

B. HOW TO PREPARE THE SCHEMATIC SPACE PLAN

This section describes the process for laying out the Agency's space program in the selected (leased) facility. The Agency is responsible for preparing the schematic space plan, which the landlord's design representative then translates into construction documents. DCAMM has prepared this Manual to assist Agencies in developing their own schematic. Agencies needing standard office space may be able to use in-house staff to lay out a space and furniture plan. Agencies may contract with an architect or space planner to develop the plan.

When preparing a Schematic Space Plan, DCAMM emphasizes the following key design principles:

- Lay out each workstation and the support rooms as close as possible to the square footage allocation listed in the Space and Finish Schedule. DCAMM space standards are based on furniture and functional requirements which support worker efficiency. The 20 percent circulation factor for the entire office should provide adequate circulation area for most offices.
- Maximize the amount of low-height partition or open area in the office and minimize the use of full-height partitions. Large open areas permit flexibility, aid office communications, provide better light and ventilation, make possible better flow of work, and may simplify supervision.
- Use the four functional zones as organizational tools: Personnel, Support, Meetings, and Entry. In small offices, the four zones can be discrete; in larger offices, zones such as Support areas and Meeting areas may be dispersed among work groups. Provide efficient circulation among all areas in the office. Primary and secondary circulation should be as short and as direct as possible.
- Satisfy as many of the identified adjacency requirements as possible to enhance the flow of work and overall worker productivity.

The Schematic Space Plan design process is an iterative process of designing, evaluating, redesigning, evaluating, and refining. While this Manual presents the process as a series of linear steps, in fact each space planner will recycle through the steps several times before arriving at the final furniture layout which best meets the Agency's programmatic requirements. The five steps in the Schematic Space Plan design process, which are described on the following pages, are:

1. Review the Agency's space requirements
2. Identify important characteristics of the leased space
3. Establish adjacency requirements
4. Generate zone diagram alternatives
5. Prepare the Schematic Space Plan

REVIEW THE AGENCY'S SPACE REQUIREMENTS

Several months may pass between the Agency's development of the Facility Plan and the signing of a lease agreement with a landlord. During lease finalization, the facility plan information

should be reviewed thoroughly. If the Agency cannot prepare the Schematic Space Plan in-house, consult DCAMM for assistance.

- a. Review the approved Facility Plan and DCAMM's Space and Finish Schedule (SAFS) included in the RFP. The landlord's proposal is based on the SAFS, and this is what he/she is contractually obligated to provide during design and construction.
- b. Review any Special Planning Issues that were identified in the RFP. Some of these issues have implications for space layout. For example, if the Agency wishes to control public access to parts of the facility for security reasons, the Schematic Space Plan must reflect the need to limit clients' access to certain staff areas.
- c. Translate the list of square foot requirements into blocks of space that can be moved around during the Schematic Space Plan design process to test adjacency requirements. Review the assignments of personnel and support functions, and calculate the total square footage requirement, for each work group or zone. These work group assignments become the pieces of the puzzle that are moved around to find the best fit.

If the Agency has undergone any unexpected changes since the issuance of the RFP, it may be necessary to update the Space Allocation and Finish Schedule. Such changes might include changes in office structure, changes in staffing pattern, new equipment, etc. The Agency should evaluate the impact of any changes on office layout.

It may be necessary to get more detailed information during this step. Refer to the DCAMM Space Allocation Standards in Section 2 for a listing of key programming issues. Dimensions of special equipment or furniture may also be useful now so that these items can be drawn to scale on the furniture plan.

IDENTIFY IMPORTANT CHARACTERISTICS OF THE LEASED SPACE

The characteristics of the leased area, such as door locations, column spacing, and window spacing, define opportunities and constraints for space planning. Identify these early in the process so they can be accommodated along with the programmatic requirements. The landlord should provide a scaled drawing (1/8 or 1/4 scale) of the Net Usable Area. Drawings showing electrical and mechanical service are useful but not essential unless there are special buildout requirements. Review the following space characteristics:

a. Door locations

Mark the public entrance and any egress points in the space. By code there should always be two means of egress. If door locations have not yet been identified, mark possible locations. An entrance in the center of the space will generally make layout easier. Identify the public area near the entrance door where the Entry and Meeting zones will be located. Review the entrance and exit paths in relation to the building core, or common areas: lobby, elevators, restrooms, and drinking fountains.

b. Column and window spacing

The structure of the building, including column and window spacing, influences layout efficiency. Lay out walls along column lines to avoid conflicts with circulation and furnishings. In general, no column-free space should have a length to width ratio exceeding 2:1; this will determine the largest single room practical. Natural light has a major impact on

the quality of the work environment. As a general rule, the greater the perimeter area with windows, the easier it will be to provide all workstations with views of daylight and the outdoors. Review the location and spacing of windows. Partitions should not butt into windows except at major mullions or below sill height.

