Winery Design
By Mark Simpson, Nov. 21, 2007

Building a Winery is both an art and a science. A great winery needs to be efficient and appealing at the same time. The fight for market share is often won in the tasting room, not the liquor store. The strong demand for BC wine is driving lots of new winery start ups and enticing vineyard owners to shift their business model into starting a wine business.

This story will discuss some of the key considerations in the design process.

1. Understand your mission. The winery should reflect the mission statement of the wine business and be a reflection of the terroir, customer base, winemaking style, growth plans and brand image. Mission Hill Estate Winery is a good example of a business who takes a “nothing but the best” approach. This winery has become a magnet for tourists and wine lovers and will ensure the brands are well recognized.

2. Define your future capacity. Every good wine business should have a business plan that describes the future growth plans along with sales forecasts, winemaking philosophy and winemaking techniques. The eventual sales goals for the business over a five or ten year horizon will determine the design and therefore budget for the building. It is always easier and cheaper to make the building envelope bigger initially and add equipment later than to take...
out walls and ceilings when the building becomes too small for the required production. Some good rules of thumb are to allow 3000 square feet for a 2000 case winery, 4000 square feet for a 5000 case winery and 7500 square feet for a 10,000 case winery. Every winery will be different depending on the production mix. For example, wineries heavily weighted to make high end red wines will need more space than a winery focused on white wines, since barrels full of red wine take up more space over time than white wines which will turn faster and may not be wood aged.

3. Seek harmony with the environment. A winery building should be part of the landscape. A frequently used technique is to build a portion of the building into a hillside to allow for gravity fed wine handling and to take advantage of the natural temperature control afforded by the earth. Barrel caves are a time honored element of winery design that makes sense for proper barrel storage, but also is tremendously interesting for consumers. Ensuring a good potable water supply and a means to deal with winery effluent and solid waste responsibly will influence building placement as well. The placement of the crush pad is critical to protect the fruit and the workers processing it. The crush pad should be sheltered from wind, rain and sun, yet still accessible to the vehicles bringing in the crop. Neighborhood values are important as well as support from the neighbors, local council or planners and other wineries will be critical to success and may be required before you even start. Visualization is an important tool to use to see how the design will work in a spatial sense. The use of foam core
models or AutoCAD drawings with 3D analysis will highlight design problems not apparent from a flat line drawing.

4. **Build a great project team.** The key people on a design team for a winery are: the architect who will create the building concept, the structural engineer will make sure the structure that springs from the design is sound and efficient, the winemaker or wine consultant, who will define the process flow, interaction of spaces and equipment needs based on winemaking style, the Contractor, who build the structure to the design specifications, hopefully on time and on budget and a Project Manager, who keeps all the egos in check and keep the project on time and on budget. Depending on the size of the winery, each team member can wear several hats. The two most important elements for success are firstly to get the team together early in the design phase and ensure frequent and high quality communication and secondly, visit LOTS of wineries, not just in your region, and interview people to broaden your understanding. The school of life is a way better teacher than any textbook, so I can’t stress enough the importance of learning from other people’s mistakes and successes.

![Foam Core Model of Nk'Mip Winery](img)

*Foam Core Model of Nk’Mip Winery, courtesy of Robert Mackenzie Architect Inc.*

5. **Make it Efficient.** The best way to ensure an efficient layout and design is to spend time on mock ups and consider all the options in the winemaking. The time spent on research at this stage will pay dividends. Another useful technique is to make a large scale floor plan and place exact scale cut outs of the equipment on the plan. You can then vary the configuration to find the optimum layout. Flip charts and post it notes are great for this exercise. This can be done on AutoCAD as well if you have this capability. Remember to add clearances for forklift travel, breathing space for natural ventilation (often accomplished by ceiling height). Using building techniques that conserve energy will pay dividends later. Some examples
would be: to use north south orientation to reduce heat load in summer, using smaller windows to lower heating costs and energy efficient lighting. One the most overlooked aspects is adequate drainage and floor slopes. A great way to steal time from your cellar hands for years to come is to make a flat floor with poor drainage and doom the poor soul to hours of pushing water! A good rule of thumb is one inch of slope for every 8 – 10 feet.

Black Hills Estate Winery, photo by Mark Simpson

6. Reach High! A great winery design does not always have to be the most expensive. Careful consideration of slope contours, process flow and customer interaction are great ways to build sweat equity into a project. Of course, great wineries are often housed in great buildings that define the brand for years to come. Phasing the project over time to match available resources is the best way to go, unless capital is plentiful. A few examples that come to mind are Burrowing Owl Estate Winery, who only recently built a overnight stay component after many years in business and Tinhorn Creek Winery, who recently announced a joint venture with Le Gavroche restaurant to build a restaurant on their Oliver property for a summer 2008 opening. Wine properties are appreciating strongly every year, so a signature building is a great investment for the long term, as well as leaving a great legacy.

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