

Problem 10

Office Design



SCHOOL OF
ENGINEERING

Office Facility Planning



Key Consideration of Office Layout Design

- ❖ Size / Capacity
 - Adequate work space
- ❖ Noise / Sound level
 - ❖ Kept to minimum
- ❖ Proximity to amenities such as lift, door, printer, etc
- ❖ Productivity
 - ❖ Minimize walking long distances, performing non-value added work etc
- ❖ Nature of work activities
- ❖ Ergonomics
- ❖ Security / Privacy
- ❖ Budgets Constraint
- ❖ Scalability
 - support business expansion / restructuring

Office Facility Planning



Closed office space

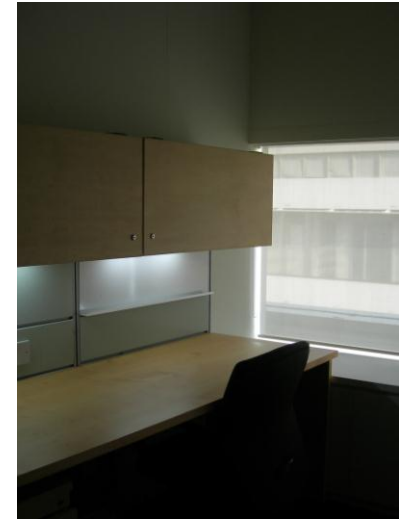
- Presence of floor-to-ceiling partition walls (permanent/ temporary) that segment the office space into smaller rooms

Advantages

- Contains noise level well
- Conducive for work tasks requiring concentration/ confidentiality
- Assures privacy for staff
- Visible status recognition for staff

Disadvantages

- Higher maintenance cost due to more built-in structures and fixtures
- Less flexible



Office Facility Planning



Open office space

- No floor-to-ceiling partition walls exist

Advantages

- Promotes staff interaction and communication
- Facilitates supervision of staff
- Lower maintenance cost
 - Cooling, ventilation costs are reduced
- Less space is required
- Layout changes are quicker and less costly

Disadvantages

- May present difficulty in controlling noise
- Lesser visual and aural privacy
- Lacks status recognition for staff
- Confidentiality



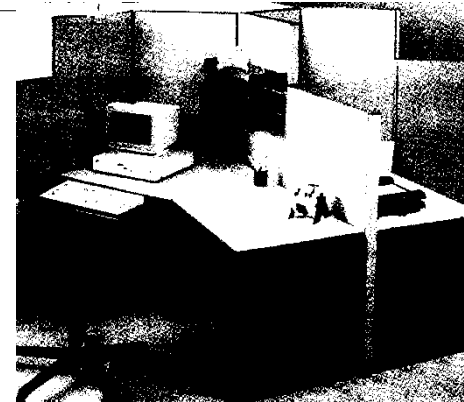
Recent Office Layout Trends



Trends affecting Office Layout

▪ Flexibility and mobility

- Easy-to-assemble furniture
- Can be configured in a number of ways to fit available space.



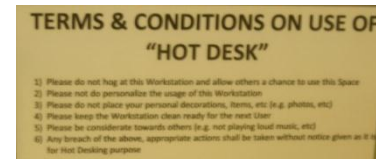
▪ Collaborative working environments

- 70/30 cubicle-to-traditional office ratio
- Promote Collaborative space



▪ Hot Desking

- Employees do not have their own desks
- Sharing of workstation



Office Facility Planning



Steps

1. Determine office facility objective
2. Define work activities to be performed
3. Collect data to establish departmental interrelationships
4. Generate departmental area requirements
5. Conduct interviews to verify/ refine office requirements

