Steps of Construction and Site Management.

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Building Structures

- Load Bearing Wall Structure
- Non- Load Bearing Wall Structure / Frame Structure

Organ/ Parts of a Building Structure

- **Foundation/Footing**
- **Column**
  - Short Column
  - Long Column
- **Beam**
  - Grade Beam
  - Floor Beam
  - Roof Beam
- **Slab**
  - Roof Slab
  - Floor Slab
- **Type of Slab**
  - One Way
  - Two Way
  - Flat Plate
  - Flat Slab
  - Waffle Slab

- **Lintel**
- **Under Ground Water Reservoir**
- **Septic Tank**
- **Soak Well**
- **House Top Water Tank**

- **Wall**
  - 10″ Wall
  - 5″ Wall
  - 3″ Wall
  - Cavity Wall

• Foundation/Footing

• Column

• Beam

• Slab

• Lintel

• Wall

Selection of Land

Topography:

- Hilly Land
- Ditch/Pond
- ✓ Plane Land

Location of Land

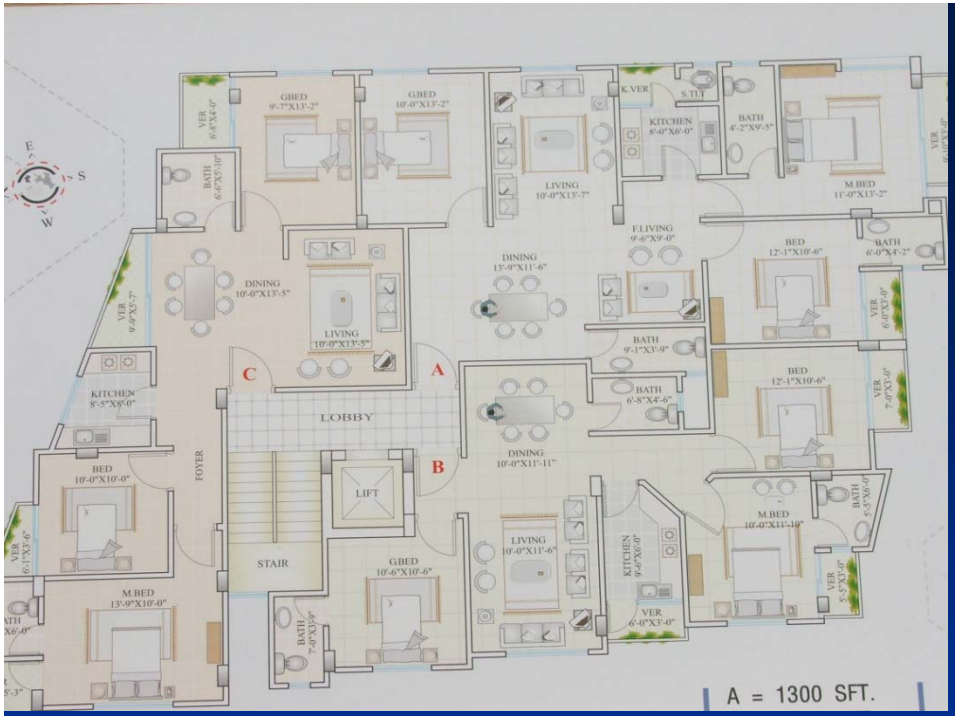
Service Facilities Available:

Water Supply
Electric Supply
Sewerage Lines
Communication Facilities
Near by Primary School

