

# Building Planning Exam

(submitted by VanillaGorilla 12-04-07)

## Interior Layout Vignette (Strategy #1)

1. Read carefully, make chart\*\*, analyze, verify all elements on paper (no toggle)
2. Sketch possible layouts on scratch paper (verify adjacencies)
3. Place “RBO” diamond at entry door
4. Turn on ortho, cursor, grid
5. Draw 3’-0” and 5’-0” circles, 48”x48” squares, 60”x54” and 54”x60” rectangles.
6. Sketch line-dividers and place all furniture off floor plan
7. Analyze furniture layouts for largest spaces, key adjacencies, etc.
8. Begin at conference room (3’-0” all the way around chairs, separate shelves)
9. Draw room with most furniture, then critically adjacent, then entry spaces.
  - a. Maintain 2:1 max (use “angle” line)
  - b. Avoid “L-shaped” rooms
10. Fill Furniture into spaces
  - a. Do not rotate yet, get an idea of room spacing.
  - b. Maintain 3’-0” clearance at all operable furniture.
  - c. Maintain one 5’-0” turnaround in all spaces (can overlap door swing)
  - d. Leave 5’-0” clearance at copy machine, work-table.
  - e. Keep most at perimeter walls. Avoid furniture in middle of room.
  - f. Avoid 90-degree angles at corners
  - g. Group like items (chairs, shelves, etc.)
  - h. Avoid butting furniture back-to-back.
  - i. Create an “axis” of common furniture (exec. Desk, credenza, etc.)
  - j. Can place in front of windows (program does not state furniture height).
  - k. Conference desk (3’-0” all the way around chairs, separate shelves)
  - l. Executive Desk (can be side on wall. Leave 3’-0” behind desk, not chair. Unless shelves or credenza behind, then 3’-0” behind chair).
  - m. Office Table/4 chairs: must be able to get at every chair while in use. Keep table 3’-0” off wall and leave no chair in corner. May rotate 45-degrees.
  - n. Keep 2’-0” min in front of every desk.
11. Adjust all room sizes
  - a. Corridors: Under 5’-0” long = 4’-0” wide. Over 5’-0” long = 5’=0” wide.
12. Add doors
  - a. Place sketch boxes for all door clearances
  - b. 2” min. from wall to jamb.
  - c. Use corners of rooms. Separate doors to allow long unbroken walls.
  - d. No furniture behind doors. If must, leave 3’-0” behind if accessing shelves
  - e. All doors swing into rooms (except any necessary egress).
  - f. Concentrate multiple door swings to one side of the room.
  - g. Can out-swing conference room doors to keep 5’-0” clearance.
13. Check tool. Zoom in- look for any conflicts.
14. “Walk” a 3’-0” circle around every piece of furniture (sit-in) and every door.



## **Interior Layout Vignette (Strategy #2)**

“T-R-A-F-F-I-C” method

T = Tag reception area

R = Room sizes & initial layout – quick analysis of large to small rooms

A = Adjacencies – arrange rooms to requirements

FF = Fill in Furniture – draw in all rooms

I = Indicate doors, verify clearances

C = Check button, walk a 3’-0” circle.

## **\*\*Interior Layout Vignette (Chart)**

<u>Relationship</u>	<u>Name</u>	<u>Furniture</u>	<u>SQFT</u>	<u>Notes</u>
	J.O.	ed, table/4, cred	200 (-)	Window
Direct L.C.R.	S.O.	ed, ct, sb/c, 3 arm	150 (-)	Window
Direct S.O.	L.C.R.	L Conf, 2 Lbook, c	250 (-)	V (entry)