In this office example, there are several work groups which each include five (5) caseworkers and a common workstation in an area defined by low partitions, with an adjacent private office for the supervisor

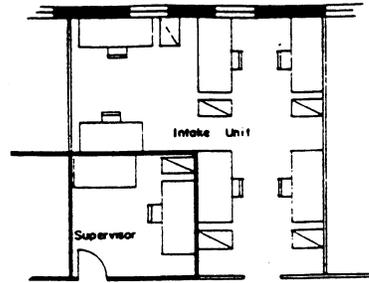


Figure 23: Work Group Layout

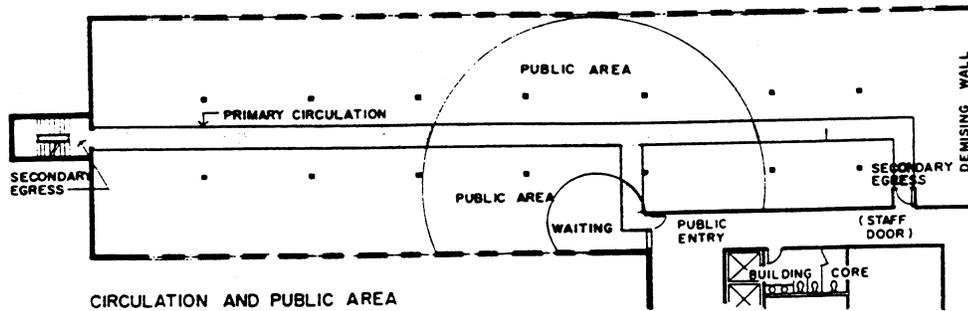


Figure 24: Door Locations

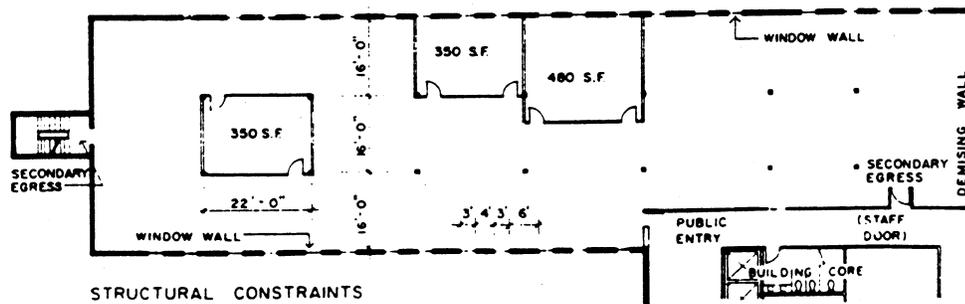


Figure 25: Column and Window Spacing

Figure 25: Column and Window Spacing

c. Utility locations

The landlord is responsible for the provision of utilities such as HVAC chases or electrical and telephone riser locations. These items affect the furniture layout in standard offices. If DCAMM and the Agency have identified a functional need for plumbing within the leased office area, such as a restroom or “wet” kitchen, the plumbed facility should be located as close as possible to the building’s plumbing stacks.

d. Composite analysis

It may be useful at this point to see how the above characteristics, when looked at together, define the constraints and opportunities for efficient space layout. Draw a rough diagram of the space, indicating the following features:

- meeting and entry zones
- areas along windows (for personnel workstations)
- interior zones (for support functions)
- primary circulation paths

Several different drawings may be made to identify alternatives. Keep in mind the objectives of centralizing entry and meeting zones and minimizing primary circulation.

