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# Building Construction



## Building Drawings

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- ❑ Working drawings
- ❑ Hatching, symbols and notations



# INTRODUCTION

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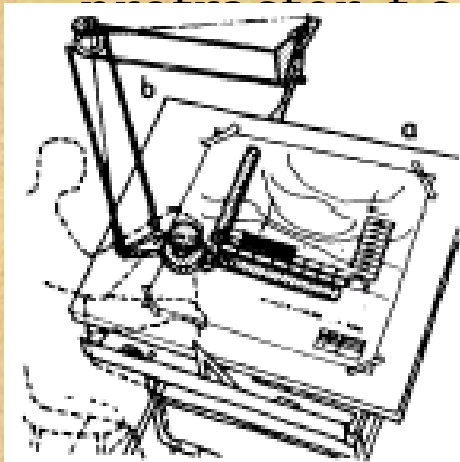
Construction drawings are prepared by designer or architect and used by contractor to transfer the paper work to the land.

- ✓ They are also used:
  - to prepare bill of quantities
  - as part of contract document
- ✓ Building construction drawings:
  - Shouldn't be unnecessarily congested or complicated
  - Clarity is most important
  - Written descriptions should be as brief as possible
  - Should be Consistent with completeness
  - Should be well dimensioned and should be drawn to scale
  - The lettering used should be clear

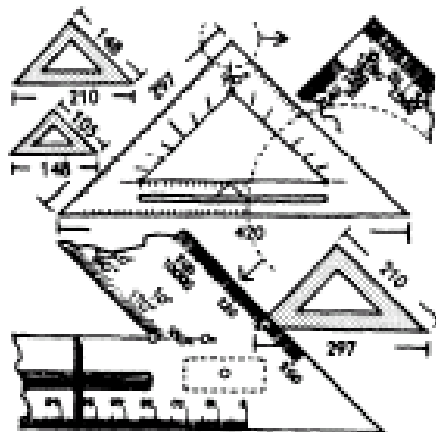
- ❑ Construction drawings can be prepared:
  - ✓ By hand assisted by various templates or
  - ✓ Computer software programs ( Ex. AutoCAD)

## Drawing Equipment

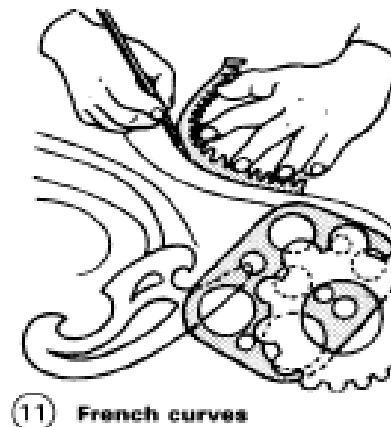
- ❑ In order to produce construction drawings manually, items like drawing board, drawing paper, drawing pencil, ruler, ink, eraser, various time saving devices such as templates,



**Drawing board**

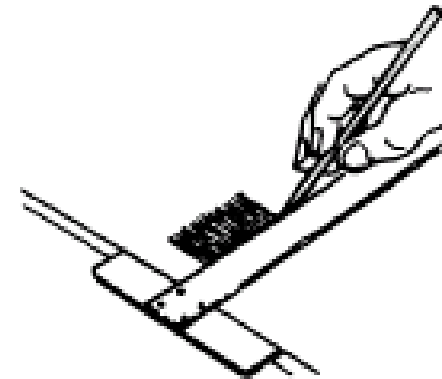


**Set squares**



⑪ French curves

**French curves**



**T-square**

# INTRODUCTION

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## ➤ Standard size of drawing papers



A0 1189 × 841 mm

A1 841 × 594 mm

A2 594 × 420 mm

A3 420 × 297 mm

A4 297 × 210 mm

# DRAWING FOR BUILDING CONSTRUCTION

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- ✓ Drawing for building construction shall include:
  - Site plan
  - Sketch drawings
  - Working drawings
  - Detailed drawings
  - Construction drawings and
  - Installation drawings

# DRAWING FOR BUILDING CONSTRUCTION

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## Site plan

- A site plan is a specific type of plan, showing the whole context of a building or group of buildings, **OR** is the top view of a building which shows the location of the house with all appropriate information on building outline (property) line, terraces, driveway, contours,

