

MANDA MAGEE: Well, I'm going to go ahead and get started good morning everyone. Welcome to the second day of Autodesk University. This morning I'm going to be talking about Organizing the Chaos-- How to Create and Implement a BIM Strategic Plan for a Company. My name is Manda Magee. I'm a senior associate at WSP Parsons Brinckerhoff. I've worked there for about 10 years. And before that, I worked for a small company in Michigan for six. I've worked with Revit ever since 2001. It's been quite a long time. I was working there before Revit MEP as well as before Autodesk even purchased it. So I've had a long history of working with standards. I'm actually an HVAC engineer and I'll go over my experiences through that long history. Specifically, my most recent experience with WSP Parsons Brinckerhoff.

The class summary, a real-world experience of writing a BIM Building Information Modeling or BIM strategic plan for an office. The process of creating the plan including the goals action plans as well as discussing implementing. Now, when I talk about BIM, BIM is really most of what I'm talking about in this presentation. But 90% of that is really Revit. That's the bulk of our strategic plan because that's how we do our modeling. There are some third party software's that we do in BIM strategic plan so that's why we call it a BIM plan. But like I said, the bulk of it is really the Revit MEP is what we used to organize.

The key learning objectives. Learn how to identify organize and report on a company's Revit improvement goals. Learn and understand what a roadmap of developing and improving the Revit standards and how to measure the staff compliance. Because that's important is trying to measure the staff compliance. Gain ideas for providing just in time training solutions to staff. And then learn methods for improving documentation quality and continually improving office standards.

The outline of the discussion-- this is kind of just the slides and topics. I'm going to go over our company history, the previous experiences, brainstorming and writing the plan, implementation and maintenance-- because that's really the hard part, the training platforms, how we deal with the corporate connection-- what I call the corporate connection, Autodesk review, and then also next steps and lessons learned.

From the company history, and we're actually quite a large company. WSP Parsons Brinckerhoff who was very recently merged. We had WSP and Parsons Brinckerhoff merge

about last year. Nationally we have about 18 offices that are just really both MEP and structural engineering. And that some of those offices were very recent acquisitions, so we've got a lot of mix of different standards and different content. And so part of this is we're trying to merge all of that somewhat together but and that's what I'm going to be discussing.

The company history. So this is my office really. We had the CAD Manager's Network was in 2003. It actually started before that, but that's when it's got its official name. We had CAD managers throughout each of the offices. They had a communication network just to keep contact with what other offices are doing. In 2009, we had a BIM process group. This was a group that was specifically dedicated to developing a national standard. The BIM technical committee which was very recently started in 2015. And then have BIM Manager's Network. Which actually was officially defined in 2015. Now, that the managers that work was the same people. It was the CAD managers that just migrated over to the BIM Manager's Network. So it wasn't a specific time when which, OK, now we're starting BIM. BIM was really just naturally progression from the CAD managers. And that really helped us having that connection. And that managers that work they have regular meetings to really just connect with what everybody else is doing.

And we also started a National Committee in 2015. That was kind of post-merge. So we're trying to get two merge companies starting to talk to each other. So the previous experience-- the BIM process group was a great initiative. We had, like I said, users from each of the offices that were our key users. On this committee we'd have national calls on a regular basis and it made great employee connections. I still utilize those connections to other offices because it was pretty much the experts in each office. We made some progress towards our national standards. We created a great shared parameters file. We have a national project template. We developed the level of development and then execution plan as well. The thing is the shared parameters file was probably the hardest thing we could try and do. And of course that's what we decided to do first.

Because what we were attempting to do was almost standardize our schedules because that's what the shared parameters file is your schedules. And so it took quite a long time for us to come to a consensus. And because we took such a large task off to begin with I think that the committee itself lost a lot of traction. Because we were arguing and debating about just what to put in our schedules and columns and what to even name it. So I think that was it was great to have the national component to it, but we got really bogged down in those little details. So this

wasn't as successful as I think it could have been. But we lost traction of about two years. Mostly because the members just got tired of arguing about what to call the column. But we didn't make that shared parameters file. Its great it's perfect. And we all use it.

