

## What's Next? Podcast

### Monica Morales

**[Snip-it's from Podcast] Monica:** ...continue to change our demographic. Because when we are able to truly represent the public we serve, then we're going to truly be able to better engineer for that public. We serve, and better and innovate and empathize. So all of these positive things will happen when you have all these different demographics, thinking together and building together and engineering together.

**[Bouncy theme music plays.]**

**[Introduction]** Welcome to the What's Next? podcast. Let me just start off by saying. Not everyone has the same background. There is no road-map for success. Life begins at the edge of your comfort zone. Leaning into your curiosities. It does suck when you grow up. We're all still figuring out who we are. You can't just sit back and be silent. Black lives matter. It is the little stuff that makes the biggest difference. Do you have another hour? [Laughs]

**[Bouncy theme music fades.]**

**Cody:** Hello, Beaver Nation, and welcome to the What's Next? podcast, we got our back to school theme here for season two, meaning that we are featuring Beavs who are each representing their college within Oregon State University.

We're double dipping again with today's guest. Our first episode guest was also representing two different schools. And our guest today is representing the College of Engineering and the Graduate program at OSU. She earned her bachelors of science and civil engineering in 2013 and then followed it up with a master's in civil engineering in 2015 and now is based out of L.A. working as a water engineer at Jacobs, a global engineering consulting firm. Monica Morales, thanks for joining us in the What's Next? podcast.

**Monica:** Thanks for having me.

**Cody:** Yes. So I want to get into the whole world of engineering and the whole world of water more specifically, but maybe for context to just before we get into that, did you always want to be an engineer or maybe you can give some background on like on growing up and how that became something that you were interested in?

**Monica:** Yeah, so I had no idea what engineering was until I was choosing my major for school. That's how clueless I was. I'm a first gen or I was a first generation college student and my parents were blackjack and craps dealers in casinos. And so that was kind of the world that I was familiar with, was any kind of minimum wage work. And because I love school so much and I excelled in it, I knew I wanted to do something really fascinating and something I would continue to be learning every day in and something that would help, you know, the community at large. But I just didn't know what that was. And so when I was choosing my major, it was basically between medicine or fashion design, and I was very lost.

And it was because of an engineer who sat down at my mom's blackjack table that that's the reason I found out about engineering and why I wanted to do it. So she asked him a bunch of questions and he was really eager to give her a bunch of answers. So she would she came home. She told me all about her conversation, and then she told me to Google engineering. And so I did. And I fell in love with civil engineering because it seemed like something that would really help people, since gives you shelter, a means to travel and a means to water through pipelines. And so it just seemed like a really great fit, especially since I loved my math and science courses so much.

And then when looking at Oregon State University, there's all these different engineering majors. So I felt like if I didn't like civil engineering for some reason, I could easily transfer into another major. So that's kind of what got my start. And it was a really lucky start.

**Cody:** Yeah, and I heard so at the beginning, you were saying how you were interested in like possibly fashion design, engineering was being thrown out, so it sounded like there was a bunch of different options are like a bunch of different things going on in your head of which one of these do I actually pick?

**Monica:** Yeah, exactly. I I'm one of those few people who's kind of like a renaissance lady or a person. And so I'm good at quite a few different things. I enjoy doing a bunch of different things. And my classmates in high school all thought I was crazy for going into engineering because I was so creative and I thought I would be bored. And then there is a part of me who wanted to prove them wrong. Like you don't understand how much I love math and this is perfect. So I feel like with a lot of women in engineering, there is that bit of, you know, the proving mentality of all those others who have told us or warned us of the male dominance or anything else. And then we just push on.

**Cody:** Yeah, how was your time at OSU and maybe, too, if you could share just briefly, like maybe one or two favorite things that were kind of like either OSU memories are or as we've been asking our guests, what were things at OSU that you remember were especially formative to your experience there?

