

# cross sections

Magazine for the Structural Engineers Association of New York

2022 VOLUME 27 NO. 3





# cross sections

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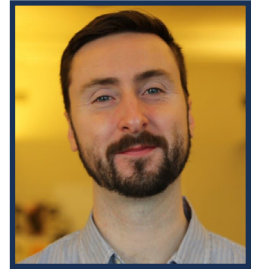
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# MESSAGES

## PRESIDENT'S MESSAGE



**ERIK MADSEN, PE**

Mayor Eric Adams and NYC DOB Commissioner Eric Ulrich announced in a September press release the [90-Day Adams Commission](#). The 90-Day Commission is focused on providing improved customer service and improving DOB processes. To that end, the Building Department reached out to a number of interested stakeholder organizations, including SEAoNY.

The Commission is separated into 12 different committees. The DOB selected four SEAoNY representatives who each serve on 1 or 2 committees per person. Together, we sit on 7 of the 12 committees between our four individuals. This process has occurred very quickly, and while we are doing our best to gather information from the SEAoNY Board and members, we will not be able to gather and process everyone's input just yet.

The Commission will have two excellent outcomes:

- 1) the 90-Day Commission will develop recommendations and changes within DOB that will likely result in faster, smoother and more consistent results when interacting with the Building Department;
- 2) the discourse and attitude of collaboration have spurred many new ideas while creating a new communication line with stakeholders and the DOB.

Even if all SEAoNY's ideas are not implemented right away by the DOB, we hopefully will continue to collaborate with our members to gather new ideas and develop the best into actionable items to share with DOB for implementation. We hope that the NYC DOB will work with us to collaborate now and well beyond the end of the 90-Day Commission to enhance work in the city for our members, including those in the DOB, our colleagues outside SEAoNY, and all of our Clients.

Sincerely,  
Erik Madsen, PE



**RIYA MANIAR, E.I.T.**

## EDITOR'S MESSAGE

As we wrap up the year, we reflect on the many accomplishments of the volunteer committees of SEAoNY, as well as future goals for both SEAoNY and the industry. In this issue, we interviewed the 2022 SEAoNY honorary member, Tim Lynch. His insight into a long and successful career as a master engineer is invaluable.

Additionally, SEAoNY committee updates and accomplishment presented at this year's Annual Meeting are recapped in this issue of Cross Sections. These articles highlight the successful events and future goals of the volunteer committees.

Beyond reflecting on this past year, the articles included in this issue also look towards future goals for the structural engineering industry. Topics discussed include ethics and retention of young engineers.

As you read through this issue, we hope you enjoy the look into the accomplishments and goals of the different committees and members in SEAoNY. Thank you to the publication team, authors, and readers of Cross Sections for your sincere efforts into making this publication possible.

Thank you,  
Riya Maniar, EIT

# ETHICS:

## ISSUES WHEN REPLACING/SUPERSEDING A CONSULTING ENGINEER



**BY NEIL WEXLER, PHD, PE  
WEXLER ASSOCIATES**

As consultants, structural engineers face new ethical issues from time to time. Ethical and legal issues arise for example when one engineer takes on responsibility for a project started by another engineer. This topic is not well documented, written material on the subject is sparse.

A client may choose to assign a project to a new consulting structural engineer for various reasons, including - expertise, manpower, production schedules, and project costs. The act of replacing or superseding an engineer who has been working on a project for some time, while being ethical, is questionable, and is discussed herein. Please note that this article will not describe the legal implications of replacing or superseding an engineer.

Engineering Ethics is a field of moral principles; it sets the moral obligations of engineers to society, clients, peers, and their profession. It is closely related to subjects such as philosophy, science, technology, history, and the humanities. The Code of Ethics for engineers is formulated by Boards of Ethics affiliated with professional organizations such as the National Council of Structural Engineering Associations (NCSEA), the National Society of Professional Engineers (NSPE), American Society of Civil Engineers (ASCE), etc. Ethics is being taught in engineering schools yet some question the need, claiming that ethics is a moral obligation of every engineer, deeply engrained in his humane upbringing since childhood, and therefore it is their obligation to implement and be ethical. However, the competition of free markets sometimes places consulting engineers on opposite sides and with contradictory interests, giving rise to moral and ethical issues.

Often, when an engineer is replaced or superseded, a negative perception is created about their abilities, competence, experience, etc. Therefore some engineers resist being replaced or superseded regardless of the stage of contract or design. For some it is a matter of pride and reputation; it can also be a financial matter. For some, it is a matter of sound practice for some to stay on the job until the end.

A project begun is a project completed say some. It is better to avoid a project from the beginning than to start and then abandon it. Thus it is critical to ensure that replace/supersede is properly executed ethically. But before ethical

issues can be addressed the following needs explanation.

### DEFINITIONS

#### 1. CODE OF ETHICS

- All engineering codes of ethics subscribe to a code of conduct that prescribes principles of public safety and honor, life, law, and the environment. But specifically, some codes state the following:
- Do not accept any engagement to review work of another professional engineer for same client except with the knowledge of that engineer or except where the connection of that engineer with the work has been previously terminated.
- Do not maliciously injure the reputation or business of another professional engineer.
- Do not attempt to gain an advantage over other members of the profession.
- Give proper credit for engineering work, uphold the principle of adequate compensation for engineering work.
- In summary, "do unto others as you would have others do unto you" has been paramount in human behavior through centuries, even millennia. It is also at the core of the engineering code of ethics. When replacing or superseding an engineer on a project, this mantra needs to be respected.

#### 2. ENTITIES

It is important to understand that the engineer and their project (as considered herein) are in fact different entities. The engineer is retained to help deliver a project through their engineering service. Projects typically have at least two parts: Part 1 includes the preparation of documents and specifications, calculations, etc. Part 2 includes construction administration. Because the engineer and the project are different entities, an owner may opt to replace/supersede the design engineer as the project advances into construction. When considering whether or not to replace or supersede, the decision is often affected by the stage of the project and how advanced the project is.