Office Facility Planning



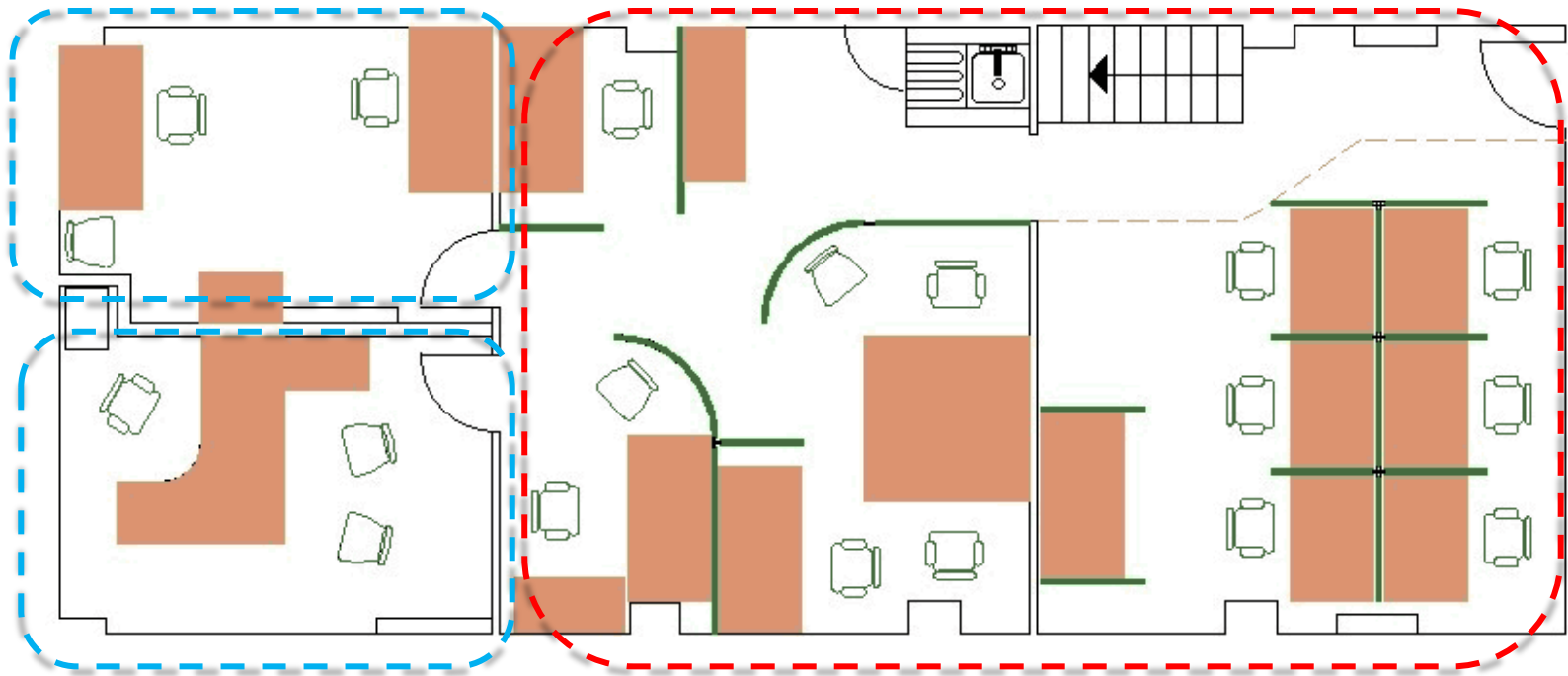
Typical Area Requirements

Designation	Square feet (ft ²)	Square meter (m ²)
Director/President's Office	250 to 400	23.2 to 47.2
Vice President's Office	150 to 250	13.9 to 23.2
Executive Office	100 to 150	9.3 to 13.9
Staff (open space)	80 to 110	7.4 to 10.2
Secretary/Administrator (open space)	60 to 110	5.6 to 10.2
Conference/Meeting Room	15 to 30 per person	1.4 to 2.8 per person
Reception area	125 to 300	11.6 to 27.9

