

**Episode 5 – Northampton Department of Public Works DC0910
Podcast Transcript**

Susannah Howe: Welcome to the Design Clinic Download. In this podcast, we dig into the experiences of Design Clinic teams and classmates through the years. I'm your host, Susannah Howe from the Picker Engineering Program at Smith College.

This episode features three alums from the class of 2010, Margaret Akofio-Sowah, Mallori Harrell, and Lindsey Nguyen. Their Design Clinic project with the Northampton Department of Public Works was on the design for nitrogen reduction at the Northampton Wastewater treatment plant.

I'll just ask each of you to tell me who you are and where you are right now, what you are doing, where you're located, and what's keeping you busy. Margaret, you want to start?

Margaret Akofio...: I'm originally from Ghana. I came to Smith directly from Ghana, so that was a little bit of culture shock, all the cold winters. And then I quickly ran down to the south, to Atlanta where it was warmer. While I was in Atlanta, I went to Georgia Tech. I got my master's and PhD in civil engineering. And then after that, I moved to the DC area. So now I live in Maryland. I work out of DC. I work for a consulting company, civil engineering company called WSP, formerly known as Parsons Brinckerhoff. And I work in our advisory practice, which is more so a management consulting group within the company.

My focus is on infrastructure management or asset management, specifically transportation infrastructure management, so anything from bridges, highways, even transit. So buses, trains. What we do is help our clients figure out how to use data on their assets to make strategic decisions, strategic investment decisions. So in other words, I have a bridge, it's 25 years old, what maintenance or what work do I need to do on this bridge when in order to make it last? I do a little bit of change management work as well because when we're trying to get agencies to change the way they think about investing, we realize that there's a lot of behavioral change that goes along with that. So it's pretty exciting. It combines engineering knowledge with organizational development and just people in general.

Susannah Howe: Great. Thanks so much for sharing. Lindsey, do you want to go next? Where are you these days?

Lindsey Nguyen: Hey, everyone. I'm Lindsey Nguyen. And I am actually located in London. I've been out of the country for the last eight years, but immediately after Smith, I had moved to Silicon Valley and I worked at Apple for about four years. I did my MBA in Dublin, Ireland, where I met my co-founder. Our Design Clinic capstone was very helpful to my business and startup, which was in wastewater management, so we can talk more about that.

And my co-founder is actually still in the Bay Area. He moved there and then I had been running our engineers and designers in Dublin, but we hired another business in California, so we decided to move everything to the States, and I decided to join consulting. I'm also a management consultant, I guess. I work at McKinsey and I'm part of the LEAP practice where I am helping large incumbents reimagine how they do businesses, in particular launching new businesses and products, leveraging digital strategies, so I essentially get to build startups. And primarily, I work in the B2B space. What's interesting at the moment is that I get to mix the software industry with hardware pieces now and lots of services in between.

Susannah Howe: Excellent. Great. Thanks so much, Mallori. How about you?

Mallori Harrell: Yeah, I'm actually in Memphis, which is my hometown right now. I currently work as a machine learning engineer. My job's actually based in New York, but I work remotely. And after Smith, I was a little bit of everywhere. I went back to Memphis throughout the year, and then I went to Italy for two years and did grad school in cognitive neuroscience. Then I came back to Memphis and then I went to school in San Francisco doing data science, and then I got a job in Atlanta, and then that job went back to the San Francisco area where I'd been actually was laid off and went back to Memphis, and got a job in Miami, and got a job in Boston and there in COVID, moved back to Memphis and then switched jobs. So now I work at Rent the Runway as machine learning engineer. Yeah.

Susannah Howe: Can you say a little bit more about what you do at Rent the Runway?

Mallori Harrell: I work on the relevance team. So we work on recommendation engines. So when you go to Rent the Runway, you'll see a homepage. And if you're a member, it'll show you recommended styles for that season.

Susannah Howe: It's really interesting. You guys are doing all such very different things. Great to hear. So let's take it back to when you were back together 12 years ago working on this Design Clinic Project, and I'm hoping that one or several of you can share with me what the project was, who you worked with and what you did during the course of that project.