#### 3. ENGINEER OF RECORD

Most states have definitions for what it means to be an engineer of record. The following represents a summary selected for this article: an engineer of record is a professional engineer licensed in a respective state who is appointed by the owner and acceptable to the city; acting reasonably as the engineer responsible for the preparation, sign, seal, date and issue (or file) documents related to design and construction.

Thus, an engineer preparing designs becomes an engineer of record after signing, sealing, dating, and issuing (or filling) the documents. Before those steps, they are not the engineer of record. When considering to replace or supersede, it matters if the engineer is the engineer of record or not.

#### 4. REPLACING/SUPERSEDING

The terms "replace" and "supersede," as used herein, have different meanings. When an engineer is replaced with a new engineer, the old project is abandoned and the new engineer produces a new design from the start. When an engineer is superseded, the old design remains and the new engineer assumes irresponsibility or its parts from where it is at the time of the change until its conclusion. When a project is in early development an engineer can be replaced. If the project is well advanced and the engineer is superseded, the new engineer assumes responsibility for the prior engineering designs, presumably with new calculations, drawings, etc.

#### DISCUSSION:

It is a momentous decision for an owner to replace or supersede an engineer; this is done with serious considerations and analysis for the benefit of the project.

The case of replacing/superseding an existing engineer raises ethical and legal issues for consulting engineers. Engineers have the ethical duty to transition appropriately.

The following is a common scenario: the current engineer is notified of the client's intentions. They are then asked to conclude the contract obligations on the project, stop their work and submit all applicable invoices to date. They are also asked to submit a statement of no-objection to be replaced/superseded by another engineer.

Because the engineer and the project are different entities, they can be treated differently. The project stage of the project often dictates whether to replace or to supersede the engineer and thus the procedure for replacing is different from the procedure required for superseding. Replacing can be done at any time, but if the project is advanced, replacement is no longer an option and superseding is then required. When superseding, the following actions are recommended for the superseding engineer:

1. Always communicate with the client properly and truthfully. Let them know early of your ethical responsibilities to your fellow peers and the proper ethical path needed for superseding an engineer.
2. Do not opine on an existing project except after receiving affirmation from the current engineer.
3. Obtain a release from the current engineer, preferably in writing. Confirm that they have been paid, and that there are no unresolved contractual obligations.
4. As an engineer of record, designs and drawings must be developed under your supervision. Therefore new drawings and calculations are needed.

5. Building Department filing needs to supersede prior filings.

Questions of drawing ownership and design rights are legal issues to be answered by legal departments. Additionally, circumstances may dictate variations that can affect all parties. Still, the emphasis herein is on the replacing or superseding of an engineer – they have the responsibility to make the transition ethically proper and communicate truthfully throughout the transition, while maintaining the professional integrity of all parties. When in doubt, best to stay on the side lines and not compromise ethics.

#### CONCLUSIONS:

Replacing or superseding an engineer on an ongoing project can be difficult; for the transition to occur smoothly, ethical and legal issues must be confronted and dealt with professionally. The ethical duty to ensure a proper transition falls on all parties, but the new engineer must highlight the proper ethical transition method. The codes of ethics sponsored by various engineering organizations clearly list the ethical requirements.

#### CODE OF ETHICS - QUOTATIONS:

##### NCSEA – National Council of Structural Engineers Associations

Give proper credit for structural engineering work to those contributing and recognize the propriety interests of others.

Avoid procuring copying or otherwise using computer files software or intellectual property without the consent of the product or property owner.

##### ASCE – American Society of Civil Engineers

Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.

Engineers shall act in such a manner as to enhance the honor, integrity and dignity of the engineering profession.

##### NSPE – National Society of Professional Engineers

Engineers shall not promote their own interest at the expense of the dignity and integrity of the profession.

Engineers shall not attempt to obtain employment or advancement or professional engagements by untruthfully criticizing other engineers or by other improper or questionable methods.

Engineers in private practice shall not review the work of another engineer for the same client, except with the knowledge of such engineer or unless the connection of such engineer with the work has been terminated.

Engineers shall give credit for engineering work to those to whom credit is due and will recognize the propriety interests of others.



# A CALL TO ACTION



**BY TEDDY JEANTY, EIT  
CO-CHAIR, SEAONY  
YOUNG MEMBER GROUP**

an initial 5- to 7-year period? This article will raise more questions than provide answers but will attempt to shed a light on some of the reasons engineers have left the practice in recent years.

The COVID-19 pandemic has demonstrated that a good portion of structural engineers' work can be done virtually with great effectiveness. Many firms have celebrated the productivity of their teams who quickly adjusted to remote work during the pandemic era; yet the same firms have been reluctant to provide that same flexibility post-quarantine. Many structural engineering firms have been quick to demand a return to a 4-5 day in-office work week, even when the workforce has been screaming for more flexibility in the way work gets completed.

During this period of many resignations, lack of flexibility has been an important factor driving talented individuals from traditional offices to non-engineering related remote or hybrid opportunities elsewhere, with former engineers often embarking on careers in areas other than structural engineering.

This migration of talent is in no way a new phenomenon within our industry. Therefore, COVID cannot be the sole cause of this trend; if anything, COVID has put things into perspective and shown people the value of their time. Discussions with my industry peers confirms they have experienced high levels of stress due to having to juggle multiple projects at a time, each on a tighter deadline than the next. To remain afloat, engineering firms enter bidding wars in which the contracts are typically awarded to the lowest bidders

with the minimum required credentials and experience requirements to execute the design work.

This practice has been driving the cost and perceived value of our work to the lowest possible figure; in turn, firms are then forced to take on an unsustainable load of contracts to remain profitable which ultimately results in the overutilization for their engineers. Burn out is real and happening in engineering firms. Which begs the next question: Are engineers compensated enough considering the overutilization and level of stress they deal with?

Recently, Ashraf Habibullah<sup>1</sup> posted on LinkedIn: "Structural Engineering is critical to the world's economy and economic infrastructure. If structural engineers stopped working, all human progress would come to a screeching halt. It is clearly a profession that is indispensable to humanity. Why, then don't our professional fees and compensation reflect our immeasurable contribution to civilization?" When I saw this post, I had just made the transition to a new career, and could not have agreed more. The post continued: "Low fees are affecting our profession's ability to attract and retain the smartest graduates.

