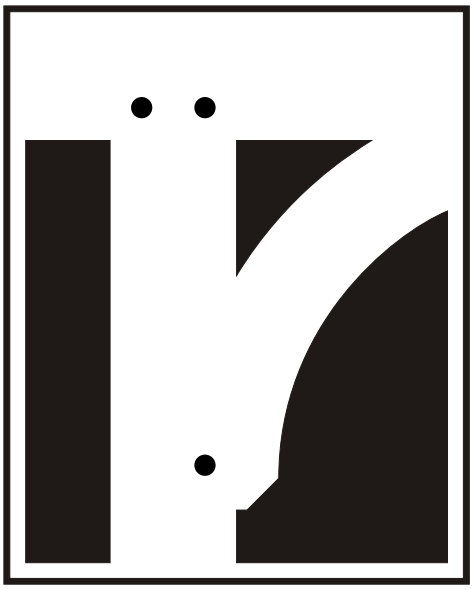
Building A Timber Frame Home



TIMBER FRAME
BUSINESS COUNCIL

A Client's Guide

Established in October 1995, the Timber Frame Business Council (TFBC) grew out of the Timber Frame Guild of North America which was formed 10 years earlier. The Business Council was created as a not-for-profit organization dedicated to enhancing the quality, integrity and marketability of the timber frame industry. The TFBC is committed to strengthening and advancing the business, communications and research capabilities of its members.

Using its most traditional definition, timber framing is a specific type of post and beam construction in which a frame is created from solid wood, laminated and composite timbers that are then connected by any one of the following wooden joints: mortise and tenon, dovetails, or scarfs secured with hardwood pegs. The frame is covered with any one of a number of enclosure systems. Normally the timbers remain exposed to the interior of the building.

Timber framing is a building system which lends itself to residential and commercial construction and a wide variety of architectural styles ... contemporary, rustic, southwest, oriental and colonial to name just a few. It is also compatible with many other building systems and materials such as, structural insulated panels, logs, engineered wood products and stud systems.

TIMBER FRAME BUSINESS COUNCIL
www.timberframe.org

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To our Readers:

The purpose of this Consumer's Guide is to provide you with a basic understanding of the *process* of planning, designing and building a timber frame home. As in any custom-built house, your timber frame home will require your input and will ultimately reflect your personal preferences and requirements. In this brochure we provide a brief summary of the professionals who will be needed and how you might go about selecting them. The Guide will help you sort through your options as you decide how involved you want to be. There are a number of different directions you might choose to take. You may find it helpful to check off the boxes as you read through the Guide.

It is our intention that this Guide clear up some of the grey areas which, if left unattended, could lead to unfulfilled expectations and misunderstandings. In our experience, even though people are attracted to building a timber frame home, they have little building experience and no knowledge of-what role they might have to play in the construction process. Many of our customers have an idea of what they want, but they experience difficulty putting their ideas on paper. And finally, while superior quality and uniqueness are the ideal, home owners must be prepared to justify a greater investment of both time and money when designing and building a timber frame home compared to a more typically constructed home.

We are eager to have our clients understand the basics of the process. By working together our combined efforts will result in an improved product, a streamlined design, contracting and construction process, and an enriched experience for us all.

Designing and building *any* new home can be exciting. Working on and completing your timber frame home can be cause for a true celebration. Knowing the necessary steps and which questions to ask will make it that much more enjoyable.

Sincerely,
Timber Frame Business Council

Preliminary Research

Planning and building a timber frame home is a unique opportunity to build your dream home. Here's how you start. First, gather some "ballpark" information to help you decide if this process is for you.

❒ Talk to professionals who know the timber framing process and who can help you understand the value and costs of this building system. Timber frame companies have resources to answer your questions. Local architects, designers and construction contractors are also good sources of information.

❒ Read books and magazines.

❒ Rough out your preliminary budget and consider getting "pre-qualified" at one of your local mortgage/lending institutions.

❒ Collect literature from timber frame companies by attending their home building seminars, workshops or schedule a visit to their building sites, open houses, or model homes.

❒ Gather information about different companies' products, services and average costs.

At this point you may discover that different timber frame companies provide a wide variety of products and services and it may be a bit confusing. You'll need three primary services. First, the entire home must be designed; then a timber frame must be fabricated and raised; and finally, the pieces of the home must be pulled together and built. Some timber frame companies offer complete design and general contracting services; some offer design and fabrication services; and finally, some just design and erect the timber frame itself, but do not handle overall construction services! Decide if you want to assemble and manage your own team or whether you would prefer to hire a contractor to take on these tasks.

