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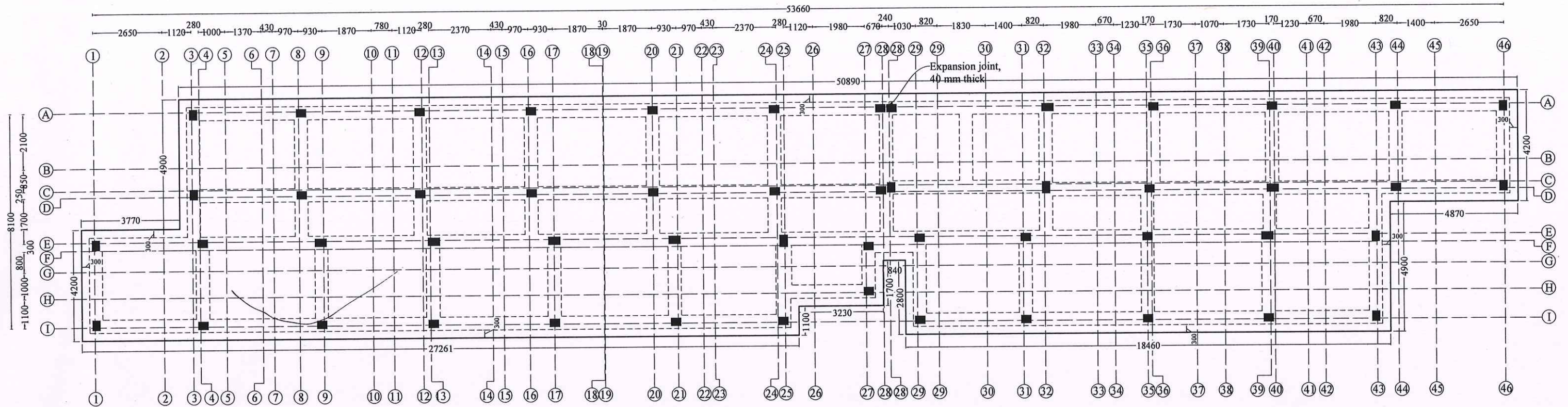
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PLAN AT RAFT FOUNDATION LEVEL



Note:

1. For Typical Cross section of raft beam with raft slab reinforcement details refer Drawing no.: TNUHDB /APPASWAMY MUDALI STREET/03.

TRUE COPY


EXECUTIVE ENGINEER
 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 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 **Fe500D** 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 has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure as recommended by EE Division - IV.
7. Structure is designed for (S+4) 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 160 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
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD.
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.
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 216/CONSULTANCY/2021, Dt:30.12.2022. should be followed scrupulously.

STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
PLAN AT RAFT FOUNDATION LEVEL.

TYPE DESIGN NO.: 90/2022-(Block - 01)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/01.

REVISION NO.:

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 23.11.2023
SE - PMU

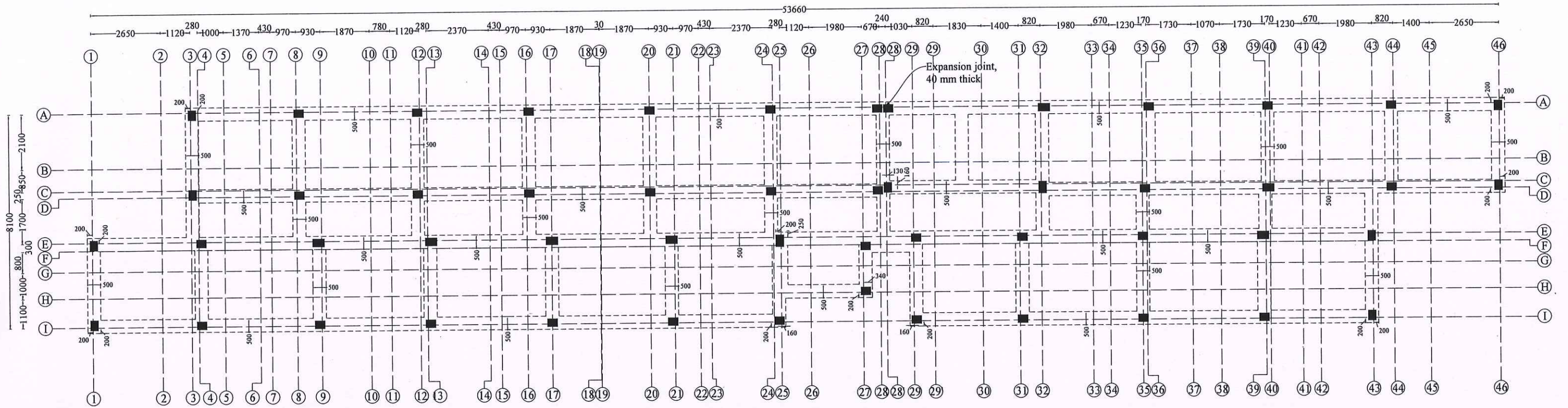
SE - North II

sd.xxxx 28.11.2023
Chief Engineer - North



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

RAFT BEAM LAYOUT



Note:

1. For Typical Cross section of raft beam with raft slab reinforcement details refer Drawing no.: TNUHDB /APPASWAMY MUDALI STREET/03.

TRUE COPY

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

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 - Slab - 25 mm
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- Cut lintels to be provided in all floors.

- 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:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
RAFT BEAM LAYOUT.

TYPE DESIGN NO.: 90/2022-(Block - 01)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/02.

REVISION NO.:

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 23.11.2023
SE - PMU

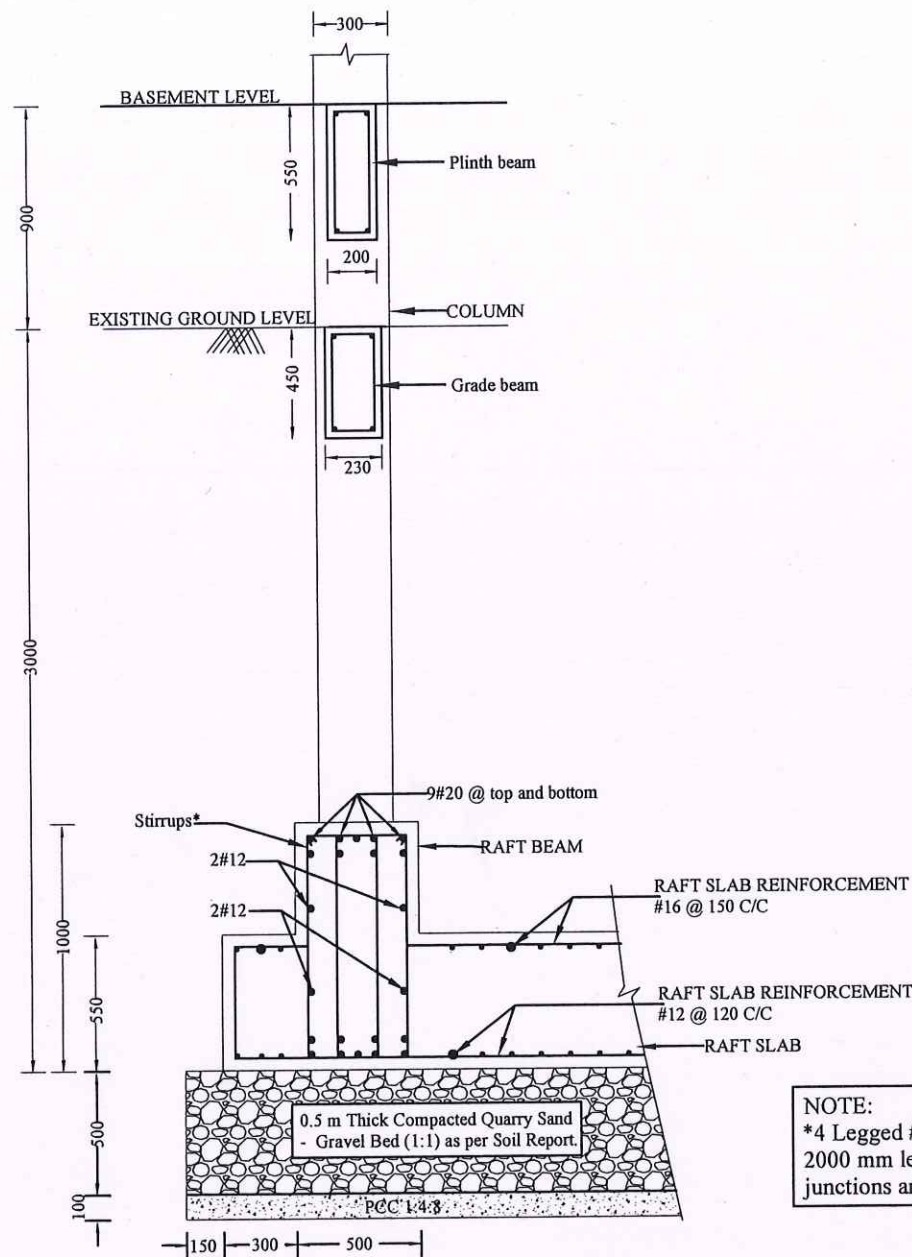
SE - North II

sd.xxxx 28.11.2023
Chief Engineer - North



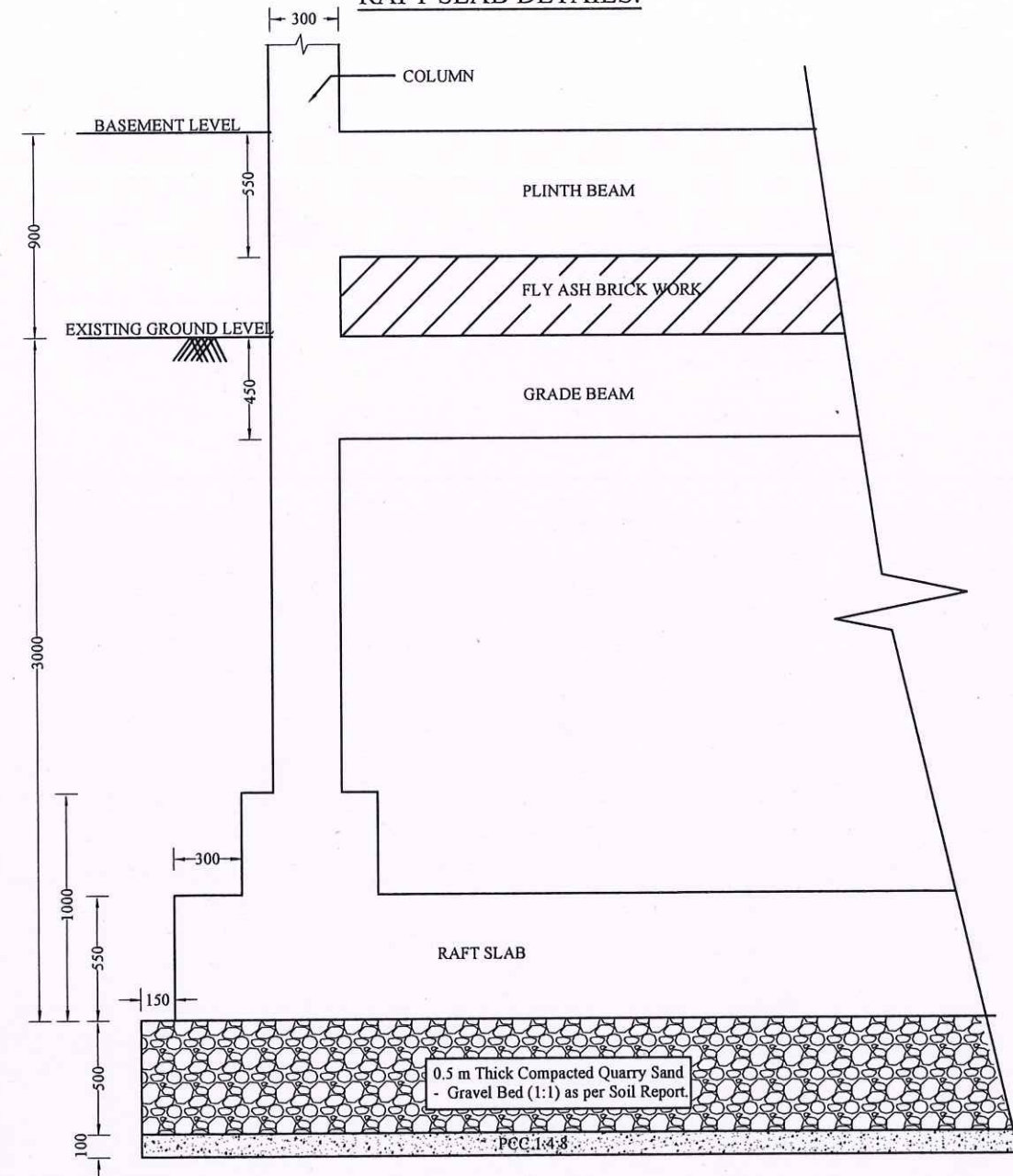
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

TYPICAL CROSS SECTION OF RAFT BEAM WITH
RAFT SLAB DETAILS.



NOTE:
*4 Legged #8 mm stirrups at 100 mm c/c for 2000 mm length on all sides near beam-column junctions and the rest at 150 mm c/c

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



NOTE :

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 - Slab - 25 mm
- Design mix report should be got approved by the Anna University/IIT Madras/PWD.
- All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
- Cut lintels to be provided in all floors.

- 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:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

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

TYPE DESIGN NO.: 90/2022-(Block - 01)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/03.

REVISION NO.:

TRUE COPY

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

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 23.11.2023
SE - PMU

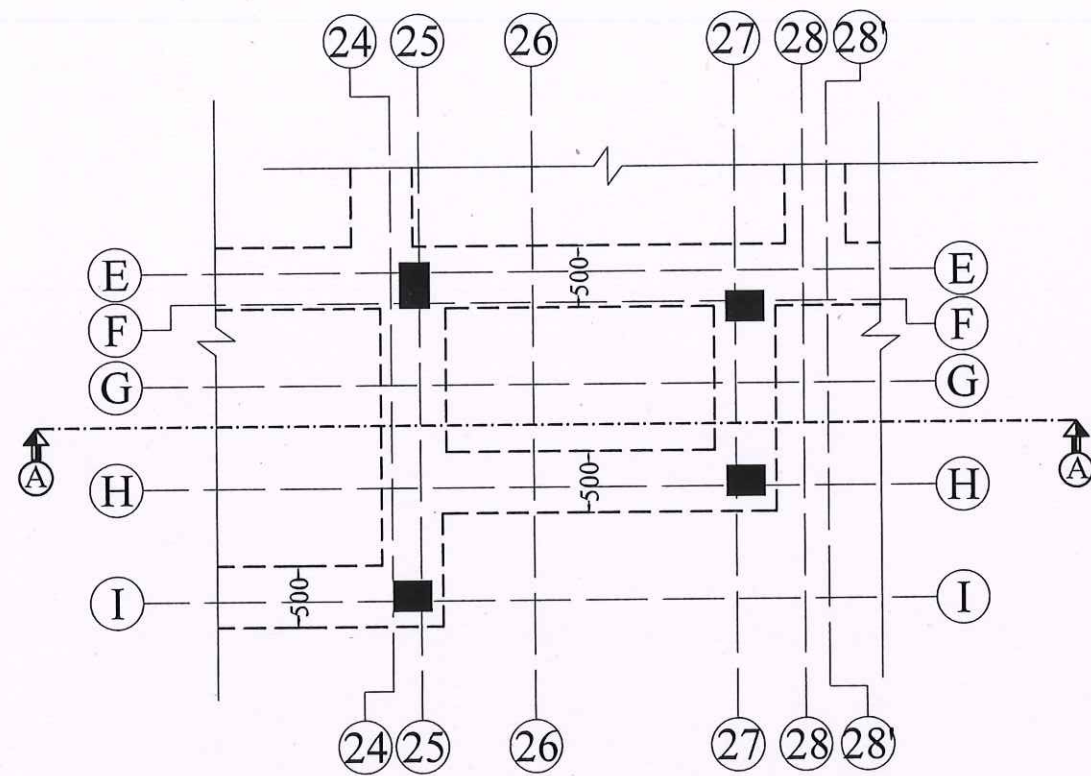
SE - North II

sd.xxxx 28.11.2023
Chief Engineer - North

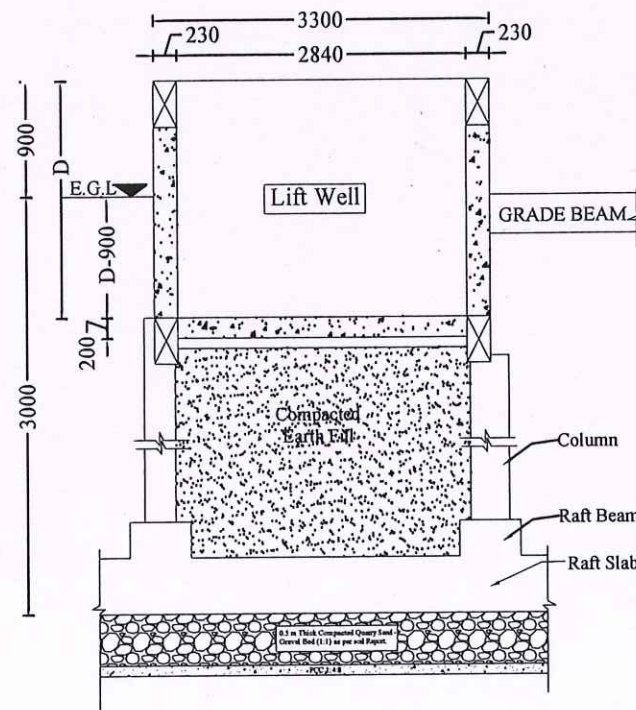


STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

LAYOUT AND RC DETAILS OF LIFT WELL

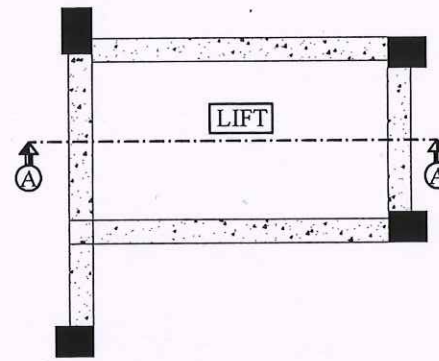


GENERAL RAFT & GRADE BEAM LAYOUT
BELOW THE LIFT PIT AREA

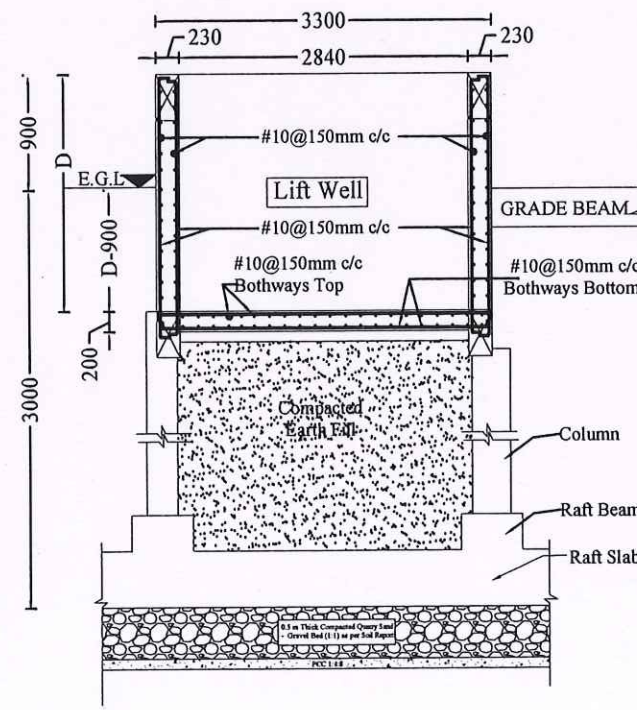


SECTION ON A-A (GENERAL ARRANGEMENT)

NOTE:
* D - Depth of lift pit below Finished Floor level should be confirmed with manufacturer. If D exceeds 2m, inform the undersigned to revise the drawing.



PLAN OF LIFT WELL-TYPICAL



SECTION ON A-A (REINFORCEMENT DETAILS)

- NOTE:**
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 7. Structure is designed for (S+4) floors only.
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 11. Clear cover for reinforcement are as follows:
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 - (d) Slab - 25 mm
 12. Design mix report should be got approved by the Anna University/IIT Madras/PWD.
 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:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT APPASWAMY MUDALI STREET SCHEME, CORPORATION DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
LAYOUT & RC DETAILS OF LIFT WELL

TYPE DESIGN NO.: 90/2022-(BLOCK - 01)

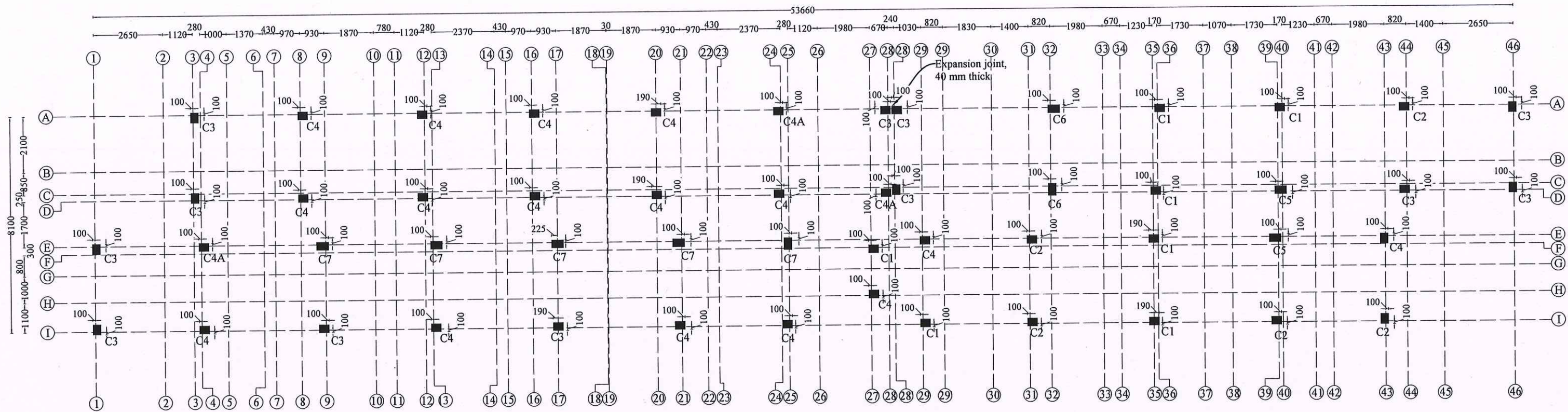
DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/04.

REVISION NO.:

Assistant Engineer	Asst. Exe. Engineer
Executive Engineer	sd.xxxx 23.11.2023 SE - PMU
SE - North II	sd.xxxx 28.11.2023 CE - North

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

COLUMN LAYOUT



Note:
1. For Column details refer Drawing no.: TNUHDB /APPASWAMY MUDALI STREET/06.

NOTE :

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STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT APPASWAMY MUDALI STREET SCHEME, CORPORATION DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
COLUMN LAYOUT.

TYPE DESIGN NO.: 90/2022-(Block - 01)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/05.

REVISION NO.:

TRUE COPY

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

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 23.11.2023
SE - PMU

SE - North II

sd.xxxx 28.11.2023
Chief Engineer - North



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

SCHEDULE OF COLUMNS

Sl. No.	Column Marking	No. of Columns	Size (mm x mm)	Upto First Floor		Above First Floor		Lateral Ties	Ties Profile	
				Column Verticals	Cross Section	Column Verticals	Cross Section			
1.	C1	07	300 x 380	#16 - 8 Nos + #12 - 2 Nos		#16 - 4 Nos + #12 - 6 Nos		1) Upto Stilt Floor Beam: # 8 @ 65 mm c/c 2) Above Stilt Floor Beam: # 8 @ 65 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c		
2.	C2	05	300 x 380	#16 - 10 Nos		#16 - 6 Nos + #12 - 4 Nos		1) Upto Stilt Floor Beam: # 8 @ 65 mm c/c 2) Above Stilt Floor Beam: # 8 @ 65 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c		
3.	C3	12	300 x 380	#20 - 2 Nos + #16 - 8 Nos		#16 - 10 Nos		1) Upto Stilt Floor Beam: # 10 @ 95 mm c/c 2) Above Stilt Floor Beam: # 10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #10 @ 150mm c/c		
4.	C4	16	300 x 380	#20 - 8 Nos + #16 - 2 Nos		#20 - 4 Nos + #16 - 6 Nos		1) Upto Stilt Floor Beam: # 10 @ 95 mm c/c 2) Above Stilt Floor Beam: # 10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #10 @ 150mm c/c		
5.	C4A	03	300 x 380	#20 - 8 Nos + #16 - 2 Nos		#20 - 8 Nos + #16 - 2 Nos		1) Upto Stilt Floor Beam: # 10 @ 95 mm c/c 2) Above Stilt Floor Beam: # 10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #10 @ 150mm c/c		
6.	C5	02	300 x 450	#16 - 10 Nos		#16 - 6 Nos + #12 - 4 Nos		1) Upto Stilt Floor Beam: # 8 @ 65 mm c/c 2) Above Stilt Floor Beam: # 8 @ 65 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c		
7.	C6	02	300 x 450	#20 - 6 Nos + #16 - 4 Nos		#16 - 6 Nos + #12 - 4 Nos		1) Upto Stilt Floor Beam: # 8 @ 65 mm c/c 2) Above Stilt Floor Beam: # 8 @ 65 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c		
8.	C7	05	300 x 450	#20 - 10 Nos		#20 - 8 Nos + #16 - 2 Nos		1) Upto Stilt Floor Beam: # 10 @ 95 mm c/c 2) Above Stilt Floor Beam: # 10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #10 @ 150mm c/c		