Meanwhile some of the brightest minds in our field are leaving to pursue alternative careers. This will have devastating effects on the quality of our professional work and will become a public safety issue. We must face these issues before it's too late." As stated by Mr. Habibullah, the profession is running the risk of developing a knowledge vacuum, with experienced senior engineers having too few younger engineers to whom they can pass their knowledge and mentor.

Alternatively, senior engineers may end up training younger engineers who end up leaving promptly at the 5-year mark, having reached a financial ceiling that is far too low for a major city. By contrast, today's graduates seeking alternative careers in Tech or Finance are presented with entry level compensation packages that exceed salaries of senior engineers with 15+ years of experience. There is a saying in our industry that structural engineers do not follow their career path to become rich. It's true, most of us do not.

While most structural engineers are passionate people who enjoy seeing their product develop from a pen and paper concept to a functional steel and concrete structure, their dedication not only unfairly

compensated but frequently lacks proper credit in write-ups of the final product. Google any impressive building in NYC and you will likely find a comprehensive list of architectural and façade designers and statistics, but no mention of the structural engineering firms, with the original WTC "Twin Towers" as the rare exception.

Credit is rarely given to the engineering firm who took responsibility for the structural stability of the entire structure. Something has to change the cultural perception of structural engineering. While practitioners of structural engineering are dedicated professionals, dedication and professionalism can only go so far. Leah Peker, PE, LinkedIn post<sup>2</sup> on this subject states: "The amount of education, student debt, and liability required combined with the burnout that is widespread in the industry due to tight deadlines and complete lack of work life balance doesn't add up to the low entry-level salaries with slow-paced raises that we can expect during our careers. We go into this industry because we LOVE building structures, but it eats a lot of us alive.

And then we see data that talks about retention issues for structural engineers. It seems like the industry is tone-deaf to the glaring issues that the data suggests, and

we all talk about. And it goes much deeper than pay and burnout."

As engineers, we are problem solvers; we can do better in our efforts to save the practice of structural engineering. Are we going to continue to allow the development, construction, and design industries to kill the passions and dreams of the many new graduates who attempt to follow a structural engineering career?

Are we going to wait for a critical shortage of structural engineers before we are inspired to act on behalf of our practitioners? As structural engineers with the skill sets to do so, we can and should do better to save the practice and improve working conditions and compensation for structural engineers.

<sup>1</sup> Founder, President and CEO at Computers and Structures, Inc. (CSI)

<sup>2</sup> Professional Engineer and Professor of Concrete Structures at Pratt Institute

# BEYOND THE BIO

## INTERVIEW WITH SEAONY HONORARY MEMBER TIM LYNCH

QUESTIONS BY MIGARA HEWAVITHARANA, PE

### **What inspired you to pursue a career in structural engineering, and who were your role models growing up? Did you have any engineers in your family?**

There are engineers in my family, physicians and lawyers as well. My family's history in the construction industry goes back about 110 years, all the way back to about 1898. We had engineers in our family, not really development work, but institutional work: some public housing, schools, and houses of worship. Engineering was a natural fit and it came very easily to me. I didn't have too many issues with the technical aspect of it, but I tend to gravitate towards existing buildings more than new high rises and that universe.

A lot of my role models were people that I worked for: mentors to me, like Bob Silman. I had some colleagues at DOB that were knowledgeable and important to me. And of course, our fellow SEAoNY member Dan Eschenasy. These are important people of high standards, of ethics, of high quality, of public sense, and the engineering expertise. Also, my colleagues that I'm working for really are role models. I consider everybody I work with role models if they do nice work, think safety first, and treat people well. I see this as an issue in our industry; it's not all about making money and getting buildings out of the ground. A lot of these very small jobs can be instrumental in changing your opinions on how to do structural engineering work correctly.

### **You've had a very long career in the DOB. I was curious at what point did you decide to switch from the private sector to your roles in the public sector?**

This dates back about 18 years. My colleagues from Robert Silman's office, Joe Tortorella, Bob Silman, and I actually got a call from some very fine engineers, administrators and commissioners from the Department of Buildings. At that time, they were working for Patricia Lancaster's Administration, which was the first Bloomberg run. There were problems with support of excavation jobs, mostly in the outer boroughs, some in Manhattan, and that situation got out of hand. There were fatalities and building collapses and tremendous hardships to adjacent buildings. Everybody was getting messed up; the developer would wind up with big stop work orders and the neighbors would wind up in tremendous hardships. Patricia's Lancaster's Administration, decided to bring in engineers from the private sector. Tom Fariello over at DOB said let's get some private sector guys in and see if we can get a handle on the technical aspects of managing these building collapses.

The situation was severe. When I got there, myself and my colleagues from DOB, Eric Reed and Don Eschenasy, were working on a couple of jobs a day. Jobs with support of excavation issues and existing building construction accidents. Not so much new building construction, that's well traveled around and it has safety officers. These were existing buildings, which are not well represented in the regulatory universes, that were impacted by construction. It was bad for business and it was bad for public safety. It was a tremendous hardship. So I spoke to Dan Eschenasy and he said, yes, let's start seating some forensic units in DOB. It was very difficult work, and that was in 2005. I thought it would be a good fit to bring really some positive outside experience. At the time, positions in the public sector were a drop in salary from the private sector, so it was hard to get people to want to work in the public domain. Of course, now we've done a lot to improve our salaries and bring up the equality in the department of technical expertise. But there was a need for public domain work. I actually started my first New York career in a minority firm for a couple of years; that work is noble and it doesn't get as much air as it really should. My colleagues and I thought that this was a good idea. Someone said this would be a good fit for us and that we should try and get a handle on this.

### **Having worked in both the public and private sector can you quickly describe how both experiences have been either similar or different?**

They're not the same; they're quite different. Working in the private sector, every job gets the attention of a single job. There's no grand scheme, based on my experience. Working in the public sector, we have to take everything as a





whole, which means 1.1 million. New York City has 2,500 new buildings a year, that number is inconsequential relative to 1.1 million existing buildings. Most of the existing buildings are one- or two-family dwellings. Most private engineering firms in New York do not take on one or two family dwellings work. They prefer to focus on luxury housing, mid-rises and high-rises, six stories and above. The vast majority of what we have is two-family dwellings and that's where we've got a lot of our real problems. We see a lot of fires, structural issues, maintenance issues, lack of funding, and owners that can't afford to fix buildings. That is not well understood by the industry, from what I've experienced.