Office Facility Planning



Example of office space plan (2-D): Open & closed structure



**Closed Structure
Design**

**Open Structure
Design**

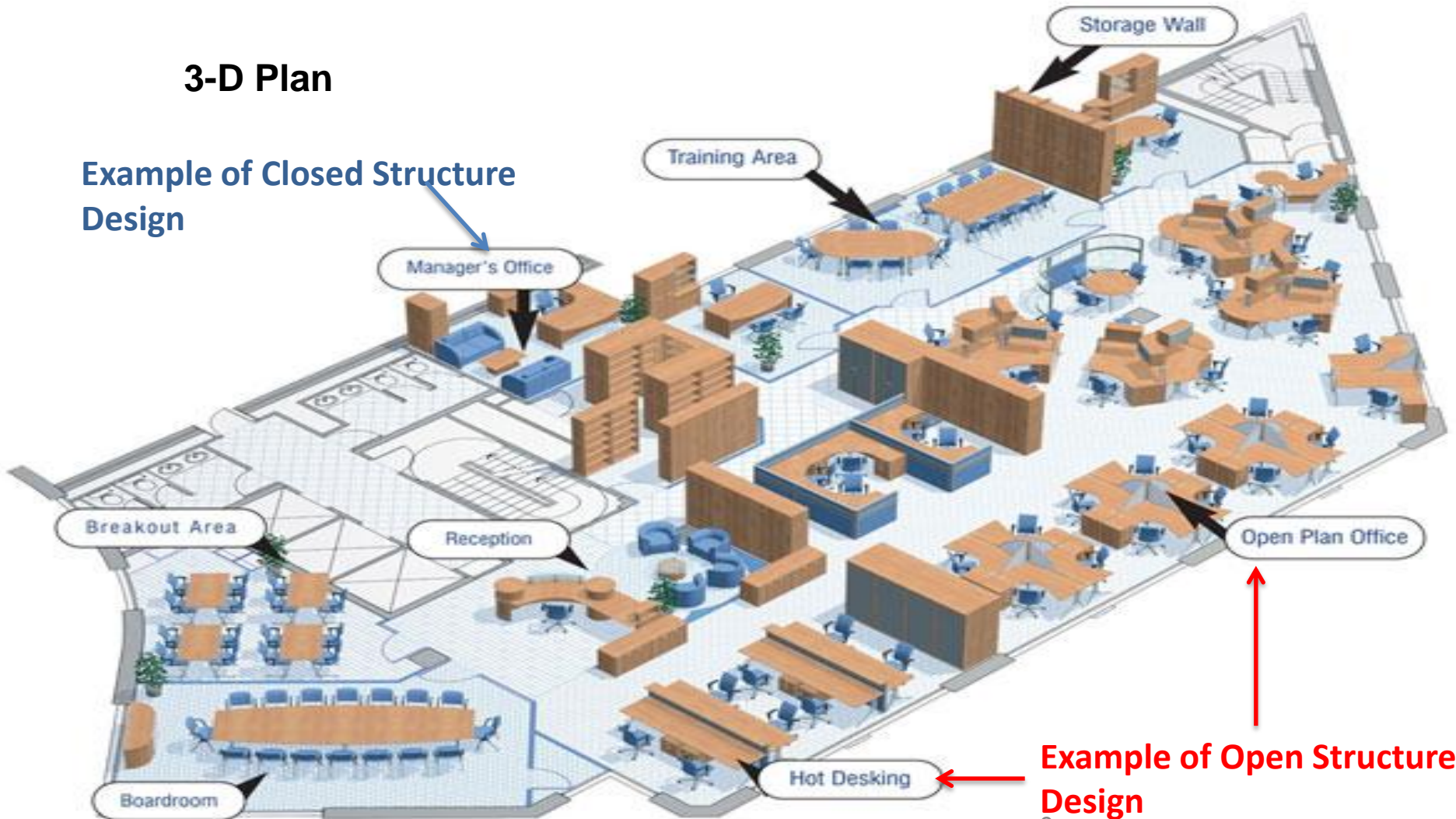
Office Facility Planning



Example

3-D Plan

Example of Closed Structure Design



Example of Open Structure Design



Security System

- Measures should be layered to provide diversity and redundancy
- Concentric approach:
 - a) Outer circle: barriers and intrusion detection systems
 - b) Inner circle: access control systems
- Application and integration of Closed Circuit Television (CCTV) into overall security system

