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DIGITALLY VERIFIED RECORD

Office of Executive Engineer,
Structural & Quality Control Cell,
Tamil Nadu Urban Habitat
Development Board,
No.5, Kamarajar Salai, Chennai – 5.

# STABILITY CERTIFICATE

**Dt: 12.12.2025.**

1.The detailed engineering and structure design of the proposed construction of Group Development consists of additional 4 Blocks namely Block V: Stilt Floor part / Ground Floor part + 5 Floors Residential building with 66 dwelling units, Block – VI: Stilt floor part / Ground Floor part + 5 Floors Residential building with 90 dwelling units, Block – VII: Stilt floor part / ground floor part + 5 floors residential building with 90 dwelling units, Block -VIII: Stilt floor part / ground floor part + 5 floors residential building with 90 dwelling units, (336 Dwelling units) Affordable Housing (Height – 18.30m) and existing 4 Blocks namely Block No. I to IV each Blocks Ground Floors + 2 Floors (30 Dwelling Units) Totally 366 Dwelling units at village street, Thiruvottiyur Chennai, comprised in Old S.No. 237/1part, T.S.No.83/1, Block No.12, Ward – H Thiruvottiyur Village, within the limits of Greater Chennai Corporation., Tamil Nadu has been done by me/us based on the report of geotechnical investigation (soil test) done by Anna University, Chennai Report Job No.SM&FM 217/Consultancy/2022, Dated 27.02.2022 & Job No.SM&FM 217(a)/Consultancy/2022, Dated 15.12.2023 and considering the functional requirement of the building.

2. It is certified that among other factors, the proposed building has been designed to resist earthquake. I/We have checked various parameters and found that the proposed building would be safe.

3. I/We further certify that:

(i) The minimum grade of concrete is M30.

(ii) The design and analysis has been done using the code of practice for plain and reinforced concrete as per IS 456:2000, live load 2 kN/m$^2$ as per IS 875 Part II and designed for earthquake resistant structure as per IS Code 1893 (Part 1):2016.

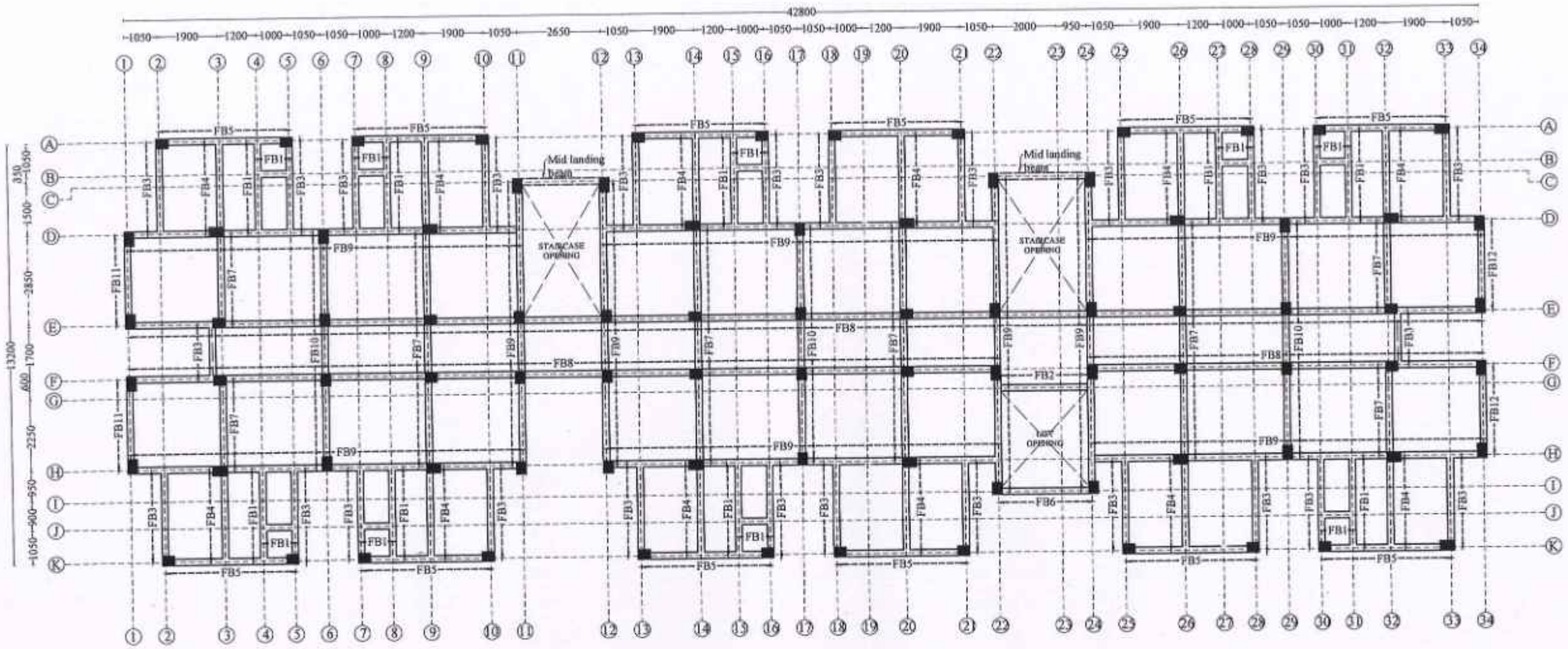
4. The building will be safe and sound when used for the purpose for which it is designed.

12/12/2025

R. VENKATESAN, M.E.,
Assistant Engineer
Registered Structural Engineer Grade-I (SE)
Registration No: SE/I/2024/4/0073
Tamil Nadu Urban Habitat Development Board
No. 5, Kamarajar Salai, Chennai-600 005.

Scanned with OKEN Scanner

# STILT FLOOR BEAM LAYOUT




Note:
1. This Drawing shall be read along with TNUHDB/THIRUVOTTIYUR/ GEN -01 & TNUHDB/THIRUVOTTIYUR/Block A/10.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR BEAM LAYOUT

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/08.

REVISION NO.:

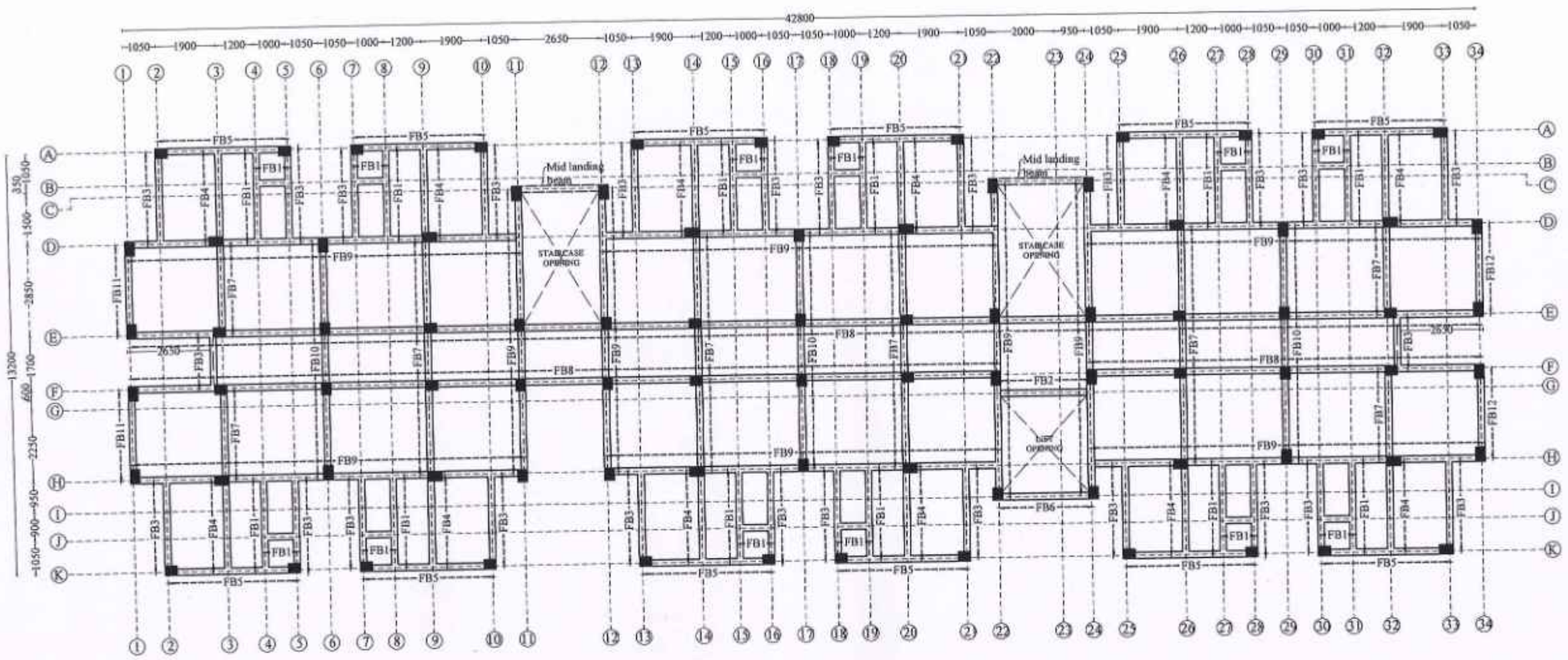
TRUE COPY
25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
25/11/24

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FIRST FLOOR BEAM LAYOUT




Note:
1. This Drawing shall be read along with TNUHDB/THIRUVOTTIYUR/ GEN -01 & TNUHDB/THIRUVOTTIYUR/Block A/10.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
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20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FIRST FLOOR BEAM LAYOUT

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/09.

REVISION NO.:

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25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
25/11/24

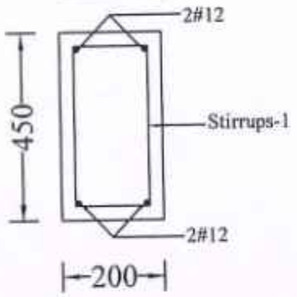
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

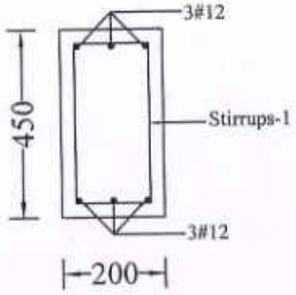
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# STILT AND FIRST FLOOR BEAM DETAILS

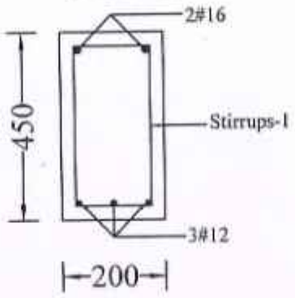
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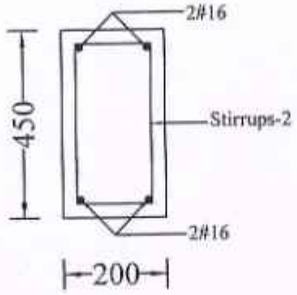

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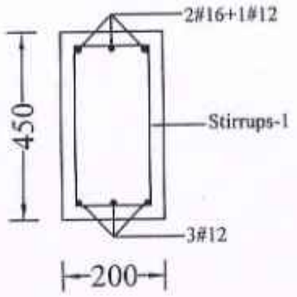

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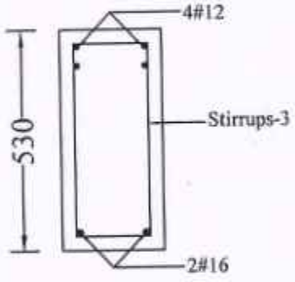

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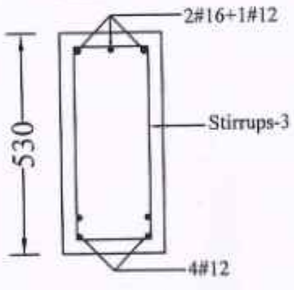

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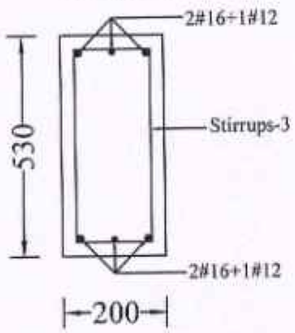

FB6 (200x530)



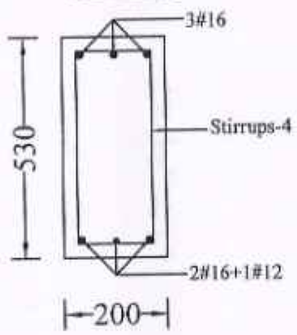

FB7 (200x530)



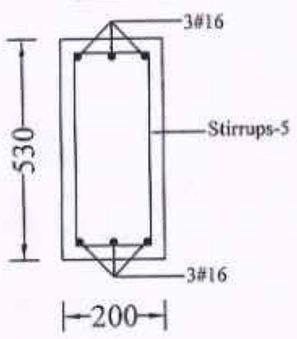

FB8 (200x530)



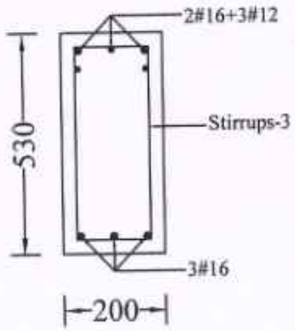

FB9 (200x530)



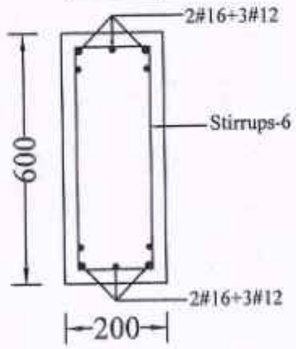

FB10 (200x530)




FB11 (200x530)




FB12 (200x600)




NOTE :

1) Stirrups-1-- 2L#8mm Stirrups @ 75mm c/c for 900mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2-- 2L#8mm Stirrups @ 100mm c/c for 900mm length on all side near beam column junction and the rest at 150mm c/c
3) Stirrups-3-- 2L#8mm Stirrups @ 75mm c/c for 1100mm length on all side near beam column junction and the rest at 150mmc/c.
4) Stirrups-4-- 2L#8mm Stirrups @ 75mm c/c for 1100mm length on all side near beam column junction and the rest at 125mmc/c.
5) Stirrups-5-- 2L#8mm Stirrups @ 75mm c/c for 1100mm length on all side near beam column junction and the rest at 100mmc/c.
6) Stirrups-6-- 2L#8mm Stirrups @ 75mm c/c for 1200mm length on all side near beam column junction and the rest at 100mmc/c.
7) Beam Depth is inclusive of slab thickness.

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25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

25/11/24

NOTE :

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc, unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT AND FIRST FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 73/2022 (TYPE - A)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/10.

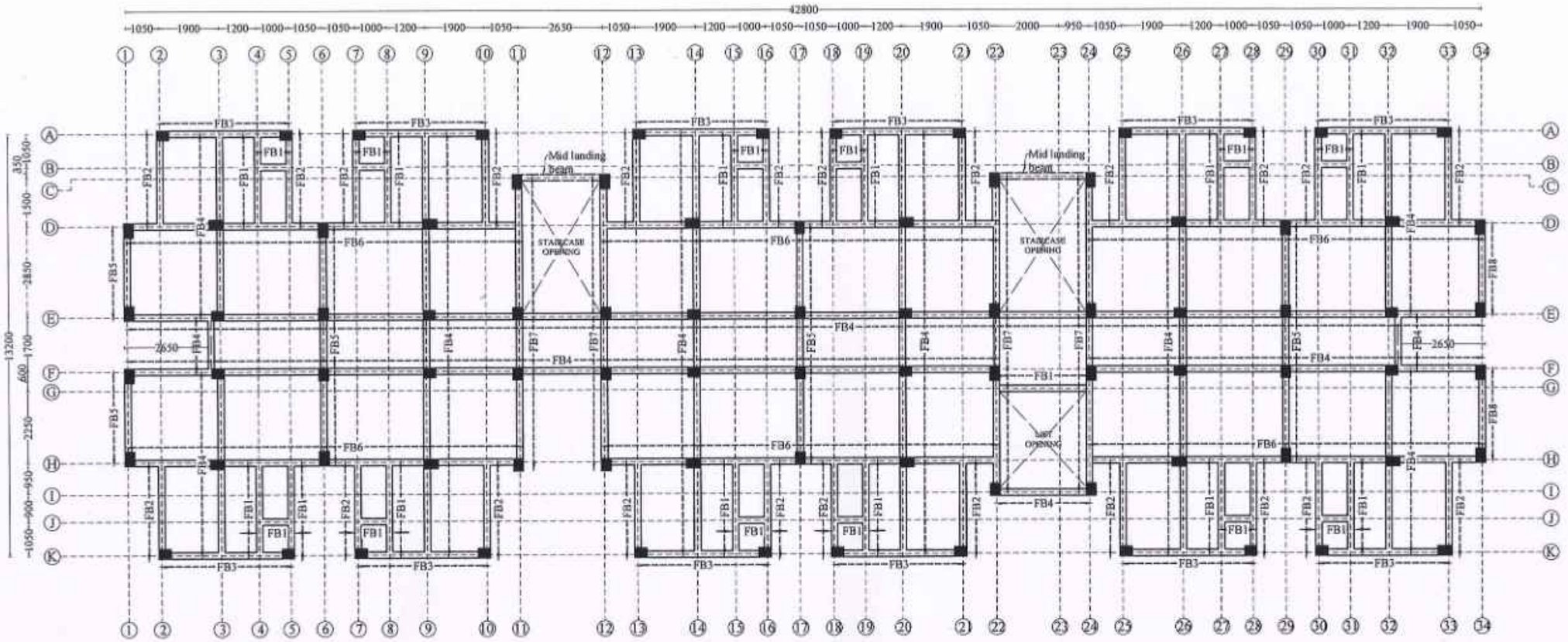
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND FLOOR & THIRD FLOOR BEAM LAYOUT




Note:
1. This Drawing shall be read along with TNUHDB/THIRUVOTTIYUR/ GEN -01 & TNUHDB/THIRUVOTTIYUR/Block A/12.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR AND THIRD FLOOR BEAM LAYOUT

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/11.

REVISION NO.:

TRUE COPY
25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

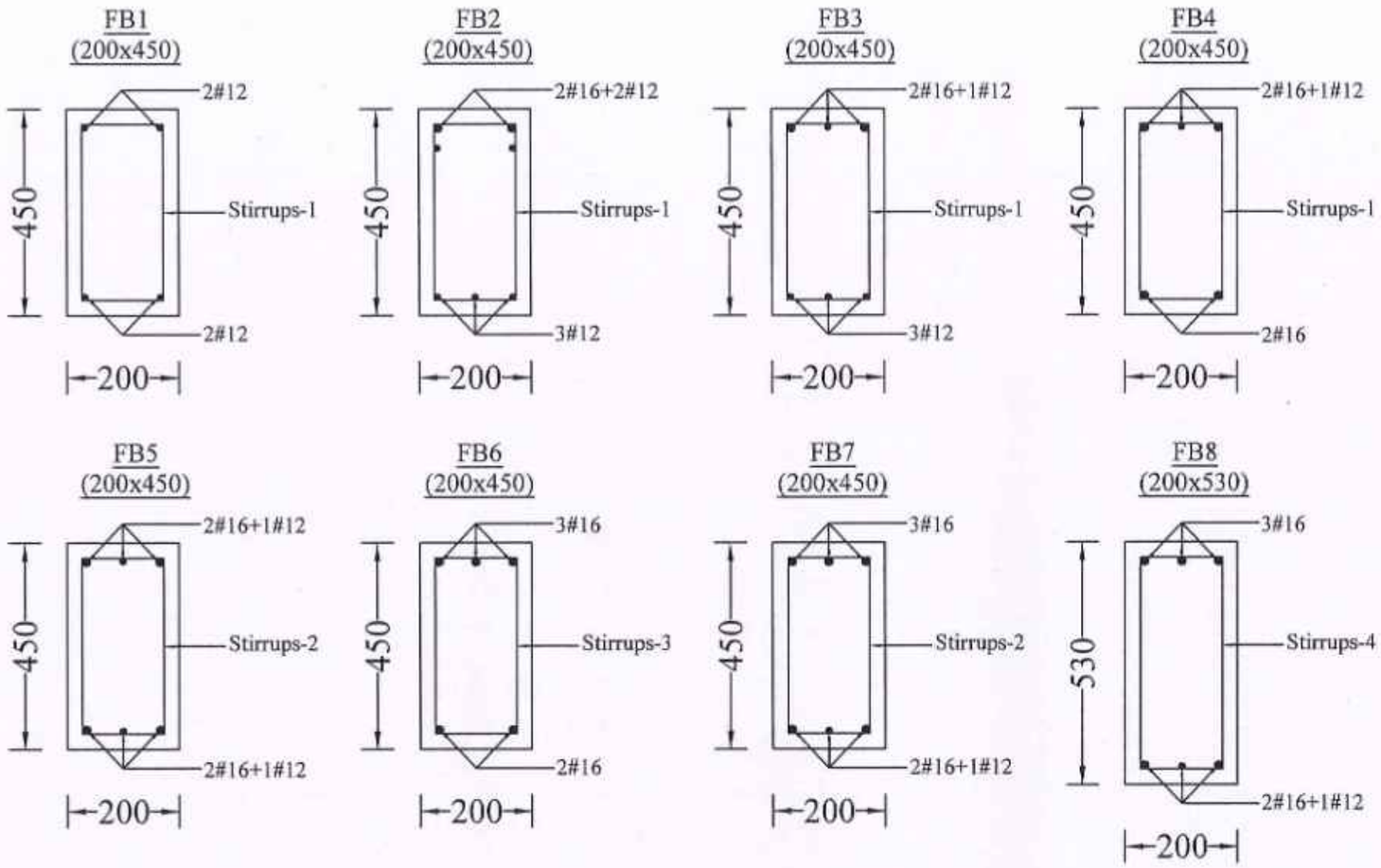
25/11/24

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5. KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND AND THIRD FLOOR BEAM DETAILS




NOTE :

1) Stirrups-1-- 2L#8mm Stirrups @ 75mm c/c for 900mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2-- 2L#10mm Stirrups @ 75mm c/c for 900mm length on all side near beam column junction and the rest at 150mm c/c
3) Stirrups-3-- 2L#10mm Stirrups @ 75mm c/c for 900mm length on all side near beam column junction and the rest at 150mmc/c.
4) Stirrups-4-- 2L#10mm Stirrups @ 75mm c/c for 1100mm length on all side near beam column junction and the rest at 150mmc/c.
5) Beam Depth is inclusive of slab thickness.

TRUE COPY

25/11/2024

EXECUTIVE ENGINEER CA/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

25/11/24

NOTE :

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc., unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND AND THIRD FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 73/2022 (TYPE - A)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/12.

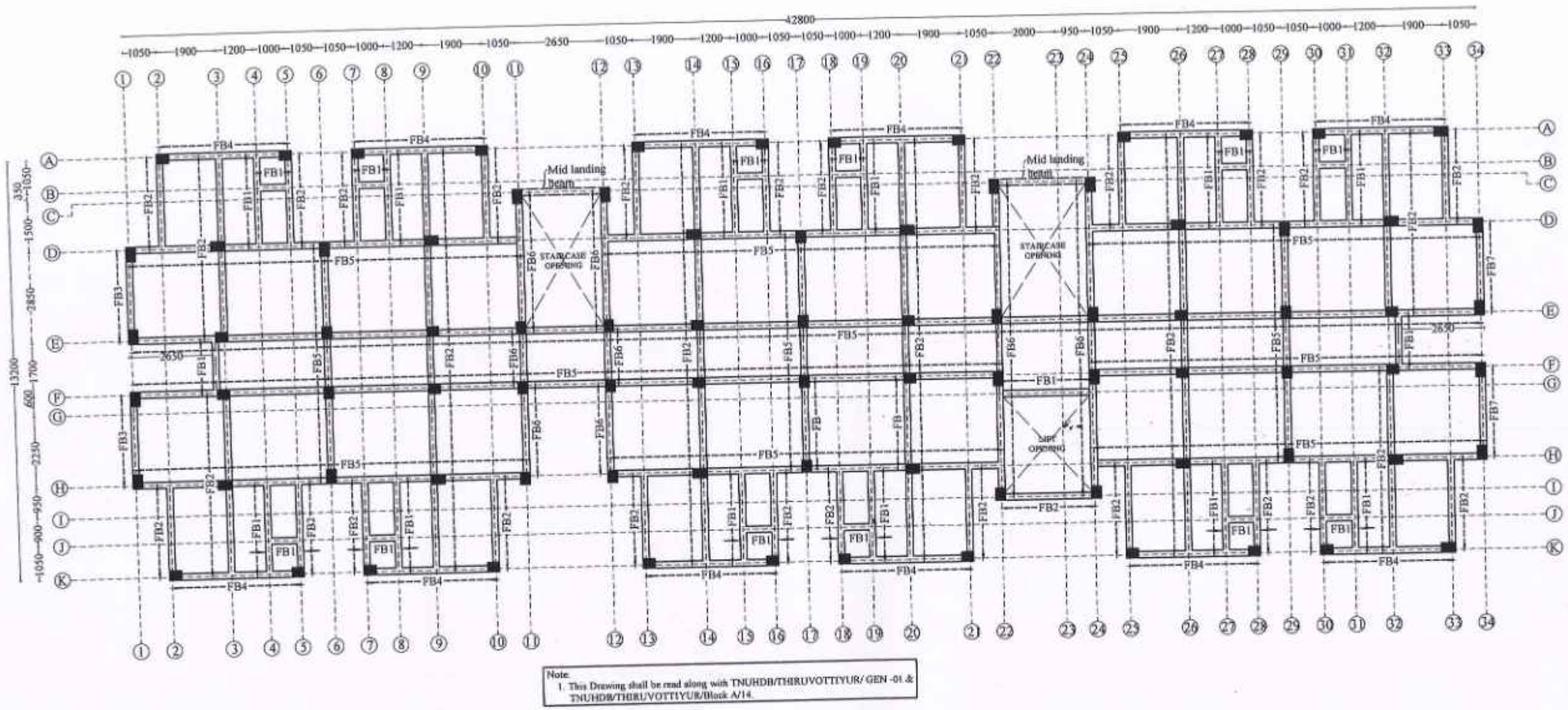
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FOURTH FLOOR BEAM LAYOUT




Note:
1. This Drawing shall be read along with TNUHDB/THIRUVOTTIYUR/ GEN -01 & TNUHDB/THIRUVOTTIYUR/Block A/14.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide. Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FOURTH FLOOR BEAM LAYOUT

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/13.

REVISION NO.:

TRUE COPY
25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
25/11/24

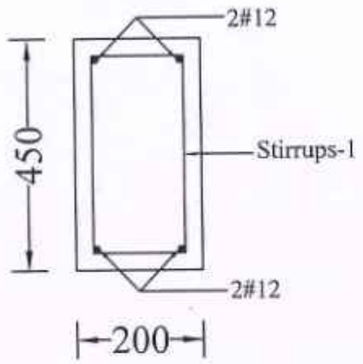
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

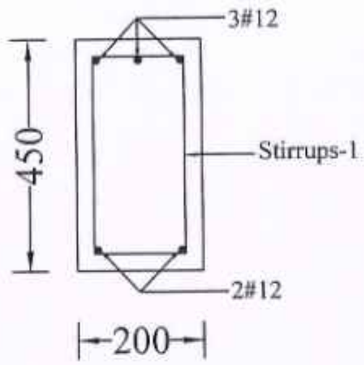
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5. KAMARAJAR SALAI
CHENNAI - 600 005.

# FOURTH FLOOR BEAM DETAILS

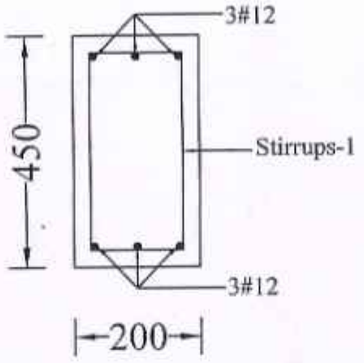
FB1
(200x450)



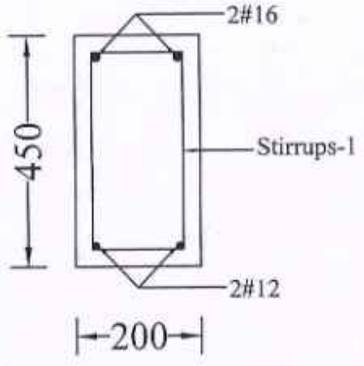

FB2
(200x450)



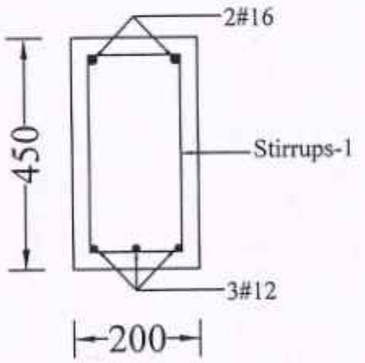

FB3
(200x450)



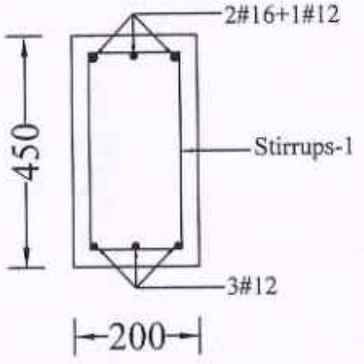

FB4
(200x450)



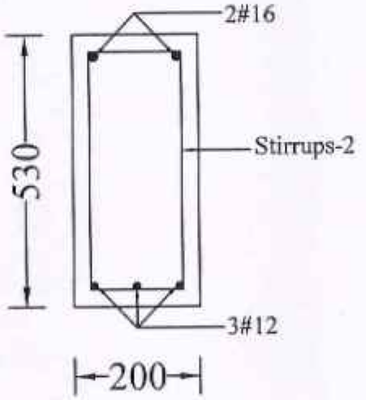

FB5
(200x450)




FB6
(200x450)




FB7
(200x530)




NOTE :

1) Stirrups-1-- 2L#8mm Stirrups @ 75mm c/c for 900mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2-- 2L#8mm Stirrups @ 75mm c/c for 1100mm length on all side near beam column junction and the rest at 150mm c/c .
3) Beam Depth is inclusive of slab thickness.

TRUE COPY
25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 6, KAMARAJAR SALAI, CHENNAI-600 005.

25/11/24

NOTE :

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No. :3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No. :SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FOURTH FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 73/2022 (TYPE - A)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/14.

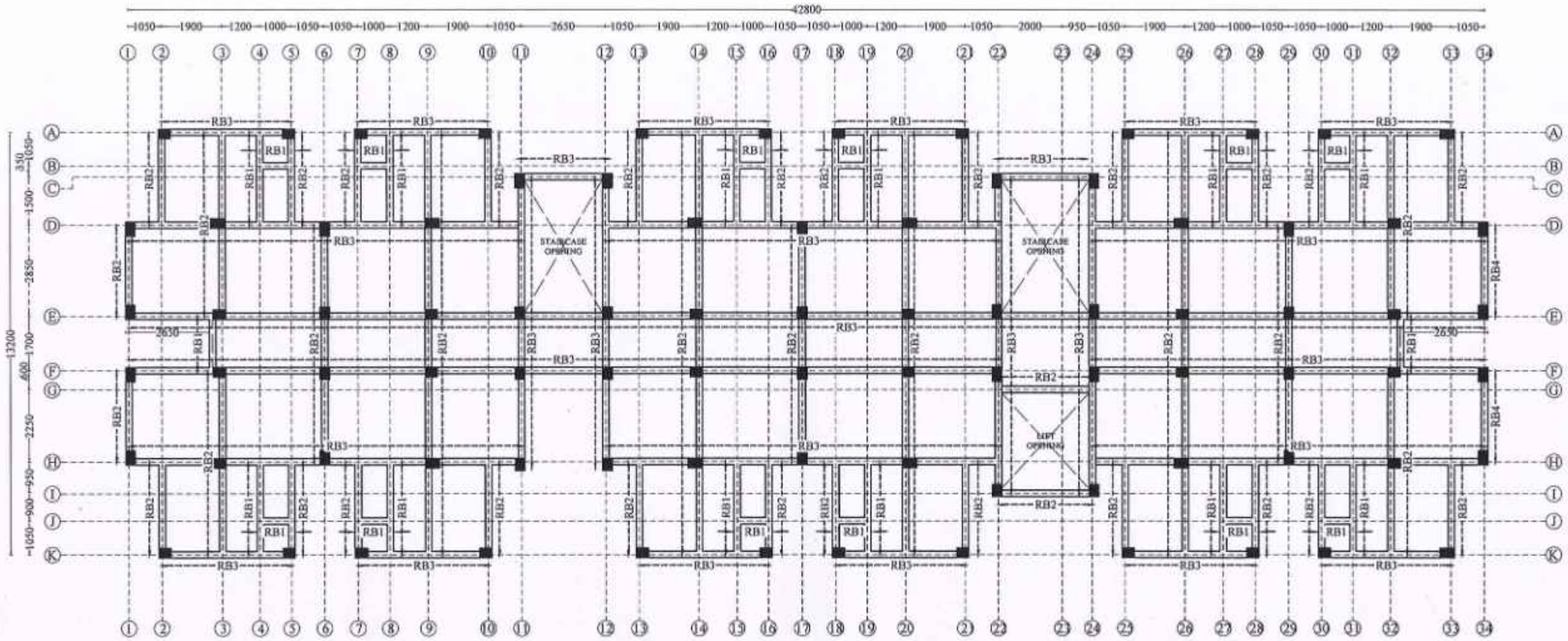
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North 1 |

sd.xxxx 23.11.2024
Chief Engineer- 1

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR BEAM LAYOUT




Note:
1. This Drawing shall be read along with TNUHDB/THIRUVOTTIYUR/ GEN -01 & TNUHDB/THIRUVOTTIYUR/Block A/16.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR BEAM LAYOUT

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/15.

REVISION NO.:

TRUE COPY
25/11/2024
EXECUTIVE ENGINEER (A/C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 6, KAMARAJAR SALAI, CHENNAI-600 005.
25/11/24

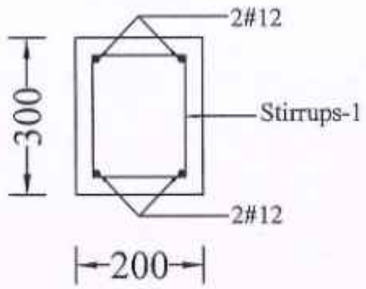
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

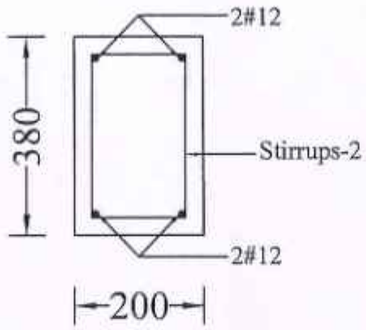
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR BEAM DETAILS

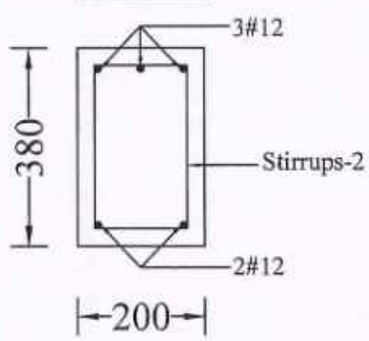
RB1
(200x300)



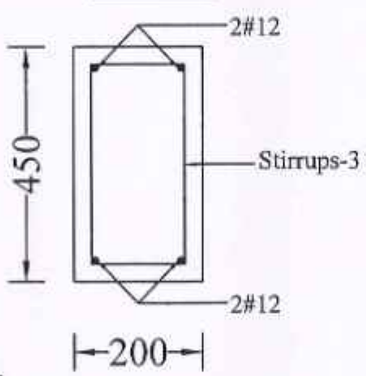

RB2
(200x380)




RB3
(200x380)




RB4
(200x450)




NOTE :

1) Stirrups-1-- 2L#8mm Stirrups @ 65mm c/c for 600mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2-- 2L#8mm Stirrups @ 75mm c/c for 750mm length on all side near beam column junction and the rest at 150mm c/c
3) Stirrups-2-- 2L#/8mm Stirrups @ 75mm c/c for 900mm length on all side near beam column junction and the rest at 150mm c/c.
4) Beam Depth is inclusive of slab thickness.

TRUE COPY
25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
25/11/24

NOTE :

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with ETABS.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,, unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 73/2022 (TYPE - A)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/16.

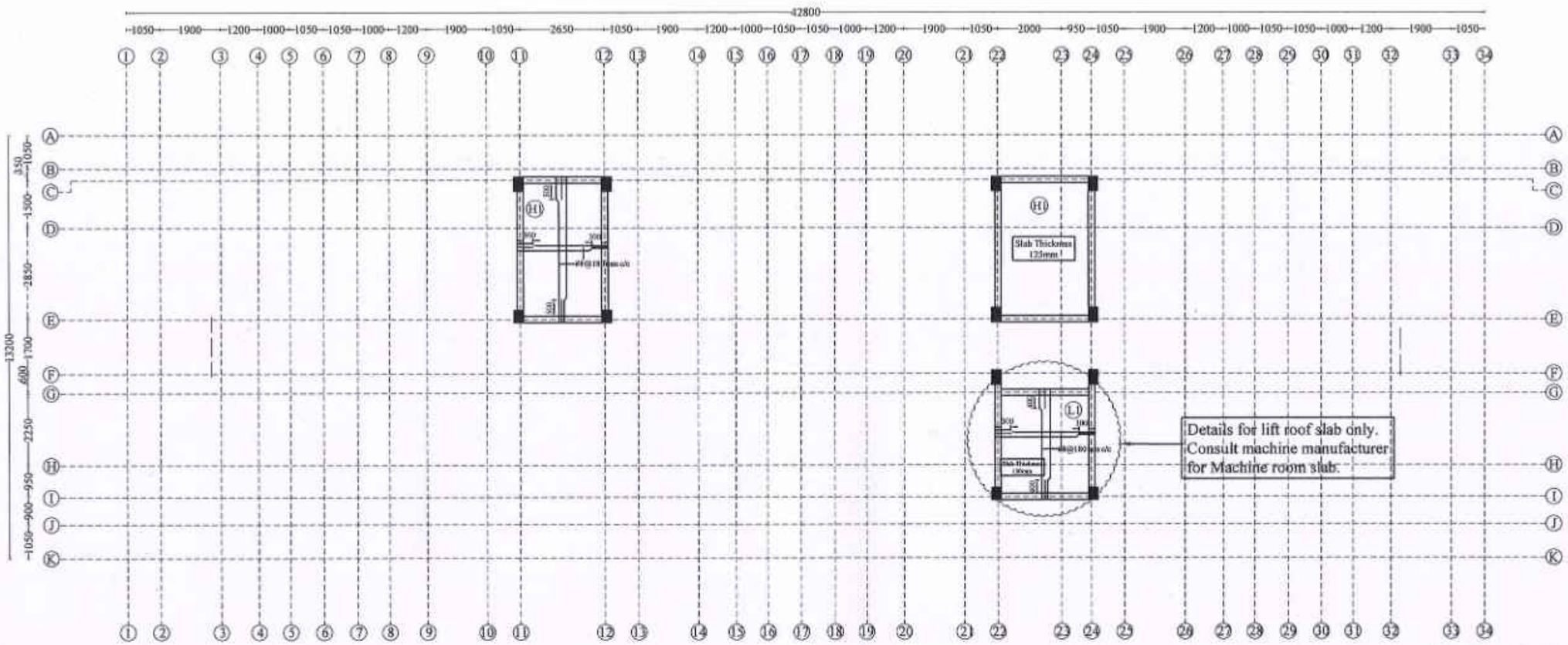
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

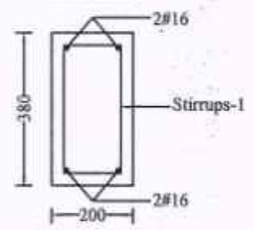
sd.xxxx 23.11.2024
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# HEAD ROOM, LIFT ROOM BEAM LAYOUT & SLAB DETAILS




ALL BEAMS (200x380)




NOTE:
**Stirrups-1** : 2 Legged # 8 mm stirrups at 100 mm c/c for 900 mm length on all sides near Beam - Column junctions and the rest at 150 mm c/c.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide. Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
HEAD ROOM & LIFT ROOM BEAM LAYOUT & SLAB DETAILS.

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/17.

REVISION NO.:

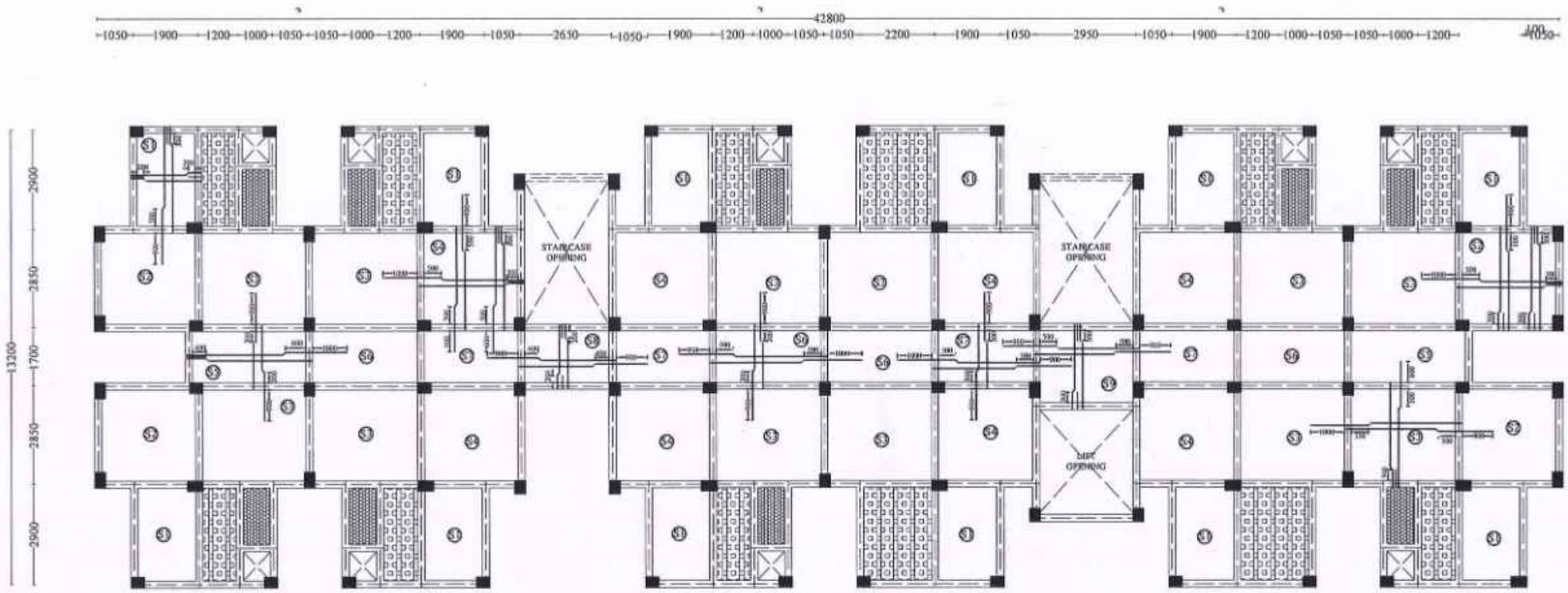
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25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 6, KAMARAJAR SALAI, CHENNAI-600 005.
25/11/24

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# STILT FLOOR SLAB DETAILS




SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

Note:
1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/18.

REVISION NO.:

TRUE COPY
25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005

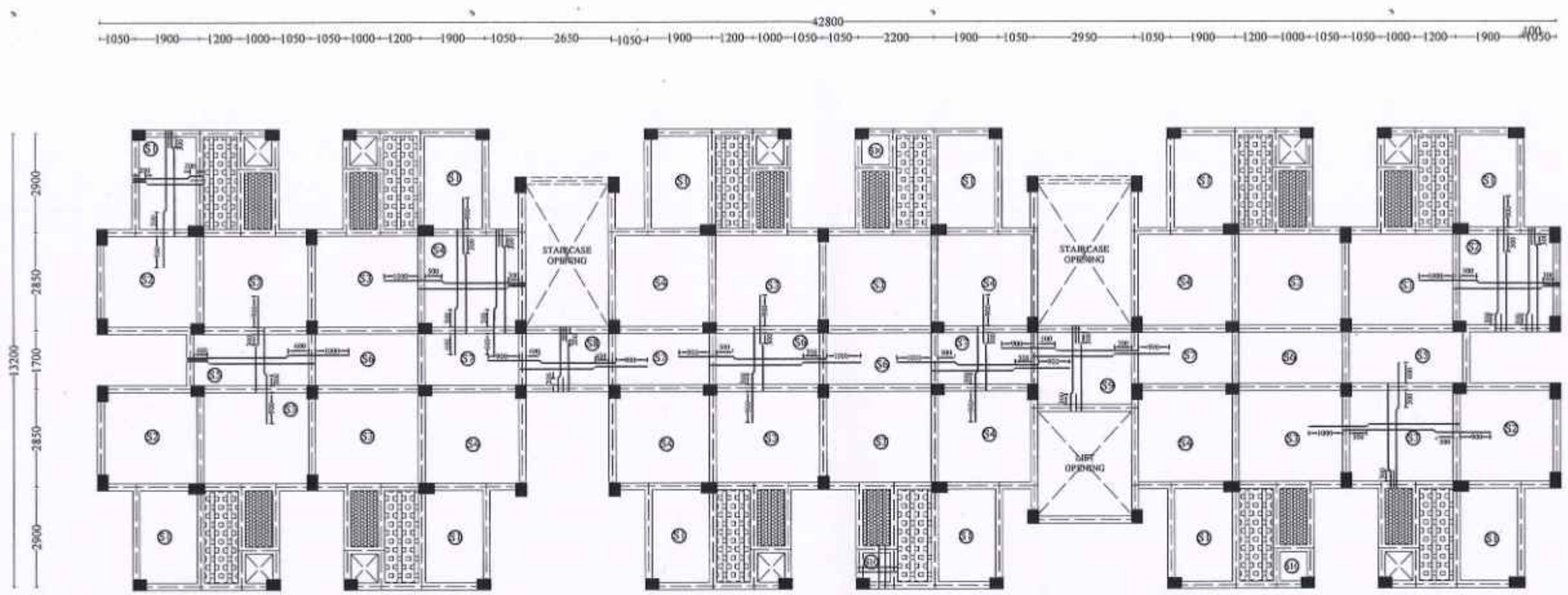
25/11/24

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FIRST FLOOR SLAB DETAILS




SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

Note:
1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
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13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FIRST FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/19.

REVISION NO.:

TRUE COPY
25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005

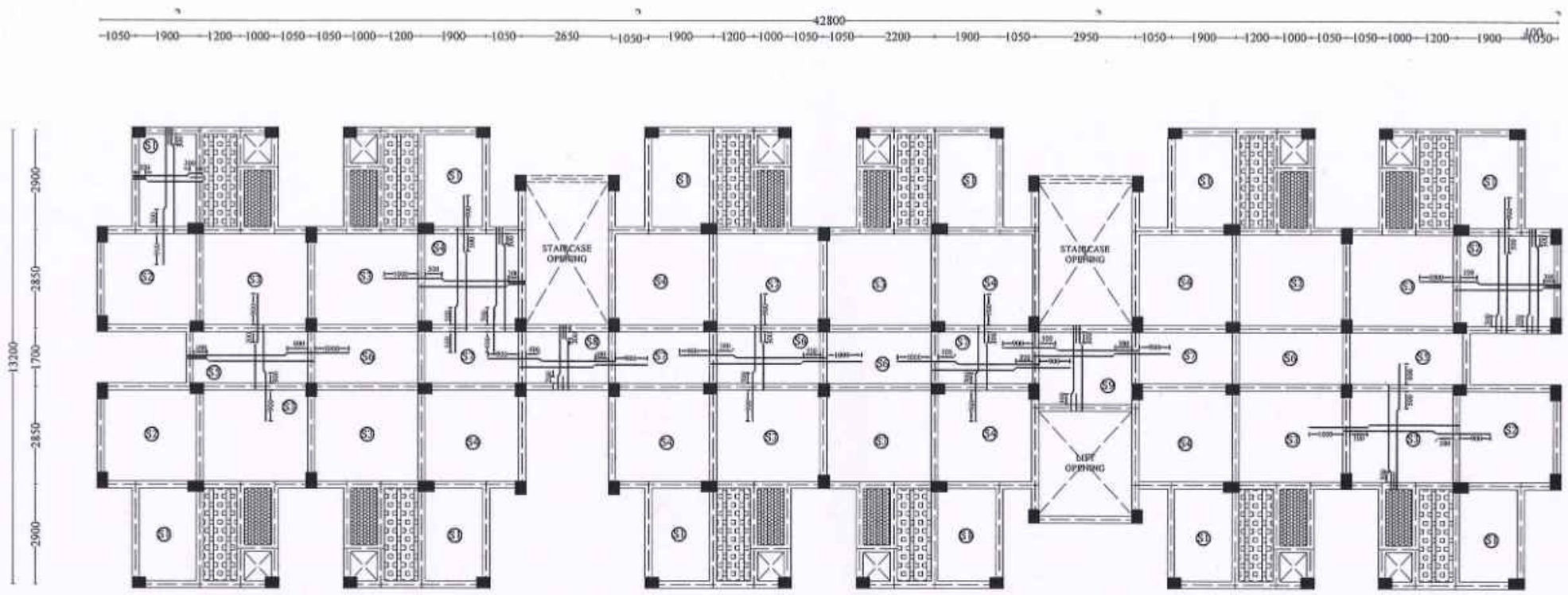
25/11/24

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5. KAMARAJAR SALAI
CHENNAI - 600 005.