Getting Started

Your Building Site

Whether you already have property or are still looking for that perfect location for your new home, you should think about these issues. Your aesthetic requirements and practical considerations can both be met. Try to define the qualities you are looking for in your homesite. Is it wooded or open, sloped or flat, remote or close-in? Proximity to schools and municipal services can be important factors. Here are others to consider:

❒ You will need access to utilities. This includes essentials such as water, telephone and electrical service, and sewage disposal as well as optional hook-ups for natural gas or cable television. Be sure to investigate the connection costs associated with these services, as well as permit fees.

❒ The costs for building roads and driveways to access your property or for bringing utilities to the site can be daunting. Be sure you have the full picture.

❒ Existing zoning regulations and setback requirements may not meet your needs. If you must request a variance, be sure to factor response time into your plans.

❒ Be certain your lot has a soil type suitable for building, and that it will pass a perk test.

❒ Topography can have a substantial impact on your costs. Sites that are steeply sloped, rocky, heavily wooded or otherwise difficult to access can add significant time and expense to your project.

❒ Solar access is critical if you are planning a passive solar/daylit home or want to include photovoltaics.

❒ Consider natural conditions such as local climate, prevailing breezes and indigenous vegetation that will impact the energy performance and comfort of your new home. Taking advantage of these conditions allows your home and building site to stay in harmony with its surroundings.

❒ Evaluate the “view potential” of your proposed site.

... define the qualities you are looking for in your homesite.

Members of your design and construction team can help you site your home to identify the optimum spot on your property with the best views, proper solar access, best drainage etc.

Assembling the Team

You will need an architect or designer, a timber frame company and a general contractor on your "team". Remember, some timber framing companies offer all these services as part of a turn-key package. There are some issues associated with each of the team members and some questions you might want to ask. You'll achieve the best results when all of the selected professionals are committed to working together and are very clear what you expect from each of them.

House Plans

Your investment of time and money in the design process will vary depending on whether you choose to design a custom home from scratch or purchase a previously prepared set of plans. You may decide to work with a timber framing company that has a portfolio of plans from which you can choose. There are also other sources of home plans which may be a helpful reference as you are developing your building program (the list of requirements for your new home). But, unless a plan is developed with timber framing in mind, it is likely to require significant modification to accommodate timber framing and the variables of your site.

A note of caution: Be aware that the penalties for copyright infringement can be severe. Be sure you either purchase a published plan, use a plan from your timber frame company, or work with an architect or designer to create your own.

Selecting an Architect or Designer

Choosing the right architect or designer for your timber frame home will make a significant difference in your satisfaction with final results. Many timber frame companies offer either design services for completely custom homes, or have a portfolio of plans from which you can choose. Some offer both. Still others can recommend designers who are experienced with timber frame construction.

It is best to have your designated architect or designer work directly with a timber framing company early on in the design process to avoid any duplication of services and to ensure the integration of timber framing details into your plans.

Some companies ask for a modest, up-front deposit. Be sure you are clear on what this fee covers. You will probably be asked to make a series of payments during the process. Find out from your designer/architect how the payment schedule is established so you can budget accordingly.

When considering candidates to design your home, you should be able to see several examples of the designer's work, if not in person, at least in pictures. Request a list of references and call their previous customers. You can learn a lot by asking a few simple questions. Did they deliver on time and within budget? Were they responsive to the client's needs?

You should also have good rapport with the architect or designer you select. If you are designing from scratch, you'll be working very closely for several months on what undoubtedly will be an intensely personal project. Here are some questions for your potential designer/architect.

❒ Are you familiar with timber frame construction? Can I see examples of your work?

❒ If "no" is the answer to the first question, ask if they are willing to collaborate with a timber framing company in the design of your timber frame home and enclosure system.

❒ Do you guarantee your design will meet or exceed applicable building and energy codes?

❒ How long will it take to get complete plans?

❒ How much will your entire design service cost? How will I be billed?

❒ Who will design and engineer the timber frame? Does your firm have a licensed engineer or architect who is authorized to "stamp" (approve) my plans?