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

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

NOTE :

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STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT APPASWAMY MUDALI STREET SCHEME, CORPORATION DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
SCHEDULE OF COLUMNS

TYPE DESIGN NO.: 90/2022-(BLOCK - 01)

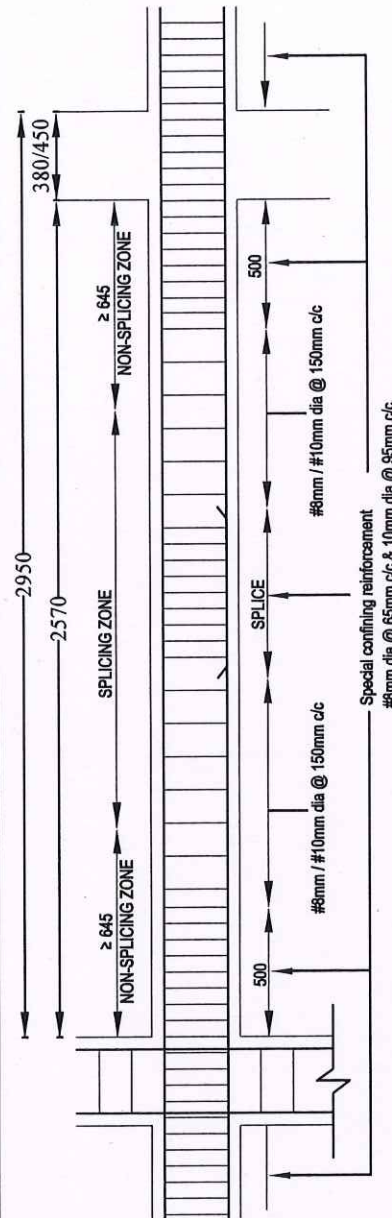
DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/06.

REVISION NO.:

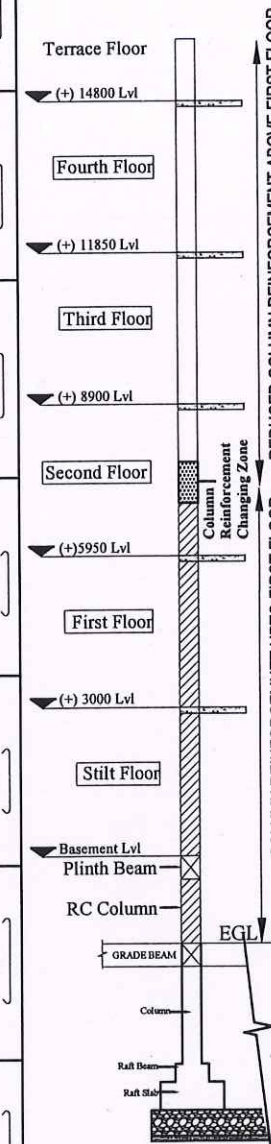
Assistant Engineer	Asst. Exe. Engineer
Executive Engineer	sd.xxxx 23.11.2023 SE - PMU
SE - North II	sd.xxxx 28.11.2023 Chief Engineer - North



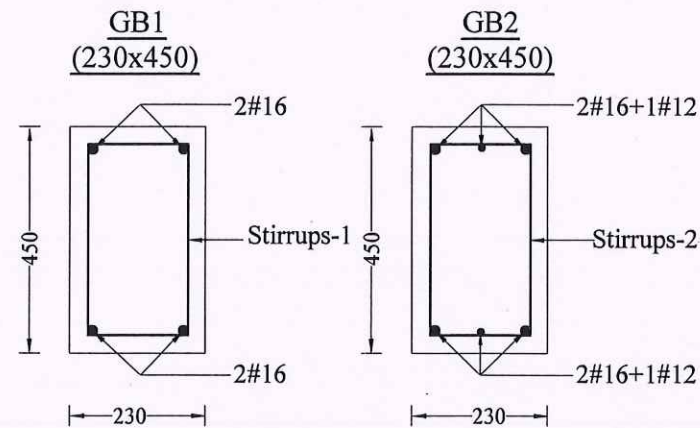
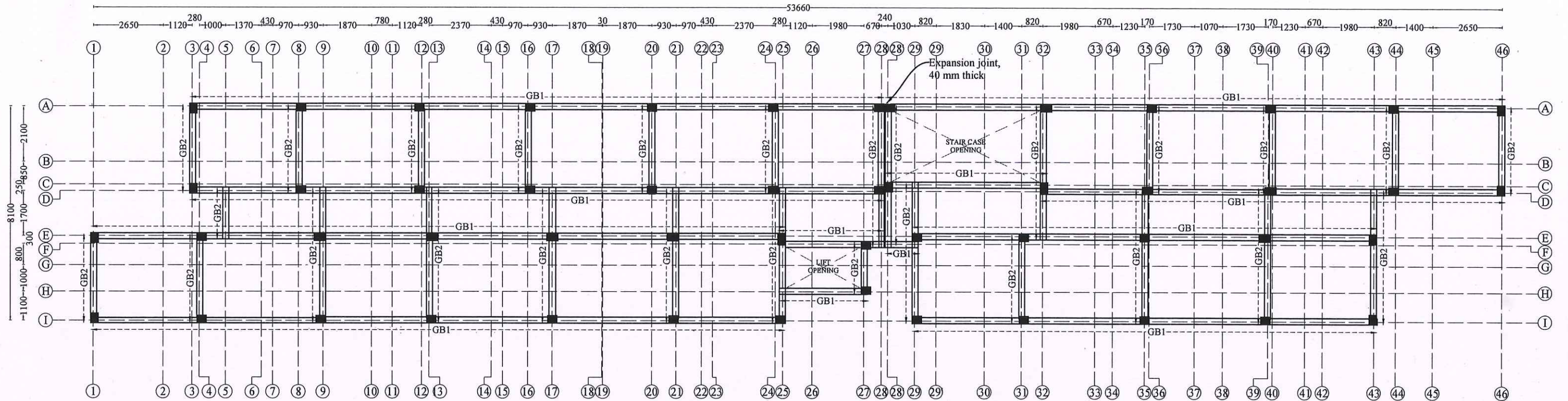
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.



TYPICAL COLUMN SPLICING AND CONFINING REINFORCEMENT DETAILS



GRADE BEAM LAYOUT & DETAILS



NOTE:
1) Stirrups-1 - 2L#8mm Stirrups @ 95mm 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 150mm c/c.

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EXECUTIVE ENGINEER
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 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 Fe500D 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 has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure as recommended by EE Division - IV.
7. Structure is designed for (S+4) 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 160 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
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD.
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.
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 216/CONSULTANCY/2021, Dt:30.12.2022. should be followed scrupulously.

STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
GRADE BEAM LAYOUT & DETAILS.

TYPE DESIGN NO.: 90/2022-(Block - 01)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/07.

