Hi. Welcome back to another episode of the Your Project Shepherd Construction podcast. The last chapter of our story ended with a Rick warning. Brian and Heather that Derek, their builder's lack of experience is causing problems. He's deviating from the plans for their for their dream home and costing them more money than anticipated. Despite this, Brian and Heather are both relieved they're finally seeing a lot of progress, although they are annoyed that the home is already looking a little different than they imagined.

Heather is now closing in on the six-month mark of her pregnancy and is really starting to feel the stress of her career raising their existing child and this home build affecting her health. Brian's doing his best to alleviate Heather's worries and keeps assuring her that it's all going to work out. While Rick may be concerned with the out of order progress happening on Brian and Heather's build, there's not much he can do now besides warn them.

He now has new clients that require his time and attention. But that doesn't change the fact that his gut is telling him to find a way to make sure this young couple understands the seriousness of the mistakes happening. But for Brian and Heather, each bit of progress is great news to them. It means the builders are getting closer to the finish line, hopefully saving money, and with similar luck, they might just move into their new home before baby Number two's arrival early one morning, Derek sends Brian a text message to let him know that the air conditioning company is showing up to start the installation.

So Brian, Heather decided to stop by during lunch to check it out. Derek is feeling pretty good as he watches the HVAC contractor pull the last of the duct work into place. The bathroom fans are already installed, and they've even cut holes through the exterior and inside and the setting for the dry air vent, the plumbing and electrical are also moving along as well.

All the pieces are starting to come together, and the construction site is starting to look like an actual home. Due to some of the rising costs, Brian and Heather decided to make a few more affordable choices than they previously wanted. For instance, they had originally planned on using a tankless water heater, but as their costs have continued to increase, they decided to go with a traditional gas tank water heater instead and instead of the electric heat pump system that Rick recommended, they change to a less expensive gas furnace. It seems like an easy switch, and Derek doesn't have any objections. And it's helping to control the budget. After the electrician, the plumber and the company wrap up the rough ends and they get some inspections passed. Jake The installation installer meets Derek onsite to get started on the installation.

After a quick walkthrough, Jake makes his way up to the attic and gets to work. He's almost halfway done spraying in the spray foam insulation when he sees a potential red flag and quickly calls his office.

"Hey boss, Jake says, I may need you to come out to the site and look at it. This. It seems like they have installed a standard gas furnace and water heater here in the attic, and there's ridge vents on the roof. Hang on tight. I'll be there in a second", his boss says.

Derek noticed Jake pacing outside on the sidewalk and assumed he's just taking a break. No big deal. But a few minutes later, another truck pulls out and a man gets out. He and Jake enter the construction site together and head straight to the attic. Jake's boss, Tim, owns the spray foam insulation company and has been doing insulation and homes for over 20 years. He's trained his employees well and he's happy that Jake caught the mistakes when he did.

Tim introduces himself to Derek and says, "Look, we have to stop working here. There's been a mistake and the spray foam is the wrong insulation to have in a house with this basic gas furnace and water heater. You can either replace those or we're going to have to scrape all the foam insulation out that we already installed and go back in with standard fiberglass."

Derek gets a defensive and says, "So since when do appliances, insulation have anything to do with one another?" It's become obvious to Tim that Derek doesn't know what he's doing. He explains that Eric the spray foam and stone insulation seals the attic space, and in this invented attic there's huge risk of carbon monoxide poisoning.

Tim says, "Figure it out if your clients want different insulation or different appliances. My company isn't going to have anything to do with a family dying because our materials were used incorrectly. If you want us to scrape the foam insulation off, it's about $3,000. I can have the office send you an updated quote." With that, Jake and Tim pack up their trucks and head out. They drive away while Derek is left with his mouth open, realizing he's made another naive and costly mistake.

Just as Derek is regaining his composure, Brian and Heather walk in. They mention they'll be swinging by. And at that time Derek was excited to show them all the progress. But just minutes before he had been hit with some hard news.

As soon as she walks in, Heather asks, "What's up with that janky hole in the wall outside? I want whoever cut that hole to replace the siding and redo it. It looks terrible."

Derek takes a breath and says, "It's okay, no big deal, that's just the hole for the dryer vent going through. The AC installer is going to be adding a louvered color cover for that hole and that'll take care of it. In the meantime, we have some decisions to make. It turns out your switches with the water heater in the furnace aren't quite as simple as we thought."

"We?" Brian asks, "You are supposed to be the professional here. We're relying on you to help make the right choices! Okay, show us what's going on.” Derek leads Brian and Heather up to the attic where less than half of the walls are covered with breathable insulation. Derek says it turns out spray foam insulation can't be used in a home with this regular gas furnace and gas water heater because it creates a carbon monoxide hazard. At this point, Brian and Heather are both seeing red, and Brian decides not to even try to calm Heather down this time. Heather says, "Are you saying that you just assumed something would work, but in reality, you could have killed my entire family?"

"Let's focus on moving forward here," Derek says, "You can either choose a new water heater and furnace or pay to scrape off. The insulation has been installed and switch and switch back to traditional fiberglass insulation. I think it's about $3000 to scrape the insulation or replace it, or maybe around $10,000 replace all the AC equipment and water heater."

"Either way, you're paying for it," Heather says as she finds a place to sit down, rubbing your hand on her lower back, obviously in pain and stressed.

"I can't afford either one of those," Derek stammers, "and we can!?" Brian barks back, "I'm afraid if I add up how much additional money you've cost us with your mistakes so far. First, we have to just get over this drop being that we didn't even want in our ceiling, and now, after you assured us this change in water heater and furnace is okay, you think we can just drop another 10,000?"

Derek takes another deep breath, "Okay. You're right, guys, I'm sorry. I'll figure this out. This was my oversight, and I'll find a way to get a fix."

As they're walking out the door, Brian feels a tinge of guilt as he looks at Derek, who seems to be completely defeated.

It seems that they're all in over their heads.

**INTERVIEW**

**Curtis:** Hi everyone. Welcome back to ***The Your Project Shepherd Podcast***. Joining me today is my good friend Toner Kersting. Toner owns a building performance company called **Toner Home Matters**. They are experts in building performance design and building forensics, and they do a lot of building performance litigation support.

**Toner:** Unfortunately, yes.

**Curtis**: Which basically means that they are expert Witnesses when something really hits the fan, and the attorneys have to get involved and dig into the meat of What went wrong in a project.

**Toner:** That's right.

**Curtis**: So, Toner that all makes sense to industry people like me but since this show is geared more towards consumers, tell us more in layman's terms about what you do and why that's important and maybe even touch on what building performance is.

**Toner:** Yeah sure, so you know building performances it's an assumed responsibility. We believe that the products that were buying are all going to perform properly and then they like it on a lot of we come to find out that those assumptions were incorrect. This is a deliberate act to make something perform properly, takes planning and effort and action, and verification. It's It, does not happen. But, as Americans, we are expecting that thing is going to be just fine, right? We know in other industry types, the automobile industry is a good example, building performance does not work, otherwise, we would not have had to return that Yugo that we got when we were kids to drive because that thing just fell apart. We have all been subject to safety recalls, right, but we do not really have that here. So, there's a lot of people in that vehicle design effort to make it perform properly and we're technically doing that, but for a house, and that it's a deliberate effort. The good thing is, if it gets missed, we have ways of getting into the project and figuring out - ok, what is the misbehavior here and how do we correct that?

So that's the building forensic side of our business. We are striving to put that whole segment of our business out of business. I mean, that would be a great thing. Right?

**Curtis:** Right.

**Toner:** But we know that's not the reality of the situation especially considering we are the third largest building market in the United States and seventy percent of our market does not have inspections. So, we are the Wild West, we build, more houses in Houston than the entire State of California this year and they imagine how much regulation they have there, and how little we have here, and we're thankful for that, right? That's one reason why our houses are affordable, but what is the price for that, affordability? It's not that you do not get granite countertops, or your wall is not straight, but it's the things that are not paid for that help keep prices low that turn out to affect the durability, the resilience, and ability in the healthiness of our structures, right?

**Curtis:** So you mentioned some parts of our Market do not even get Building Inspections, most People do not know, tell us who's not getting inspected?