## Schematic Design Vignette (Strategy #1)

1. Read carefully, make chart\*\*\*, analyze, verify all elements (paper)
2. Graphic Mass Inventory (paper)
3. Site Analysis (paper).
  - a. Draw overall massing square footage rectangle on site (computer)
4. Bubble Diagrams for each floor (paper)
  - a. Maintain key adjacencies
5. Schematic Arrangement- refine bubbles into blocks (paper)
  - a. Include site-related requirements (corridors towards major exits/service)
  - b. Find spaces w/ like square footages (stack)
  - c. Block 2-story utilities (stair, restrooms, elev, elev. eq. with janitor above)
  - d. (or) place along corridor in front of 2-story space
  - e. "Floating" spaces better on first floor
  - f. DO NOT finalize plans, keep loose for added circulation
6. Draft Layout (computer)
  - a. Layout all spaces at sides (1<sup>st</sup> floor left-2<sup>nd</sup> floor right on correct layers)
  - b. Zoom out and shuffle for adjacencies, flip layers, tweak.
  - c. Spaces
    - i. Place circulation, then rooms from Largest (& blocks) to Smallest
    - ii. Use 5'-0" module of all spaces (width at corridor w/ flex length)
    - iii. Stay up to 10% below recommended space areas
    - iv. Do not exceed 2:1 factor (draw sketch lines at min/max angles)
    - v. Avoid deep pockets in exterior wall footprint between rooms.
    - vi. Keep spaces with "visual control" in middle
    - vii. Avoid "L-shaped" rooms
    - viii. Toilets – 10'-0" wide to start
    - ix. "Near" = 20'-0" between doors.
    - x. "View" = 6'-0" window. No window walls.
  - d. Circulation
    - i. Test typical corridor formations (Double loaded, L-shape, T-shape)
      1. Keep stair towers at ends (exit thru them if possible)
    - ii. Corridors measured from wall center (6'-0" corr. is 6'-4" graphic)
    - iii. Avoid "dead-end" corridors (20'-0" Lobby included)
    - iv. Stairs = 10'-0" x 20'-0"
    - v. Every room must discharge into a corridor, lobby, or stairs.
    - vi. Elevator can go anywhere unless stated. Best to have in lobby.
    - vii. Use "Wall Opening" tool between corridors and lobbies
  - e. Doors/Windows
    - i. "Direct Access" = door
    - ii. "Visual Control" = window (6'-0") to door of controlled space. Do not assume open door is visual control.
    - iii. Double doors at entrance and 2-story space (optional)
    - iv. Exterior doors- do not cross limit lines or tree drip
    - v. Doors swing into spaces unless egress.
    - vi. Two-story space= 2 out-swinging doors (1-corridor, 1-outside)

- vii. Kitchen/ laundry/ mech w/ exterior access ONLY when stated.
  - f. DO NOT FINALIZE, switch to 2<sup>nd</sup> floor and loosely layout spaces on top
  - g. 2<sup>nd</sup> Floor must be smaller than first, overhang and entries OK, may have exposed roofs below (if follow program and 2<sup>nd</sup> floor much smaller – OK.
7. Verify Life Safety
    - a. Maintain min. requirements for corridors, doors, exits, stairs.
    - b. Minimum 2 exits per floor
    - c. Door clearances do not apply
  8. Finalize Floor Plans
    - a. Revise/ massage all spaces, adjacencies, circulation, doors.
  9. CHECK EVERYTHING
    - a. Check tool
    - b. Verify all spaces/ adjacencies
    - c. Life-safety requirements (Egress, corridors, doors, etc.)

**\*\*\*Schematic Design Vignette (Chart)**

FIRST FLOOR

<u>Relationship</u>	<u>Name</u>	<u>SQFT</u>	<u>Notes</u>
	Lobby	350 (-)	V entrance
	Workroom	400 (-)	2 exits
	Mechanical	180 (-)	no door/window
	Toilets	2@100	
	Lending Desk	150 (-)	V workroom

SECOND FLOOR

<u>Relationship</u>	<u>Name</u>	<u>SQFT</u>	<u>Notes</u>
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[ = direct      ( = Near      < = visual