REVISION NO.:

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 23.11.2023
SE - PMU

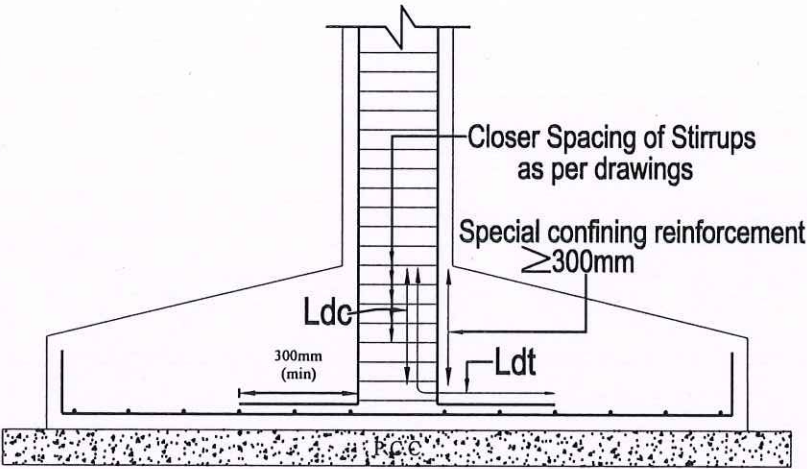
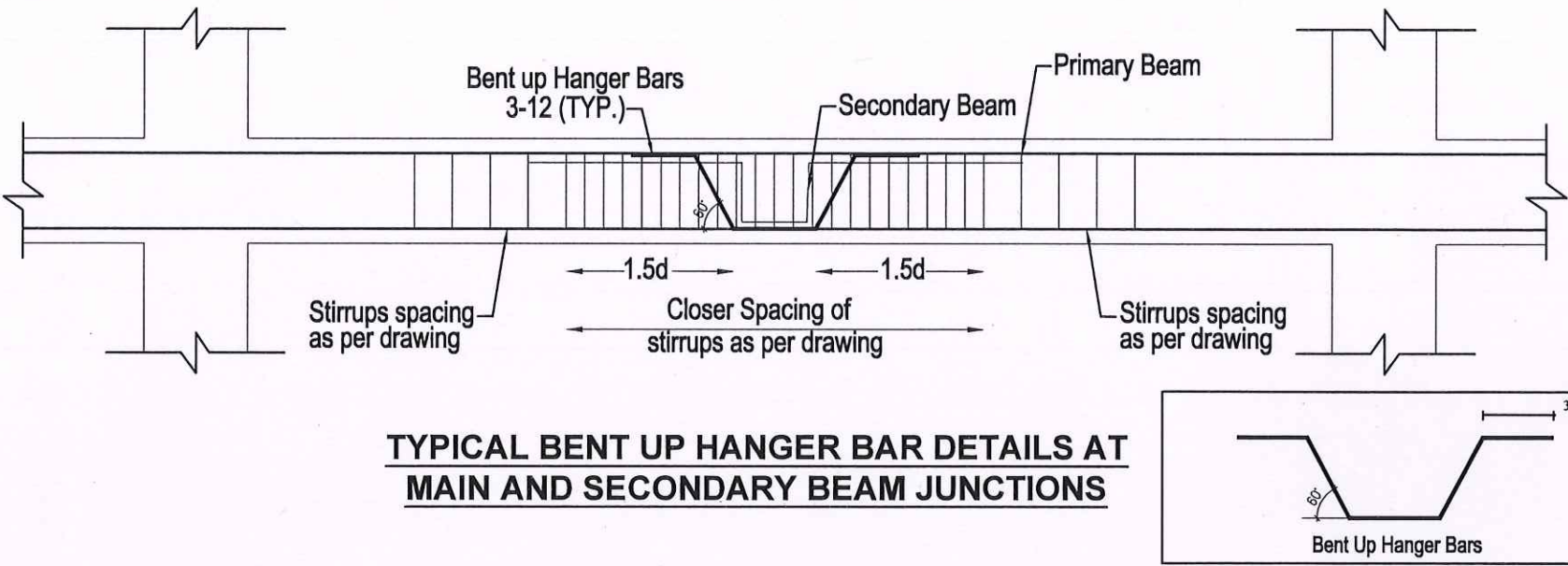
SE - North II

sd.xxxx 28.11.2023
Chief Engineer - North

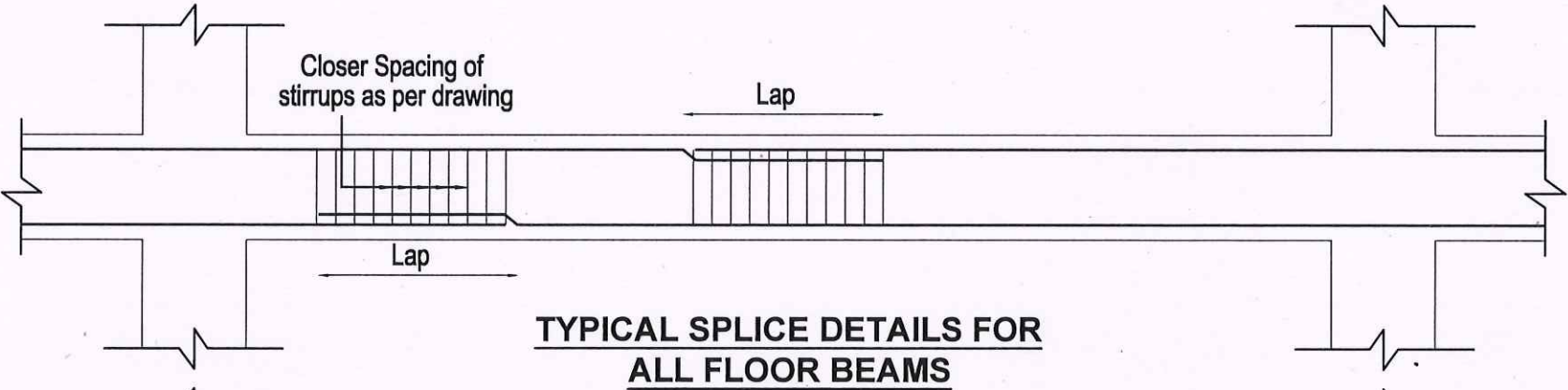


STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

TYPICAL DETAILS FOR ALL THE FLOOR BEAMS

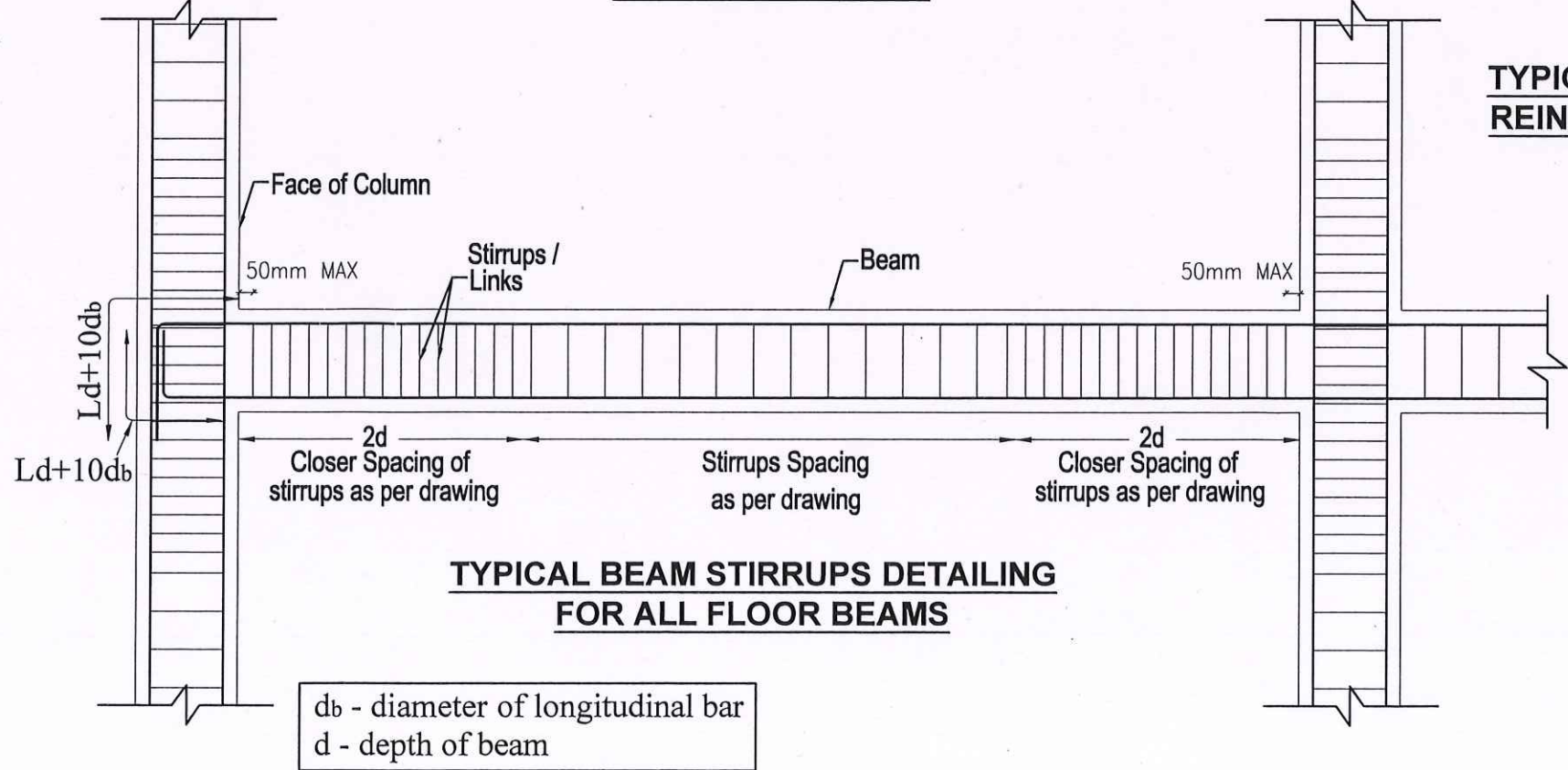
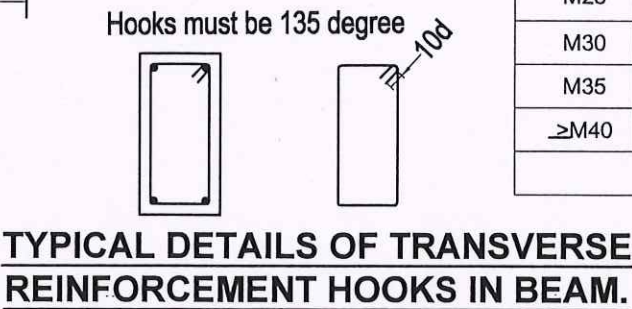


