## F.A.R CALCULATION

| | COMMERCIAL | | RESIDENTIAL | |
|---|---|---|---|---|
| FLOOR | B/UP AREA | SERVICE AREA | B/UP AREA | SERVICE AREA |
| LOWER BASEMENT | 20.555 SQ.M. | 18.02 SQ.M. | 45.875 SQ.M. | 39.85 SQ.M. |
| UPPER BASEMENT | 73.84 SQ.M. | 26.87 SQ.M. | 59.90 SQ.M. | 38.42 SQ.M. |
| GROUND FLOOR | 681.68 SQ.M. | 111.93 SQ.M. | 193.03 SQ.M. | 182.53 SQ.M. |
| 1ST FLOOR | 865.33 SQ.M. | 86.08 SQ.M. | 49.07 SQ.M. | 49.07 SQ.M. |
| 2ND FLOOR | 920.57 SQ.M. | 86.08 SQ.M. | 49.07 SQ.M. | 49.07 SQ.M. |
| 3RD FLOOR | ---- | ---- | 659.51 SQ.M. | 410.02 SQ.M. |
| 4TH FLOOR | ---- | ---- | 570.71 SQ.M. | 75.91 SQ.M. |
| 5TH FLOOR | ---- | ---- | 571.21 SQ.M. | 75.91 SQ.M. |
| 6TH FLOOR | ---- | ---- | 571.21 SQ.M. | 84.98 SQ.M. |
| 7TH FLOOR | ---- | ---- | 571.21 SQ.M. | 75.91 SQ.M. |
| 8TH FLOOR | ---- | ---- | 571.21 SQ.M. | 84.98 SQ.M. |
| 9TH FLOOR | ---- | ---- | 571.21 SQ.M. | 75.91 SQ.M. |
| 10TH FLOOR | ---- | ---- | 571.21 SQ.M. | 84.98 SQ.M. |
| 11TH FLOOR | ---- | ---- | 571.21 SQ.M. | 75.91 SQ.M. |
| 12TH FLOOR | ---- | ---- | 571.21 SQ.M. | 84.98 SQ.M. |
| 13TH FLOOR | ---- | ---- | 571.21 SQ.M. | 75.91 SQ.M. |
| 14TH FLOOR | ---- | ---- | 571.21 SQ.M. | 75.91 SQ.M. |
| TERRACE | ---- | ---- | ---- | 74.41 SQ.M. |
| TOTAL AREA | 2561.975 SQ.M. | 328.98 SQ.M. | 7339.265 SQ.M. | 1714.66 SQ.M. |

PLOT AREA AS/DEED = 3157.70 sq.m
PLOT AREA AS/SITE = 2838.67 sq.m
TOTAL B/UP AREA = 9901.24 sq.m.

**F.A.R = 9901.24 / 2838.67 = 3.49**

## PARKING CALCULATION

COMMERCIAL B/UP AREA = 2561.975 SQ.M.
TOTAL SERVICE AREA = 328.98 SQ.M. (12.84%)
NET B/UP AREA = 2232.995 SQ.M.
35 % OF NET COMMERCIAL B/U AREA = 0.35 x 2232.995
TOTAL REQUIRED PARKING AREA = **781.54 SQ.M**

RESIDENTIAL B/UP AREA = 7339.265 SQ.M.
TOTAL SERVICE AREA = 1714.66 SQ.M. (23.36%)
15% RELAXATION ON B/UP AREA = 1100.88 SQ.M.
NET B/UP AREA = 6238.385 SQ.M.
25 % OF NET RESIDENTIAL B/U AREA = 0.25 x 6238.385
TOTAL REQUIRED PARKING AREA = **1559.59 SQ.M**

**NET TOTAL REQUIRED PARKING AREA = 2341.13 SQ.M**

**PARKING AREA PROVIDED:**

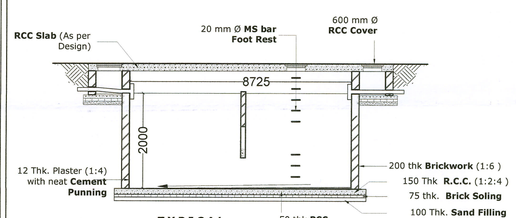
UPPER BASEMENT(FOR COMMERCIAL) = 1670.94 SQ. M
LOWER BASEMENT(FOR RESIDENTIAL) = 2000.84 SQ.M

**TOTAL PROVIDED PARKING AREA = 3671.78 SQ. M**

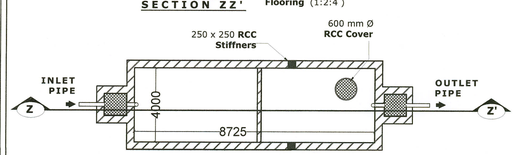
## GREEN AREA CALCULATION

**REQUIRED GREEN AREA = 10% OF NET PLOT AREA**
**= 0.1 X 2838.67**
**= 283.86 SQ. M**

**PROVIDED GREEN AREA:**
FINISHED GROUND LEVEL = **381.32 SQ.M.**




TYPICAL SECTION ZZ'