The big scheme and the public safety of all buildings in the city is in the domain of New York City Department of buildings and New York City itself. We have to educate our colleagues that there is impact to adjacent buildings. We all have to understand the housing market and focus on what we could do better as a community to help everybody as our housing stock ages. Nearly everything in New York City was built before 1960. The attrition rate for buildings is about 2,000 a year so when you've got 1.1 million standing, you can't get through all the old stuff that's knocking around out there in bad shape. The design community deals with every individual job, but the other 1.1 million is not really their focus.

So, working in the public domain is significantly different; your focus is different; your studies; engineering topics are different; the population of buildings are different. Most of the SEAoNY Engineers that we have really deal with high-rises and mid-rises. One- or two-family dwellings are really handled by the vast majority of smaller offices in town. It took me a while to get my head around that.

### **Do you have a favorite memory or project from your time in the private sector? And then from your time with the DOB??**

In DOB, I like responding to large weather events. I like fast-moving difficult projects. DOB is significantly different than the private sector in the sense that every job goes right, especially my projects which were the forensic engineering or building collapses. All decisions have to be made rapidly. There's no dwell time in the DOB. When an incident comes in you have to deal with it. You don't have a month to contemplate or negotiate. In the public domain, the projects that stick with me are my involvement trying to get the public back into their dwellings. When people are moved from an incident like a fire, that's very rough. They lose money to start with and then they're living in some school for temporary accommodation. It's just very distressing, so being able to get a building repaired and move the tenants back in, that's very satisfying. If we can't get the tenants back into their dwellings, you've got to be clear about it. That was rewarding. I did that regularly, especially when it came to large weather events involving storm damage. We did a lot of work in Puerto Rico. It's all very rewarding work. So, I like those fast-moving jobs that require a lot of engineering intuition and engineering head calculations. I'm an engineer that does a lot of stuff in my head and I get satisfaction from being able to come to a

fast decision.

When I was at Silman, one of my favorite projects was the Tobacco Warehouse. It was an important piece of historic real estate in Brooklyn. The State asked Silman to see if we could salvage it. There was talk of taking it down. I did a lot of work with a preservation group and the state engineers, to actually preserve that building and restore it. The yield from that was important; it was a tremendous project and it's still being used by the public down there today. I did a lot of work on the Brooklyn Academy of Music. That was also a tremendous project. In the private sector, lot of historic preservation jobs get attention and money, but those jobs take a long time. In the private sector that's fun.

### **Could you speak on how well you think New York City is equipped for the future challenges it might face due to climate change?**

Well, climate change mostly hits coastal areas and small buildings. When Sandy hit, we had 60,000 buildings impacted. Now we didn't lose 60,000 buildings - we lost 500 buildings, which I signed the demos on. That was a situation where there was little thought process. This was small stuff in large numbers. That's what happens when you have large weather events and climate change. Big buildings survive because they benefit from structural engineering. The buildings are more robust; they have money, but smaller buildings may not be designed and do not have money or people focused on them after a disaster. When you get a large coastal storm impacts smaller buildings, one- or two-family dwellings. That's where New York City was major in helping to refocus our efforts after Sandy. Prior to that, there was little on the table.

### **What were some of the biggest challenges at different stages of your career, and even something more recently?**

The biggest challenge is when we lose people on the construction site. I still have difficulty coming to terms with this. It's happened on a couple of jobs that I worked on, where something occurred due to some situation getting away from us, and someone's life was lost. Property, that's not a reason to lose people. If we have the knowledge, why are we not more proactive about dealing with these issues and things falling off buildings and killing people? That's just unacceptable. Every building in New York City goes through the DOB; we're the lawmakers. It's bad seeing somebody killed on the job site, it's life-altering, but you have to live with the legacy of that and continue to do your job.

Since I was at the department, I've seen about five people killed by things falling off existing buildings, not construction sites. You have different types of incidences, management issues and debris management issues. Even construction site collapses are not that frequent, but we have a lot of close calls in New York. But that doesn't stop you from doing

your job, I was never phased by the fact that we've got to do something. I'm able to put that at the back of my head. Afterwards is my time to think about it. I'll remember their name and their face and more importantly I'll remember the family members.

### **Is there something from the Private Industry that you think the public sector should adopt and, vice versa?**

Our regulatory controls in DOB were robust and most of our client base, which was the existing buildings and development, was relatively well covered. The department could benefit from better data management. The Department was moving from a relatively DOS-based, robust but not very powerful, into a more contemporary I.T. management where most of the stuff is digital online. It's just a huge amount of information; there's hundreds of pieces of data for every building. The information was not temporarily located and there's 1.1 million buildings, so you can see the amount of information. The private industry has good fix on how to do data management. Data management would be good for the private sector.

From the public domain to the private sector, it would be good to realize that engineers don't really have a good fix on how building are decaying and why the calculations don't work. The numbers do work, you just have to use the right type of calculations and there's room in our universe for better understanding of that. It's not all about analyzing tall buildings and mid-rise buildings using contemporary engineering models. There's a historic component to this that's very analog and it was well documented in the engineering books. I've been through all of the reference engineering books that were in the old codes in the 19th Century: "Cults Holland Johnson," "Kidder Parker," the engineering manuals. A lot of the stuff said exactly what went into the setup of the existing housing stock.

Why am I campaigning that? Because that's where the numbers are. The new office buildings are nice, but they don't pull in a huge amount of people on a regular day. The engineering industry should be doing a better job of educating the public. I used to do a lot of it with the outreach seminars and the Department has a better understanding of that in the public sector. That wasn't just me; it was the DOB's engineers working with me in researching how millions of existing buildings work and we have a good understanding of that now. The public sector should be doing a better job with that.