TYPICAL SPECIAL CONFINING REINFORCEMENT DETAILS IN FOOTING



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.

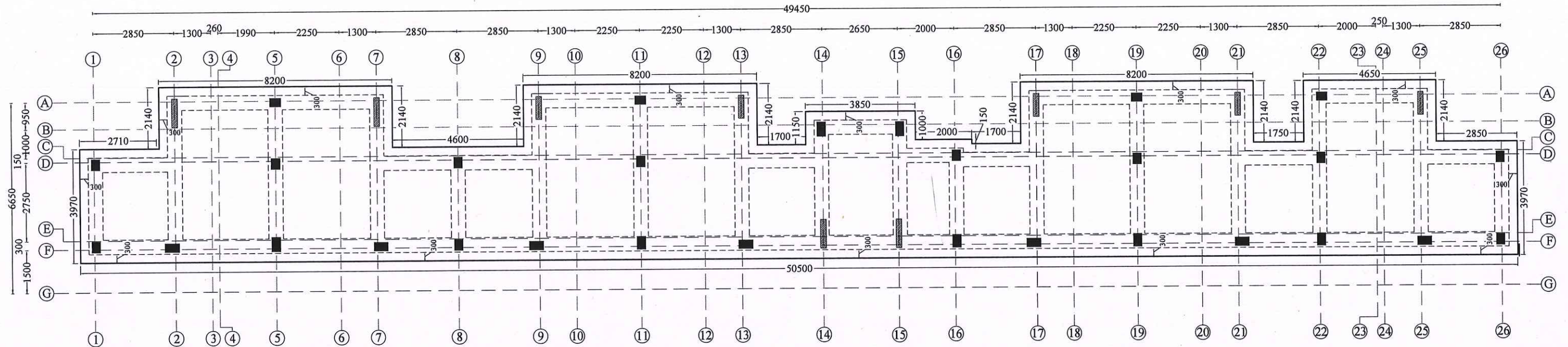


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EXECUTIVE ENGINEER
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
5, KAMARAJAR SALAI, CHENNAI-600 005.

STRUCTURAL DETAILS	
PROJECT: RECONSTRUCTION OF 68 TENEMENTS (S+4) AT APPASWAMY MUDALI STREET SCHEME, CORPORATION DN.109 ZONE IX, GREATER CHENNAI CORPORATION.	
TITLE: TYPICAL DETAILS FOR ALL THE FLOOR BEAMS	
TYPE DESIGN NO.: 90/2022 & 91/2022	
DWG.NO.: TNUHDB / APPASWAMY MUDALI STREET/ GEN - 01.	
REVISION NO.:	
Assistant Engineer	Asst. Exe. Engineer
Executive Engineer	sd.xxxx 23.11.2023 SE - PMU
SE - North II	sd.xxxx 28.11.2023 Chief Engineer - North
STRUCTURAL & QUALITY CONTROL CELL TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD NO.5, KAMARAJAR SALAI CHENNAI - 600 005.	

PLAN AT RAFT FOUNDATION LEVEL



Note:

1. For Typical Cross section of raft beam with raft slab reinforcement details refer Drawing no.: TNUHDB /APPASWAMY MUDALI STREET/03.

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 **Fe500D** 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 has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure as recommended by EE Division - IV.
7. Structure is designed for (S+4) 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 160 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/Shear wall - 40 mm
 - (c) Floor and roof beam - 30 mm
 - (d) Slab - 25 mm
12. Design mix report should be got approved by the Anna University/IIT Madras/PWD.
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.
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22. The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job No.:SM&FE 216/CONSULTANCY/2021, Dt:30.12.2022. should be followed scrupulously.

STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
PLAN AT RAFT FOUNDATION LEVEL.

TYPE DESIGN NO.: 91/2022-(BLOCK - 02)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/01.

REVISION NO.: **TRUE COPY**

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

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 03.01.2024
SE - PMU

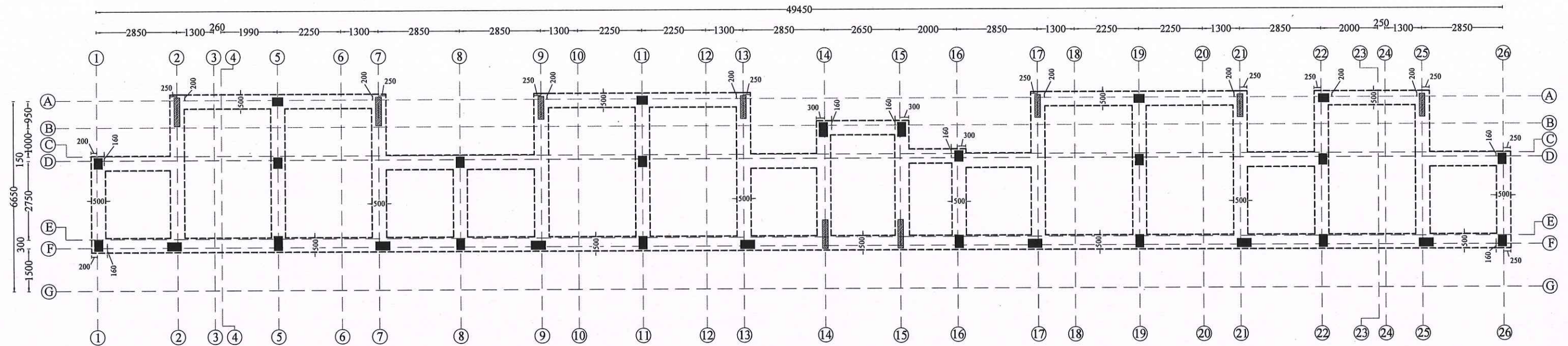
SE - North II

sd.xxxx 12.01.2024
Chief Engineer - North



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

RAFT BEAM LAYOUT



Note:

1. For Typical Cross section of raft beam with raft slab reinforcement details refer Drawing no.: TNUHDB /APPASWAMY MUDALI STREET/03.

NOTE :

- All the dimensions are in mm unless noted otherwise.
- All structural drawings shall be read in conjunction with the relevant Architectural drawings.
- All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
- All the reinforcement shall be of **Fe500D** grade conforming to IS 1786 - 2008 unless noted otherwise.
- The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS 13920:2016.
- AAC Bricks has been considered for masonry work in super structure and **Fly ash** Bricks has been considered for masonry work in sub structure as recommended by EE Division - IV.
- Structure is designed for (S+4) floors only.
- Design of the structure carried out with Limit State Method.
- Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 160 kN/sq.m. as recommended in Soil Report.
- Analysis of the structure done with **ETABS**.
- Clear cover for reinforcement are as follows:
 - Foundation - 50 mm
 - Column/Shear wall - 40 mm
 - Floor and roof beam - 30 mm
 - Slab - 25 mm
- Design mix report should be got approved by the Anna University/IIT Madras/PWD.
- All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
- Cut lintels to be provided in all floors.

- Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
- Anchorage of column bars into the footings shall not be less than 50 Ø.
- 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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- Ground water quality has to be conformed for suitability to construction work.
- The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
- Dimensions and levels are to unfinished surface excluding finishes, coating etc., unless noted otherwise. The dimension should be checked with type design drawing.
- The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job No.:SM&FE 216/CONSULTANCY/2021, Dt:30.12.2022. should be followed scrupulously.

STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
RAFT BEAM LAYOUT.

TYPE DESIGN NO.: 91/2022-(BLOCK - 02)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/02.

REVISION NO.: **TRUE COPY**


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

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 03.01.2024
SE - PMU

SE - North II

sd.xxxx 12.01.2024
Chief Engineer - North



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

Diagram illustrating the structural details of a column and foundation system, showing levels and dimensions.

Vertical Levels and Dimensions:

- BASEMENT LEVEL:** Indicated by a horizontal line.
- EXISTING GROUND LEVEL:** Indicated by a horizontal line with hatching below it.
- Column Height:** Total height is 3000 mm.
- Basement Section:**
 - Plinth beam: 450 mm high, 200 mm wide.
 - Grade beam: 450 mm high, 230 mm wide.
- Foundation Section:**
 - RAFT BEAM: 1000 mm high, 500 mm wide.
 - Stirrups: 2#12.
 - Reinforcement: 5#20+4#16 @ top and bottom.
 - Foundation: 0.5 m Thick Compacted Quarry Sand - Gravel Bed (1:1) as per Soil Report.
 - PCC 1:4:8: 100 mm thick.
- Horizontal Dimensions:**
 - Column width: 300 mm.
 - Foundation width: 150 mm + 300 mm + 500 mm = 950 mm.

mm unless noted otherwise.

shall be read in conjunction with the relevant Architectural

be as per design mix of **M30** grade, conforming to

all be of **Fe500D** grade conforming to IS 1786 - 2008

d for seismic zone III as per IS 1893:2016 and detailed as

considered for masonry work in super structure and **Fly ash**

for masonry work in sub structure as recommended by EE

(S+4) floors only.

carried out with Limit State Method.

th of 3.0 m from the existing ground level & bearing

60 kN/sq.m. as recommended in Soil Report.

e done with **ETABS**.

ement are as follows:

- 50 mm
- 40 mm
- 30 mm
- 25 mm

d be got approved by the Anna University/IIT Madras/PWD.

be carried out with PCC 1:4:8 conforming IS: 456 - 2000.

d in all floors.

RAFT SLAB DETAILS:

The diagram illustrates the vertical profile of a raft slab and its supporting structure. Key components and dimensions include:

- Column:** A vertical structural member at the top, with a width of 300.
- PLINTH BEAM:** A horizontal beam supporting the column, with a height of 450.
- FLY ASH BRICK WORK:** A hatched layer below the plinth beam, with a height of 450.
- GRADE BEAM:** A horizontal beam below the brick work, with a height of 450.
- RAFT SLAB:** The main horizontal slab, with a thickness of 150.
- 0.5 m Thick Compacted Quarry Sand - Gravel Bed (1:1) as per Soil Report:** A layer below the raft slab, with a thickness of 500.
- PCC 1:4:8:** A concrete layer at the base, with a thickness of 100.
- Dimensions:**
 - Overall height from Existing Ground Level to the top of the column: 3000.
 - Height from Basement Level to Existing Ground Level: 900.
 - Height from Existing Ground Level to the top of the column: 1000.
 - Height from the top of the column to the top of the raft slab: 1500 (sum of 450 + 450 + 450 + 150).
 - Width of the column: 300.
 - Width of the raft slab: 300.

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TYPE DESIGN NO.: 91/2022-(BLOCK - 02)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/03.