So in 2013, Global which is actually the very corporate level members created what they had a BIM strategic plan. And they had five main goals. They had the goal of educate, promote, develop, quality, and then support. These were great goals. When I read this plan I was like oh that's perfect I'm just going to use these. So that to just explain them a little bit educate is to educate the staff on the programs. As well as senior management. We also want to include senior management and educate on BIM processes. Promote was to be approached both internally and externally. The program the concept of using 3D-- this was actually the original plan was written in Canada. And that office and that company was not actually as far along as our office was. So they really needed the promote because there weren't a lot of projects that they were doing in 3D. So they needed to both promote internally as well as externally. Develop is to really develop content for the program. Quality is to improve the quality standards of your printed document. And then support is to provide support I guess the management level for the staff to be able to implement the plan.

So I really like this plan. The only thing was that their tasks-- when you actually read through the plan-- their task weren't really applicable to our office. They were a little bit further behind in their Revit development, so we can really just use their plan. We had to really write our own. But the goals were I thought were very sound goals. So the BIM Technical Committee, which was something that started in 2015, and this was actually very much a grassroots committee that developed. Because that kind of BIM process group fizzled out we still had stuff to do. Just because the committee stopped didn't mean that us developing projects. You know we still had stuff that we needed to improve. So this was really more created by the users themselves. And how it started was our office actually has separate technical committees for different components. So we have a technical community for drawing standards, one for education and training, and what happened was Revit and BIM kept coming up in those separate technical committees. But they didn't want the Revit and BIM as part of the technical committees because they felt that it would really bog the committee down and slow it down from its progress. So what we ended up doing was they said well you know we're just going to make a technical committee just completely dedicated to Revit and BIM and it's committed it's has 21 members. It's quite a lot of members on our committee. Our office is about 250 employees. And the reason why we did that was we really wanted to make the committee very

representative of the office because not only is it hard to get offices to actually adhere to one standard even within our own company, it's sometimes hard to get each group to commit to a standard as well.

So we really wanted that to be a very broad cut committee consensus. So if the committee agrees to it the theory is that the office would agree as well. That we have enough voices in that committee to where it's a good representation of the office. All trades are represented in the committee and then we're tasked with improving our standards.

The other one thing I wanted to mention was that we really wanted the committee to be it for our office. We didn't want to have the off that this committee bogged down with kind of national discussions. So the committee is very focused on what our office improvements are. So the brainstorming and writing the plan. This is part of organizing the chaos. So it was two days. It was three hours each day. We wanted to make sure that users from each trade were included. And then we also wanted us senior staff that were who could use Revit and BIM. Now, the users was very important to me. I really wanted to make sure the committee was just mostly users because those are the ones that most benefit from the content that's developed from the strategic plan. So I really wanted it to be the users themselves. Again, it's a very local office focus. It's just looking at our office and what we need to do to improve. And the one thing that I needed myself personally was I needed some kind of inspiration and a motivator. So when we first proposed this to the senior management there was warnings thrown out there that this is a lot of content and they described it as a big black hole. It's the black hole of information that's just going to suck you down. So when I found out was that the light from a neutron star is actually fast enough to escape a black hole. So that's what we use as our committee inspiration. And we use this as the first kick off meaning. And we kind of used this on a regular basis throughout our meetings. And the idea is that the committee is a neutron star and we're kind of shooting out little beams of light of content from this black hole that's just so much information that we have to do.

So the day one of brainstorming. What we did was we organized the priorities under three of the global goals. We had educate, quality, and develop. Those are the only three goals that we brainstormed on because those were very much the tactical component of the strategic plan. The promote you know that was more senior management and then-- shoot I forgot the other one. But these were the these are the three that were technical so those were the only ones that we really brainstorm on and that was the bulk of our strategic plan. We split up into

subgroups collecting ideas for each one of these categories, then we also throughout the three hours I had a slide show and I just had kind of leading questions just to keep the discussion going. We use standard brainstorming rules-- no idea is stupid. Throw everything out there that you want-- that you come to mind. And for each post it only have one idea associated with the post. And you don't want to use the word "and" or "or" because you want to be able to move those ideas around and put them where you want them. So you can see over here each one of the posted is an idea and we started to group them based on priority and just general concept tasks. So it was family libraries. And there's a number of different things we wanted to complete within that category.

You can see a picture of the set up that we had. So educate, develop, and then quality was down there. So once each of the subgroups created their content for their board they would then report to everybody else. Once each group put up their content we'd all sit down and listen to each one of the subcommittees or subgroups present on what their content was. And then we also had feedback on that. And there was there was a lot of moving stuff around like in terms of trying to define where this task would be-- whether it was under quality or whether it was under develop. So we just move these little ideas and concepts around on the board. And it was very successful. It actually only took us about two hours to do it. And we banged through it pretty quickly.