**Toner:** Yeah, so obviously everyone in the suburbs, let's start with that, right? The city of Houston, of course, is our largest permitting division, but we're sitting in Bellaire right now and Bellaire is good; I think in terms of city permits, Bellaire is one that's good because you can communicate with them. They're not so black and white, but when you get to larger organizations like the city of Houston, they do not have time to talk about things, so they impose a lot of standards that they believe that they’re meant to, but they do not always understand what those mean and probably for building performance dynamics, that was about 2010, when they said, hey, we're going to have this energy code criteria we're going to say that all houses must be meant or designed and verified to meet this standard and it's not just for new construction. It's for remodels also and that changed a lot of the dynamics. We teach a class on the rise of building deficiencies in relation to the, you get energy code adoption and climate migration. So, 2010, you were building houses in 2010, I met you in 2011, right, and the way that house has behaved then, versus now, is night and day - my business didn't even exist. Was there a Toner even in the marketplace in 2010? There wasn't, I had to convince you just to take a meeting with me in 2011 and we work on every project there now.

**Curtis:** Yeah

**Toner:** So who would have thought that would be the scenario, it was one that was a confluence of energy code creating a pressure differentiation, and the difference in pressures inside our structures affects thermodynamics. What is the other side that affects thermodynamics? The exterior climate or the outdoor climate has become more and more egregious. So, a tighter and tighter pressure and a more and more egregious environment outside - the net result is houses that do not perform which is increased at the concept of building performance design. So, I could never plan for this, right?

**Curtis:** Yes. There are a lot of factors that are kind of working against the average home and you know 90% of the builders out, they have no clue right there just building the way it's always been built. There's a low barrier for injuries, which we have talked about in some other episodes, for being a builder unfortunately in Texas, and you know, you just cannot use those same techniques that were used 10 years ago or 20 years ago, and for sure, 50 years ago. It's a whole new world.

**Toner:** That's correct. I mean, I have about 150 to 160 builder clients and those are people that use us every single day we all run their projects but then we look at the builder’s association, the second largest Builder Association in the United States and they have about 600 Builder members, right? They think that that only is representative of 20% of the builders that are actively working in our marketplace, right? That is a lot of folks. So, we like to say that we work with pretty much the top 10%. If I did the math that's more like the top 4.5% and it took us a long time to comb through those folks, but of course there is a whole segment of architects that are just like that. In trades there's the top of the top that does not always mean that they're the most expensive and I want to get that out there as soon as we can. Doing things right does not mean it's always the most expensive, especially if you're looking at the long-term value of this structure, it is not about getting to the closing. It's about looking back, 10 years later in ownership and how much did that house cost you?

**Curtis:** So, we’ll come back around to that in just a minute, I wanted to touch on our story that we have heard about Brian and Heather and their whole sordid tale that we have been spinning on some past episodes. Have you ever seen people make those kinds of mistakes and real life?

**Toner:** Yes, the “Br-eathers” of the world are out there, right?

**Curtis:** I'm asking that question, knowing that he sees this on a daily basis like 10 times a day, right?

**Toner:** Yes, yeah

**Curtis:** Yeah, so when we last saw our heroes Brian and Heather at their house finally, he struggled through the rough-in stage. Derek their builder, he kind of used a mishmash of whatever's cheapest and he put together some products that never should have gone in the same home together. You know like he put a generic house wrap from The Big Box store on top of OSB sheathing and then he grabs a roll of whatever window sealant happens to be laying around the shop. He put open cell spray foam on the whole house, including the subfloor in the crawlspace and the floodplain, a spray foam insulation. Nobody communicated that the AC guy the plumber so now they've got a gas furnace and a gas water heater, and there are ridge vents on the roof. I know that some of this may be Greek to some people but tell this tell us why all this is a really bad thing.

**Toner:** The thing is that I know that this is a scenario that we're utilizing to help communicate the importance of this, but that is my actual every single day. So, by this time tomorrow, I'm going to be at a house in College Station. All right and why is College Station important? It's the fastest gentrifying market in the state of Texas and with an extreme boom in housing. There was a couple who built a house, they moved into it and had three kids, and she is pregnant. She was not doing well on her blood results and now you take your blood of course a lot more regularly when you're pregnant so - when you were pregnant, oh, you didn't that's right it does not work like that (laughs) - anatomy is not my thing ha-ha. So, she noticed that her blood work was off well, and they couldn't figure out why and it was carbon oxides poisoning. So, late in this stage, the insulator who was showing up to put in the blown-in insulation, which is one of the last things we do, right? Said hey, we have a deal on spray foam, do you guys want to spray-foam your attic? They did it in the last week of construction, of course, they have open combustion furnaces, and water heaters, so now all of that trapped, dirty air is just dropping down and who is the most exposed to carbon monoxide? Kids, babies, pets, and old people – because of their immune systems so she is extremely concerned. Fortunately, they caught on to what was going on, moved out, and now we're going there to start. That is going to be a litigation project, but we do want to get them back in order and back in their home and it's and on top of that, the spray foam installer didn't understand that you must check the moisture content of the rafters and they were too wet. This offset the moisture so not only do they have a carbon dioxide problem, but they also have a volatile organic compound problem. Yeah, that was just a phone call from last week and now I'm there this Thursday to help them figure that out - but we want to avoid that stuff.

**Curtis:** So it's important to make sure that all the products that are being used in a home are number one, they're being used in the right application like the right climate, like some products are not suitable for Texas, although they may be used everywhere else in the country, right? The products must work together as a system, you cannot just pick and choose the cheapest product off the shelf, they all have to work together, right?

**Toner:** Correct. That builder, in his defense, is only as good as his worst contractor and because he does not educate himself - he does not take the ideal opportunity to be a proactive Builder - he is our classic reactive builder. He is like hey the insulator said this would be a great deal, sure, go. He only knows what he knows and that isn't very different from the homeowner. They only know what, they know. They're hoping that the folks that they hire especially the builder, be that *Sherpa* for them and it's not often the case.

**Curtis:** He probably thought he was helping them by offering the spray foam at a discount, right?

**Toner:** He thought he was killing it

**Curtis:** Like “Hey, guys, I got a great deal for you. Good, I’m your hero”

**Toner:** Oh, yes, exactly. The crazy thing is that's not going to be covered under his insurance. The GL’s not going to cover that - the spray foam contractor said, “well I installed it as per manufacturer’s installation instructions, but the manufacturer’s installation instructions were not written per climate zone. So, when I talk to the manufacturer like, oh yeah, of course, we know that, well, it's not in your instructions, so here we are. That's kind of a good example, but it is a mess of a job and it's unfortunate. I do not think that being one has been hurt at this point because was very low exposure. I mean, if you're worried about VOCs, do not go into a furniture store, right? But that's like a new car smell - which is cancer. So, let's be honest about that. So that is an *end* result, but if you made a plan from the beginning, you never would have reached that point, right?

**Curtis:** So the other thing, the other problem that I see with mixing and matching products, you know, there's the performance issues, but also, when you mix and match products, it can *void* a warranty on a product, right? Because hey, our product is only supposed to be installed using our fasteners, or our adhesive, or in this manner, and if you use some other guys’ tape to install it or whatever they can void the warranty and if you have an issue later, they're like sorry.

**Toner:** Yeah. Well in kind of in your summary example when they use that weather-resistant barrier, which that is what Tyvek is, it's a weather-resistant barrier, there are all kinds of manufacturers of it - that is a weather-resistant barrier, there is not a real great dynamic that comes from that. People have become overzealous or overconfident in that, that material, I can make a case that it's almost a negated material in some scenarios. But if you put Tyvek up and then you use zip tape on it that will void the warranty. Not because it necessarily it's a performance issue, but because they are two contradicting manufacturers and they do not want anything to do with each other.

**Curtis:** Right? Other than product selection, using the wrong products, the wrong matching of products, or we are installing them in the wrong manner, what are some other common mistakes that you experienced builders making, or a decision a homeowner makes that the Builder goes along with, what are some common mistakes?

