



How to choose a high-performance Architect

You don't have to be a building professional or building scientist to ask questions to better gauge if a builder, architect, or professional is the right fit for your build. Take a look at these questions and why you might ask them.

- **Do you have a design philosophy or guideline?**
 - This question gets at if something guides their process and if there are things that they do in the design process that are not negotiable. If they mention building science, control layers, bulk and vapor water management, air sealing or air tightness, building envelope, systems thinking, you should pay attention. In addition, for architects you need to understand how they address windows, window to wall ration, shading, fixed vs. operable, and more that affect performance. Framing and advanced framing and assemblies that they like to use or are willing to use.
- **Do you design with heating and cooling in mind?**
 - HVAC needs to be incorporated into the design not fit into is after the design has been completed. This is especially true if you are choosing a ducted system. There has to be room for the duct and ideally all duct and mechanical equipment should be located inside the conditioned space. This needs to be considered while designing the house. Hot water delivery is also important to consider and should be considered in the design process.
- **What is Building science and why should I care about it?**
 - What is building performance and why should I care about it?
 - What is a high-performance home and why should I care about it?
 - Why should I care about house tightness?
 - Why do you ventilate a house?
 - All these questions focus on how your new home will perform to meet your expectations. Your expectations may be defined by a building program or code, or it may be as simple as defined comfort from floor to floor and room to room. It is important to clearly define your expectation for living in the home to determine measurable ways to achieving your goal. Understand clearly that you get what you inspect and define not what you expect. Integrated design ensure that performance is part of the design parameters.
- **Tell me about the 4 control layers that I have heard of and what is your general strategy for addressing them?**
 - Which control layer is most important?
 - What are your water management strategies?
 - What are your air leakage strategies?



- These questions continue the building science questions to better understand how the home will actually be built. In general, we are seeking control and predictability of air flow, moisture flow, and thermal flow. We get that by clearly defining and executing these control layers in the building. Design impacts this.
- **Do you design the building assemblies?**
 - Many of these details are required to be on the construction documents by the energy code.
- **Do you create performance targets for the Builder and contractors?**
 - This will help you understand if the architect and builder understand your performance and other goals for your project.
- **Have you designed an EnergyStar, DOE Zero Energy Ready, or Passive House, Fortified, Indoor AirPLUS?**
 - Design to these programs often requires a different design mind set and this question will help let you know if they are up to the challenge.
- **What is Firewise construction?**
 - Resiliencies is a relatively new concept in our more urban environment which you might want to include in your design process. Fire is only one of many things we can think about from a resiliency perspective. Also consider, power outages, high wind, rain, and events, as well as smoke, and air quality concerns. A high-performance home can help manage these events in a more resilient way.
- **How many windows can I have in my house?**
 - We love Windows, but they are the weakest link in your building and need to be managed. They are the weakest link from an thermal resistance, air leakage, bulk water, condensation, and potentially from a solar gain perspective if they are not managed well on the west and south sides of the home. There are strategies to limit the window to wall ratio, properly shade windows, and to using fixed and operable windows in the correct locations. See what your architect says.
- **How does the complexity of the form of the house impact its performance?**
 - Form addresses how many 90° corners, dormers, bump outs, cantilevers, etc. are on the house. The more there are the harder it is to build a high-performance house. Athletics can be achieved in a number of ways even with a simplified form that promotes better performance. This does not mean that limited complexity can't work.
- **How detailed are your drawings?**
 - Remember a builder needs to be able to read the plans and understand what is to be built and how to build it. The more details the drawing the smoother the transfer of design to reality.
- **Do you work with third party energy modeling/inspection companies?**
 - Energy Rater, Certified Passive house Consultant, PHIUS Rater, assembly and energy consultants all have a lot to offer design professionals in collaborating on the final



product. Engineers also need to be considered especially if you are considering 24 on center framing or want to comply with the energy code and use insulated headers and 2 or 3 stud corners.

▪ **How do you measure performance in your homes?**

- Are you a building performance professional or do you work with a building performance professional (Energy Rater, Certified Passive house Consultant, PHIUS Rater)? The building programs and codes often have performance targets that must be measured and achieved. These include, whole house and duct leakage, ventilation, Energy Rating Index score, heating and cooling demand and peak loads, source energy, etc.

▪ **Have any of the homes you designed had a home energy rated?**

What is an Energy Rating Index?

- Will you share the report?
- A HERS or Home Energy Rating Index is one of the most popular ERI's out there.
- <https://www.hersindex.com/hers-index/what-is-the-hers-index/> understanding what this is and if your building professional understands it could be important as most programs and code use or can use ERI scores to demonstrate compliance.

▪ **Have you attended a certification program like PHIUS certified builder or EEBA's houses that work?**

- What Type of building science trainings have you completed?
- What type of continue educational do you do. Conference, programs etc.
- What builder educational conferences and opportunities are there in our area and do you regularly attend them?
- Do you offer continuing education opportunities to your employees and trade parents?
- Certified Passive House Consultant training is often taken by architects because building science is not often taught in architecture programs. There are other groups that help educate the industry and offer certificates and it would be good to know if your building professional avails themselves of these resources to stay up to speed with a rapidly changing industry.

▪ **What type of continue educational do you do. Conference, programs etc.**

- Educational conferences and opportunities are one of the best ways to understand what is new in the building industry. Organizations like PHIUS and EEBA have wonderful trainings as well as conferences on a yearly basis. They also are specific to high performance housing.

▪ **Who will be designing my house and if it is not you do you offer continuing education opportunities to your employees and trade parents?**



- In bigger architectural firms you might begin a conversation with someone who is not actually designing your home. Make sure you create a relationship with the person actually doing the work on your design and understand their background.
- **Do you manage the building of our house? Do you do site visits? How often? Are you available during the build for questions? How responsive are you? How involved are you?**
 - How do I choose a builder? Do you have recommendations? Why are you recommending a particular builder?
 - Who chooses the trade partners? Do you have recommendations.
 - How do you choose the engineer your work with? Are they familiar with advanced framing techniques?
 - These questions will help you understand what your long-term relationship with the architect will be. They don't need to micromanage the build but the better their relationship is with the builder and trade base the more likely your vision will be achieved.
- **How do you balance aesthetics and performance?**
 - Windows, Vaulted Ceilings. Complicated house design impacts the overall high performance house goal. There is a balance that can be reached so it would be good to know how those decisions can be made.
- **What building informational resources do you use in your work?**
 - Building America Resource Center, Green Building Advisor, etc.
 - These types of resources focus on high performance home building and can help influence design and assembly choice and implementation
- Can you give me names and contact information of a couple homeowners you design houses for?
 - Yes, they are likely to give you names of people that they are sure will give them a good reference. Even so, you can gauge how the relationship was and what the experience was like for the homeowner you speak with.