# TYPICAL FLOOR SLAB DETAILS




SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

Note:
1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TYPICAL FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/20.

REVISION NO.:

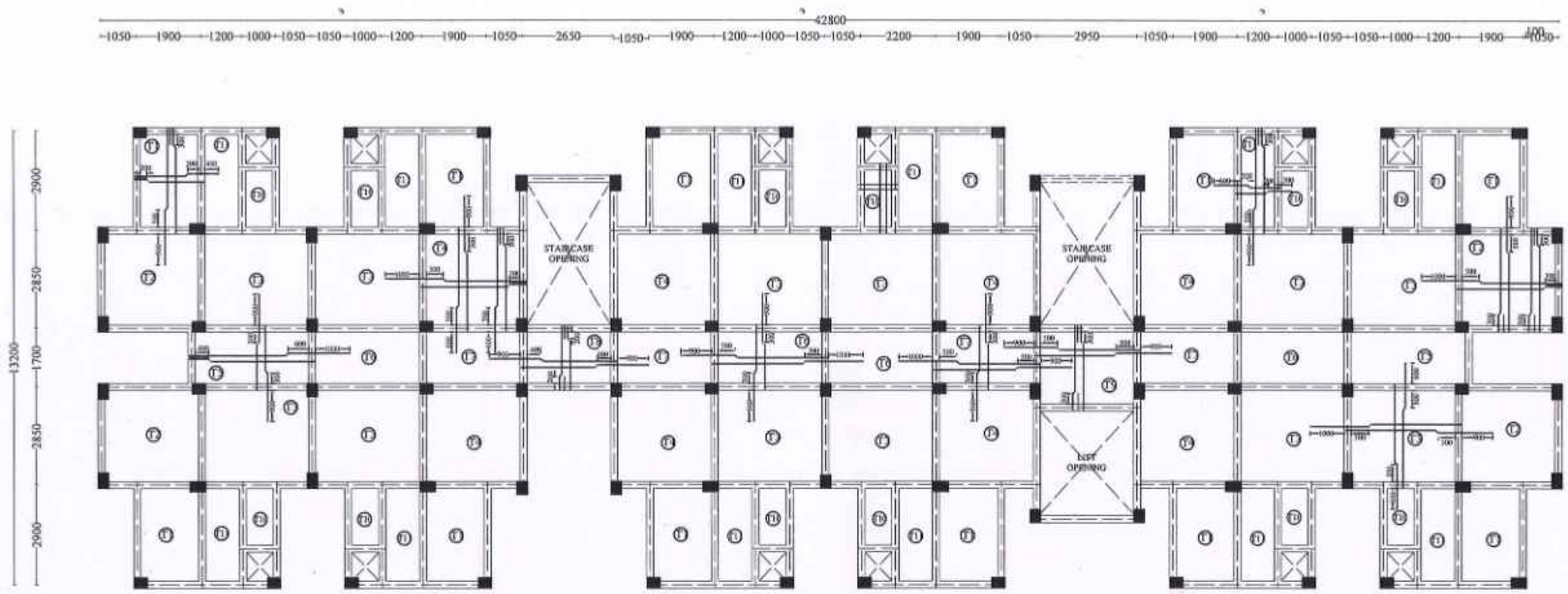
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25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI

| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | **SE - North I** |

**sd.xxxx 23.11.2024**
**Chief Engineer - I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR SLAB DETAILS




Note:
1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/21.

REVISION NO.:

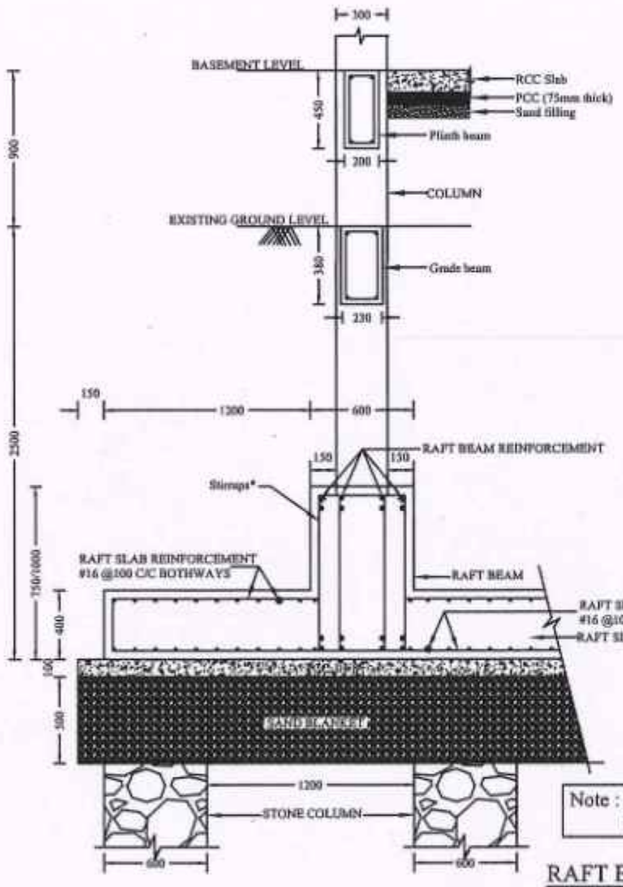
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25/11/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
25/11/24

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 23.11.2024
Chief Engineer - I

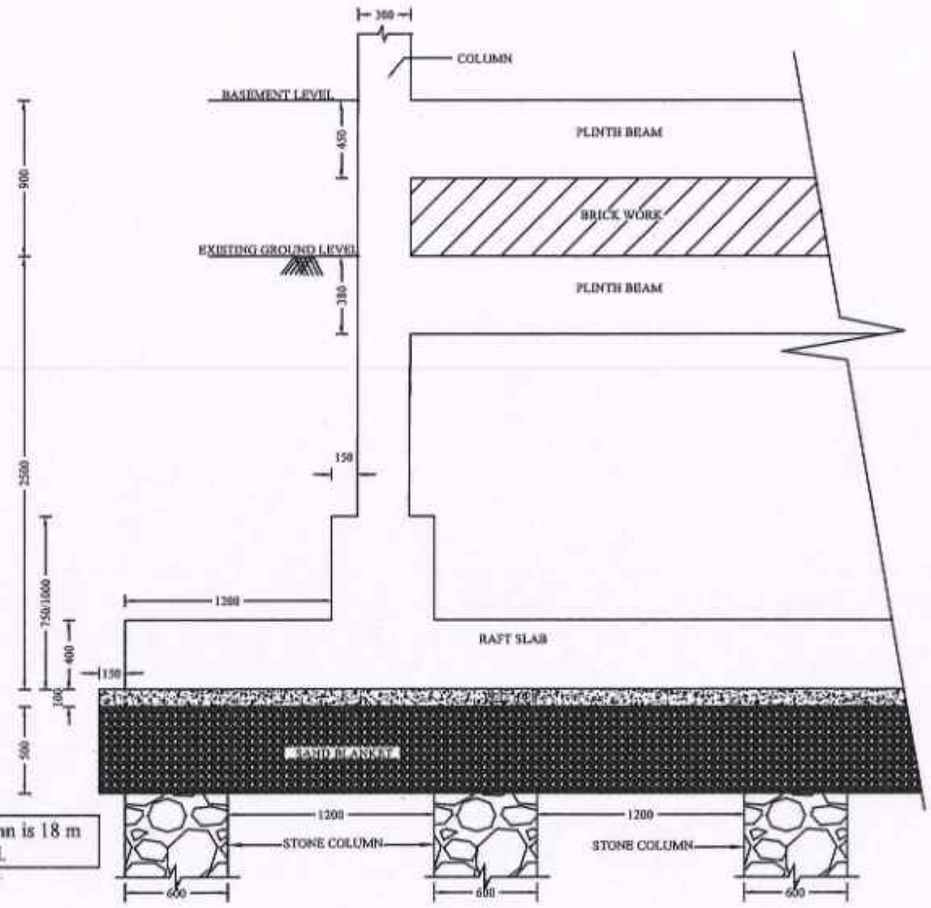
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

## TYPICAL CROSS SECTION OF RAFT BEAM WITH SLAB DETAILS.

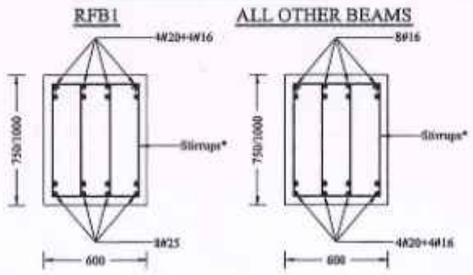



Note : Length of Stone Column is 18 m below foundation level.

## TYPICAL CROSS SECTIONAL ELEVATION OF RAFT BEAM WITH SLAB DETAILS.




## RAFT BEAM DETAILS




NOTE:
1.For beam 750 mm depth - Stirrups* => 4 Legged # 10 mm stirrups at 100 mm c/c for 1.5 metre length on all sides near beam-column junctions and the rest at 150 mm c/c.
2.For beam 1000 mm depth - Stirrups* => 4 Legged # 10 mm stirrups at 100 mm c/c for 2 metre length on all sides near beam-column junctions and the rest at 150 mm c/c.

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20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
20/06/24

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
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21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TYPICAL CROSS SECTION & CROSS SECTIONAL ELEVATION OF RAFT BEAM WITH SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/R2/03.

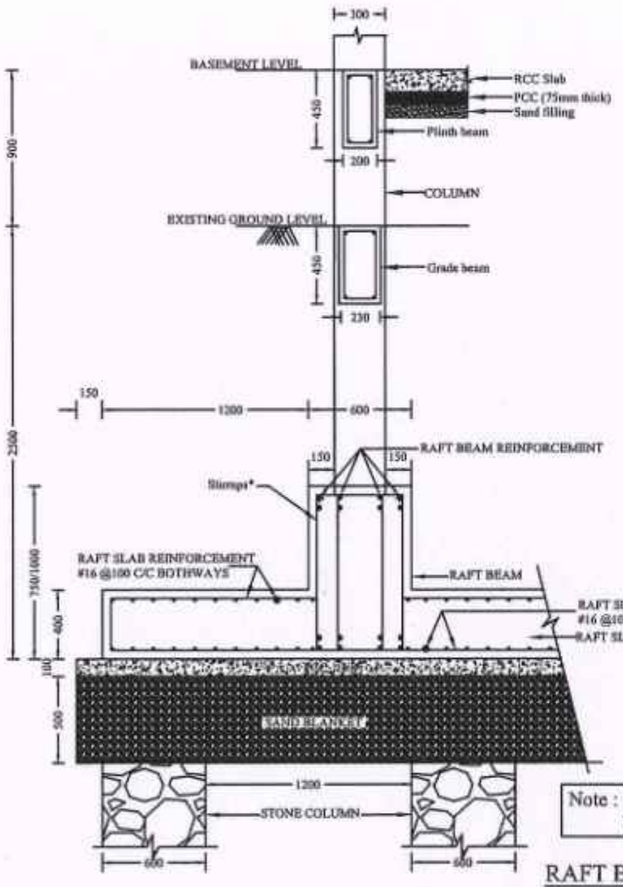
REVISION NO.: R2

| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | **SE - North I** |

Sd.xxxx 18.06.2024.
**Chief Engineer- I**

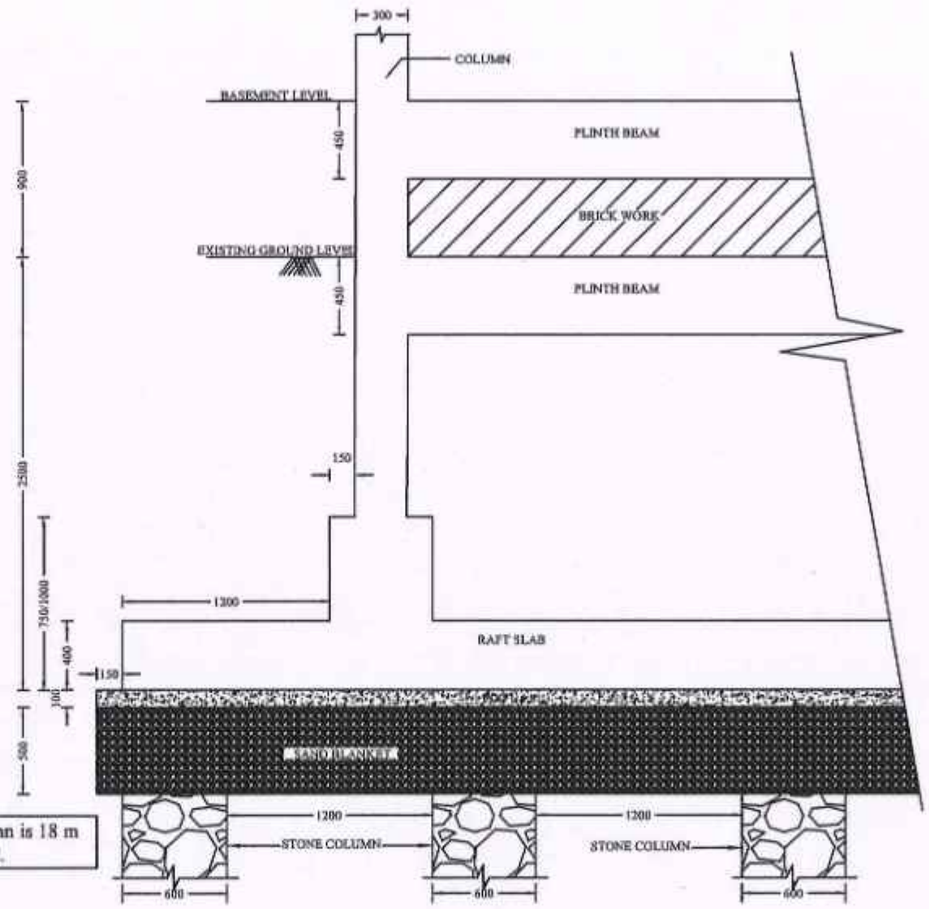
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

## TYPICAL CROSS SECTION OF RAFT BEAM WITH SLAB DETAILS.

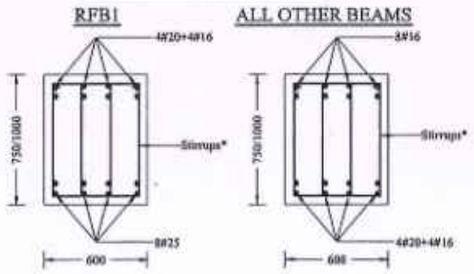



Note : Length of Stone Column is 18 m below foundation level.

## TYPICAL CROSS SECTIONAL ELEVATION OF RAFT BEAM WITH SLAB DETAILS.




## RAFT BEAM DETAILS




NOTE:
1.For beam 750 mm depth - Stirrups* => 4 Legged # 10 mm stirrups at 100 mm c/c for 1.5 metre length on all sides near beam-column junctions and the rest at 150 mm c/c.
2.For beam 1000 mm depth - Stirrups* => 4 Legged # 10 mm stirrups at 100 mm c/c for 2 metre length on all sides near beam-column junctions and the rest at 150 mm c/c.

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20/6/2024
EXECUTIVE ENGINEER (A/C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

20/06/24

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be get approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AIE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TYPICAL CROSS SECTION & CROSS SECTIONAL ELEVATION OF RAFT BEAM WITH SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/R1/03.

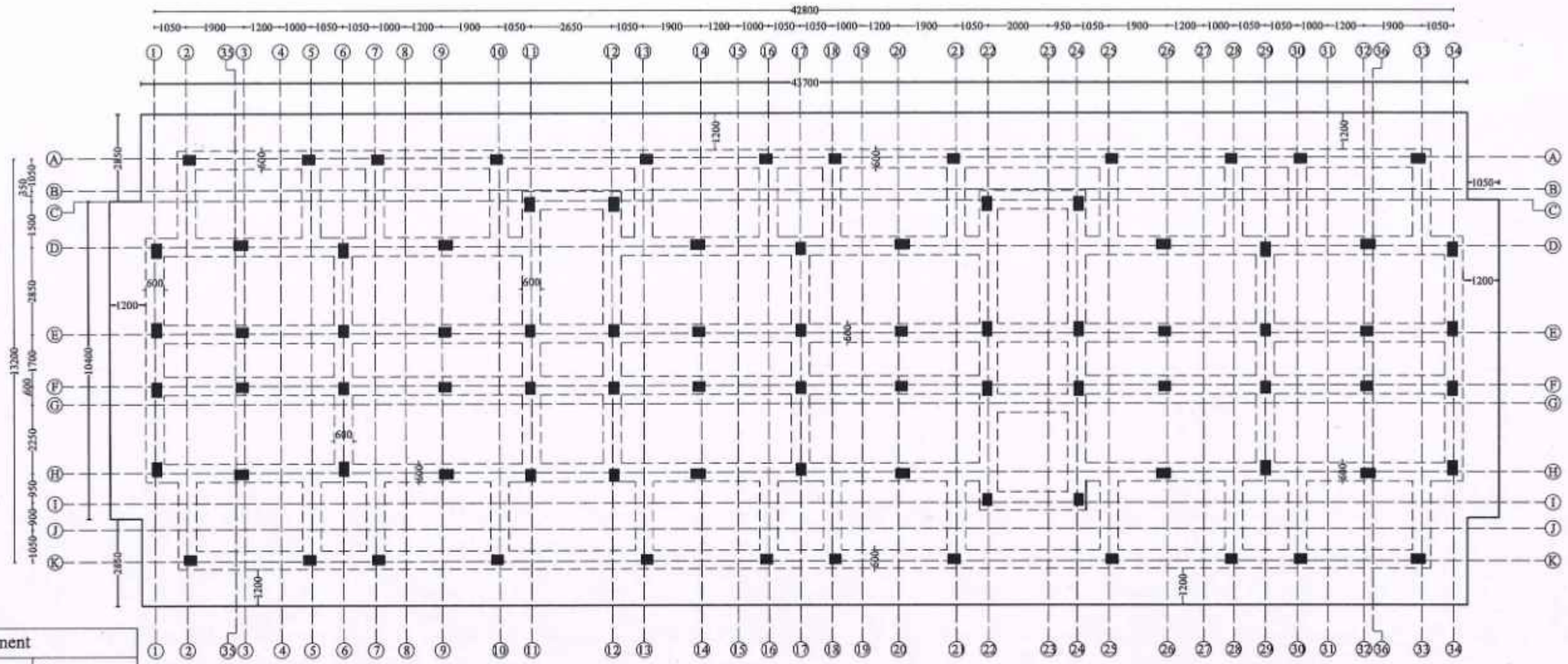
REVISION NO.: R1

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 18.06.2024.
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# PLAN AT RAFT FOUNDATION LEVEL




| Raft Reinforcement | | |
|---|---|---|
| Along direction | Top | Bottom |
| X - Direction | #12@150 c/c | #16@100 c/c |
| Y - Direction | #12@125 c/c | #16@150 c/c |

Y
X

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
PLAN AT FOUNDATION LEVEL.

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/01.

REVISION NO.:

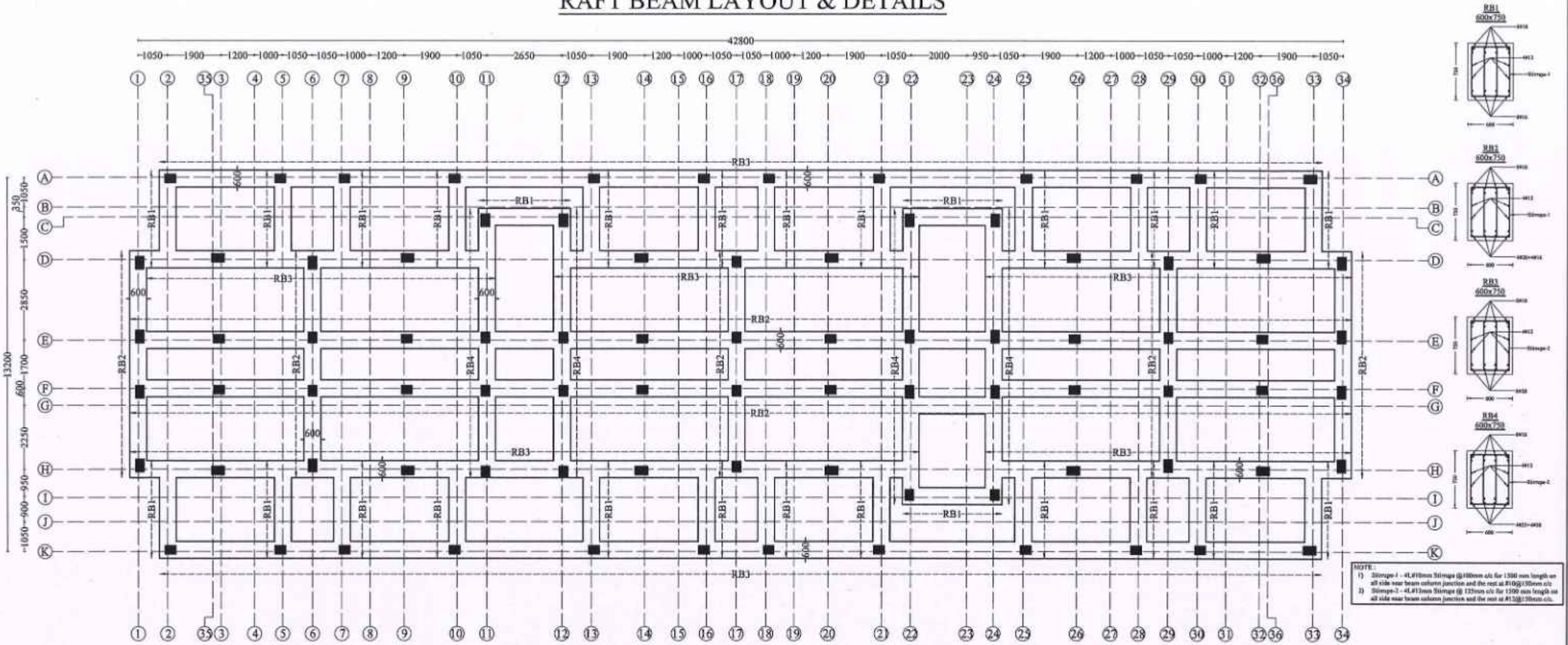
TRUE COPY
20/6/2024
EXECUTIVE ENGINEER (A/C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# RAFT BEAM LAYOUT & DETAILS




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
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6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
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    (b) Column - 40 mm
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13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
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15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
RAFT BEAM LAYOUT & DETAILS

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/02.

REVISION NO.:

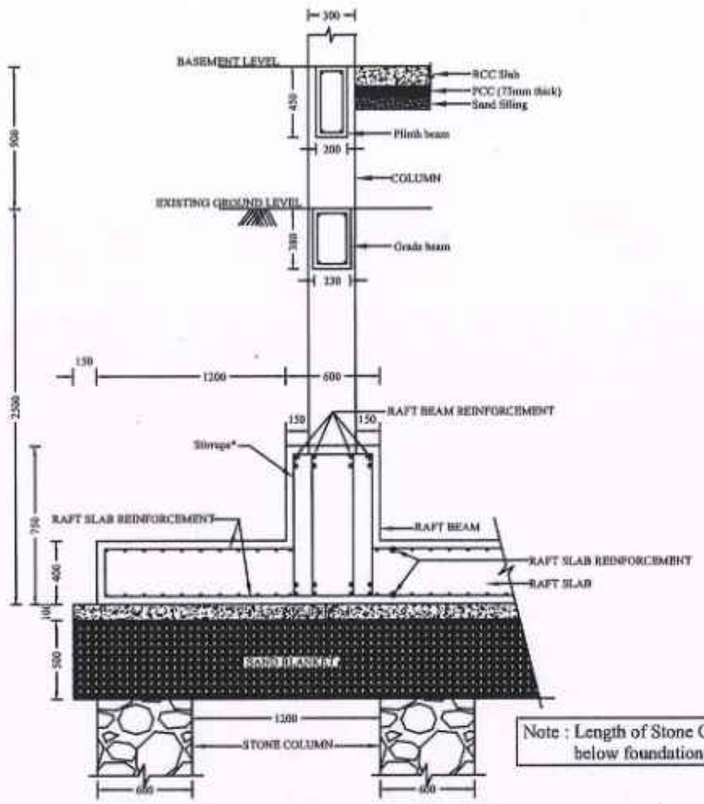
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20/6/2024
EXECUTIVE ENGINEER (A/C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer - I

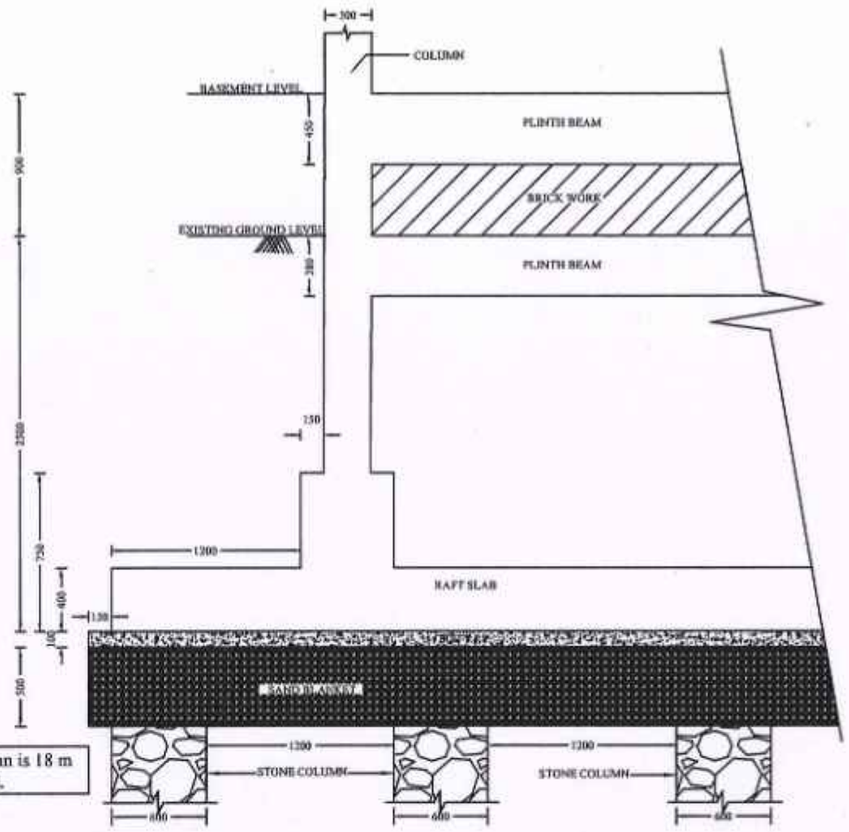
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

## TYPICAL CROSS SECTION OF FOUNDATION.




Note : Length of Stone Column is 18 m below foundation level.

## TYPICAL CROSS SECTIONAL ELEVATION OF RAFT BEAM FOUNDATION.




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,, unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TYPICAL CROSS SECTION & CROSS SECTIONAL ELEVATION OF FOUNDATION.

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/03.

REVISION NO.:

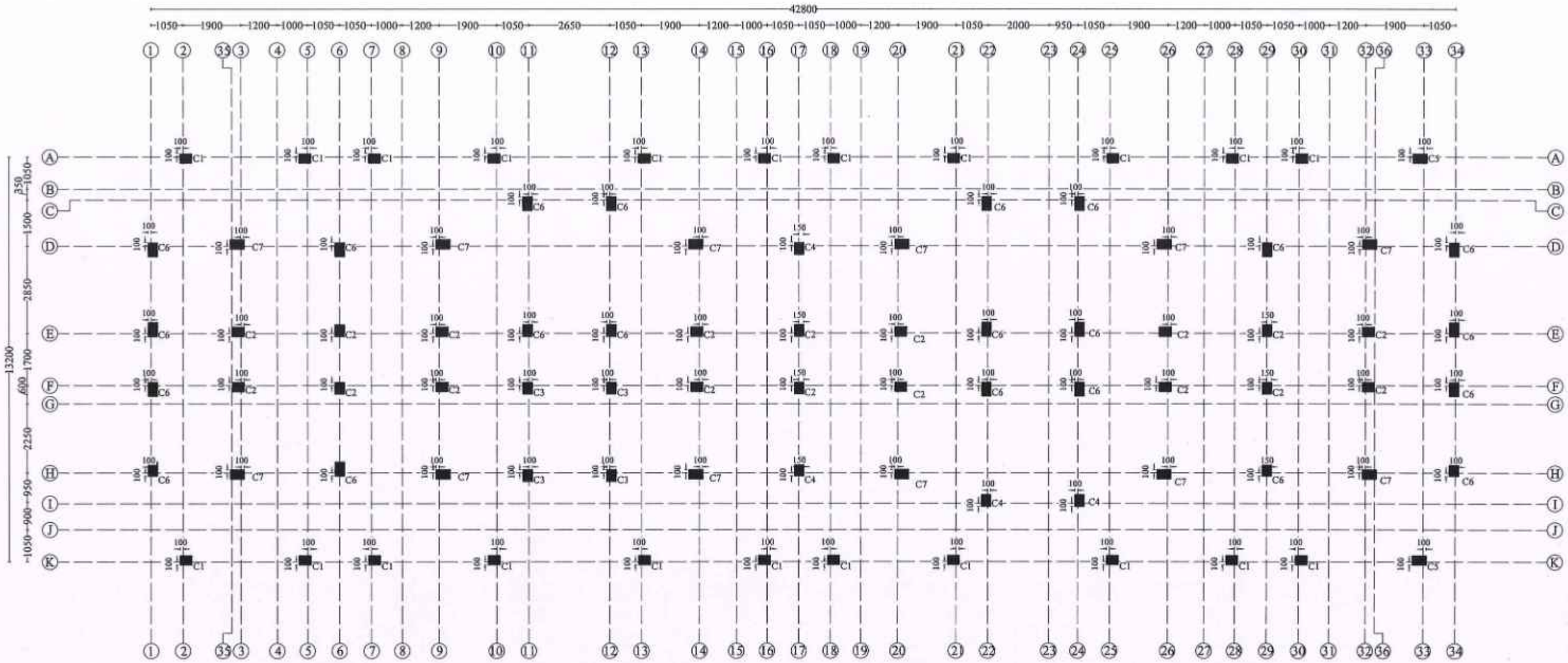
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20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# COLUMN LAYOUT




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
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13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
COLUMN LAYOUT

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/04.

REVISION NO.:

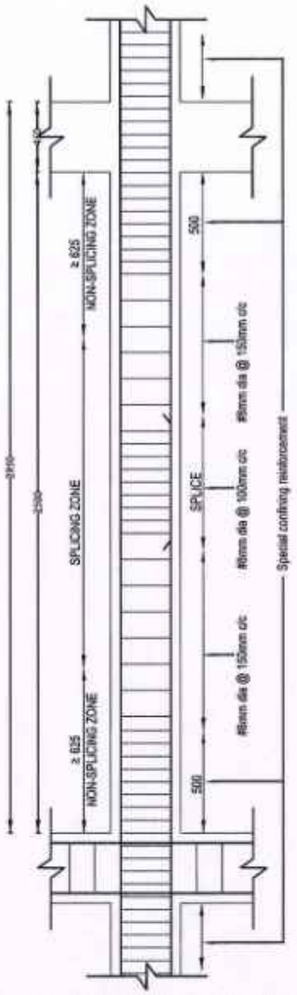
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20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

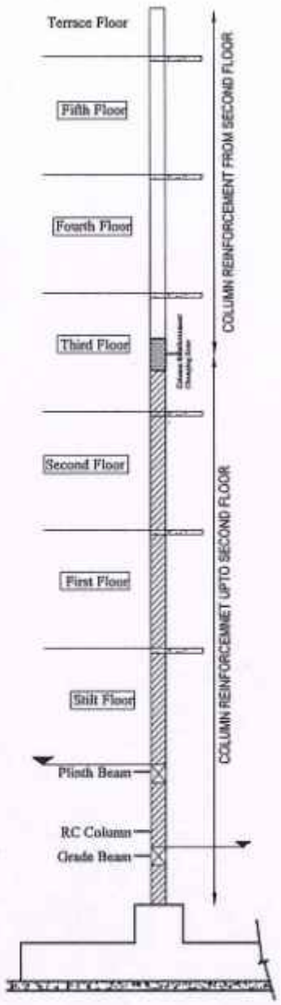
# SCHEDULE OF COLUMNS




TYPICAL COLUMN SPLICING AND CONFINING REINFORCEMENT DETAILS

| Sl.No. | Column Marking | No of Columns | Size | Upto Second Floor Column Reinforcement Details | | | Above Second Floor Column Reinforcement Details | | | Ties Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Column Verticals | Lateral Ties | Cross Section | Column Verticals | Lateral Ties | Cross Section | |
| 1. | C1 | 22 | 300 x 380 | # 12 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 12 - 10 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - | |
| 2. | C2 | 18 | 300 x 380 | # 16 - 10 Nos | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 3. | C3 | 04 | 300 x 380 | # 16 - 10 Nos | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 4. | C4 | 04 | 300 x 380 | # 20 - 4 Nos + # 16 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 12 - 10 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 5. | C5 | 02 | 300 x 450 | # 16 - 4 Nos + # 12 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 450 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - | |
| 6. | C6 | 22 | 300 x 450 | # 16 - 10 Nos | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 450 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 7. | C7 | 12 | 300 x 450 | # 20 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 450 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |

Notes: In Cross Section a - # 20 mm b - # 16 mm c - # 12 mm




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

20/06/24

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SCHEDULE OF COLUMNS

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/05.

REVISION NO.:

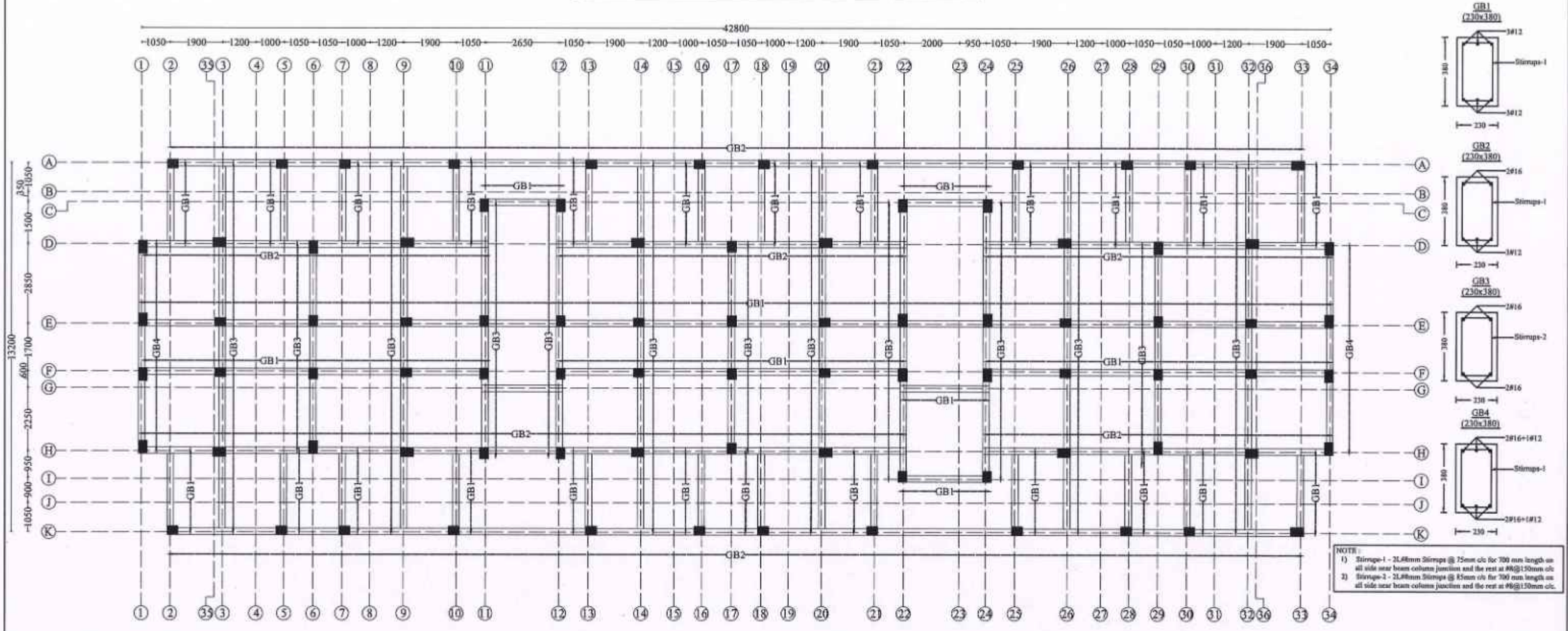
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20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# GRADE BEAM LAYOUT & DETAILS




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
GRADE BEAM LAYOUT & DETAILS

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/06.

REVISION NO.:

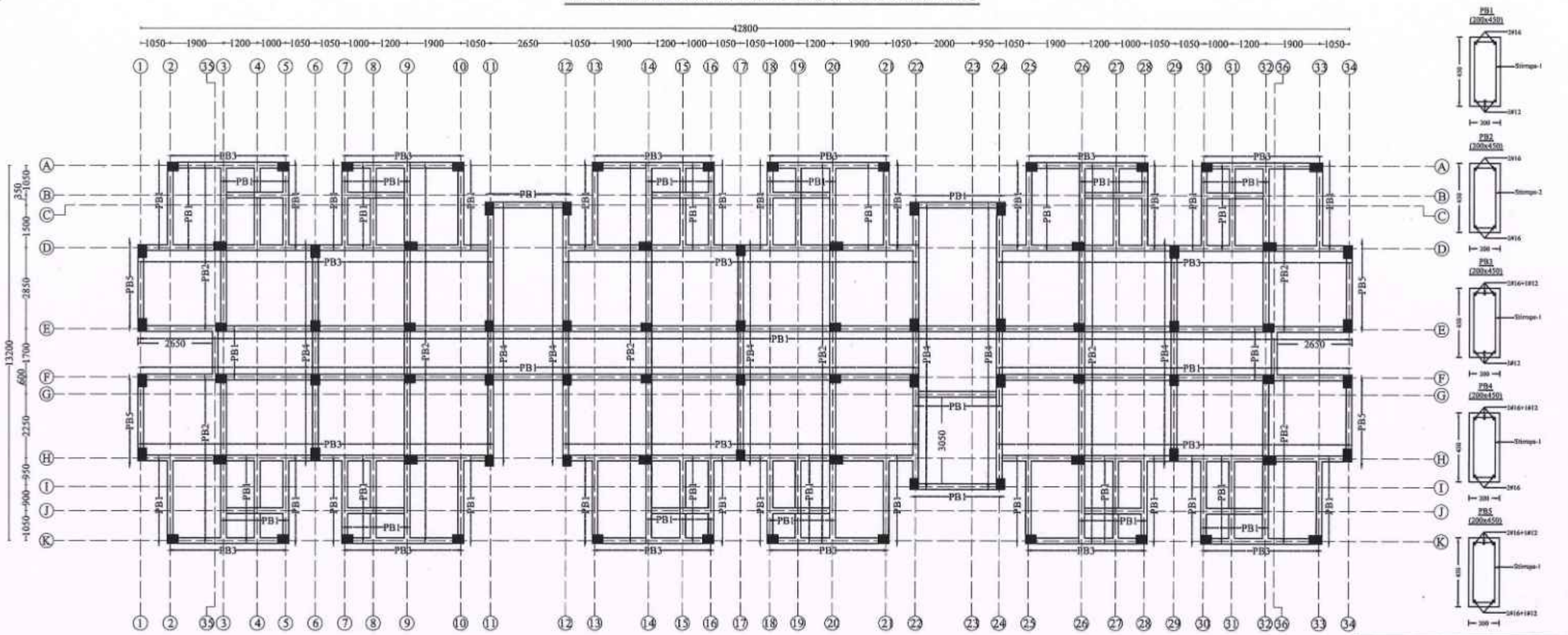
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20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# PLINTH BEAM LAYOUT & DETAILS




NOTE : For Plinth Floor Slab Details Refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/GEN/01.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
PLINTH BEAM LAYOUT & DETAILS

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/Block A/07.

REVISION NO.:

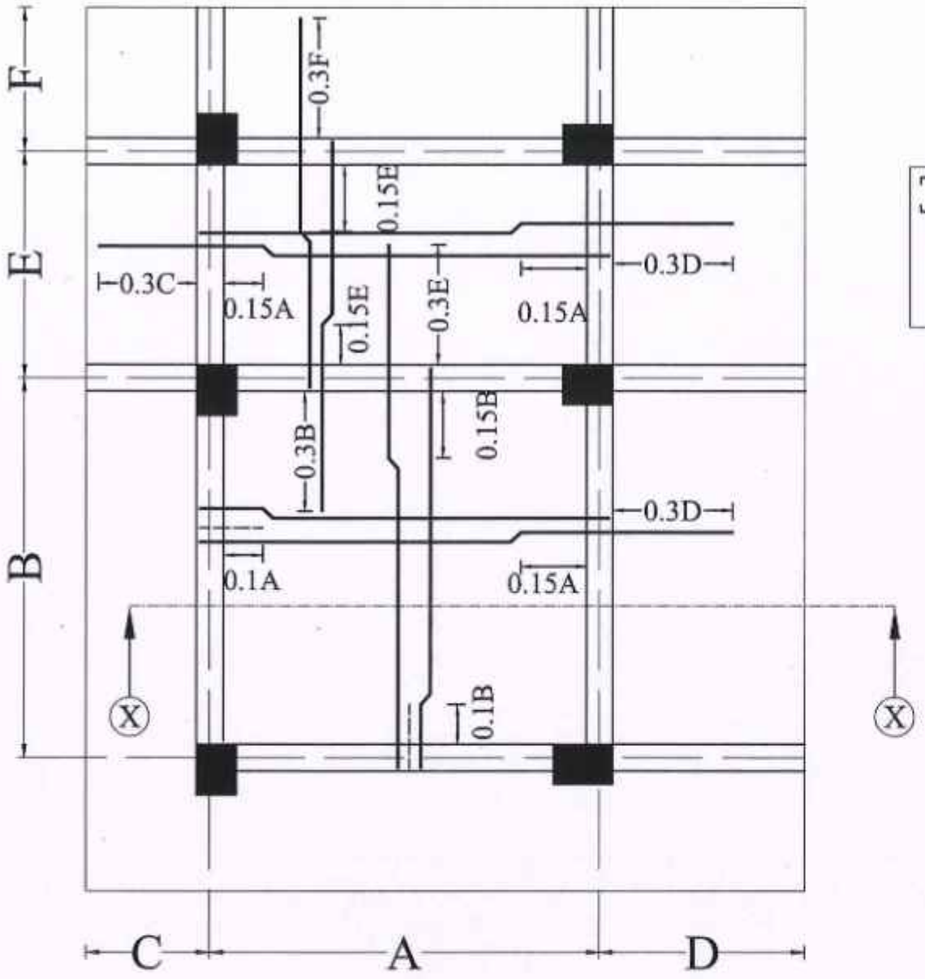
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20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

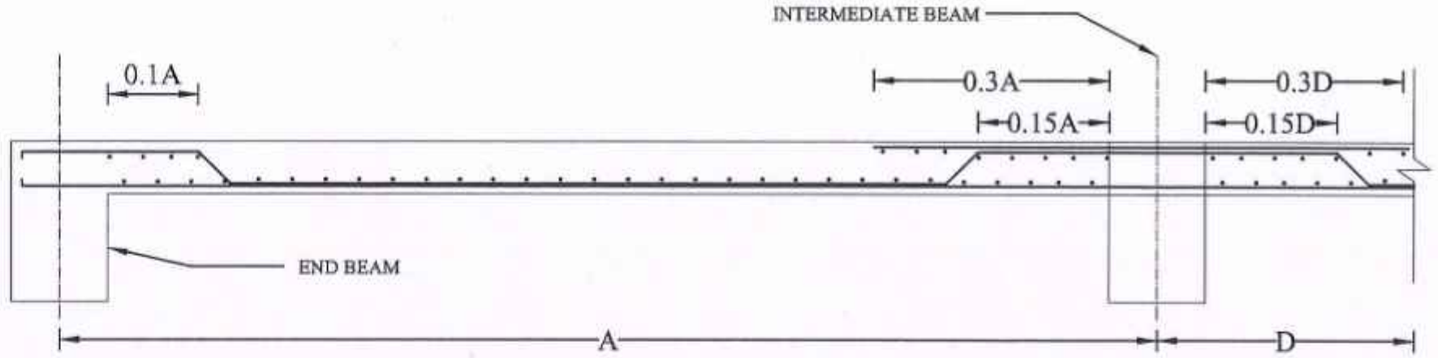
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# PLINTH LEVEL SLAB DETAILS - TYPICAL




SECTION X -X

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@230mm c/c

**NOTE :**

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9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
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    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
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12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
PLINTH LEVEL SLAB DETAILS - TYPICAL

TYPE DESIGN NO.:73/74/75/2022, TYPE A,B & C

DWG.NO.: TNUHDB/THIRUVOTTIYUR/GEN/01.

REVISION NO.:

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20/6/2024
EXECUTIVE ENGINEER (A/C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

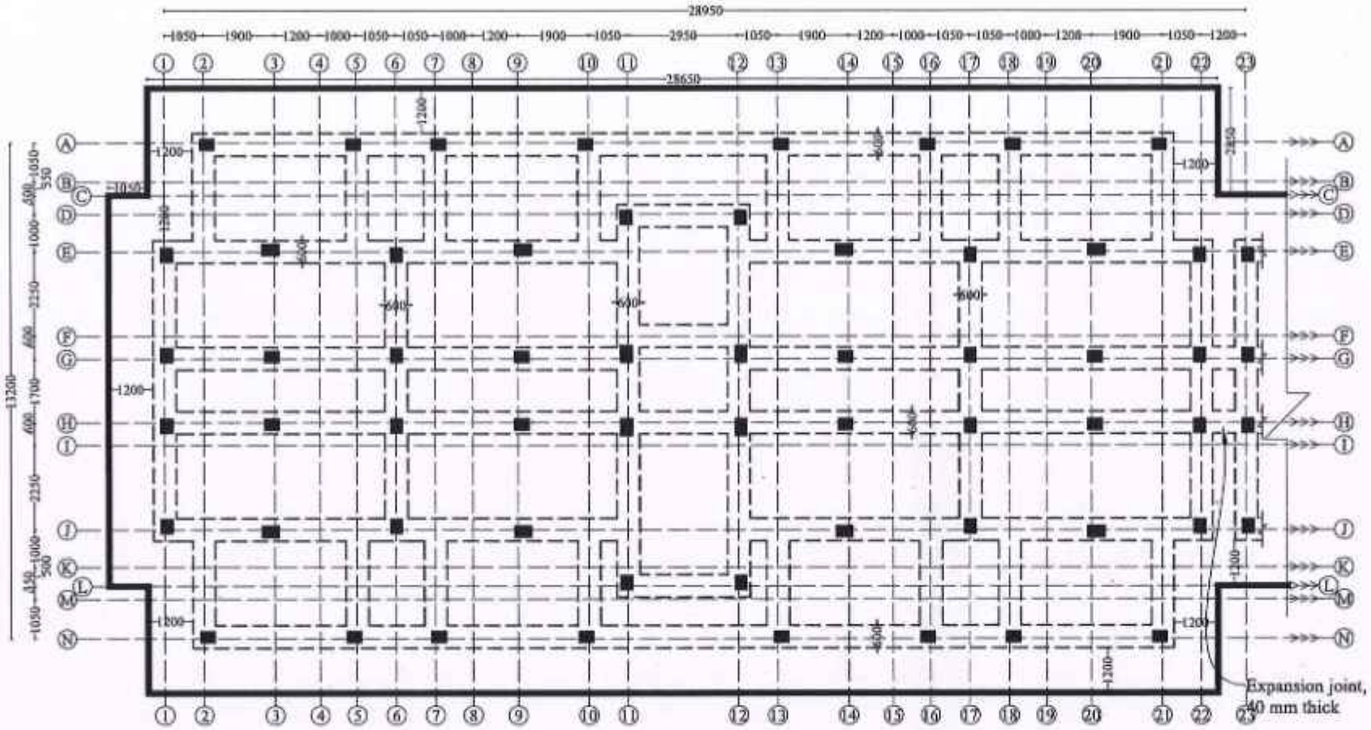
20/06/24

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# PLAN AT RAFT FOUNDATION LEVEL




| Raft Reinforcement | | |
|---|---|---|
| Along direction | Top | Bottom |
| X - Direction | #12@150 c/c | #16@100 c/c |
| Y - Direction | #12@125 c/c | #16@150 c/c |

Y
X

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20/6/2024.
EXECUTIVE ENGINEER (A/C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

20/6/2024

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
PLAN AT FOUNDATION LEVEL.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/01.