**Toner:** I would say some common scenarios that create unintended mistakes, you know, we like to run our business with a lot of positivity, right? Like people were not trying, to make mistakes, they just find themselves in that scenario. Let's talk about one scenario that is classic that needs to stop - the three-bid scenario. Right? So, when you are, you're a homeowner and you have a set of plans, well, whatever that quality of plans, are they obviously need to come with a detailed set of specifications because the plans look good, but they do not tell you those details. So, if you take that and you go out to bid between three people blindly and you're not paying for their time then that's just like every governmental RFP, right? The person who wins is the one who makes the most mistakes and you are assuming that that has been thought out, right? You do not realize that those mistakes have been made and so it's quite frankly too late. I'm not a big fan of that process. I like paying people to be intentional and people call it different things. Sometimes a pre-construction and pre-service agreement or project is developed and it's the one that's supported by the National Association of Home Builders - I think in this market it makes even more sense than it did four years ago. Everyone's so busy, if someone, if a builder, is just available to give up 40 hours of his time, we got a question. Why? Now if he is starting his business and there's a logical reason there, but a good builder would not necessarily have that time available, but you can pay them for that, that effort, and if they do choose them, great, but it brings nothing up to the surface. It's all above the board and he even lets you fully evaluate, the difference between a cost-plus or an all-package, right? It is going to lay out what those decisions are because the homeowners need to be involved in all of those decisions too many builders make bad decisions on their homeowners’ behalf. If you're not, if you're a homeowner you're not willing to take that time then you should question maybe just renting, right?

**Curtis:** Right

**Toner:** Or, or that's when a spec home or a production home or something, might be a better option than a custom home or a semi-production, home like something that some of these larger production builders get into, but be mindful you're going to end up with something that someone else already has.

**Curtis:** Yeah, your kind of stealing my questions in advance which is great. I love it. One of the questions that I asked everybody kind of toward the end, but we'll talk about it now, is what kind of person should not go through the custom home process? What kind of person should just buy that house in the suburbs, or go rent something?

**Toner:**  If time is a very, very key dynamic, in the limitation of it, then you should consider not doing a custom home. If you have six months, 8 months, 9 months, or 10 months, give less than a year, do not do it. No, like, you could get through it, and you will be regretting it for the next five. Go to something that's already been pre-thought-out, right? Go ask your builder that you prefer, do they have any plans that you've built previously, that you'd be able to modify? I love that idea of, really the modification of a previous plan, I mean, let's be honest. For most architects that are affordable, you're just getting a plan that they drew before, right? I can name you six right now and probably go point out 10 of the houses that you going to do is just a regurgitate of a 90s house over and over again. There's a reason why we see Brick Keys still in Bellaire, right? That is an example of an architect from the 90s just repeating a plan, right? So, I think that's a beneficial thing. But if you can give yourself, you know, that minimum, I think 18-month process from I want to, build a house to move in, minimum, you're going to have a house that meets your family's needs not just for now, but one that's going to be 10-15 years from now and it's going to sell for more. It's going to be more valuable and it's going to hold up and design longer.

**Curtis:** So back at the performance side of things, long-term, can somebody save money long-term, with good performance design in the services that you offer?

**Toner:** Sure we pay for ourselves kind of in two ways. The first way is during the design and construction process and counting time, cost, labor, efficiencies, and things like that. So, for instance, on the construction side, the way that we design our *envelope,* is because I benefit from last year, we did over 600 failed projects and brought them through resolution. We are learning on the backs of everybody and we're ‘baking’ that out of the front end, right? I know and you know that the fewer the number of ‘monkey paws’ that touch that project, the better. When we were designing an envelope assembly, one that has a lot of dynamics going into it from the envelope goes from the finished cladding through the finish interior surfaces. So that's a really thick sandwich and every layer I can remove from that and bring in *ease,* is major time, right? It's it may be a more expensive dynamic because you're looking at to a one-to-one ratio and that is not fair. You need to be looking to a 1 to 3 ratio and what a lot of those products when you're looking product to product, that labor ratio is not always folding into it, and especially when we're dealing with cornice crews and framers, where they charge made by the foot, they would charge by that foot and then not realize a whole my gosh, it is a totally different wall. So we have been through so much of that, we bring in elements, that simplify that process to try to save on that to bring us some grace in terms of time-cost-labor efficiencies but the net result when they move in is that I have done a good job, even if you do not know, I did a good job, right? Like you do not know that I was ever here. Yeah. Like I'm the ghost, right?

**Curtis:** Your stuff is not the ‘sexy’ stuff, right? (Both laugh)

**Toner:** It sucks. But when it is amazing, and I know this from litigation when I have clients and homeowners there in that arbitration and they're like I had one the other day like this “I spent a quarter million dollars on this house” and that exactly tells you how they feel about that spend, right? Some people would say 250 thousand dollars but to tell them that was a quarter million dollars, right? A totally different way of saying anything but that's what is important to them. They're like, I expect for she said it again, “a quarter million dollars I would not have a house that grows mold behind my kitchen cabinets.” Well, the steps required to design a house where you do not grow mold on your kitchen cabinets, would have been a three hundred-thousand-dollar house. So, in the defense of everybody, and I was standing in between, I was hired by all parties, which is a lot of what we do, I tried to *not* choose sides, but to say If you want to solve your problem, we can tell you how to do it. Then we walk and figure out who pays for it. The argument was if we had done that, you would have paid for it so you can pay for it now, right? You've got to know you're getting what you bought, and people are very disappointed when it does not perform because they never bothered to ask if it was going to perform, right?

**Curtis:** Yeah, we have seen that several times where and honestly, you know, we all make mistakes. I've had that on my projects, I've had clients say, I spent a million and a half dollars with you, and I have this going on and I'm like, well, I suggested that we do it this way, but you demanded on doing it this way in order to save 20,000 dollars so that you got nicer appliances. Yeah, you know, again, it's not the sexy stuff, they do not get to see that performance. They do get to see that Sub-Zero refrigerator, right?

**Toner:** Yeah. And you know, I love to use the ROI example, I have, especially, my accounting clients, what's the ROI of doing this? I'm like, what's the ROI of your countertop? You're going to throw it away in 20 years? So, what's the ROI… 90% of what you see in the house is the worst ROI ever. I have $1 worth of ROI, and I have outperformed, 90% of the finishes in this structure.

**Curtis:** Yeah. The work that you do is going to last like the lifetime of the house. The finishes are going to get changed out every 15, 20 years, and the AC is going to last maybe 15 years, if they’re lucky.

**Toner:** Well we can get 20 years out of an AC system now easy for me to say that because I'll be dead, right? Like I'm not going to be here, hopefully, I won't be dead.

**Curtis:** I hope not

**Toner:** If I'm dead, you're way of gone (both laughing) But, we won't see that – that is a capital expense like we expect that, but if we could stretch out another five years of life in our AC and there is so much changing with that. I mean, we are the HVAC capital of the United States using 87 percent of our power consumption, more air conditioning dazing than anywhere else in the United States and that's only increasing, we have the highest average overnight relative humidity, which is really important to the embodied energy in our structure and embodied moisture in our structure, and we are hot and humid. I love that Austin thinks they're in the hot humid climate zone. Yeah. That's right guys. And this is, this is a horrible place to build a house, man. This is egregious!

**Curtis**: Yes

**Toner:** You I do not know this, you know, Galveston might be the only place worse than this, but that's our beach, so we do not want to talk about it.

**Curtis:** It is Houston South

**Toner:** Yeah it is Houston South, that's right. But there's a big difference between building on the coast, building in The Woodlands, building east of town, and then looking at Katy and you know what Coastal Prairie is? That's Katy. That is a really, really wet heavy wind load there. My appointment before this one, was coming from a production home in Katy that has a high volume of moisture content inside the walls of their garage hot walls. I had to explain to them what that wind load was and look at the occupancy and they go well “we're nowhere near the water” I'm like but you are because this is all rice field. Yeah, that's why I cannot get a dove out there they're too high it's wetlands.

**Curtis:** That's when all the ducks and geese fly that way out there every year, they're like a “where did my swamp go”

**Toner:** I just rest on the roof. That's right. (Both laughing)

**Curtis:** So it sounds like, you know, the positives of what you do, far outweigh that you know what, there are any negatives right now, there is nothing but positives. So why do you think so many Builders, Architects, and house designers, why are they hesitant to engage your services or they're hesitant to try to incorporate correct building techniques?

**Toner:** Yeah and I would say that to kind of reframe that and this may be just the help my ego - there's a lot of Nadu. We have a lot of clients that this is there every single day.