Shape of Land

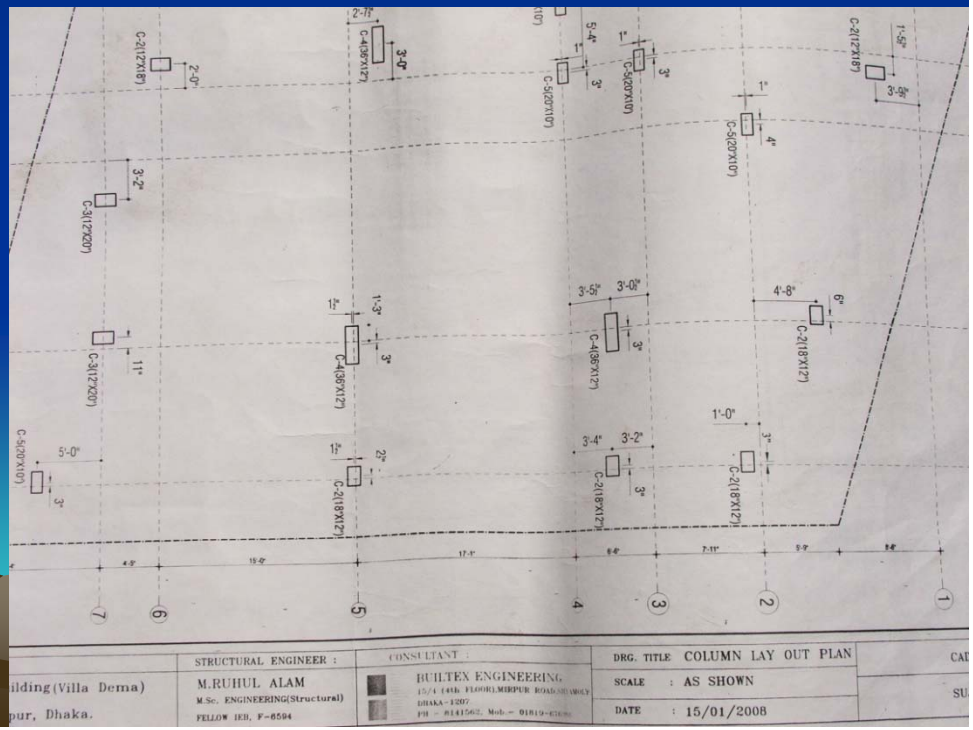
- ✓ Rectangular
- ✓ Square
- Trapezoidal
- Triangular

Pre-construction Stage	Professional Responsible
Planning of the house (Architectural design)	An Architect or a group
Soil testing	Foundation Engineer (Civil)
Structural design	Structural Engineer (Civil)
Electric design	Electrical Engineer
Service facilities design	Environment Engineer
Quantity analysis of materials and Costing	Diploma Engineer (Civil)



Architectural design

Structural design



Site Preparation

- Selection of Contractors / Working Gang
- Labor Shed / Temporary Site Office
- Arrangement of Water and Electric Supply
- Arrangement of Construction Material
- Arrangement of Equipments
- Arrangement for Disposal of Waste Material

Construction Start

- Giving layout
- Trench cutting
- Foundation casting
- Column casting up to grade beam
- UG Reservoir casting
- Grade beam casting
- Stair casting
- Column casting (ground floor)
- Floor beam and slab casting

Giving layout
Trench cutting

Foundation casting

Column casting up to grade beam

Steps of Foundation Casting

- Brick soling
- 3” CC casting upon soling
- Construction of wall foundation or Laying reinforcement for footing casting with appropriate shuttering arrangement
- Construction of water reservoir
- Filling of sand into the boundary area of footing and apply appropriate compaction

Construction of Columns

- Rod Binding from foundation level
- Shuttering arrangement
- Pouring concrete and proper compaction
- Curing to be ensured

Construction of Lintels

- Centering for lintels, sunshade, drop walls and cantilever slabs
- Rod binding for casting