TYPICAL PLAN OF SEPTIC TANK

## POPULATION DENSITY CALCULATION

RESIDENTIAL FLOORS:

| | NO. OF FLATS |
|---|---|
| GROUND FLOOR | ---- |
| FIRST FLOOR | ---- |
| SECOND FLOOR | ---- |
| THIRD FLOOR | 02 |
| FOURTH FLOOR | 04 |
| FIFTH FLOOR | 04 |
| SIXTH FLOOR | 04 |
| SEVENTH FLOOR | 04 |
| EIGHTH FLOOR | 04 |
| NINTH FLOOR | 04 |
| TENTH FLOOR | 04 |
| ELEVENTH FLOOR | 04 |
| TWELFTH FLOOR | 04 |
| THIRTEENTH FLOOR | 04 |
| FOURTEENTH FLOOR | 04 |
| TOTAL | 46 |

TOTAL NO. OF RESIDENTIAL FLATS FROM 4TH TO 14TH FLOOR
= **46 FLATS**

CONSIDERING EACH FLAT HAVING 6 PERSONS
**TOTAL NO. OF PERSONS = (46 X 6) = 276 PERSONS**

**COMMERCIAL FLOORS:**
GROUND FLOOR COMMERCIAL B/U AREA = 681.68 Sq.m.
ASSUMING DENSITY OF 1 PERSON EVERY 3 SQ.M.
**NO. OF PERSONS ON GROUND FLOOR = 227.22**
FIRST & SECOND FLOOR COMMERCIAL B/U AREA = 1785.90 Sq.m.
ASSUMING DENSITY OF 1 PERSON EVERY 6 SQ.M.
**NO. OF PERSONS ON FIRST & SECOND FLOOR = 297.65**
**NET TOTAL PEOPLE IN COMMERCIAL FLOORS = 524.87 ≈ 530 PERSONS**

**RESIDENTIAL+ COMMERCIAL FLOORS:**
**TOTAL NO. OF PERSONS [RESIDENTIAL+COMMERCIAL FLOORS]**
**= (276+530) = 806 PERSONS**

## WATER TANK CALCULATION

**ACCORDING TO N.B.C WATER REQUIREMENT FOR DIFFERENT OCCUPANCIES :**

| TYPE OF OCCUPANCY | WATER REQUIREMENT |
|---|---|
| COMMERCIAL | 45 LTRS/HEAD/DAY |
| RESIDENTIAL | 135 LTRS/HEAD/DAY |

COMMERCIAL
TOTAL NO. OF PEOPLE = 530 PERSONS

TOTAL WATER REQ. (COMMERCIAL) = 45 X 530 = 23,850 LTRS.

RESIDENTIAL
TOTAL NO. OF PEOPLE OCCUPYING FLATS = 276 PERSONS

TOTAL WATER REQ. (RESIDENTIAL) = 135 X 276 = 37,260 LTRS.
TOTAL WATER REQUIRED FOR RESIDENTIAL + COMMERCIAL USE
= 23,850 + 37,260 = 61,110 LTRS.

PROVIDED WATER TANK
WATER TANK - A = 5600 X 7375 X 1500 (+150 FB) = **61,950.00 LTRS**

FOR FIRE FIGHTING
REQUIRED WATER IN OVERHEAD TERRACE TANK
FOR COMMERCIAL AREA = 20,000 LTRS

REQUIRED WATER IN OVERHEAD TERRACE TANK
FOR RESIDENTIAL AREA = 10,000 LTRS

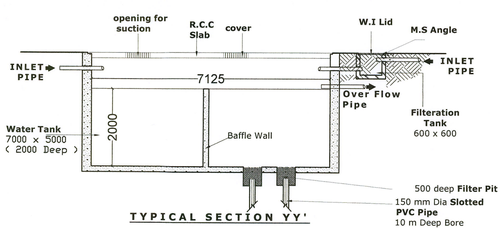
TOTAL WATER REQUIRED FOR FIRE FIGHTING = **30, 000 LTRS**.