**Curtis:** Sure and we talk about how you're working with the top 4.5% and that means 95% of Builders aren't.

**Toner:** So, one challenge is there's this is a unique business model, to me. There are not a lot of people who do what I do and cross the United States, because in a lot of markets, and I’ll bring up Austin again because we're picking on Austin right? Building a house in Austin is like B-Team girls’ basketball, right? This is the NBA drunk

**Curtis:** Sorry, Austin.

**Toner:** Sorry, Austin Builders – Sorry all those who, you know, always also tell everyone in Houston, if you're watching videos of people in Austin, you got to rewrite that stuff for here, right? It's a totally different scenario, but this is just what we are, as we are a microclimate, we literally are the point of the spear for climate migration. So even stuff that worked for us three years ago we had the modify. We will be releasing our new specifications in 2023 and it is the biggest change I've ever had. I mean, let's just talk about what you do, all the time is construction climate control, right? Like that was the big boys. That was River Oaks kind of stuff 10 years ago, we never saw package systems in Bellaire or West U or even, let's talk about West Memorial now that's a challenging place to build a house because folks still are trying to drive down to that $200/square foot rule and that's the only way you get that low as by just egregiously ignoring what I do. So that's one answer. Yep. I would bring that back to economics, right? The Builder himself, it's typically reactive so they do not end up during the three-bid competition they're not going to come to someone like me and say, “Hey, I want to do this well, but let me be more expensive.” Not because I'm doing something that should not be done, but because the other two are not. So economically they risk losing that work so then you take it to an architect who's already trying to do that, and architects do not make a lot of money, right? They do well by doing as many projects as possible, with the lowest number of people possible. So, implementing processes we, you know, this you and I on top of working together, we are business buddies, right? We balance business growth ideas and stuff out for each other and how we do things and I know how hard it is to implement a process like having to rewrite the content on my website makes me want to kill myself. I know I need to do it every year, right? We know that but we get go stale, but he is just as finding the time to do that. So, asking an architect who is a creatively minded individual to do a ‘not creatively minded’ process change, is just inherently difficult. So, it's hard, which is, you know why we're making an effort, especially starting next year to go straight to the homeowners we used to only work for builders then we started climbing, up the ladder and only working primarily with architects and then builders and now especially, I mean, I had a meeting, my second meeting today was a double house set and they found us through – thank God for Houston referrals, right, like this is the biggest small town ever and if you got a goofy name, it goes even farther – and they found us through the network that is and we have had more and this fastest-growing segment of new clients for us on design, on new side design are straight home owners. It's amazing, within a 45-minute conversation it all makes sense, but we just going to have to have the opportunity for that conversation.

**Curtis:** I think the consumers are getting more educated, you know, there's a lot of building science, YouTubers out there now that that's grown which is helped us in a lot of ways. There are some negatives there because a lot of those guys are putting out some content that may not be relevant to our Market but The fact that the homeowners are more aware of building performance building a science, it helps us and so an educated consumer is the best thing which is why we're doing this podcast is my whole intent here is to educate the consumer guide people through this process, right?

**Toner:** Well and is it the precursor education awareness, right? Like if they do not know that they should be educated in this, never go seek it.

**Curtis:** Yeah, you do not know what you do not know.

**Toner:** They do not know the library is even open, so before they go get the book and this is that highlight.

**Curtis:** Oh yeah. So, what are some of the simplest things that you can integrate into a new home design, which will have the biggest impact? Of all the array of things that are in your specifications book, what are some of the simplest things that can be implemented?

**Toner:** Sure, I would say I'm going to make sure we understand, we're talking about new construction because remodeling is a totally different beast.

**Curtis:** I'm going to have a whole separate podcast series just focused on *remodeling.*

**Toner:** We could come back and talk about remodeling building performance, right? That's a totally different scenario, it is some like favorite scenarios. We did one today for a family who's living with a severe sensitivity to mycotoxins, and they're shopping for a new home, and they cannot afford a new one because the new one won't be built to those standards as I said, okay? If you can go find a box-over-box brick structure, that's a really resilient one that I can work with right, lots of attic air volumes. So, when we're talking new construction, is really two key things if I could make the shift as an industry, as a whole. The first one is no more ventilated attics - there's no such thing as a properly ventilated attic. Replacing hot wet air with hot wet air - it's an oxymoron, and ventilation is only to manage dry bulb conditions or heat. So, as you're letting in this hot wet egregious, Houston air, at best, the hot air would move out, but the moisture will *not*. I do not care about heat; I'll take a hot attic all day long. Let's look at historical attics on the island are non-ventilated, even houses built in the 90s and today are not ventilated, but they are not enclosed. So, I only have one factor of deal with their and that is the heat. The amount of sea air coming in, is egregious. So, give me a hot, non-ventilated attic, and I'll take it. So, what we're looking for is a sealed attic enclosure. Take keeping that heat out of the space, keeping the moisture out of the space, and then being able to use that spray foam. There's a lot of really bad internet information about spray foam which is still antiquated and if someone's looking that up and it says 2006 on the video, we probably want to question that because it is an extremely common product - to the point now that we do the building performance design for a couple really really large production Builders and they're all spray foam. They would not take the risk across thousands of houses a year without knowing that that is an extremely safe product. The second would be there is zero purposes for a gas furnace in a house. I teach classes with hundreds of HVAC contractors

**Curtis:**  “But the heat is so much better…”

**Toner:** “Yes, the heat is so much better, and I do not want gas air conditioning.” Ha-ha, I love that statement! What we do not realize is that 87% of the time, we have an all-electric HVAC system, right? It's only when we need those average days for temperature, but gas furnaces – I beg HVAC contractors to tell me what the benefit of a gas furnace is - and there are zero benefits from it. Additionally, with our new envelopes, becoming tighter and tighter and tighter. A good example of this not far from here is West University right there at the 2021 energy code so I'm less than three percent, of total envelope leakage. That's the same as a hospital room. Yeah, I cannot go burn an open furnace in one of those guys, right? So, we have to have seal combustion appliances but a heat pump, this was a heat pump market originally, and there were some historical factors with power utilities that forced us into a gas system, not because it was more efficient, but because it would reduce the load on the electric grid. So, we were forced into this gas market, not because it was a great idea but because it made more money for the utilities. A heat pump is awesome and we're able to heat our house except for maybe an average of four days a year in Houston and then our heat strip kicks on, but with the new heat pumps, I do not have to have heat strips. They run down to four degrees ambient outside.

**Curtis:** Which you will never hit here.

**Toner:** Well, we got close to it - we didn't hit it though. Yeah, and that way we reduce that, we remove that heat strip, which is awesome because, you know, the City of Houston has one of the largest cities in the United States that requires all new homes to be pre-designed for solar and that's my responsibility. I want to make sure our systems can support that kind of solar perpetuity design.

**Curtis:** Yeah. So that's a great example of choosing products that work for our climate and not for another climate. I guess people say oh heat pumps do not work, well they might not work in Minnesota, oh but in Houston, they're fantastic

**Toner:** They are fantastic and then the oil and gas guys are like “Oh no no no we got to have gas.”

**Curtis:** “I got a burn it up”

**Toner:** “We got to burn it up” and that's the guy because that natural gas from that furnace is really making you go up; I think we're dependent on that commodity is a lot more dependent than your furnace.

**Curtis:** Yeah. That $50 a month which is your natural gas, is kind of. That's right. Really help your stock price, right? Yeah. So, let's change gears a little bit. *What are some services that you offer that most people do not take advantage of it?* Of course, you might say, ALL my services, *but are there any specific services within your umbrella that you offer that people should be taking advantage of?*

**Toner:** You know, we just kind of bumped into it, so it's a pretty good segue, the solar design is different for us now than it was when it was first implemented. Before, it was almost a nuisance, right? It was the city's response to some federally regulated thing, most municipalities had to respond on how they were going to address alternative energy, right? And one way is to plan to say hey we will start utilizing this municipal structure or whatever. Another one is to say, hey we're just going to pre-design all of our houses for it and that's really kind of the goal in the long run across the United States. But since then, we have seen such a big development, especially in the lithium-ion battery space, where they're affordable now, and once we could move away from the idea that it's a panel-first scenario, which is what solar companies want to sell, right? They want to make money, but when we do designs, I'm not a Solar Company. I do not care about the margins, right? I want to design the system that's best for the scenario. So, we do *solar perpetuity*, not net zero which means it's battery storage first, and then back charging that, and the great thing in that scenario is that we are a town that's dependent on storm resiliency, as long as we have this is a nutty place for storms. So, for a natural gas generator, everyone would want one. Those are generally a whole-home natural gas generator is 20 to 30 thousand dollars for a small house. So, I'm able to take those funds and apply them towards the batteries as the storm resiliency factor and now we have some of the most affordable solar systems because we're able to double dip and use it for storm resiliency and 70% of my house is now, they are lithium batteries and no more than four panels for else for the same cost, as that whole house natural gas generator. Except with the natural gas generator you only get to use it when the power goes out, right? It sounds like buses going in your backyard.