### **Of all the conditions that you've seen in the field what was the most common issue that you have come across?**

Failure to maintain unreinforced masonry buildings. This includes buckling walls, decaying walls, foundation issues, rotten floors. All very common. We used to do those incidents all the time and the real problem is evaluating the building and trying to determine how much residual capacity is left. What ended up happening is a lot of times, when we went in and evaluated the condition, somebody

had already looked at the condition and missed the fact that the building was precipitously close to failure. They said, well I can't run the engineering calculations, that doesn't conform to anything. I said that's wrong, there is calculations to be performed on this and the walls do have buckling formulas that are quite well explained. The failures mostly occurred due to buckling; they don't generally occur due to compression problems. That is overlooked all the time and that issue causing a collapse will bring a building down. Building collapses are bad news and if you're looking at one million buildings, one of them is going to slip through our fingers. That was the biggest problem.

### **How do you hope the industry will change for future generations of engineers?**

Well I'll tell you one thing, if we paid our engineers a little better, we might get more robust responses from our Engineers. A lot of times they won't perform evaluations correctly because they're not getting paid or the compensations are not adequate enough for them to put the effort into it. That would be big. Even if we had a source where somebody could say, "look I'm not getting a great fee on this job. I need some intellectual horsepower."

If the conditions are bad, you can always call the Department. We're not the engineers for the owners; we're the regulatory units for Public Safety. That would be a good thing for the industry if we worked on that issue. It's a common refrain from our Engineers saying "I didn't get hired to do the job" and I said "yeah, but you were there all right." Or "the money I got was inconsequential and that didn't help much of it," and I said "that's true and that's unfortunate, but now we've had this big mess afterwards." It would be useful to have some type of source to deal with that.

### **What skills do you find essential for a successful career?**

You have to be ethical. That might sound odd, but you need a sense of what's right and wrong. It's critical to our job. Bob Silman used to campaign that we have to do the project correctly even if it's not quite the way we'd like to do it.

A pool of assets is essential. Somewhere, if an engineer is struggling with stuff, they can ask questions. That would be a big one so that they're not saying, "well I don't know about this thing so I'm just going to ignore it." That would be a good place for us to be. Engineering is an analog field and it's a very physical field. It's not like Finance where a lot of the work is numbers moving around on pages. In Engineering you have a physical product at the end of the day. If things get away from us, big chunks of load move which is a little unusual based what everybody else does for a living.

When you have a piece of a building move around that's pretty physical. The younger engineers today are very

digitally-minded. With the interns and college students, the first thing I would do is try to roll them back into the physical: what a building is and what loads are moving around.

### **What's some advice that you would give to a young or entry-level engineer?**

I always try to campaign these engineering graduates and college interns into the DOB because the beauty of working with the DOB is that you see large numbers and it gives you tremendous insight into the regulatory control lawmaking. Engineering and the existing building universe and the construction industry, it's not opinion based, it's not anecdotal, there are laws behind it. It gives these kids a tremendous sense of knowledge. Being on the law-making side provides tremendous benefits when you leave the industry.

You have 30 years ahead of you, so that's 60,000 hours, maybe 80,000 hours. That work gives you tremendous insight into the laws governing how most construction works. Up and down the East Coast, it doesn't matter where you are, the engineering principles are pretty much the same. But the lawmaking process is hard to understand. You may think the most powerful person in the room is the developer and the people who are funding the project, but that is not the case. The most powerful person is the regulator, and we talk a lot about that when I'm working with college kids. It makes it very valuable when you go into the private sector because the private sector doesn't give enough time or attention into how all the laws and how the building code works.

### **What's something that you would like to see the DOB accomplish in the future?**

Better data management and a more accessible database. At the moment, it's difficult to find information on existing buildings and it's difficult to find information on new buildings that are under construction. More accessible data would be useful. We have the data, it is just not housed anywhere accessible. If you can house the information, you can do risk management. I know it is a heavy lift.

I have been trying to get a campaign for DOB for years, but a lot of what the DOB in City Hall spends their money on is development related. That is great; it generates income, but it does not generate Public Safety. Having good data management for existing buildings is huge and we have a lot of information, but it isn't shared with the industry because it's difficult to build a database.

### **If you were if you were to learn one new technical topic what would that topic be?**

Something around law, like a better understanding of the legislative process. I always think engineering and law are very good majors. Law would be a good to learn if I had to do it all again. Understanding the regulatory process would position our engineers a little better when it comes to legislation and risk. If we have an incident where it's only financial that's one thing, but if we have an incident with a building and there's property damage or personal injuries, it changes the amount of effort that everybody must do. What

happens is a lot of times there is not a good understanding of the tremendous risk associated with a structural risk and public safety risk.

### **What is a non-engineering topic that you would like to learn?**

I would like to learn Spanish. Being able to understand the a large portion of the labor population. Most buildings are built by tradesmen, and in the States the language often spoke on job sites is Spanish. I learned French confidently, but that is a useless language of diplomacy.

Most of the time you may just need to communicate that you want to say hello. There are a lot of people working hard on a job site and it is nice to be able to recognize and communicate with these guys in their own language.

### **What do you hope for the future of SEAoNY? What are you looking forward to?**

I'd actually like to have more of the engineering community involved in construction as opposed to design. We campaign design because that's what we are, engineers, but we have a lot of engineers that are associated with construction that are not designers. For every designer there's probably four engineering graduates working in construction. That's where all the money is. I'd like to leverage all the Engineers working with contractors to see if they could campaign together and get their licenses.

We should be more supportive of that community. I don't think we focus on it enough. I'm just heading out of my career not heading into it, and the real work is to try to engage the younger engineers. That's where the future is.

### **What is the best advice anyone has given you?**

Years ago, a relative of mine, he was a physician, told my brother-in-law that in order to be a successful physician you need three things: you need to be timely available, you need to be consistent, and you need to keep good notes. He said that to my brother-in-law who started out his medical practice 40 years ago and I remember my brother-in-law telling me that: be available, be consistent, and keep good notes. That was his mantra throughout his practice. He was a successful doctor and I always remember that.