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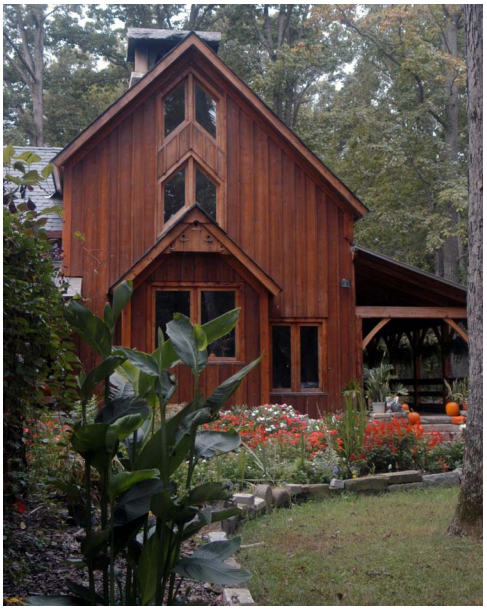

Whether you design from scratch or work with a purchased plan, a thorough set of construction documents will be required for obtaining building permits and financing and for completing construction. These documents also form the basis of the contract with your builder.

Selecting a Timber Framing Company

The role of the timber framing company may vary from project to project and company to company. They may serve as a subcontractor, a general contractor or a specialty construction consultant. Timber framing companies differ in the size of their operations, their style of timber framing, and the scope of products and services they offer.

Your preliminary research should give you a good idea about which level of service you prefer. The selection of the timber framing company then becomes one of finding a company that matches your needs. As with the selection of the design professional, you should see examples of the timber framing company's work and feel comfortable with the people who will be responsible for your job. You may want to check them out with the Better Business Bureau or the Chamber of Commerce. Here are some questions you may want to ask potential timber framing companies:

What services and products do you supply?

❒ How long have you been in the timber framing business? How experienced is your crew?

❒ Are you willing to consult with my designer and/or builder throughout the project?

❒ Which type of wood do you use? Can you explain some of the characteristics and advantages of different kinds?

❒ Who raises or installs your timber frames?

❒ What type of enclosure systems do you use? What are the advantages of each? Who will install the enclosure system?

❒ What type of warranty do your products have?

❒ Do you maintain workers compensation insurance and the license(s) and insurance required by our state and local governments?

❒ May I have a list of your client references?

Selecting a General Contractor

The general contractor is responsible for the actual construction of your home. They take the house from foundation to finish. It is important to note that one company's services can vary from the next. However, most general contractors coordinate all the labor and materials. It is their job to deliver your house on time and within budget.

During the construction process the contractor will manage your job site, supervise all the workers installing plumbing, roofing, electrical services, and much more. These workers may be on the general contractor's staff or they may be hired as subcontractors. There are both pros and cons to subcontractors. Be sure you ask what the potential pitfalls might be. What about using local subcontractors if your general contractor is located in another town? What about access to these "subs" a year from now if you have a problem? Do these subcontractors work with this general contractor on a regular basis? This may mean they have established a good track record together. Be sure to ask.

Your general contractor should be detail-oriented since they will coordinate all payments, maintain records, develop and implement a construction schedule and officiate bids to make sure they are inclusive of all proposed work. Their experience can be of great value during the design phase of your project.

While experience with timber frame homes is helpful, it is not absolutely necessary. What is important is that the designer and/or the timber framing company are able to communicate to the contractor the construction details unique to timber framing.

The role of the timber framing company may vary from project to project and from company to company.

Finding a qualified contractor in your area is not difficult. You can begin by consulting acquaintances who have built custom homes or you can check with your local home builders association. Here are some questions to ask potential general contractors:

❒ How long have you been in business?

❒ Have you had experience with timber framing?

❒ Have you worked with a particular timber framing company?

❒ Will you consult with my designer or architect on the feasibility of construction and cost of a proposed design?

❒ What is your preferred form of contract?

❒ How do you handle change orders?

❒ How long will it take to build my house?

❒ May I have a list of client references?

Understanding Contractual Relationships

In all cases, when you are contracting with any of your team members, check their references, and insist on a complete, written agreement for all products and services.

❒ What type of contractual relationship will we have?

❒ What type of contracts will you enter into with others as you work on my home?

❒ What costs are not included in your contract?

If you opt to seek competitive bids for your timber frame, remember that fair and accurate bids are only possible with complete and detailed timber frame plans. Timber sizes, grade and species, and connection details should be clearly specified.

The completeness and quality of the construction documents is critical. These documents are the basis for all contracts, and the clearer and more complete they are, the less likely it is that questions or disputes will arise later. Your contract with the general contractor should include a start date and a completion date.

Be certain you know just how long the construction process will take. Some communities have limited periods when building is permitted. This schedule will also dictate the timing for selling your existing home or completing your lease on a rental property.

Understanding the Design Process

Custom design is an interactive process that requires communication, reflection, revision and refinement. Both flexibility and decisiveness are needed. It is a multi-step process that requires increasing levels of commitment as you proceed. Not only will good design add value to your home, the process should be an enjoyable one that results in a home that fits you well. Here's a bit about each phase.