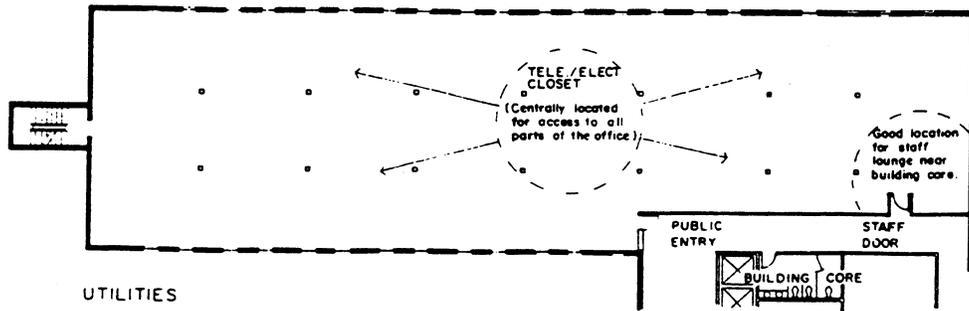


Figure 26: Utility Locations

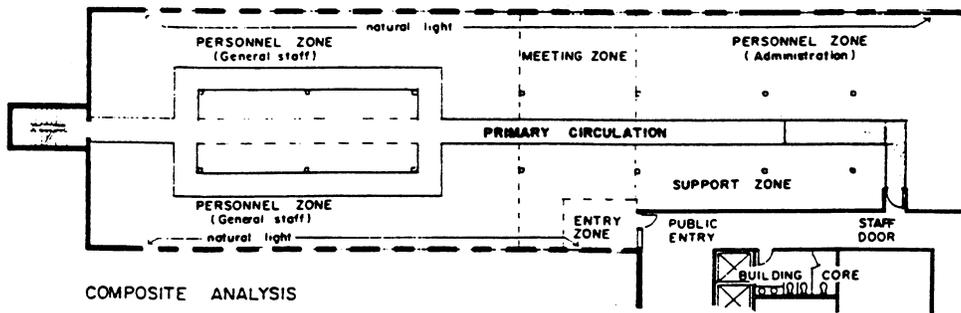


Figure 27: Composite Analysis

ESTABLISH ADJACENCY REQUIREMENTS

Communication is at the core of all office activities. It can take the form of meetings with staff and clients, or the processing of papers and forms. How do office staff work with each other and how do they use support functions? Good adjacency relationships contribute to productivity and employee morale. Consider the following adjacency principles when diagramming important relationships.

PERSONNEL AREAS

- To encourage operational efficiency, locate supervisors so they have oversight of the activities and/or individuals they are responsible for.
- To encourage informal communication, locate work groups performing related tasks near each other.
- To minimize visitor traffic throughout the office, locate individuals or work groups which have frequent visitors near the main entrance.
- Maximize the number of personnel workstations with access to natural light.

SUPPORT AREAS

- Centralize office support functions where possible, so that they are easily accessible to staff who use them. Users may be throughout the office, a few work groups, or a single work group.
- Locate support functions which generate activity and noise, such as copy/mail areas, away from areas which are quiet and more private, but along a major path so they are convenient and easy to reach from many areas.
- Locate office clerical staff near supplies and storage so they have convenient access to, and can monitor the use of, supplies and files.

MEETING AREAS

- To limit public and visitor access to office work areas and to contain noise generated by coming and going activities, cluster meeting areas near the entrance.
- Locate conference rooms so they are convenient to those work units that use them the most.
- The use of interior locations eliminates the distraction of windows and increases the availability of wall display area.

ENTRY AREAS

- Design entry areas to allow for effective control and orientation of visitor traffic. The reception/waiting areas should be directly adjacent to public entry points. Locate the reception desk so that the receptionist has a clear view of entering visitors and is readily accessible to them to provide
- information and directions.
- The public entry and waiting area should be convenient to common building facilities, such as public restrooms, drinking fountains, and pay phones, which visitors may need access to during their visit.
- Locate other clerical staff near the entry zone so that they can easily provide back-up assistance.

Using these general principles, first define the specific adjacency requirements of the Agency by completing an adjacency matrix, and then diagram critical relationships.

a. Adjacency matrix

The adjacency matrix is a planning tool which allows for the systematic evaluation of relationships between areas and rooms in the office. Using a matrix, fill in the personnel work groups and the support, meeting, and entry functions. Then indicate the appropriate adjacency relationship in each box formed by the intersection of two spaces. For example, it is required (or critical) that the receptionist be adjacent to the waiting area while it is important, but not critical, that the intake caseworkers be near the waiting area. Blank boxes can be left where adjacency is not an important issue.

b. Critical adjacencies

Review the matrix for critical relationships and create a bubble diagram to illustrate these relationships spatially.

c. Bubble diagrams

Expand the critical relationship bubble diagram by indicating the four functional zones, important adjacencies, and security level required between public/client areas and private/staff areas.