I always thought that the key was to be available, pick up the phone. If nothing else, I was consistent in the DOB. If I treated somebody badly, I treated everybody badly, or treated everybody the same way. So be consistent and be consistent in your engineering evaluations and keep good notes. That was one I struggled with, my notes. I memorize a lot of stuff, but I probably should keep better notes.

You'll find that people who generally get the situation right keep good notes and a lot of that stuff is done in an analog manner. Be available, be consistent, and keep good notes. It's nice, right? It's going on my tombstone.



# COMMITTEE UPDATES

REMEMBER TO FOLLOW SEAONY ON:



## SE LICENSURE COMMITTEE

The SE Licensure Committee is responsible for strategic planning towards the implementation of an SE practice Act in New York to improve the performance of critical structures.

For more information about SE Licensure go to <https://www.seaony.org/SELicensure> The SE Licensure Committee is performing outreach to engineers, architects, contractors, owners, and government officials. In particular, we are currently developing relationships with ACEC, NSPE, and ASCE.

The SE Licensure Committee is also coordinating the effort for SE Licensure in other North Eastern states such as Connecticut and Massachusetts.

**CHAIR:** Brian A. Falconer, PE, SE, SECB

## RESILIENCE COMMITTEE

The Resilience Committee seeks to provide a multidisciplinary collaboration platform to enhance resilience in the built environment. As such, the committee includes not only structural engineers, but also professionals and academic figures from other disciplines to capture the multifaceted nature of the issue at hand. This allows the group to review the latest research and legislative tools on the topic across the country and beyond.

The committee meets monthly to discuss trends they are seeing in their work, highlight research that can enhance resilient outcomes, and identify opportunities to better embed resilient design principles within the industry. The committee also hosts a virtual panel series on a wide range of topics within the resilience cycle, consistent with its goal to educate the structural engineering community on resilience topics in planning, design, and construction through emergency response and long-term recovery.

**CO-CHAIRS:** Filippo Masetti, PE | Adam Brooks

## DIVERSITY COMMITTEE

The mission of the Diversity Committee is to advocate for the inclusion and advancement of marginalized and underrepresented groups in the structural engineering community. We hold events and provide resources to the SEAoNY membership to raise awareness and foster dialogue among all members of the professional workplace.

Our vision is a more diverse and inclusive community with better collaboration in the workplace and longer-term employee retention. This upcoming year we will be hosting a networking event for firm-based Diversity, Equity, and Inclusion (DEI) committees to share their experiences and discuss best practices for successful internal DEI initiatives. We will also revisit previous initiatives, such as all ages speed networking and our anti-racism panel series.

We invite you to join us in our mission for a more inclusive industry by attending our events. Please contact committee chair Hannah Valentine at [hannahvalentine@gmail.com](mailto:hannahvalentine@gmail.com) to attend our next committee meeting.

**CHAIR:** Hannah Valentine, PE

## 9/11 COMMITTEE

The Committee had a call on October 18 to discuss the draft outline for the Structural Engineering Timeline during 9/11. The outline is to form the basis for planning the interviews to be conducted with SEAoNY Members who participated in the rescue, clean up and forensic investigations to get their stories in their own words. These interviews will form the basis of the audio guide that will tell the SEAoNY story and will be also made available to the 9/11 Museum and Memorial. Further comments and discussions will continue in the next meeting sometime the week of November 14.

**CHAIR:** Jonathan Hernandez, PE

## PROGRAMS & AWARDS COMMITTEE

The Programs and Awards Committee received new chairs Steve Reichwein and Jacina Collins. The committee has planned all seminars and webinars for the remainder of 2022 and are in the process of organizing the SEAoNY Annual Conference in 2023.

Topics that are being discussed for the conference include energy code and thermal breaks for structure, sustainability and environmental product declaration, delegated design, repair and strengthening of existing concrete structures, and post-tension concrete. In November, calls for abstracts will begin.

**CO-CHAIRS:** Steve Reichwein, PE, SE | Jacina Collins, PE, LEED

## SEER COMMITTEE

We have ten dedicated committee members who continue to steer the operations of SEER through ongoing but diminishing challenges of Covid protocols. The focus of SEER is slightly different compared to other committees, being established around the preparation and training of our design and construction community for performing rapid and detailed building evaluations after catastrophic events, be they generated by weather or the likes. Last year, eight hybrid monthly meetings were held. SEER committee has provided SEAoNY members with technical seminars and corresponding continued education credits and will continue to do so in the Winter 22-23. SEER collaborated with Building Congress and AIA in promoting the NY state passing of the Second Responder Protection Act.

Although not successful last year, SEER will continue to advocate for a "Good Samaritan Law" to protect second responders. SEER provided assistance to the NYC Building Department by providing rapid and detailed building evaluation training at the annual NYC COOP event hosted at Fort Totten. Lastly, we facilitated another CALOES training which provides our members with nationally accredited response certification. We are proud to continue our service for our SEAoNY members.

The Structural Engineering Emergency Response (SEER) Committee mission is as follows:

Training – Facilitate and/or deliver training to design and construction professionals to qualify them to participate as 2nd responders at a local, state, or national level.

Roster Management – Assist in the management of the Disaster Response Alliance volunteer system, a national 2nd responder database created in 2018 by the International Code Council and the NCSEA SEER Committee.

Assistance Coordination – Coordinating and/or providing 2nd response assistance to local, state, and national AHJs as well as other stakeholders.

Advocacy – Advocate through education: AHJs, allied associations, members, and the public on the benefits of having engineers participating in 2nd response.

Please register here, [www.disasterresponse.org](http://www.disasterresponse.org), if you are interested in serving as a 2nd responder to assist local, state or federal entity who needs skilled, trained and certified building safety professionals in the aftermath of a disaster. Please note that the Disaster Response Alliance volunteer system is managed by NCSEA that SEAoNY adopted since January 2020. If you have registered with SEAoNY prior to that (by emailing a form), you need to register yourself again. Thank you for your understanding.

**CO-CHAIRS:** Alberto Marquez, PE | Yun Luo, PE

## SCHOLARSHIP COMMITTEE

Our 2022 SEAoNY Scholarship Golf Outing took place on June 13, 2022 and was a great success. We gave \$5,000 checks to 2 students (Alex Dominguez and Isaiah Warrington) at our awards dinner. That brings the total awards given by the Committee to over \$250,000 since we started 17 years ago.