Day two-- what we did was-- this was actually the following week. And what we did was I typed up the day 1 content. So this is all the tasks and the priorities that we have from the first day. And then this day was dedicated to assigning time frames to it. We had time blocks of six months, one year, and then three years. And so we wanted to say how much content would be developed for each of those time frames. So for family libraries we said for six months we would have about 75% of it completed. At one year we'd have 100%. And then at three years we would add content. So the reason why I wanted this to be a week later was I wanted to people think about it and because there might be ideas that came up after that first day. So even on the second day we ended up adding content. And we also moved stuff around. We have stuff there were all these belongs over here. So we had big arrows going places and even moving it to a different subgroup we would actually write it on a separate post it and move it over to that subgroup.

So the results was pretty much our strategic plan. We had our to do list. And this was really all the committee needed. This is a list of tasks to do. We have time frames within that, and you

know that's it. But it worked out great. I was really happy with the overall progress of it. But we can't just have a to do list. We actually do have to write the plan. And that part of it was more for us to communicate to both senior management as well as national what we are trying to accomplish. And that's where we had to put the English in about the executive summary, defining what the goals are, that kind of content. Like I said it's not really for the committee. The committee and the users that are actually going to be implementing it they don't need any of that stuff. It's really for us to just communicate to other people what we're doing.

So how we wrote it was we had a champion of each of the subcommittees or sub goals. And that individual person ended up being that goal committee chair. Because we ended up having three subcommittees within our group. And so we end up having almost three authors of it. We utilize action plan templates for the next steps. Within the plan itself we took three tasks and we wrote kind of more detailed action plans of what we were going to do. The main thing that was we really had to watch the overlap between the committees because they did bleed together a little bit. So we wanted to make sure that these subcommittees weren't working on the same thing. So we made it very clear of like, OK, these are your tasks. These are your tasks. And we wanted to try and keep that consistent. But you have to keep in constant communication with each other, again, just to make sure that we're not duplicating efforts. But there really was a lot of these ideas and tasks really could belong in develop-- it could belong in quality. So we really had to watch to make sure that we weren't duplicating efforts.

So here's the cover of the plan. This is the action plan item that we had. It was a form that we used for each of the tasks. It just says next steps, who's doing updates, times. We put this in the strategic plan but honestly we haven't used it since. It was a nice idea to have this nice little form of to do lists. But most of our tasks are so specific they really only have about two or three items under these next steps. So didn't really make sense for us to have like these big long forms. We really like I said we haven't used it since so I don't think we're going to use it in the future.

After we wrote the plan we had rounds a review by selected staff members who were very fluent in Revit-- senior staff really. And we also had the department heads review it. And then all doc comments were thoroughly documented. Because I really wanted to keep track of you know how we got where we started from and where we ended up. One of the main comments that we got from the senior management was that our time frame was too long. When we were putting this together me personally I wanted to push everything out to three years. I'm like

there's a lot of stuff to do and everybody in that committee has a day job. They all have projects to work on. So I was trying to push everything out to three years. And I was like let's only do like a few things for this first year time frame and six month time frame. And let's put most of it out three years. But one of the senior management read that they're like, why I got to wait three years before I get anything? They didn't like that at all. So we ended up-- I just moved all the time frames up so we were accomplishing more within the first year. Well we didn't meet those targets. Because like I said everybody has day jobs. So that's something that it's the only thing like what we've been pushing for lately is actually having a dedicated staff member to the committee. You actually hiring somebody out who's not working on projects and their whole job is just to work on content. That's a proposal that's in currently.

So for the key learning objectives. We've completed the first one. So implementation and maintenance. The writing the plan is the easy part. That actually is the easy part. Actually implementing it is much more difficult. So as part of the implementation we really wanted transparency to the staff and the committee. As well as the tasks that we were going to do. So we sent everybody the plan, we presented on the plan, and then we also have regular emails on any revisions that we're doing. Then the plan has also provided to the National Committee. So again that's just for transparency to say, OK, this is what we're doing please provide input if you want. We just didn't want to be working in a silo, and then at the end of it just spit out all this stuff. So the national loved it. They're like, oh, this is great. And then the committee loved it as well. They were very excited about it. And now it's just they're just waiting for us to finish stuff. We also wanted everyone to know who was in the group so we published pictures we had we kind of presented everybody in the office because we, again it's all about transparency. We wanted staff members to feel comfortable that they could come up and speak to any one of these individuals if they have an idea if they want something to be included in the strategic plan. So we really wanted to make sure that there was transparency included.

