

Green Stormwater Infrastructure: Bioretention – UF SW Recreation Center

[00:06] Mark Clark: Hi, I'm Mark Clark.

Eban Bean: And I'm Eban Bean.

[00:08] Mark Clark: We're on the University of Florida campus to take a look at an example of a bioswale system that was integrated into this relatively new building on campus. The roof runoff from this building is directed into this area, and basically there is some temporary storage, a minimal amount of treatment because we have pretty clean water. But, Eban, tell us how this is supposed to work.

[00:29] Eban Bean: Yeah, so as you mentioned, the roof runoff comes into a few channels that are right along the front and the back of each of the cells. It gets a little bit of pretreatment there. Some of the coarse particles can be filtered out or drop out in there. That water then overflows into each of these cells.

[00:44] If you notice, there's a cell behind us, but then there's one further behind us. And as that cell fills up, any additional water would overflow that structure that you see sort of at the back of this cell right behind us. And then this cell could fill up and then we could have overflow here where it then goes into the main stormwater management system on the campus.

[01:04] Basically, any of the water that gets retained in each of these cells holds it back for a temporary amount of time, increases the sedimentation and filtration, and improves our water quality.

[01:14] Mark Clark: So, a lot of this is about trying to mimic that predevelopment condition, hold as much water as we can. Yeah, we can bleed it off if it's excessive, but we get that water in the ground. And what they've also done is a nice job at trying to integrate some landscaping into this stormwater infrastructure.

[01:28] Eban Bean: Absolutely.

Mark Clark: And, of course we have to pick wetland plants that can tolerate that short-term inundation. But those plants will help us take up nutrients, they can be very attractive, flowering at certain times of year. Of course, there's a little bit more maintenance involved, where maybe you have to do some weeding of undesirable plants and you can't just go ahead and mow. But that really provides a nice landscaping alternative that actually helps us with our stormwater infrastructure.

[01:51] Eban Bean: And, if you notice here, they've also done a very nice job at creating sort of the overflow structure to be rather aesthetic on this university campus environment.

[02:00] Mark Clark: So, Eban, I wanted to show you what they did here to bring the water from the roof down into our bioswale system. And here's the downspout. But unlike perhaps a traditional downspout that might even be underground, and you don't even see what's happening, this cascades into this nice bowl with rocks in it and then basically conveys it out. I mean, it's really a nice aesthetically appealing artistic way to, you know, really express the role water plays in our landscape and how we're still conveying it to the treatment system but doing it in a whole different light.

[02:31] Eban Bean: This is a really interesting way to do energy dissipation too. I mean, from an engineering perspective, you know, the water comes down here, builds up, absorbs that energy and then spills out into the rock channel here. It looks like it gets some nice filtration, and it looks a lot better than just a concrete canal that we might usually go with.

[02:51] Mark Clark: Yeah, absolutely, it's just a neat thing that they've done here.