If anyone wants to join the committee next Spring they can contact Pat Arnett at [pat.arnett@silman.com](mailto:pat.arnett@silman.com).



**CHAIR:** Joe Tortorella

## CODE ADVISORY COMMITTEE

The mission of SEAoNY's Code Advisory Committee (CAC) is to promote a greater understanding of current codes and provide technical expertise to various jurisdictions in order to develop and improve future codes.

As part of our mission, the Committee may develop guidelines of common practice that will serve the structural engineering community and provides a communication line between SEAoNY and the New York Department of Buildings (DOB). The Committee proactively provides opinions and recommendations to the DOB and other professional organizations regarding the building code, responds to requests from the DOB, and keeps SEAoNY members informed of relevant code changes.

The committee was formerly known as the Codes & Standards committee and was renamed in to align with NCSEA's committee titles. NCSEA's CAC "empowers practicing structural engineers to exert a positive influence on the development and application of relevant codes and standards", and as the regional organization, SEAoNY's CAC is committed to providing region specific information to the national committees. Over the past year, SEAoNY's CAC monitored the code change proposals for the 2024 IBC code cycle and continued the research of the current peer review requirements for various municipalities.

The committee has continued to work on the development of resources for historic materials and Townhouse renovations and repairs and in the coming year, we aim to provide this information to a broader audience through the authoring of technical articles and expanding references available in the online SEAoNY reference library. Meetings are conducted over Zoom and we intend to host a few happy hours to allow for the in-person interaction that has been lost in the shift to remote meetings.

For more information or to be added to the meeting invites and distribution list, please contact Andrea Shear at [ashear@wje.com](mailto:ashear@wje.com).

**CO-CHAIRS:** Brad Kiefer | Andrea Shear



# YOUNG MEMBER GROUP



SEAoNY YMG – Committee Update As we kickoff a new SEAoNY calendar, the Young Members Group (YMG) remain devoted to its goals of increasing and diversifying participation from young engineers across the city. Our goal has always been to develop opportunities for young engineers to network and become more involved with the industry and with the SEAoNY community.

Despite the pandemic, our group was still able to host several in – person events last year. This included our annual Holiday Party which was our first in person event in nearly two years! Most were relieved to finally be able to see old friends face to face again and networked through games of pool and passed appetizers. We hope to have another in person Holiday Party this upcoming December.

In April of this year, YMG held an in-person technical lecture discussing the process of steel production. Led by a Nucor representative and an active SEAoNY YMG committee member, those who attended visually witnessed the entire procedure of steel making: from delivering scrap metal in a recycled yard to the electric arc furnace to casting and rolling the steel section. It was a very educational and enriching experience. This past May, YMG also hosted a tour to the One Vanderbilt Observation Deck. Young members marveled at the breathtaking views of the city, and many pointed out to each other the buildings they respectively worked on. YMG hopes to continue to host intriguing technical lectures and building tours this upcoming year.

An event to look out for soon is in-person Pub Trivia Night. It has been two years since we last held this event and we are excited to challenge all the brilliant young minds out there. We are also happy to announce that we are launching a book club, where young members will read and come together to discuss what we read. Stay tuned and be on the lookout for more information in the near future.

Lastly, we want to thank our committee members, new and old that have volunteered their time over the past year to help plan and organize events. If you are interested in joining our committee (we can definitely use your help!) or have any questions about our upcoming events, please reach us at [seaonynym@gmail.com](mailto:seaonynym@gmail.com). Please also check out our webpage (<https://seaony.org/YMG>) and follow us on LinkedIn <https://www.linkedin.com/company/seaony-student-outreach/> and SEAoNY on Instagram @seaonyedu.



**CHAIR:** Jimmy Liang, PE

# STUDENT OUTREACH & EDUCATION COMMITTEE

The Student Outreach & Education Committee has a packed schedule heading into the 2022-2023 program year. Our committee creates events and programs with the intent to provide education on structural engineering as a career path, aimed at both high school and college students.

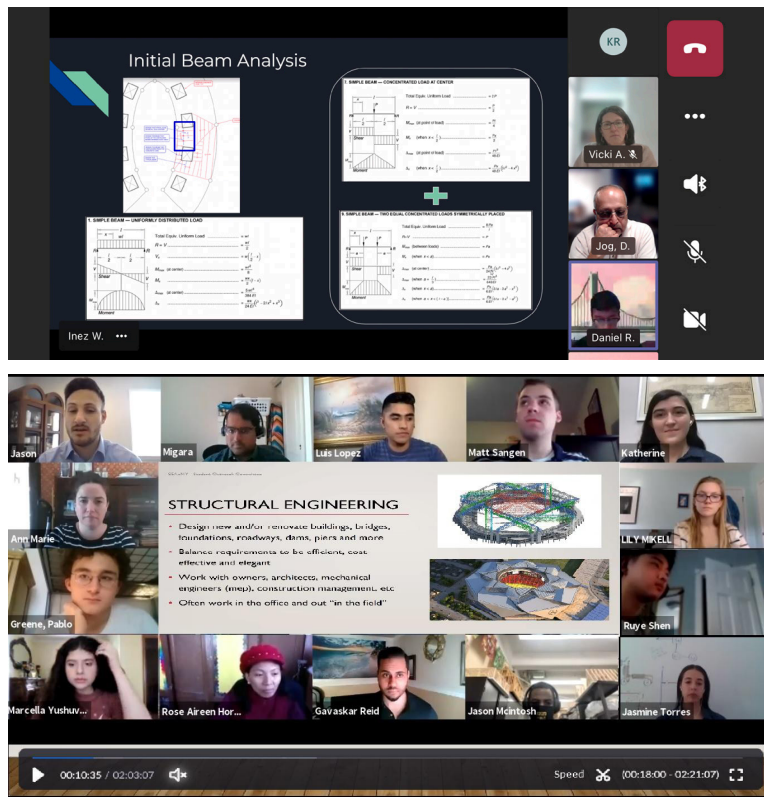
We also aim to give students a voice in how SEAoNY is run as an organization by hearing their feedback and discussing how to address their wants and needs with the SEAoNY Board of Directors (an example of this being the new FREE student membership for current NY undergrad/graduate students).