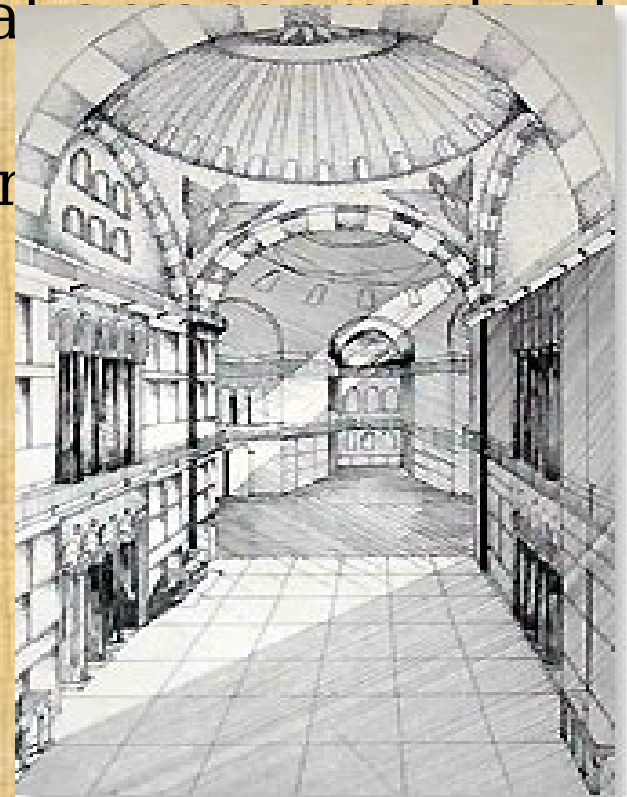
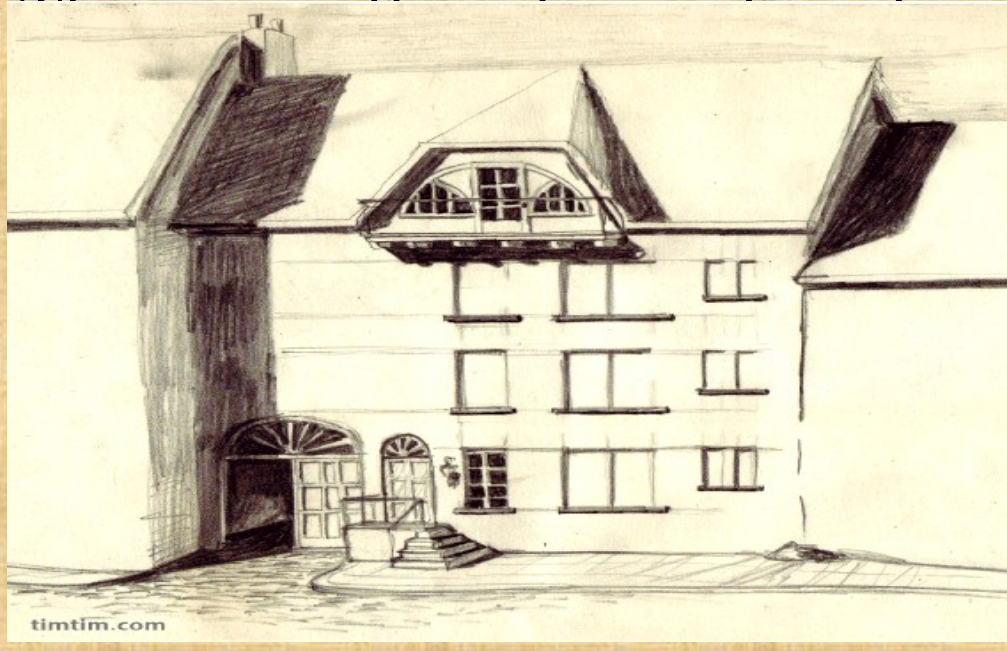


# DRAWING FOR BUILDING CONSTRUCTION

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## Sketch drawing

- Sketch drawings are preliminary drawings prepared for showing the general appearance of buildings.
- They are simple and easy to draw in