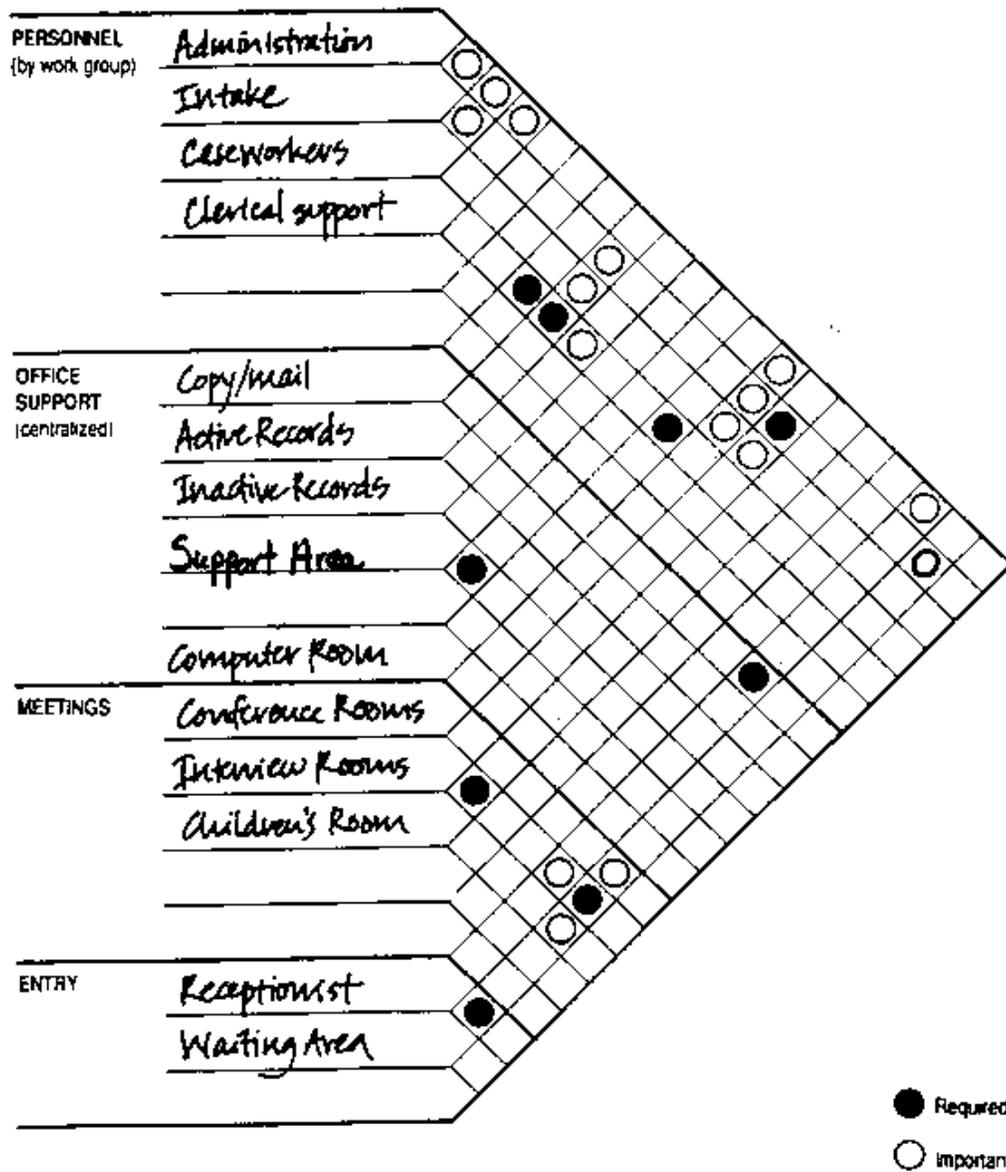


Figure 28: Adjacency Matrix

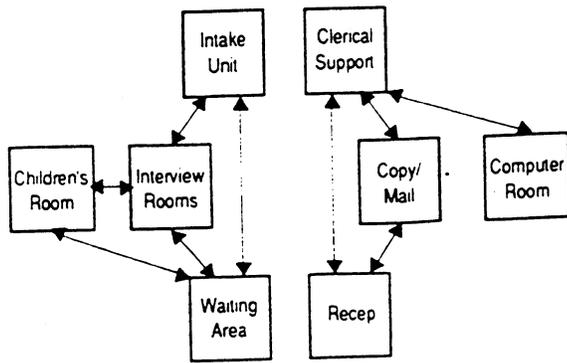


Figure 29: Critical Adjacencies

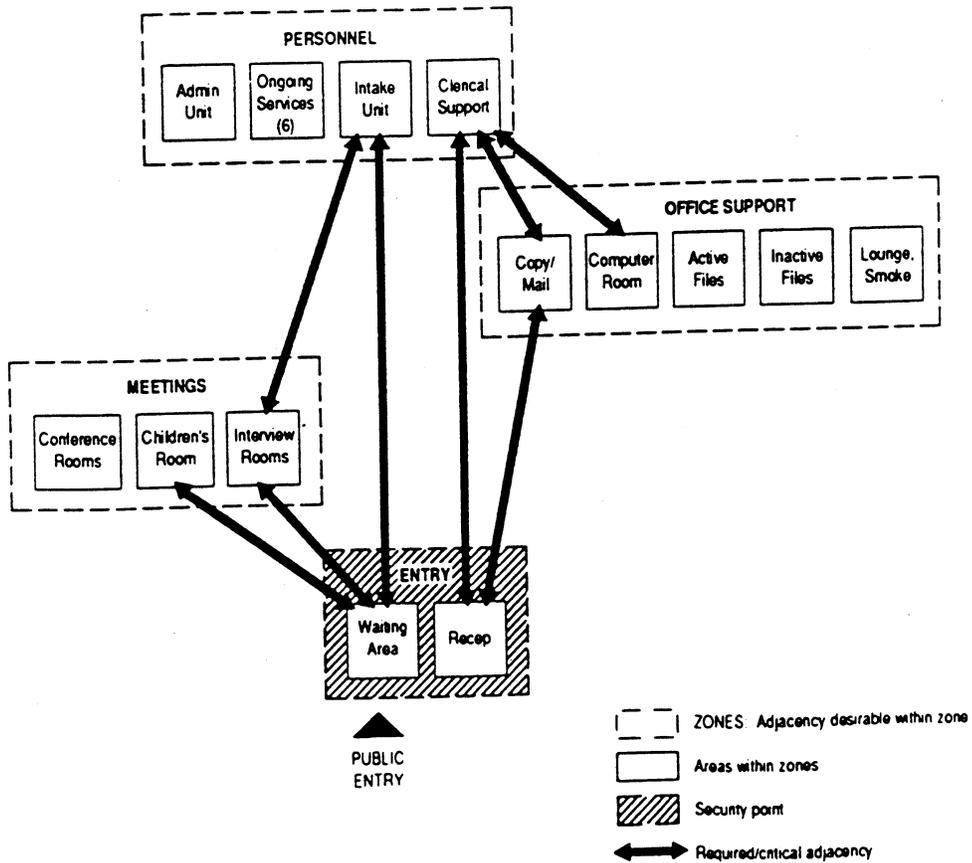


Figure 30: Bubble Diagrams

GENERATE ZONE DIAGRAM ALTERNATIVES

In this step, begin testing the 'fit' between the actual to-scale program and the physical qualities of the leased area. A few selected rooms or functions are tested first, alternatives for different zone diagrams are developed, and a final zone diagram is selected for further development.

a. Circulation alternatives

Using large blocks of space, generate 2-3 different alternatives showing the major circulation paths. The emphasis should be on developing concepts and getting the major pieces to work properly. Don't worry about all the details at this stage. Develop different conceptual approaches, such as central vs. dispersed organization and main street vs. loop circulation.

In this floor plate, the "main street" alternative has the simplest and most efficient circulation path. Large meeting spaces, which don't need access to natural light, would probably be placed along windows. Small private offices in this scheme would be in interior locations to avoid blocking light for open areas.