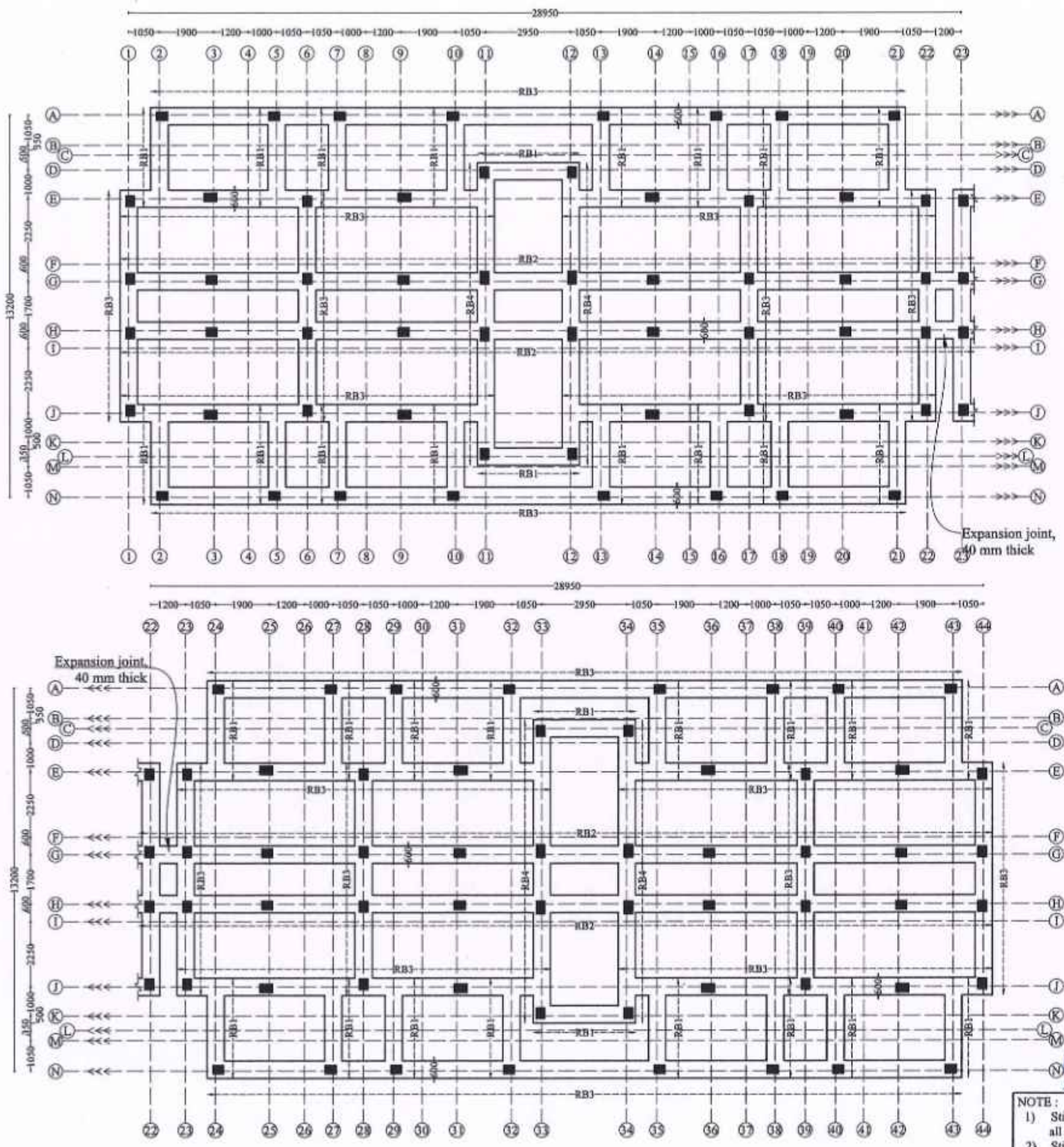
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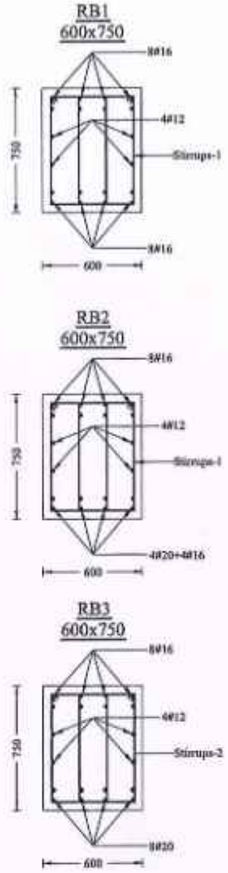
| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# RAFT BEAM LAYOUT & DETAILS




NOTE :

1) Stirrups-1 - 4L#10mm Stirrups @100mm c/c for 1500 mm length on all side near beam column junction and the rest at #10@150mm c/c
2) Stirrups-2 - 4L#12mm Stirrups @ 125mm c/c for 1500 mm length on all side near beam column junction and the rest at #12@150mm c/c.

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20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
20/06/24

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3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
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21. Dimensions and levels are to unfinished surface excluding finishes,coating etc, unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
RAFT BEAM LAYOUT & DETAILS

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/02.

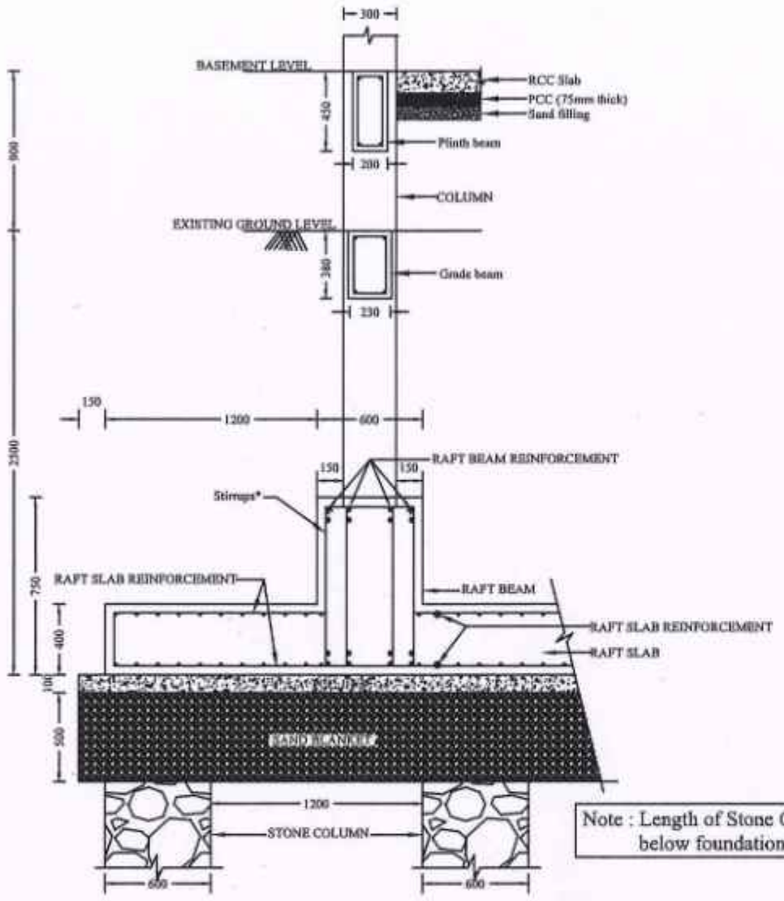
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North 1 |

sd.xxxx 18.06.2024
**Chief Engineer- I**

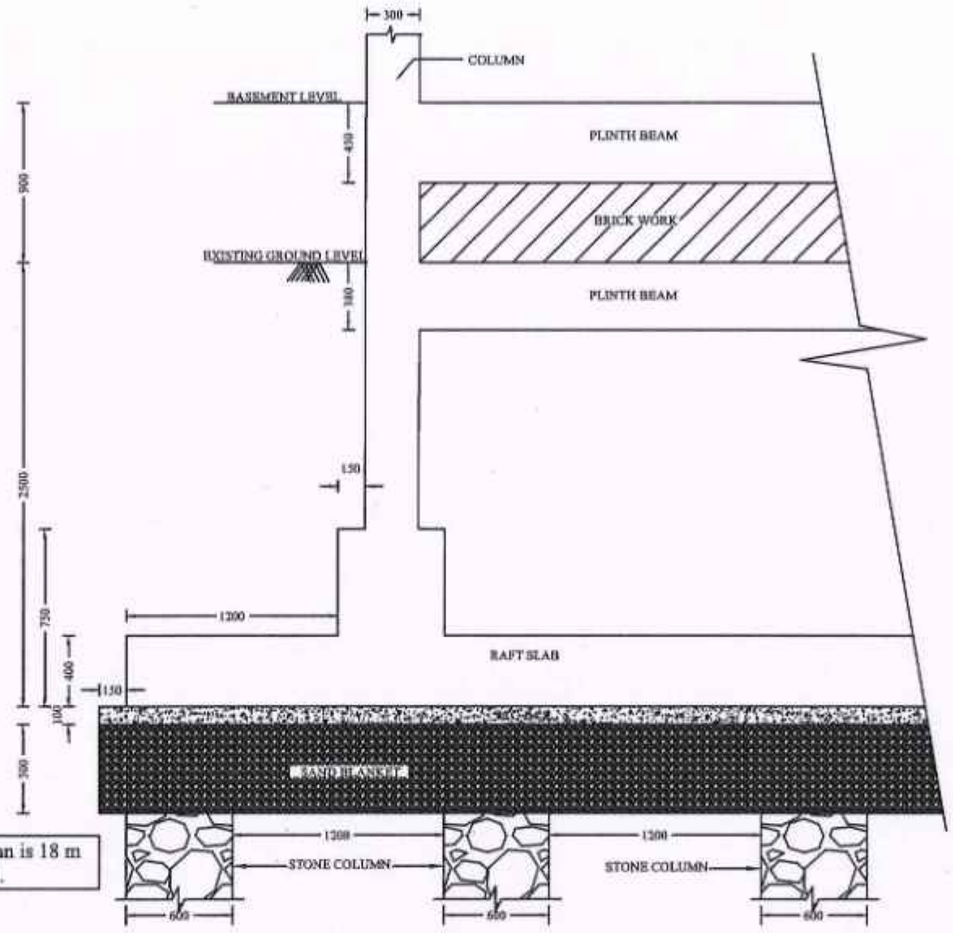
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

## TYPICAL CROSS SECTION OF FOUNDATION.




Note : Length of Stone Column is 18 m below foundation level.

## TYPICAL CROSS SECTIONAL ELEVATION OF FOUNDATION.




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
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7. Structure is designed for **(PS+5)** floors only.
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9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
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13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TYPICAL CROSS SECTION & CROSS SECTIONAL ELEVATION OF FOUNDATION.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/03.

REVISION NO.:

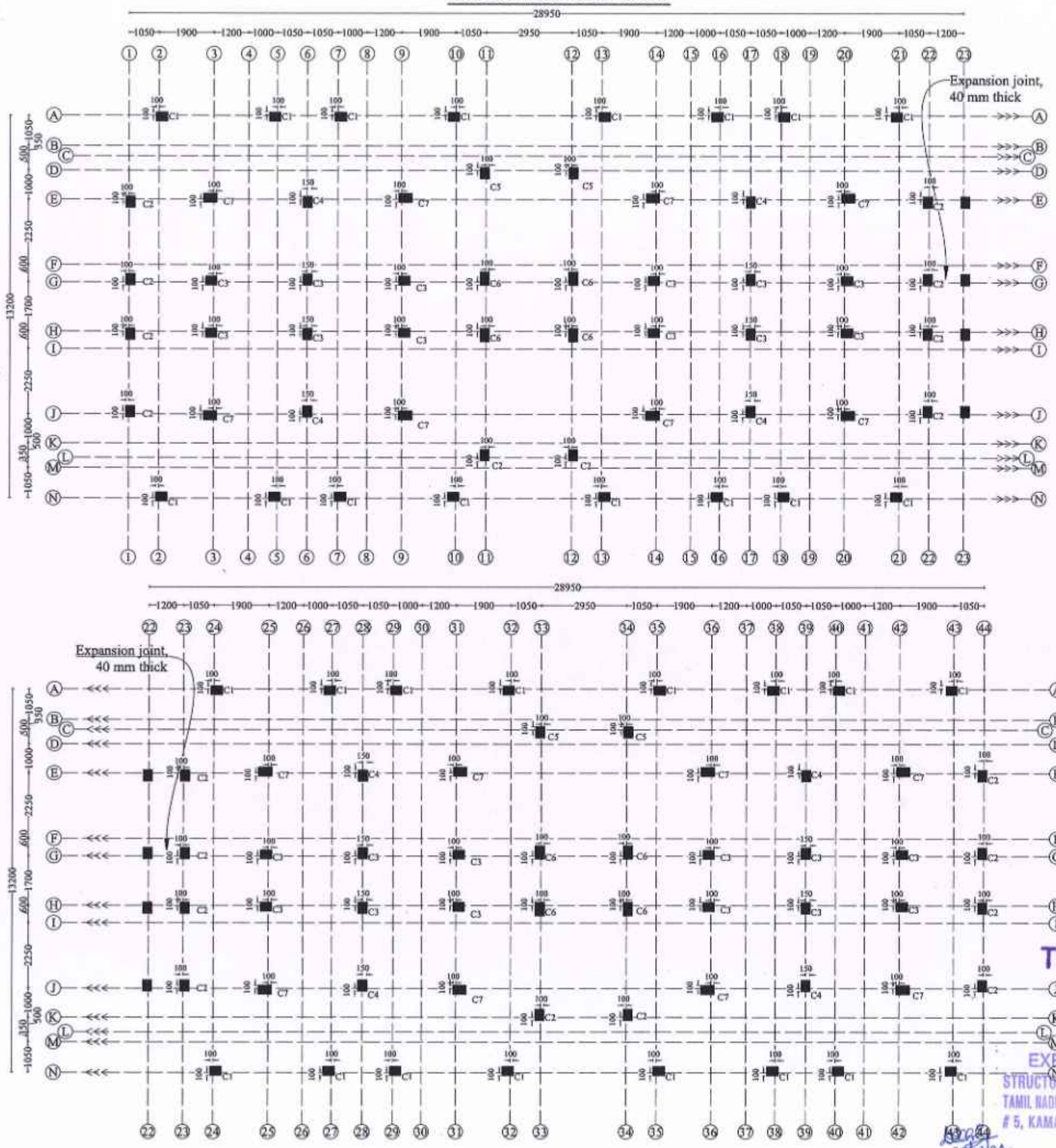
| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

TRUE COPY
20/6/2024
EXECUTIVE ENGINEER (A/C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
20/06/24

# COLUMN LAYOUT




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
COLUMN LAYOUT

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/04.

REVISION NO.:

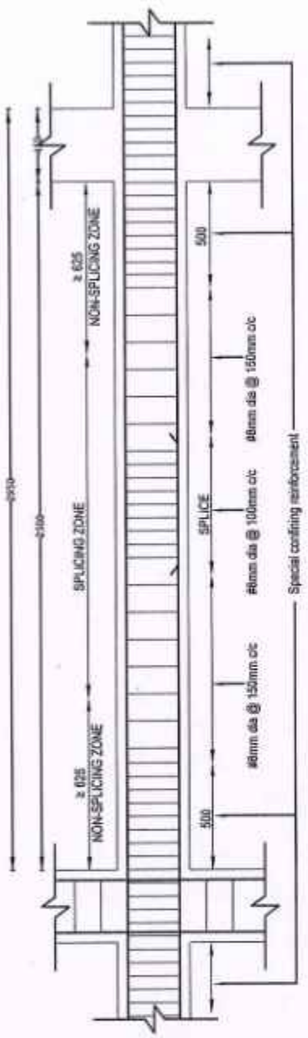
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

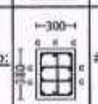
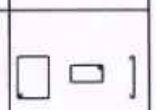
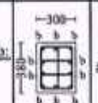
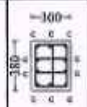
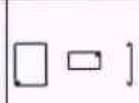
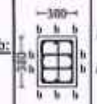
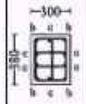
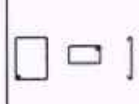
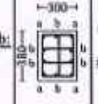
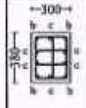
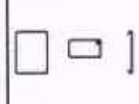
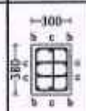
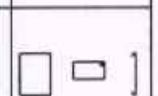
TRUE COPY

20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005

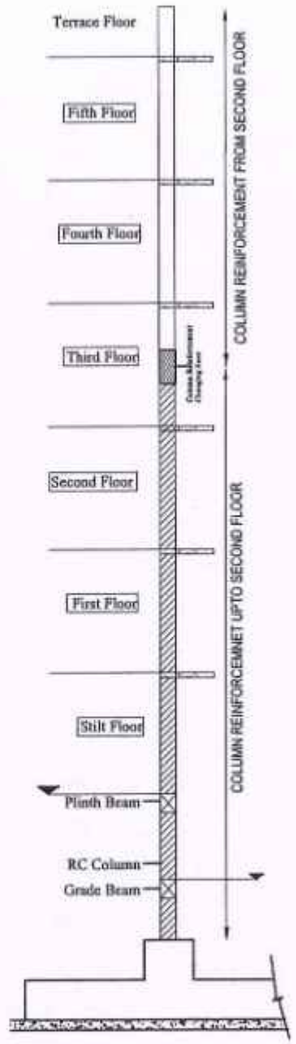



TYPICAL COLUMN SPLICING AND CONFINING REINFORCEMENT DETAILS

# SCHEDULE OF COLUMNS

| Sl.No. | Column Marking | No of Columns | Size | Upto Second Floor Column Reinforcement Details | | | Above Second Floor Column Reinforcement Details | | | Ties Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Column Verticals | Lateral Ties | Cross Section | Column Verticals | Lateral Ties | Cross Section | |
| 1. | C1 | 32 | 300 x 380 | # 12 - 10 Nos. | 1) Upto Plinth Beam:<br>#10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 12 - 10 Nos. | Above Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - |  |
| 2. | C2 | 20 | 300 x 380 | # 16 - 10 Nos | 1) Upto Plinth Beam:<br>#10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 12 - 10 Nos. | Above Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 3. | C3 | 24 | 300 x 380 | # 16 - 10 Nos | 1) Upto Plinth Beam:<br>#10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos<br>+<br># 12 - 6 Nos. | Above Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 4. | C4 | 08 | 300 x 380 | # 20 - 4 Nos<br>+<br># 16 - 6 Nos. | 1) Upto Plinth Beam:<br>#10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos<br>+<br># 12 - 6 Nos. | Above Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 5. | C5 | 04 | 300 x 380 | # 20 - 4 Nos<br>+<br># 16 - 6 Nos. | 1) Upto Plinth Beam:<br>#10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 12 - 10 Nos. | Above Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 6. | C6 | 08 | 300 x 450 | # 20 - 4 Nos<br>+<br># 16 - 6 Nos. | 1) Upto Plinth Beam:<br>#10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos<br>+<br># 12 - 6 Nos. | Above Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 7. | C7 | 16 | 300 x 450 | # 20 - 10 Nos. | 1) Upto Plinth Beam:<br>#10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos<br>+<br># 12 - 6 Nos. | Above Second floor slab:<br>#10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |

Notes: In Cross Section a - # 20 mm b - # 16 mm c - # 12 mm




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SCHEDULE OF COLUMNS

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/05.

REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
**Chief Engineer- I**

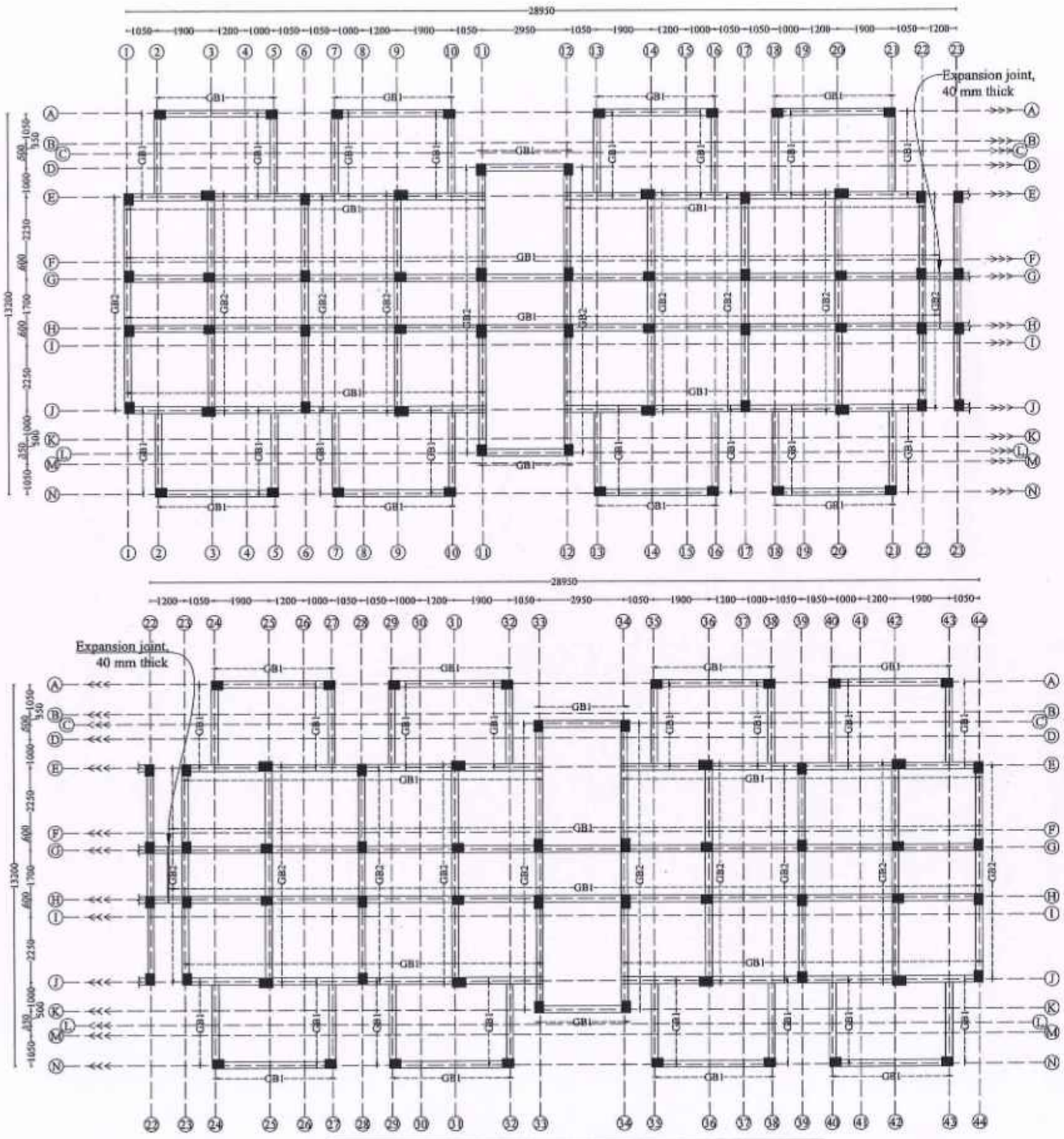
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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20/6/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI 600 005.

20/06/24

# GRADE BEAM LAYOUT & DETAILS

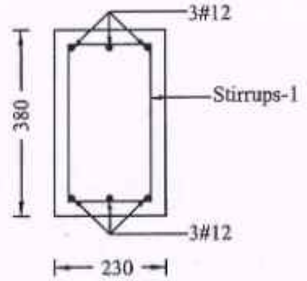




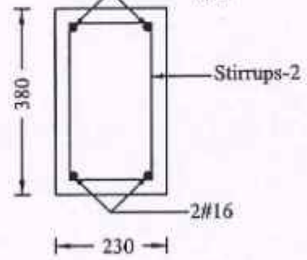


NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 700 mm length on all side near beam column junction and the rest at #8@150mm c/c
2) Stirrups-2 - 2L#8mm Stirrups @ 85mm c/c for 700 mm length on all side near beam column junction and the rest at #8@150mm c/c.

GB1
(230x380)




GB2
(230x380)




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EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

20/06/24

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 $Kg/m^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of changs in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
GRADE BEAM LAYOUT & DETAILS

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/06.

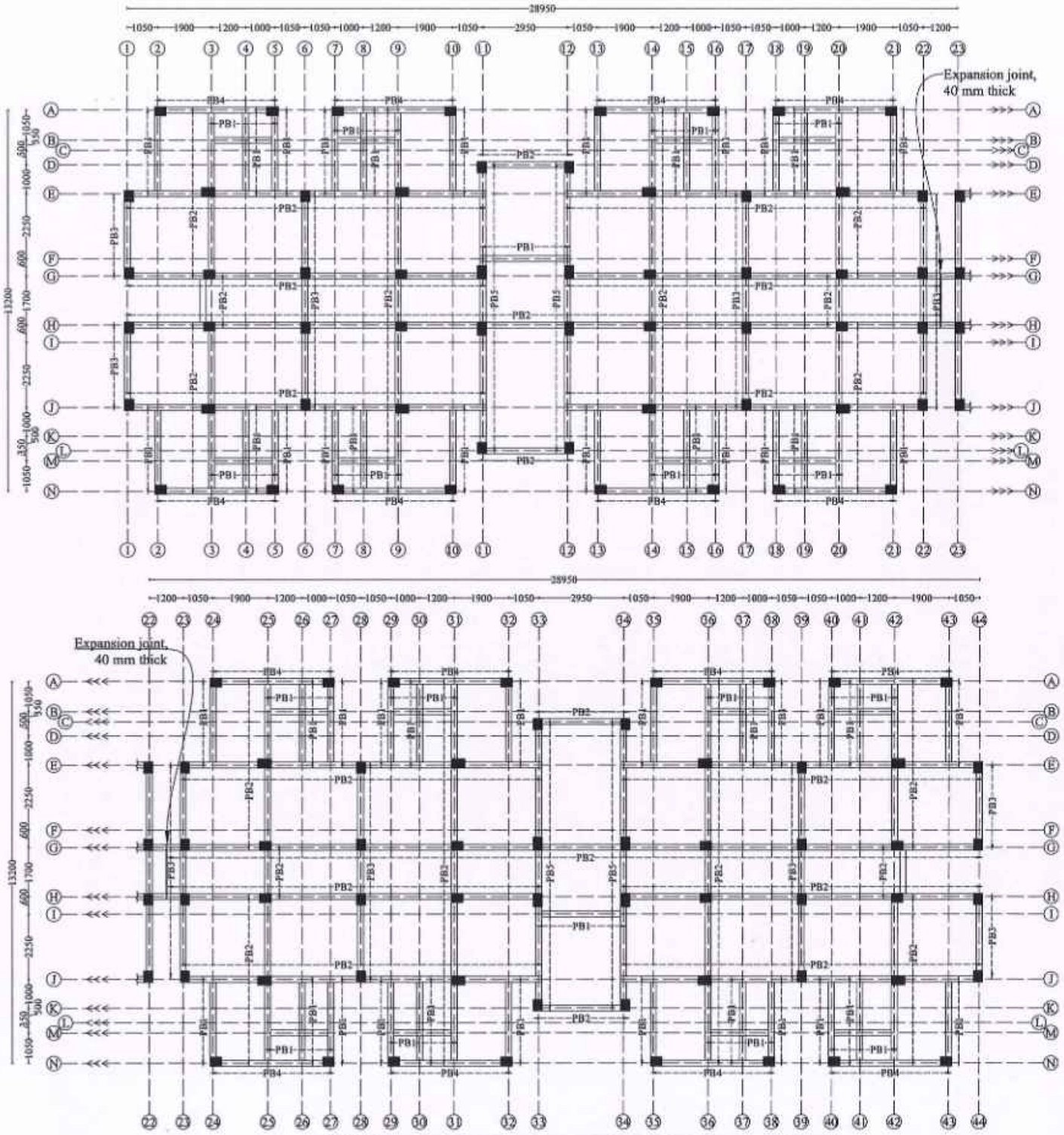
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

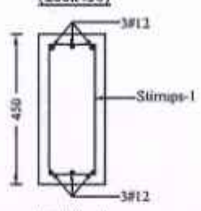
# PLINTH BEAM LAYOUT & DETAILS



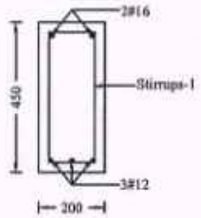

NOTE :

1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at #8@150mm c/c
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at #8@150mm c/c.

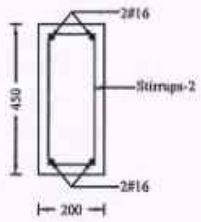
PB1 (200x450)



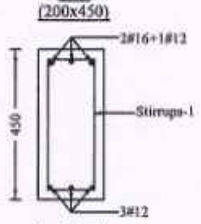

PB2 (200x450)



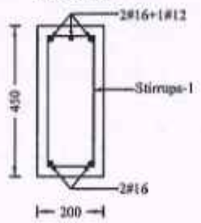

PB3 (200x450)




PB4 (200x450)




PB5 (200x450)




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20/6/2024

EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

20/06/24

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
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    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer at once for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
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22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
PLINTH BEAM LAYOUT & DETAILS

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/07.

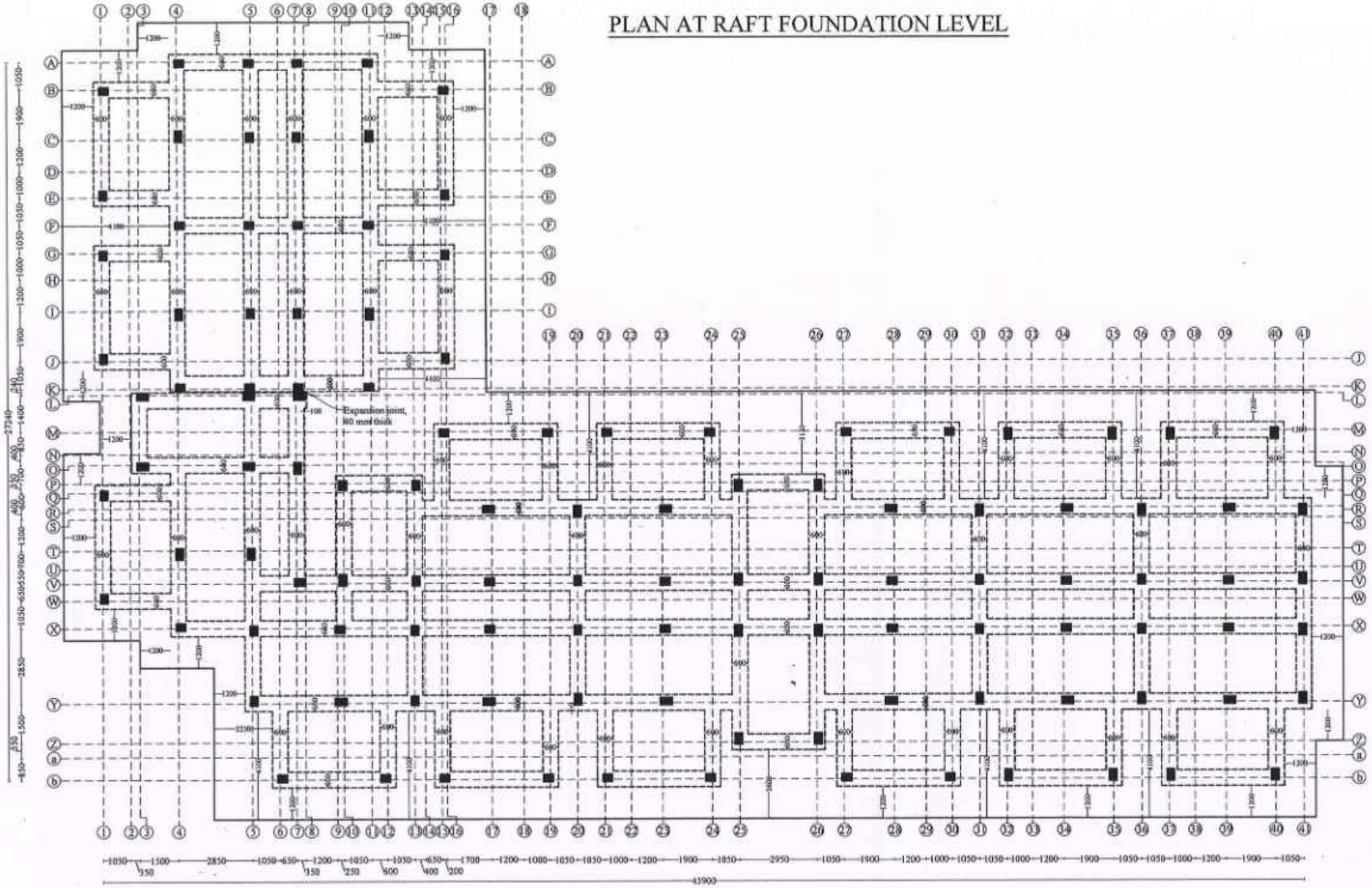
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

sd.xxxx 18.06.2024
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# PLAN AT RAFT FOUNDATION LEVEL




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
PLAN AT FOUNDATION LEVEL.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/R1/01.

REVISION NO.: R1

| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | **SE (PMU)** |
| Sd.xxxxx.<br>**SE - North I** | Sd.xxxx 11.05.2024.<br>**Chief Engineer- North** |

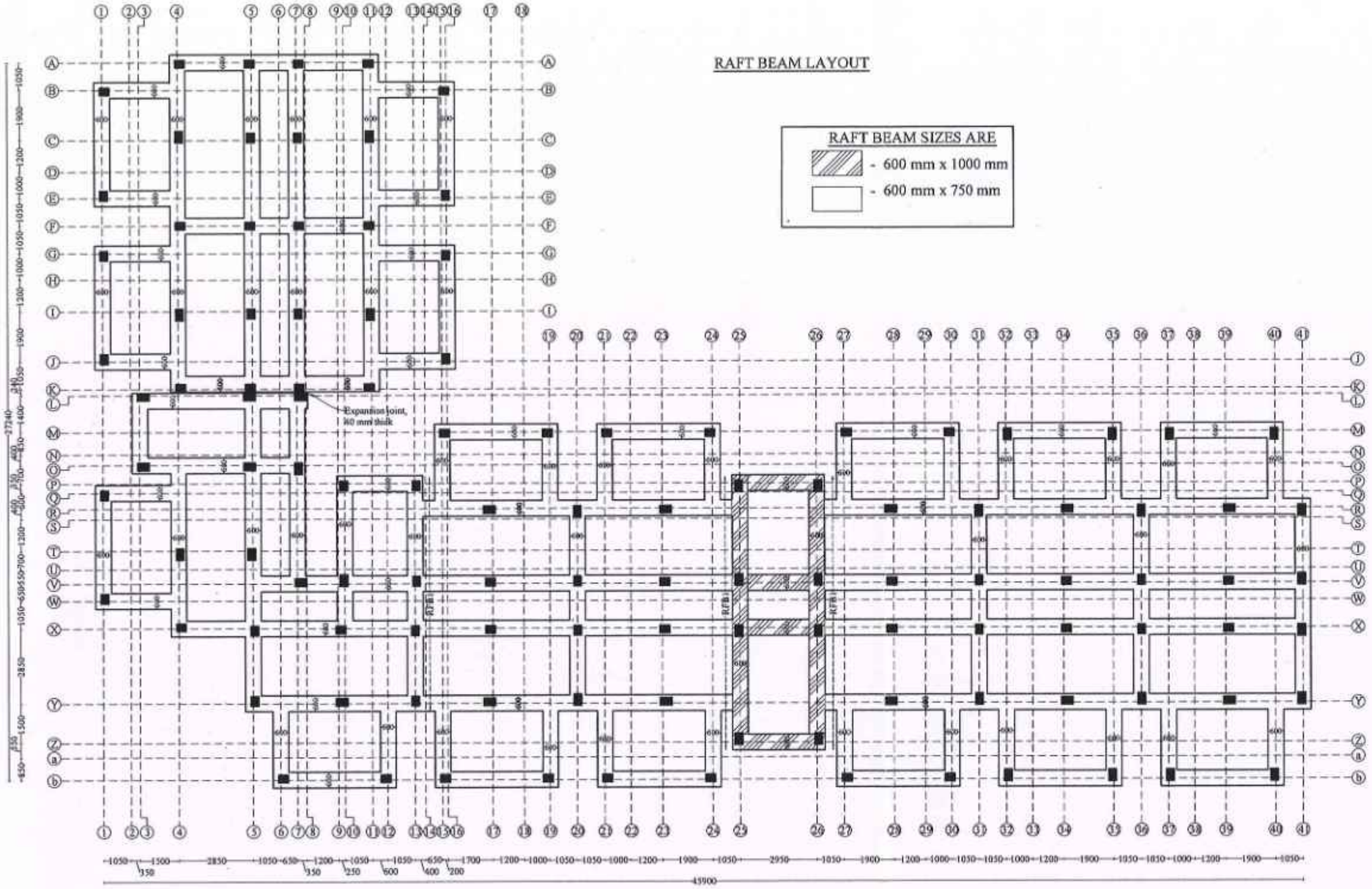
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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13/5/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

EE
11/05/24

## RAFT BEAM LAYOUT




**NOTE :**

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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
RAFT BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/R1/02.

REVISION NO.: R1

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE (PMU) |
| Sd.xxxxx. SE - North I | Sd.xxxx 11.05.2024. Chief Engineer- North |

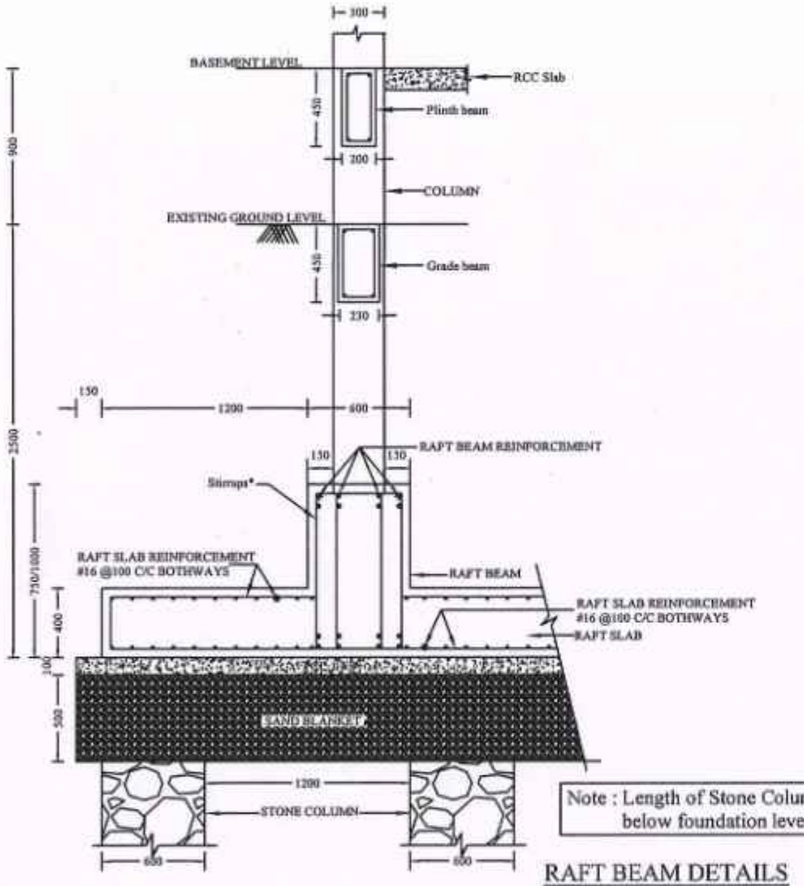
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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13/5/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

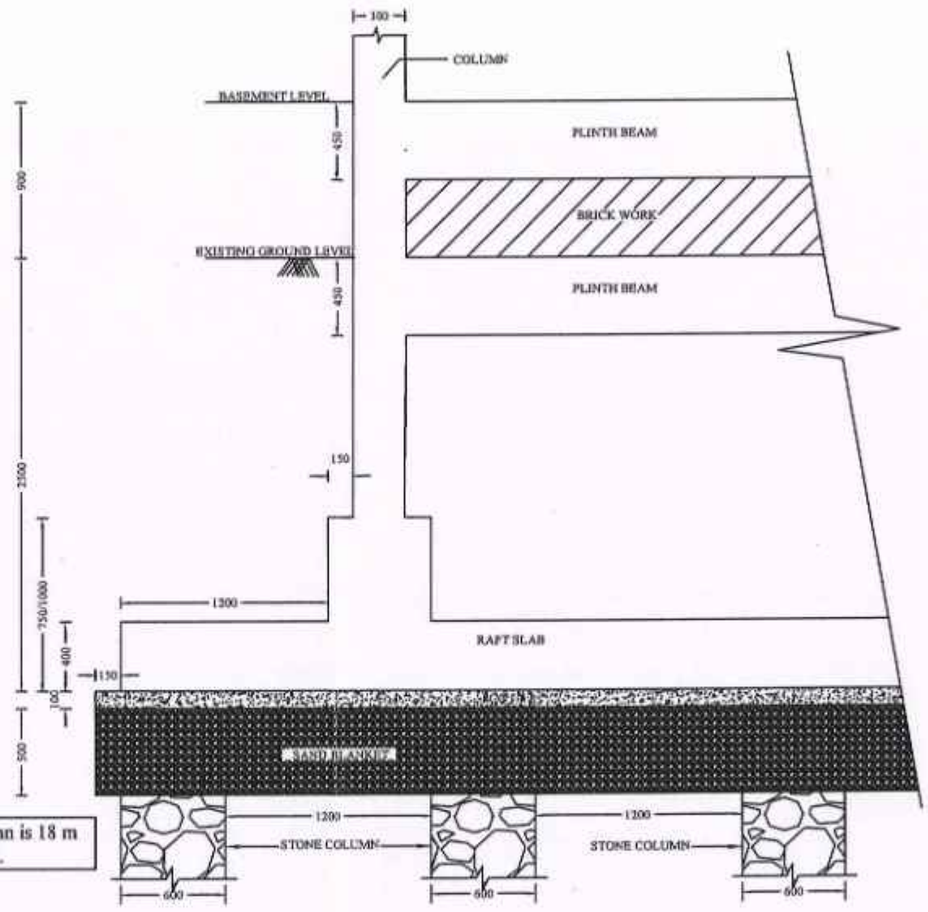
11/05/24

## TYPICAL CROSS SECTION OF RAFT BEAM WITH SLAB DETAILS.

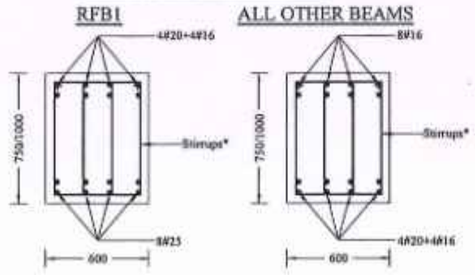



Note : Length of Stone Column is 18 m below foundation level.

## TYPICAL CROSS SECTIONAL ELEVATION OF RAFT BEAM WITH SLAB DETAILS.




## RAFT BEAM DETAILS




NOTE
1.For beam 750 mm depth - Stirrups* => 4 Legged # 10 mm stirrups at 100 mm c/c for 1.5 metre length on all sides near beam-column junctions and the rest at 150 mm c/c.
2.For beam 1000 mm depth - Stirrups* => 4 Legged # 10 mm stirrups at 100 mm c/c for 2 metre length on all sides near beam-column junctions and the rest at 150 mm c/c.

NOTE :

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# STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TYPICAL CROSS SECTION & CROSS SECTIONAL ELEVATION OF RAFT BEAM WITH SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/R1/03.

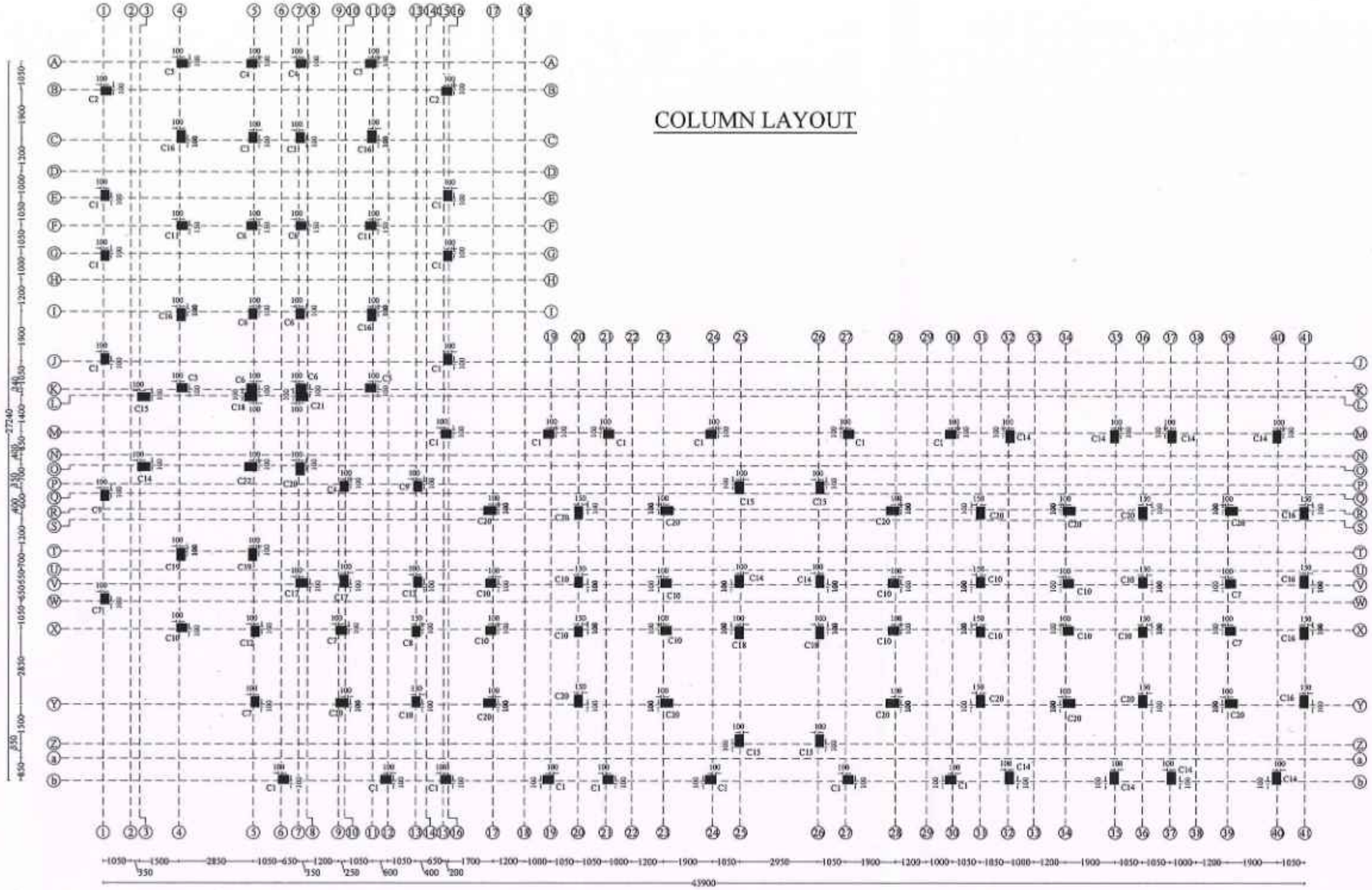
REVISION NO.: R1

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE (PMU) |
| Sd.xxxxx. SE - North 1 | Sd.xxxx 11.05.2024. Chief Engineer- North |

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

TRUE COPY
13/5/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
Rev 11/05/24

# COLUMN LAYOUT



**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No :3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc, unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
COLUMN LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/R1/04.

REVISION NO.: R1

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE (PMU) |
| Sd.xxxxx. SE - North I | Sd.xxxx 11.05.2024. Chief Engineer- North |

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

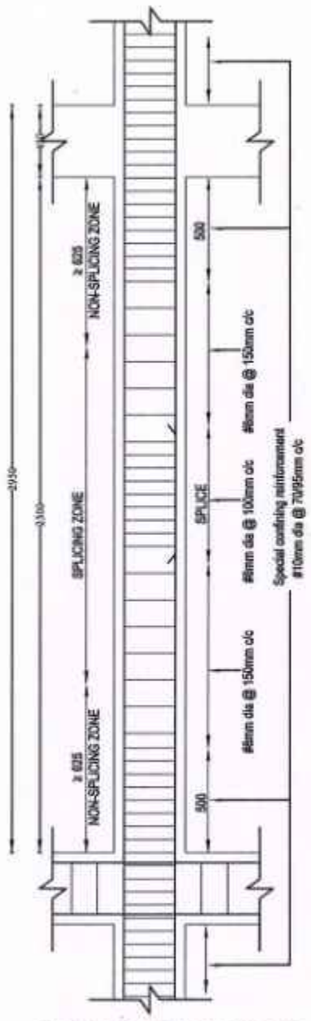
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13/5/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

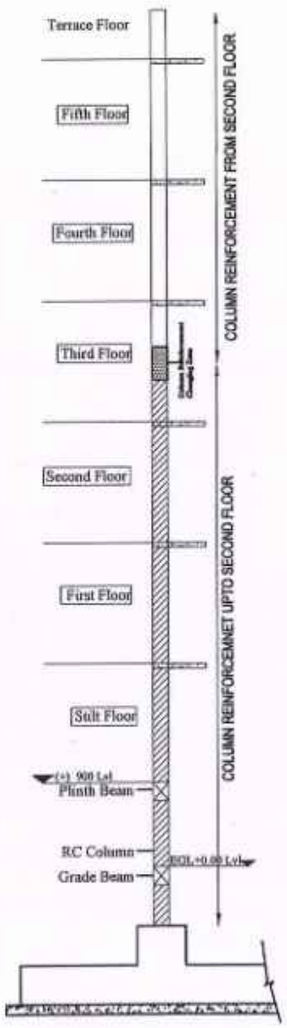
# SCHEDULE OF COLUMNS - 1

| Sl.No. | Column Marking | No of Columns | Size | Upto Second Floor Column Reinforcement Details | | | Above Second Floor Column Reinforcement Details | | | Ties Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Column Verticals | Lateral Ties | Cross Section | Column Verticals | Lateral Ties | Cross Section | |
| 1. | C1 | 20 | 300 x 380 | # 12 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 12 - 10 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - | |
| 2. | C2 | 02 | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - | |
| 3. | C3 | 02 | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 12 - 10 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 4. | C4 | 03 | 300 x 380 | # 16 - 8 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 12 - 10 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 5. | C5 | 04 | 300 x 380 | # 16 - 8 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 6. | C6 | 06 | 300 x 380 | # 16 - 8 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 7. | C7 | 05 | 300 x 380 | # 16 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 8. | C8 | 01 | 300 x 380 | # 16 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 8 Nos + # 12 - 2 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 9. | C9 | 02 | 300 x 380 | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 10. | C10 | 16 | 300 x 380 | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 10 Nos. | Above Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 11. | C11 | 02 | 300 x 380 | # 20 - 6 Nos + # 16 - 4 Nos. | 1) Upto Plinth Beam: #10 @ 95 mm c/c<br>2) Plinth Beam to Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |

Notes: In Cross Section a - # 20 mm b - # 16 mm c - # 12 mm




TYPICAL COLUMN SPLICING AND CONFINING REINFORCEMENT DETAILS




**NOTE :**

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21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SCHEDULE OF COLUMNS - 1.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/R1/05.