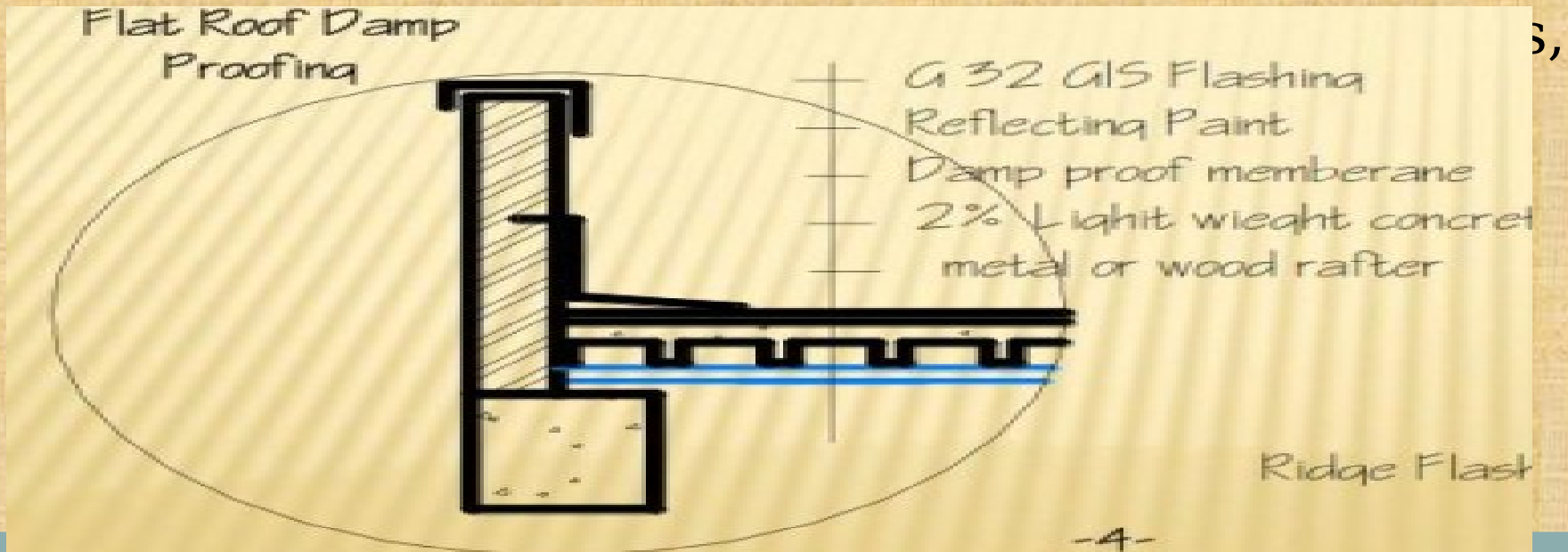


# DRAWING FOR BUILDING CONSTRUCTION

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## Detailed drawings

- Enlarged drawings to give more specific information
- They usually show specific details, such as in stair cases, gutter to down pipe connections, wall to

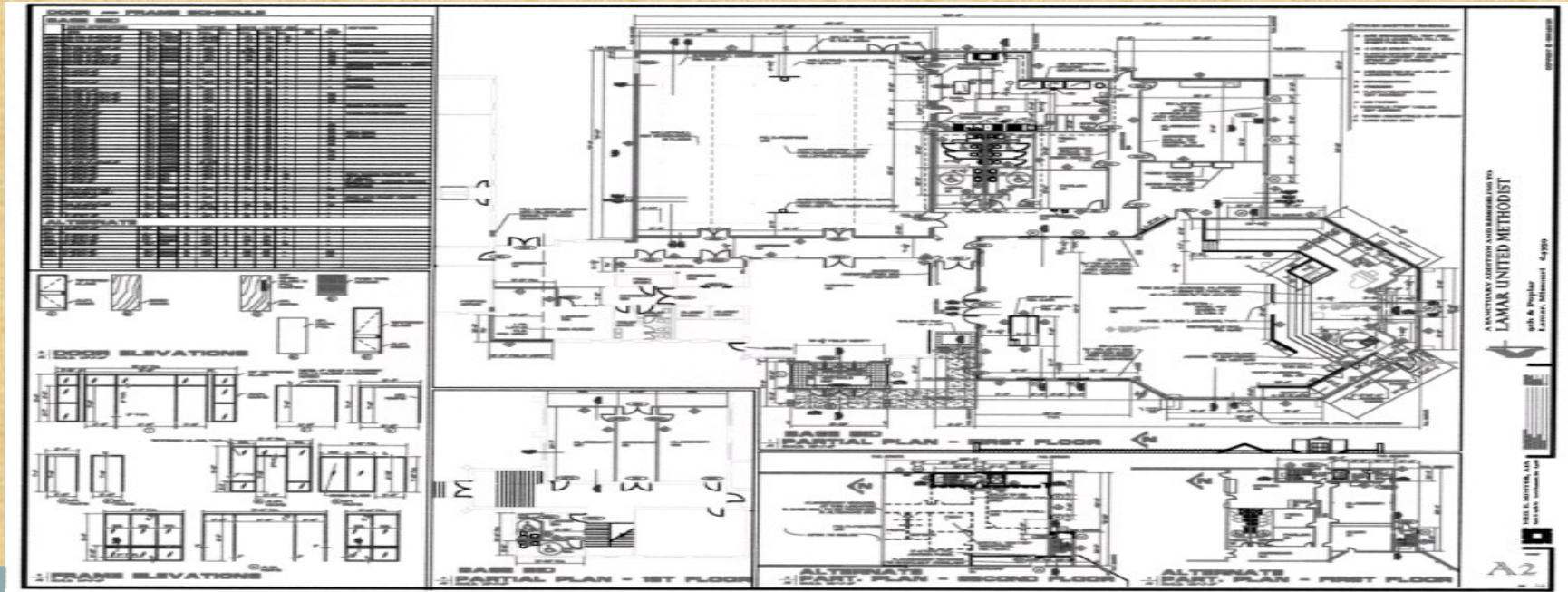


# DRAWING FOR BUILDING CONSTRUCTION

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## Construction drawings

- Drawings which includes all details required per city, country, and federal guidelines. These are the documents to which the designer, owner, and/or government officials will hold the contractor