**Monica:** So I'm originally from Reno, Nevada, which is a very different climate and conditions in itself. It's know that desert beauty. So when I visited Oregon State University, it was the first time I've ever visited Oregon. I didn't really get outside of Reno that much. It's kind of expensive. And we really just drove over to California to visit. And so when my father and I first visited Corvallis, we realized it was a very small town. So we weren't sure what was going to be like. But as soon as I got to see campus that next day after we stayed in a hotel, it was just like seeing Hogwarts. It was that feeling of this is the school I want to go to and it's so beautiful and green. So I remember that being like a vivid memory of mine and everybody being so nice and then obvious, the obvious joke of how sunny the weather was and how it's always like that. And everybody would laugh. And then I didn't really understand the joke, but I knew that it rained a lot.

**Cody:** Just a funny joke at first, right?

**Monica:** Yeah. And then another really great memory was definitely the civil engineering, civil and construction engineering professors and especially concrete canoe and being involved in that being the first female led a concrete canoe team that Dr. Tom Miller led and Dr. Heidecker. And we actually won first place at our regional

competition, which was the huge shocker to us, even though we had worked so hard for it. And then we got to debut for Oregon State University, the first ever to go to the national competition, which was actually hosted in Reno, Nevada. So my parents and friends and family got to go and see our very heavy canoe and see us race it. So that was really fun memories from attending Oregon State.

**Cody:** That's terrific, and I remember walking through some engineering building, I believe, and seeing one of the concrete canoes on display, if I'm remembering correctly. I remember walking past it, but maybe you could tell us, like, what is concrete canoe for listeners that don't know.

**Monica:** Yeah. So there's a student chapter called the American Society of Civil Engineers. And actually, you can definitely join after college years, too. And I'm still very involved in it. It's a nonprofit group that helps support civil engineers. And in school, one of the fun competitions is concrete canoe. So as a student, you get to design and construct a canoe made out of concrete. And when you think of concrete, you always think of something that would sink or be super heavy.

**Cody:** Sounds counterintuitive to me.

**Monica:** Yeah, exactly. But you can actually make concrete less dense than water. So ours was less dense than water by about like point one cubic feet or pounds per cubic feet or something very minor, but just enough so that it would float in water by itself, which came in handy because there was this boat that drove by as we were paddling the boat and it filled our canoe with water. And so the canoe sunk. But because it was less dense than the water, it flipped over and slowly, slowly started floating back. So we were able to rescue our canoe and it did not sink to the bottom of that river.

And that's what was so fun about it. It's taking a material that you wouldn't normally see in that place or position and reengineering it. So that's kind of the fantasy of it.

**Cody:** So this next portion is one we've been asking all of our guests, and it's - we call it "welcome to the real world." And so the basis of this is as you transition from college to career, there's a lot of times those moments where you're like, oh, this is a welcome to

the “real world moment,” whether it's an apartment horror story or something about adulting for the first time. What do you have anything in mind that was kind of your welcome to the “real world moment?”

**Monica:** Yes. And a big part of it was not wanting to leave Oregon. And so my boyfriend and now husband at the time, he was finishing his master's degree in Ohio and that was being fully funded by GE Aviation. And so because I had finished my master's degree before him, he was saying how I should move out there. And I have known him for years. And so he was not the problem, but just the thought of, oh, man, I have to move from Oregon, a place that I really love. And but I did it and I did it for love. And so I moved to Ohio and Cincinnati, Ohio. And everybody that I told in terms of, oh, where are you from or where do you move from? And it's like, well, I'm originally from Nevada, but I lived in Oregon for several years. And so then people would say, you moved from Oregon to here? So that was kind of the first glimmer of, oh, OK, we're going to have to make the best of the situation, apparently.

And then also kind of the shocker of being one of the only women engineers in my office. There were there was two others when I was hired and being one of the few people of color at the same time. And so thinking like, well, is this just because I'm moving to another environment that has like a low minority population as compared to where I grew up, Reno, Nevada, which has a higher Latino population. And so it was something that I had a question and kind of think through and then realizing, well, actually, engineering doesn't have many people of color or women in general across the United States. So there's another component, not so much of adulting, but just like the realization of the fact of the matter that I'm likely going to be always one of the few that look like I do.