Margaret Akofio...: Okay. What do I remember about our Design Clinic project? So it was wastewater. As Lindsey mentioned earlier, we were working for the North Hampton Department of Public Works. The point of our project was to improve a process that introduced, I think, nitrogen.

Lindsey Nguyen: Yeah, we were reducing the nitrogen load reentering back into the natural water system. I'm pretty sure.

Margaret Akofio...: Yeah, there you go.

Lindsey Nguyen: But it was interesting. Did not realize that we were going to go to the plant where all the waste water was.

- Margaret Akofio...: But those were the fun times we had, right?
- Mallori Harrell: No, y'all got back into my car with all of that stuff on you. But now...
- Margaret Akofio...: It was a pretty cool project and I mean, I don't think that I had any interest in wastewater management at the time, but I think it was informative. I think I definitely learned a lot about wastewater management and nitrogen. For me, it was more of the skills rather than the technical components of wastewater management.
- Susannah Howe: What were your expectations coming into the class and how would you say those expectations matched or didn't match the reality?
- Margaret Akofio...: So I think for me, well, I enjoyed my Smith Engineering experience, let me say that, and part of why I enjoyed it is because of how hands-on it was. So literally right from Engineering 100, you're in the machine shop, you're working with your hands. So I think coming into Design Clinic, I more or less expected more of the same. I didn't expect to sit behind a computer and do research. I expected to get our hands dirty, really get engaged and involved in the process. And I don't think that I was disappointed.
- Lindsey Nguyen: I had similar expectations as Margaret about it being hands-on and it being a capstone to try to bring in all the elements of engineering that we were studying in our previous years. I think I didn't quite expect the aspect of being on one team for so long. I think that that gave us lots of different benefits because we knew the topic and what we were trying to achieve, but we also got to rotate between us, like how we would run the teams and things like that. So I didn't quite expect that, but it was actually a really great learning experience because I got to see everyone's different leadership styles, and we were working with one another and trying to think about what we liked the best in the aspects that we were doing. It was really cool to work with the people at the Department of Public Works, and they were the nicest sponsors and clients to have.
- Susannah Howe: What, if any, are the connections between what you did in your senior year in Design Clinic with wastewater and that experience to where you are now?
- Mallori Harrell: I think the biggest takeaway was the fact that we didn't have any information about wastewater and so, we had to come in and define the problem and then come up with a plan on how we're going to solve that problem. And so, because I had that experience of coming into a project that I didn't know anything about, I was able to jump into all of these different industry and know exactly how to come into them and tackle them and figure out how to succeed in those industries. So, I think the problem solving aspect of it was a big takeaway.
- Lindsey Nguyen: The thing that I remember the most that I still use today with my clients is talking us through, oh, we're forming storming and norming, and maybe you have to go backwards. Just like what Margaret was saying, I didn't realize that was one of the

biggest things I learned a lot and took away from, but didn't have any expectations of, was how you manage teams. I mean you do in small little bits because we are all very hands-on and project-based, but having the language to go through that, that was the first time I was introduced to it, and I use it a lot still and still think through that as well to manage stakeholders.

Margaret Akofio...: My biggest lesson bar none from Design Clinic was learning how to use Microsoft Project. Well, not even Microsoft Project at the time, but just learning how to create a Gantt chart. Oh my goodness, I'm still using Gantt charts today. And it's insane. I mean, I went to grad school, and the thing about grad school in general, but specifically getting a PhD is that it's self-driven. You really have to manage yourself, but I was managing not only my research, but I was managing my coursework. At some point, I was teaching, and then I've always had all of these extracurriculars. I was managing a lot. And just being able to schedule a project and just have a vision of how it's going to go and where it's going to go, what path it's going to take, that has always been something that I will be forever grateful to Design Clinic for teaching me how to use a Gantt chart and teaching me what a Gantt chart was.

Mallori Harrell: I think one of the great experiences was working with stakeholders and having to do our requirements gathering and then still manage those stakeholders, I think that was a pretty beneficial piece to Design Clinic.

Susannah Howe: So thinking back 12 years ago, do you have any memorable or impactful experiences from your time in Design Clinic?

Lindsey Nguyen: I remember all of us being pleasantly surprised that our recommendation of reducing nitrogen was also what a professional firm recommended as well. So, I was very proud of all of us. When we read it, we were like, "Oh, we were on the right track, actually."