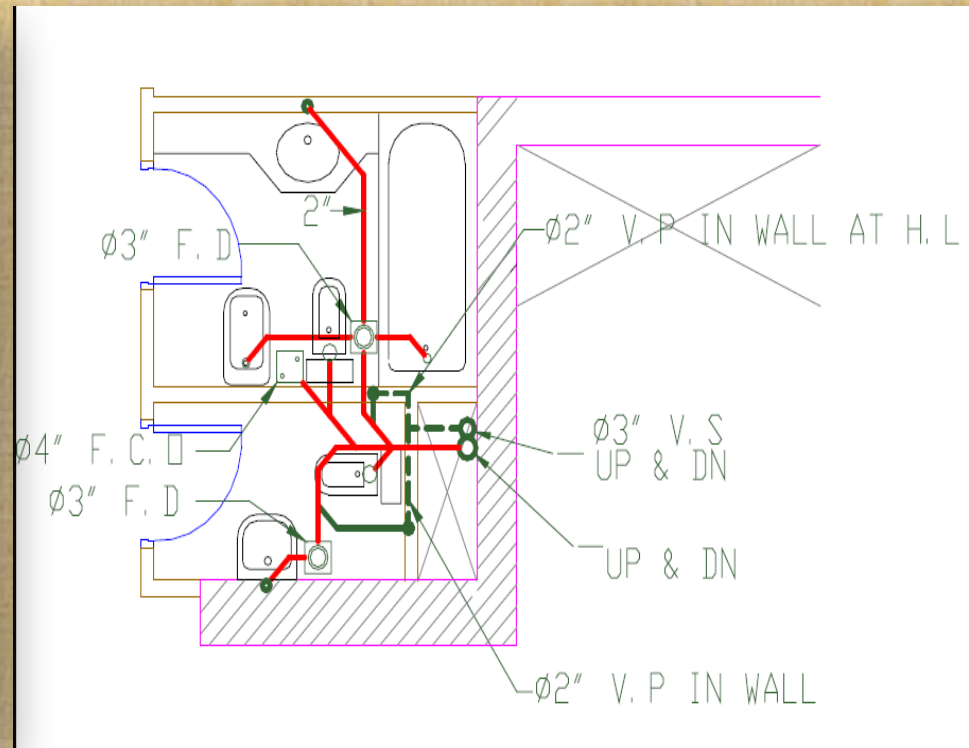
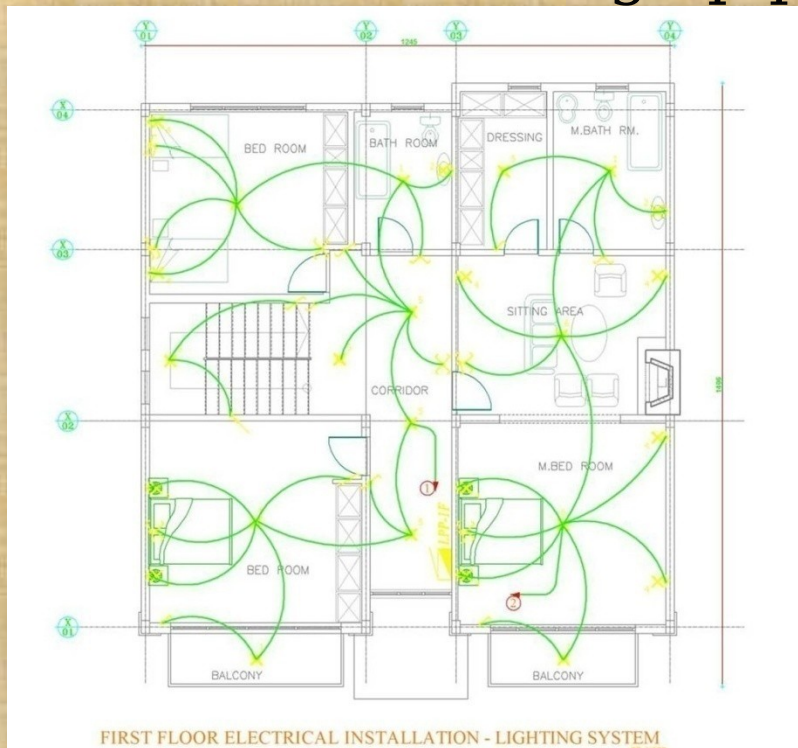


# DRAWING FOR BUILDING CONSTRUCTION

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## Installation drawings

- Installation drawings comprise of drawings for water and drainage pipes, electrical installation.



**Electrical Installation Drawing**

**Sanitary Drawing plan**

# DRAWING FOR BUILDING CONSTRUCTION

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## Working drawings

- They are the most important components of building drawings since they provide detail information on the internal as well as the external view of a building.
- It must be
  - Clearly representative
  - Easily understood
  - Comprehensive
  - Free from unnecessary notes (repetitive details)
  - Accurately drawn (proper also in line of work)
  - Drawn with appropriate symbols and proper conventions
  - Well dimensioned

# DRAWING FOR BUILDING CONSTRUCTION

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## Contents of working drawing