So there was that realization and then also just, OK, I have to work eight hours every day and you get tired after. And so you think that you're going to have all this time because you don't have homework or exams to study for. And then you cook dinner, you work out, you take a shower and then it's time to go to sleep. And so that's kind of the fact of the matter of the eight hour grind and being hopeful for the weekends when you get a little bit more time to do the extracurricular. So from going from grad school, where it was a lot of research and studying, but having a lot of time to do the hobbies

that I loved to the eight hour a day grind was definitely something to adjust to in terms of adulting.

**Cody:** Totally, and I was going to ask to that you talking about it being in a male dominated field and also one that doesn't traditionally have a lot of people of color, is that in your experience, now being in the real world is that changing or are these things that our society needs to keep working on?

**Monica:** It's definitely something we still need to work on, and it's changing in the sense that a lot of companies and agencies have goals to continue to diversify themselves. So I guess in the United States, the statistics are that we're nearly 16 percent of those employed as architects and engineers are female. And then I believe for those that identify as Hispanic or Latino, we only make up about seven to eight percent. So me being a Latina engineer, I'm I represent one percent of us across the United States.

So at Jacobs, I know we have this very big and valued inclusion and diversity initiative where we're walking the talk, where we're actively seeking and promoting, you know, people who have done a fantastic job and are valuable to the company and promoting them. So we are actively trying to diversify leadership positions. And that is so amazing to see that concerted effort to make a real change and then also valuing STEAM outreach. So not just taking it at the professional level, but giving paying it forward to other students like me who didn't know what engineering was growing up and being able to reach out to those students and be able to share about the STEAM career path. So it's not just at the professional level, but thinking ahead and reaching out to students to get them excited about this field in order to help continue to change our demographic. Because when we are able to truly represent the public we serve, then we're going to truly be able to better engineer for that public. We serve, and better and innovate and empathize. So all of these positive things will happen when you have all these different demographics, thinking together and building together and engineering together.

**Cody:** That's wonderful, thanks for sharing all that, as a last follow up to that topic for other aspiring female engineers. What's your message to them or what would you look back and tell a younger version of yourself with this aspiration?

**Monica:** Yeah, I think just being yourself is making a huge impact and difference in our field. So just by walking in and contributing to a company, you're already really helping that company. So having that in your back pocket and having that bit of confidence as you go into the working professional working professional world, despite being one of the few that only look like you, and then also knowing that a lot of other women engineers and male men engineers have, you know, that generosity and really support you, too, because it's in it in everybody who wants to see people grow and flourish. So just know that even if you are one of the few that there's so many people who are rooting for you to do well and want to see you do well and will be that coach sponsor to help promote you, too. So it's kind of the fun part about it is, you know, helping be one of those founders of change.

**[Bouncy theme music plays.]**

**Cody:** Hey, listeners, this podcast is proudly supported by your local Toyota dealers. As the official vehicle of Oregon State Athletics, Toyota is a proud partner of Oregon State, both on and off the field and congratulates all OSU alumni for their accomplishments and achievements. Visit your local Toyota dealer or [Toyota.com](https://www.toyota.com) to find the perfect vehicle for you.

**[Bouncy theme music plays.]**

**Cody:** So Jacobs is a massive company, right, I think on LinkedIn it lists over 60 thousand employees. What's it like working for such a big company instead of overwhelming or what's that experience been like?

**Monica:** Yeah. So when I first graduated, I worked for a much smaller employee owned consulting firm that was barely a thousand people and it was mostly contained to the United States. And then I moved to see CH2M, which what it was at the time before we were acquired by Jacobs and C.H. was twenty five thousand people and still employee owned. And I felt like, you know, a fish in a big sea of people. And so it was just like, OK, how do I continue to do well and eat a lot of people and having to do that virtually because there's so many other expertise and other offices in other states and other countries. And so it was just like, oh, feeling a little bit overwhelmed of I have some

work to do in reaching out and, you know, getting to do that inner working or networking internally.