The "loop" alternative, with a slightly less efficient circulation system, locates all personnel areas along windows and reserves the inner core for meetings and office support functions. However, the narrow band of work area along the window wall limits the number of personnel workstations that have access to natural light.

b. Component fit

Test key components of the program. Test furniture arrangements and room sizes as they relate to columns and window spacing. Look for the most likely corridor locations. Test a variety of configurations for the different work groups, since these occupy the major portion of the total office area. What arrangement best fits the building module? Test the configuration and location of the largest spaces. Keep these 'modules' in mind as different alternatives are developed.

c. Select zone diagram

Evaluate the different alternatives for the following:

- Are the critical adjacencies satisfied?
- Does the maximum number of personnel have access to natural light and windows?
- Is the circulation efficient and simple to understand?
- Can public traffic be limited to only a small area within the office?

In this office example, the "main street" provides the most direct and efficient circulation route. The meeting areas can easily be clustered near the entry to keep public traffic away from staff work areas. The personnel zone can be split between the caseworker work groups and the administrative work group. Support areas can be located along interior walls.

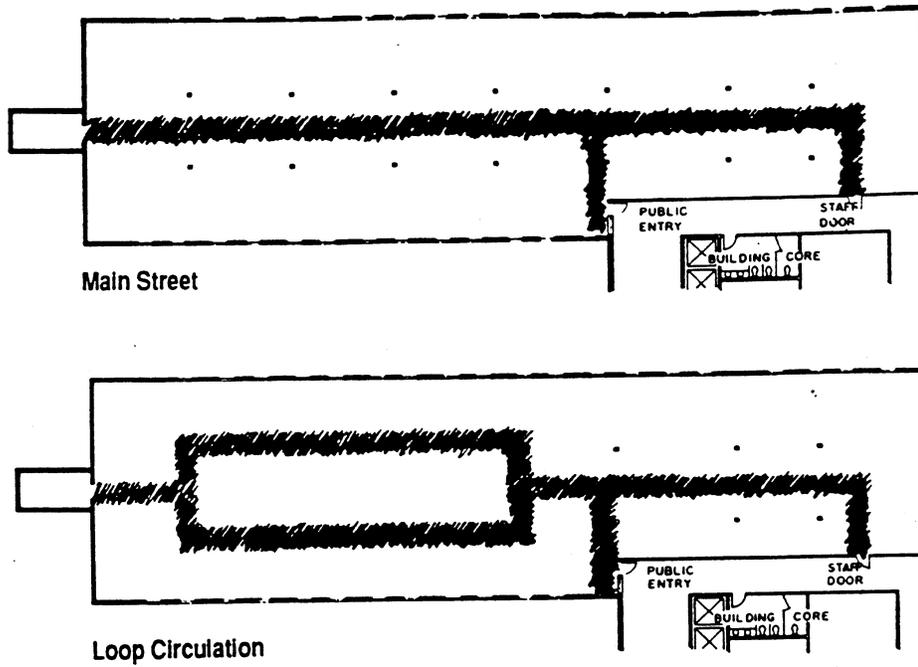


Figure 31: Circulation Alternatives

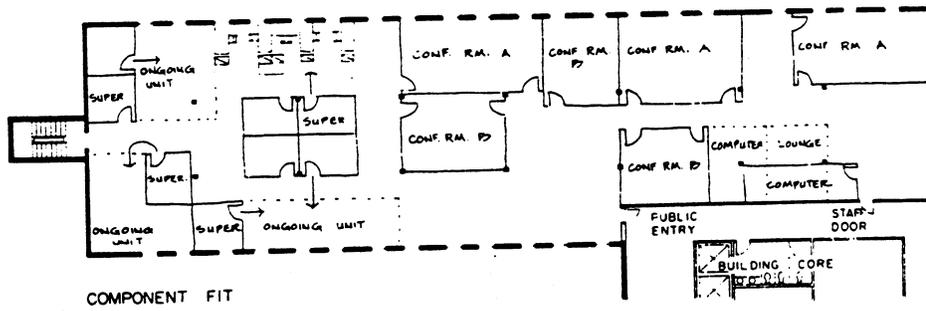


Figure 32: Component Fit

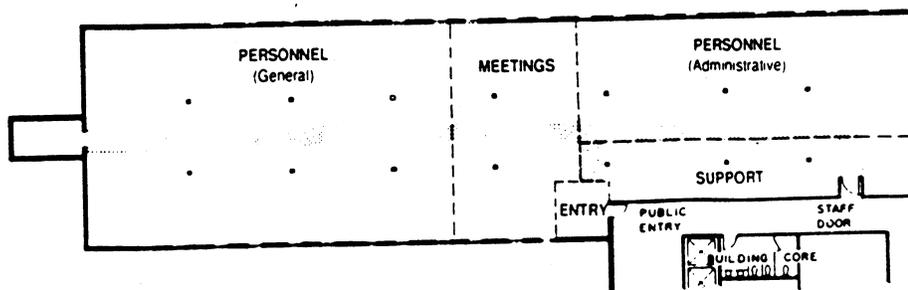


Figure 33: Final Zone Diagram

PREPARE THE SCHEMATIC SPACE PLAN

This final step transforms the zone diagram into a schematic space plan. All the tools and information that have been developed in the previous steps are used to assemble the pieces into a coherent plan. This step can be time consuming, since it involves several rounds of revisions. It may be useful to involve other staff members who can help evaluate different plans and establish priorities. Space planning is a complicated process constrained by building characteristics and program needs, and it is rare when all requirements can be met to everyone's satisfaction.