**Curtis:** So the solar is year-round and you are helping with your electric bill.

**Toner:** Right now I could go get my phone and check, I know my batteries are full. I could flip the switch. I could run off the grid for three days and I only have two batteries in my personal house.

**Curtis:** Is that running the air conditioner too?

**Toner:** That is running a 1000-gallon pool well on top of it. So, I have a really big coy at my house – I’m joking (both laughing). A natural gas generator is an abandoned asset. This is something that we can use on a regular basis, right then, and they all have storm watch anyways like you just did. I wonder if it picks up the thunder that just boomed in here.

**Curtis:** I do not know. Probably.

**Toner:** Hopefully it did. So, with storm watch, which is something that's pretty standard especially like, on in-phase batteries, which is a really, really cool good home battery. It knows when there's a storm in the area, and it will not let you exhaust the batteries. It's not going to let you fall into a scenario, right? But an average two battery pack on, the average home is going to give you four days of standby power. Well, most of us have not experienced more than four days of no power, but you still have to have at least one panel on it. So, the panel was still, start recharging, and even if I didn't, there have been times where I have not utilized my battery, that's capable, it just pours over, and I get grid set back - I get great credits. So, I have a second structure that I own, and that second structure, I pay for the electricity on my second structure from the overflow on my primary structure. So, it's not only storm resiliency, backup power, and solar perpetuity, but it is also a micro-generation facility for my other structure.

**Curtis:** That's super cool.

**Toner:** Yeah, for the same cost, like, oh my gosh, man. But that's contrary to the retail solar guys who are really just trying to sell you enough solar, that you give up paying an electric bill to pay them instead that is a ‘rob Peter, literally to pay solar Paul’ That's what that's for so.

**Curtis:** Let's talk about some products that people like to put in their houses that are pretty, sexy, popular, whatever you want to call them. That are maybe just not a good idea for us to have in houses these days. You just talked about gas fireplaces, the masonry fireplaces in the house, and then we talked about that giant vent hood and the 60-inch gas range. So, first of all, tell us why the gas range and the vent Hood, aren't good. Then, talk about some other products that may not be a good fit for today's home.

**Toner:** Sure. I do not really want to make it clear I don’t have a problem with gas itself - this is not an effort to rid the world of it ha-ha

**Curtis:** You are just a greenie weenie ha-ha.

**Toner:** That's right. We're not trying to rid the world of gas. I do like it because we are in Houston and require designer houses for solar. I do like utilizing the house to be a vehicle for that but the gas appliance especially a gas cooktop, it’s an open flame and produces a lot of carbon and when we have a tight envelope and HV AC system does not remove carbon. The only way we remove, carbon is through our bodies, and that immediately takes what might be a minor issue like allergies and your body spinning its energy on removing that carbon and it cannot focus and it makes things that are minor into more medium, or major issues, so just not healthy. I cannot have anyone tell me that burning carbon inside a structure is a good idea. Now, if we had an older structure, there were super leaky lots of air exchanges, I might be able to justify that but, you know, design-wise, and I should be very thankful for this, it generated so much business. It's a freaking painted shiplap Y'all - bad idea.

**Curtis:** Thank you, Chip and Jo.

**Toner:** Yeah Chip and Jo thanks, bro. That was a bad idea in the 60s when air conditioning got introduced and it's a bad idea now in the South, we do not want to block what's called the dissipation plane, which is the interior side of an exterior wall or a t-wall. So, the t-wall perpendicular interior wall, to an exterior wall. All because we have a vapor drive hot wet air outside is coming through our home because hot and wet wants to get too dry and cool - basic thermodynamics. Weather resistant barrier or Tyvek does not do anything for that, it barely keeps your sheathing dry, and then that's just to help enforce the drainage plane, which we could talk about how we lack drainage planes, which is an important prospect. If you put anything that's a Class 1 or 2 Vapor Barrier on the interior side of your drainage plane which is the dissipation plane, it will block that vapor drive and allow it to condense. So, what is a Class 2 or Class 1 vapor barrier. A class 2 vapor barrier, or class 1 painted shiplap. It's not that the shiplap itself, which historic ship lap is typically cypress, which is exceedingly resilient. But even if it's modern material like pine or poplar, something like that will still allow moisture to move through it but if it wasn't painted about year two you would be like, man, I really see those knots, right? Look at those knots. Yeah, it's because that moisture is pushing through and it's pulling that serum of that sap to the surface and discoloring it. But when you put the paint on it, the paint stops that drive, and then it makes that would wet and it curls and a cups and I've had tons and tons of houses - an interior designer should never ever do that! We knew it was a bad idea and now I've fixed houses all over the state of Texas and I walk in, I'm like well that's what's going to go - paneling is the same thing. Trim work can also be like wainscoting, right? I mean, even we see this, especially a window stool. Why window stool course, windowsill the little skirt, some people call it windows skirting, right? Would you usually say “skirts dual skirting” for the piece that is underneath the top I say stool…Anyway, that bottom rail of the window is compound framing, right? So, it's a double 2x4 or a stack 2x6 but it's not insulated it's so it's more suspect to especially wind load and had favored Drive moving through it. So, when it hits the back of that, the dissipation volume is really, really low. What's the dissipation volume? The amount of permeable materials drywall, it's very, very permeable and moisture can move through it so that's not going to create mold unless something stops it, or it happens at such a high rate and never gets to the tends to dry out. But from the bottom of your sill to the bottom of the baseboard might only be 7 or 8 inches, right? You have a tall baseboard, you have a stool, sill, skirt, all that, and this little ring of this little band of drywall that's permeable. So, I already have moisture getting stopped at the bottom plate, I have an area of moisture getting stopped at the stool and that can make that swell and sweat and we end up with puffed-up materials. That's why I turned them, remember when we used to do that - use the MDF all the time, and it was difficult? Oh yeah, puff up and never like, what is that? Oh, it's empty of it the MDF’s fault. No, no, the MDF just didn't grow mold. It just reacted at least he knew it was damaged enough to remove it and it would crumble apart, it would rot more than anything else. And there are still really, really high-end builders and they would use MDF on their exterior, and walls, and all I can do is say thanks for the business, guys

**Curtis:** “but a paint is so nice”

**Toner:** Even our stock paint, right? Zero and low VOC paint is a Class 2 Vapor barrier. So we have to be conscious of that when we design. We have a specialization in coastal structures and when we design structures on the coast there is no trim, there's no baseboard, there's no windowsill, there's no door trim, we use *kerfing* which is really, really cool and you can do some really cool dynamic things, but I learned that to do that and design for that. Not because I'm being a rebel and say, get rid of all the stuff. But when I look back at the house is from the 70s, which especially Galveston Island, we had a big boom in the 70s, kind of followed our oil booms, right? Everyone went down there and built their standard beach houses. What was really popular 70s was transitional contemporary so now we're back to transitional contemporary!

**Curtis:** It all comes full circle ha-ha

**Toner:** Yes it all comes full circle, but those structures are right next to a house built in the 90s and why do I have mold on a wall on the 90s house, but not on the 70s house? Well because the 70s house does not have any trim. So, we're designing like that now, and we use more permeable trim. AZEK makes a really, really cool permeable trim, but trimming on AZEK, is not cheap, bro. Yeah, that's and it does not like to accept a nail and the finish quality is a little challenging. You can do the clips and stuff and we're thinking through that. But we acknowledge that that's the way it behaves, and I can take steps to resolve that if I get there early enough and build it from the outside, but even when I build it, the barrier from the outside has a limitation. And those limitations are by the ratio of heat and humidity from the inside to the outside. Wind load dynamics, all of those things in there, even the best-built wall assembly will fail. So, we are designing for resiliency and failure and that's the difference between regular building performance and building performance for climate migration. That's really where we specialize.