And then when we were acquired by Jacobs, it was even more overwhelming because we grew like three times our size at the time and now we're twice your size and then transitioned to publicly traded. So there is a lot more accountability associated with that and more inner workings, too. And so it was kind of having to start over each time in terms of, OK, I have to prove my name and prove my worth and build my credibility again with all these new people. But despite all that, I am fortunate enough where my executives know my face and some of them know me by my first name, despite only being with Jacobs and CH2M now three years. So I've been able to make a name for myself despite being a young professional, starting out her career. And it's just been really exciting. So it is what you make of it. So if you reach out and you, you know, promote yourself, then people will get to know you.

**Cody:** And so you're a water engineer?

**Monica:** Yep.

**Cody:** What does that entail or tell me like what kind of projects you're working on currently?

**Monica:** Yeah, so I'm based out of our Los Angeles office. And so I've been working on some really cool work here in Southern California. So about seven years ago, we suffered one of our longest prolonged droughts and that really scared a lot of Southern Californians in terms of, OK, well, what are we going to do about water in the future? And water's really important for sustaining our lives. Water is life. And so I guess to give some background. Eighty five percent of Southern California's water comes from outside of Southern California. So that snowmelt from Northern California or water from the Colorado River or Colorado Aqueduct. And so a lot of that comes from Lake Mead Basin in Nevada.

So a big push, especially in the city of Los Angeles, is to go one hundred percent water reuse, which means actively treating wastewater to drinking water quality and being



able to replenish our groundwater aquifers and treat it again to be potable water. That way, we can provide more local and sustainable water resources long term. And with the work that I've been doing is exactly that. So the first project that I worked on with Jacobs was the pure water program in city of San Diego, and they were trying to permit it to be the first direct potable reuse project. But then it became indirect potable reuse, where they're going to hold the treated water in a reservoir and then treat it again just for redundancy sake and public safety and trust and in that expanded to master planning projects for the greater Los Angeles area and again, replenishing groundwater, remediating sealing plumes in groundwater and identifying where which locations are best for, well, sites. And so it's just been really exciting work. And I guess to sum it up, it's basically solving future droughts in Southern California.

**Cody:** Mm hmm. Yeah, and Monica, why I guess, why is that so important to be able to you to reuse that water that's already right there, like you said, in that community? What's the consequence if that doesn't happen?

**Monica:** Yes. So seven years ago, that water level in Lake Mead became so low that it went past the lowest intake. So even in cases of emergencies, they were not able to draw water. So that was a huge concern of, OK, we need to limit our dependence on external sources for water. How can we do that? And one fantastic way, which nature has been doing for all of our lives and beyond them is recycling wastewater to drinking water quality. So if we can tap into what nature's already doing, naturally kind of expedite it with some engineered processes, then we can create for those local readily available water resources. So in case of a future drought, when that water level gets really low again, we can still depend on our local resources from groundwater. And with Los Angeles being such a booming industry and population growth, it needs to prosper and it needs to be sustainable for a long term just because of the amount of industry that's happening here. So it's just all good things combined in a lot of important factors.

**Cody:** It really sounds like it's like your job is kind of just a partnership with nature, like letting nature lead and kind of adding in where we can add some human expertise to make sure that this is sustainable for 100 years from now. Five hundred years from now. Is that kind of the right way to think about it?

**Monica:** Yeah, exactly. And engineering's always involve evolving to be better. And one of the more recent items is to become more sustainable and sustainable engineering. So the more we can perform biomimicry and mimic, you know, natural events and become more collaborative and symbiotic with nature and humankind, then it's it'll just lead to better solutions. So exactly what you said, anything that will help down the line is it is exactly what we need. And that's basically the definition of sustainability, is being able to have enough these days without impacting the environment and providing enough so that future generations aren't discounted.