REVISION NO.: R1

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE (PMU) |
| Sd.xxxxx. SE - North I | Sd.xxxx 11.05.2024. Chief Engineer- North |

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
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CHENNAI - 600 005.

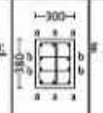
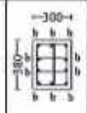
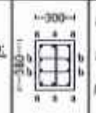
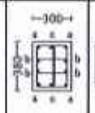
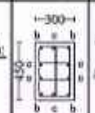
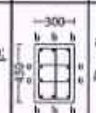
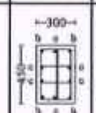
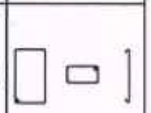
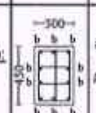
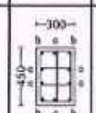
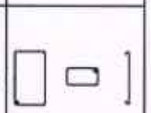
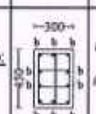
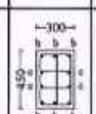
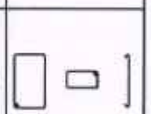
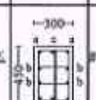
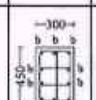
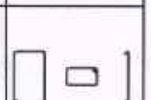
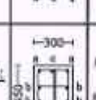
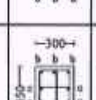
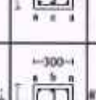
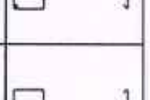
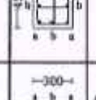
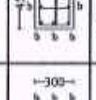
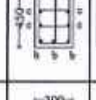
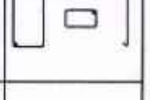
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13/5/2024

EXECUTIVE ENGINEER
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

11/05/24

# SCHEDULE OF COLUMNS - 2

| Sl.No. | Column Marking | No of Columns | Size | Upto Second Floor Column Reinforcement Details | | | Above Second Floor Column Reinforcement Details | | | Ties Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Column Verticals | Lateral Ties | Cross Section | Column Verticals | Lateral Ties | Cross Section | |
| 12. | C12 | 01 | 300 x 380 | # 20 - 6 Nos + # 16 - 4 Nos. | 1) Upto Plinth Beam: #10 @ 95 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 10 Nos. | Above Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 13. | C13 | 01 | 300 x 380 | # 20 - 6 Nos + # 16 - 4 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 14. | C14 | 11 | 300 x 450 | # 16 - 4 Nos + # 12 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - |  |
| 15. | C15 | 05 | 300 x 450 | # 16 - 6 Nos + # 12 - 4 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 16. | C16 | 08 | 300 x 450 | # 16 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 17. | C17 | 02 | 300 x 450 | # 16 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 18. | C18 | 03 | 300 x 450 | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 10 Nos. | Above Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 19. | C19 | 02 | 300 x 450 | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 20. | C20 | 18 | 300 x 450 | # 20 - 4 Nos + # 16 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 95 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 10 Nos. | Above Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 21. | C21 | 01 | 300 x 450 | # 20 - 4 Nos + # 16 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 22. | C22 | 01 | 300 x 450 | # 20 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |

Notes: In Cross Section a - # 20 mm b - # 16 mm c - # 12 mm

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SCHEDULE OF COLUMNS - 2.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/R1/06.

REVISION NO.: R1

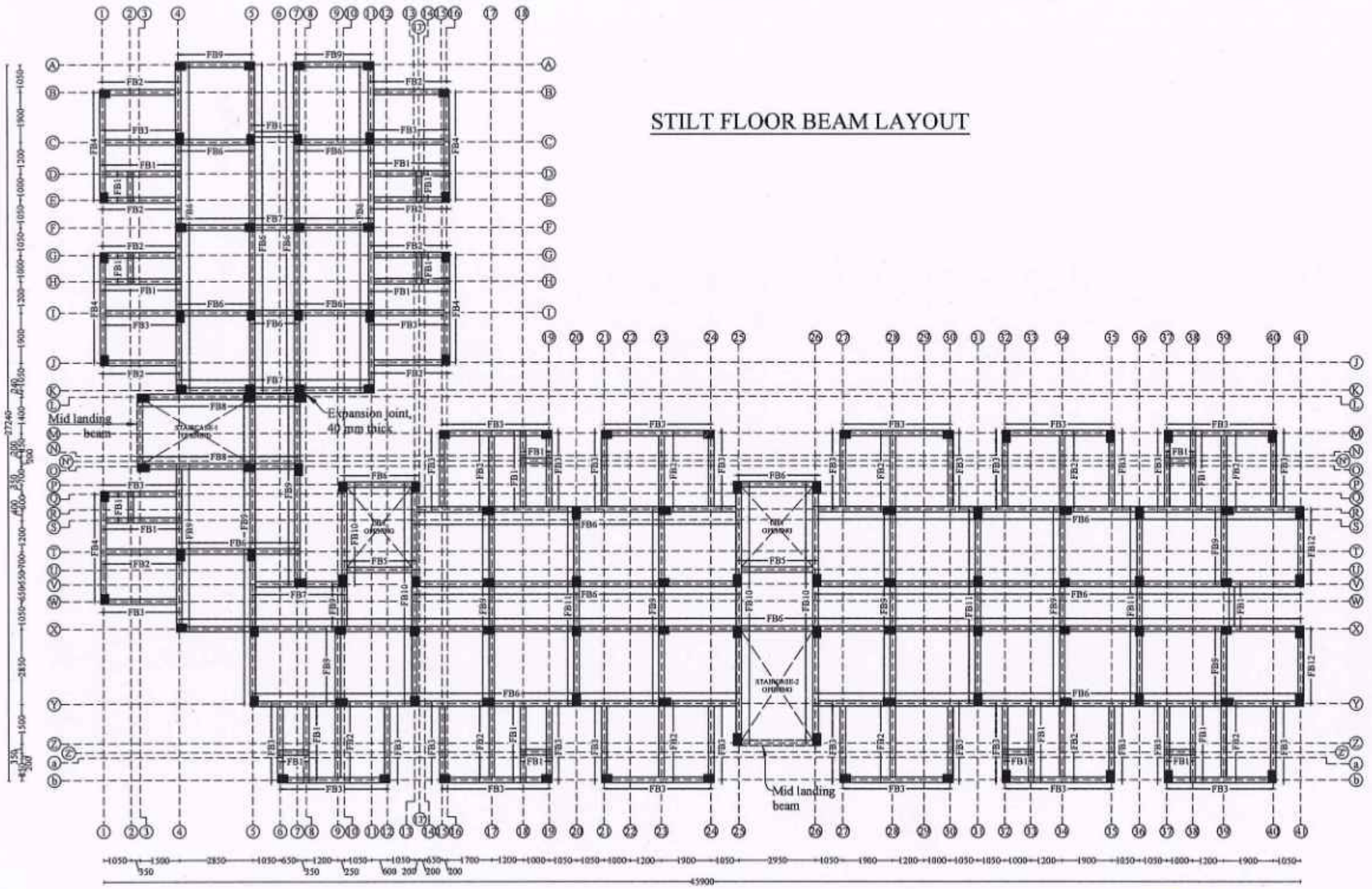
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE (PMU) |
| Sd.xxxx. SE - North I | Sd.xxxx 11.05.2024. Chief Engineer- North |

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

TRUE COPY

13/5/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

# STILT FLOOR BEAM LAYOUT




Note:
For Stilt floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/11.

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19/8/2024.
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
19/08/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/09.

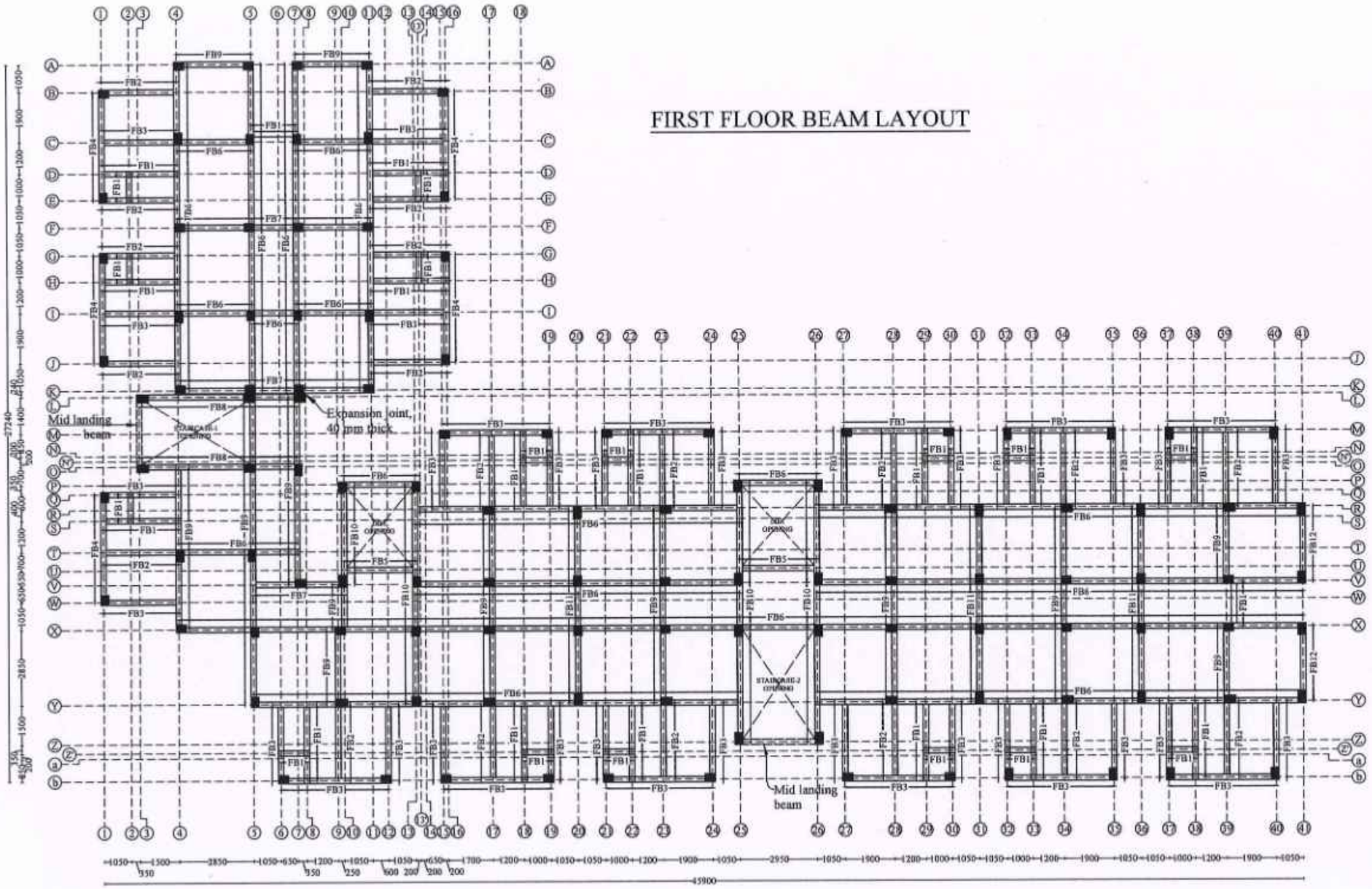
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FIRST FLOOR BEAM LAYOUT




Note:
For First floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/11.

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19/8/2024

EXECUTIVE ENGINEER (A/c)

STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

19/08/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FIRST FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/10

REVISION NO.:

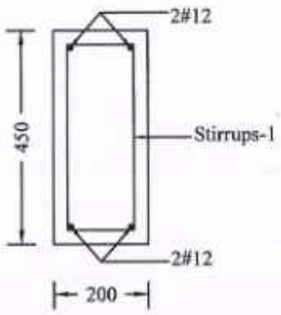
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
**Chief Engineer - I**

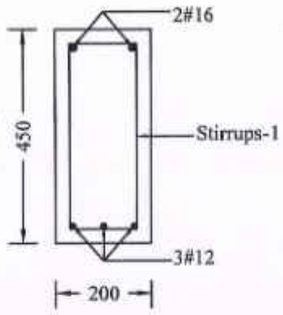
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# STILT FLOOR & FIRST FLOOR BEAM DETAILS

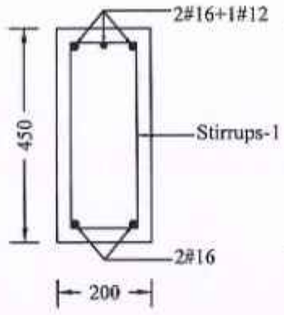
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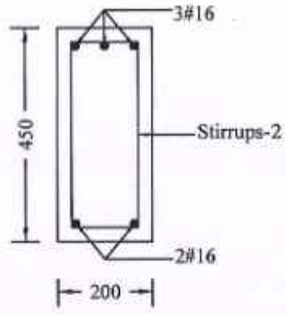

FB2 (200x450)



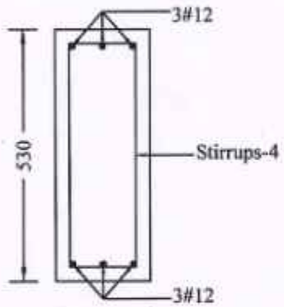

FB3 (200x450)



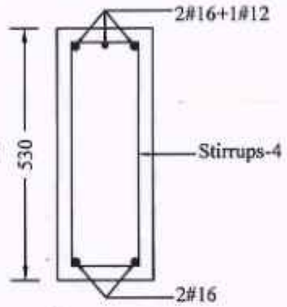

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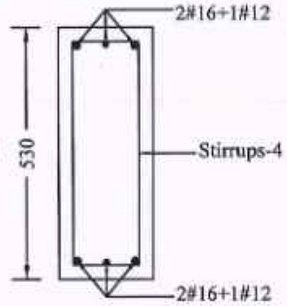

FB5 (200x530)



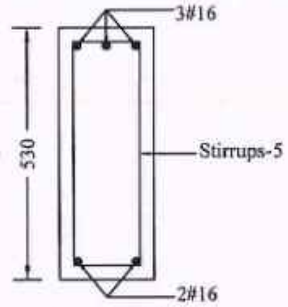

FB6 (200x530)



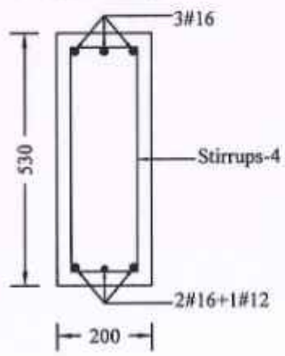

FB7 (200x530)



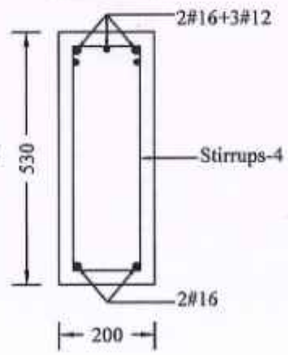

FB8 (200x530)



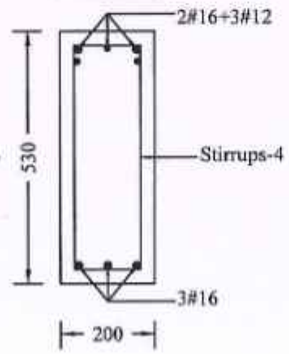

FB9 (200x530)



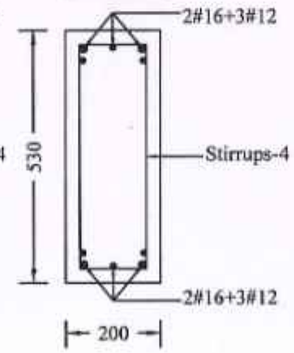

FB10 (200x530)




FB11 (200x530)




FB12 (200x530)




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
3) Stirrups-3 - 2L#8mm Stirrups @ 75mm c/c for 1100 mm length on all side near beam column junction and the rest at 150mm c/c
4) Stirrups-4 - 2L#10mm Stirrups @ 75mm c/c for 1100 mm length on all side near beam column junction and the rest at 150mm c/c.
5) Stirrups-5 - 2L#10mm Stirrups @ 100mm c/c for 1100 mm length on all side near beam column junction and the rest at 150mm c/c.
6) Beam Depth is inclusive of slab thickness.

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17/8/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
19.08.24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
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7. Structure is designed for **(PS+5)** floors only.
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18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc, unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR & FIRST FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/11.

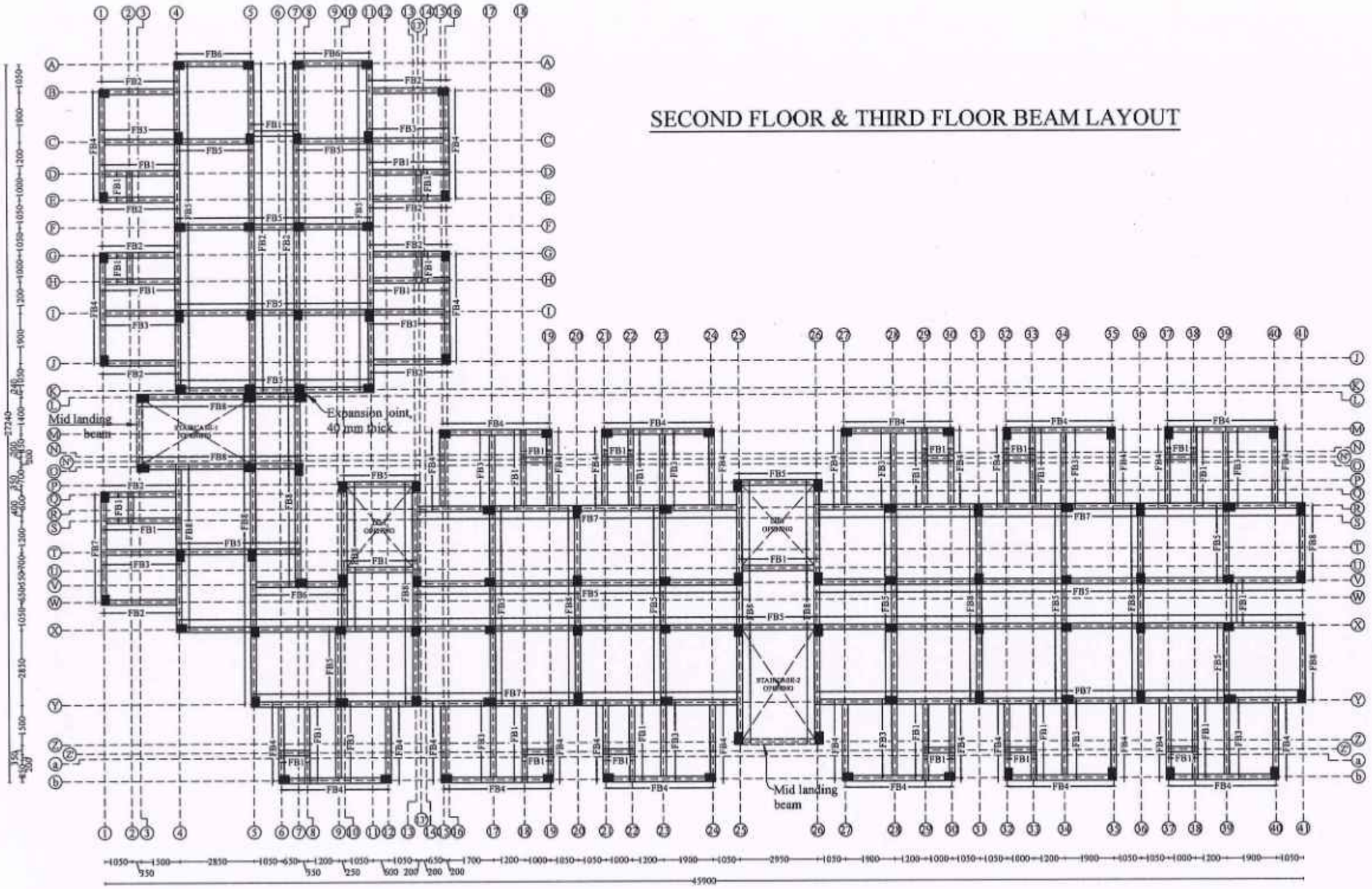
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND FLOOR & THIRD FLOOR BEAM LAYOUT




Note:
For Second & Third floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/13.

TRUE COPY
19/8/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
19/08/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer stonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,, unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR & THIRD FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/12.

REVISION NO.:

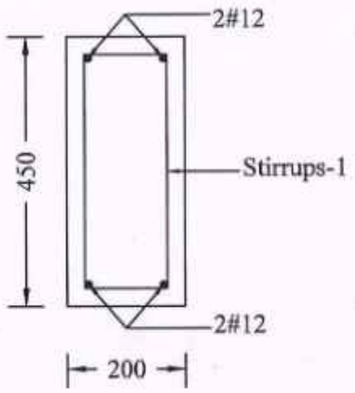
| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
Chief Engineer - I

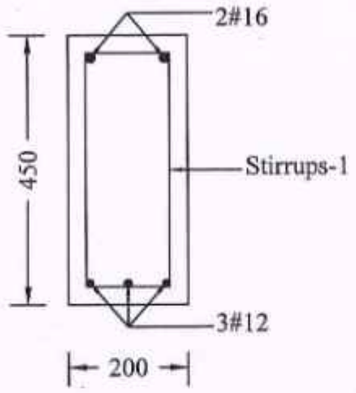
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND FLOOR & THIRD FLOOR BEAM DETAILS

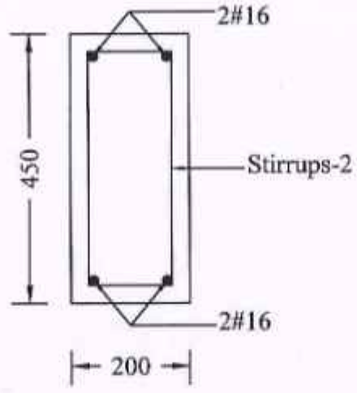
FB1 (200x450)



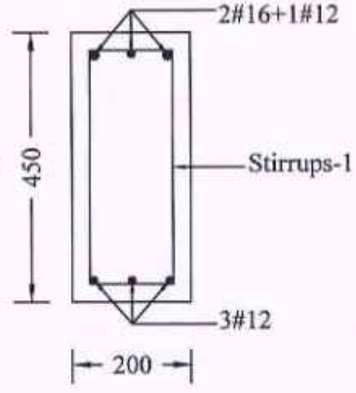

FB2 (200x450)



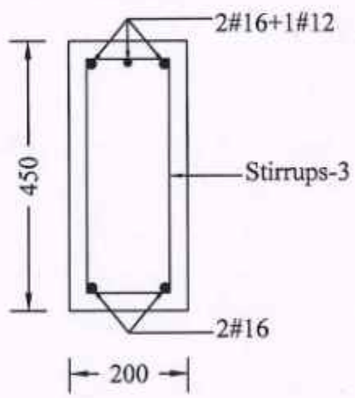

FB3 (200x450)



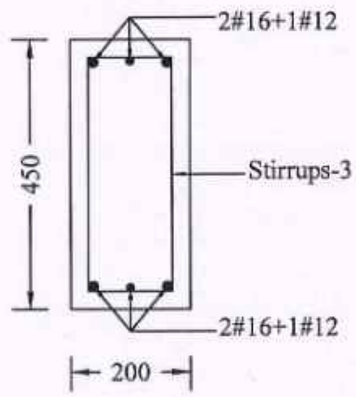

FB4 (200x450)



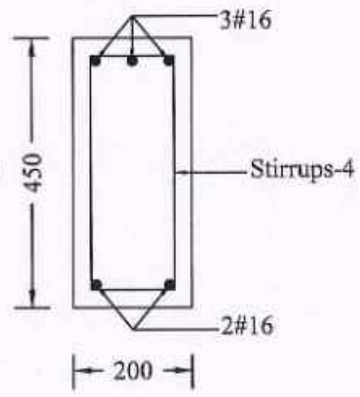

FB5 (200x450)



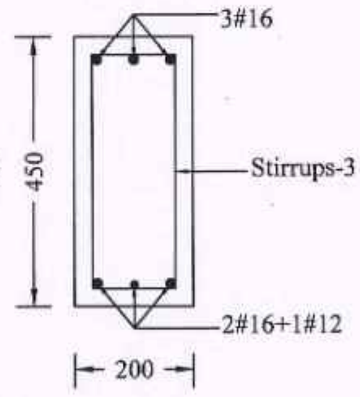

FB6 (200x450)




FB7 (200x450)




FB8 (200x450)




NOTE :

1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
3) Stirrups-3 - 2L#10mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c
4) Stirrups-4 - 2L#10mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
6) Beam Depth is inclusive of slab thickness.

TRUE COPY
19/8/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
19/08/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 $Kg/m^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR & THIRD FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/13.

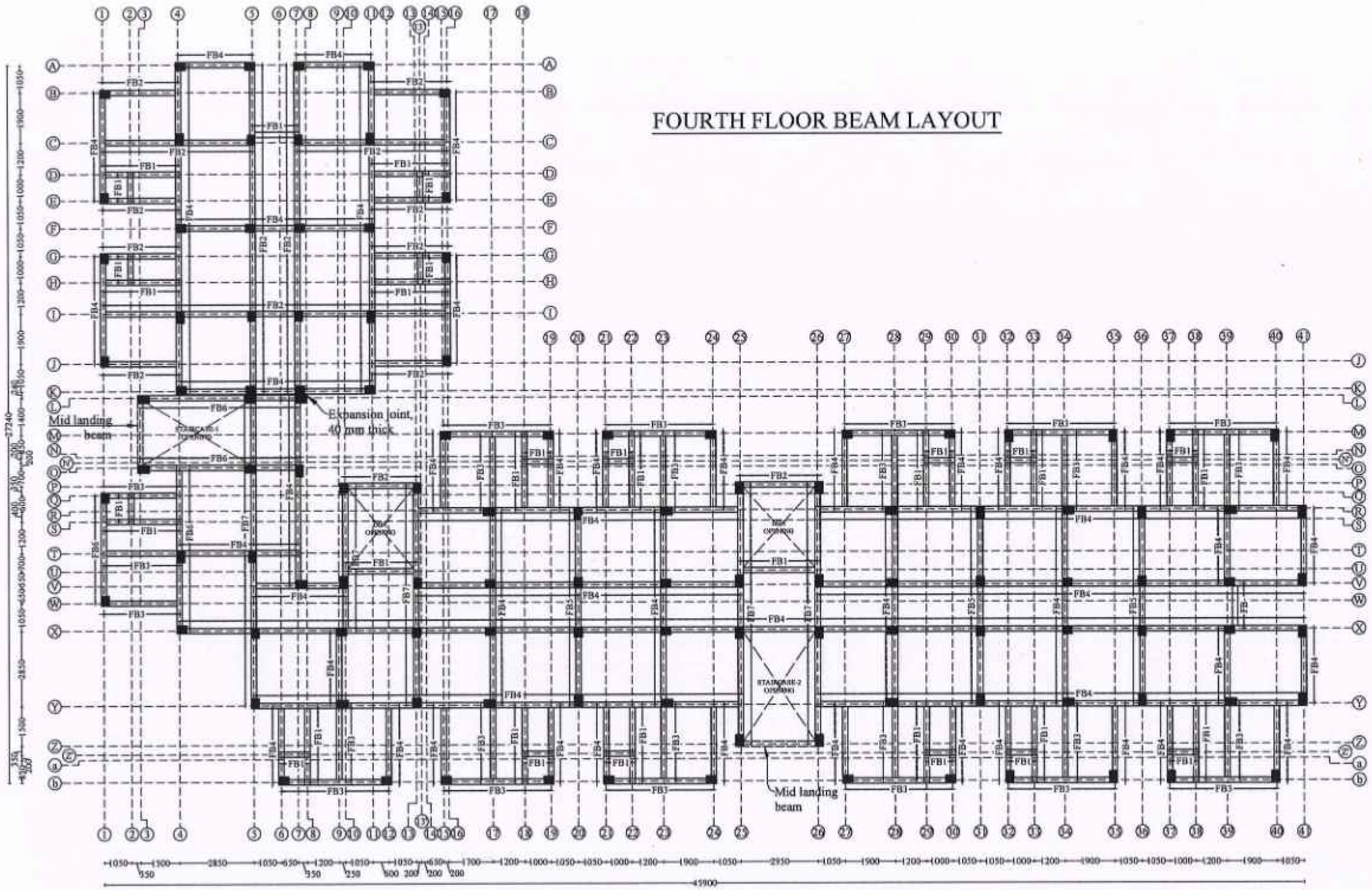
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North 1 |

Sd.xxxx 14.08.2024.
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FOURTH FLOOR BEAM LAYOUT




Note:
For Fourth floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/15.

TRUE COPY
17/8/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
19/8/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FOURTH FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/14.

REVISION NO.:

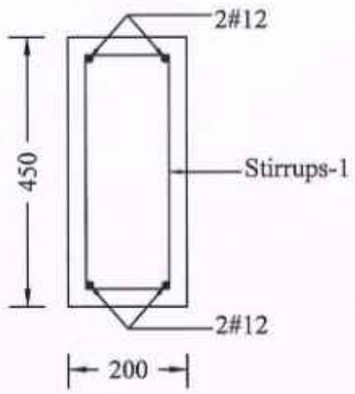
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
Chief Engineer - I

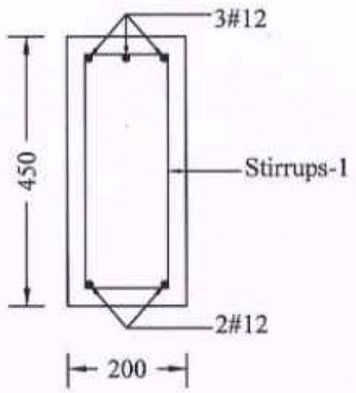
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FOURTH FLOOR BEAM DETAILS

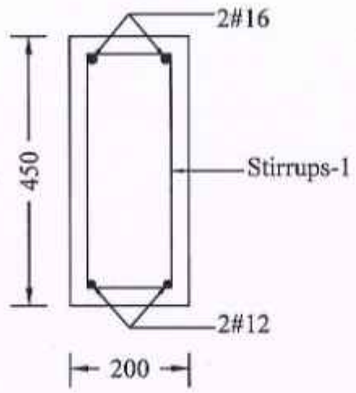
FB1 (200x450)



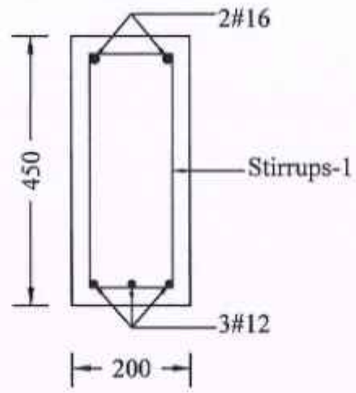

FB2 (200x450)



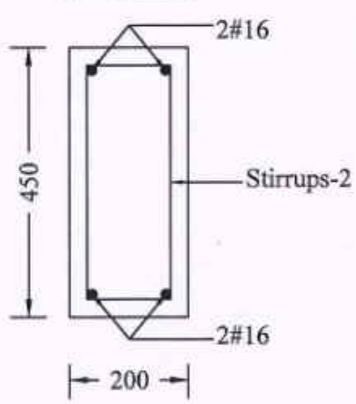

FB3 (200x450)



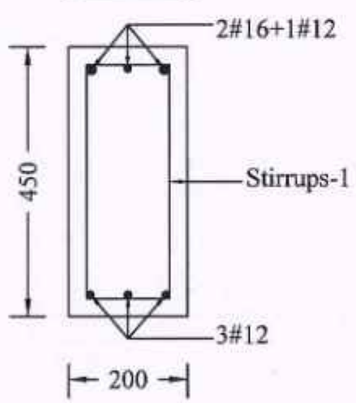

FB4 (200x450)



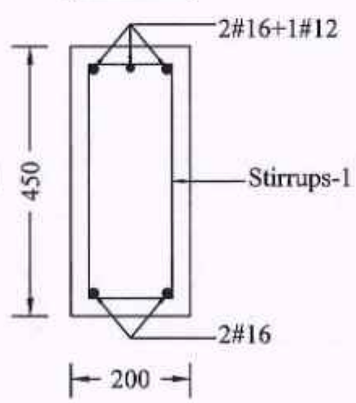

FB5 (200x450)




FB6 (200x450)




FB7 (200x450)




NOTE :

1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
3) Beam Depth is inclusive of slab thickness.

TRUE COPY

17/8/2024

EXECUTIVE ENGINEER (A/c)

STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

19/08/24

NOTE :

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 $Kg/m^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FOURTH FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/15.

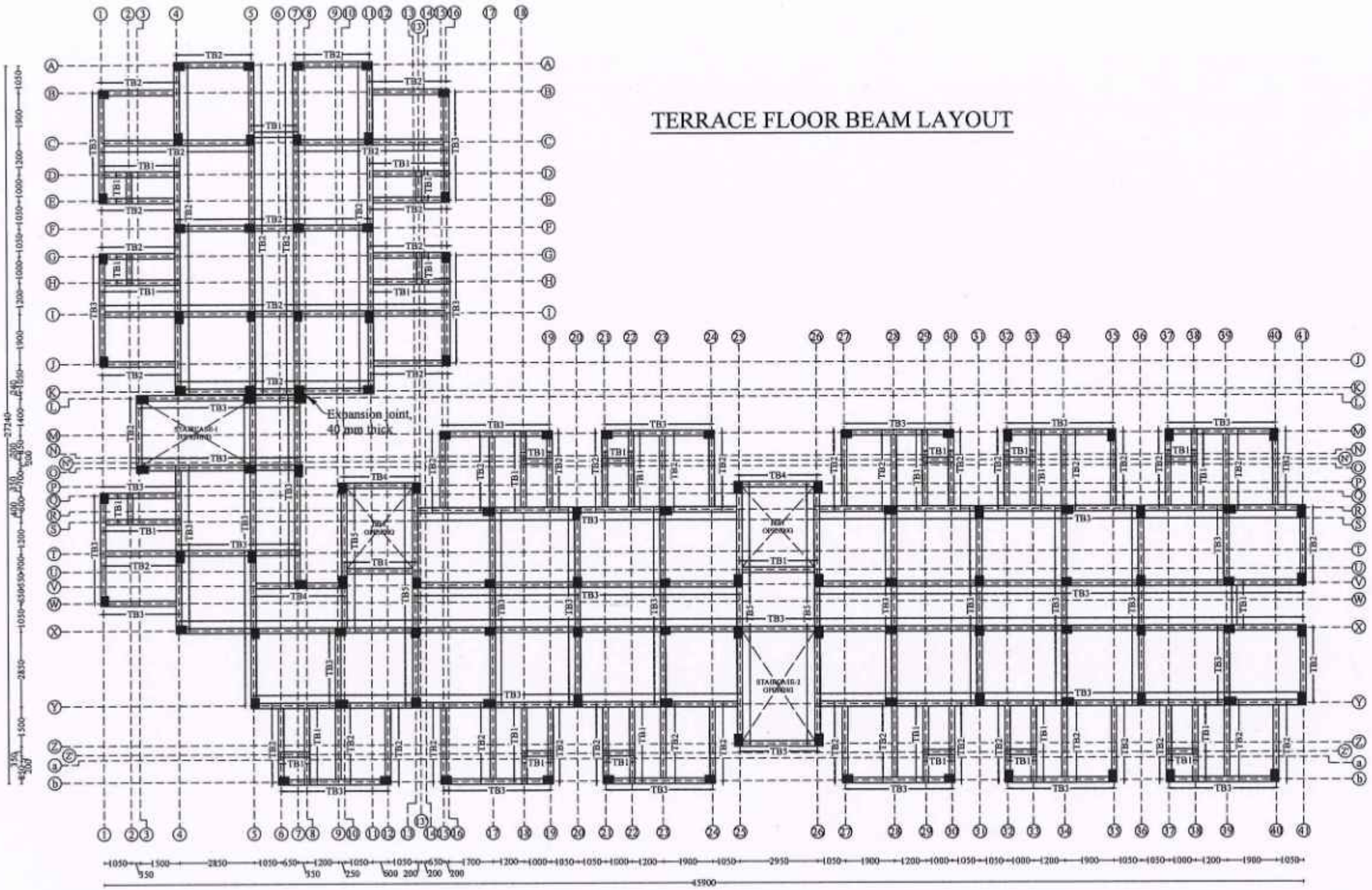
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North 1 |

Sd.xxxx 14.08.2024.
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR BEAM LAYOUT




Note:
For Terrace floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/17.

TRUE COPY

19/8/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

19/08/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/16.

REVISION NO.:

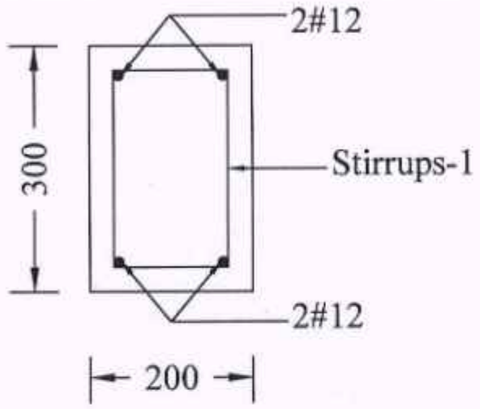
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
Chief Engineer - I

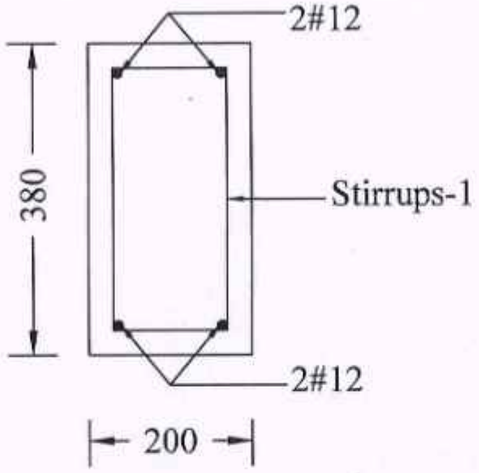
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR BEAM DETAILS

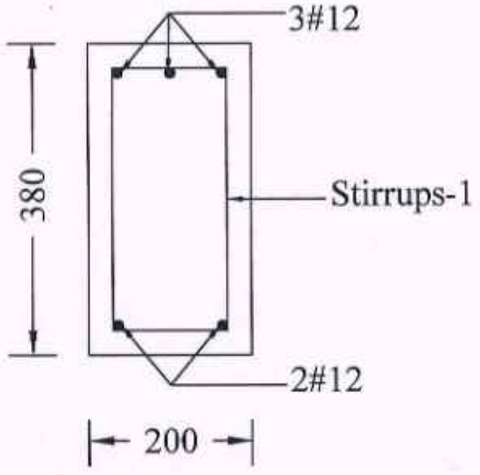
TB1
(200x300)



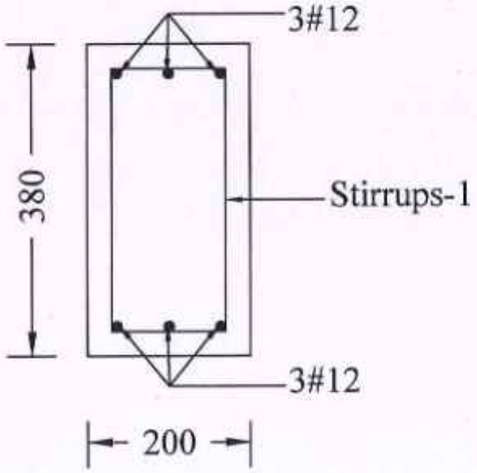

TB2
(200x380)



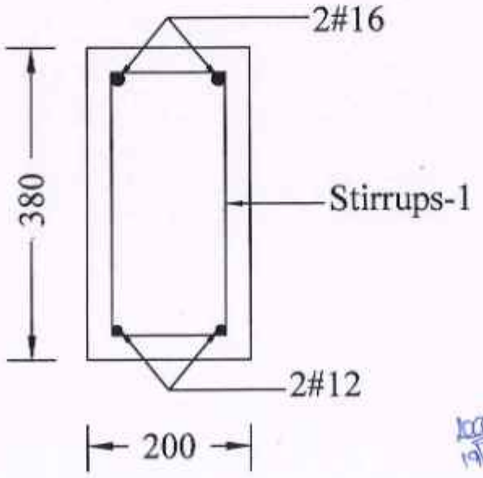

TB3
(200x380)




TB4
(200x380)




TB5
(200x380)




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 800 mm length on all side near beam column junction and the rest at 150mm c/c.
6) Beam Depth is inclusive of slab thickness.

NOTE :

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

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19/8/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO 5, KAMARAJAR SALAI, CHENNAI-600 005.

**STRUCTURAL DETAILS**

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/17.

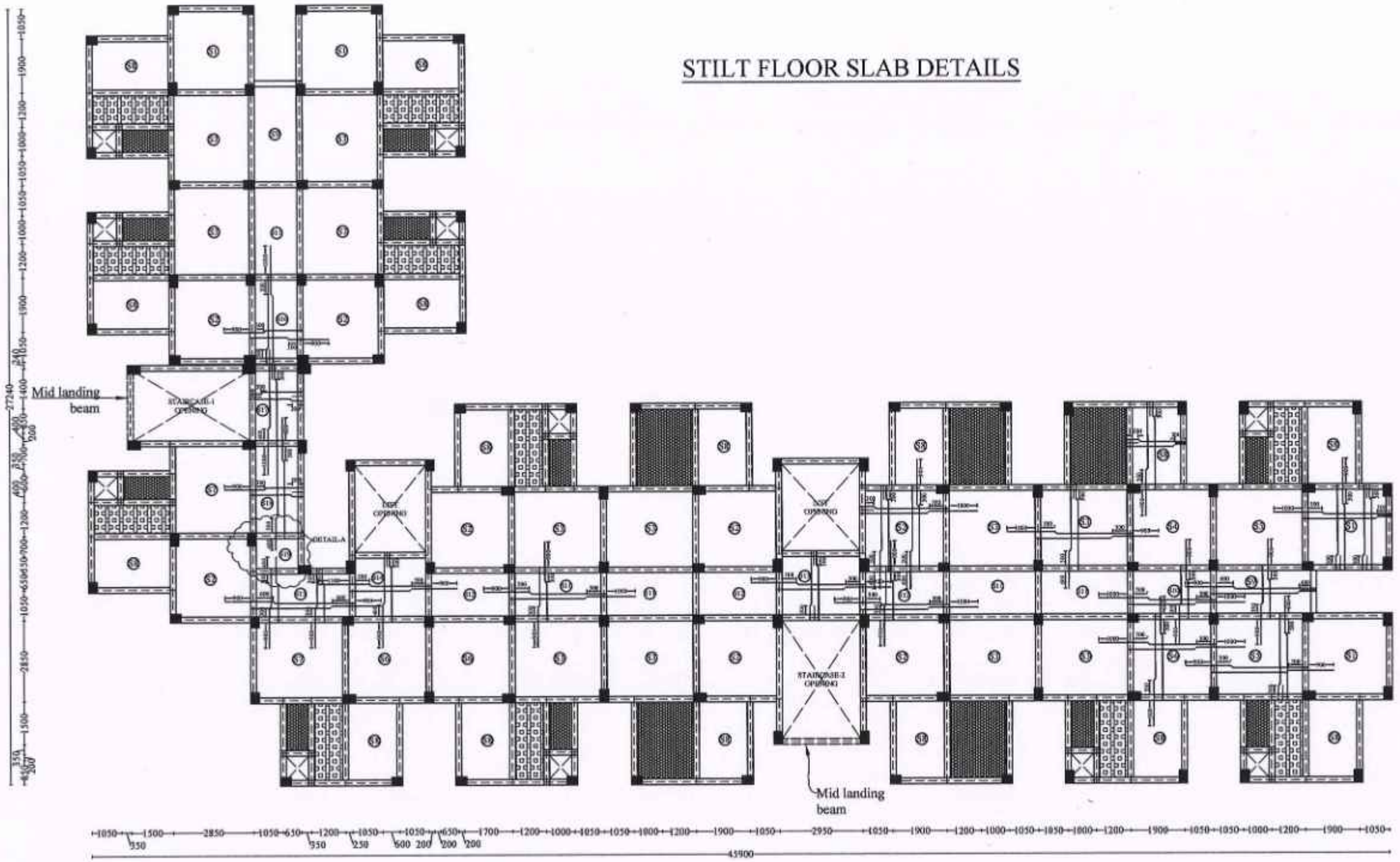
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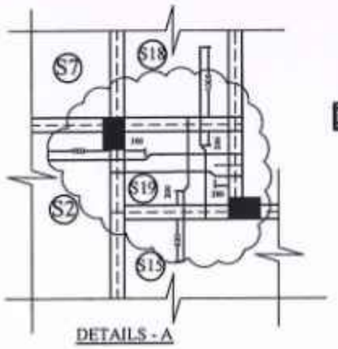
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
Chief Engineer - I

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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# STILT FLOOR SLAB DETAILS




DETAILS - A

SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

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EXECUTIVE ENGINEER (A/C)
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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

19/08/24

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/18.

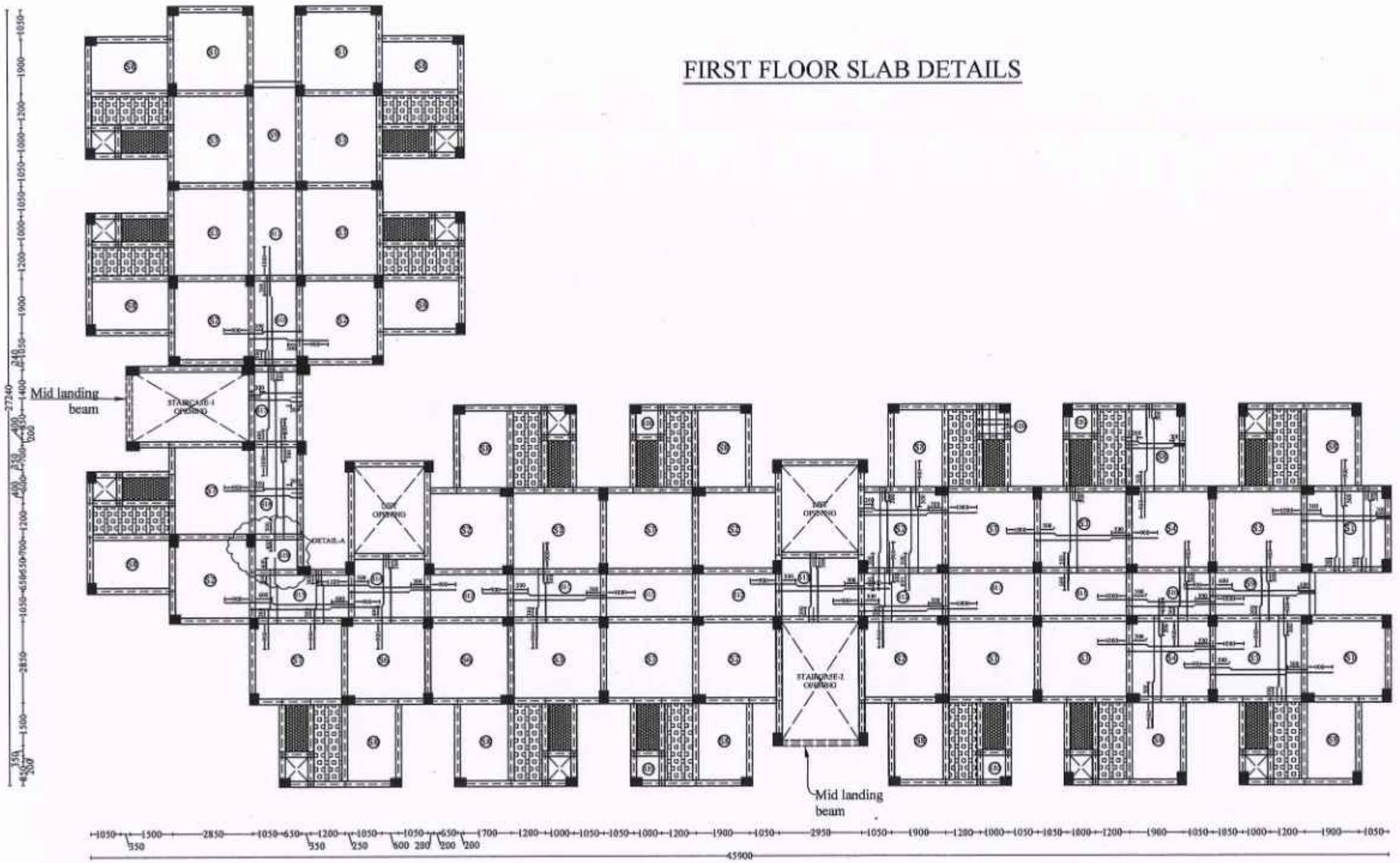
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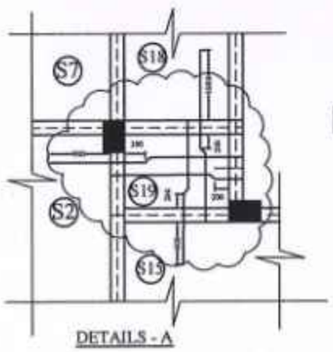
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FIRST FLOOR SLAB DETAILS




DETAILS - A

SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

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19/8/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

19/08/24

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FIRST FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/19.