**Curtis:** Yeah. So, we kind of got a slightly off of the topic of the products necessarily but I think another product that we probably overused or used the wrong application on the wrong wall would be wallpaper. I mean, wallpaper is back, you know, it was out for 30 years, and it's definitely back now.

**Toner:** If I go ask, my mom, how was the wallpaper in our house? She said oh, it's horribly filled with mold. If we knew it was bad then, well nothing has changed. In fact, the only thing that has changed is that it's more egregious outside. It's worse to use it now than it was back then.

**Curtis:** So, wallpaper is bad because it's creating that vapor barrier, right? What if people use paper wallpaper instead of vinyl wallpaper or different adhesives? Or is there a way around that?

**Toner:** Sure, we get emails and calls all the time I prefer emails because the phone calls tend to be very angry from interior designers like “well it is a permeable wallpaper.” Well, that permeability, as the wallpaper by itself, as if it's the only thing present here, permeability is not determined by the material, but the, by the combination of materials. So, when you apply to a regular wall with no longer permeable, it creates an issue. I can design for wallpaper, but we have to think about a very complex set of standards to that that dictates the applied wall temperature and that is a big-time solution, and we can do it.

**Curtis:** But also, we're talking wallpaper on an exterior wall, so, if you got like an interior wall powder bath, something like that, have fun with that.

**Toner:** Have fun with that. I love that ‘trick’. I love ‘tricking out’ the powder bath anyways because it's such a utilitarian space.

**Curtis:** It's a small space. Yeah, so you can do a lot of cool things in it without spending a ton of money, maybe.

**Toner:** The most disappointing place for wallpaper is inside the baby's room because they want, they really want to make it cute. You know, you have all this energy built around this picture, especially the first baby. They cover the walls in wallpaper and then the baby gets sick, and I come in there and the mold is all behind the wallpaper. So (sarcastic tone) “let's, let's develop a big mold problem in the room with the kid with the least developed immune system.” That's awesome.

**Curtis:** Yeah, back to where we started on that though. We talked about appliances, the Big Range, the big vent hood, you know, I think most people today, do not know that a moderate induction stove is such a great appliance everybody wants the big fancy 60-inch or 48-inch gas range but, y'all go check out the induction ranges in the local appliance showroom. They're fantastic.

**Toner:** So you know what we do with our clients is we now have a chef on called and he in mine or process all my clients go meet with our chef and they go to this cooking showroom where they have 36 fully formed kitchens, and he will show them and demonstrate all the different appliance types and he'll cook for them.

**Curtis:** Is that CookChill? Yeah, awesome showroom!

**Toner:** Yeah, it is an awesome showroom - chef Bobby is awesome - he is a lot of fun, he is extremely good-looking, I feel so emasculated standing next to him.

I wanted them to understand that professional chefs understand that induction is more accurate, right? I do not need a vent hood with induction. It's a whole appliance I get to throw away, like, it's crazy because the extra excess heat is not there in a vent hood is not designed to remove smoke, it is designed to remove heat. I can remove smoke through other apparatus, like a charcoal-infused exhaust fan in the ceiling - and hide it. Now, you can turn around on that island and not have that big hood vent over you and look at your guests for a change, and what up? And put your hand down here and not burning yourself today, right?

**Curtis:** That's a tough sell though. People want to see that big fancy vent hood on the wall, so maybe you still install them, but it's a 300 CFM vent, or something like that.

**Toner:** Our social media - we spent a lot of time showing that in and if you, we get all the architectural magazines, I'm sure like you do, DWELL is one of my favorite ones and we have a series of 12 magazines we had not only ear-marked all of the pictures of kitchens with induction cooktops but logged it and we have seen a 67 percent increase in the number of induction cooktops displayed in Dwell to the point that it's now at least 55% of all on average 55% of all, cooktops demonstrated in Dwell, are induction. So, we're you'd argue with Dwell.

**Curtis:** Exactly. I think one of the other arguments in the past that people had “hey I still want my gas stove I still want my gas water heater,” If the power goes out, you know, they won't be able to turn that gas on and still, have it work, but if we have if we had a battery backup, or even a gas backup generator, some sort of backup generator you can still use your electric heat electric stove.

**Toner:** Most definitely. Yes. And in an induction, which is 220, still right? But--right easy magnetics. It only needs that for that, that power of that cranking amperage, and then it regulates itself down typically far, far less in terms of amperage necessary for that

**Curtis:** Unless you are running all six burners at the same time

**Toner**: If anyone likes a gas up and come, tell me, because those things are, you know, long it takes, and I just had this discussion to the day that the majority of dryers are not gas dryers and why we're still installing that even the option for it is amazing. There's not a whole lot of benefit other than a historical reference, right? I grew up with a gas dryer. My mom had a gas dryer. It's just really not necessary.

**Curtis**: I've got a gas dryer. The only reason I've got it is because that's what my mom always had. Dad and so, when I got married, I like we're getting a gas dryer. It's better. Yes, once this one bites, the dust. I'm like, electric with it.

**Toner:** Yeah. I never had a gas dryer because my mother is from Panama and they didn't have gas, it was all electricity. She is like, yeah. You always get electric dryers, right? Like it's amazing how much influence our families have on our home choices and where we were raised and everything and Houston being so transient, we have just such a mixed bag of personalities and cultures and everything. We do not really have a standard in Houston which I like because it means that we are. We have more flexibility to do some really, really cool stuff.

**Curtis:** Exactly. Yeah. Okay. So, a couple of other questions that I try to ask everybody that comes on one. You already answered. And that was who should go through this process on the flip side of that. What's the dream customer? What is your dream customer?

**Toner**: Yeah. Um, that would be super cool, good-looking kids… (sarcastically)

**Curtis:** Like me ha-ha

**Toner:** Yeah, there we go. They are someone whom we do not have a whole lot of second time. Custom home buyers, right versus like in other markets. So, I think I've told you this before, but I try to go to one other, prospering city or city, where the market is really, really booming and I go there by myself, and I like to walk through all these different houses and I'm technically trespassing in other cities. But you know, I've never you've we walk through other people's houses and stuff.

**Curtis:** Yeah all the time.

**Toner:** Yeah. But everyone's pretty cool. This Houston though. Also, I was kind of spoiled that everyone's pretty cool here, right? But I like to see what they're doing and other places, but I also know in other markets that the homeowners are more house-mature, they the average homeownership for instance, in another and a couple of other cities as well, over 17 years, we're only five and a half years. So generationally, their kids have been there when those things fail. We're still in kind of a disposable house mindset here so we do not have that house maturity. So, someone who's coming into it with that understanding that they're willing to hire professionals to do this for them and respect their opinions, not saying that they're going to be railroaded, no one's in the business of doing that. But let folks trust folks to do their job and lay it in front of you and make good decisions. It does take marginally more time on the upfront, but the back end especially that last, you know, half of that project from sheetrock forward – man, that is where you make up some time, right, everything dried-in, cabinets have been pre-ordered appliances like “we're rolling now” and that's when things get really, really, really exciting. That's when the pretty stuff starts. If you think about it, half of the build is ugly. Yeah. Half of the build is a thing that we touch right?

**Curtis:** or over half

**Toner:** Yeah, over here and you're never going to see it again. I mean, just how many people have understood how much time you take to watch a slab get poured, to me is one of the most nerve-racking parts because everything has to be set up, right? It's held in suspension, quite literally and we're hoping that it pours, and it does not get pushed out of place and this is it that's the foundation of course of the house, just the foundation of this build is going to be here for almost for, you know, 60, 70 years, at least. I mean, the average of tear down in the city of Houston is 65 years.

**Curtis**: Yeah, so but hopefully what we're building now, you know, is more resilient than they were, lasts longer than that, I think a lot of our housing stock was kind of post-world War post WWII, almost built as throwaway housing.

**Toner:** Yeah, it was, it wasn't…

**Curtis:** It wasn't meant to be a 100-year house necessarily

**Toner:** Not at all. But you have to pontificate on that, I imagine that based on density, alone will have to rip down most of our big houses just for four packs, eventually, right? We're going to spin around me even a since, as space abound as we are, we're going to run out of space internally, so or inside that looper inside that segment, and we have already seen that I mean, look at them Jackson Heights, right? Those were all Bungalows, and it's nothing but a small Bungalow, torn down less than 50 years after being built, they were built in the 1950s by 2000. They were all torn down and there were four packs on them. Density will offset that eventually.