Programming and Schematic Design

The first step is to develop your building program. Initially, this might be a loose description of functions or activities that you wish to support within the house, as well as considerations of view, solar exposure, natural light and other site-related factors. Your initial program should also include a rough idea of the number of rooms you require, a general idea of the overall size of the house, information about your preliminary construction budget and a notion of the feel you are trying to achieve — rustic, contemporary, open, private.

Your designer or architect will help you create a more detailed program which will result in the first schematic design — typically a set of hand-drawn sketches or CAD of floor plans and one or more exterior elevation. It may require one or more revisions before you arrive at a version of the plan that you wish to develop further.

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At completion of the schematic design you should receive a rough cost estimate for the entire house. While many of the construction details remain to be defined, a preliminary cost estimate based on the schematic plans will be more accurate than, the “ballpark” costs you collected earlier and will be a valuable reality check.

Depending on which process you have chosen you may already have selected the timber framing company and general contractor with whom you wish to work. Their input is especially valuable during this phase of the design process. If you aren’t ready to commit to one single firm yet, consider retaining a timber framing company and general contractor as consultants. The results of the preliminary pricing exercise may direct you “back to the drawing board” to revise or refine your concept, but it’s better to do it early in the process rather than after the design is further developed. Remain flexible and open to compromise.

Design Development

With approval of the schematic design, the design team will prepare more detailed drawings to illustrate other aspects of the proposed design. Floor plan drawings will show all rooms in correct size and shape. Exterior elevations and a typical building cross-section are drawn to scale. You will begin determining specifications for major materials and room finishes. You can expect a more detailed, and therefore, more accurate cost estimate as part of this phase, Upon your approval of these (design development) documents, you will move on to creating construction documents.

Construction Documents

In this phase, construction details and specifications are completed to be in compliance with the local building code. You can expect the final and accurate price at this stage. The level of detail required for the latter may be influenced by the type of contractual relationship you have with your contractor. The drawings and specifications completed in this phase become the basis for financing, permits and any future construction contracts.

Note: Please keep in mind that design development and construction documents may cost a modest fee.

Additional Services

Depending upon how you have assembled your team, you may want to have your architect or designer assist you with soliciting and reviewing bids and negotiating contracts with the timber framing company and/or the general contractor. In addition, the design team may serve as administrator of the construction contract, assuring that construction is in accordance with the construction documents. And finally, your architect or designer may be able to provide interior and landscape consulting services, or will collaborate with specialists in those fields.

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Construction

Construction is where it all comes together, and the plans you've made become a home. While there are many variations, they all begin with a contract which should serve as your guide for the duration of the project.

There are three major types of contractual relationships: a fixed price, cost-plus-fee, or construction management. You may arrive at any of these by either a bidding process among a number of potential firms or by negotiating directly with one or two. All of these options have advantages and disadvantages and should be considered carefully.

A "fixed price contract" means that the timber framing company or general contractor agrees to build the house as shown on the construction documents for a set price. Usually there are allowances for appliances, finishes, cabinets, lighting fixtures, etc. which can be modified by a Change Order. Therefore, the "fixed price" is a bit misleading, unless there is an unusually complete set of construction documents and no changes are made during the construction process.

Because this is unlikely, another approach is the “cost plus-fee contract” which may include a “not to exceed” clause. In this case, after preparing a budget, a general contractor agrees to build the home at his or her cost plus a given fee for overhead and profit. The advantage of this form of contract is that making changes is easier, and the owner pays only for what is provided, plus a fair profit margin. The disadvantage is that you don’t know exactly how much the finished home will cost.

Often, the timber frame and enclosure system are very clearly defined early in the planning process. Therefore, a variant of the above is often appropriate, with a fixed price for creating and erecting the timber frame and a cost-plus agreement with a general contractor for the remainder of the home. Bear in mind that the timber frame is just one component, and contracting for a frame without solid cost information for the complete home is inadvisable.

You may wish to obtain two costs from your general contractor: (1) shell erection to weather-tight and then (2) interior finishing. This will allow you to adjust, as required, if you experience additional costs during the initial erection of your structure.

Conclusion

By conducting preliminary research, enhancing the features of your building site, and thoughtfully selecting your timber framing company, architect or designer and general contractor you can avoid a lot of frustration while saving time and money. With careful planning from the design process through construction, you will soon be the proud owner of a beautiful, new house.

A well designed and constructed timber frame home can provide a richly rewarding living experience for years to come. Good luck!

For additional information check out the Timber Frame Business Council’s web site: www.timberframe.org.

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