Design is not the narrow application of formal skills, it is a way of thinking.

- Chris Pullman
Residential Design

Designing A New Home From The Beginning

Designing a home is not just drawing lines on a piece of paper. Understanding the current codes & requirements are crucial. Interpreting them is as important as being able to design to them.

Understanding materials and the building process is very important. Everyone's taste is different. What I like, most likely, may not be what you like.

While we design, I will be thinking about a lot of things that years of experience in design and construction have taught me.
Frank has been in business since December 10th, 2001. In that time he has worked on 1000+ projects. They range from small bathroom remodels to custom decks and additions and custom homes up to 6000 square feet. He started drafting in the 8th grade and continued down the course of education through high school. He attended a trade school where he graduated in 1998 receiving an associates degree in drafting and design. While in high school he worked with his father who is a carpenter by trade and worked with him for 4 summers building multiple homes and a couple of commercial buildings.
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Meetings, Goals, Budget & Time Frames

The first step is to meet in the office. We will discuss your goals and the process required to complete this portion of your project.

We will then meet at the site. We will discuss the home and the challenges of designing within the constraints of the land.

We will brainstorm ideas for specific designs and processes. We will discuss the size of the home you wish to build along with the budget.

We will discuss the time frames for design, project coordination, and construction.
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As a designer it is Frank’s job to make sure that the design fits your budget. It would be irresponsible of him to design a home that far exceeds your financial grasp.

Frank works with many contractors in the Tuolumne area. Whether you were referred to Frank by a contractor that he works with or are in need of a contractor referral, your budget remains confidential.
Once we have met in the office and the field, and we have discussed the size of the home you wish to build and the budget you wish to build it in, we will assemble a proposal for the design and drafting services. The proposal will outline the costs of the services and what is included in those costs. There are services that I can not include by law.

If you decide to accept the proposal, we will begin the design cycle.
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Pre-Design Responsibilities

Depending on the size of the lot and its topography, a land surveyor may be required to generate a boundary map and subsequently a topographic map.

If we are trying to place the house extremely close to the property line, a survey may be required. Adversely, if we are trying to place the home in the middle of 10 acres, the surveyor will be required to determine the building pads location via a map.

You as the homeowner are required by law to contract directly with a land surveyor.
During this cycle we will draw the floor plans and elevations and meet in the office or via web meetings to review the design. This cycle allows us to iterate through several designs until we finalize on a floor plan and desired look of the home.

I allow you to modify the design as many times as needed during this cycle until we get it right.

This is a good time to have a contractor involved in the design as they will have input on the building process.

This cycle must be completed before we move on with the design.

Time Frame:
Approx 2 Months
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Designer Recommendations

Not all projects require structural analysis.

The California residential code allows for a designer to design within specific rules. It is Frank’s responsibility to let you know if the design is outside of the requirements of the code.

Frank will recommend possible ways to manipulate the design to meet code requirements.

If the entire structure is designed per the code with exception of one small part, an engineer can address just the part that doesn’t comply, saving money.
Coordination documents will proceed once you have approved the design. We will work on framing plans, foundation plans, more detailed floor & elevation plans, cross sections & enlarged plans of high density areas like kitchens.

Once we start the constructions documents, changes to the design take significant effort, therefore additional costs are incurred to make changes.

At completion of this phase, the documents will be sent to supplemental trades (ie Energy analysis, Truss engineering, etc).

Time frame for drawings: Approx 1 Month
I will coordinate all of the trades for your project. I will make sure that the truss information gets to the engineer. I will also make sure that the structural data is placed on the plans.

The coordination and completion of all of the trades can take as much as 1 month depending on their schedules and design complexity.
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Request For Quotes From Trades

At this point the plans need to go to several supplemental trades for their analysis. Those trades are as follows:

- Structural Analysis (if required)
- Truss engineering (if required)
- Fire sprinkler design (required on new homes only)
- Energy analysis (required on all conditioned spaces)
- Solar design (required on new homes only)

Time frame for quotes: Approx 1 Week
The next step is to provide the plans to a truss manufacturer who will then design and layout the trusses. The truss company must interface with myself and the engineer in order to complete his design.

The design of the trusses may adversely affect the structural elements of the home and we may be required to analyse any forces imposed by them.
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Structural Analysis

Structural analysis can begin once we have a complete set of truss calculations.

The costs of structural analysis will vary by engineer. The plans will be sent to an engineer for a quote. You as the homeowner are required by law to contract directly with the engineer.

You can expect the following costs: approx $1.50/sqft for the living space, approx $0.50/sqft for garages, decks and patio covers.

We will get a time frame from the engineer as well.
The fire sprinklers must be designed by a C-16 licensed contractor and subsequently installed by the same contractor. You as the homeowner are required by law to contract directly with the fire sprinkler contractor. The fire sprinkler contractor will provide a quote for their services and a time frame to complete them in. Time frame for sprinklers: Approx 2 weeks
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Construction of conditioned space requires energy analysis. All projects are required to be registered with the state of California. During the analysis, many things are taken into consideration. Windows, insulation, water heater, doors, hvac units, solar power, geothermal systems, etc. are analyzed to determine the most efficient way to run the home.

I will interface with the energy expert in order to ensure the correct information is provided in the drawings.

Time frame for energy: Approx 1 week
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When all documentation returns from the supplemental trades, we work to incorporate the required features into the drawings. At times this requires minor modifications to roof framing, foundation, etc.

Once the plans are completed, we will have a turn over meeting with you and/or your contractor to review special features that may need specific attention.

At this point the plans are ready for submittal for a permit.

Time frame for drawings: Approx 1 Month
Pre-construction soft costs are any professional, material or permit fees that are associated with your project all of the way up to the time you have your permit in hand.

These items are explained in the next couple of slides.
# Residential Design

## Pre-Construction Soft Costs

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design &amp; Planning</td>
<td>$8-$10/sqft</td>
</tr>
<tr>
<td>Land surveyor</td>
<td>$1500 + or -</td>
</tr>
<tr>
<td>Structural engineering</td>
<td>$2.00/sqft + or -</td>
</tr>
<tr>
<td>Fire sprinkler design</td>
<td>$500 + or -</td>
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<tr>
<td>Building permit fees</td>
<td>$2.00/sqft + or -</td>
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<tr>
<td>School fees</td>
<td>$3.75/sqft</td>
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<tr>
<td>Road/Traffic mitigation fees</td>
<td>$7000 + or -</td>
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<tr>
<td>TUD Hookup fees</td>
<td>$8000 + or -</td>
</tr>
<tr>
<td>Encroachment fees &amp; Septic Fees</td>
<td>$800 + or -</td>
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</tbody>
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The workload of our design team varies on a daily basis. Contacting us as soon as possible and setting a schedule is recommended.

Our consultations are always no cost!

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