Margaret Akofio...: The one thing that I always remember was when we went and did a photo shoot at the wastewater treatment plant. I think we did it at the end, for one of the presentations. But we have this really nice picture of us where the four of us are standing there and I think Mallori's holding the water, but just the essence that it gives me every time I look at that picture, I think about that picture is to me, it's one of the memories that I'd say I cherish the most.

Lindsey Nguyen: It was the first thing that came up in my mind. And I remember Mallori as well, because as she said, she didn't want to drive us there. And we were also having such a laugh about how our photo shoot was going to be at this wastewater water plant and why we chose this. And I think it was a big step for Valerie to hold one of those jars. That was really funny. And I think the second thing that I remembered was more, some of us slept in the lab and we were the first class that got to use the new building, the Ford Hall.

Margaret Akofio...: Ford Hall, yup.

- Mallori Harrell: Yup.
- Lindsey Nguyen: And so, I remember some of us sleeping in our office. Not too many of us, I don't think it was us on this team, but remember showing up one day and just seeing someone sleeping back and just them saying that they were there the whole night, I think you guys know who.
- Margaret Akofio...: But then Lindsey, when you were speaking too, I remember, I don't know what we were doing, but we were in Ford Hall in our little office area in the corner, and I think, of course, it was late at night, someone was playing music and it turned into a whole karaoke session. I remember that so clearly because Yulissa was sitting next to me, and I think she was making fun of me for not knowing the lyrics for some of the songs. But that memory came back to me, Lindsey, when you were talking about people sleeping in Ford Hall because we spent a lot of late nights there.
- Susannah Howe: I do want to ask, what advice do you have for future Design Clinic students to make the most of their experience?
- Lindsey Nguyen: I think the advice would just be similar to real life, which is do remember to sleep and have fun. And I know we talked about sleeping in the lab or being in the lab quite late, but I do think it's a good time to think about what you need in life. Take care of yourself and your teammates first because they'll always be work and they'll always be a job there. So my advice is take care of yourself, know what you need for sleep or how to recharge. I think mental health is so important.
- Mallori Harrell: Yeah, I would say focus on the process of how you're going to just go through the project itself, develop a framework for tackling projects and managing them because that's going to be transferable to any industry.
- Margaret Akofio...: I would add embrace the experience, enjoy it. It's a good trial run for when you're out in the real world and getting paid to do things similar. Susannah, I think you talked a lot about the skills that we were learning in the Design Clinic process, but I don't know that I really absorbed that or really saw that until later. So my advice would be don't take anything for granted. There's a lot of good things that you can learn through that process. Like Mallori was even saying, that will be applicable really when you least expect it. So yeah, I would say just embrace the process, embrace the experience.
- Lindsey Nguyen: One of the things that I love and still love very much about Smith is being able to go to a place where I was surrounded by such badass women, especially in engineering, working in the tech industry. I mean, we talked about it all the time that we all go into male dominated industries and things like that, but I have learned so much about having such a diverse group of people and learning how to advocate for one another or think about how to build on people's responses and things like that, that when I went into the industry and where I am at some of my clients now, where I'm genuinely shocked at what we call lad or bro culture around

here. And so, I'm really grateful for the fact that we went to such a small program and that it was so many wonderful people from different backgrounds and badass women around, which is really the thing that sticks with me the most.

Mallori Harrell: I will say, I think you gave us, and this not, this isn't really Design Clinic, but you gave us a lecture on negotiating and how women don't negotiate. And I feel like that was one lecture that stuck with me throughout my whole career, and I make sure I negotiate. It definitely helps. So, that was one of the best lectures.

Lindsey Nguyen: Another advice, seeing all of our experiences as well is just try as many things as possible because the engineering degree and the liberal arts experience on top of that really does prepare you for anything that you are curious about. Yeah. So I liked the learning process, but it also was a good and safe space to try something out. And I went into different industries and just like Mallori, moved around as well.

Susannah Howe: Thank you so much for your time, your expertise, your experience, sharing your stories and your advice. I really appreciate it. It's been so fun talking with all of you. I'm really glad we had this experience together.

Lindsey Nguyen: Thank you.

Margaret Akofio...: Yeah, thanks for having us.