1. Title block
2. Foundation plan
3. Floor plans
4. Elevations
5. Sections
6. Site plan
7. Typical detail

# DRAWING FOR BUILDING CONSTRUCTION

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# Title block

|                                      |                                                                                           |  |                                                                   |          |                        |
|--------------------------------------|-------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------|----------|------------------------|
|                                      |                                                                                           |  |                                                                   |          |                        |
|                                      |                                                                                           |  |                                                                   |          |                        |
|                                      |                                                                                           |  |                                                                   |          |                        |
|                                      |                                                                                           |  |                                                                   |          |                        |
|                                      | <b>Light Stream<br/>Consulting Architects &amp; Engineers</b>                             |  |                                                                   |          | 1. Firm or Office Name |
| 2. Kind of Project                   | Project<br><b>Residential Building</b>                                                    |  |                                                                   |          |                        |
| 3. Name of the owner                 | Owner<br><b>Dr. Kassahun Lemma</b>                                                        |  |                                                                   |          |                        |
| 4. Location of the site              | Location<br><b>Addis Ababa      Kolfe Keranio      Sub City<br/>Keb. 06      H.No new</b> |  |                                                                   |          |                        |
| 5. Name of the drawings on the paper | Drawing<br>Titel<br><b>Floor Plans, Elevation, Site Plan</b>                              |  |                                                                   |          |                        |
| 6. Scale of each dwg's               | Scale<br><b>1:50, 1:200</b>                                                               |  | Drawn by<br><b>Samuel Daniel</b>                                  |          |                        |
| 7. Info. about the Designer          | Designed By<br><b>Dawit Sileshi      PAR 175<br/>Sig.<br/>Tel.</b>                        |  | Approved By<br><b>Moges Hallu      PPAR 035<br/>Sig.<br/>Tel.</b> |          |                        |
|                                      | Paper Size<br><b>A1</b>                                                                   |  | AR                                                                |          |                        |
|                                      | Date<br><b>June 20, 2008</b>                                                              |  | 01/05                                                             |          |                        |
|                                      | 10. Drawing Paper Size                                                                    |  |                                                                   | 11. Date |                        |
|                                      |                                                                                           |  |                                                                   |          |                        |
|                                      |                                                                                           |  |                                                                   |          |                        |
|                                      |                                                                                           |  |                                                                   |          |                        |
|                                      |                                                                                           |  |                                                                   |          |                        |

# DRAWING FOR BUILDING CONSTRUCTION

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## **Foundation plan**

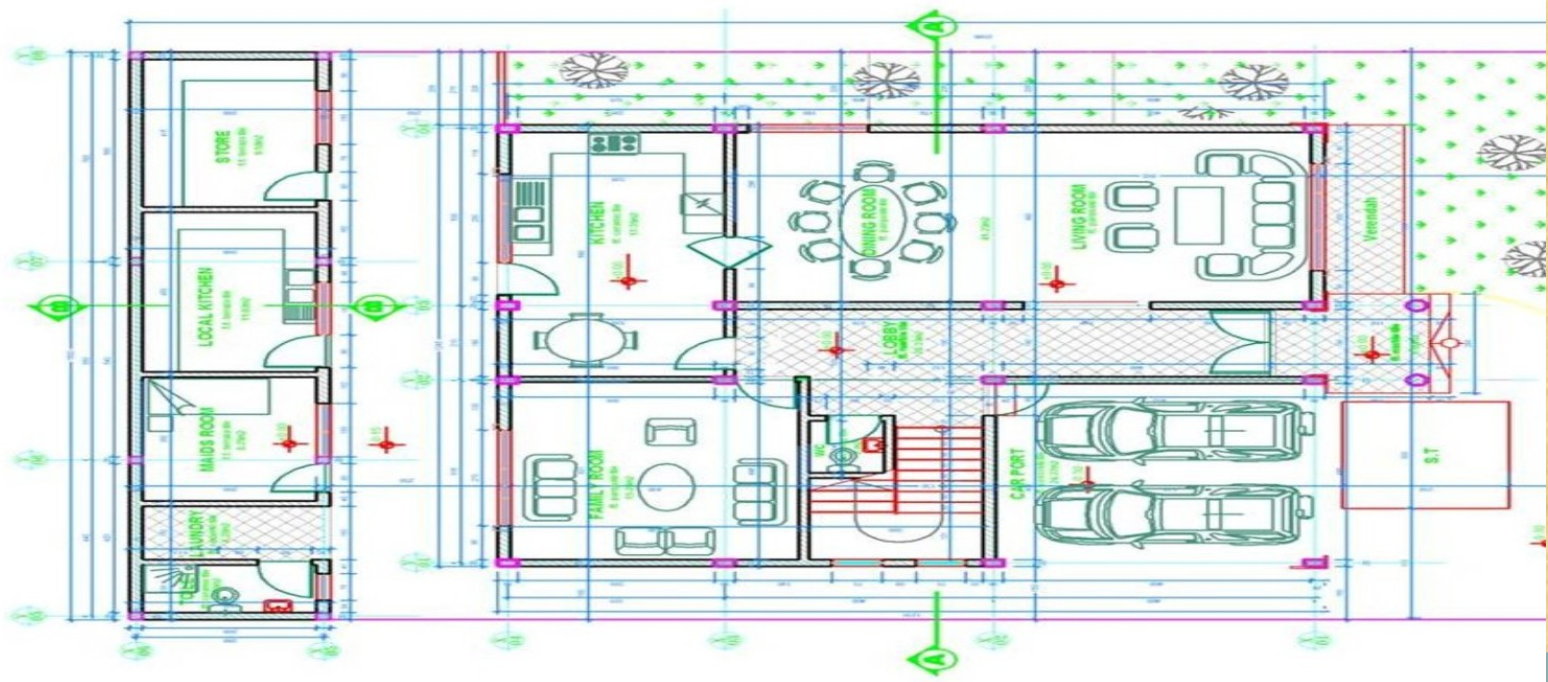
The plan which shows the relation ship between the foundation pad and the column.