PROVIDED WATER TANK
WATER TANK - B = 3100 X 7375 X 1500 (+150 FB) = **34,293.00 LTRS.**
**RESERVED FOR FIRE FIGHTING**

## SEPTIC TANK CALCULATION

TOTAL NO OF PEOPLE ON ALL THE FLOORS = 806
1 PERSON NEEDS 0.085 CUM CAPACITY OF SEPTIC TANK
TOTAL REQUIRED CAPACITY = 806 X 0.085 = **68.51 CU. M**

PROVIDED SEPTIC TANK OF SIZE = 8.6 x 4.0 x 2.0 = **68.80 CU. M**




TYPICAL SECTION YY'

## EMERGENCY EVACUATION ASSEMBLY AREA CALCULATION

ASSUMING OCCUPANCY 60 % FOR COMMERCIAL = 60 % OF 530
= 318
AREA REQUIRED FOR 1 PERSON TO STAND = 4 SQ.FT OR 0.3SQ.M
AREA REQUIRED FOR 318 PEOPLE TO STAND = **95.40 SQ.M**

ASSUMING OCCUPANCY 80 % FOR RESIDENTIAL = 80 % OF 276
= 220.8 ≈ 221
AREA REQUIRED FOR 1 PERSON TO STAND = 4 SQ.FT OR 0.3SQ.M
AREA REQUIRED FOR 221 PEOPLE TO STAND = **66.30 SQ.M**

**NET TOTAL AREA REQUIRED FOR EMERGENCY EVACUATION**
**= 161.70 SQ.M.**

PROVIDED EMERGENCY EVACUATION ASSEMBLY AREA(1) = 80.00 SQ.M
PROVIDED EMERGENCY EVACUATION ASSEMBLY AREA(2) = 82.00 SQ.M

**TOTAL PROVIDED = 162.00 SQ.M**

## FIRE FIGHTING LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | CO2 / DCP FIRE EXTINGUISHER |
| | HOSE REEL 0.038 M DIA WITH 0.063 M COUPLING; 0.025 M DIA 45 M LENGTH WITH 0.065 M NOZZLE |
| | WET RISER |
| | FIRE ALARM BELL |
| | FIRE ALARM SWITCH |
| S | SPRINKLER |
| A S A | AUTOMATIC SMOKE DETECTOR |
| F.D | FIRE RESISTANT DOOR |
| | FIRE ESCAPE ROUTE |
| | SEMAC CONNECTION FOR FIRE BRIGADE |
| | PUBLIC ADDRESS SYSTEM |
| EXIT | FIRE EXIT |
| EL | EMERGENCY LIGHT |
| | WATER PUMP FOR OVERHEAD WATER TANK |
| OVER HEAD WATER TANK | 30,000 LTRS. RESERVED IN OVERHEAD WATER TANK FOR FIRE FIGHTING. |
| UNDERGROUND WATER TANK | 2,00,000 LTRS. RESERVED IN UNDERGROUND WATER TANK FOR FIRE FIGHTING. |

## RAINWATER HARVESTING SUMP CALCULATION

TERRACE FLOOR MAX. AREA = 1128.20 sqm.

RAIN WATER HARVESTING SUMP REQ. 6 CUM FOR EVERY
100 SQM. OF TERRACE AREA.
SO, TOTAL REQ. CAPACITY OF SUMP = 11.28 x 6 = **67.68 CUM.**

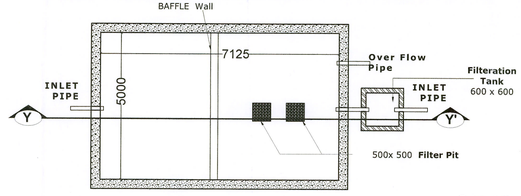
PROVIDED
(1) TANK SIZE = 7.0 x 5.0 x 2.0 = **70.00 CUM.**

## UNDERGROUND WATER TANK CALCULATION

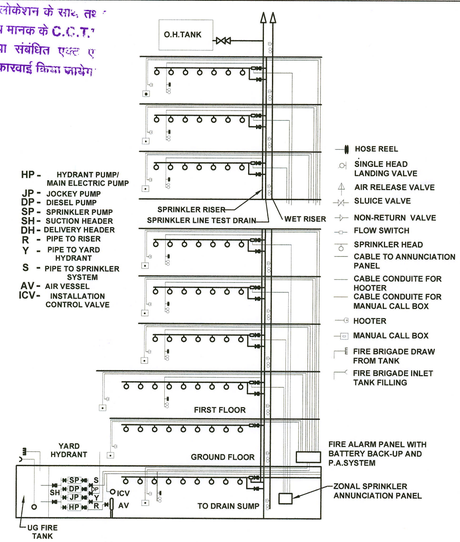
**2,00,000 LTRS** WATER REQUIRED IN UNDERGROUND WATER TANK FOR FIRE FIGHTING AS PER NBC.

PROVIDED
(1) TANK SIZE 01 = 10.0x6.50x2.0 = 130.00 CUM.
(2) TANK SIZE 02 = 7.0x5.0x2.0 = 70.00 CUM.

