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SUBJECT # CIVIL ENGINEERING DRAWING
AND GRAPHICS.

SECTION # "B"

SEMESTER # "4th"

DATE # 22-Aug-20

(1)

Q₁:- What is the importance of various types of drawings in Building Construction?

Ans A Construction drawing or plan illustrates what you will build and what the finished will look like when you complete it, but there are different types of Construction drawing used. The types of drawing such as blueprints, plans, working drawings, and are quite confusing.

TYPES OF DRAWINGS:-

ARCHITECTURAL DRAWINGS:-

- These drawings provide basic idea of the building in design form with multi-dimensional virtual presentation
- Major components of house architecture drawing are rooms, stores, dining room, bathrooms, kitchen, TV Lounge, stairs etc.
- These drawing are developed by Architects.

STRUCTURAL DRAWINGS:-

- These drawing are based on final architectural drawings which mainly show internal details of the building.
- These internal details may include reinforcement for RCC buildings, floor details, Roofs details etc.

(3)

→ Main purpose of design buliding structurally means that the behavior of the buliding Under the worst possible load is studied, thickness and material of Construction are specified for various Component of the Structure.

PLUMBING DRAWINGS:-

→ These drawings are for public health showing water supply system and sewerage system of the buliding indicating the placement the lines e.g GI, RCC etc.

→ In water supply drawing hot water and cold water lines are shown with location of geysers, taps, showers etc.

→ In sewerage drawing lines for wastewater and sewage disposal are indicate with waste outlets heading towards mainholes.

ELECTRICAL DRAWINGS:-

- These drawings show how the wiring is placed in building elements and indicating the position of fitting and fixtures switches, sockets, lights fans etc.
- Moreover Call ball system, fire-alarm system, CCTV system etc are included.

AIR-CONDITIONING (HAVC) DRAWINGS:-

- These drawings are developed for the building with centrally air conditioning system.
- placement of fresh air ducts and chilled air pipe is mentioned which help to leave provision in structural elements and walls etc.

Q2:- How structural drawings help in construction of multi-storey building ?

ANS:- ARCHITECTURAL DRAWINGS:-

MAIN COMPONENTS:-

- Location plan
- site/detailed plan
- floor plan
- elevation views
- Cross sections.

LOCATION PLAN:-

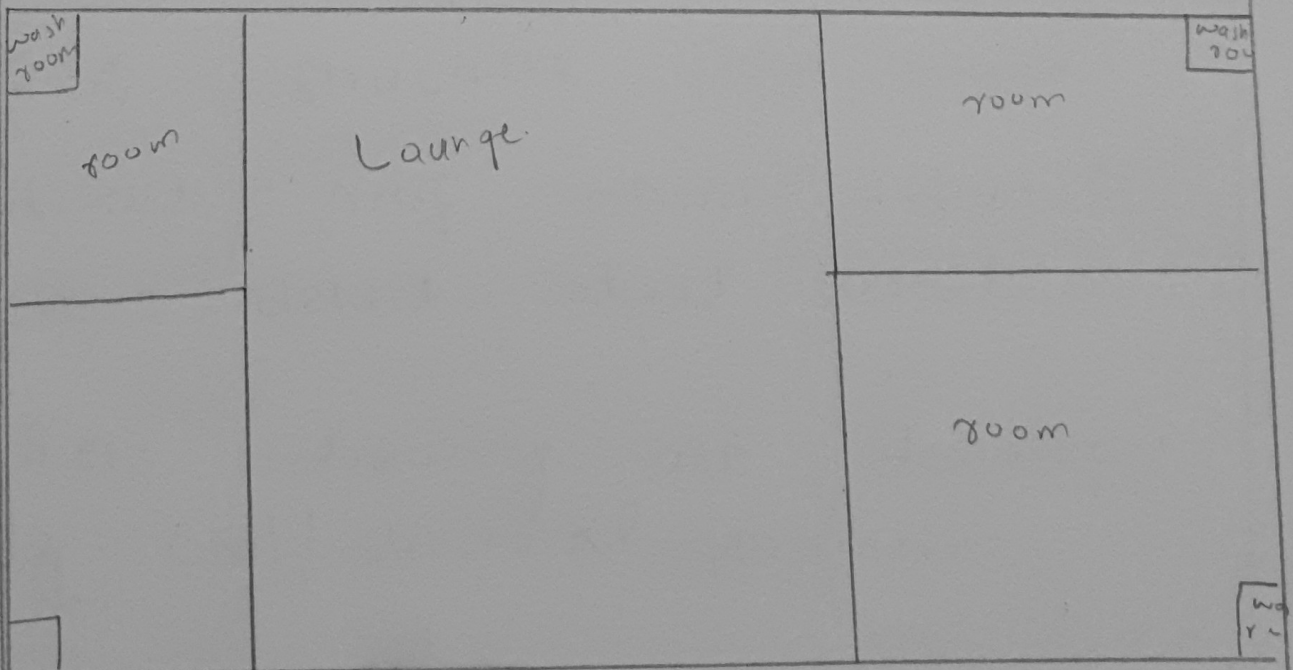
A location plan provides location detail of the proposed development in its surrounding context. This enables the planning authority to properly identify the land on which the proposed facility will be constructed and is typical based on an up-to-date survey.