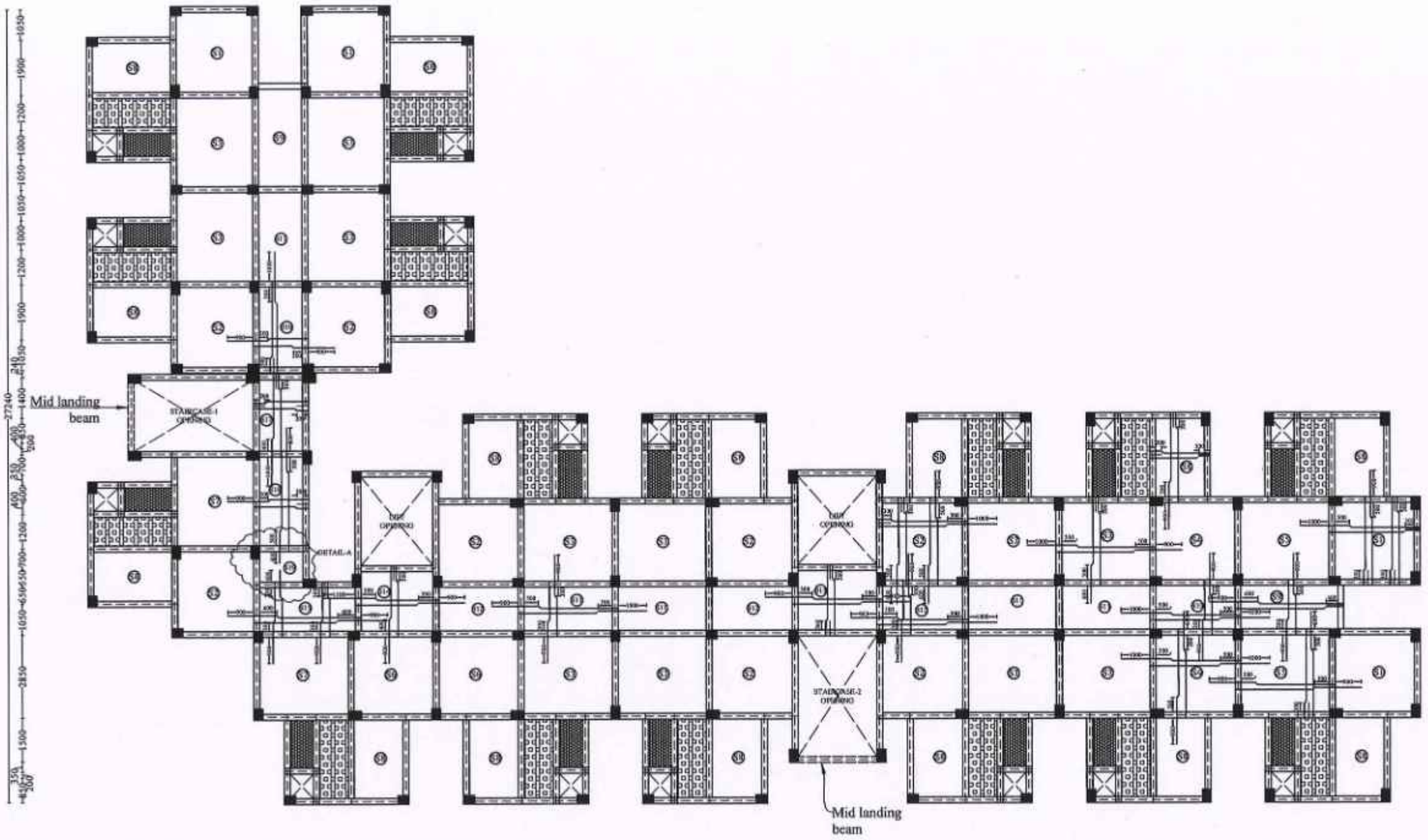
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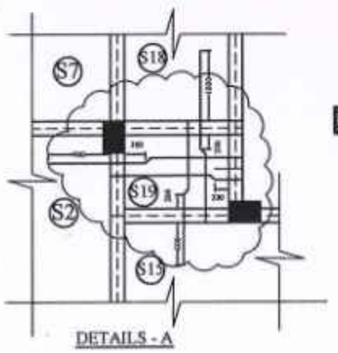
| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North 1 |

Sd.xxxx 14.08.2024.
Chief Engineer - I

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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND FLOOR TO FOURTH FLOOR SLAB DETAILS




DETAILS - A

SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR TO FOURTH FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/20.

REVISION NO.:

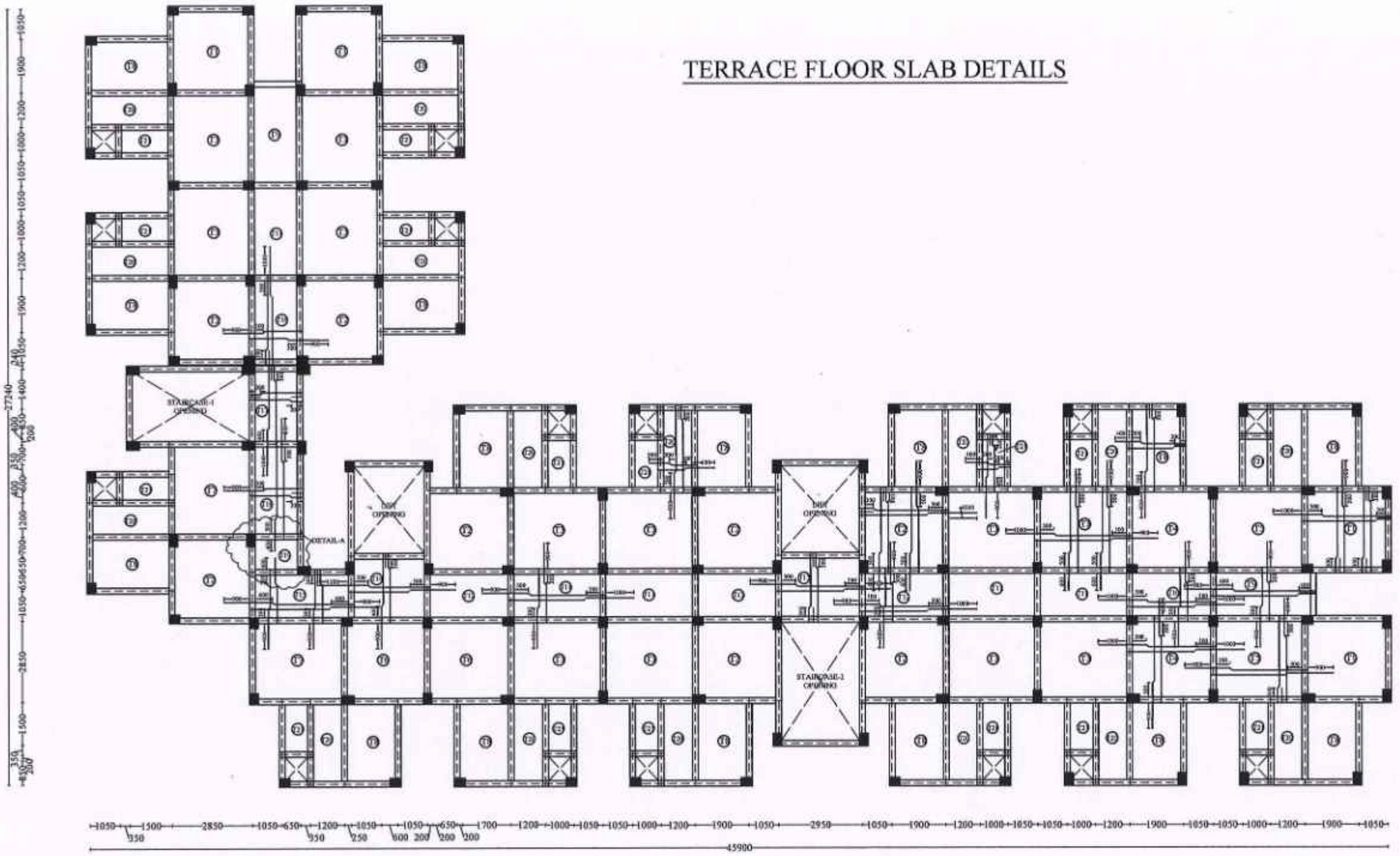
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

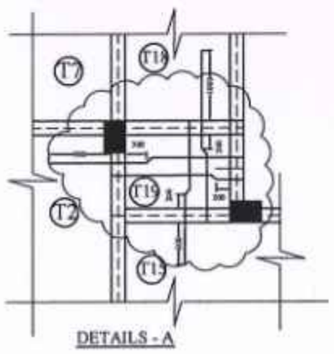
Sd.xxxx 14.08.2024.
Chief Engineer - I

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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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19/8/2024
EXECUTIVE ENGINEER (I/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
19/08/24

# TERRACE FLOOR SLAB DETAILS




DETAILS - A

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

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EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

19/08/24

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/21.

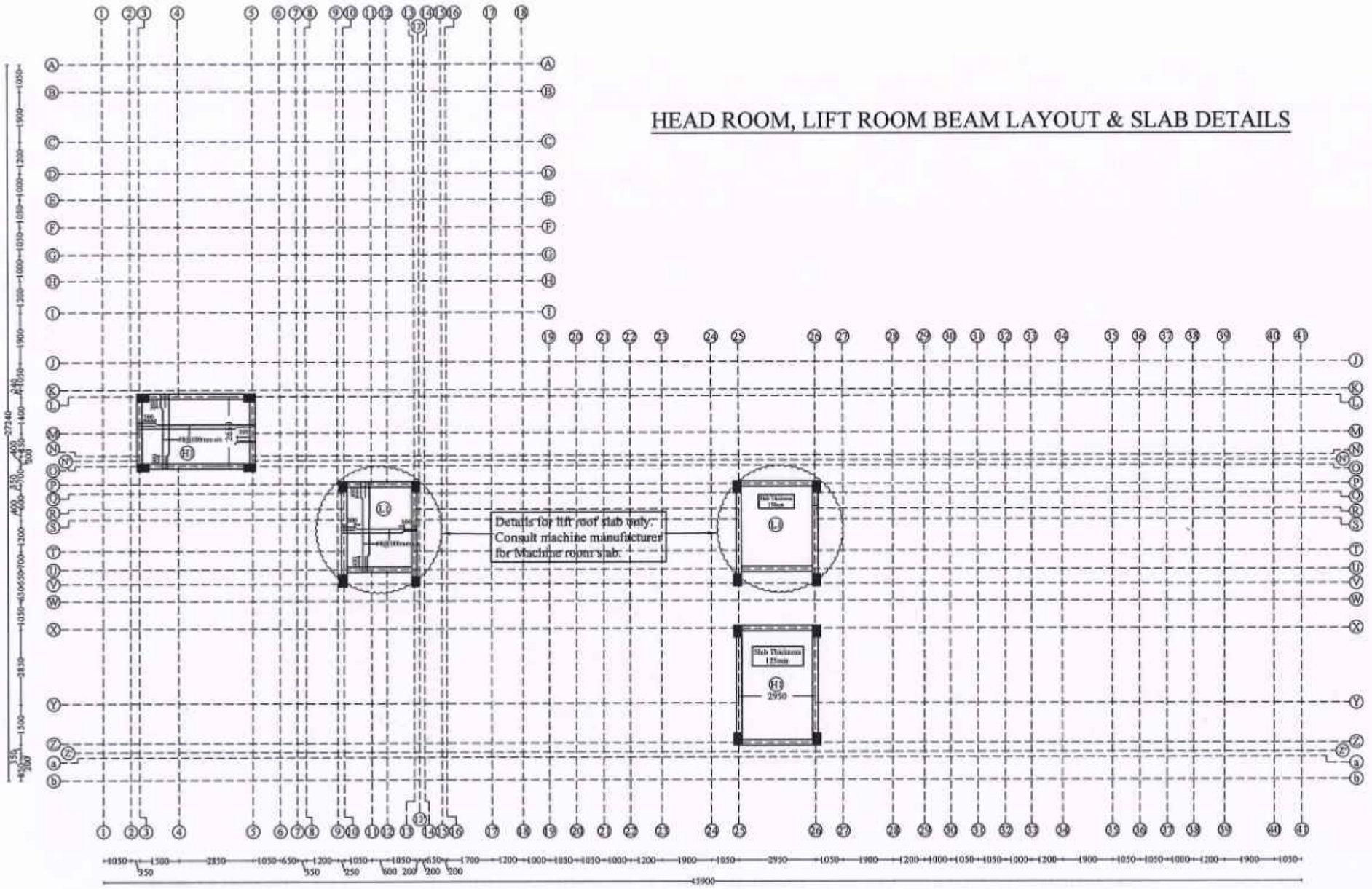
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North 1 |

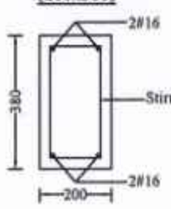
Sd.xxxx 14.08.2024.
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# HEAD ROOM, LIFT ROOM BEAM LAYOUT & SLAB DETAILS




ALL BEAMS
(200x380)




NOTE:
**Stirrups-1** : 2 Legged # 8 mm stirrups at 100 mm c/c for 900 mm length on all sides near Beam - Column junctions and the rest at 150 mm c/c.

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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
19/08/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30 grade**, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
HEAD ROOM, LIFT ROOM BEAM LAYOUT & SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/22.

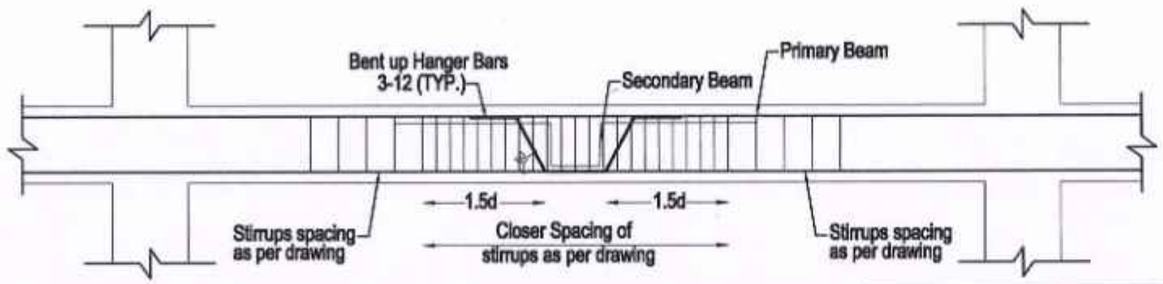
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

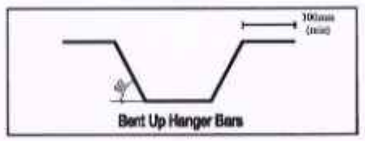
Sd.xxxx 14.08.2024.
**Chief Engineer - I**

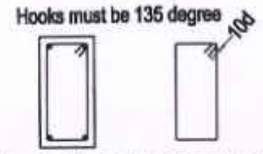
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TYPICAL DETAILS FOR ALL THE FLOOR BEAMS

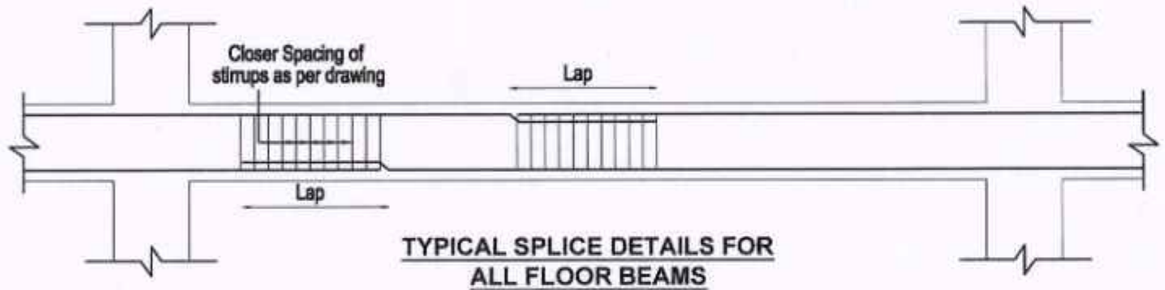



**TYPICAL BENT UP HANGER BAR DETAILS AT MAIN AND SECONDARY BEAM JUNCTIONS**



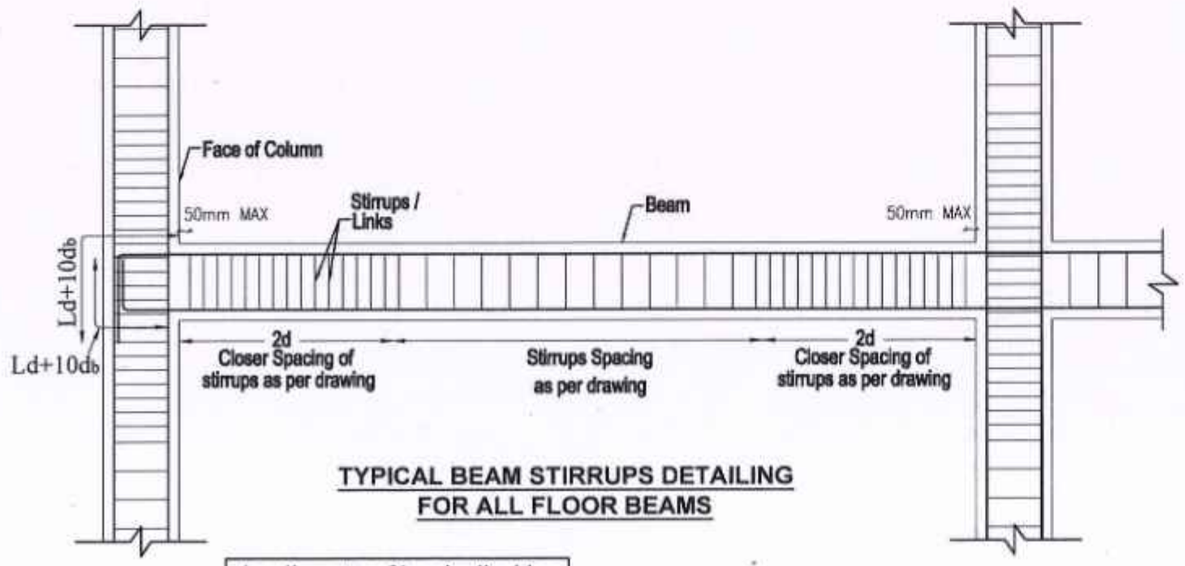




**TYPICAL DETAILS OF TRANSVERSE REINFORCEMENT HOOKS IN BEAM.**




**TYPICAL SPLICE DETAILS FOR ALL FLOOR BEAMS**

| Grade of Concrete | Development length of bars in Tension | | Development length of bars in Compression | |
|---|---|---|---|---|
| | Grade of Steel | | Grade of Steel | |
| | Fe 500 | Fe 550 | Fe 500 | Fe 550 |
| M20 | 57Ø | 63Ø | 46Ø | 50Ø |
| M25 | 49Ø | 54Ø | 39Ø | 43Ø |
| M30 | 46Ø | 50Ø | 37Ø | 40Ø |
| M35 | 40Ø | 44Ø | 32Ø | 36Ø |
| ≥M40 | 36Ø | 40Ø | 29Ø | 32Ø |
| Ø - Diameter of bar. | | | | |




**TYPICAL BEAM STIRRUPS DETAILING FOR ALL FLOOR BEAMS**

db - diameter of longitudinal bar
d - depth of beam

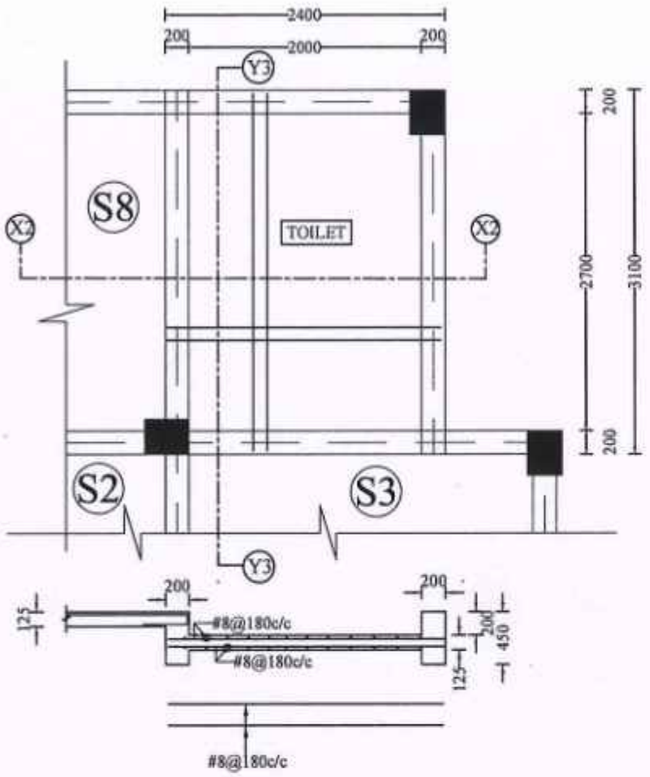
TRUE COPY
19/8/2024
EXECUTIVE ENGINEER (CAD)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

19/8/2024

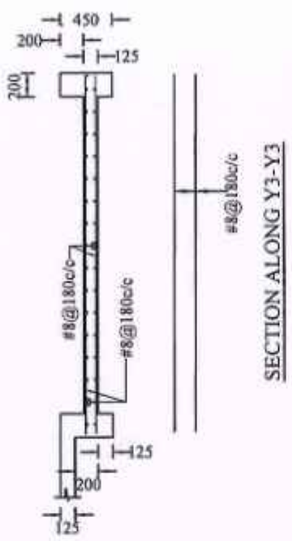
| STRUCTURAL DETAILS | |
|---|---|
| PROJECT:<br>CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION. | |
| TITLE:<br>TYPICAL DETAILS FOR ALL THE FLOOR BEAMS | |
| TYPE DESIGN NO.: | |
| DWG.NO.: TNUHDB/THIRUVOTTIYUR/GEN/01. | |
| REVISION NO.: | |
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North |
| Sd/xxxx 14.08.2024<br>Chief Engineer - I | |

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABIAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

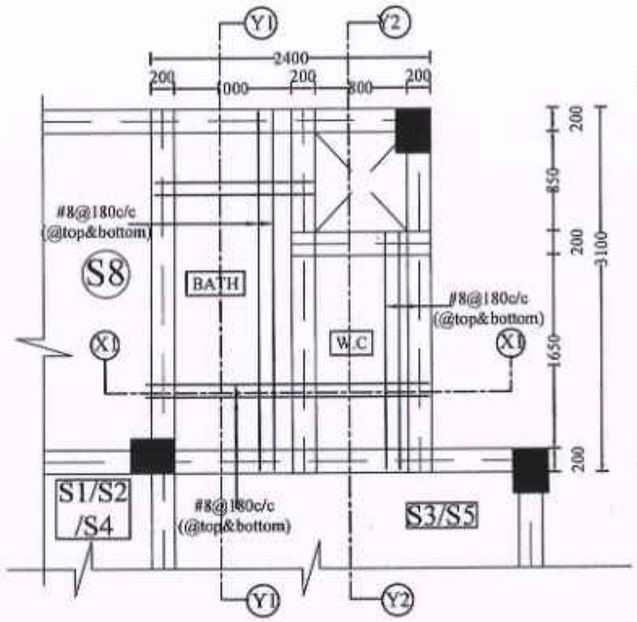
# SUNKEN SLAB DETAILS-**TYPICAL**

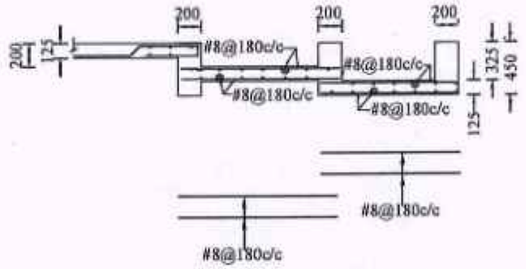



SECTION ALONG X2-X2

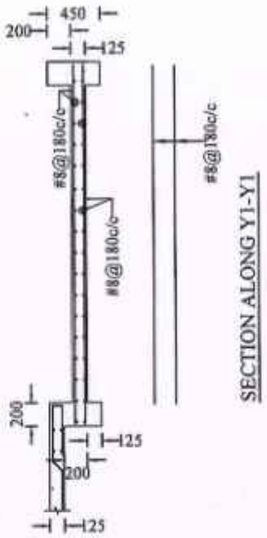



SECTION ALONG Y3-Y3

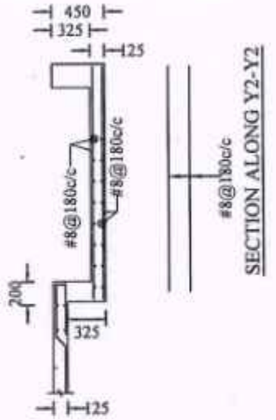



SECTION ALONG X1-X1




SECTION ALONG Y1-Y1




SECTION ALONG Y2-Y2

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe500D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

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EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
19/08/24

**STRUCTURAL DETAILS**

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SUNKEN SLAB DETAILS-TYPICAL.

TYPE DESIGN NO.:

DWG.NO.: TNUHDB/THIRUVOTTIYUR/GEN/02.

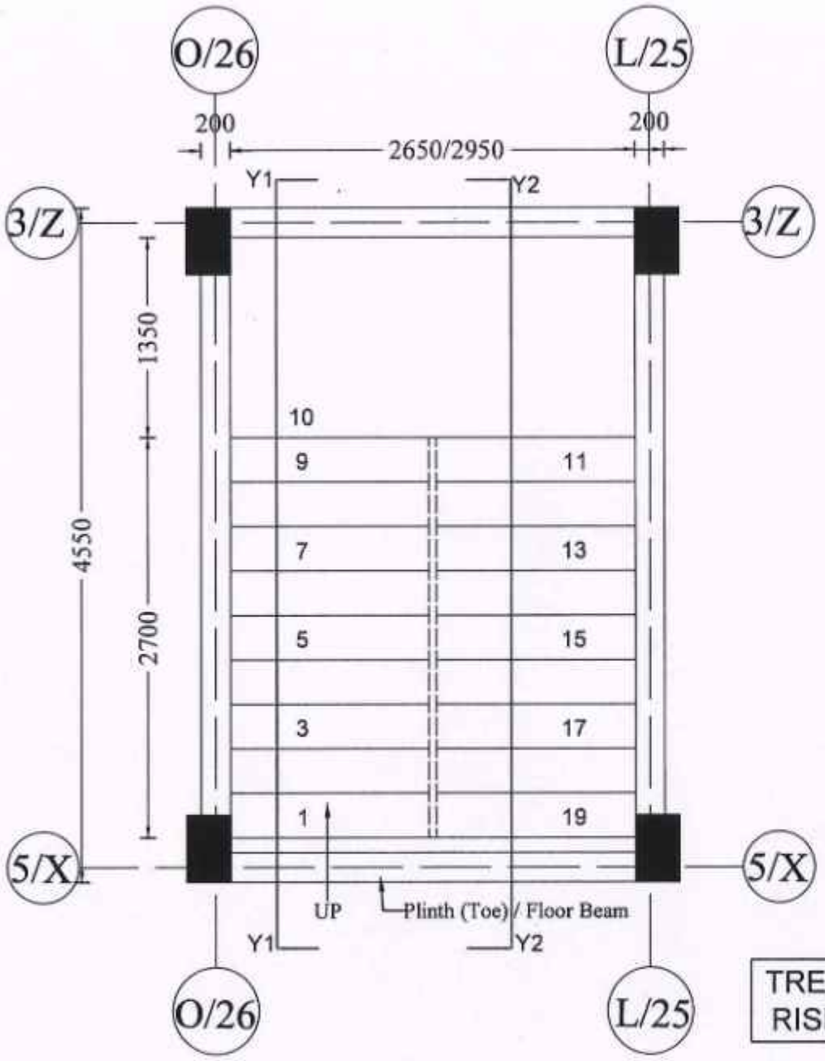
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North |

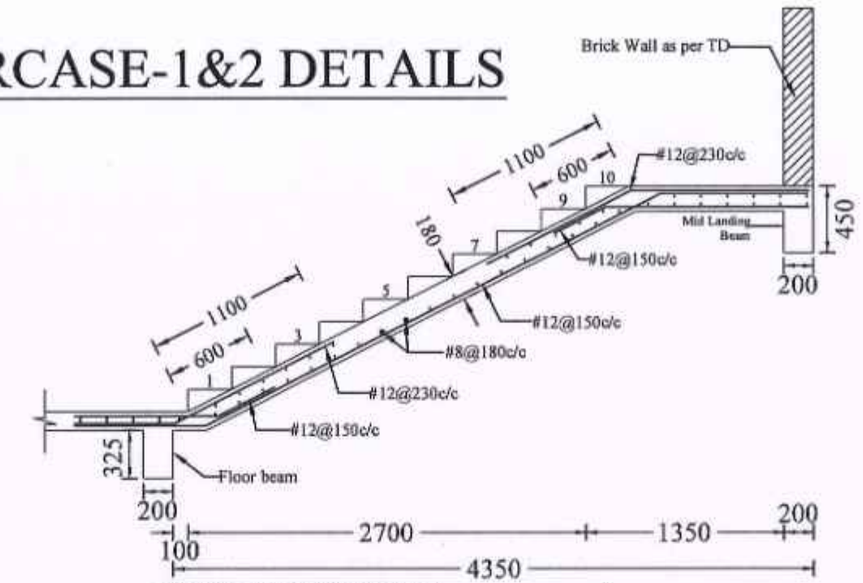
Sd.xxxx 14.08.2024.
**Chief Engineer - I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

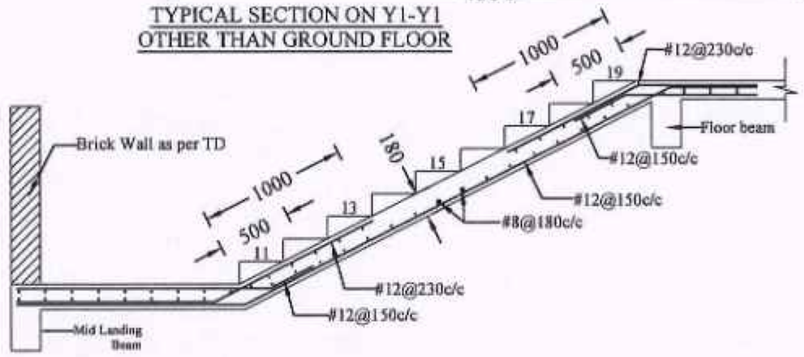
# TYPICAL STAIRCASE-1&2 DETAILS




TYPICAL STAIRCASE-1&2 PLAN

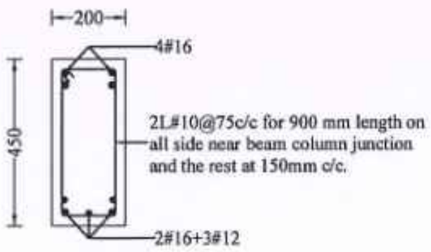



TYPICAL SECTION ON Y1-Y1
OTHER THAN GROUND FLOOR

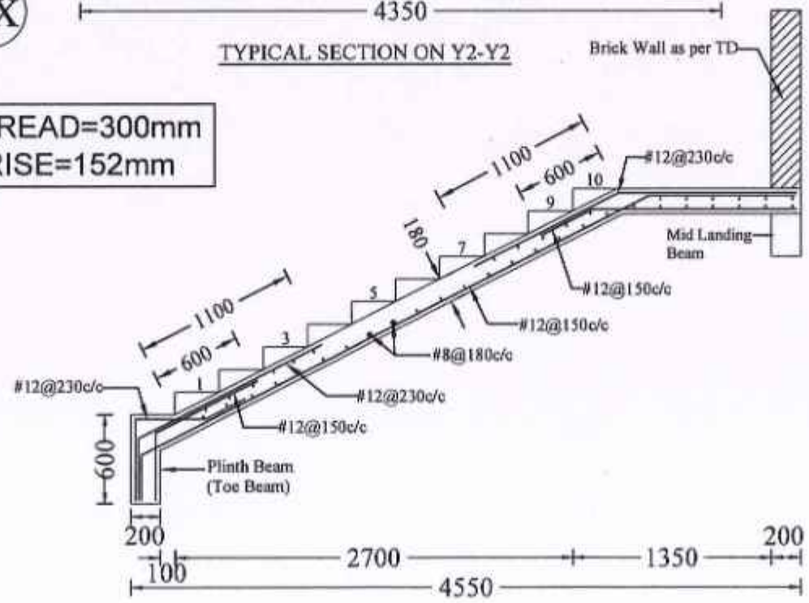



TYPICAL SECTION ON Y2-Y2

TREAD=300mm
RISE=152mm




C/S OF MID
LANDING BEAM




TYPICAL SECTION ON Y1-Y1

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Waist slab thickness 180mm
4. Clear cover to waist slab is 25mm.
5. Steps over the waist slab are considered made of concrete in analysis.

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EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TYPICAL STAIRCASE-1&2 DETAILS

TYPE DESIGN NO.:

DWG.NO.: TNUHDB/THIRUVOTTIYUR/GEN/03.

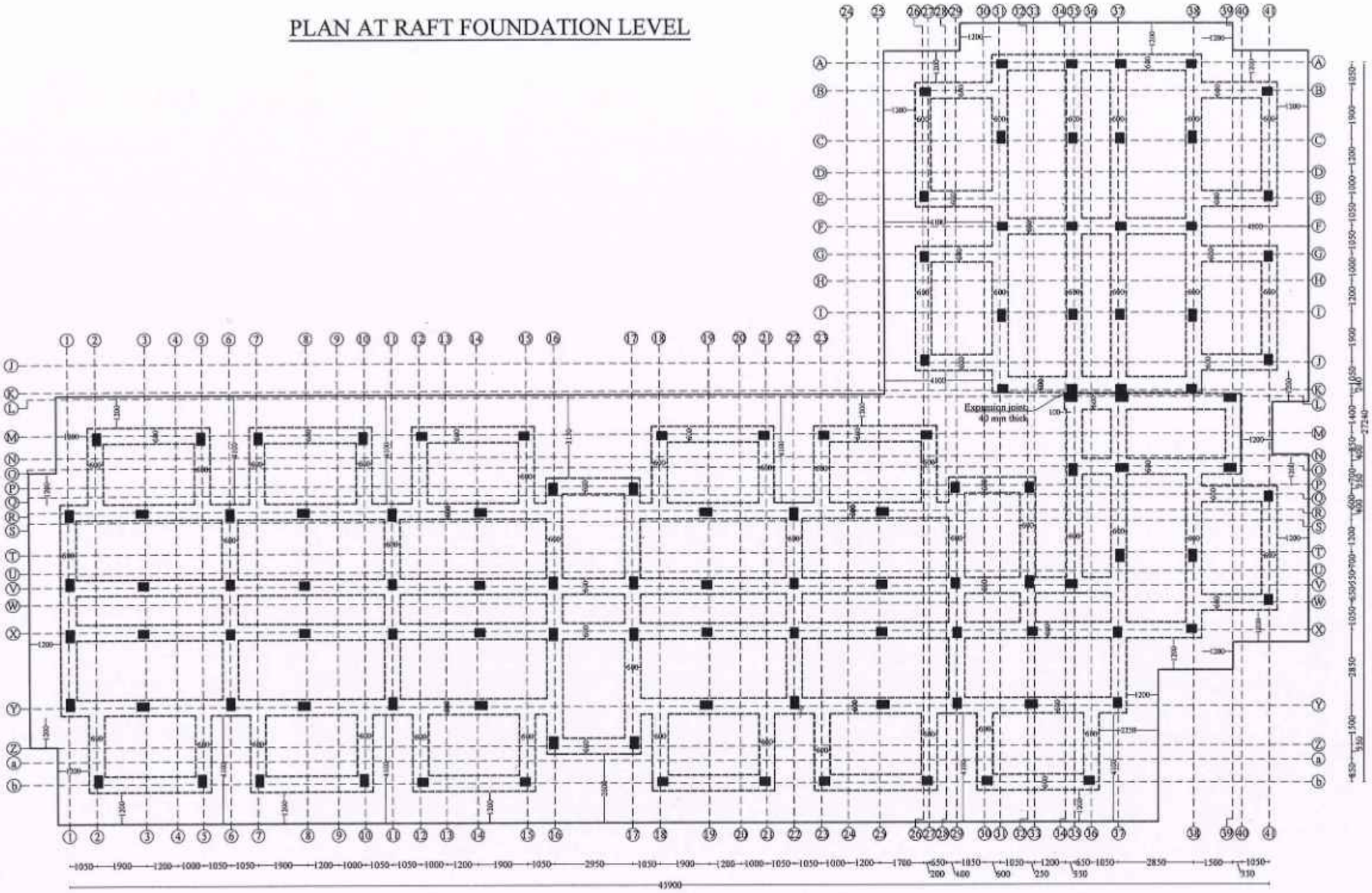
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

Sd.xxxx 14.08.2024.
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# PLAN AT RAFT FOUNDATION LEVEL




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc., unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
PLAN AT FOUNDATION LEVEL.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/01.

REVISION NO.:

| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | Sd.xxxxx. **SE - North I** |

Sd.xxxx 29.05.2024.
**Chief Engineer- I**

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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

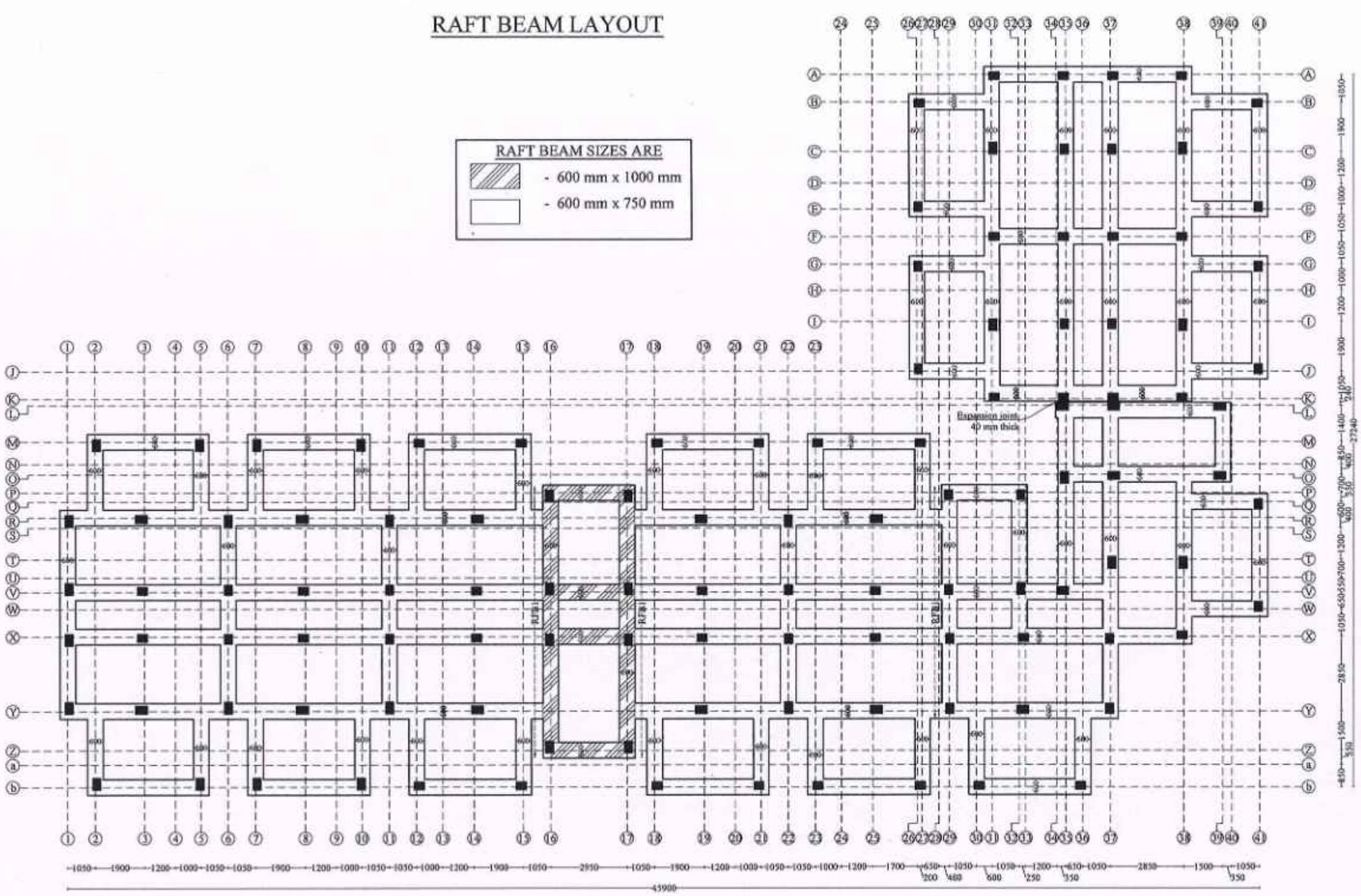
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30/5/2024

EXECUTIVE ENGINEER (A/c.)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

30/05/24

# RAFT BEAM LAYOUT




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 $Kg/m^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
RAFT BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/02.

REVISION NO.:

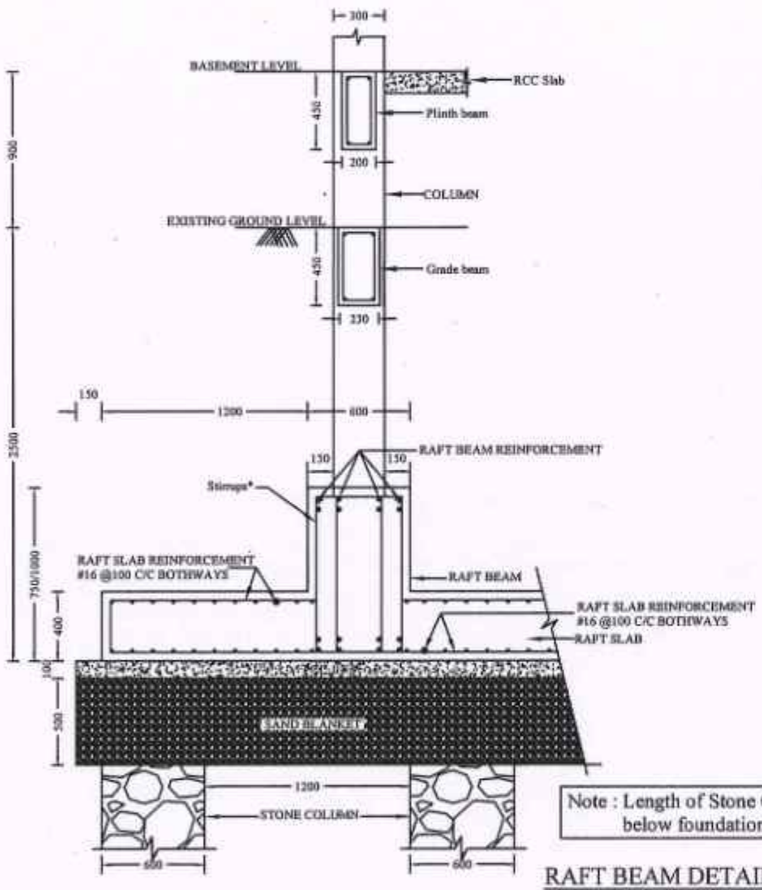
| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | Sd.xxxxx. **SE - North I** |

Sd.xxxx 29.05.2024.
**Chief Engineer- 1**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

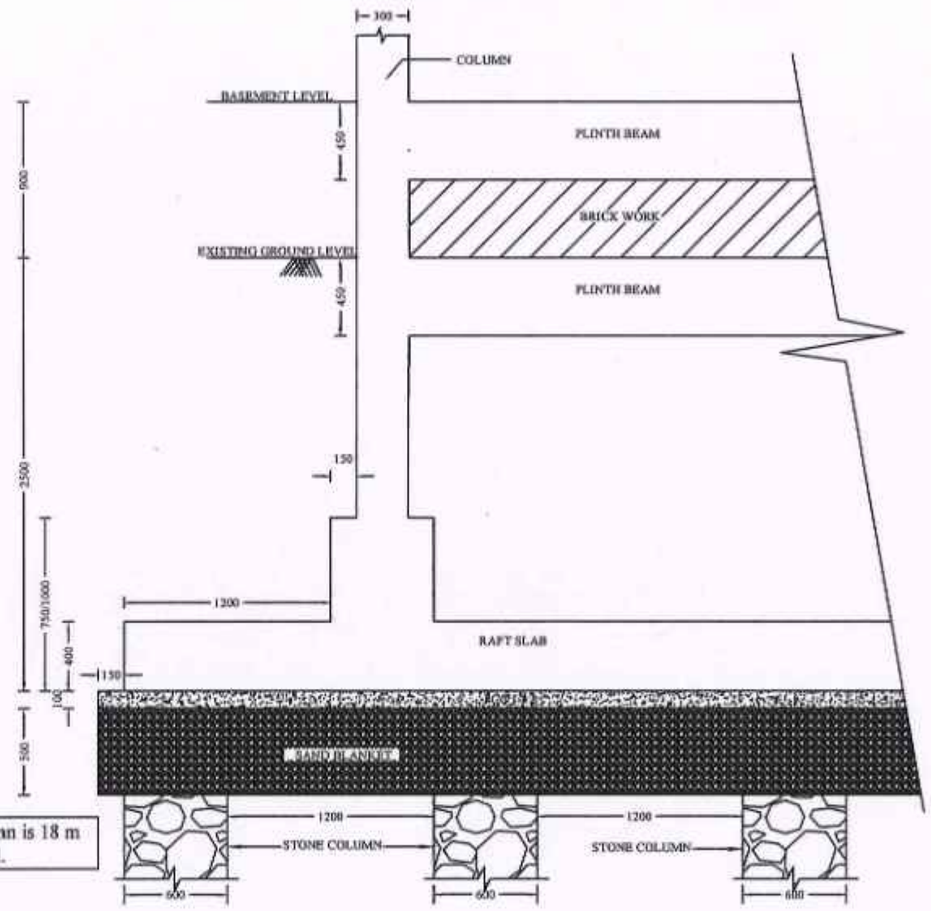
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30/5/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
30/05/24

## TYPICAL CROSS SECTION OF RAFT BEAM WITH SLAB DETAILS.

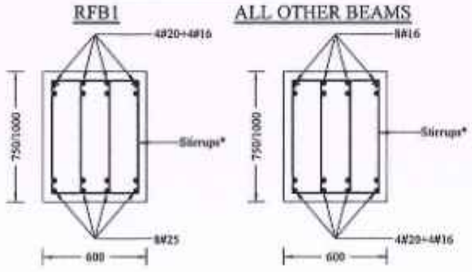



Note : Length of Stone Column is 18 m below foundation level.

## TYPICAL CROSS SECTIONAL ELEVATION OF RAFT BEAM WITH SLAB DETAILS.




## RAFT BEAM DETAILS




NOTE
1.For beam 750 mm depth - Stirrups* => 4 Legged # 10 mm stirrups at 100 mm c/c for 1.5 metre length on all sides near beam-column junctions and the rest at 150 mm c/c.
2.For beam 1000 mm depth - Stirrups* => 4 Legged # 10 mm stirrups at 100 mm c/c for 2 metre length on all sides near beam-column junctions and the rest at 150 mm c/c.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TYPICAL CROSS SECTION & CROSS SECTIONAL ELEVATION OF RAFT BEAM WITH SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/03.