# DRAWING FOR BUILDING CONSTRUCTION

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## Floor plan drawings

- ✓ The floor plan is a drawing of the outline and partitions of a building that would be seen when the building was cut horizontally about 1.2m above the floor level



# DRAWING FOR BUILDING CONSTRUCTION

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## Elevation drawings

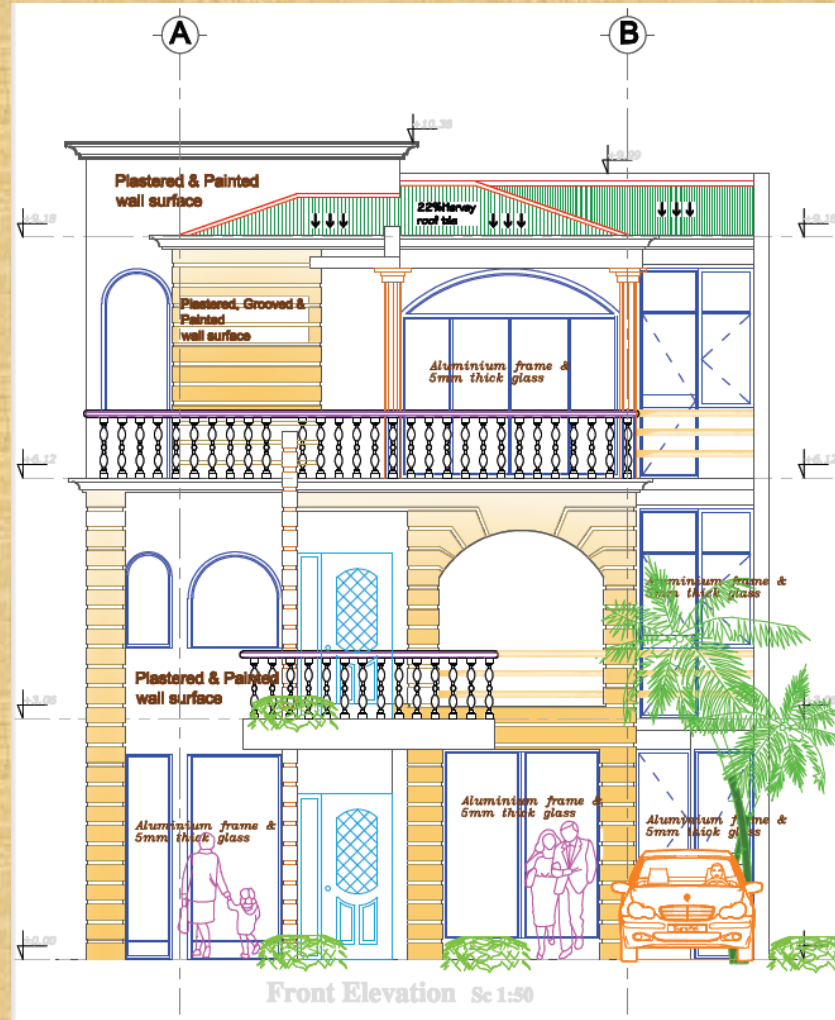
- Elevation drawings are orthographic drawings of the exterior of a building.
- They are prepared to show the design materials, dimensions, and final appearance of the exterior of a building.
- Two methods can be used to label elevation views.

Front Elevation  
Rear Elevation  
Right side Elevation  
Left side Elevation

North Elevation  
East Elevation  
South Elevation  
West Elevation

# DRAWING FOR BUILDING CONSTRUCTION

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# DRAWING FOR BUILDING CONSTRUCTION