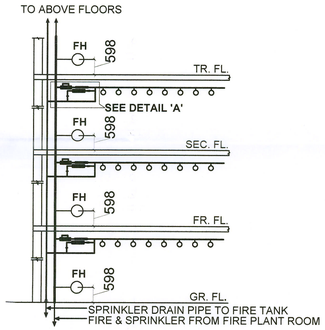
NET TOTAL = **2,00,000 LTRS RESERVED FOR FIRE FIGHTING.**



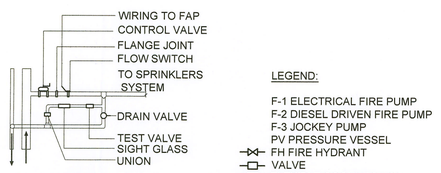

TYPICAL PLAN OF RAINWATER HARVESTING TANK




TYPICAL ARRANGEMENT OF WET RISER AND TOTAL SPRINKLER SYSTEM OF BUILDING AS PER NBC.

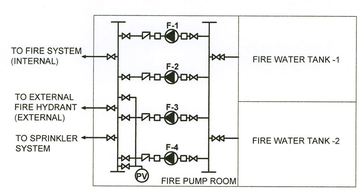



ELEVATIONAL VIEW




DETAIL 'A'

LEGEND:
F-1 ELECTRICAL FIRE PUMP
F-2 DIESEL DRIVEN FIRE PUMP
F-3 JOCKEY PUMP
PV PRESSURE VESSEL
FH FIRE HYDRANT
VALVE
FLEXIBLE COONNECTION
NON RETURN VALVE




PLAN

TYPICAL SYSTEM OF PUMPING WITH TWO ELECTRIC AND ONE DIESEL FIRE PUMP

**Terms & Conditions:-**
1) STP of requisite capacity is to be installed in the campus by the Builder/Owner
2) Water Harvesting and Green area is to be maintained in the premises
3) Solar power is to be installed in the campus

- A RESIDENTIAL CUM COMMERCIAL BUILDING OF HEIGHT MORE THAN 46M & UPTO 51M

**NAME OF PROJECT :-**

A RESIDENTIAL CUM COMMERCIAL BUILDING

**NAME OF LAND OWNER & ADDRESS :-**

SMT. CHANDRAMA DEVI ALIAS CHANDWA DEVI
W/O LATE SRI LALA PRASAD ALIAS LALA GOPE
SRI RANJAN KUMAR & SRI CHANDAN KUMAR
S/O LATE SRI LALA PRASAD ALIAS LALA GOPE
R.O. VILLAGE - BARI PAHARI
P.S. - AGAM KUAN, DIST. - PATNA

**NAME OF DEVELOPER & ADDRESS :-**

SAI KRIPA REAL ESTATE PVT. LTD.
DIRECTOR: SRI SHAILENDRA SINGH
REGISTRATION NO. BR/UDHD/23-0258
2ND FLOOR, AWADH RAJ CENTRE,
OFF BORING CANAL ROAD,
PATNA - 800001

**PLOT DETAIL :-**

RESIDENTIAL CUM COMMERCIAL BUILDING FOR SMT. CHANDRAMA DEVI ALIAS CHANDWA DEVI W/O LATE SRI LALA PRASAD ALIAS LALA GOPE SRI RANJAN KUMAR & SRI CHANDAN KUMAR S/O LATE SRI LALA PRASAD ALIAS LALA GOPE ON:
PLOT NO.- 1317 (P), KHATA NO.- 500,
THANA NO. - 14, MAUZA - BARI PAHARI
PS. - AGAM KUAN, DIST.- PATNA.

**BOUNDARY DETAIL :-**

NORTH - KRISHNA NIKETAN ROAD
SOUTH - 6.19M ROAD
EAST - PATNA MASAURI GAYA ROAD
WEST - 1317(P)

**SHEET DETAIL :-**

1. CALCULATIONS

| SHEET NO. | SCALE. | |
|---|---|---|
| 01/11 | 1 : 100 | |

SIGNATURE OF OWNER

Shailendra Singh
SAI KRIPA REAL ESTATE PVT. LTD.
REGISTRATION NO.
BR/UDHD/BLDR/23-0258
SIGNATURE OF DEVELOPER

BRAJESH KUMAR SINHA
Registration No.
BR/UDHD/SE/23-0071
UDHD, Government of Bihar
SIGNATURE OF STRUCTURAL ENGINEER

AR. MADHU SMRITI
CA / 1990 / 13248
SIGNATURE OF ARCHITECT

PATNA MUNICIPAL CORPORATION
PATNA REGIONAL DEVELOPMENT AUTHORITY (DISSOLVED)
Case No. PMC/PAHARI/PRN-2/Bldg/14/365/2023-24
Sanction of Plan Accorded under Section 315, 316 & 317 of the Bihar Municipal Act 2007 by the Municipal Commissioner, Patna on.....
Date...10/02/2025
SANCTION OF PLAN ACCORDED
निदेशक
शहरी योजना
पटना नगर निगम, पटना