**Cody:** Yeah, and thank you for doing such valuable work that we need more people like you.

**Monica:** Well, it was definitely a big draw factor in in terms of wanting to get into it. And I remember my first internship with city of Portland really hooked me into water. And that's exactly when I knew I wanted to do what I do. And that was through Oregon State Civil Engineering Cooperative Program that I was able to get involved in that and work at city of Portland Water Bureau for six months and really get to know the team and what they do there. So I really cherish that opportunity because it opened my eyes to everything exactly I wanted to do. And just like that moment when you find your calling, that that was it.

**Cody:** Mm hmm. So the name of this podcast is What's Next? so always asking the question of what is next, but it sounds like to this point, water is a is a big passion of yours and a big focus of your career. Do you foresee that always being the case or are there any things on the horizon, no matter where that horizon is, if it's way down the line or not, what is next for you or what other like professional and personal ventures do you see in the future for Monica Morales?

**Monica:** Gosh, I mean, it's so widespread and in civil engineering is so broad in general. And with Jacobs being such a large company, it's there's just so many opportunities. So maybe 15 years down the line, I'll lead our operations for the West Coast or, you know, long term or join a global team for a certain initiative.

I know within five years I want to become a mom, whether that's having my own kids or adopting kids. So that's something near and dear to me. And it's also really comforting to know that my colleagues, my supervisors and other bosses are really supportive of, yes, we want you to have the work life balance and we're going to support you no matter what. And being able to see other women engineers balance being a mother and working and the company also valuing them. It's just its really great. So that's kind of near term is that I want to build a family and longer term, it's really widespread. And I get, you know, jokes, but they're kind of the serious jokes from other peers and colleagues like, oh, Monica's going to be CEO one day. I'm like, no, no, no, not CEO, but may be COO. So, yeah, I mean, the sky's the limit. And I think I'll take it year by year in terms of what it is that I like to do and what I want to keep doing. So more near-term, definitely want to be a project manager and dabble in that. Right now I'm a deputy project manager, which is like an assistant to them. But yeah, I want to run the whole project myself, maybe run a whole region myself and then, I don't know, COO sounds kind of fun.

**[Bouncy theme music plays.]**

Jessie: Hey Beavs! - Jessie here, I'm a 2016 OSU grad, and member of the OSU Next Council. And I don't know about you but I spent the first years of my career learning my job and making sure that I was on the right path. Then one day I looked up and I realized that I totally disconnected from the OSU community. Luckily I attended an OSU Next event and not only did I find relevant information but I found the best people to share it with.

As OSU Next has quickly expanded we have had to find ways to keep Beaver Nation informed and engaged which is why I am excited to announce the launch of our [OSU Next LinkedIn group](#). This is a great space to connect with recent grads and share information about the first 10 years out from graduation. Go to LinkedIn and search for [OSU Next](#) to join today. I'll see you there!

**[Bouncy theme music fades.]**

**Cody:** I want to transition now into some fun segments. So these are little segments that we like to wrap up with just to give a little bit extra context on our guests lives. So this first one is one that we are calling, give some and get some. So I want you to imagine that you just won ten thousand dollars and you get to donate half and spend half. So what is one cause/charity organization that you would donate half of it to and then for the other half and have to preface this - it has to be something fun. So what would you spend it on that's something fun? And I know some folks are like, oh well, put that in savings is the most responsible thing to do. But for the for the sake of this segment, it has to be something fun. So, yeah, maybe what's your response to that?

**Monica:** Ok, all these ideas are popping into my head. But in terms of the five thousand donated, I have been working a lot with [DIY girls](#), which is local to the Greater Los Angeles area, and they have initiative where they serve Latina girls and middle and high school and get them introduced to STEAM careers. So I think they really benefit and put to good use that five thousand dollars. So that's my immediate thing. So [DIY girls](#) if you're listening to this, I'm always supporting you. And for the fun five thousand dollars spend. I've always wanted an Italian moped that's avocado green with matching avocado green helmet. So I think I'd put that towards a moped.