a. Code issues

Although the landlord is responsible for all code compliance, some code information is necessary for space planning purposes.

- Calculate the occupancy load for the facility. For code purposes, the calculated occupancy load for offices is one person per 100 sf. This means that an office of 56 persons in 6,000 sf has a calculated occupancy load of 60 persons and an actual occupancy load of 56 persons. The calculation yielding the highest density (60) is used for code purposes.
- Two egresses are required for any room with an occupancy load (actual or calculated) of over 50 people, or with a travel distance to an exitway of over 75 feet. Check the entire exitway from the room to a place of refuge for building conformance. The length of egress travel cannot exceed 200 feet without sprinklers, or 250 feet with sprinklers.
- The minimum corridor width for an occupancy load of less than 50 is 36 inches; for an occupancy load of 50 or more, it is 44 inches.
- Dead end hallways can be a maximum of 20 feet long.

b. Design sketch alternatives

Make paper templates by drawing all work groups and spaces or clusters of spaces to scale. Color code the blocks and cut them out. Then place them on top of the base drawing and start arranging them. They won't always fit neatly at first. Keep moving these templates around until a layout is developed that closely reflects the Agency's program requirements and the physical limitations of the space.

Generate several complete sketch layouts to get a good understanding of what the trade-off issues are. Review these sketch alternatives with other staff members to establish priorities. Remember to use rooms with full-height partitions to help provide definition for open work areas. Use large open areas rather than several small areas, whenever possible, since these can more easily accommodate an expansion or contraction in work area.