So how the committee was structured. So we have the local BIM strategic driver. This is actually the head of our office. Then we have the National BIM Strategic Driver, which is kind of the National BIM Committee Chair. Then we have two co-chairs for the committee because it is such a big committee we really needed to people to work on it. And then we divide it up by trade, and then we have this project services just kind of just dedicated BIM people pr Revit people. Now, initially when I had organized this I thought the actual trays were going to be the way we were going to structure. So I had like an HVAC committee chair I had an electrical

chair. But it turns out that the trays didn't really matter in this committee. It was really on the goals so we had we had organized into three separate subcommittees. We had four members in educate. Develop had nine members. And quality had eight. And that's really how we work. We don't really work by trades as we kind of really just work within our group subcommittees. If for me I'm on the quality committee. If I have something that HVAC related I'll just go and talk to the individual people who are in the other committee saying, OK this is what we're doing how's it look? But it's just that was one thing that kind of fascinated me was that the trades didn't matter. It was really just the subcommittees that ended up. We weighted this to develop because they had the most content to create. So that's why it has the most members. Quality was second and then educate we had four members because we thought that the effort involved in educate was slightly less.

OK. So the new content that's developed-- as we complete these tasks we email it out to staff-- and then we present we actually do presentations on the new content. And then we also publish that in what we call the BIM binder. Now, I know most of us try to keep things digital because that's the most way to keep things up to date. So when you're revising things if it's in that digital library that's the best way to keep content. Right? Everybody agrees with that. My personal experiences when I first started with WSP-- it was actually Flack and Kurtz at the time-- they had a CAD standard but they didn't have it printed anywhere. So I just printed it for myself. I printed the book because me personally if I'm doing CAD standards I need a book to flip through like a reference manual. So the thing is everyone kept taking it. Once I had that book printed it kept disappearing off my desk. So I ended up printing it for everybody. I'm just like you know what I'm tired of people stealing my book. Here everybody gets their own book. What struck me the most though was we moved about six years ago. And everyone was only given like a small box to move for your personal items. It was very small. I could probably only get like a couple of things in there. But it turns out when we moved I was walking around the office and every single one of those books moved with us. So that just spoke volumes to me about the importance of having a standard-- the importance of having something printed and physical in your hands. So I'm adamant about the BIM binder. So we actually have a table of contents and as we add content we slip it into these different sections.

So the maintenance of it. We meet as a subcommittee. We have two meetings a month. We actually meet every other week. So we have one as a subcommittee groups as a working session. And then we meet the two weeks later as the group as everybody together. All of the subcommittees combined. So again that's to make sure that we're all working on the same--

we're not working on the same stuff. And also just to report on your progress. But it is a little bit fluid. It depends on how much-- if we don't have anything to report we're not going to meet as a collective. We'll have another working session. So there are some times where we have two working sessions and then a group session. Then we actually report to the department heads every three weeks. I'd say that this is key to keeping momentum because you know every three weeks we got to say something. All right we can't just wait three weeks and not have anything done. So I think that's the most important thing about the fact that we're keeping momentum up. And then we keep pretty good meeting minutes. Again, it seems obvious but sometimes it's hard to do. But part of that too is just to kind of keep reminding ourselves of what we've done in the past.

So like I mentioned, we did have slower progress that was originally outlined with that three year, one year thing. We do rotate members in every year just to kind of keep the committee a little bit fresh. And then we also ended up reallocating staff members. And I'll talk about that a little bit later. And then I still I try to keep it fun. It's not easy all the time. Most of the time we just make fun of the plan. But we try to keep it a little bit light. And then I also try to keep the meetings short. Usually when we meet as a collective I keep it to about 30 minutes. Because we don't really have a lot. We just report on our tasks-- this is what we're doing. So that's successful as well is that we keep it short.

The key learning objectives. We've talked most of the bullet point two. The measuring staff compliance I want to talk about that a little bit later. So the training platforms. So everything I've spoke on up until this point was really just about the strategic plan. How to write it and implement it. The stuff I'm talking about from here on to the presentation is more detailed content of different concepts. So training platforms is one of them. It requires multiple training platforms because everybody learns a little differently. We actually do training assessments, online in training, we have regular meetings on the processes because the online training doesn't really talk about our office process, and then we actually have a week one training event just on Revit. And we emphasize to staff as well as supervisors the importance of training. We emphasize it a lot but it doesn't always happen.