**Cody:** And that's like the Southern California life, right? You got to have a moped.

**Monica:** I don't know about that. I think that's more of an Oregonian thing.

**Cody:** That's an Oregonian thing, OK. Yeah, OK. I'm just imagining driving around Corvallis in the rain and in an avocado green moped, you know.

**Monica:** Yeah, exactly. And that's where the idea sparked. And when we moved to Los Angeles and it's a very different driving environment for sure. I don't know if I could do that, maybe if I stayed in the residential areas.

**Cody:** Yes. OK, so this next one is called my quarantine thing. So folks from all over during these new covid times are trying all new things. So some people are getting a puppy. Some people are cutting their own hair, trying a new hobby. What's your new thing that you've taken on since the covid hit back six months ago?

**Monica:** So I never thought I'd get into this hobby, but I have started to create these handbags out of beads. And it was because I was doing online shopping during quarantine and saw this very expensive handbag made of butterfly beaded butterflies. And I was thinking, maybe I can make that since I have so much time. And now I've made like seven plus purses with all crazy designs and colors. And it's gotten to the point where my friends want to buy them from me. So that's what quarantine has turned me into is a crazy bag lady.

**Cody:** That's great. I was going to say, is this like an Etsy shop coming on?

**Monica:** Probably not, but the bags are really cool I have this huge butterfly one with a flower handle and there is a caterpillar climbing up it. So they're very detailed.

**Cody:** That's really cool. So this last one is so this one's a little bit of a challenge, so we're calling it so it's the trivia challenge. So it's all about OSU. We're going to give you forty five seconds. And basically I will throw some little pieces of or ask you some questions about OSU trivia. And we're actually doing a little friendly competition here across season two of the What's Next? podcast. So we'll see who in the forty five seconds can answer the most of these. All right, Monica, are you ready?

**Monica:** I think so.

**Cody:** OK. What year was OSU founded?

**Monica:** 1845

**Cody:** Oh, so close. It was 1868. But what was OSU called before it was OSU?

**Monica:** I don't know this one. Oregon alumni. No, I don't know. I don't know.

**Cody:** Name another OSU in the United States.

**Monica:** Oklahoma State University.

**Cody:** Ok, OSU's 2019 total enrollment was it under or over thirty thousand?

**Monica:** Over.

**Cody:** Got it. All right, OSU has a multitude of cultural centers on campus. Name one of them.

**Monica:** The Native American Institute.

**Cody:** Close, we'll give it to you. OK, there is your 45 seconds that is up.

**Monica:** Oh, wow that went by so fast.

**Cody:** I know it's quick. So you got three. So actually you're in the lead so far.

**Monica:** Wow. All right.

**Cody:** Yes. And the Native American Longhouse is the full name, but we'll give you that.

**Monica:** Oh yeah that's right

**Cody:** Yes. Yes. OK, great job. You are now in the lead so far so, so pending on that title. But yeah. We'll see how it goes. Forty five seconds is quick.

**Monica:** Yeah. Well I hope that I get to rein the title.

**Cody:** Well, Monica, thank you so much for your time and for coming on here and telling us all about your role with Jacobs, but also your journey to OSU, both in the civil engineering program and then the grad school after that. Yeah. Thank you so much.

**Monica:** Thanks for having me.

**Cody:** And to all our listeners out there in Beaver Nation, we'll see you next time.

**[Bouncy theme music plays.]**

**Cody:** Hey, listeners, our goal at OSU next to the alumni association is to build community, and that includes creating connections and sharing these unique stories with the rest of Beaver nation. If you found this episode of the What's Next? Podcast valuable, you can help us achieve this goal by writing a quick review, leaving a rating and subscribing to the show in your preferred podcast player. We're thankful for your support.

**[Bouncy theme music fades.]**