AFSB HIGH SCHOOL DESIGN COMPETITION

A TUTORIAL GUIDE

This powerpoint is created to help you understand the very basic design process that architect professionals use to develop initial concept designs based upon a predetermined program of requirements. This is based upon a "Tiny House" Accessory Dwelling Unit but it represents the typical process regardless of the size of the project.



1. GET ORGANIZED

- 1. Find a quiet area with a clean large work table
- 2. Print out all materials:
 - Site Plan
 - Program
 - Instructions
- 3. Gather tools
 - Tracing Paper
 - Pencils
 - Pencil Sharpener
 - Straight Edge (ruler)
 - Right Angle Triangle
 - Scale





2. UNDERSTAND THE CHALLENGE (SCOPE OF WORK)

Program: Read the Program, Highlight all the Requirements **Drawings Required**: Highlight all Drawings Required

In conforming to the ADU ordinance, you must satisfy the requirements of the Architectural Program, as follows:

- The floor area of this Tiny House shall be a minimum of 350 square feet but no larger than 400 square feet; this is the space enclosed by walls and a roof (a secure indoor space protected from wind and rain)
- The Tiny House must include:
 - Sleeping space or spaces, for each occupant
 - A bathroom, with a toilet, sink, and shower or bath
 - Space to store food and prepare meals, including a sink, stovetop, oven, and refrigerator
 - Energy efficiency off-grid to the greatest extent possible
 - Space to complete various hobbies for the occupant(s). For example:
 - watching TV/ playing video games
 - Sewing
 - Yoga
 - Wood Working
 - Children play area
- You are encouraged to design the entire backyard; some of the above requirements need not be contained within the enclosed walls of the Tiny House itself, some of it can be accommodated in the outdoor space on the site; an outdoor space may be partly covered but may not be fully enclosed; judges are instructed to consider how you handle that outdoor space and its relationship to the Tiny House with as much weight as how you design the interior of the house itself; in other words, although the Tiny House can't be larger than 400 square feet, the entire backyard is your design problem; create a home your client will thrive in
- A portion of the backyard should also be designed for the person or people living in the front house

Drawings Required

- Sheet A: Site Plan (pre-printed)
- Sheet B: Floor plan: Scale ³/₄" = 1'-0"; draw furniture
- Second floor plan (if necessary): Scale 3/4" = 1'-0" (on Sheet B)
- Sheet C: Two Elevations (side views) or one Elevation and one Cross-Section: Scale ³/₄" = 1'-0";
- Detail (depict an important feature of your design; this may be a perspective, site sketch, or a large-scale plan detail and/or elevation of that feature); draw this on Sheet B or C; whatever you choose to draw, it should express the uniqueness of your design



3. UNDERSTAND HUMAN DIMENSIONS & SIZES OF KEY COMPONENTS







4. UNDERSTAND THE SITE



View of front house. Your site is behind the house.

Highlight important Existing Site Elements:

- Scale of the Plan
- Property Line
- Setbacks
- Utilities
- Existing Site Structures & Adjacent
- Access to the site
- Sidewalks
- Driveway
- Trees
- Fences
- Other features
- 4 Directions
- Sun solar access & shading impacts
- Prevailing Winds
- Style of existing structures
- Views







- The scale is a ruler of a certain length that equals 1 foot.
- Architects and engineers use the scale to create drawings that will fit and can be printed onto to a sheet of paper to accurately reflect the actual size – at a smaller scale. You can imagine that it would be impossible to design anything at the actual size!
- Different scale sizes are used depending on the level of design and what the focus is. Site plans are big areas so they are drawn at very small scales like 1" = 60'. Floor plans are usually drawn at a scale of 1/8 or 1/4 inches to = 1'. Details are often at a scale of 1/2 or 1inches to = 1'
- The larger the scale the larger the drawing.
- A graphic scale is a tool that indicates the size usually used on a map or site plan. Your Site plan has a graphic scale. Above is an illustration of a graphic sale and how you use it to develop your tiny house to the scale of your Site Plan.





6. HIGHLIGHT SITE CONDITIONS



AFSB HIGH SCHOOL DESIGN COMPETITION TUTORIAL

7. INITIAL PLAN SIZE STUDIES





• ADU "Tiny House" can be up to 400 Square Feet (SF)

• Study basic sizes and interior layout options. Study many options - these are some examples:

15' x 26.6' = 400 SF

13' x 30' = 400 SF

10' x 40' = 400 SF

• Determine the Pros & Cons of each layout

• Arrive at a layout that best responds to the Program Requirements



8. SITE BUBBLE DIAGRAM STUDIES



8A. SITE BUBBLE DIAGRAM STUDIES



- Good entry from street
- Front elevation faces North & Building shades yard

· Location preserves views from main house

AFSB HIGH SCHOOL DESIGN COMPETITION TUTORIAL

8B. SITE BUBBLE DIAGRAM STUDIES



B • Similar to "A" but with a smaller yard

AFSB HIGH SCHOOL DESIGN COMPETITION TUTORIAL

8C. SITE BUBBLE DIAGRAM STUDIES



• Could allow for more Parking at former Garage.

AFSB HIGH SCHOOL DESIGN COMPETITION TUTORIAL

9. FLOOR PLAN DEVELOPMENT







Refine your Floor Plan layout through continued loose sketches to arrive at a final Concept Design that you are happy with and that meets all the requirements



10. SITE DEVELOPMENT SKETCH



Use loose sketches to address all the key components



10A. SITE PLAN W/ ADU ROOF PLAN



AFSB HIGH SCHOOL DESIGN COMPETITION TUTORIAL

10B. LANDSCAPE PLAN W/ ADU FLOOR PLAN



AFSB HIGH SCHOOL DESIGN COMPETITION TUTORIAL

11. FLOOR PLAN, SECTION, ELEVATION

→ SECTION CUT LINE





SECTION/ ELEVATION SKETCH



FLOOR PLAN SKETCH

FRONT (SOUTH) ELEVATION SKETCH

AFSB HIGH SCHOOL DESIGN COMPETITION TUTORIAL

ARCHITECTURAL FOUNDATION OF SANTA BARBARA

12. PROJECT RENDERING SKETCH





14. FINAL COMMENTS

Be sure to go back and review your work and check all the requirements and that you have addressed all of the requirements.

GOOD LUCK & CONGRATULATIONS!!!

After concept design, the architect and the design team will take the concept and continue to go through the next phases of design to develop and document the totality of the work resulting in a set of working drawings that can include consultants such as civil and structural engineer, mechanical and lighting engineers, landscape architect, and other special consultants depending upon the type of project.

The documents are processed through the Planning Department and the Building Department with the ultimate goal of obtaining a permit to proceed with the construction of the proposed project.