So just in terms of the training we have the online training assessment. This is a quiz. This is my quiz. I did actually pretty poorly, only 57%. But when I took the quiz I wanted to make sure it was stuff that was I knew in my head. I didn't actually go back to the program and look questions up. I really would just answer them. Because I wanted my modules to actually reflect

things where I could have figured I could always use refreshers. Even if I know where this stuff is you can always learn more on it.

And then we have multiple online training modules. This is actually the CAD learning platform. There's actually a booth in here about the CAD learning platform. And that's really I would say that's very successful for us. The most successful part of it though is that you can actually track to see who's actually watching these videos and who's taking the assessments. So every week we actually we do like a little report and say OK who's doing the training. And it turns out hardly anybody is doing the training. But the best thing about this, though, is that when staff comes up to you and says well I need training. You can be like well you have to training. You have all the training at your fingertips. You can watch it whenever you want at any time. You could watch it at home. The staff can't have that kind of oh I didn't know how to do that because I don't have training access available to me. So that's probably the most beneficial thing about this.

The next step because I can't even get my team to do the training and I harp on them all the time. Just please take time you take two hours a day or a week. Even if it's 30 minutes a week just watch some of these videos they're like five minutes long. You can watch a couple of videos. And I can't even get my own staff to do it. So the next thing I'm going to do is-- in grade school you have the times tables with the stars and the names-- I'm resorting to this. I want to actually I think I'm going to put that up you know put names down and modules. And if people complete the modules I'm going to put little stars because saying it does still not letting that happen. I'm hoping if it's on board like printed I'll be able to actually get that to work.

The one thing that was really successful was our week long of training. We called the BIMco de Mayo because it was during Cinco de Mayo. It was the first week in May, and it was really successful. It was standing room in the back which was great because we didn't actually provide lunch. Usually if there is no lunch provided nobody shows up. So I was very pleased with how this worked. And what we did was we had five days of training. The first and last day were all trades. We talked about smart scheduling on the first day and then trade coordination last day. And then each trade had a day within during the week. And then we had different presenters for each of the days. So I didn't actually have to come up with all this content. We actually had the committee members work on each one of these days. They actually loved it because they got to present and they don't usually get that opportunity. So the actual committee members enjoyed it. And the staff really got a lot of information on it. And our focus

for this week was really to look at new concepts within the program. Looking at analytics, looking at the duct static pressure calcs-- those kinds of things that staff members would not necessarily be using on a daily basis. We really wanted to make kind of new fangled concepts within the program. And I think that's probably why it was so successful. We just made it fun. All the committee members ended up getting sombreros. So again just to make sure that everybody can talk these are committee members. If you have questions or you have something you want to bring up go ahead and talk to one of these members.

So just in time training solutions to staff. So the corporate connection is the fun part. So we have the BIM national champion. So he's actually organizing all of the offices. We had to kick off meeting with the different offices, and we presented what each office is actually doing, we shared the strategic plan, and then we actually have regular meetings with the corporate level to kind of allocate tasks. Because if something is developed in one office we want to share that to other offices. If you improve your-- the one recent thing that we did was our model managers role. We defined with that was a little bit more detailed. So we're going to share that to national. So we just want to be able to share resources between the offices.

And leadership support is necessary for the progress of this. If we don't get support from leadership we can go anywhere with any of this content. Now the one thing the committee chairs are the only ones that actually do the corporate connection. The members we want to keep them still as local focus office focus. So the committee chairs will actually go to these National Committee meetings and will discuss what we're doing and if there's something that national wants us to work on we'll filter that down through the committee. But we really wanted to keep that buffer between our office and the national. Again because we didn't want we didn't want it to get bogged down like similar to how the process group worked. I'm speaking really fast apparently. I'm almost done with the presentation.

So Autodesk review-- after about a year of functioning as the committee-- we had an Autodesk review. And they came in and they looked at our processes and provided a report commentary. What was great about their report was it was very similar to our strategic plan. It was almost you can line it up side by side. And then the goals. They had about four or five specific goals and I literally could connect the dots between OK this is our goal, this is our strategic plan. So it really validated our strategic plan. The fact that Autodesk is coming in giving their own comments. And it's all guess what? It's the same as our own strategic plan.