REVISION NO.:

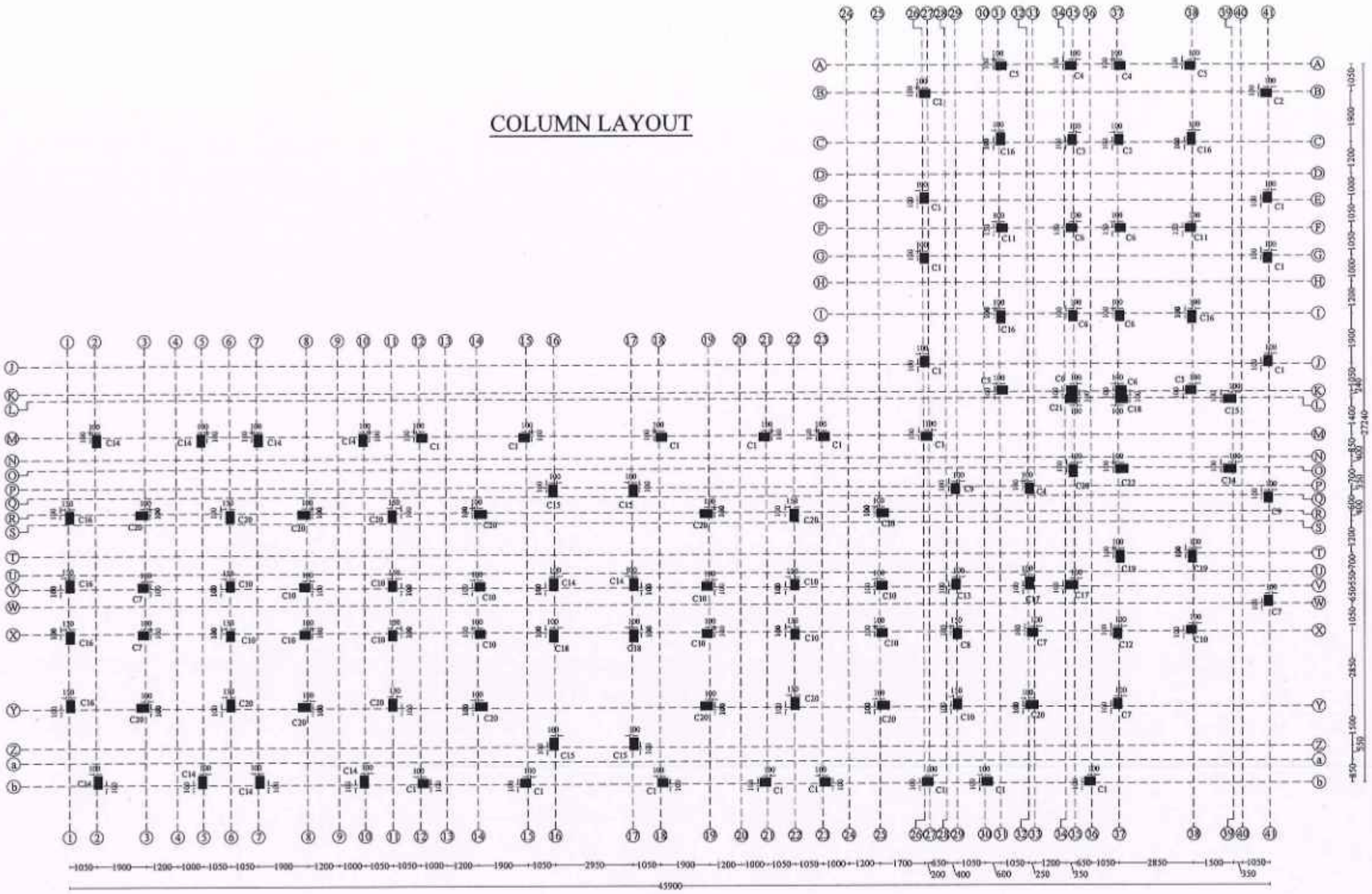
| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | Sd.xxxxx. **SE - North I** |

Sd.xxxx 29.05.2024.
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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30/5/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
30/05/24

# COLUMN LAYOUT



**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 $Kg/m^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
COLUMN LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/04.

REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | Sd.xxxxx. SE - North I |

Sd.xxxx 29.05.2024.
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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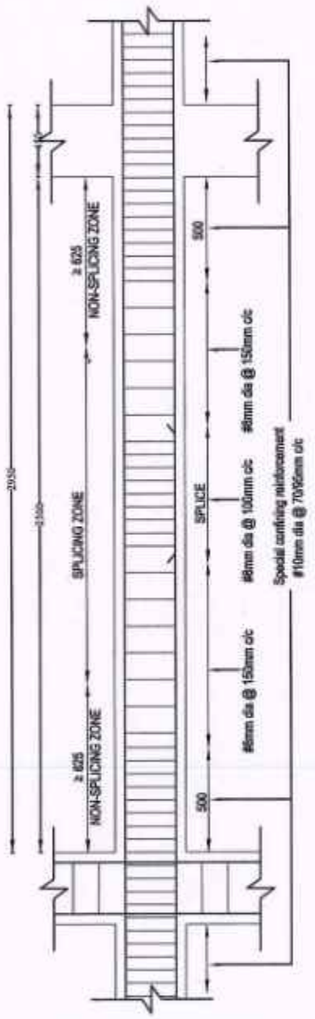
30/5/2024

EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

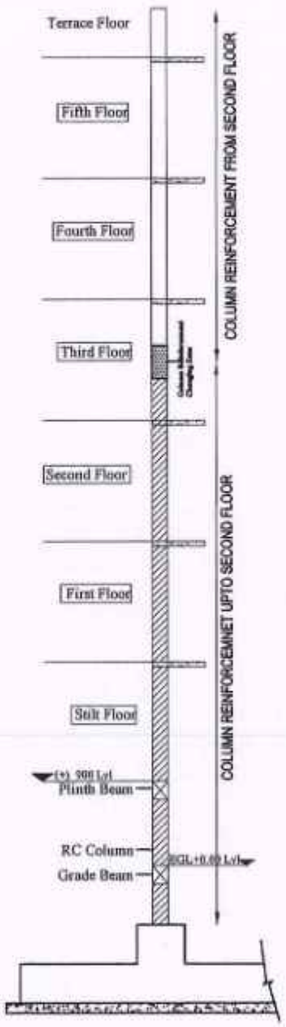
# SCHEDULE OF COLUMNS - 1

| Sl.No. | Column Marking | No of Columns | Size | Upto Second Floor Column Reinforcement Details | | | Above Second Floor Column Reinforcement Details | | | Ties Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Column Verticals | Lateral Ties | Cross Section | Column Verticals | Lateral Ties | Cross Section | |
| 1. | C1 | 20 | 300 x 380 | # 12 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 12 - 10 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - | |
| 2. | C2 | 02 | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - | |
| 3. | C3 | 02 | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 12 - 10 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 4. | C4 | 03 | 300 x 380 | # 16 - 8 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 12 - 10 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 5. | C5 | 04 | 300 x 380 | # 16 - 8 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 6. | C6 | 06 | 300 x 380 | # 16 - 8 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 7. | C7 | 05 | 300 x 380 | # 16 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 8. | C8 | 01 | 300 x 380 | # 16 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 8 Nos + # 12 - 2 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 9. | C9 | 02 | 300 x 380 | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 10. | C10 | 16 | 300 x 380 | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 10 Nos. | Above Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |
| 11. | C11 | 02 | 300 x 380 | # 20 - 6 Nos + # 16 - 4 Nos. | 1) Upto Plinth Beam: #10 @ 95 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | 300 x 380 | |

Notes: In Cross Section a - # 20 mm b - # 16 mm c - # 12 mm




TYPICAL COLUMN SPLICING AND CONFINING REINFORCEMENT DETAILS




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30/5/2024

EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

30/05/24

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SCHEDULE OF COLUMNS - 1.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/05.

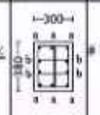
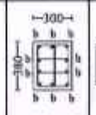
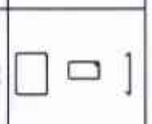
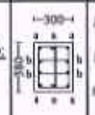
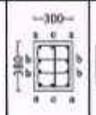
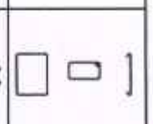
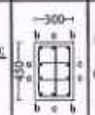
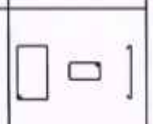
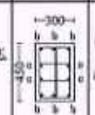
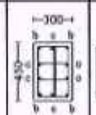
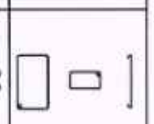
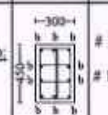
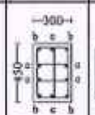
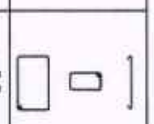
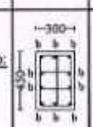
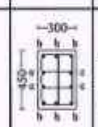
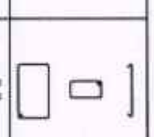
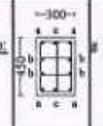
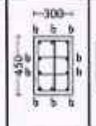
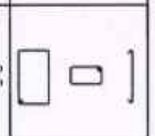
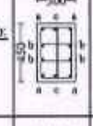
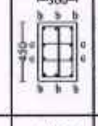
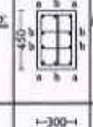
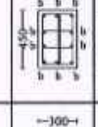
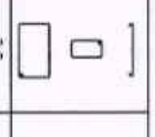
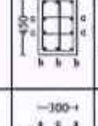
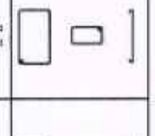
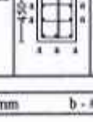
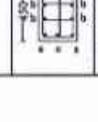
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | Sd.xxxxx. SE - North I |

Sd.xxxx 29.05.2024.
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SCHEDULE OF COLUMNS - 2

| Sl.No | Column Marking | No of Columns | Size | Upto Second Floor Column Reinforcement Details | | | Above Second Floor Column Reinforcement Details | | | Ties Profile |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Column Verticals | Lateral Ties | Cross Section | Column Verticals | Lateral Ties | Cross Section | |
| 12. | C12 | 01 | 300 x 380 | # 20 - 6 Nos + # 16 - 4 Nos. | 1) Upto Plinth Beam: #10 @ 95 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 10 Nos. | Above Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 13. | C13 | 01 | 300 x 380 | # 20 - 6 Nos + # 16 - 4 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 14. | C14 | 11 | 300 x 450 | # 16 - 4 Nos + # 12 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c | - do - |  |
| 15. | C15 | 05 | 300 x 450 | # 16 - 6 Nos + # 12 - 4 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 16. | C16 | 08 | 300 x 450 | # 16 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 4 Nos + # 12 - 6 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 17. | C17 | 02 | 300 x 450 | # 16 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 18. | C18 | 03 | 300 x 450 | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 10 Nos. | Above Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 19. | C19 | 02 | 300 x 450 | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 20. | C20 | 18 | 300 x 450 | # 20 - 4 Nos + # 16 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 95 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 10 Nos. | Above Second floor slab: #10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 21. | C21 | 01 | 300 x 450 | # 20 - 4 Nos + # 16 - 6 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 16 - 6 Nos + # 12 - 4 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |
| 22. | C22 | 01 | 300 x 450 | # 20 - 10 Nos. | 1) Upto Plinth Beam: #10 @ 70 mm c/c 2) Plinth Beam to Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  | # 20 - 4 Nos + # 16 - 4 Nos + # 12 - 2 Nos. | Above Second floor slab: #10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & lapping zone and the rest #8 @ 150mm c/c |  |  |

Notes: In Cross Section a - # 20 mm b - # 16 mm c - # 12 mm

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure.
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SCHEDULE OF COLUMNS - 2.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/06.

REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | Sd.xxxxx. SE - North I |

Sd.xxxx 29.05.2024.
Chief Engineer- 1

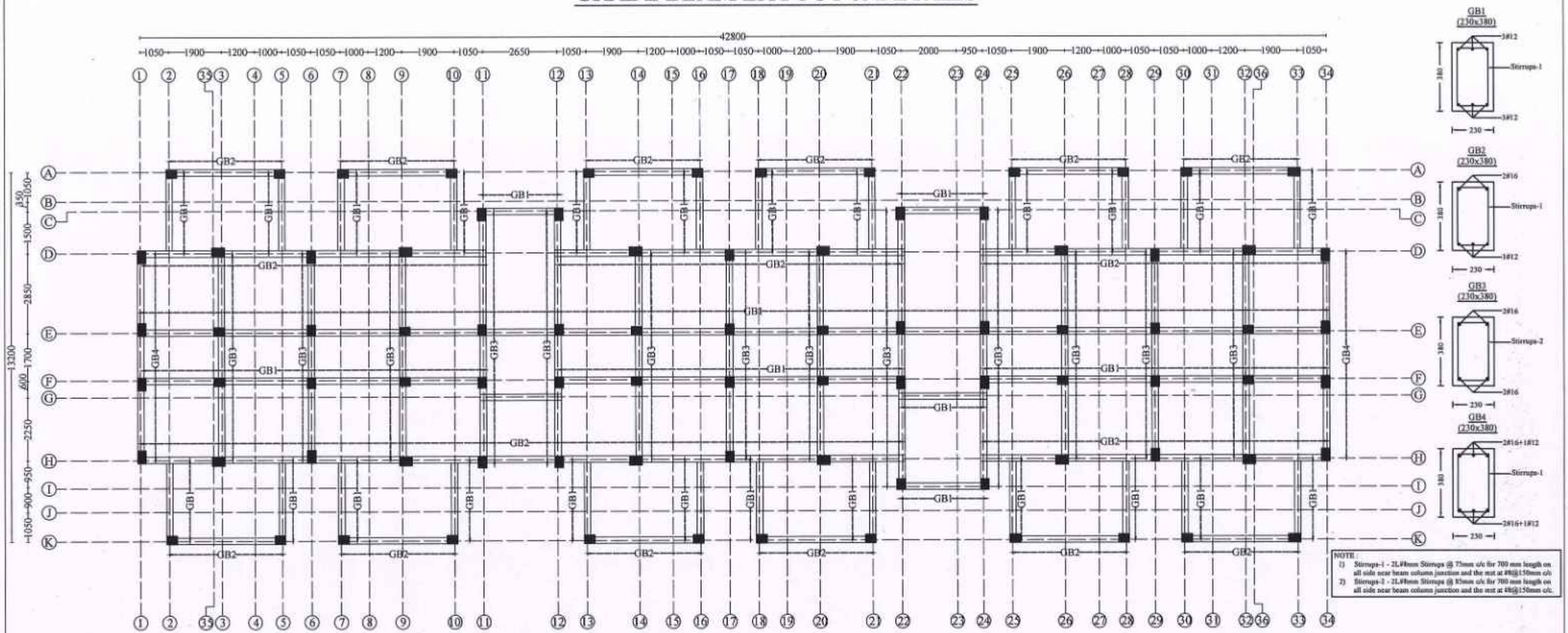
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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30/5/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

30/05/24

# GRADE BEAM LAYOUT & DETAILS




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
GRADE BEAM LAYOUT & DETAILS

TYPE DESIGN NO.: 73/2022 TYPE A

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE A/06.

REVISION NO.: R1

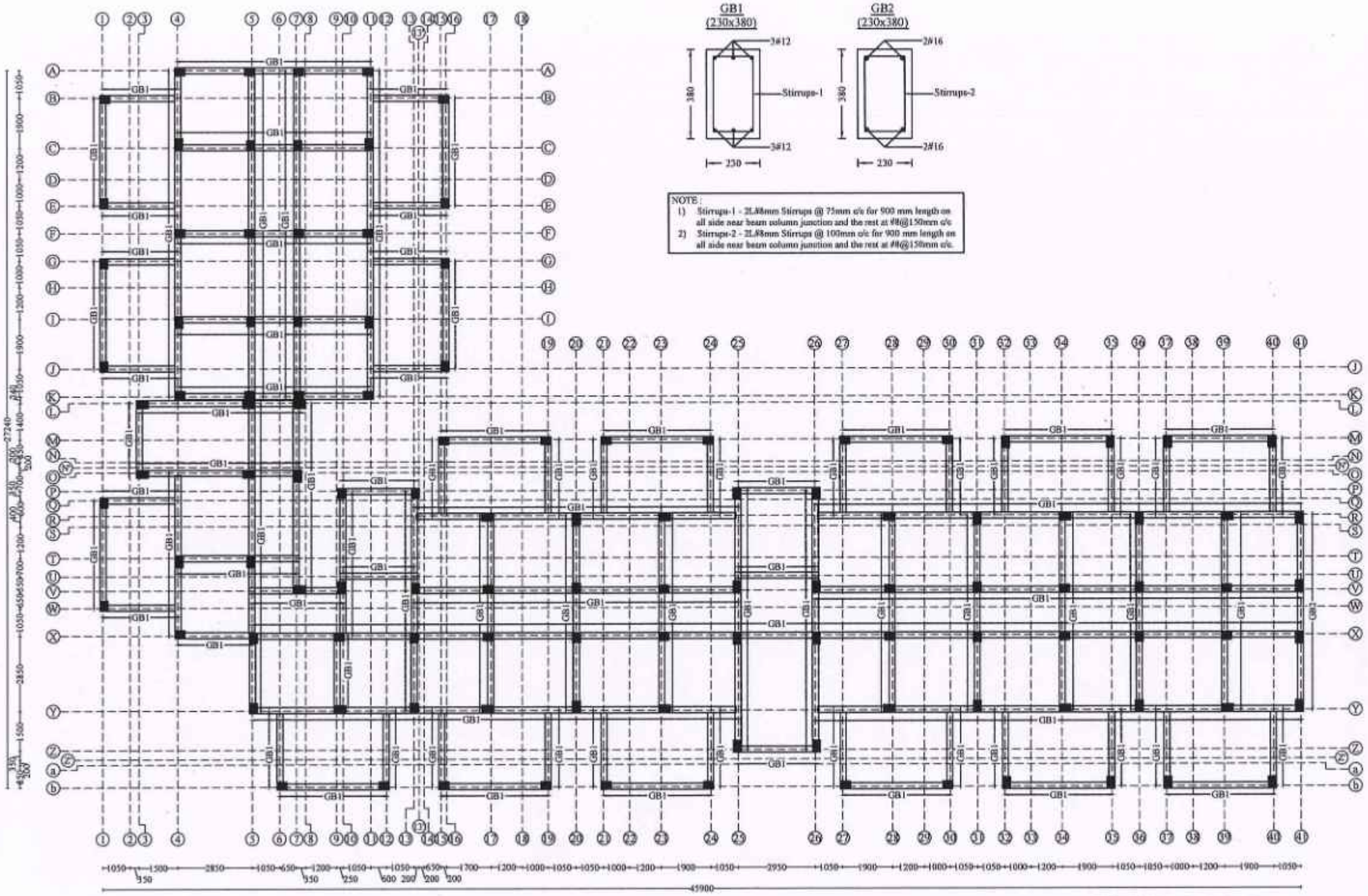
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5/9/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
05/09/24

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 04.09.2024.
**Chief Engineer - I**

**STRUCTURAL & QUALITY CONTROL CELL**
**TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD**
**NO.5, KAMARAJAR SALAI**
**CHENNAI - 600 005.**

# GRADE BEAM LAYOUT & DETAILS






NOTE :
1) Stirrups-1 - 2L/8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at #8@150mm c/c
2) Stirrups-2 - 2L/8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at #8@150mm c/c.

NOTE :

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc, unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
GRADE BEAM LAYOUT & DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B/07.

REVISION NO.: R1

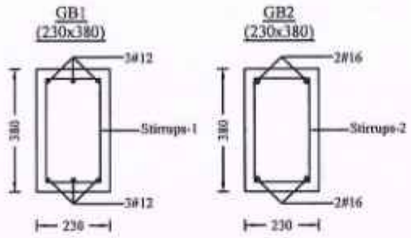
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 04.09.2024.
**Chief Engineer - I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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5/9/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
05/09/24

# GRADE BEAM LAYOUT & DETAILS




NOTE :
1) Stirrups-1 - 2L@8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at #8@150mm c/c
2) Stirrups-2 - 2L@8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at #8@150mm c/c.




**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc, unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
GRADE BEAM LAYOUT & DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/07.

REVISION NO.: R1

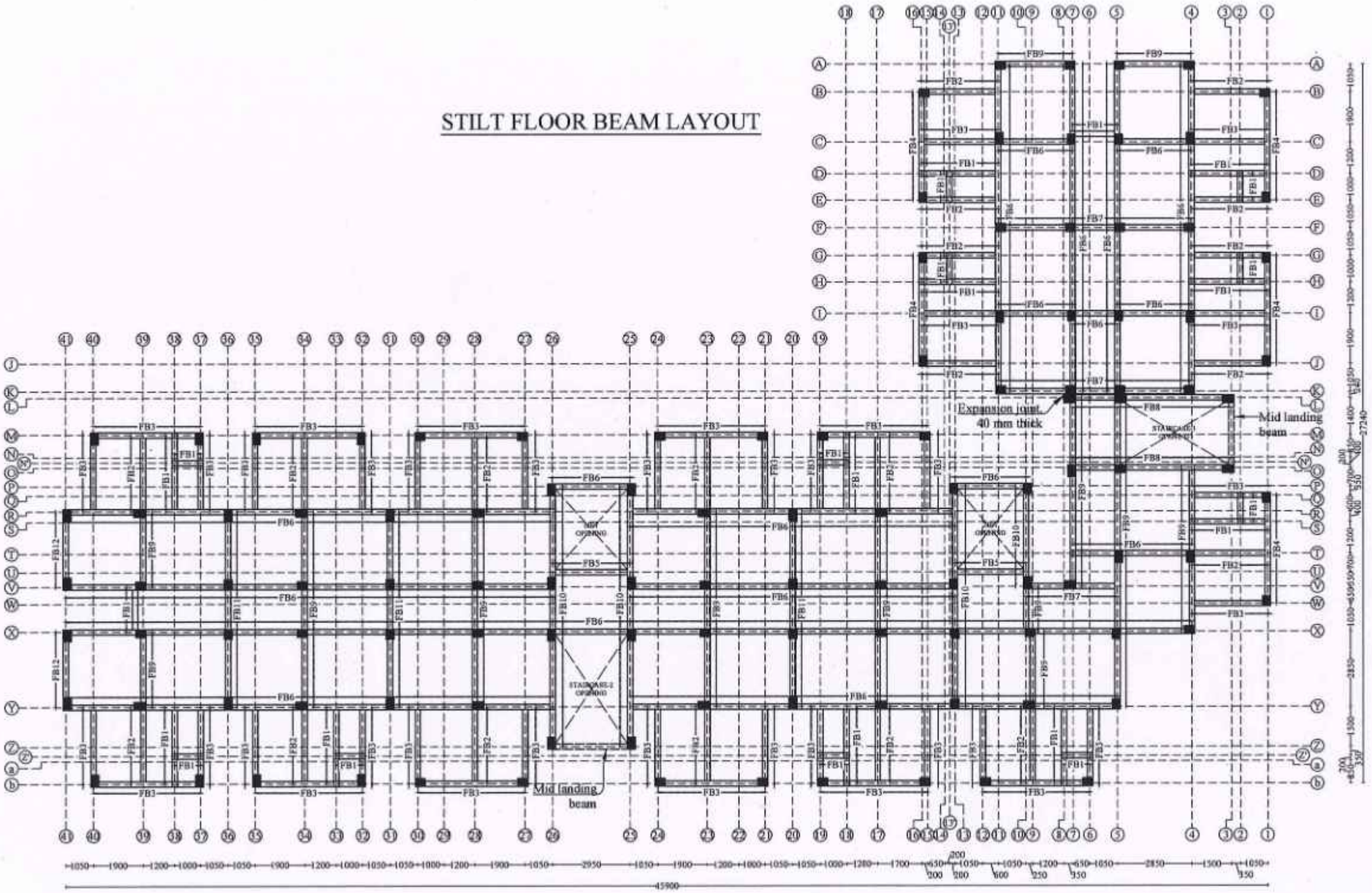
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 04.09.2024.
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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5/9/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI, CHENNAI-600 005.
08/09/24

# STILT FLOOR BEAM LAYOUT




Note:
For Stilt floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/11.

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
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19. Ground water quality has to be confirmed for suitability to construction work.
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## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/09.

REVISION NO.:

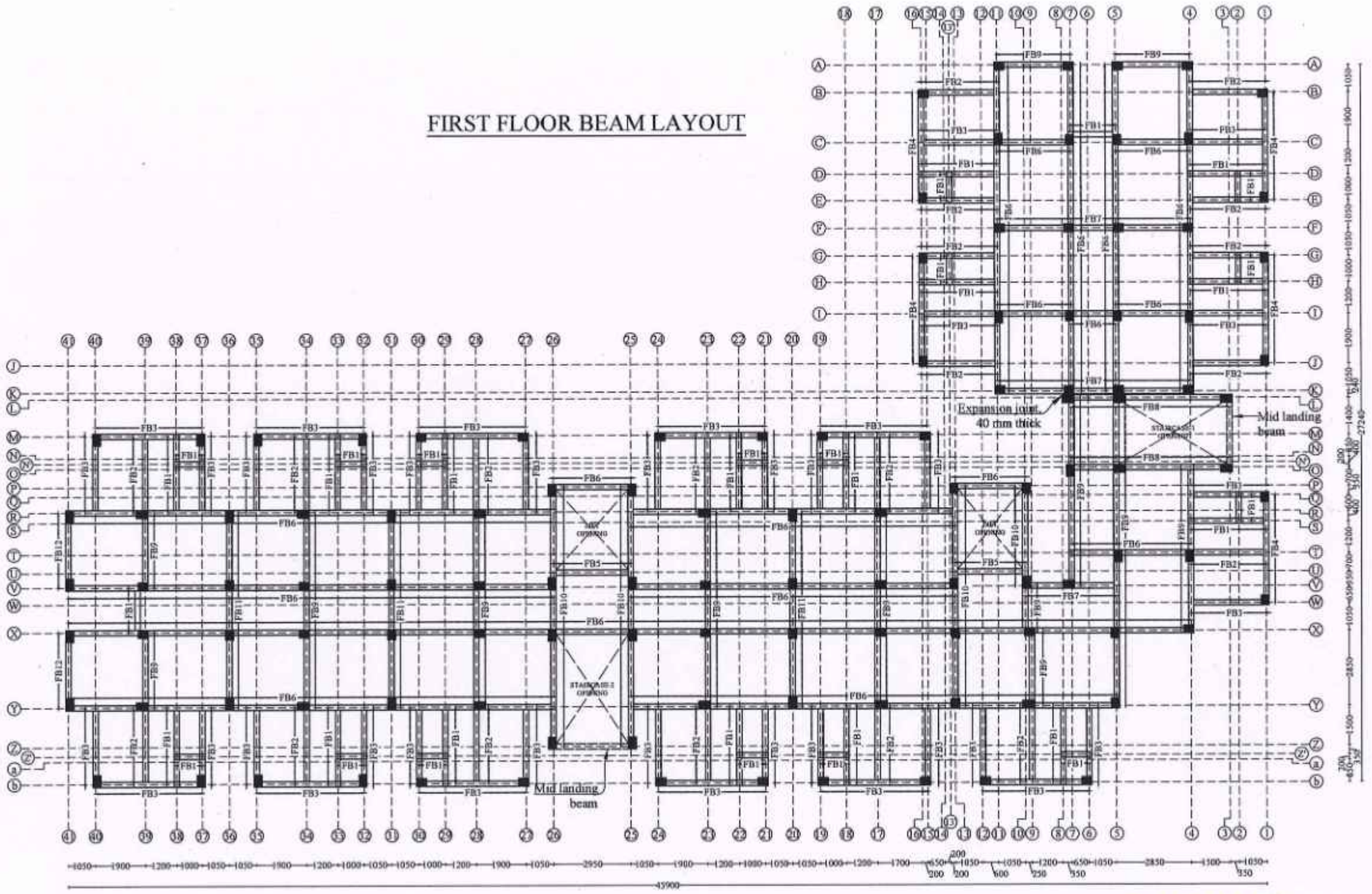
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 04.09.2024.
**Chief Engineer - I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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5/9/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
100088
05/09/24

# FIRST FLOOR BEAM LAYOUT




Note:
For First floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/11.

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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FIRST FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/10

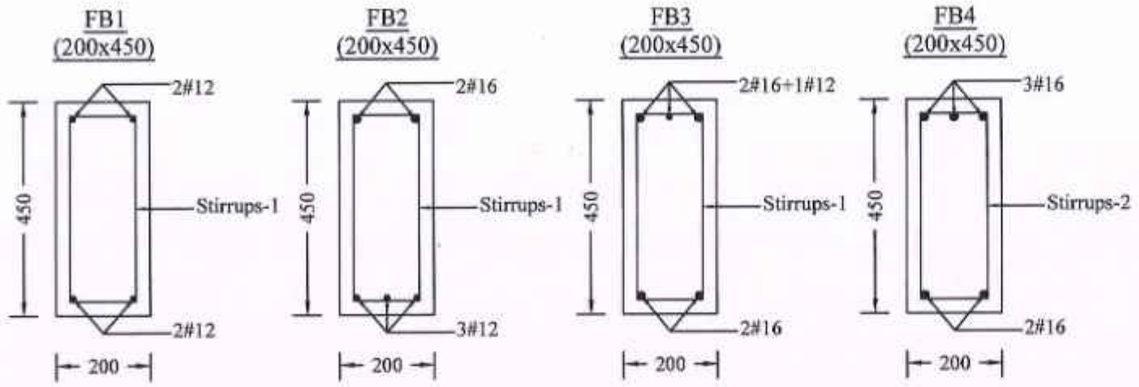
REVISION NO.:

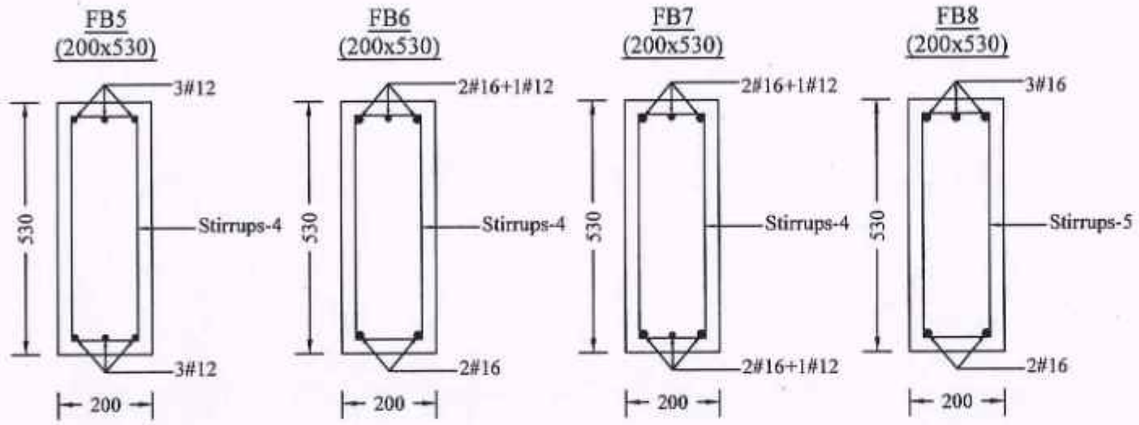
| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | **SE - North I** |

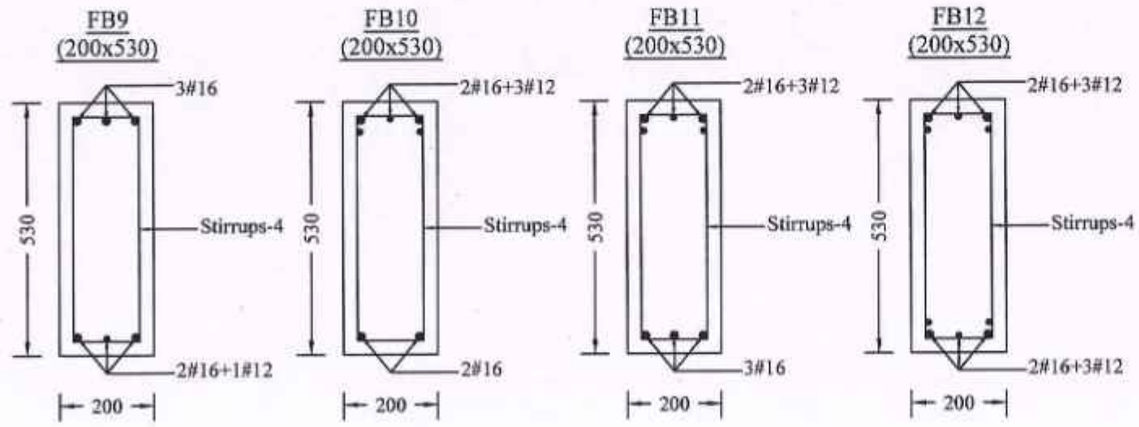
Sd.xxxx 04.09.2024.
**Chief Engineer - I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# STILT FLOOR & FIRST FLOOR BEAM DETAILS




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
3) Stirrups-3 - 2L#8mm Stirrups @ 75mm c/c for 1100 mm length on all side near beam column junction and the rest at 150mm c/c
4) Stirrups-4 - 2L#10mm Stirrups @ 75mm c/c for 1100 mm length on all side near beam column junction and the rest at 150mm c/c.
5) Stirrups-5 - 2L#10mm Stirrups @ 100mm c/c for 1100 mm length on all side near beam column junction and the rest at 150mm c/c.
6) Beam Depth is inclusive of slab thickness.

NOTE :

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR & FIRST FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/11.

REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

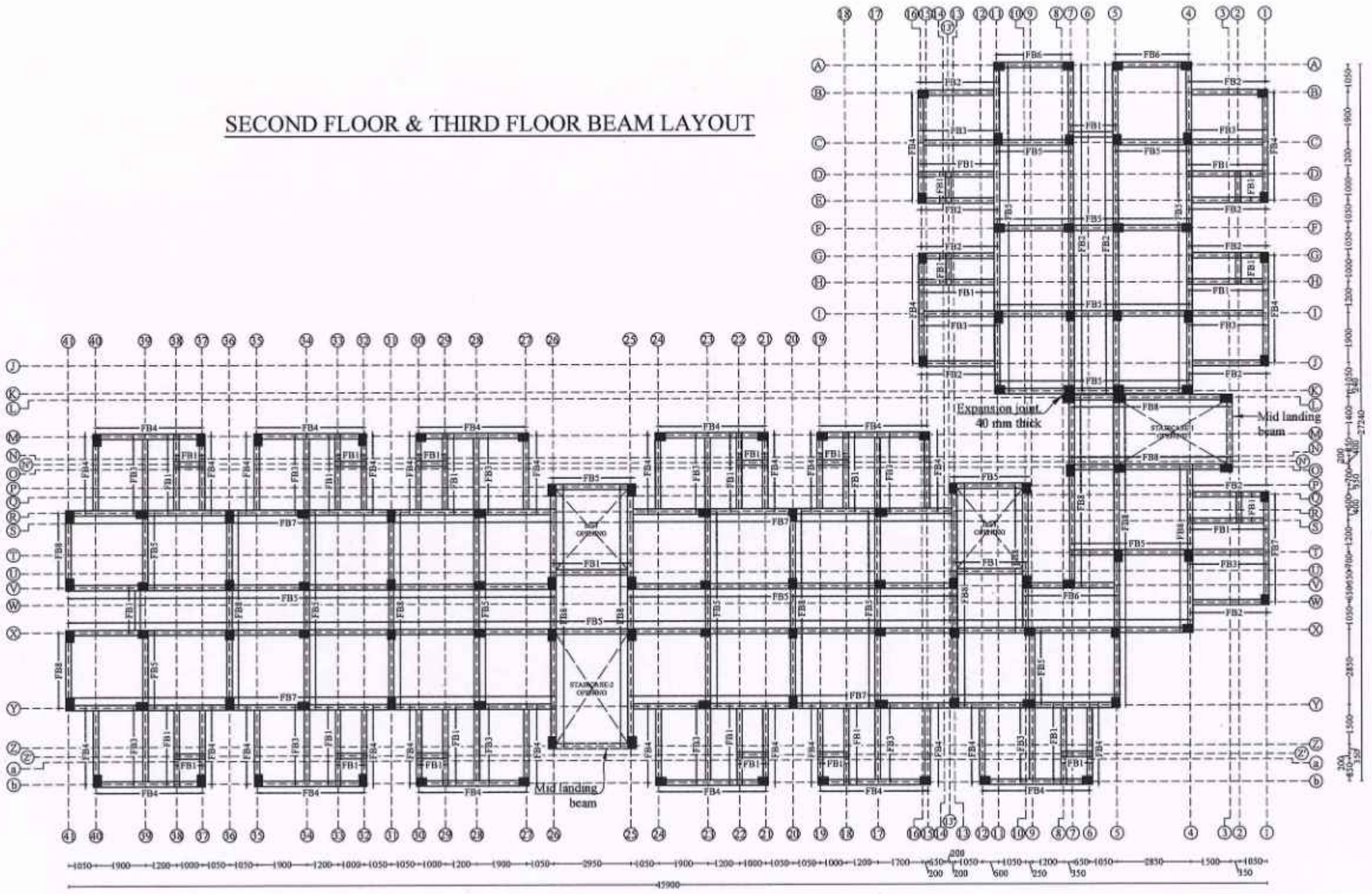
Sd.xxxx 04.09.2024.
**Chief Engineer - I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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5/9/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

# SECOND FLOOR & THIRD FLOOR BEAM LAYOUT




Note:
For Second & Third floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/13.

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EXECUTIVE ENGINEER CA/c

STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 $Kg/m^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR & THIRD FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/12.

REVISION NO.:

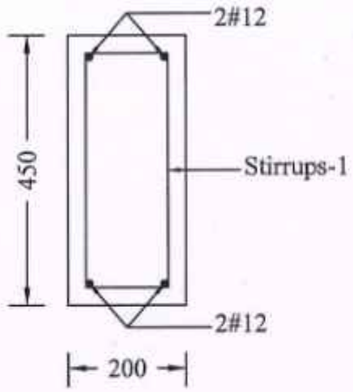
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North 1 |

Sd.xxxx 04.09.2024.
**Chief Engineer - 1**

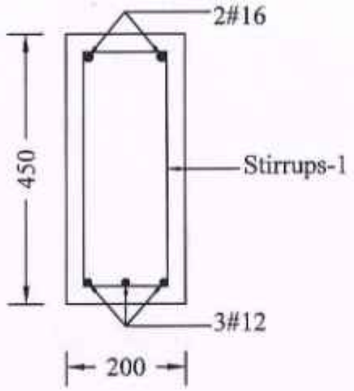
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND FLOOR & THIRD FLOOR BEAM DETAILS

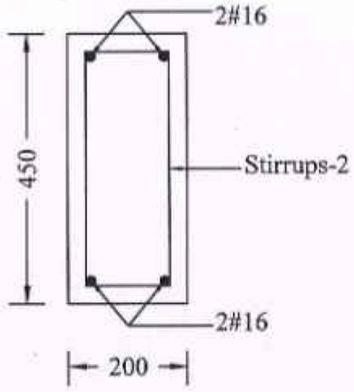
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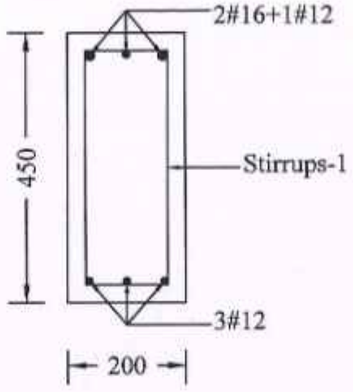

FB2 (200x450)



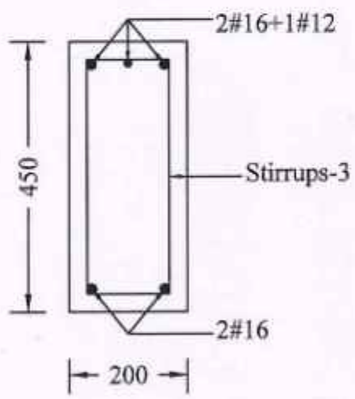

FB3 (200x450)



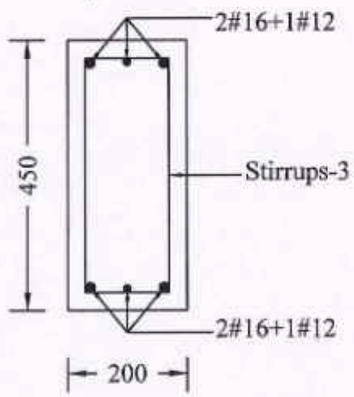

FB4 (200x450)



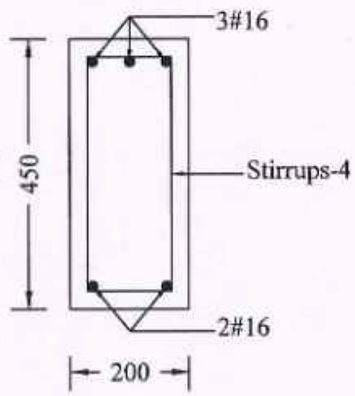

FB5 (200x450)



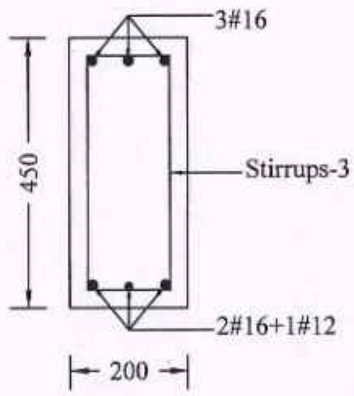

FB6 (200x450)




FB7 (200x450)




FB8 (200x450)




NOTE :

1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
3) Stirrups-3 - 2L#10mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c
4) Stirrups-4 - 2L#10mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
6) Beam Depth is inclusive of slab thickness.

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5/9/2024

EXECUTIVE ENGINEER (A/c)

STRUCTURAL AND QUALITY CONTROL CELL

TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD

# 5, KAMARAJAR SALAI, CHENNAI-600 005.

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR & THIRD FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/13.

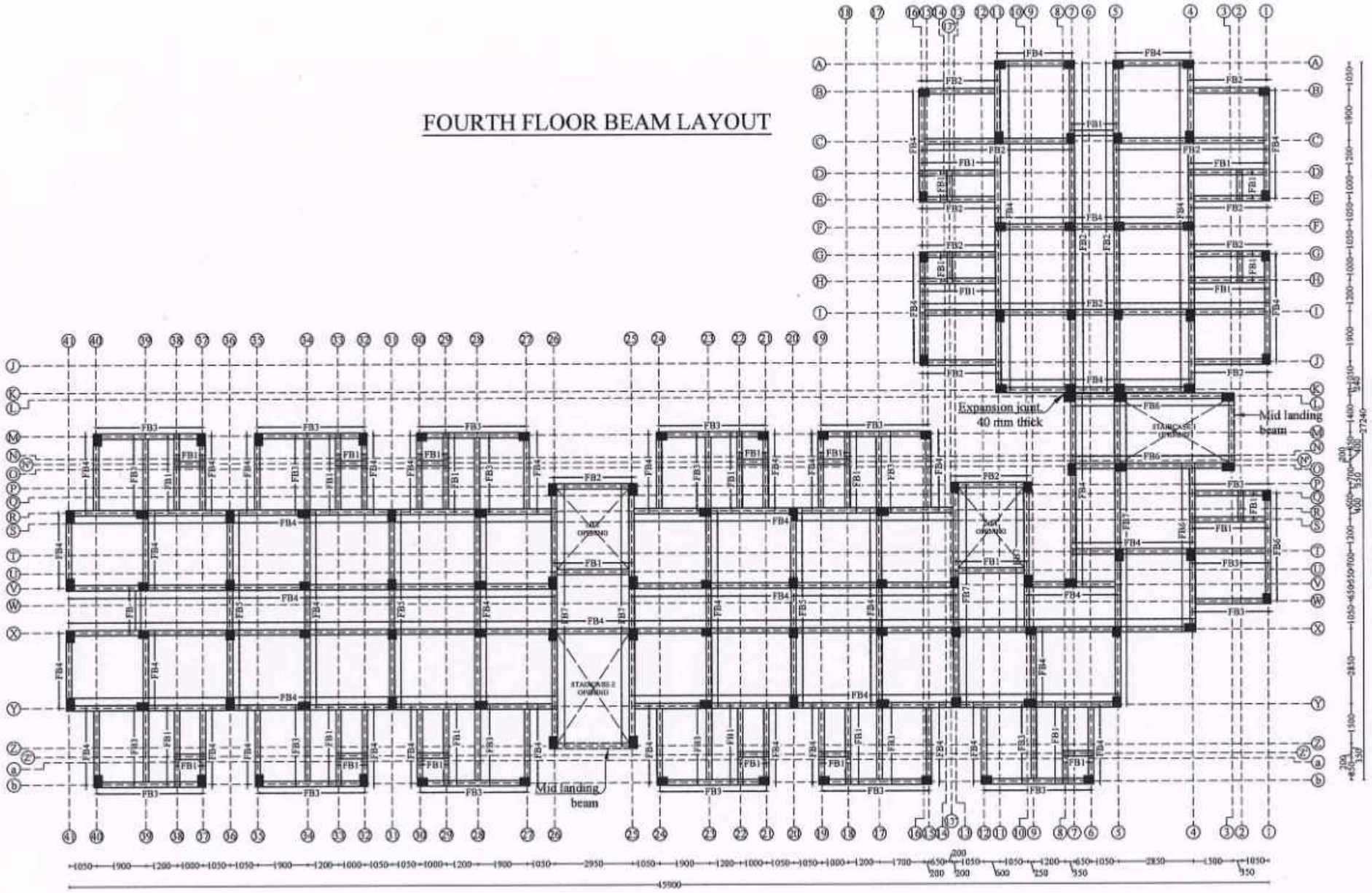
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 04.09.2024.
**Chief Engineer - I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FOURTH FLOOR BEAM LAYOUT




Note:
For Fourth floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/15.

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FOURTH FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/14.

REVISION NO.:

| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | **SE - North 1** |

Sd.xxxx 04.09.2024.
**Chief Engineer - 1**

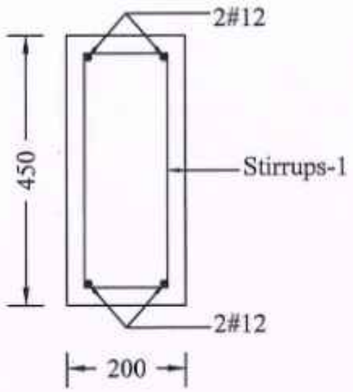
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

TRUE COPY
5/9/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

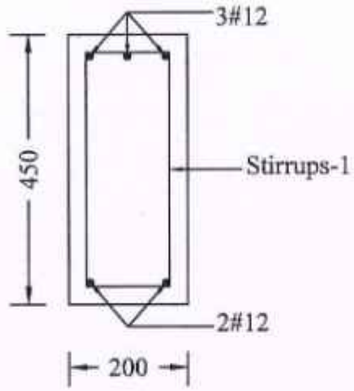
05/09/24

# FOURTH FLOOR BEAM DETAILS

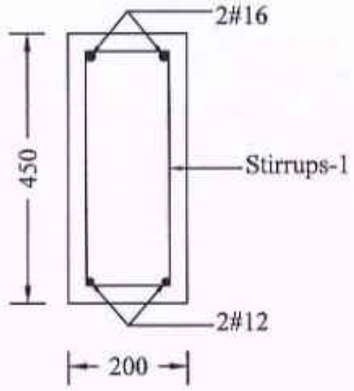
FB1
(200x450)



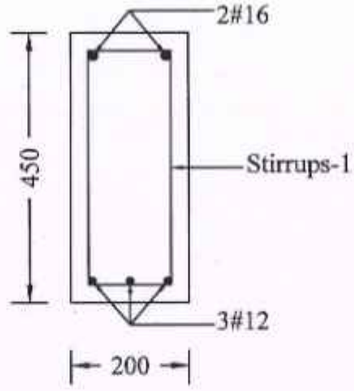

FB2
(200x450)



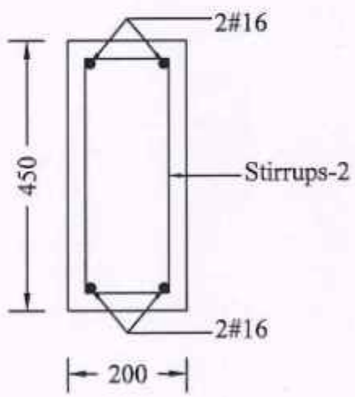

FB3
(200x450)



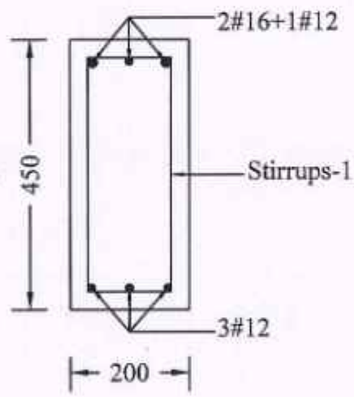

FB4
(200x450)



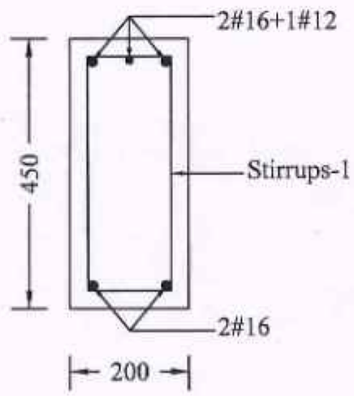

FB5
(200x450)




FB6
(200x450)




FB7
(200x450)




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
3) Beam Depth is inclusive of slab thickness.

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5/9/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.
05/09/24

NOTE :

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FOURTH FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/15.