Construction of Columns

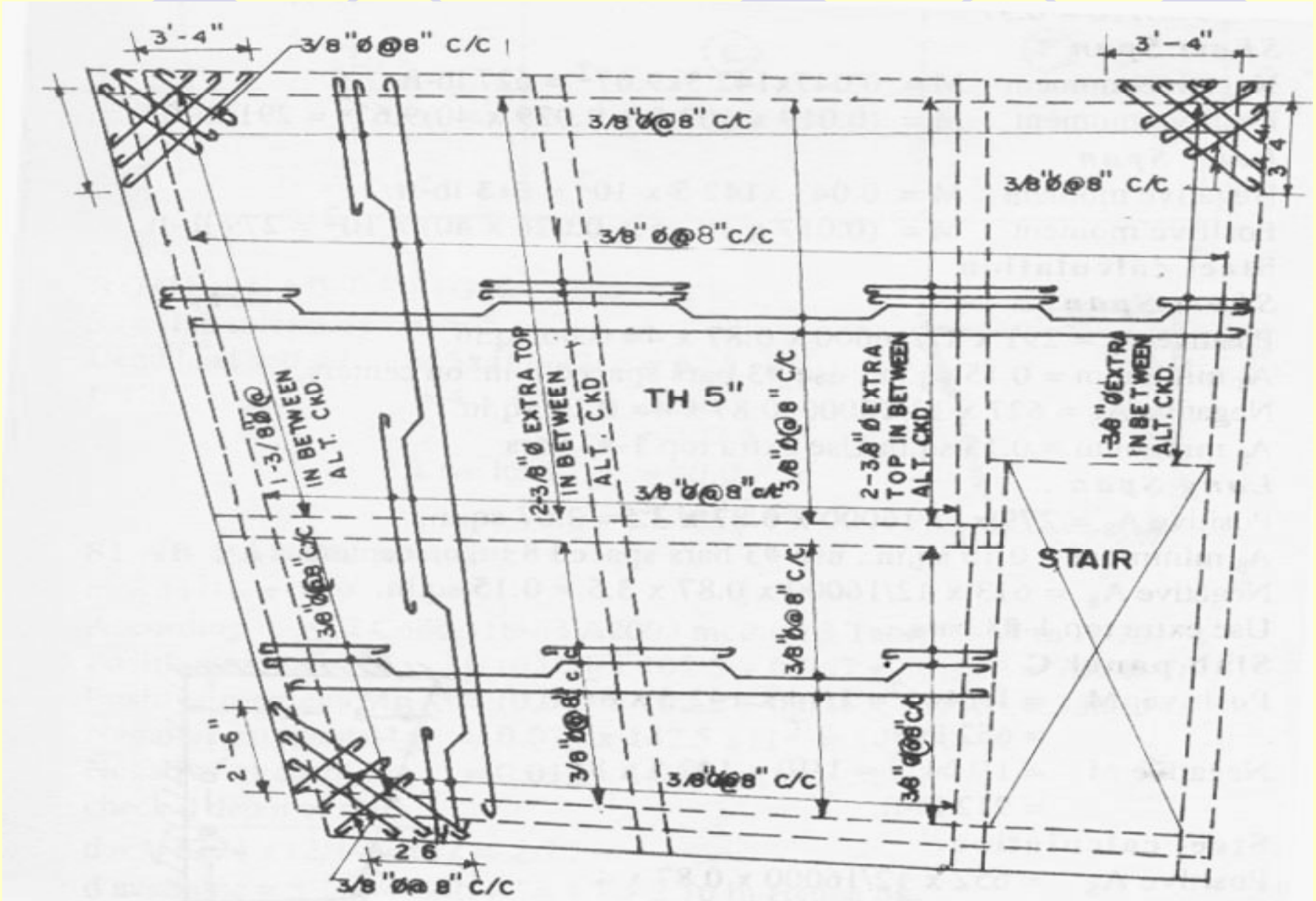
Construction of Lintels

Construction of Beams and Slab Monolithically

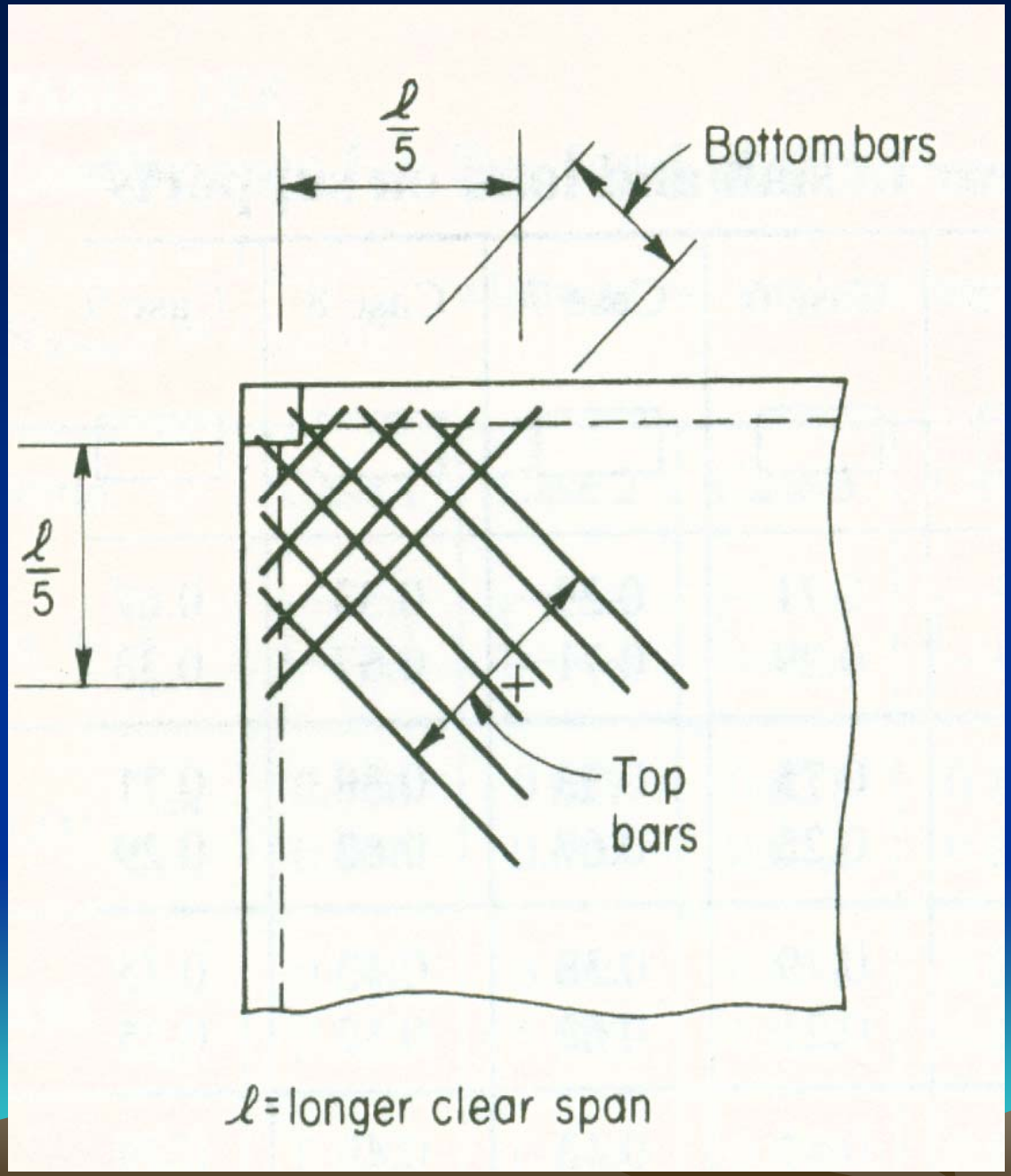
- Centering, shuttering and propping to be ensured
  Form work to be arranged for beams and slab casting monolithically
  At first beam to be cast then slab to be cast
  After rod binding, laying electrical duct and sanitary fittings and approval of site engineer casting to be started
  Curing to be done for at least 28 days

Construction of Beams

Slab Monolithically



ROOF SLAB REINFORCEMENT DETAILS



SPECIAL REINFORCEMENT AT EXTERIOR CORNER OF A BEAM SUPPORTED TWO WAY SLAB

After completion of Curing

- Centering to be removed
- Wall to be constructed
- Fitting of doors and windows frame
- Plaster the wall
- Construction of septic tank
- Construction of sanitary pits and laying of underground RCC pipe outer surface of the wall

Floor Finishing

- Soling is prepared upon compacted sand filled trenches for ground floors
- Water-proof and heat-proof roof to be constructed and then it should be cured
- Mosaic finishing and curing
- Tiles laying in bathroom
- Construction of boundary wall
- Casting of entrance road and collapsible gate fitting

Finishing Works

- Fittings for kitchen
- Window and door fittings
- Pan, shower and basin adjustment in bathroom
- Establishing of electric line
- Fitting of hand rails of stairs
- White wash or distempering the wall
- Varnishing of wooden frames
- Electric Fixtures like (fans, lights)
- Vegetation and plantation

Thank You