The one thing that the report emphasized-- well that they emphasized is the strategic plan.

They said this is a great document. You know what you should actually allocate more resources to it. So again, this was a pitch for us to get a dedicated person to the committee. The one thing that I found fascinating about it was that they had different priorities. Their priorities were more on workflows and documentation. Whereas our committee priorities were all about content and because we had we had a community of users. So I mean it makes sense. Users want content. That's their first priority. So that was one thing that I thought that was pretty interesting of the Autodesk compared to ours. So we ended up re prioritizing them a little bit and focusing. This year we're actually focusing more on the documentation and workflows. Like the model managers role. What was the other one? Oh, we had a questionnaire of how to set up a model. Because we do a model set up all the time. We have a specific group that does it and they always ask the same questions. So we created a form of just questions. You know what's this? What's that? How do you do origin to origin? Or that kind of stuff. So we really kind of shifted some of our priorities based on the Autodesk review. But there was just something that I wasn't really expecting so it was nice to kind of get that information.

Now, Autodesk also provided our model audits of three of our larger projects. So what they did is they looked at our office standards and our industry standards and they really kind of pointed out all the stuff that we were doing wrong in these three specific models. And so this I thought was very helpful as well. It not only showed us how this project was operating, but it also showed me a way to do an audit for a project. So that what we're going to do is we're going to take our office and model internal audits off of the Autodesk review.

So the next steps-- well update the strategic plan. At about the two year mark we're going to revise it and we publish it. We're going to check off items that were completed, update some of the time frames, and then we're also going to add content because new concepts have come up in the past two years. And then we're also going to add staff to implement. That's the part I was discussing of having a dedicated staff members. Because I could do everything in one year if I had somebody just working on it. But OK it's hard to do. It's hard to pitch that because it's all overhead.

We want to emphasize more on the educate goal. The one thing that the BIMco de Mayo taught me was that staff really wants to train. And they want to sit down training in a classroom type situation. So we're going to do more emphasis on the educate goal, and we're going to have more regular meetings. We're going to conduct monthly staff meetings. And we're to

have a committee member in charge of each one of those presentations. So that's not one person trying to develop 12 presentations a year.

We're going to maintain the project template with the latest content for the committee. And then continue regular e-mails for the subcommittees of content. Create checklist for project audits. That's what I was talking about with modeling our internal project audits from the Autodesk review. And we're going to schedule regular in-house audits. Now, what I want to do is actually connect that with our ISO QA process. And that takes some time to actually include that. But we are ISO certified company, so we have regular forms that we have to complete for just regular QAs. And the printed documents-- I want to actually include that as part of our model review. That will probably take me about two years to get that to implement. But to me, that's probably one of the best ways for me to ensure that it happens all the time.

Regular presentations is key to maintaining momentum. So the presentations that we do to the department heads every three weeks-- that's what keeps us going. The project template is a living item that should be updated continuously. So how we're going to do it is actually it's almost like a software update. Every year, here's a software update of the new content the committee has developed. And then every project that started from there on out when it's published will use that specific product template. Each office will have slightly different operations. That's part of the BIM process group experience is that you're not going to be able to get every office to do exactly the same thing. Everybody's in a different spot. Even when we talk to these offices that have merged with us. Some of them are actually more advanced than us in terms of their Revit development. Some of them are much further behind. So everybody's in a different spot. And there's also regional content that's different. How I do a project here is different than how I do a project in California. So we're not going to get them all to be exactly the same. So what we're doing is we're starting with a baseline of like this is the project template that's like the national start point and then you edit it and revise it to your own office needs. Continual training on the software-- and then also just stand your ground with the time frames. I just got to stand my ground. And you know what we're not going to be able to do that unless I get more staff. OK. So that's the rest of the learning objectives. Thank you. I want to remind everyone to complete the survey. And now I can open it to questions. Any questions? Get

AUDIENCE:

How much time do you and the other committee members spend each week dedicated to the [INAUDIBLE]?

MANDA MAGEE: To the committee? Each week it's probably about an hour. Overall it's about I equate it about four hours a month-- four to six hours a month, depending on what somebody is working on. So we really try to keep it short. When we did the BIMco de Mayo stuff that took a little bit more time because I got to develop the content. But that also pushes to learn the software ourselves. So it was beneficial because it was more training than anything. Yeah.