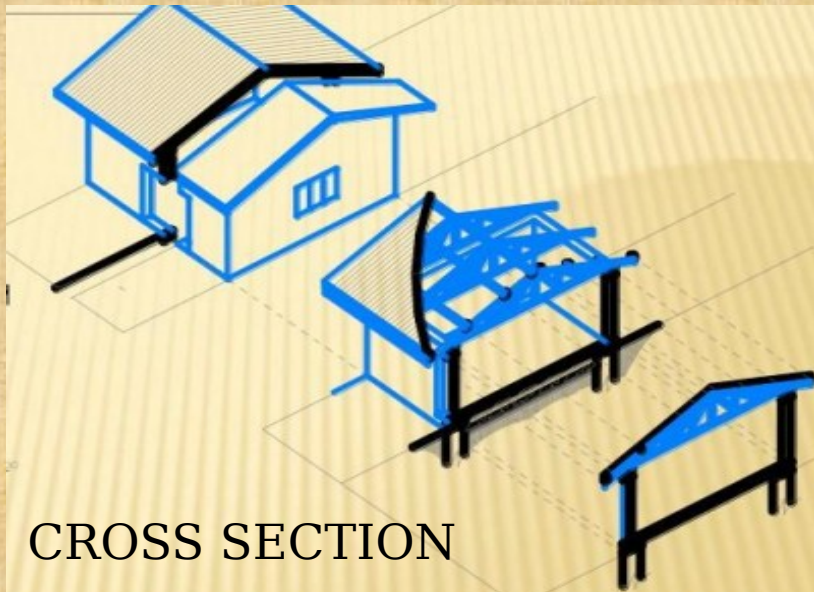
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## Sectional drawings

- Sectional drawings reveal the internal construction of an object.
- Architectural section drawings are prepared
  - ✓ For the entire structure (full sections) or
  - ✓ For a specific part(s) of a building (detail sections)
- The cutting plane is an imaginary plane, which passes through the building and divides it into sections.
  - ✓ Longitudinal section
  - ✓ Building Cross section
  - ✓ Offset section

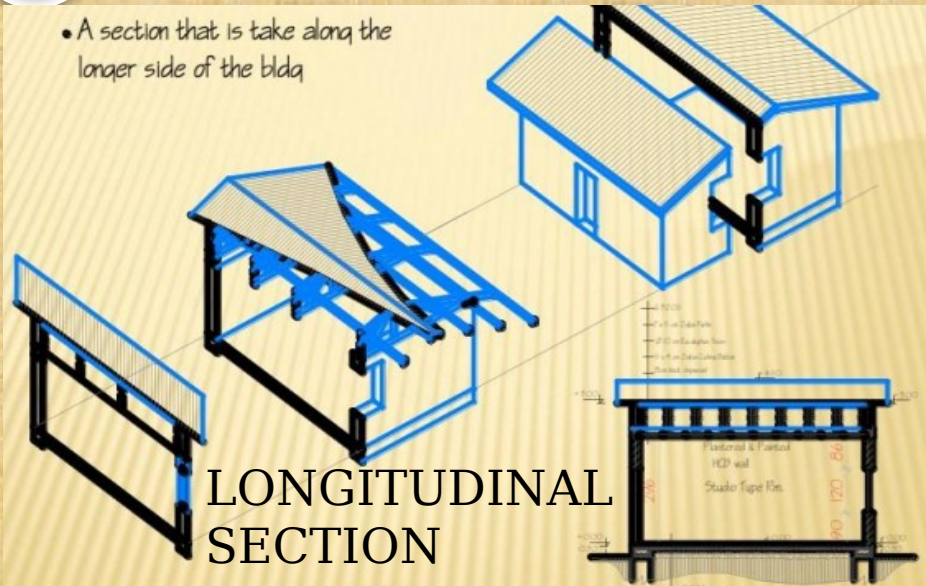
# DRAWING FOR BUILDING CONSTRUCTION

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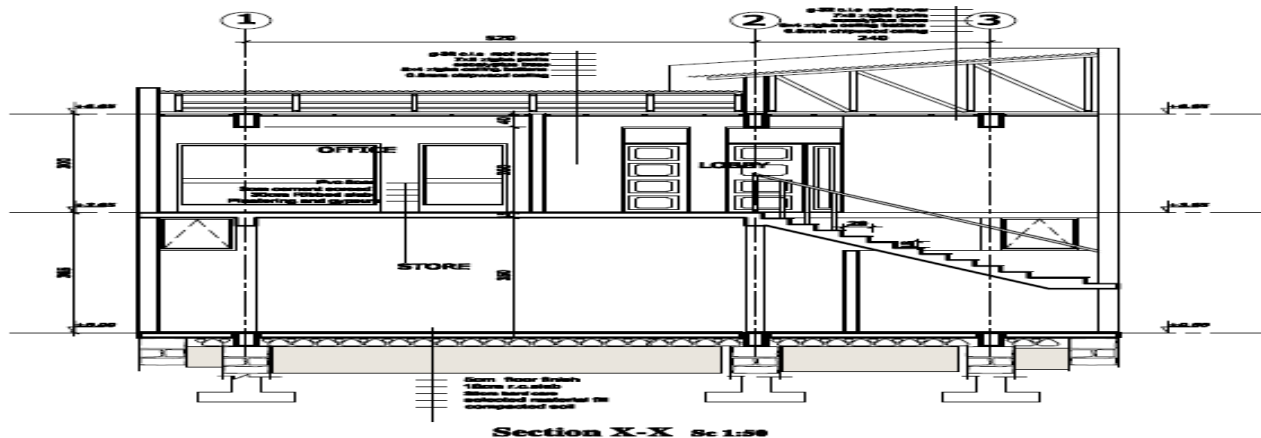