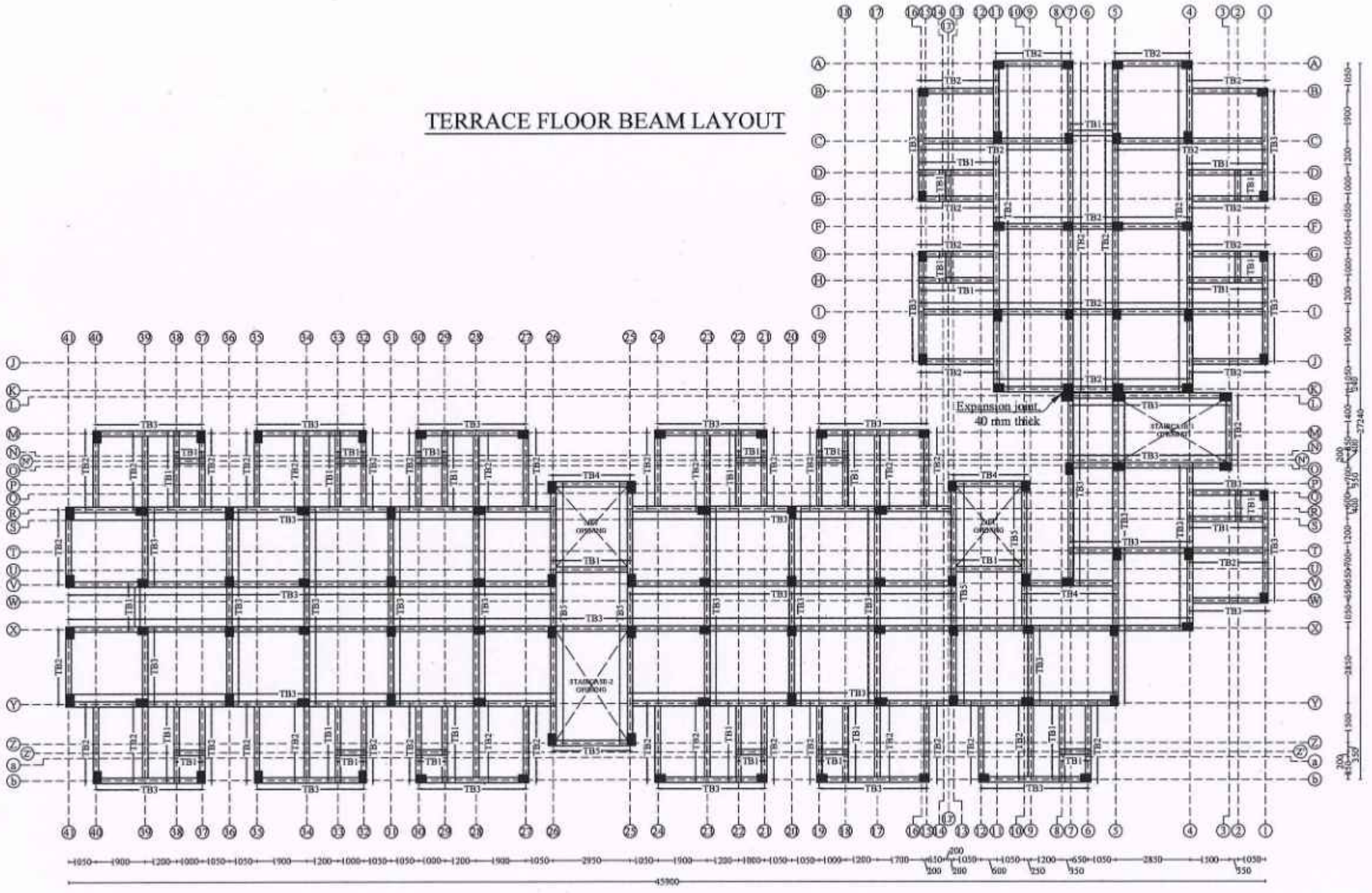
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North 1 |

Sd.xxxx 04.09.2024.
Chief Engineer - 1

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR BEAM LAYOUT




Note:
For Terrace floor beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/17.

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5/9/2024

EXECUTIVE ENGINEER (CAK)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO. 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer stonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/16.

REVISION NO.:

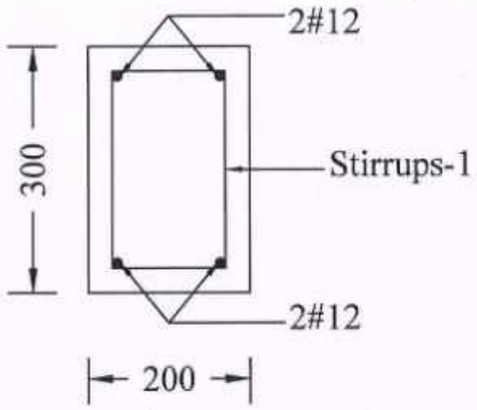
| | |
|---|---|
| **Assistant Engineer** | **Asst. Exe. Engineer** |
| **Executive Engineer** | **SE - North 1** |

Sd.xxxx 04.09.2024.
**Chief Engineer - I**

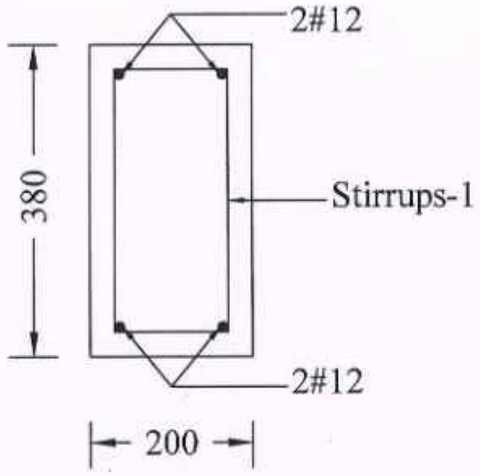
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR BEAM DETAILS

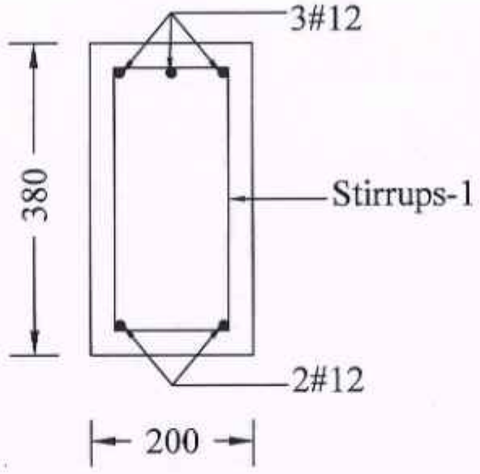
TB1
(200x300)



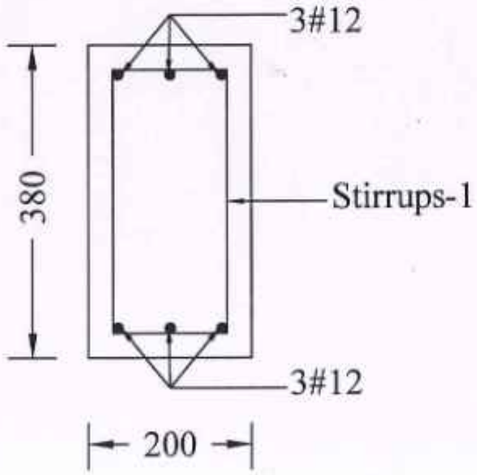

TB2
(200x380)



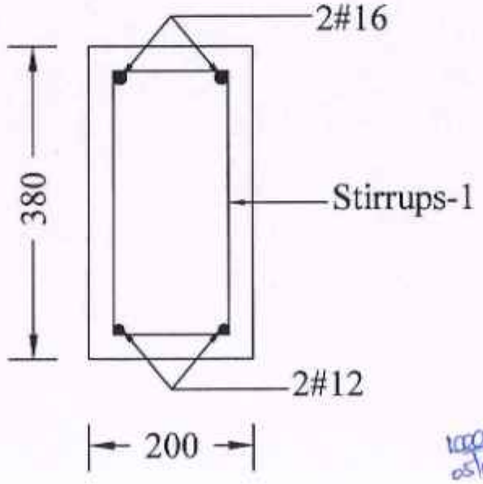

TB3
(200x380)




TB4
(200x380)




TB5
(200x380)




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 800 mm length on all side near beam column junction and the rest at 150mm c/c.
6) Beam Depth is inclusive of slab thickness.

TRUE COPY

5/9/2024

EXECUTIVE ENGINEER CH(C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

NOTE :

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 $Kg/m^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

**STRUCTURAL DETAILS**

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/17.

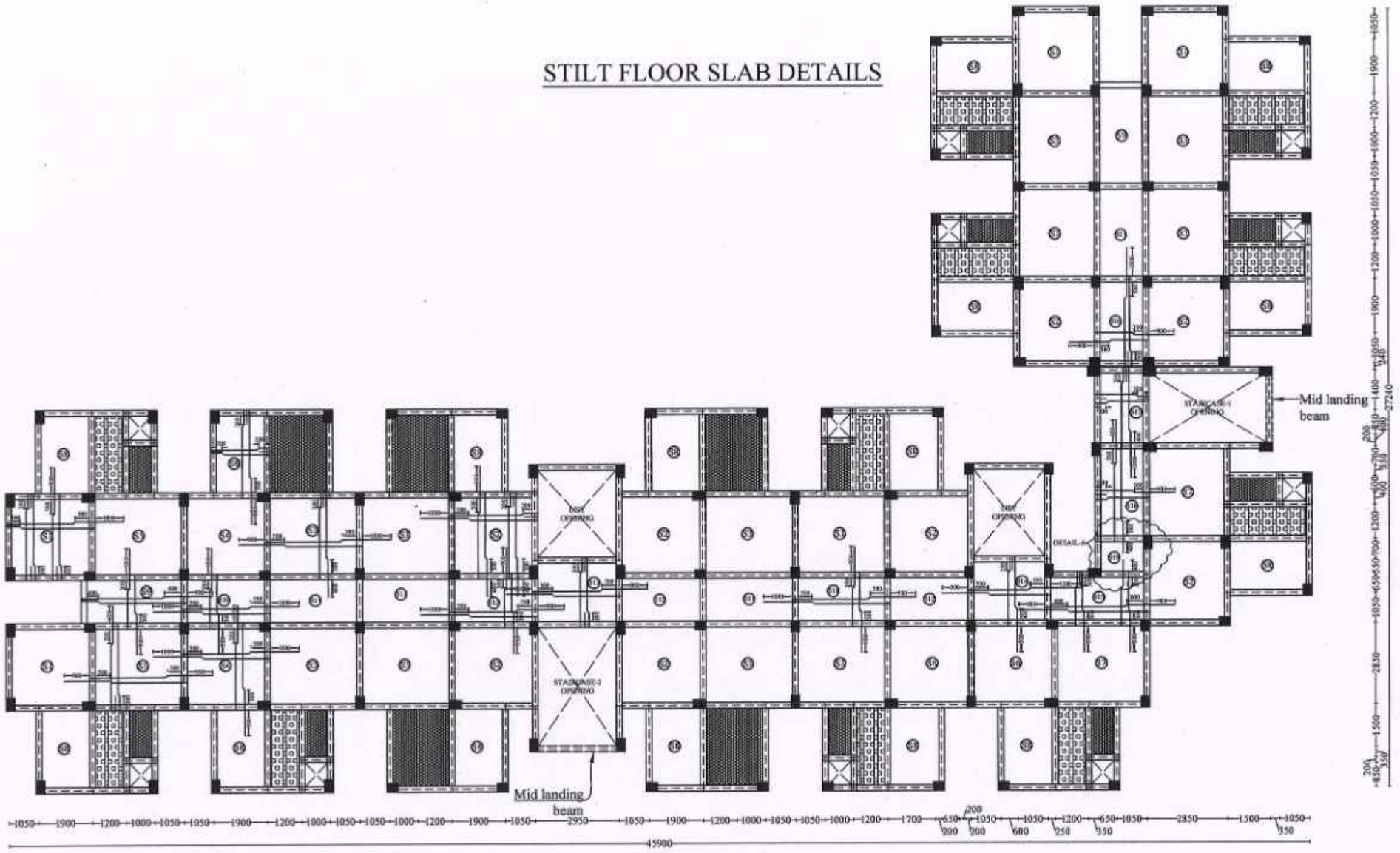
REVISION NO.:

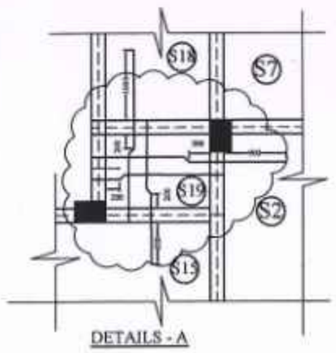
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 04.09.2024.
Chief Engineer - 1

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# STILT FLOOR SLAB DETAILS




DETAILS - A

SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

TRUE COPY

5/9/2024

EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "--------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

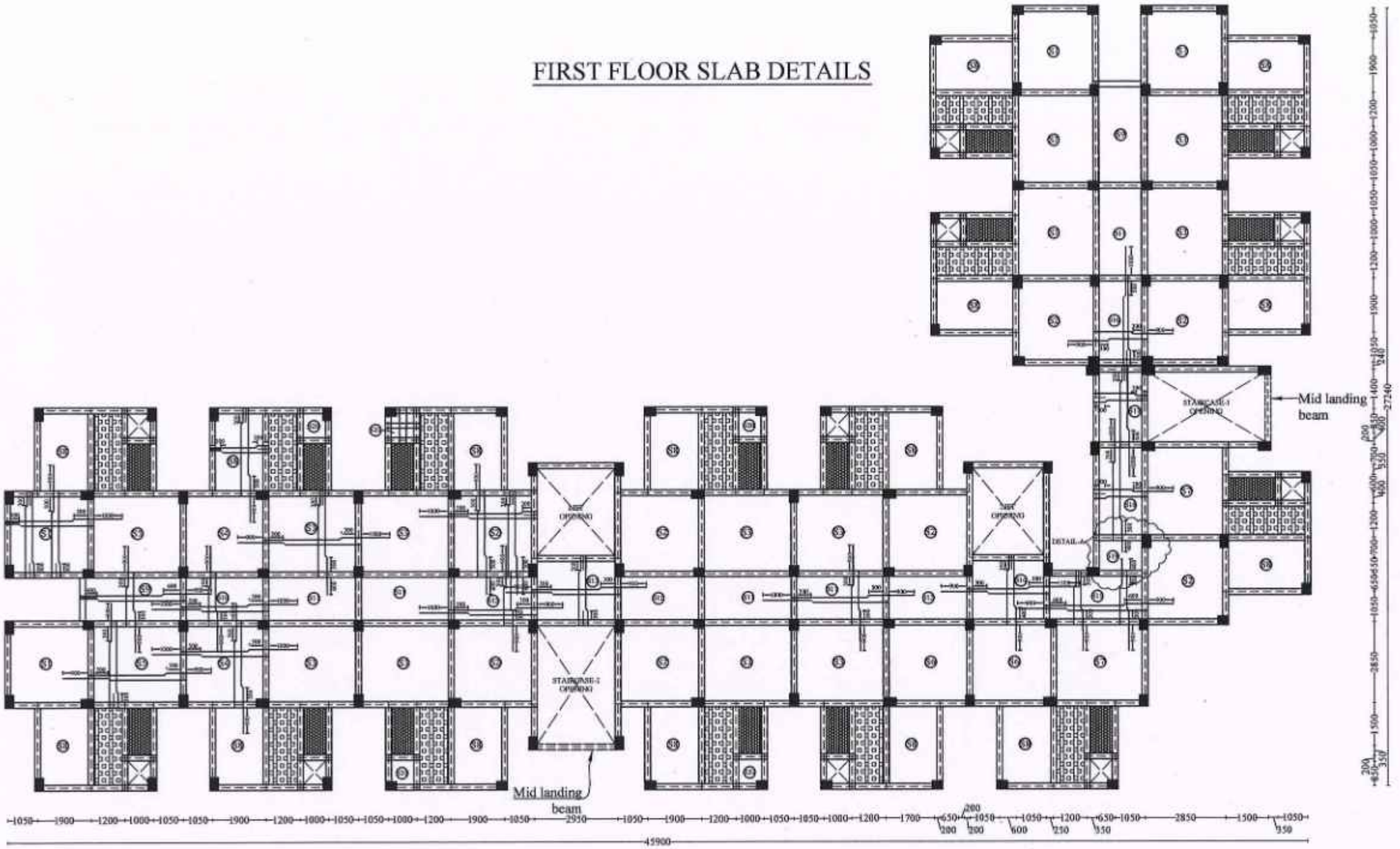
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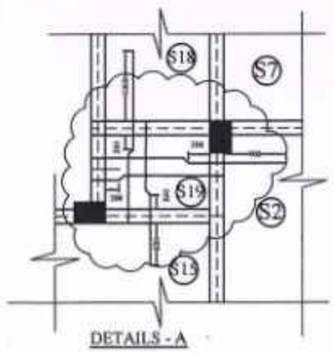
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |
| Chief Engineer - I | |

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FIRST FLOOR SLAB DETAILS




DETAILS - A

SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

TRUE COPY

5/9/2024

EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FIRST FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/19.

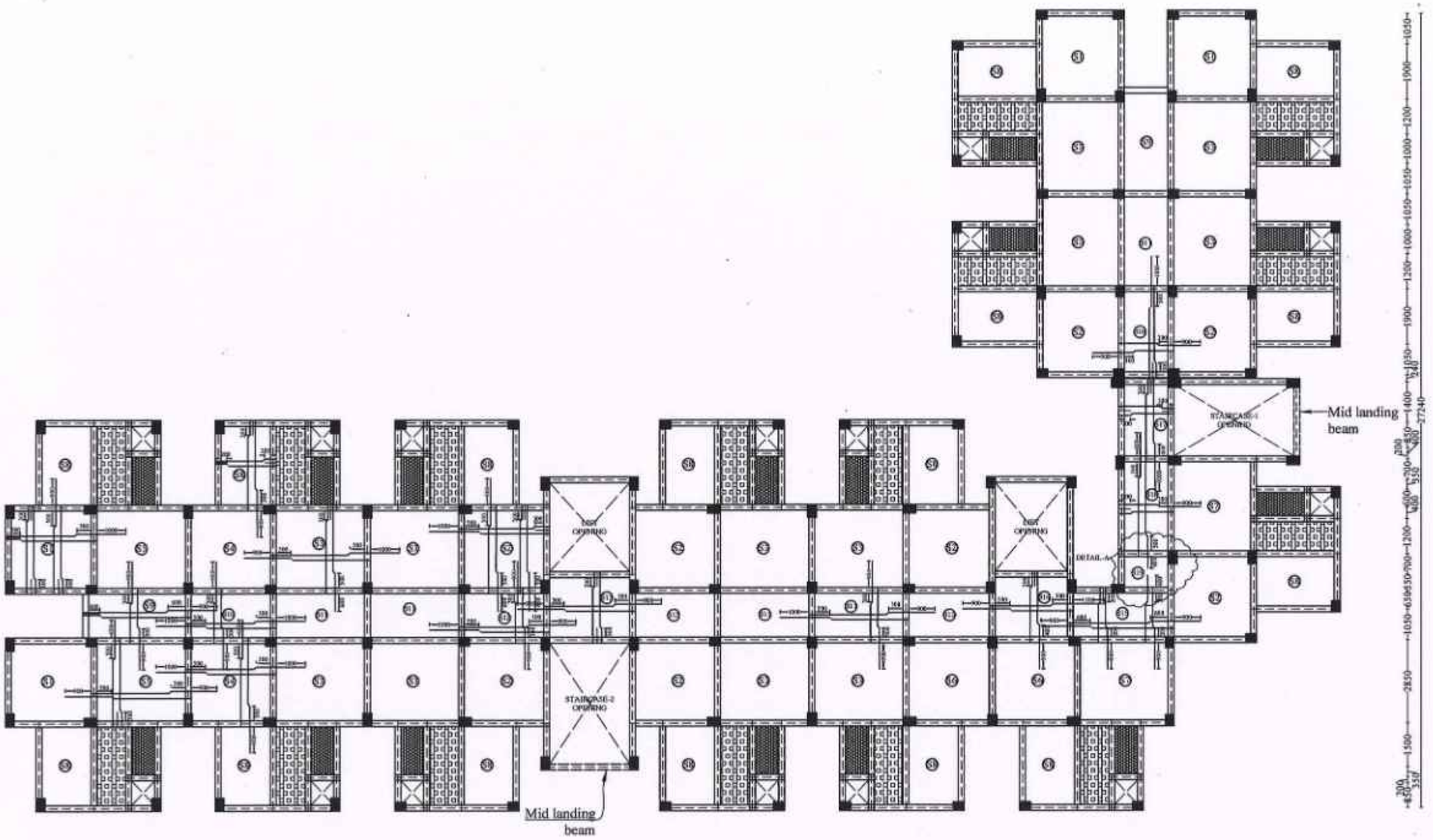
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North 1 |

Chief Engineer - 1

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND FLOOR TO FOURTH FLOOR SLAB DETAILS




SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

TRUE COPY

5/9/2024

EXECUTIVE ENGINEER (A/c)

STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR TO FOURTH FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/20.

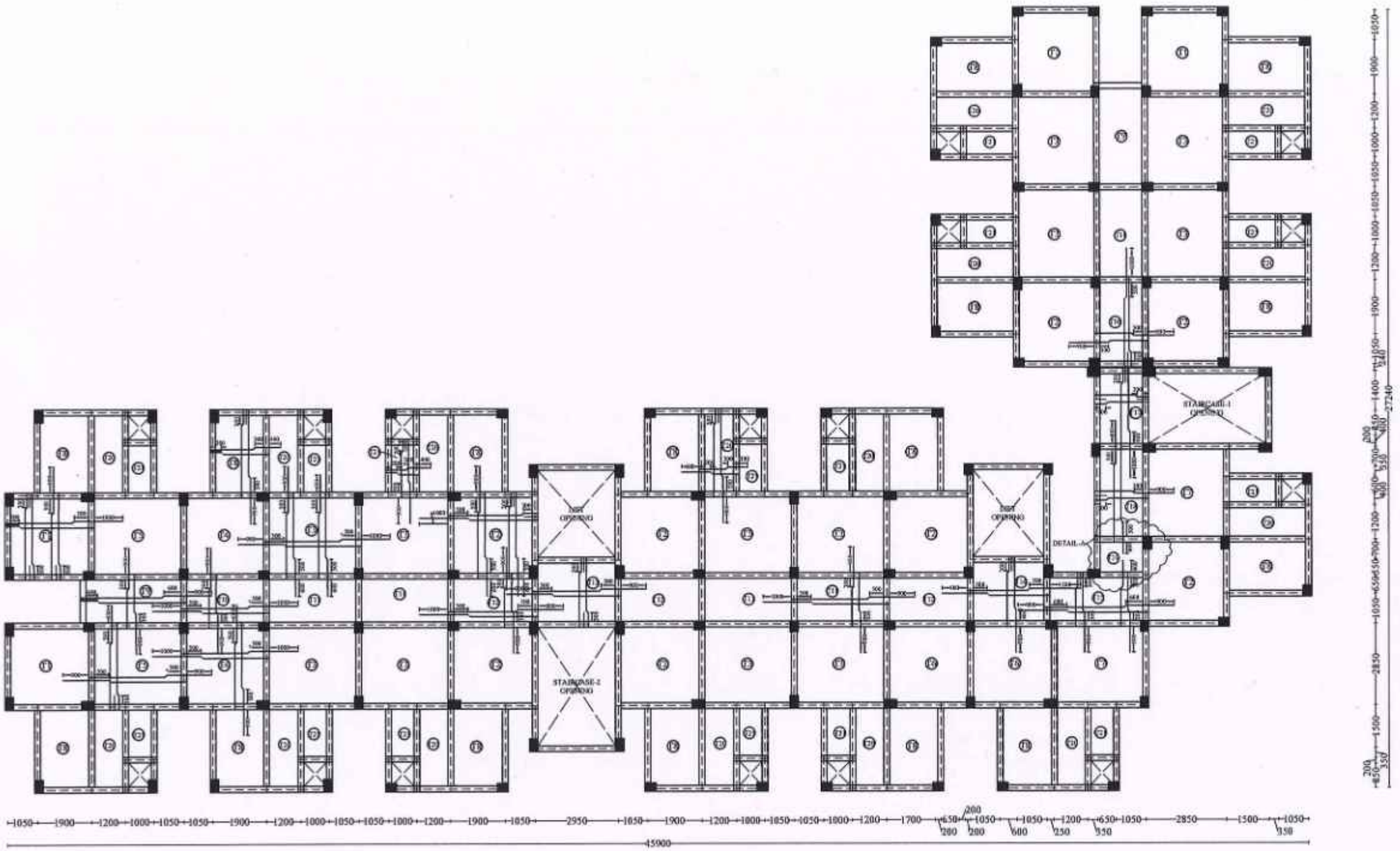
REVISION NO.:

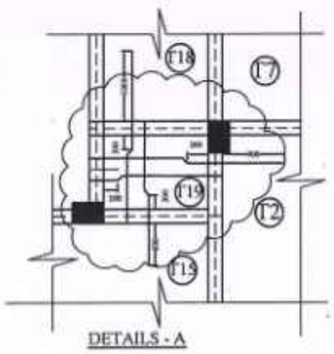
| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North 1 |

Chief Engineer - 1

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR SLAB DETAILS




DETAILS - A

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

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5/7/2024

EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/07/24

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR TO TERRACE FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/21.

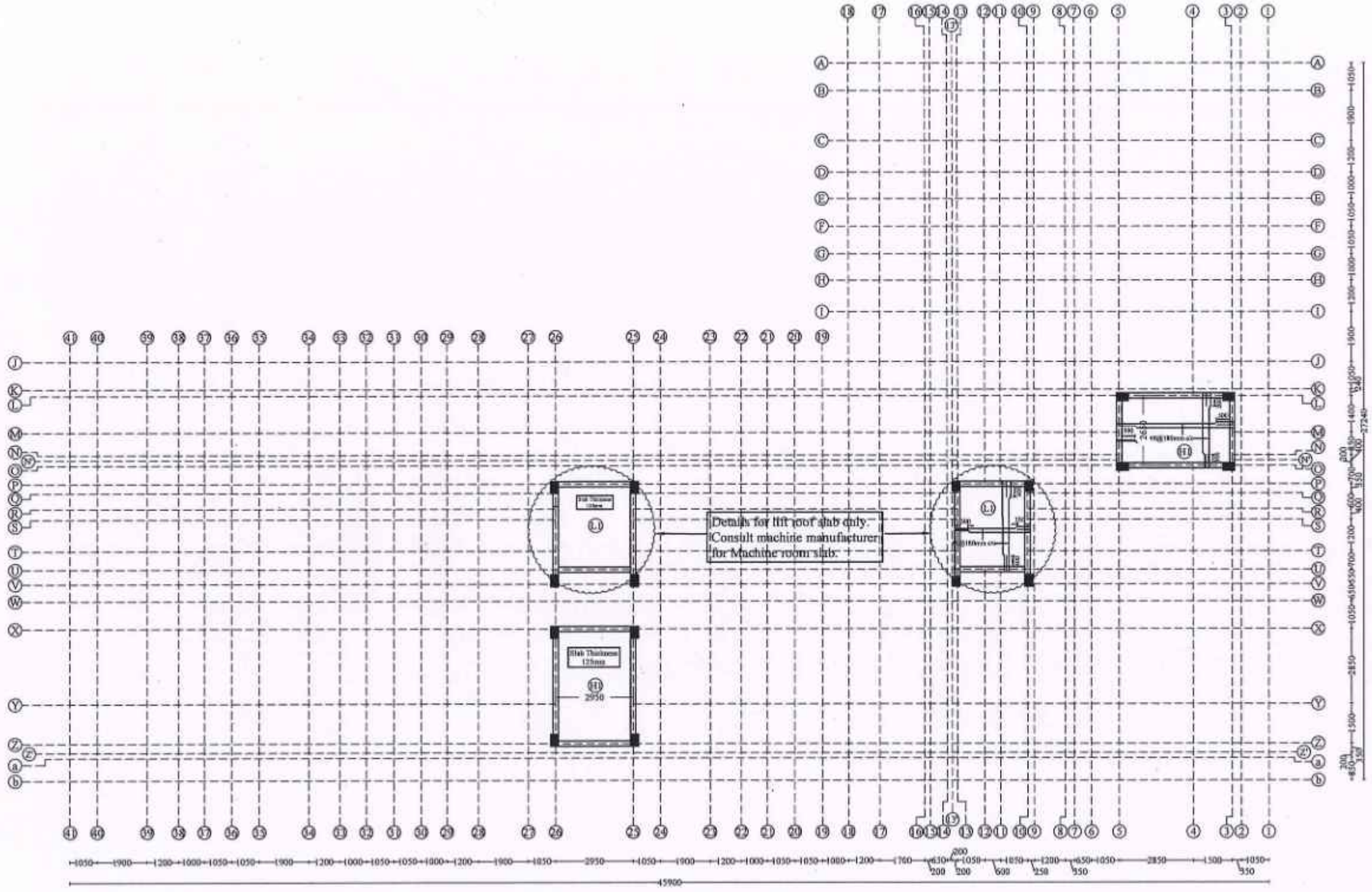
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

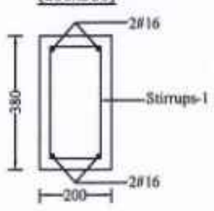
Chief Engineer - I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# HEAD ROOM, LIFT ROOM BEAM LAYOUT & SLAB DETAILS




ALL BEAMS
(200x380)




NOTE:
**Stirrups-1 :** 2 Legged # 8 mm stirrups at 100 mm c/c for 900 mm length on all sides near Beam - Column junctions and the rest at 150 mm c/c.

TRUE COPY

5/9/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

05/09/24

**NOTE :**

1. All the dimensions are in mm unless otherwise noted.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in confirmity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be confirmed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless otherwise noted. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
HEAD ROOM, LIFT ROOM BEAM LAYOUT & SLAB DETAILS.

TYPE DESIGN NO.: 74/2022 (TYPE - B (A))

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-B(A)/22.

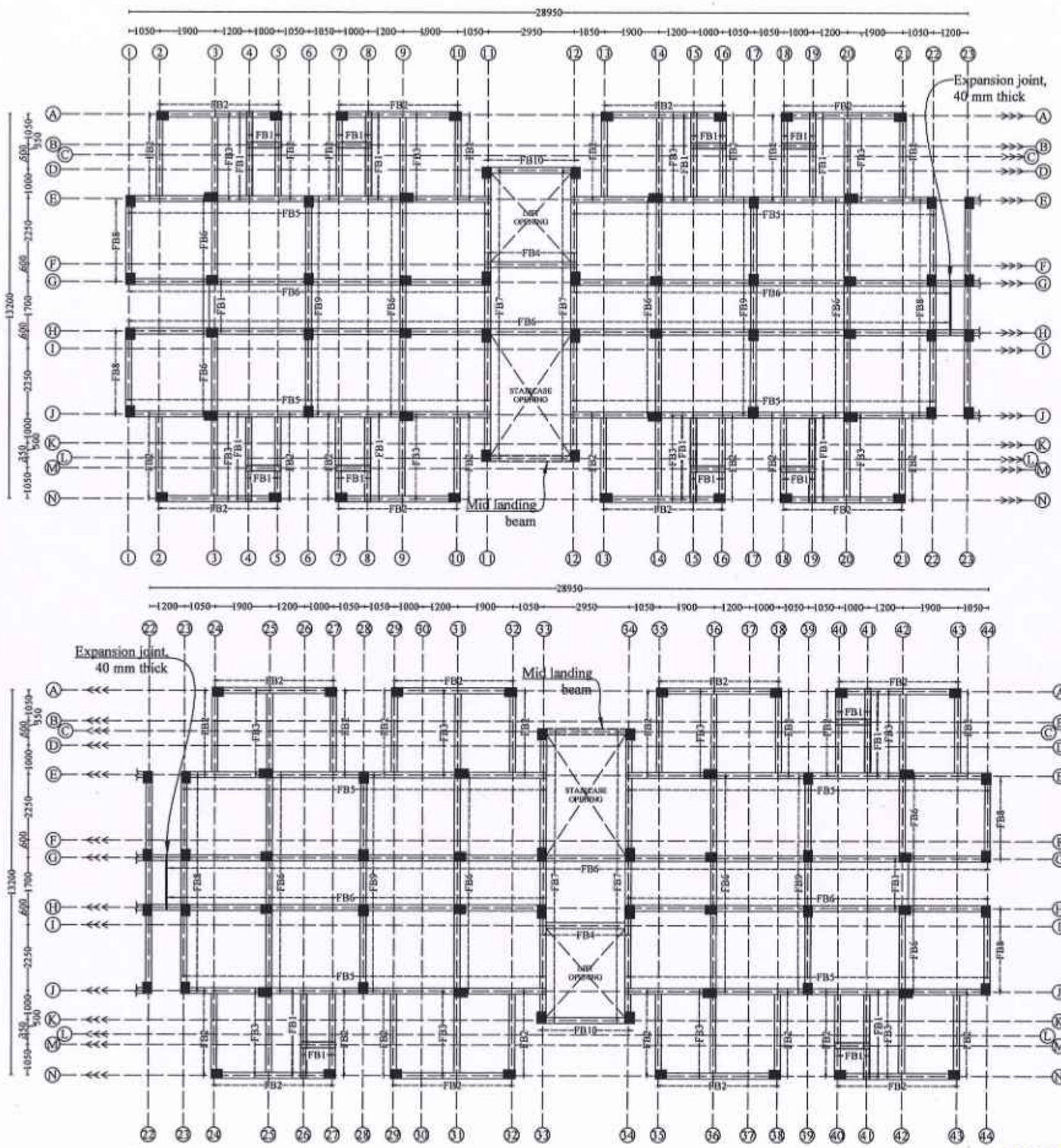
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 04.09.2024.
**Chief Engineer - I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# STILT FLOOR BEAM LAYOUT




Note:
For STILT FLOOR beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/10.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/08.

REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
Chief Engineer- I

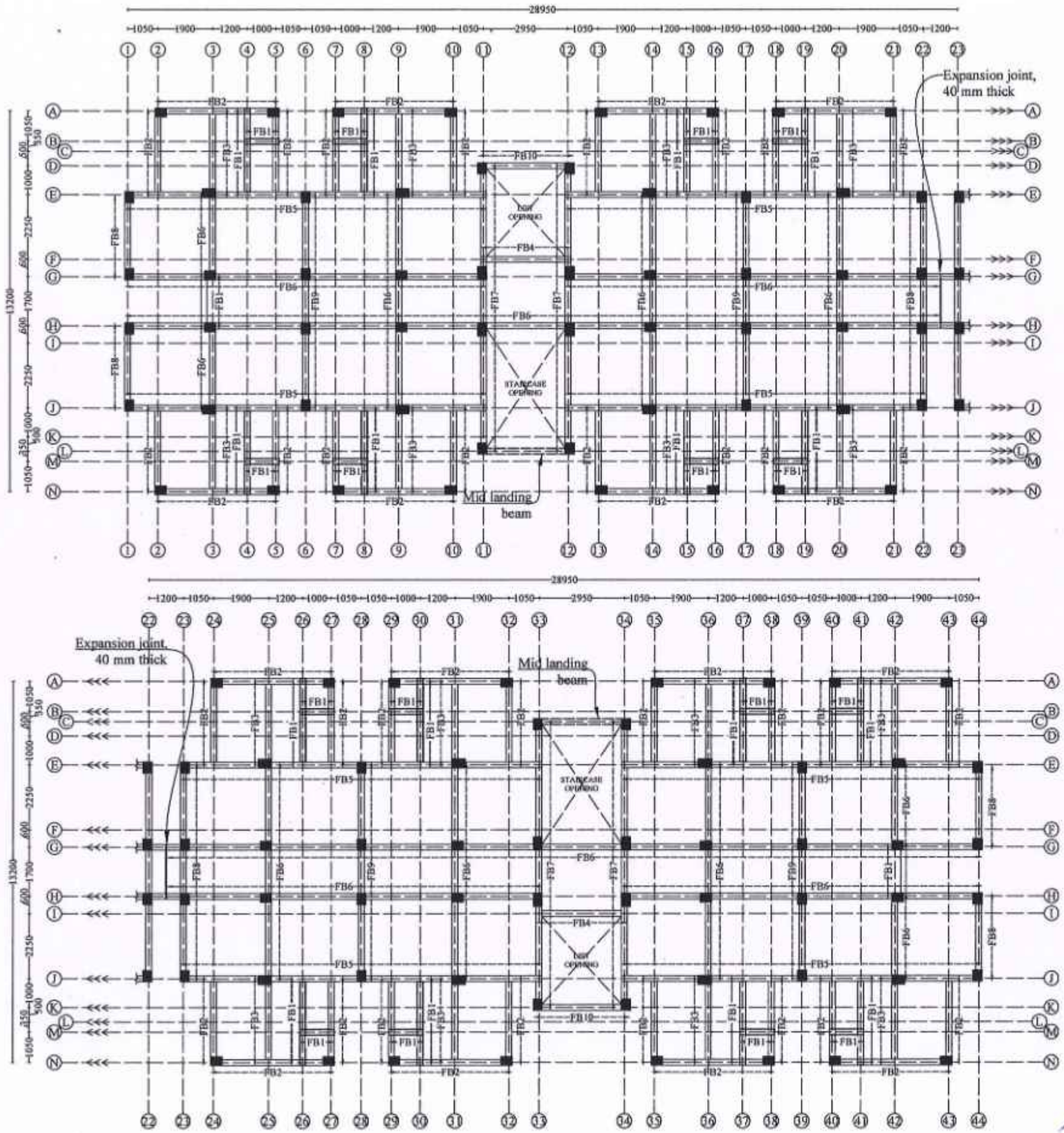
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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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1/10/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

01/10/24

# FIRST FLOOR BEAM LAYOUT




Note:
For FIRST FLOOR beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/10.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 $Kg/m^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FIRST FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/09.

REVISION NO.:

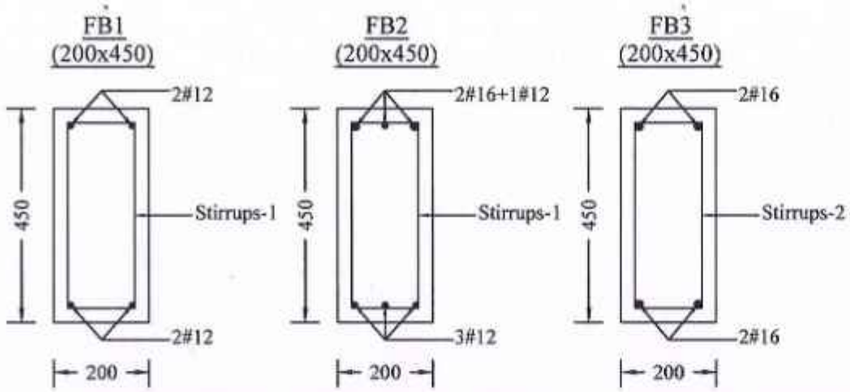
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| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

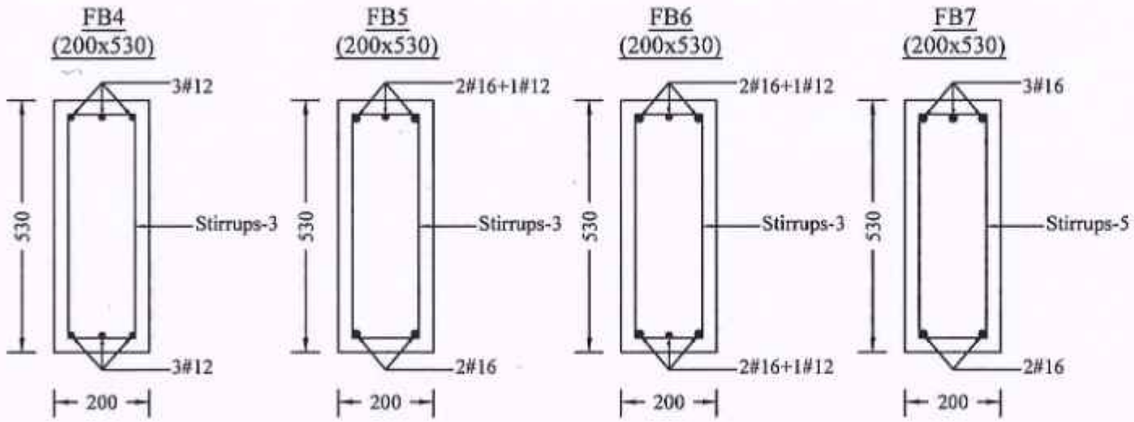
Sd.xxxx 27.09.2024.
Chief Engineer- I

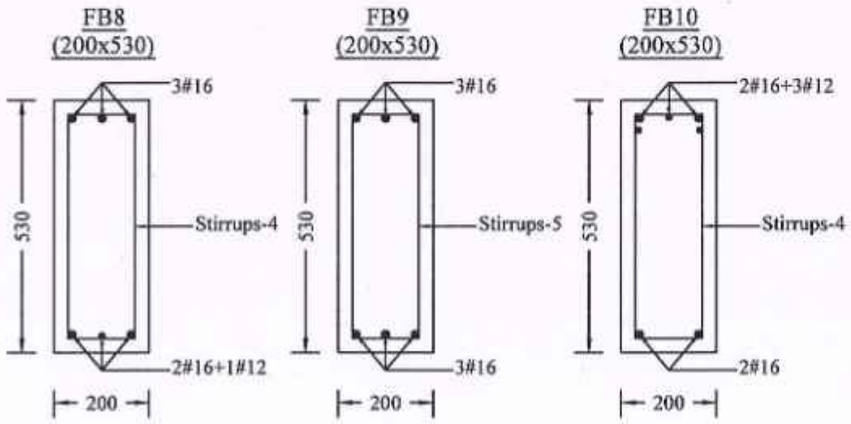
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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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1/10/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

# STILT FLOOR & FIRST FLOOR BEAM DETAILS




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
3) Stirrups-3 - 2L#8mm Stirrups @ 75mm c/c for 1100 mm length on all side near beam column junction and the rest at 125mm c/c
4) Stirrups-4 - 2L#10mm Stirrups @ 75mm c/c for 1100 mm length on all side near beam column junction and the rest at 150mm c/c.
5) Stirrups-5 - 2L#10mm Stirrups @ 100mm c/c for 1100 mm length on all side near beam column junction and the rest at 125mm c/c.
6) Beam Depth is inclusive of slab thickness.

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EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

01/10/24

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (a) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR & FIRST FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/10.

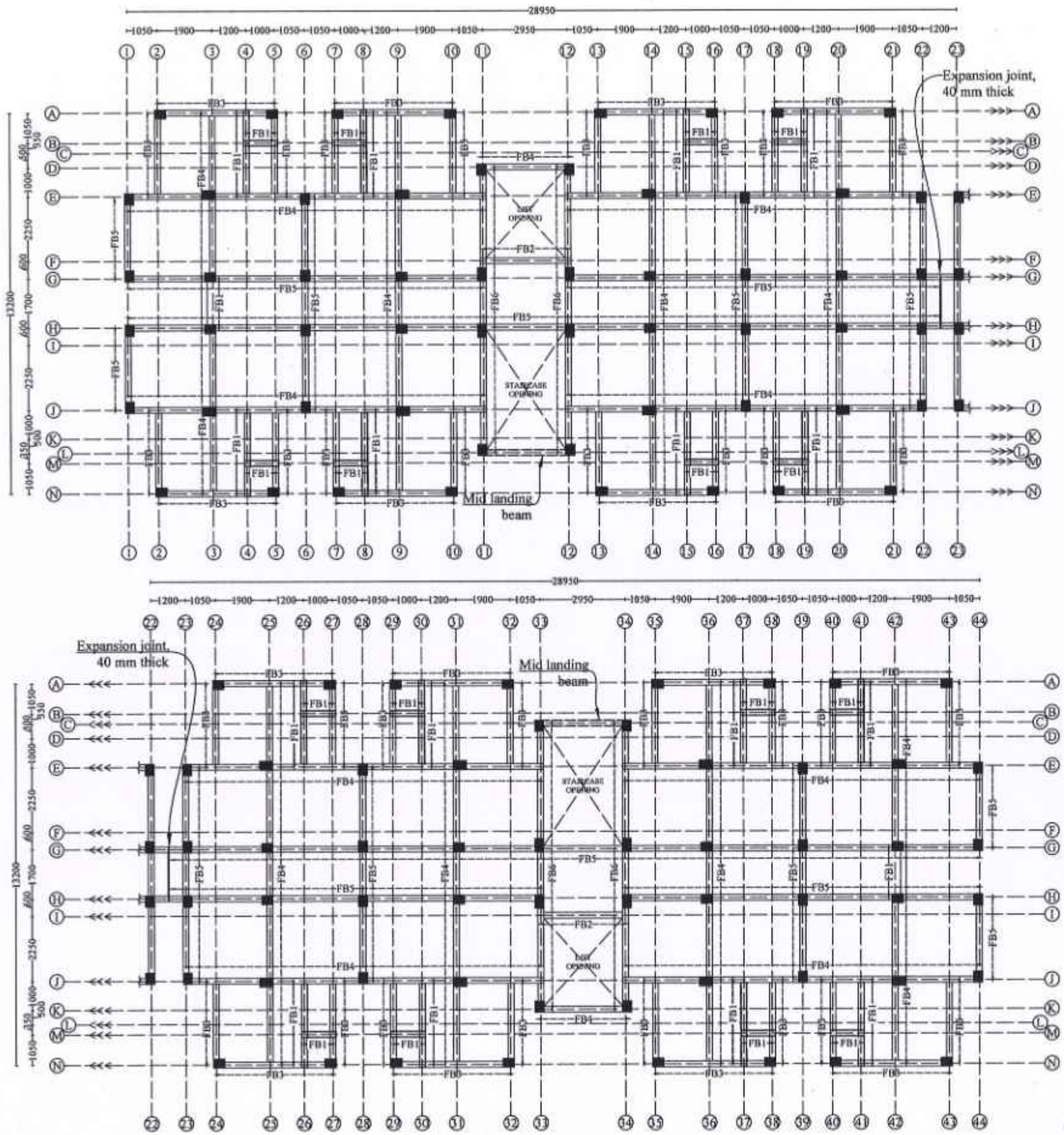
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND & THIRD FLOOR BEAM LAYOUT




Note:
For SECOND & THIRD FLOOR beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/12.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND & THIRD FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/11.

REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
Chief Engineer- I

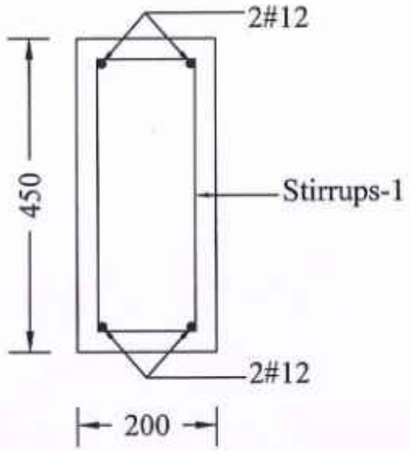
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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1/10/2024
EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

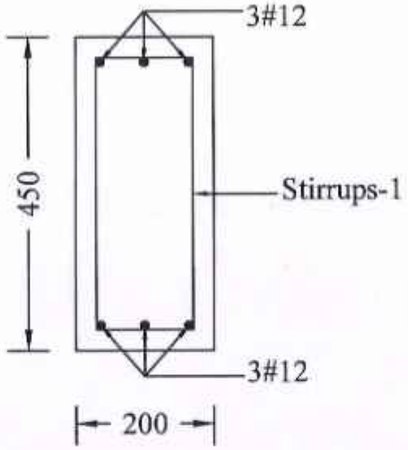
01/10/24

# SECOND FLOOR & THIRD FLOOR BEAM DETAILS

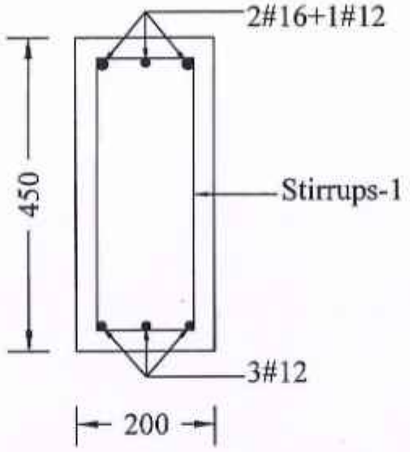
FB1
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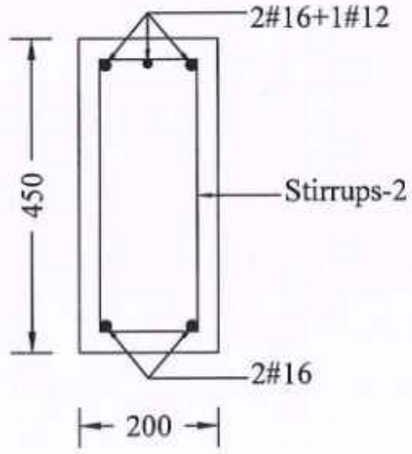

FB2
(200x450)



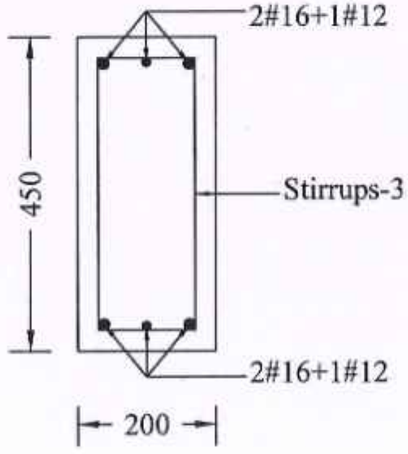

FB3
(200x450)



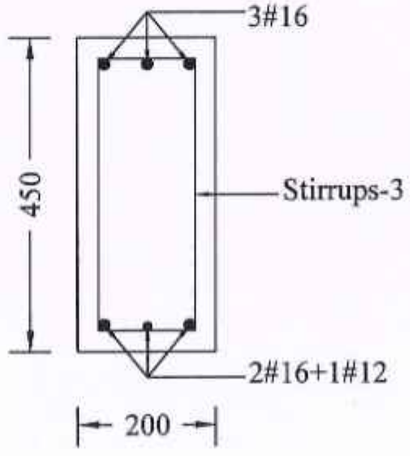

FB4
(200x450)




FB5
(200x450)




FB6
(200x450)




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 125mm c/c.
3) Stirrups-3 - 2L#10mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 125mm c/c.
4) Beam Depth is inclusive of slab thickness.

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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for **(PS+5)** floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer stonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR & THIRD FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/12.