AUDIENCE: [INAUDIBLE]

MANDA MAGEE: We have two components that are national. We have what we call a Q drive, which has kind of all the national content. It's write protected. Nobody can actually overwrite that. The only people who can edit that are the BIM managers. So we have that. That's where our project template is stored. That's the national one. And then we have the shared print and we have a SharePoint site, which has all of our corporate documentation of level of development those kinds of things. And again that's write protected by the BIM managers. So then what we do as New York is we copy that national component and we revise it slightly for it to develop our own information.

AUDIENCE: [INAUDIBLE]

MANDA MAGEE: Yes.

AUDIENCE: You mentioned you were going to come back to measuring success, or whatever it is, with your--

MANDA MAGEE: Those are the audits.

AUDIENCE: Those are the audits?

MANDA MAGEE: Oh! Yeah

AUDIENCE: [INAUDIBLE]

MANDA MAGEE: Yeah.

AUDIENCE: [INAUDIBLE]

MANDA MAGEE: Well that's the other part too. When we link in an architectural model we can't tell them how to set up their model usually. Usually when we have a kick off meeting we'll have some suggested ideas that will make our jobs easier. How they set up their model. But generally

that's part of model manager. Every time we get a new model upload from the architect we have to revise it to meet our needs. But we can't really enforce our standards on them. What we do is we have our standards for each project that we try to enforce within our disciplines. Now but part of that too is that because every model we get from the architects-- every architect is different. So we have to adjust even our project standards slightly to meet the needs for that specific project. So even each project we're not going to completely adhere to the standards because you have to be somewhat flexible.

AUDIENCE: What's your process of tracking? So as you have your users in the program and they're finding things that they need changed, what's your process of getting that reported back to your BIM committee, kind of getting those updates through? We see a bunch of different ways, currently, in our firm, that we're trying to obsess that. And some are really great, some are just like a nightmare on how to track all [INAUDIBLE].

MANDA MAGEE: Well, it's really if they want a standard that needs to be improved it's really just come in and talking to the committee. And we document them with the meeting minutes. We do have a family forum. So if there's a family you want-- so we have a specific forum that and the developer community is really in charge of that. Once we publish our standard this is our library that's shared to our-- it was paired to our lovely shared parameters file. If people want specific families they'll fill out the form and give it to the committee. And they'll be basically this whole process that we have-- families in and families out kind of thing. But in terms of just ideas of improving standards. It's really just talking to us. Yeah.

AUDIENCE: Do you guys have a policy for external contact [INAUDIBLE]?

MANDA MAGEE: Not at present. That was that's actually very next task that we're going to do. There was this third party software that we were using and that worked out pretty well. The thing that we're kind of waiting on though is I think Autodesk is writing their own standard shared parameters file. I've heard that somewhere. Where we're kind of waiting to see if that happens. So we're going to wait like a couple more months to see what happens with that. But that's something that we struggle with very much because we have so many vendors for HVAC and electrical. We're just always-- it's one of our major things. We're always dealing with these different parameters that are from all these different vendors. I also heard that Europe is actually creating a standard list of parameters for there that's required for their vendors for like the manufacturers. So it'll be interesting to see kind of what morphs out over the next couple of years. I have a feeling that something like that will happen here as well.

AUDIENCE: What is involved in the project review audit? What are you looking at, and how do you do it?

MANDA MAGEE: Well, they looked at so many different things. They looked at all the way from like object styles to work sets. What types of work sets that people were using. Because we have a problem where some people create their own personal work sets. And we say it a thousand times. Don't create your own personal work set. But we just have some users that that's how they learn and that's how they want to use it. So it really created like this whole-- it was almost like a 20 page report of just really look into every detail. Also looking at content that was on the wrong work set. That kind of stuff. Whether or not even the title blocks-- whether or not there was consistent title blocks from trade to trade.

AUDIENCE: Is there a program that's used to [INAUDIBLE] data?

MANDA MAGEE: That I don't know. We were just going to create a checklist and just go through it manually. That's a good question. That would be great-- be wonderful. It's an algorithm though right? We can just write an algorithm and like the smart software will just figure it out for us. Yeah.

AUDIENCE: [INAUDIBLE]

MANDA MAGEE: OK What was the name of the--

AUDIENCE: BIM Assure.

MANDA MAGEE: BIM Assure. And you said they have a booth at the-- OK

AUDIENCE: [INAUDIBLE]

MANDA MAGEE: Anything else? Hey well thank you very much. Make sure you fill out the surveys. We appreciate feedback. Thank you.