Office Facility Planning



Examples of security measures / devices

- Outer Circle:



Gates / Doors
Locks



Alarms
Warning signs



Ample lighting
Motion detectors



- Inner Circle:



Smart Cards
Biometrics



- Integrated:



Closed-Circuit TV

Sample Solution

Office Plan (Proposed)



Facility objective: Secured, low capacity office

Planned activities: Desktop work (can be confidential)
Meeting clients
Document storage (can be confidential)

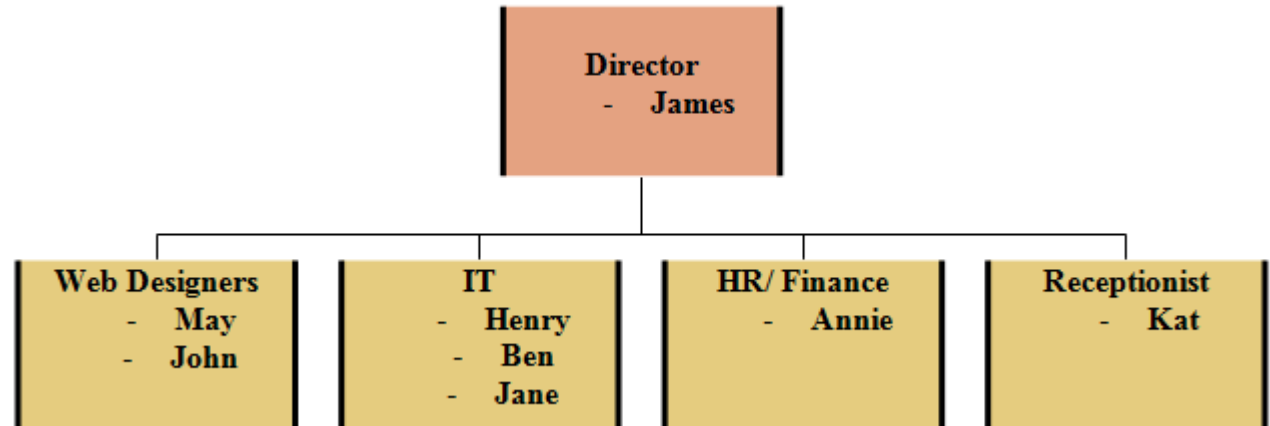
Office structure: can be Closed or Mixed layout structure
Fully open structure is not recommended
due to confidential nature of work activities

Amenities: Meeting Room
Reception

Office Plan (Proposed)



Staffing capacity:



Area requirements (suggested):

- a) Director (James): 250 ft² or 23.2 m² (1 room)
- b) 6 Staffs 90* 6 = 540 ft² or 50.2 m² (include cabinets)
- c) Reception: 200 ft² or 18.6m² (includes waiting area)
- d) Meeting Room (Conference): 25*8 = 200 ft² or 18.6m² (for 8 persons)

Office Plan (Proposed)



Security System: Concentric approach with integration

- a) Outer circle: Doors fitted with lock and alarm
- b) Inner circle: Card Reader
- c) Integration: Closed-Circuit TV (round-the-clock)