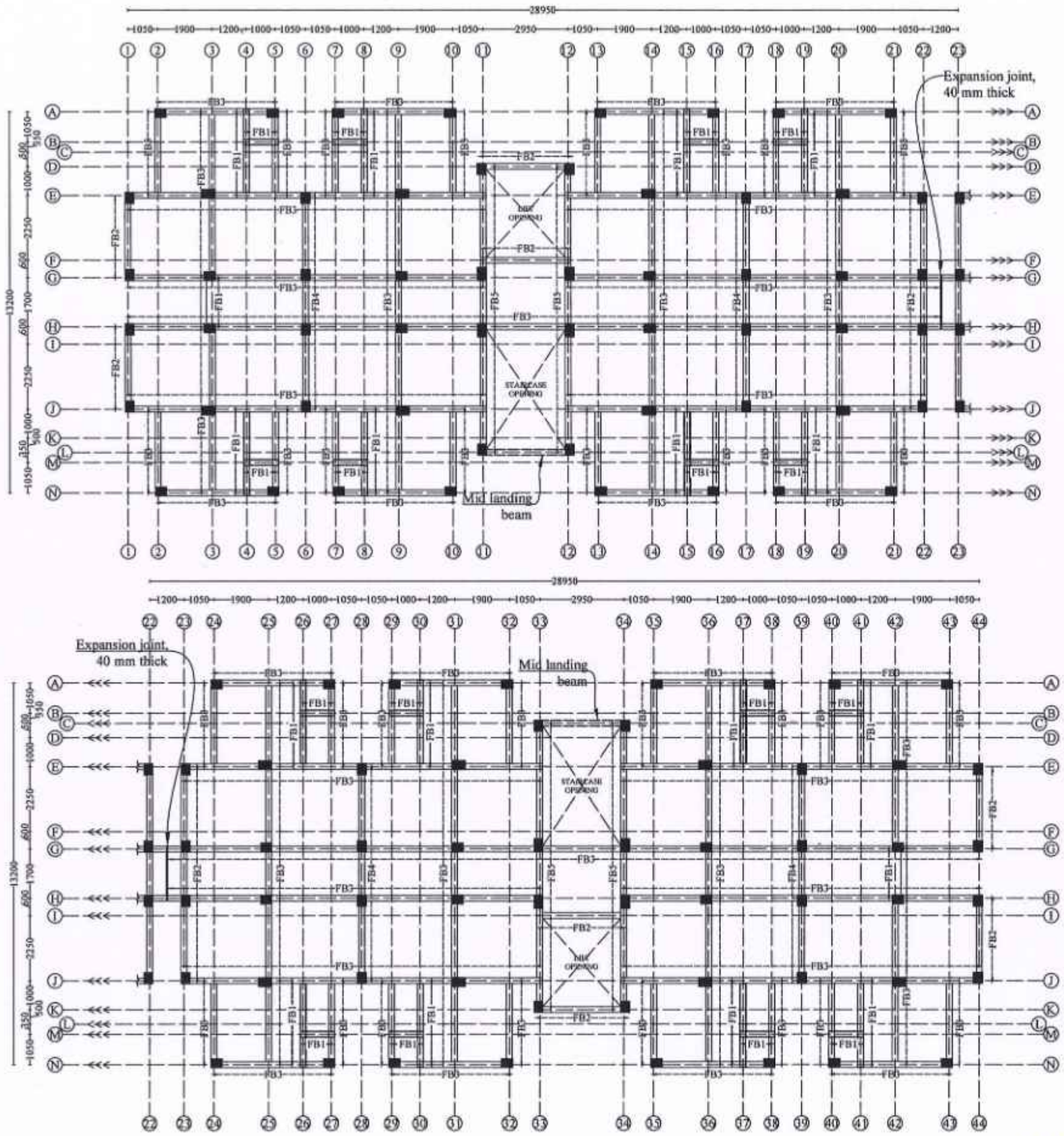
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FOURTH FLOOR BEAM LAYOUT




Note:
For FOURTH FLOOR beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/14.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FOURTH FLOOR BEAM LAYOUT

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/13.

REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
Chief Engineer- I

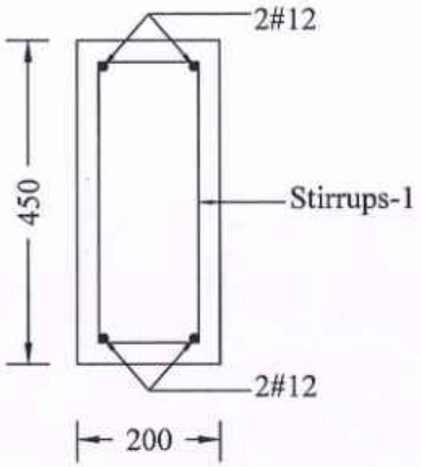
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NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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# 5, KAMARAJAR SALAI, CHENNAI-600 005.

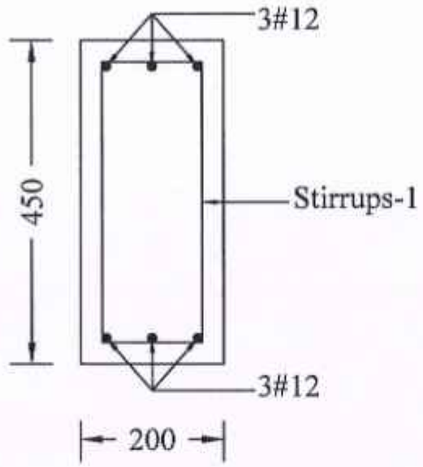
01/10/24

# FOURTH FLOOR BEAM DETAILS

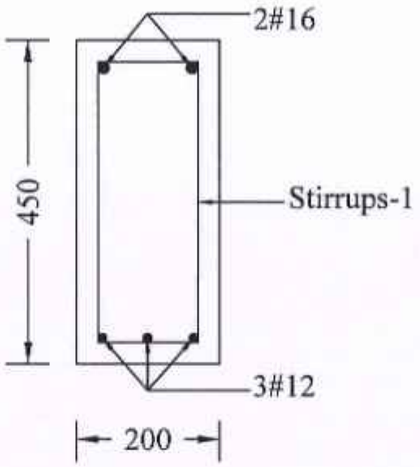
FB1
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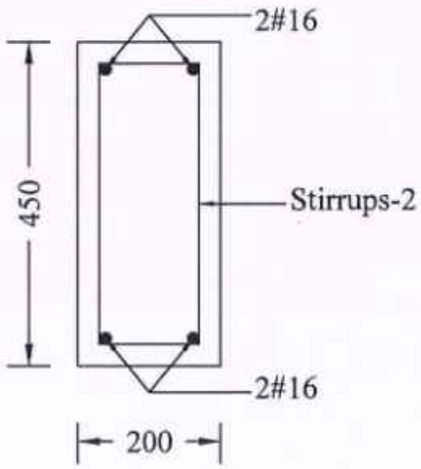

FB2
(200x450)



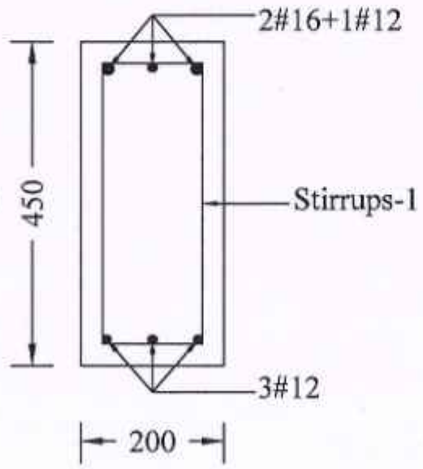

FB3
(200x450)




FB4
(200x450)




FB5
(200x450)




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Stirrups-2 - 2L#8mm Stirrups @ 100mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.
3) Beam Depth is inclusive of slab thickness.

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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30 grade**, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. **AAC** Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FOURTH FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/14.

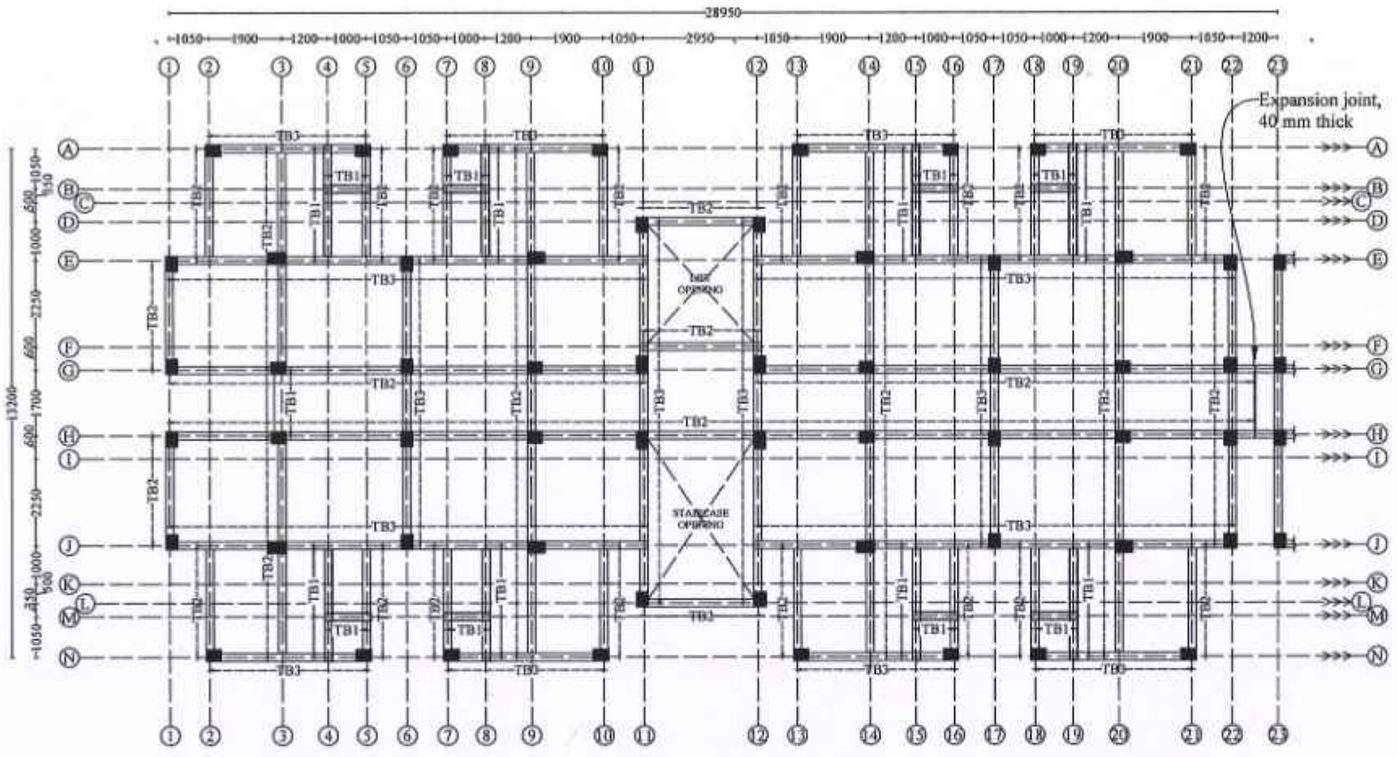
REVISION NO.:

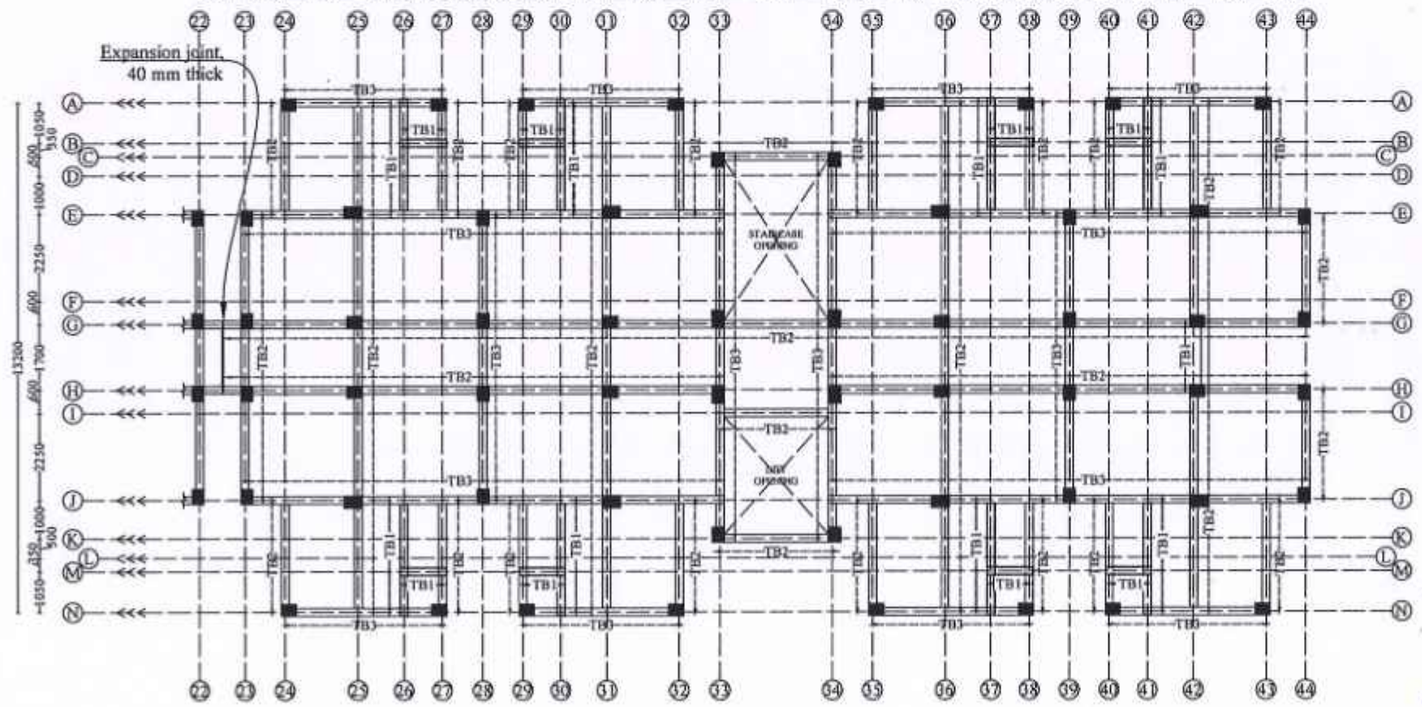
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR BEAM LAYOUT




Note:
For TERRACE FLOOR beam details refer DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/16.

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure .
7. Structure is designed for (PS+5) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Columns - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR BEAM LAYOUT.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/15.

REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
**Chief Engineer- I**

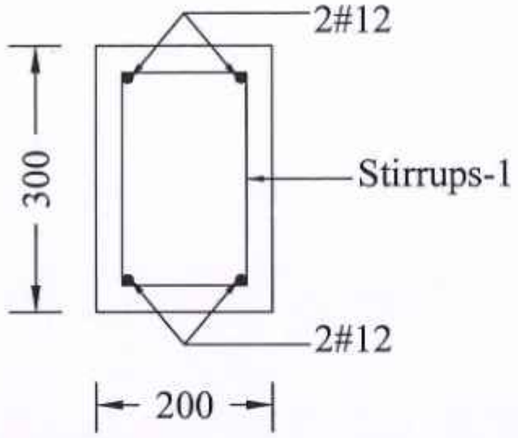
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TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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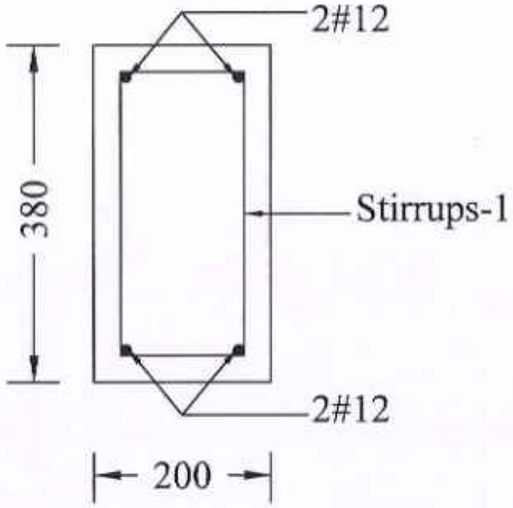
01/10/24

# TERRACE FLOOR BEAM DETAILS

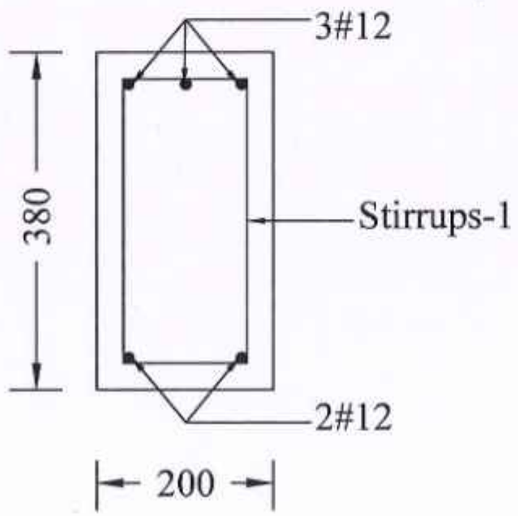
## TB1
## (200x300)




## TB2
## (200x380)




## TB3
## (200x380)




NOTE :
1) Stirrups-1 - 2L#8mm Stirrups @ 75mm c/c for 800 mm length on all side near beam column junction and the rest at 150mm c/c.
2) Beam Depth is inclusive of slab thickness.

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STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

01/10/24

**NOTE :**

1. All the dimensions are in mm unless noted otherwise.
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3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
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19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

**STRUCTURAL DETAILS**

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR BEAM DETAILS.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/16.

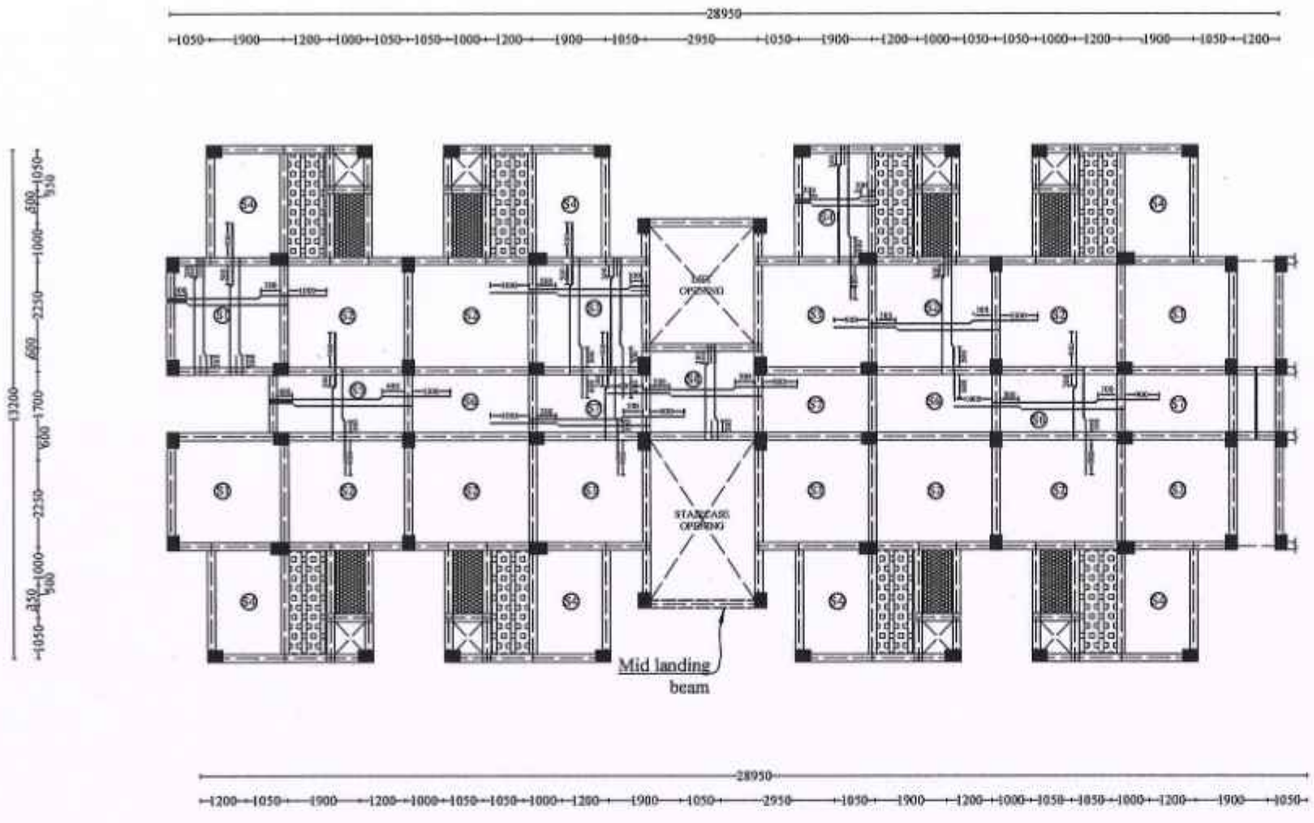
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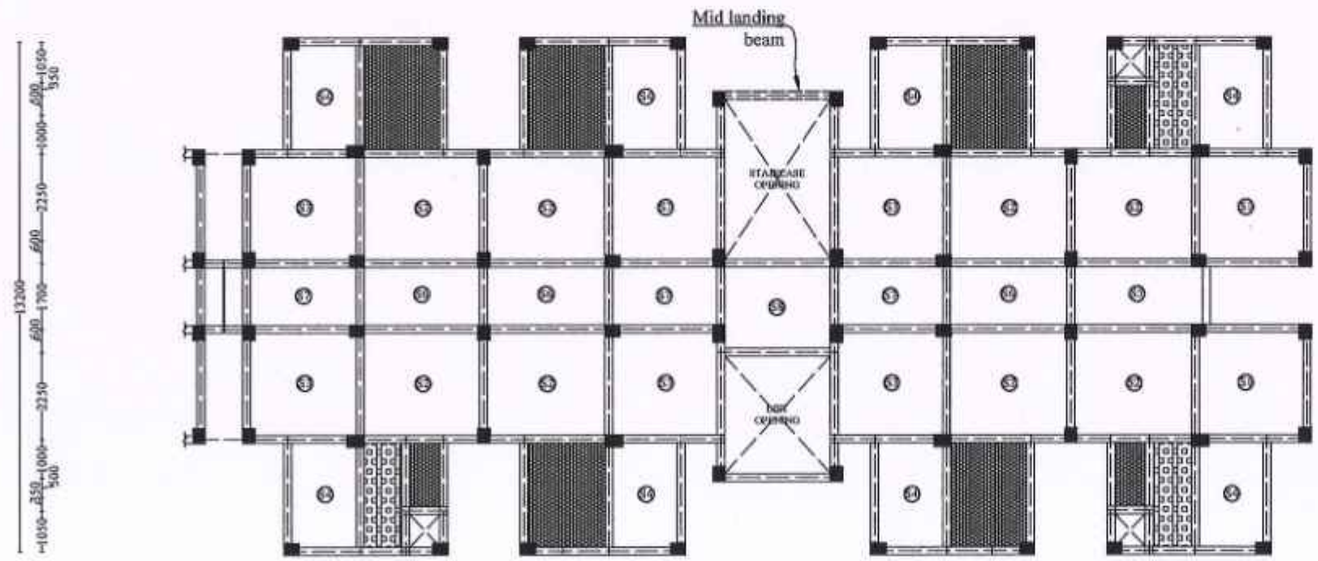
| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# STILT FLOOR SLAB DETAILS




SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 125mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

TRUE COPY

1/10/2024

EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

07/10/24

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
STILT FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/17.

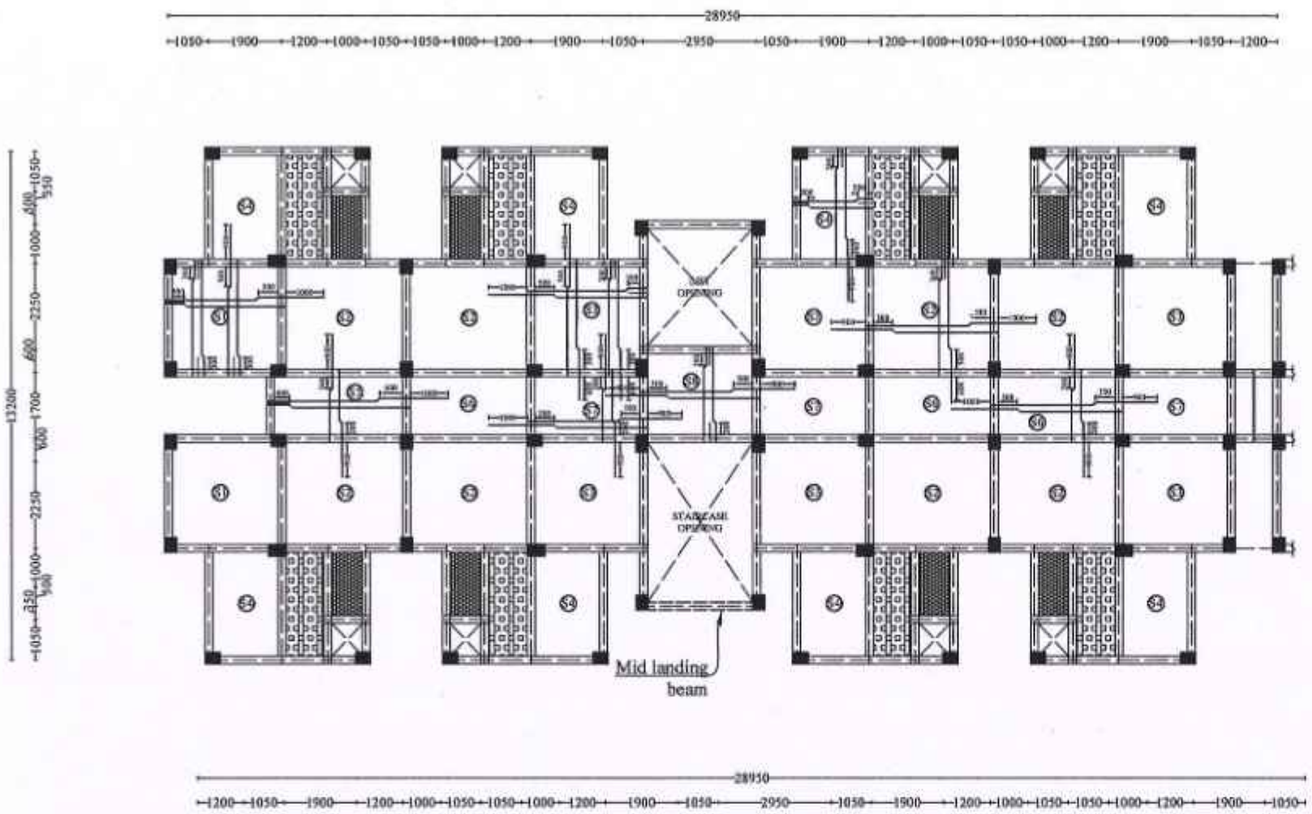
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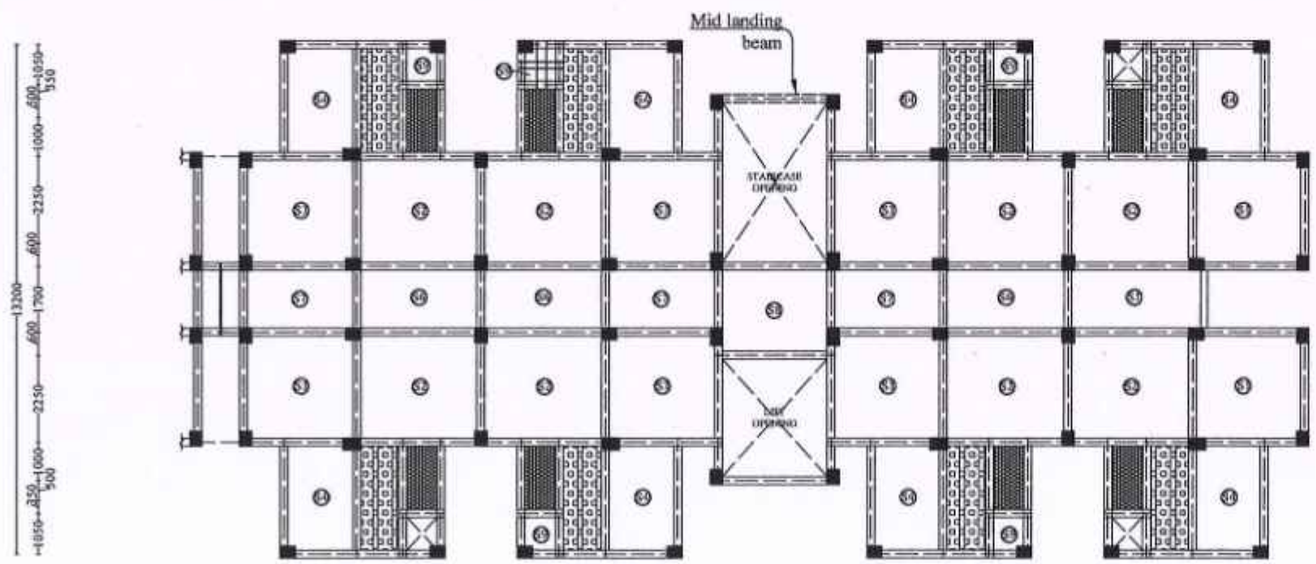
| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# FIRST FLOOR SLAB DETAILS




SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

TRUE COPY

1/10/2024

EXECUTIVE ENGINEER (A/c)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

01/10/24

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
FIRST FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

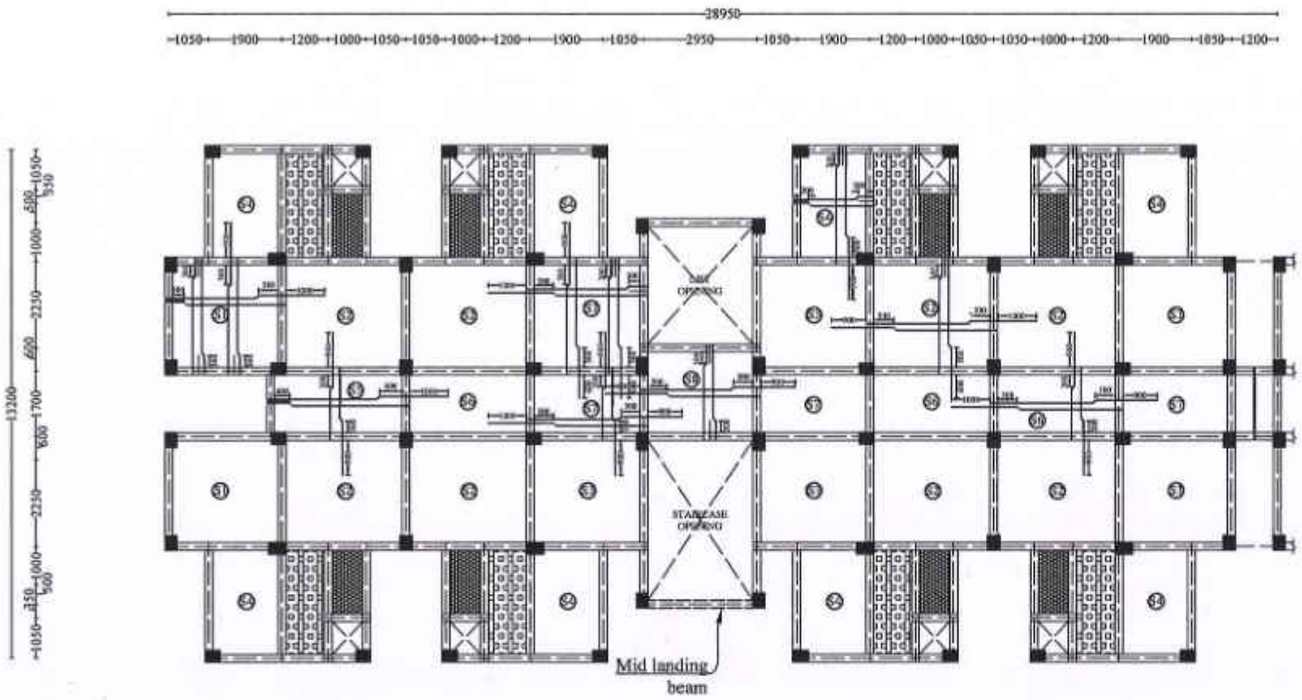
DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/18.

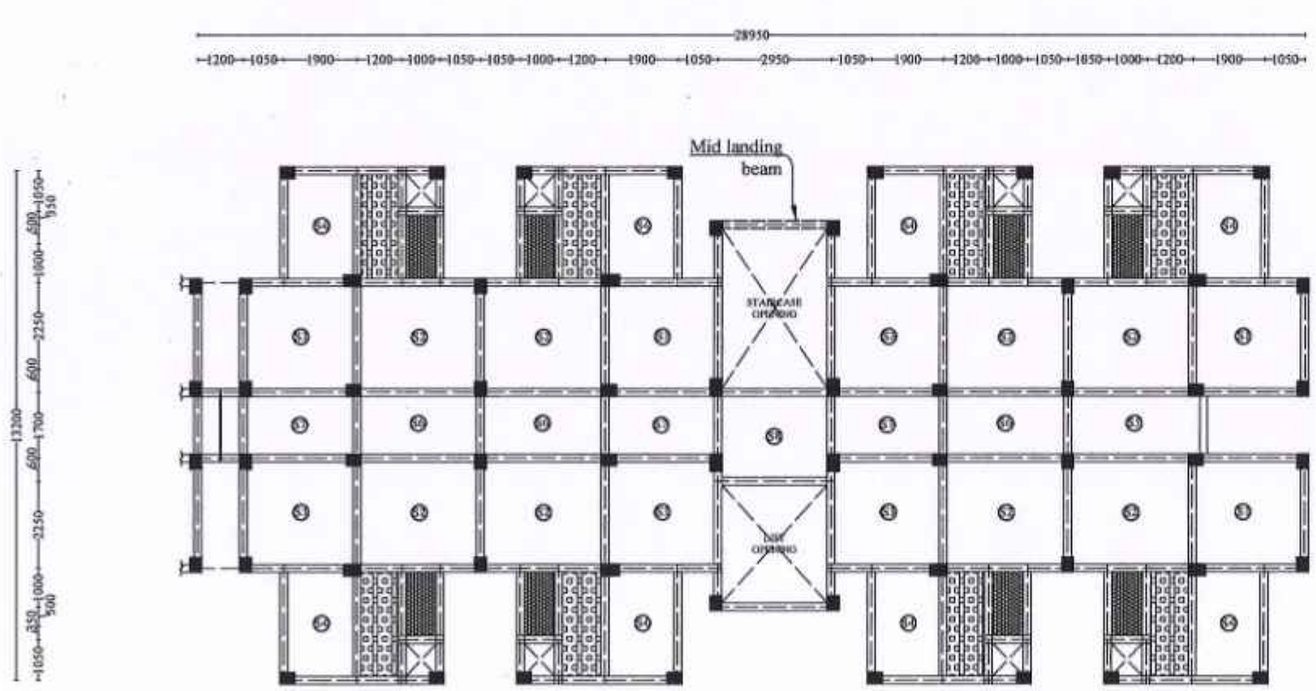
REVISION NO.:

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|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |
| Chief Engineer- I | |

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# SECOND FLOOR TO FOURTH FLOOR SLAB DETAILS




SLAB SUNKEN BY 200mm

SLAB SUNKEN BY 325mm

1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

TRUE COPY

1/10/2024

EXECUTIVE ENGINEER (A/k)

STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

01/10/24

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
SECOND FLOOR TO FOURTH FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/19.

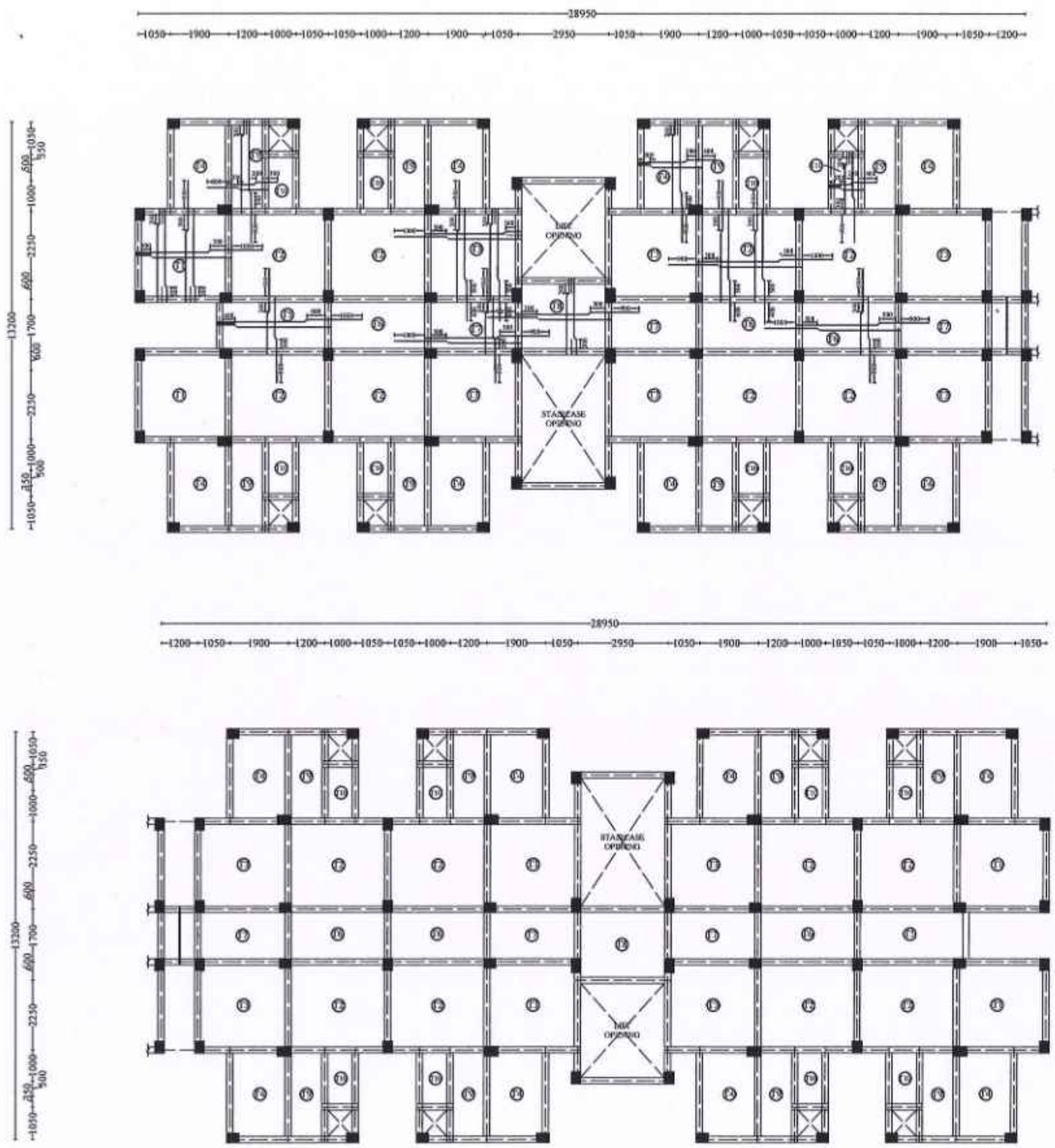
REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# TERRACE FLOOR SLAB DETAILS




1.SLAB 125mm THICK
2.ALL SLAB REINFORCEMENT ARE #8@180mm c/c

01/10/24

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1/10/2024

EXECUTIVE ENGINEER (A/C)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

NOTE:

1. All the Dimensions are in mm.
2. M30 Concrete and Fe550D grade steel shall be adopted.
3. Slab Thickness is 125mm.
4. Clear cover to slab is 25mm.
5. Crank point distances are as shown.
6. "-------" denotes extra rods to be provided at top.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
TERRACE FLOOR SLAB DETAILS.

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/20.

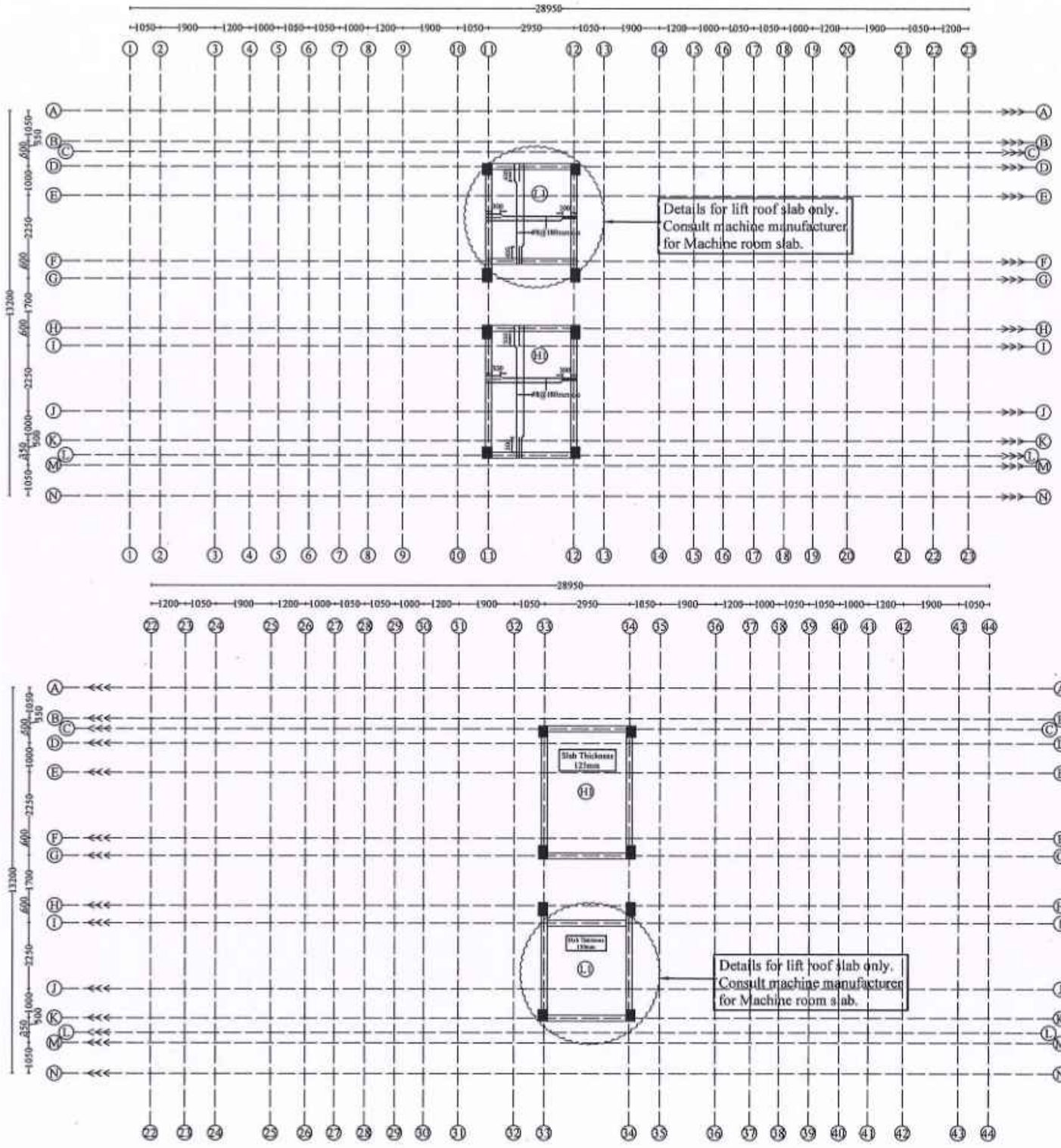
REVISION NO.:

| Assistant Engineer | Asst. Exe. Engineer |
|---|---|
| Executive Engineer | SE - North I |

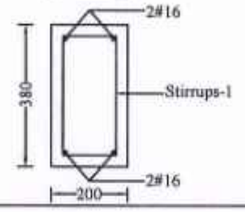
Chief Engineer- I

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

# HEAD ROOM, LIFT ROOM BEAM LAYOUT & SLAB DETAILS




ALL BEAMS
(200x380)




NOTE:
**Stirrups-1** : 2 Legged # 8 mm stirrups at 100 mm c/c for 900 mm length on all sides near Beam - Column junctions and the rest at 150 mm c/c.

NOTE :

1. All the dimensions are in mm unless noted otherwise.
2. All structural drawings shall be read in conjunction with the relevant Architectural drawings.
3. All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
4. All the reinforcement shall be of **Fe550D** grade conforming to IS 1786 - 2008 unless noted otherwise.
5. The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
6. AAC Bricks of density 650 Kg/m$^3$ has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure.
7. Structure is designed for (**PS+5**) floors only.
8. Design of the structure carried out with Limit State Method.
9. Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 100 kN/sq.m. as recommended in Soil Report.
10. Analysis of the structure done with **ETABS**.
11. Clear cover for reinforcement are as follows:
    (a) Foundation - 50 mm
    (b) Column - 40 mm
    (c) Floor and roof beam - 30 mm
    (d) Slab - 25 mm
    (e) Water Tank Walls & Slab - 30 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD. The mix design of concrete should follow the circular issued vide, Circular No.:3/19/SCB/17099/SQC/2018, Dt:09.05.2019 and also PWD/Technical Circular No.AEE/T10/33566/2017, Dt:31.03.2017 & 27.04.2017.
13. All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
14. Cut lintels to be provided in all floors.
15. Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
16. Anchorage of column bars into the footings shall not be less than 50 Ø.
17. Based on the information provided by the EE, the analysis has been done considering the bottom level of footing is same in a block. In case of change in level of the footing during construction, this has to be brought to the knowledge of the undersigned and revision if any needed should be made accordingly.
18. Field Engineers should ensure that the soil at the recommended founding depth is in conformity to the soil characteristic detailed in the soil test report. If any variation in soil strata is encountered at the recommended foundation depth, then the same should be informed to the Chief Engineer atonce for review.
19. Ground water quality has to be conformed for suitability to construction work.
20. The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
21. Dimensions and levels are to unfinished surface excluding finishes,coating etc,. unless noted otherwise. The dimension should be checked with type design drawing.
22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 217/CONSULTANCY/2020, Dt:27.02.2022 and Job.No.:SM&FE 217(a)/CONSULTANCY/2022, Dt:15.12.2023 should be followed scrupulously.

## STRUCTURAL DETAILS

PROJECT:
CONSTRUCTION OF (PS+5) FLOORS 336 DWELLING UNITS AT THIRUVOTTIYUR VILLAGE STREET THIRUVOTTIYUR TALUK, GREATER CHENNAI CORPORATION.

TITLE:
HEAD ROOM, LIFT ROOM BEAM LAYOUT & SLAB DETAILS

TYPE DESIGN NO.: 75/2022 (TYPE - C)

DWG.NO.: TNUHDB/THIRUVOTTIYUR/TYPE-C/21.

REVISION NO.:

| | |
|---|---|
| Assistant Engineer | Asst. Exe. Engineer |
| Executive Engineer | SE - North I |

Sd.xxxx 27.09.2024.
**Chief Engineer- I**

STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

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1/10/2024
EXECUTIVE ENGINEER (AE)
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
# 5, KAMARAJAR SALAI, CHENNAI-600 005.

01/10/24

THE LANDLENS SUITE

# Eight ways to know a piece of land before you pay for it.

This report covers one part of the picture. These cover the rest, drawn from the same government records, for any property in Tamil Nadu.

### LandLens One
Ask anything about a property and get an answer grounded in live government records, with the sources shown.
**/landlens/one**

### Verify My Land
Every record check run on one property and returned as a single report.
**/landlens/verify-my-land**

### Legal Opinion
An advocate's written opinion on the title, built on the records we pull for it.
**/landlens**

### One Map
Every layer on one map: the parcel, its boundary, zoning, water bodies and what sits around it.
**/landlens/one/map**

### PriceMap
What land actually changed hands for around this plot, taken from the registered deeds.
**/landlens/pricemap**

### Build Scope
What you are allowed to build here: floor space, height, coverage and setbacks.
**/landlens/build-scope**

### Property Tracker
Watch a property and hear about it when something new is registered against it.
**/landlens/property-tracker**

### Deal Room
Run the transaction in one place: documents, stamping, signatures and the parties.
**/landlens/deal-room**

FREE TOOLS · NO ACCOUNT NEEDED

# Twenty-four checks you can run yourself, at no cost.

## Records and verification

The registers themselves, read for you.

- Encumbrance Certificate
- Patta and Chitta
- Field Measurement Sketch
- EC Analyzer
- Bank charge check
- Court case search
- Seller background check
- Approval check by survey

## Value and duty

What it is worth and what it costs to register.

- Guideline value by street
- Guideline value by survey
- Stamp duty and registration fees
- Capital gains
- Floor space index
- Area unit converter

## Zoning and land use

What the plan says can happen on this land.

- Land use zone finder
- CMDA land use check
- Coastal regulation zone
- Master plan check
- Water bodies finder
- Airport height clearance

## Registers and directories

Who holds it, and which office keeps the record.

- Find your registering office
- Temple property check
- Waqf property check
- RERA register

**Every free tool**
/tools

**Services we run for you**
/services

**The LandLens suite**
/landlens/one

Verified RealEstate™

# Every claim in this document traces back to a government record.

- Legal opinions, due diligence and title verification
- Building plan, layout and sub-division approvals
- Completion and occupancy certificates, regularisation
- Escrow, negotiation and NRI property management
- Land survey, soil testing, architecture and construction

**Verified RealEstate**
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OMR Thoraipakkam,
Chennai 600 097, India
**hello@verified.realestate**
+91 9996 12 9996

Prepared from the registers named on the page each finding sits on. Where a register could not be read, this document says so in its place rather than leaving the gap to be read as a clean result.