Cornell with a Civil Engineering degree and 99 years after the ASCE Board of Directors turned down her application for membership (reference **blogs.asce.org**). Although nationwide 17% of civil engineers are women, in New York City women leading project teams of design, construction or real estate disciplines is now not uncommon.

Throughout my engineering career, I was one of very few women in my classes at college, the only woman on a construction site, and one of just a few women at any design team meetings. I got used to explaining whom I was, proving that I knew my stuff, and like Sisyphus (in Greek mythology, he is condemned to an eternity of rolling a boulder uphill then watching it roll back down again), I just kept going and going and going. Recently, I heard about a project where the developer's representative, the structural engineer, the mechanical engineer and the contractor were represented by women! Okay, not every employee was a woman, but women were in the primary leadership roles.

The project is called QLIC and it was completed in August 2015. It is a 400,000 square foot mixed-use development at 41-42 24th Street, in Long Island City, NY on the north side of Queens Plaza. The 21-story tower consists of 421 rental units, double height retail spaces at grade, and parking for 120 cars below grade. The building's 28,000 square feet of amenity space includes a rooftop pool, cabanas, a roof deck with an open-air theater and barbecue, a landscaped courtyard with a fire pit, a media lounge, a game room, a fitness center, and other amenities on an occupied terrace.

The structural system is conventionally reinforced concrete flat plate floors with concrete columns and shear walls for lateral load resistance. This system is very common for high-rise residential construction in New York City. The 8-inch concrete slabs accommodate services for mechanical, plumbing and electrical trades. Shear walls are located around building cores that house elevator shafts and egress stairs to provide a structural and fireproof enclosure. Locating the shear walls at the elevator and stair shafts minimize their architectural impact, and for this project additional walls were not needed for lateral resistance.

The developer was World Wide Holdings; the architect, Perkins Eastman; the structural engineer, Gilsanz Murray Steficek (GMS); the mechanical engineer, MG Engineering; and the contractor, Lettire Construction. None of these firms are Minority or Women Owned, but most of the Project Managers for this project were women. Rachel Loeb ran the project for World Wide; Cathy Huang designed the structure for GMS; Masha Dinaburg coordinated the mechanical, electrical and plumbing work for MG; and Jessica Licata got everything built for Lettire.

This project is one of many projects across the country which is successful because the client's needs were fulfilled by a diverse team who conceived, nurtured and delivered the project.

So how can all of us make our projects more successful? Here are 4 suggestions:

1) Set the tone for collaboration. Do all your staff members feel engaged and empowered to make decisions – regardless of gender? Do they feel a sense of ownership for each project or task to which they contribute? Are they corrected promptly and courteously when they make mistakes (because we all make mistakes)? Do they have mentors? Do they have people, besides their direct supervisor, from whom they can learn and ask for help?
2) Remove unconscious bias. Create a company culture that is inclusive and encourages the expression of different points of view. It is not enough to hire a diverse workforce if staff members are not engaged. If engineers do not feel trusted, respected and included, they will find someplace else to work. Even small biases are demeaning – do you send both male and female engineers out to the field? Do women and men get an equal shot at designing the coolest projects in the office? Treat them equally, pay them equally and provide them with similar project opportunities.
3) Build consensus. Listen to each other and work together to solve issues, instead of pointing fingers. Remember that most of the people working in our industry love their work. So give them the benefit of the doubt and listen while they brainstorm solutions to field conditions or to whatever other issues that may arise. You might be surprised by the solutions.
4) Encourage your entire staff – women and men – to ask for help, and to offer to help others.

Engineers, including structural engineers, must do more to bring more women and minorities into our profession. From an article in The Economist (**www.economist.com/node/15174418**): "This growing cohort of university-educated women is also educated in more marketable subjects. In 1966, 40% of American women who received a BA specialized [sic] in education in college; 2% specialized [sic] in business and management. The figures are now 12% and 50%. Women only continue to lag seriously behind men in a handful of subjects, such as engineering and computer sciences, where they earned about one-fifth of degrees in 2006."

A July 2011 study by Forbes finds that innovation and business growth are driven by diversity in the workforce. There are numerous other studies that show a diverse workforce is stronger, similar to having a diverse investment portfolio. Structural Engineers provide an invaluable service to our communities and society. So let's not leave out 50% of our society – we need all the talent we have available to solve issues like building resiliency. Want to know more? Please ask me.▪

For additional information

Women and Leadership – **www.pewsocialtrends.org/2015/01/14/women-and-leadership**

McKinsey 2015 Women in the Workplace – Lean In **www.mckinsey.com/business-functions/organization/our-insights/women-in-the-workplace**

https://foreignpolicy.com/2016/04/19/how-to-get-tenure-if-youre-a-woman-academia-stephen-walt

Peterson Institute for International Economics, Working Paper Series WP 16-3, *Is Gender Diversity Profitable? Evidence from a Global Study*

What do Millennials Really Want at Work? **https://hbr.org/2016/04/what-do-millennials-really-want-at-work**

Vicki Arbitrio is an Associate Partner at Gilsanz Murray Steficek in New York and a Past-President of NCSEA. She can be reached at ***vickiarbitrio@gmsllp.com****.*