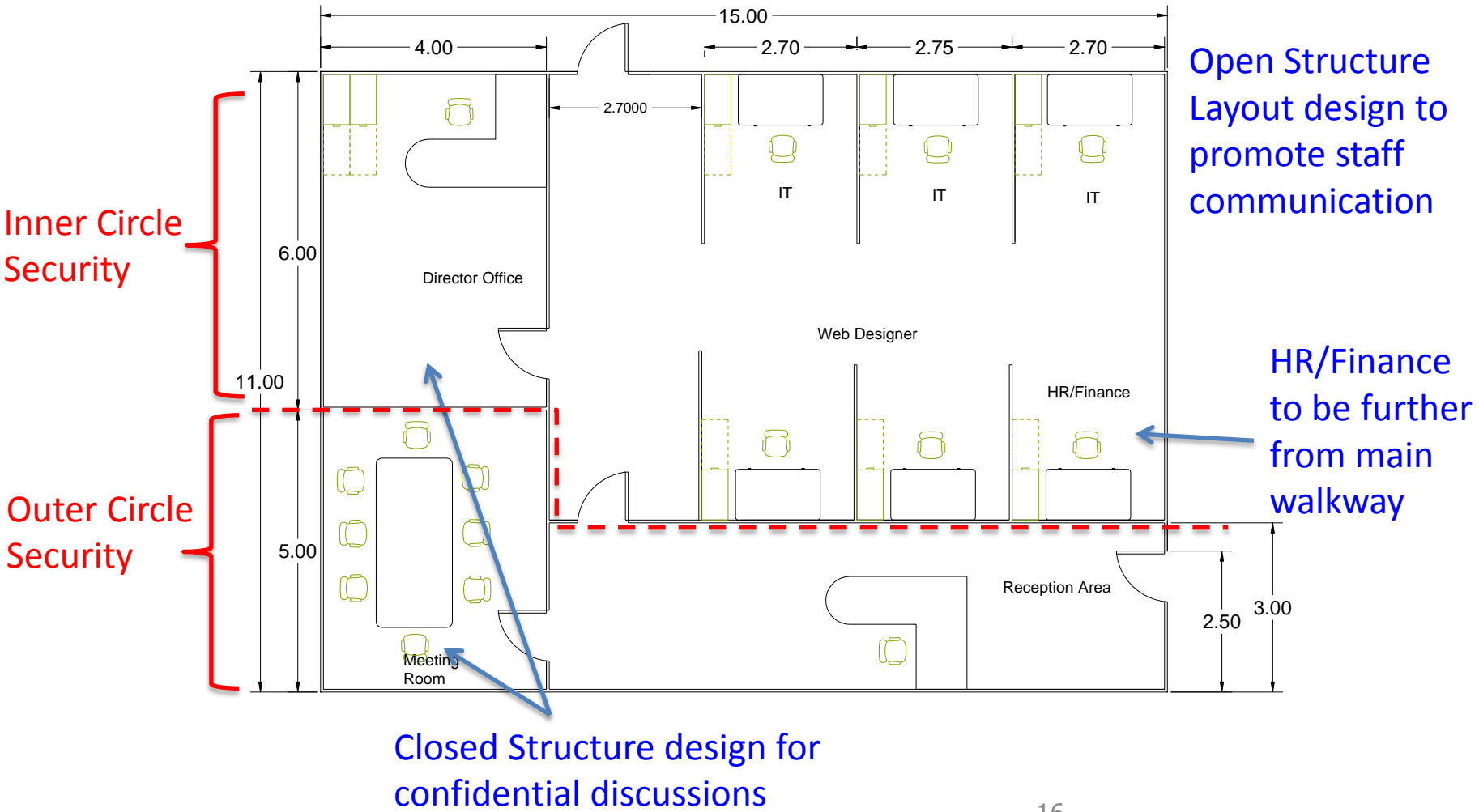
Proposed office layout can be a modification / adaptation from the existing plan, incorporating ergonomic considerations, e.g. sound level, color scheme, privacy, aesthetics, etc.

Data collection is required to determine staff work interrelationships and verify requirements at this initial layout planning stage.

Proposed Layout



2-D Plan



Learning Objectives



- Identify key considerations in office layout design
- Recognize different types of office design and their attributes
- Define the minimal space requirement for an office facility based on the individual work requirement and departmental requirement
- Security system design in an office facility
- Draft an office layout plan using drafting software (AutoCAD)