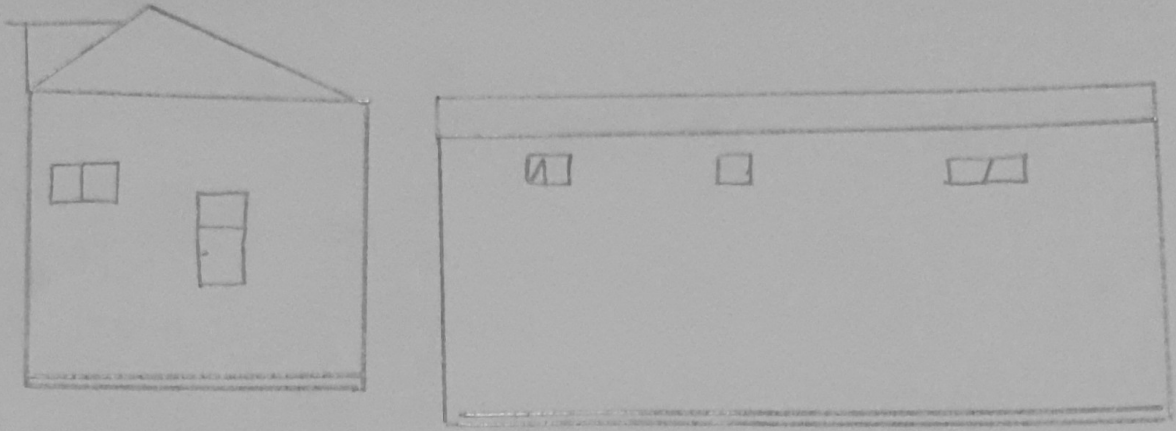
SITE PLAN:-

A site plan is a diagram that shows the layout of a proposed building. A site plan may include the location and detail of different components of a buildings and structures

For example

- 1) Room
- 2) Kitchen
- 3) TV lounge
- 4) Car park
- 5) Washroom etc.

FLOOR PLAN:-

ELEVATION VIEWS:-STRUCTURAL DRAWINGS:-

→ Those Technical drawings which mainly show internal details of a structure or building

These internal details may be about rebar details for RCC structures, floor internal details, roof internal details, stairs detail internal details etc.

→ These drawing are developed by civil / structural engineer.

(8)

For example, in case of reinforcement detail the drawing may include the following.

- Bar number & types
- Bend shape
- Center to center spacing b/w bars
- Lap length.
- Joint details.
- Minimum clear cover and grade of reinforcement

Q3:- What are the various components of plumbing drawings? Briefly describe each component?

Ans

PLUMBING DRAWINGS:-

These drawings show water supply and sewage system of any building indicating the placement of pipe line e.g. (GI, UPVC, and PVC etc).

There are three principle part plumbing system

- (1) water supply system.
- (2) wastewater and waste removal system.
- (3) plumbing fixtures.

WASTE WATER & WASTE WATER Removal :-

- Waste water and other wastes are carried to the Sanitary Sewer or septic tank through the waste removal system.
- These pipes are isolated from the water supply system and must be sized for sufficient capacity.
- The drainage system is not under pressure and depends on gravity to carry the waste into the sewer.
- A vertical drain pipe that collects waste from one or more fixtures is called a soil stack.
- Each Bathroom must have a main stack.

(11)

Secondary stacks are $1\frac{1}{2}$ " diameter

→ Gases from the system dissipate through the vent stack - 12" above roof.

Each stack required a cleanout at the base.

TRAPS :-

The traps must commonly used with plumbing fixtures is the p-trap.

The term trap seal refer to the water being held in the bent portion of a fixture trap.

House TRAPS:-

Building traps are provided in the main building sewer.

It shall be provided with a cleanout and relief a vent or fresh air intake

SOIL STACKS AND WASTE STACKS:-

A soil stack is a vertical drain pipe that carries soil waste from sanitary unit.

A waste stack is any other vertical drain pipe that doesn't carry soil from a sanitary fixture.

PLUMBING CLEAN OUT:-

A plumbing clean out is a cleanout fitting with a removal plug used in wastewater system

Cleanout are usually placed at the connection point b/w sewer line & drain lines the base located vertical stick.

PLUMBING AIR VENTS:-

Drain pipes remove water & waste from a building the plumbing vent pipe also known as plumbing air vents.