**Curtis**: I just saw the city put out a new proposal for allowing more dwelling units on a property. I saw a news release about that yesterday. So that's definitely coming.

**Toner:** That's definitely coming that that's that the whole ADU (Accessory Dwelling Unit) thing is going to be really interesting how that plays out here, where we have not been really forced into it. It's not like east Austin where they had to write like those lots are the only way you offset those costs. We're not, we're not like that because we still have really, really I like to remind our homeowners It's still really cheap to build a house here, by national standards were killing it.

**Curtis:** Oh yeah, totally. I mean I have a good friend who builds in Los Angeles, and we talk all the time, and he is like yeah we're building for a thousand dollars a square foot or twelve hundred dollars a square foot and they're getting the same product that we are and that I'm building for maybe three to four, five hundred dollars a square foot. So, we're half the price. Yeah, have the price to build a house here

**Toner:** Half the price and so in terms of performance, with looking for other markets that were having performance issues and how they got over them. Like I'm going to go to Miami, right? Like Miami is nasty that place is going to fly, everything should be falling apart. So, I went there, and I said, why in big houses? And they're full of mold and they're nasty and they're made out of CMU blocks, know, like, what this is just Miami y'all. Like they say y'all, I do not know what they say, so the expectation of quality is lower in Miami than it is in Houston. Yeah, but we have a similar climate so I wish I could just turn to all of our clients and say guys this is just it yeah, just clean it up and go. It's going to deal with a not cool with that, here they're cool. They also are a lot less clothing in Miami, that's why being hot and sweaty is like a normal fashion for them, but a CMU block wall assembly is something that you can repair. I cannot appear repair paper, right? So crazy. I thought I thought Miami would give me the answers and he gave me the answer that I'm in a really tough spot to make. I've got to make egregious climate perform, to not matching performance standards.

**Curtis:** Yeah, but maybe it is also that we should all just chill out here and hit the beach more often. All right so, I know that you've got some horror stories of projects gone bad you and I have consulted on some of them together but just tell us, pick your favorite house, Horror Story and tell us about it.

**Toner:** So, you know, I knew I was coming here today, so I thought, and I knew that you might ask me that question is all, you know, I'm going to go geographical, because we track every project, every failure. I have this really, really, really interesting photosphere of where I have taken - it records, every place that I've added photos to one of our forensic profiles and it Maps it across the city in these glows and the more I get the more it glows, red and red around red heating up. I Can literally see my forensic heat map across the city of Houston. I would never sell out to anyone because it’s connected, just pretty scary. So, it's not that it's pretty high right here. Bellaire has a lot of builders in a really small space, and it's an area that has grown in spits, right? Really really busy though and it's really cute. Like this is the side of the diagonal streets, the development in Bellaire - we saw so much redevelopment in this space - but because of that speed of growth does not necessarily mean that the quality is going to follow. No one said, hey, get through that test fast. Yeah, right. That's not how you have a good day. How do you complete a good test, they were saying slow down and do your work, right? Do your best. It's not speed up and do your best. So, there was a project not too far from here on a big corner lot it is not too large, 7100 square feet. When you have an elevated house at 7100, that's *a lot* of house because all yeah that's tall that's 3,000 square feet of Underside, and it's in on a corner. You see this house. It's like taking up a lot of space and this was about seven years ago. So, seven years ago, we were under an energy code that still allowed us to have opened fireplaces and we'll see open fireplaces today still, right? I do not know how that passes code. You cannot have an open-combustion fireplace in a house per code and it goes on how does it happen? Because I'm probably the only guy in town that does a formal energy certification. Yeah, if you hire a little raider for $125, you're going to get a sticker and He is going to bail, right? Also, if you if anything went wrong there's nothing to sue.

**Curtis:** And the city is not necessarily going to know

**Toner:** Yeah, the city is trusting that he is doing his job, right? But he won't, I mean because He is not getting paid enough and that's, that's the Builder Market that's, that's the market forcing us down to the lowest common denominator, which is an economic factor in almost every industry. But big open fireplace and where is that fireplace in the living room? If I put my back to it and walk across, what do I normally hit on the other side of the room? The cooktop right, big giant, 60-inch gas, holy junk open campfire fireplace – 1800 CFM hood across from a 60-inch opening.

**Curtis:** Suck your dog out the chimney, right?

**Toner:** And they did a fan motor which they put in the attic so that they couldn't hear it. So, they are there, Au Pairs actually, they're and their cooking on it like one little plate is of scrambled eggs for the one kid that they have, right? And she turns on the exhaust on the hood vent, but you cannot hear it and it's pulling 1800 CFM, and where is it receiving that makeup air from? It is receiving it down, the flue pipe. Now, this is a *masonry firebox* - so, masonry Firebox - you want, explain what that is, the masonry metal firebox?

**Curtis:**  Yeah, it's a fireplace, a firebox is made out of bricks that are laid versus a metal insert that gets shoved into the wall of the factory-built fireplaces

**Toner:** Yeah, and they look beautiful, right? It looks like Hansel and Gretal should have cooked here.

**Curtis:** It is the best way to do it.

**Toner:** That's how you do it. But We're different and other markets that masonry fireplaces would have a masonry flue and masonry flue if they turn, it turns into a lot of effort to support that masonry, but the great thing about a masonry flue is, the damper is at the exterior, right? But here we do metal flue pipe, right? On top of that, the metal flue pipe is a B-vent, which means that it's a layer of metal pipe, a gap of air, and another layer. They're expecting that it's going to be air-cooled which is a northern product - you do not want to cool anything with swamp, gas, right? So, there's sucking in 1800 CFM of hot wet air down a metal pipe on three sides, the outside of the pipe, the inside of the pipe of the in, between the pipe in the inside, and but that is influenced by the air conditioning, so, it's cold. So hot and wet hitting a cold pipe just rained water.

**Curtis:** Right

**Toner:** Now when water is dripping down it hit the top of that box and where you do not see it, but it's settled into all the cabinetry and then it backed into the wine room. So, in it turned into just three stories worth of mold and rot. It only took two summers because the first summer everything gets wet and then it dries out over there over the winter. When it does that those materials, especially the organic, cellular material wood expands when it's wet and it shrinks when it dries within and expands the cellular capacity can hold more water the next season, so now it's twice that and then we get more laden moisture, supersaturation and it falls apart. We had Advantech which, you build with Advantech?

**Curtis:**  Sure

**Toner**: I just want to remind anyone, I do not get paid by any manufacturers for anything, I'd recommend.

**Curtis:** Yeah, same.

**Toner:** Otherwise it would take for entertainment purposes…

**Curtis:** I wish, I did yeah (laughing) “But if you're listening AvanTech, I’d love to get paid.”

**Toner:** But That's a really good product, right and then they may get hard rains on Advantech, and we can dry it out and everything's good to rot Avantech, takes a lot of effort and it rotted out, and that's a really hard repair. Then on top of that in order to make it not happen again, I had to bring in 1800 CFN of makeup air - eighteen hundred CFM, make up air is over five tons of heat of cooling capacity. It was an entire second AC system. Yeah, and we didn't need that and now I mean, I'm glad that we were helping wherever we were hired to do the job to figure out what was wrong and not just to clean it up, but to clean it up and fix it permanently. So, we did.

**Curtis:**  Did they ditch the masonry fireplace?

**Toner**: No, we kept it, but we went back with a Class-A pipe. So, Class-A pipe is a metal wall polyisocyanurate foam core medically sealed metal wall, so I didn't have that communication. But the reason why we're having so much condensation, it was, it was convection. So, the air was coming down and back up. It was coming down inside the wall and back up the pipe and down the. So, it was just over-cooling it and the outside was just sweating its tail off. So, we see that problem still today. I mean, I had that problem earlier this summer and a brand-new structure, a 2-million-dollar house. How did they get there with what they thought was a super legit architect? How did that happen? So, because they think that, and they paid like three hundred eighty thousand dollars for that set of plans. Yeah, and no one thought this through in the set of plants because they're not trained in this right. The Builder was that classic Builder you hire at two million dollars, but he is like, “hey, I just do what I'm told,” that's what he said. Yeah, I just do what I'm told.