During the beginning days of the Pandemic, the committee immediately responded by taking most of our programming into a virtual setting. During that time, we held virtual versions of our very popular resume and interview workshops, launched two versions of our Structures Impossible student design competition, created a virtual version of Shadow a Structural Engineer, and held some Candid Conversation Panels to help de-mystify certain facets of our industry for student attendees. We also held large career-day virtual presentations and panels for local high school students and their teachers in partnership with the Career & Technical Education high school programs which we partner with. We also provided curriculum reviews for some of these CTE high school programs to provide feedback on trends in our industry and ways they could improve the material taught to these advanced STEM students.

As time moved on and as the virtual burnout began to settle in, we've refocused to bring more of our programming to be back in person. Already this program year, we've held a pre-annual meeting mixer for students and younger members and held a resume workshop at one of our partner universities (with many more workshops on the way for local civil/structural engineering programs in NYC). We'll also have towards the end of October, for the first time back in person since the beginning of the pandemic, our NYC structures & architecture scavenger hunt: Structure Quest. We also work in tandem with the YMG committee in advertising out programming that is also beneficial for students in the form of networking or educational opportunities. During November we'll bring back the Candid Conversation series for a discussion on what it's like to make the switch from the design side of the industry to the CM side – in a panel titled "Is the Grass Really Greener?". During this panel we'll ask former structural designers about the major differences in their roles and responsibilities since making the switch away from structural engineering and what their experience has been adapting to those differences.

We've also begun our planning phase for our third Structures Impossible student design competition. This year we've decided to focus our prompt on a forensic structural engineering investigation, where students will have to solve a mystery of who is at fault for a major collapse of a structure. Students will pour over contract documents, listen to eye-witness accounts, review site photos of the collapse, perform structural analysis of critical members in the area of the collapse, and finally present their findings as an expert witness to be judged (forensic structural engineering professionals will play the judges and determine which team made the most compelling arguments and presented their analysis in the most convincing way).

During the spring semester we'll also be jointly working with the YMG on another Candid Conversations panel, this time on "Lesser-Known Career Tracks in Structural Engineering" (which will also be broadcasted nationally with NCSEA). We will be bringing our interview workshops to be back in person again at local university programs and will be relaunching our Shadow a Structural Engineer program in-person once again. On the high school programming side of things, we are focusing as a committee to help launch a "Teacher Externship Program"





for the local high schools in NYC. As a part of this externship program, teachers will go through an Architecture, Engineering, & Construction industry week-long bootcamp where they will learn about what it takes to be a working professional designing & building the communities of tomorrow. We are in the very beginning stages of researching & planning what this kind of program would look like, but we are hoping that the many world-leading-firms in the AEC industry who call NYC home will see this as an excellent opportunity to invest in the future of the built-world.

Our committee has a lot going on with tons of opportunities to get more involved, all the way from leadership/direction of the committee down to "company liaison/volunteer" roles. We're working on updating our contacts list to be more current with engineers who both love to give back to their community while educating the engineers of tomorrow. If that sounds like you, please feel free to reach out to our email or social media accounts with your interest in joining our committee's contact list. Hope to see you at some of our upcoming programming!

Instagram: seaonyedu

LinkedIn: <https://www.linkedin.com/company/seaony-student-outreach/>

Email: seaonyeducation@gmail.com

**CHAIR:** Migara Hewavitharana, PE

## SUSTAINABLE DESIGN COMMITTEE

Climate change is an increasingly urgent issue. The construction industry has a major impact on our climate which is becoming more apparent each year. Buildings generate 40% of annual global greenhouse gases. 11% of those annual greenhouse gas emissions are due to the embodied carbon of buildings. Embodied carbon is the sum of the CO<sub>2</sub> emissions resulting from the manufacture, transportation and installation of all construction materials for a building over its life cycle. Just as building operating systems are becoming more efficient, we must look for ways to reduce embodied carbon in structures. With awareness and intentionality in the design process, we can reduce, and ultimately eliminate, embodied carbon in structures. As designers, engineers, and builders who strive to leave the world better than we found it, we must address sustainability in our projects.

### Mission:

The Sustainable Design Committee aligns with the SE2050 program to target the reduction of embodied carbon and ultimately achieve net zero. We empower structural engineering firms to commit to SE2050. Our goal is to give structural engineers the resources and tools to incorporate sustainable practices into their projects. Additionally, we are committed to guiding and providing necessary information to the community about embodied carbon and relevant updates in the AEC industry. We aim to increase the number of New York firms officially committed to SE2050 and add the structural engineering community's voice into legislative changes that are guiding the industry towards a sustainable future.

In order to achieve our mission, our committee hosts lectures, webinars, panels and roundtables regarding sustainability updates and information. Educating our local engineering community keeps sustainability at the forefront of our minds while making decisions, and gives us all the tools to succeed. Last year we hosted webinars that showcased the many free tools available to track embodied carbon and perform life cycle assessments, many of which seamlessly interact with structural tools we use in our day to day engineering. Our previous webinars also covered building envelopes and energy codes for structural engineers as well as the impact structural engineers can have on the Passive House Institute US (PHIUS) certification of a building! As the Sustainable Design Committee, we also aim to expand our network by reaching out to engineers and organizations that have similar values to us. Last year we had the opportunity to work with the Institution of Civil Engineers to co-host a lively debate that carried on well into the happy hour that followed.

This year, you can expect to see a sustainable specifications writing webinar series, a panel in collaboration with the Young Member Committee aiming to empower young engineers to drive innovation, and a more established sustainability criteria for our Structural Engineering Excellence (SEE) awards.

### Monthly Meetings:

Join us virtually on the 2nd Wednesday of each month. Email [SEAoNYSDC@gmail.com](mailto:SEAoNYSDC@gmail.com) for the link to join!


We look forward to designing a more sustainable future with you!

**CHAIR:** Candice Ogando, PE | Leah Peker, PE



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