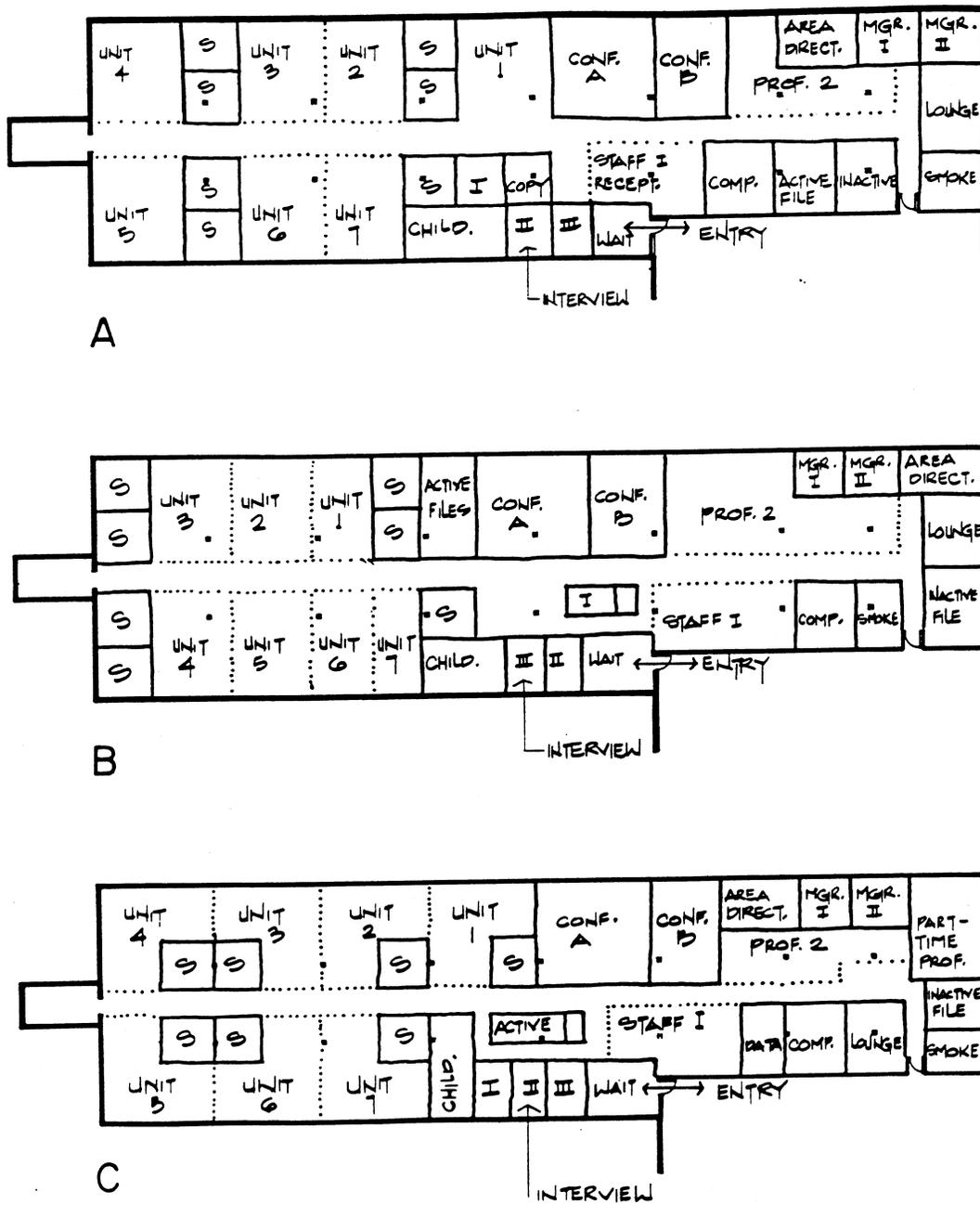


Figure 34: Design Sketch Alternatives

c. Redesign, re-evaluate, and refine

Once a preliminary schematic has been developed, test it to make sure it meets the specific requirements of the program. Some refinements are always necessary. Use the following checklist to evaluate the Schematic Space Plan.

- Is there a good fit between the program and the physical space? Is circulation generally **planned** kept to the % factor? Have awkward leftover spaces been eliminated? **Need to add a “not to exceed factor? 25% - 35%**
- Has building structure been incorporated into partitions or otherwise accommodated?
- Is the amount of full-height partitioning kept to a minimum?
- Is the layout visually pleasing? This depends on simple geometries of open vs. enclosed areas, spatial variety, and visibility of windows from circulation paths.
- Do as many personnel as possible have access to windows and natural light?
- Is the circulation straightforward and clear? Can it be simply diagrammed? If the circulation is straightforward in plan, people will find their way easily.
- Have critical adjacency relationships been satisfied?
- Do the egress routes and exits conform to code?
- Have security concerns been addressed with this plan?
- Does the plan allow for growth and change?
- Has some internal flexibility been built in by using large open areas?

d. Final plan

Draw the final plan to scale on a reproducible base drawing provided by the landlord. Indicate full-height vs. partial height partitions. Show actual furniture at each workstation and support area/room. The landlord will use this plan to prepare the construction documents for tenant improvements.

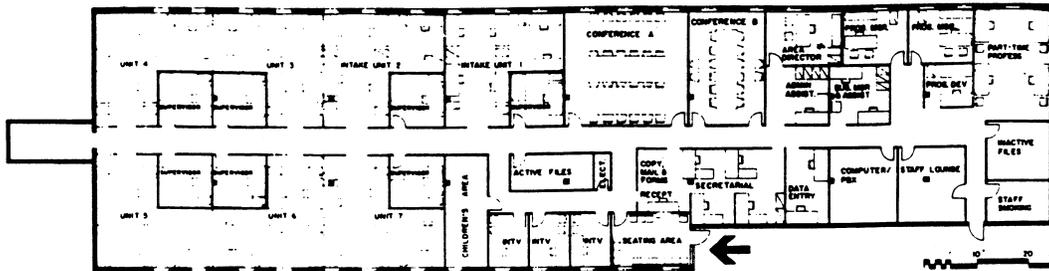


Figure 35: Final Plan