**Curtis**: “I just they give me the plans and I read the plans”

**Toner:** I’m like do you understand, and he responds, “I've been doing this for 30 years.” I'm like, okay, then that's by the way if anyone tells you that, RUN ha-ha.

**Curtis:** (Both laughing) My favorite excuse “Yeah I have been doing this for 30 years or 20 years I’ve been doing this before you were born, Son”

**Toner:** “Yeah. I’ve been doing this for 30 years”

**Curtis**: Well, for 28 of those years you’ve been doing it wrong (Both laughing)

**Toner**: When was the last time you went to has it been, is it really the same as it was 20 years ago? The funny thing is 20 years ago, the 90s now, right? That wasn't that long ago by my perception, but the warehouses have come there without building performance design. It's almost like it's still in 1994.

**Curtis:** Yeah, so that's another question that I had is - houses have just gotten so much more complex over the last, you know, 20, 50 years and part of it is the energy codes that are tightening up, right? Part of it is we're just putting more and more stuff in a house; we're trying to cram 10 pounds of this stuff into a proverbial five-pound box and so it's just like this perfect storm of all these things that are making building and building more and more complex. But at the same time, builders and building techniques haven't evolved to go along with where things have gone, right?

**Toner:** They haven’t, and I asked, people all the time, why is that? Why or why are we so far behind the curve? And the first weird thing I hear is what we if we had a contracting license, right? We would rather. So, then I reference my other states that we do work in like Alabama, where there's a license in Louisiana and Florida. They all have the same problems because typically that license is merely some life house safety issue, it's built around a lot of the insurance industry requirements and their work and there are a lot of people still working in unlicensed areas so they're not doing much better than we are. I do not want to say that we're the only ones having problems here. - lots of areas are having problems but if I'll bring up the production builder is the best example of that - they would love to do these things, to do all of these other elements to reduce their risk. They have the most financial incentive to gain here. But if they're the first ones who step out, then they stop selling houses because they automatically become 60 thousand dollars more than everybody else. So, if you cannot get that in a nine hundred-thousand-dollar production home, you're not going to get in a nine hundred-thousand-dollar custom home unless the homeowner makes it takes action to do that. The great thing about a custom home is you have the choice, right? You get to choose and that's where Builders, I believe like to use us the most because when I present the case of the homeowner and they choose not to do this, then they buy the warranty. I have people that literally refer me to his to get out of jail, free card and they're like, hey, if someone does not hire Toner, that's awesome because I'm off the hook, but if they do hire me, they're also off the hook because it's technically because I'm standing behind the specifications that we they apply

**Curtis:** As long as they get followed.

**Toner**: Right, as long as they get followed, we try so hard just like you, do you try so hard to make everything happen and it is so many moving pieces and I was a home builder before I did all this. So, I remember telling my now wife, then fiancé was like this job is great if we didn't have homeowners. Yeah. If I could just build blankly, basically play professional Lego, I would totally do it, right? And but bringing in homeowners, just complicates things and I remember having nightmares over a homeowner freaking out about the color that the color of their grout was not bone, but it was China, right? And I was 22 years old, and I couldn't sleep the night before, right? And you probably had that at those, those scary nightmare dreams. You're like, oh my gosh, that's happening, and I think if your builder not waking up with that then he really does not, it does not concern them, or she. I want to make sure we understand that there's I think in Houston, especially our Builder Market, we suffer from the diversity, the, how many? But we also win from that, you do not have to go that far to find a good Builder, a good architect, and good ‘engineering’, which I think is a little less important than it used to be because the craft of engineering is no longer a craft, it's manipulating software. Also, the engineer has misapplied, a lot of his technique to non-engineering essentials which hasn’t led to has led to like slower growth in some of these development factors. I think it's not that hard to find a good engineer. I just want to engineer to come to walk the project. Like that's all I really want, right?

**Curtis:** So, in the last episode we had Karl Breckon from BEC on, we're not knocking Karl, he’s fantastic and in fact, one of the things we talked about with Karl was how important it is for the engineered also do visits and we just have the observation that hey if the builders doing his job if the engineer is doing site visits, if the Architects doing CA, if Toners doing site visits, that's like five professionals that are walking your job before it ever gets covered up with drywall and multiple stages. You know you're just ensuring a better product all the way through. If you let all the professionals do their job.

**Toner**: Most definitely, and you know, that's, I didn't know that you were talking to Karl. That's awesome and he is one of those guys, and his partner Reese – I mean first off getting a ‘Kiwi’ (New Zealander) on our job site is awesome, to begin with…

**Curtis:** Actually, I’m not knocking Karl, but I tried to Reese on the podcast.

**Toner:** Man, which would have sounded so rich.

**Curtis**: I wanted the Kiwi accent as a guest (Both laughing)

**Toner:** I think that shows you how small the town of Houston is right, they won't do a project all their projects lead with CA, and we still have homeowners that choose not to select that option, but it was given to them so that those options that I want our owners to understand that these things are placed in front of them because it's important and they need to understand the risk that is applied to it. Of course, we always have that, you know, in our scenario. We have Heather and Brian. I do not know how other than Brian's marriage is working out right now. Man, who's calling the shots here? Are they working together as a team or are they working against each other?

**Curtis**: Yeah, we have gone to the end of the story yet.

**Toner**: Right? I mean that's it's Stressful scenario, and I am a believer that a good team will help you through that process and it's also refreshing to have different experts in different people holding that because you're not, you're not getting tired of only hearing from one angle – it is checks and balances too.

**Curtis:** Yeah, that's a great way to kind of wrap this up, because one of the things that we have talked about, in all the episodes, is just the importance of creating this team. You can’t just hire an architect or house designer buy your plans on the internet and then just randomly hire a builder. You need to take the approach of, I'm going to put together a team or I'm going to allow my professional to help me put together a team, right? So, if they come to me, I'm saying, hey we need to use this architect, we need to use Toner, we need is this at this engineer, I'm going to build that team. A good architect is going to do the same thing. He is going to help you assemble that team and if they come to you first, the same thing you're going to say, man, you need to use, Curtis, I hope, you need to use this architect, you need to know.

So, any one of us can help you build that good team, but do not try to go it alone and do that on your own because if you have a bunch of people that never work together, you might get lucky, and it might turn out great or might just be a train wreck.

**Toner:** Yeah, I mean I'm thankful for that – the other side of people not choosing the team because it's made for a very robust forensic, business.

**Curtis:** (laughs) Exactly.

**Toner:** I eat from both ends of the trough. I can be there now or later whichever one you want.

**Curtis:** That's it. Exactly. I think we have covered all the way you can cover today, but we always have so much to talk about, so I'm sure that we will do this again for sure. Talk about remodeling models.

**Toner:** Yes, REMODELS ha, let's make sure we take a little bit of time to talk about historic structures in those remodels, right, because that's even more different than just a remodel in itself but remodels will be a lot of fun.

**Curtis:** Yeah. So, it's always great to hang out with you. Yeah. Well, that's the thing. If people want to connect with you or work with you, how do they find you?

**Toner:** Sure, well, I'm the easiest person – I’m the only Toner on the internet, like I show up organically, sliding down there to find me behind some like very high-end facial solution that's about it but yeah, Toner Home Matters were just put that in there. You're going to find us. We go through our process and explain online, we do consult for free. I do this today alone for new projects. I had four consults I'm going to all the time. We have a really, really great staff and we're just down the street. Now we just moved out office down to Southampton here in Houston much nicer restaurants than what they used to be. Yeah, it's really cool. We're going on our 13th year of business, and I couldn't be happier. I appreciate you giving us the opportunity to talk, and I was having fun talking to you about stuff. We could go on and on and on. We you guys you need to come to one of those cities with me and we were trespassing.

**Curtis:** Yeah, we'll do it. Yeah, thanks. Thanks to you all Listeners and viewers for tuning into this episode of The Your Project Shepherd Podcast. Here, we teach that every successful project has four key components. The this these four components are represented by a simple outline drawing of a house.

The foundation is planning, the left wall is building a team, the right wall is communication, and the roof protects it all which is proper execution.

**Curtis**: So, come back next week for our interview with Shannon Vestal of Steve Shannon designs, Shannon's, an interior designer, and she also co-hosts a podcast. So, we will here also what is new also with our friends, Brian, and Heather, and their journey to navigate this custom home-building process and we'll see what kind of trouble they get into next. Thanks for joining us and we'll see you soon.