CROSS SECTION

- A section that is take along the longer side of the bldg



LONGITUDINAL SECTION

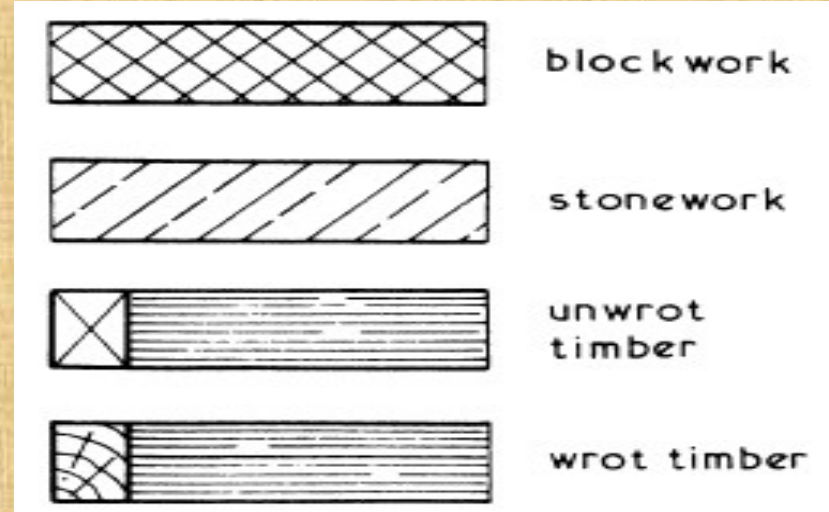
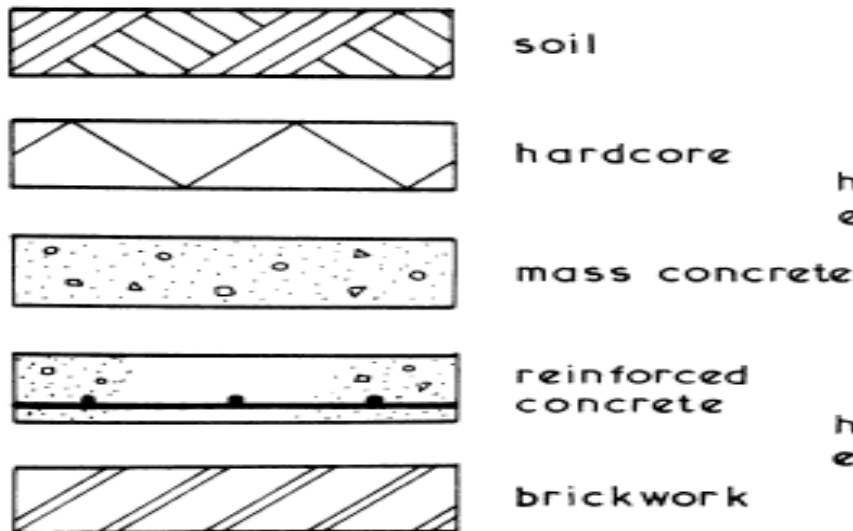


# HATCHINGS, SYMBOLS AND NOTATIONS

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## Hatchings

- ✓ The main objective is to differentiate between the materials being used thus enabling rapid recognition and location.
- ✓ They must be used consistently throughout the whole set of drawings.
- ✓ In large areas it is not always necessary to hatch the whole area.



# HATCHINGS, SYMBOLS AND NOTATIONS

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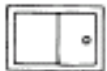
## Symbols

- These are graphical representations and should wherever possible be drawn to scale
- They must be consistent for the whole set of drawings and clearly drawn

### Bathroom



27 bath  
75 × 170, 85 × 185



28 sit-up bath  
70 × 105, 70 × 125



29 shower  
80 × 80, 90 × 90, 75 × 90



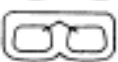
30 corner shower  
90 × 90



31 wash-basin  
50 × 60, 60 × 70



32 two wash-basins



33 twin wash-basins  
60 × 120, 60 × 140

### Kitchen

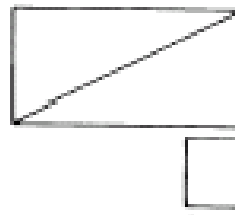


39 single sink  
and drainer  
60 × 100



40 twin sinks,  
single drainer  
60 × 150

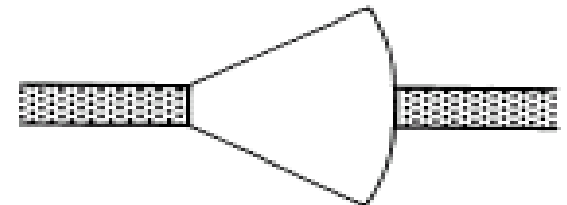
### Bedroom



22 bed 95 × 195  
bedside table  
50 × 70, 60 × 70



5 Single-leaf door



11 Swing door