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

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 03.01.2024
SE - PMU

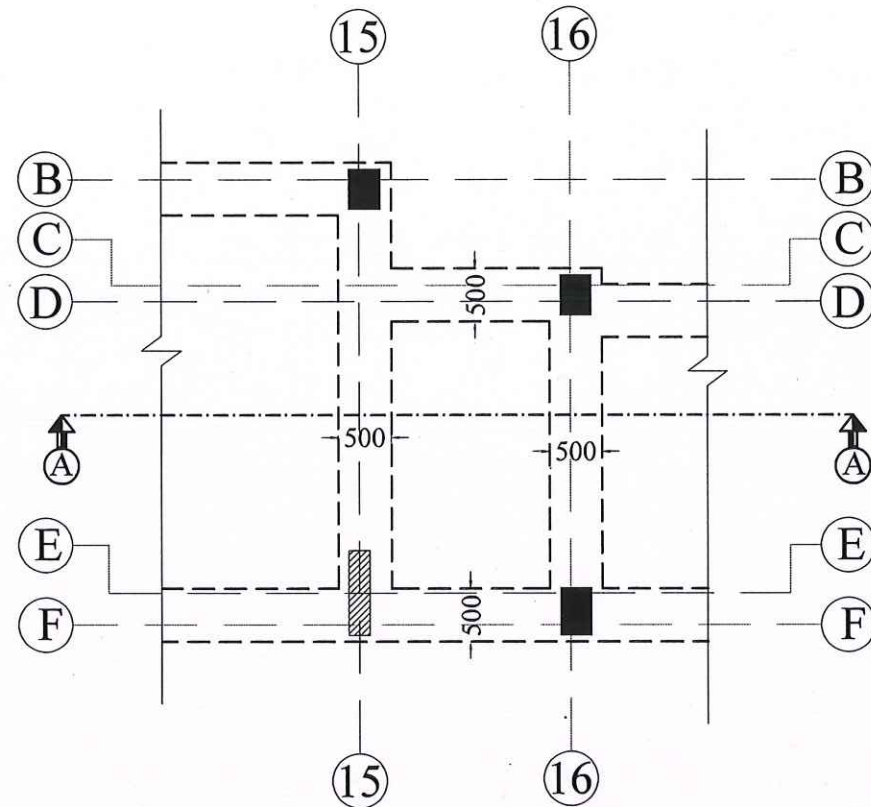
SE - North II

sd.xxxx 12.01.2024
Chief Engineer - North

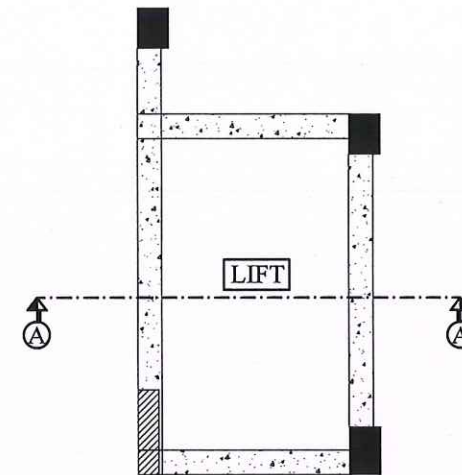


**STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.**

LAYOUT AND RC DETAILS OF LIFT WELL



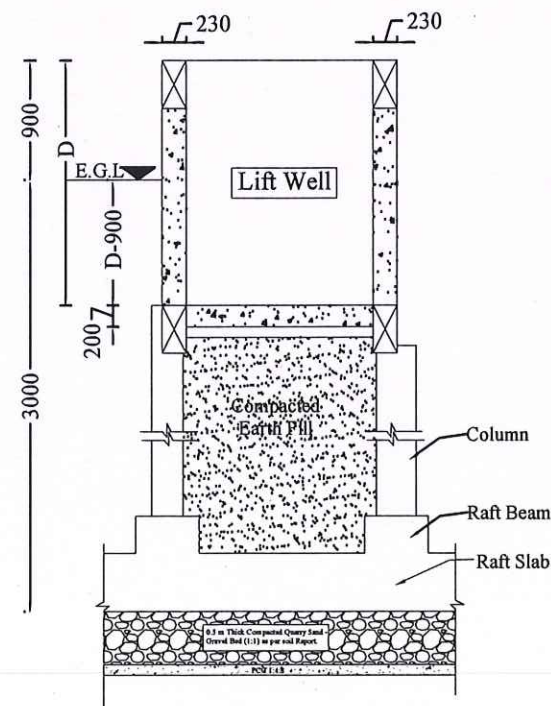
GENERAL RAFT & GRADE BEAM LAYOUT
BELOW THE LIFT PIT AREA



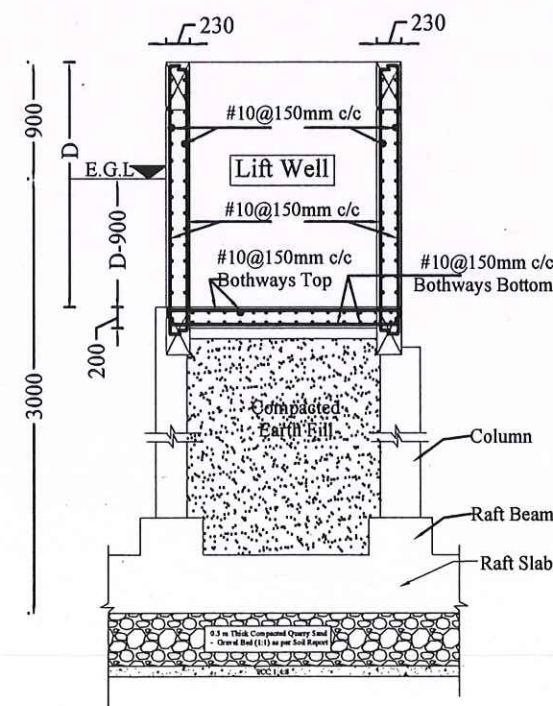
PLAN OF LIFT WELL-TYPICAL

NOTE:

* D - Depth of lift pit below Finished Floor level should be confirmed with manufacturer. If D exceeds 2m, inform the undersigned to revise the drawing.



SECTION ON A-A (GENERAL ARRANGEMENT)



SECTION ON A-A (REINFORCEMENT DETAILS)

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

NOTE :

- All the dimensions are in mm unless noted otherwise.
- All structural drawings shall be read in conjunction with the relevant Architectural drawings.
- All the RCC works shall be as per design mix of M30 grade, conforming to IS: 456 - 2000.
- All the reinforcement shall be of Fe500D grade conforming to IS 1786 - 2008 unless noted otherwise.
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- AAC Bricks has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure as recommended by EE Division - IV.
- Structure is designed for (S+4) floors only.
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- Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 160 kN/sq.m. as recommended in Soil Report.
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 - Slab - 25 mm
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STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
LAYOUT & RC DETAILS OF LIFT WELL

TYPE DESIGN NO.: 91/2022-(BLOCK - 02)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/04.

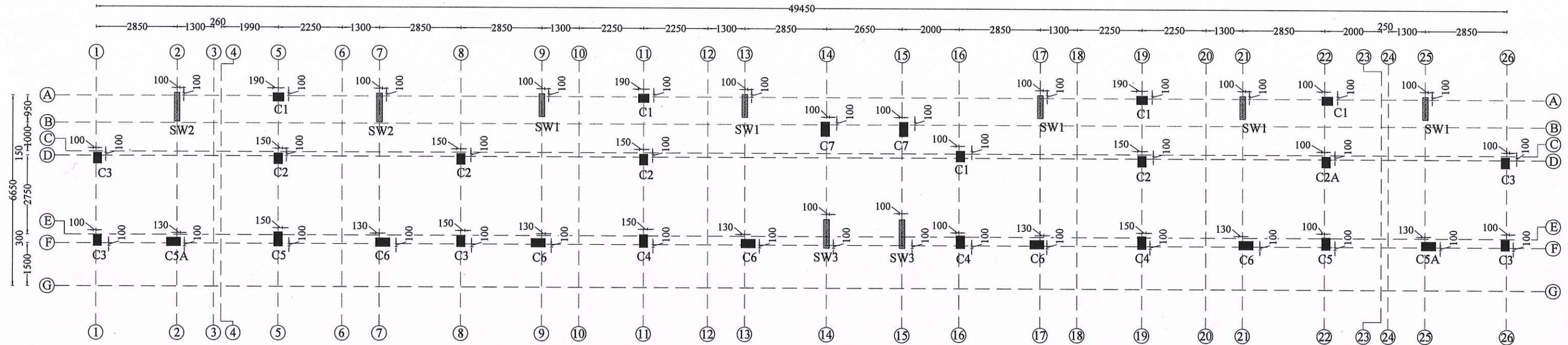
REVISION NO.:

Assistant Engineer	Asst. Exe. Engineer
Executive Engineer	sd.xxxx 03.01.2024 SE - PMU
SE - North II	sd.xxxx 12.01.2024 Chief Engineer - North



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

COLUMN LAYOUT



Note:
1. For Column details refer Drawing no.: TNUHDB /APPASWAMY MUDALI STREET/06.

NOTE :

- All the dimensions are in mm unless noted otherwise.
- All structural drawings shall be read in conjunction with the relevant Architectural drawings.
- All the RCC works shall be as per design mix of **M30** grade, conforming to IS: 456 - 2000.
- All the reinforcement shall be of **Fe500D** grade conforming to IS 1786 - 2008 unless noted otherwise.
- The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
- AAC Bricks has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure as recommended by EE Division - IV.
- Structure is designed for (S+4) floors only.
- Design of the structure carried out with Limit State Method.
- Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 160 kN/sq.m. as recommended in Soil Report.
- Analysis of the structure done with **ETABS**.
- Clear cover for reinforcement are as follows:
 - Foundation - 50 mm
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- All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
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- The recommendations detailed in the soil investigation report done by Anna University, Chennai. Job. No.:SM&FE 216/CONSULTANCY/2021, Dt:30.12.2022. should be followed scrupulously.

STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT APPASWAMY MUDALI STREET SCHEME, CORPORATION DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
COLUMN LAYOUT

TYPE DESIGN NO.: 91/2022-(BLOCK - 02)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/05.

REVISION NO.: **TRUE COPY**


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

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 03.01.2024
SE - PMU

SE - North II

sd.xxxx 12.01.2024
Chief Engineer - North

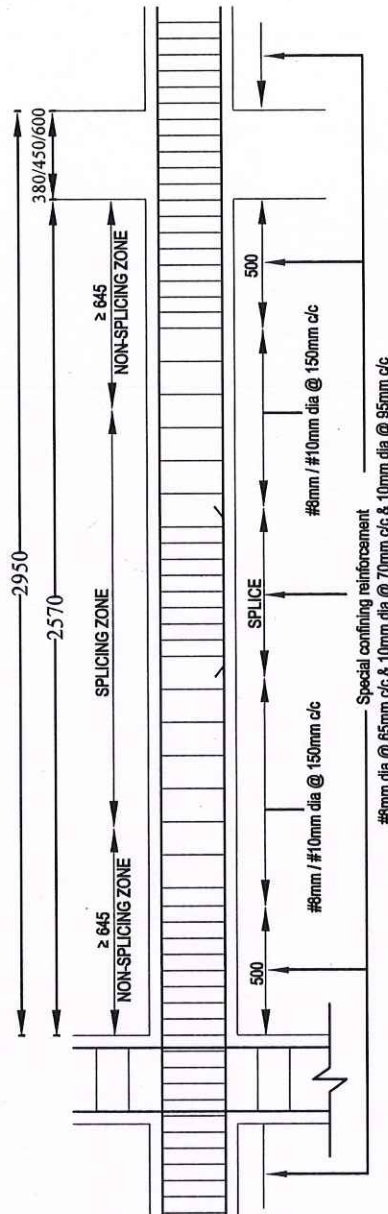


STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

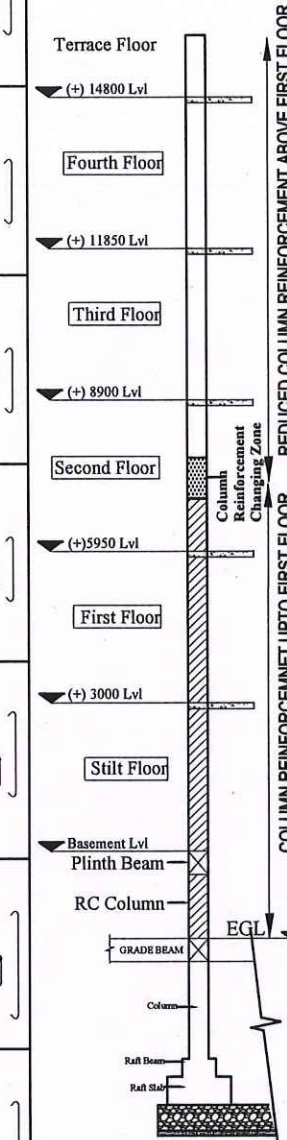
SCHEDULE OF COLUMNS

Sl. No.	Column Marking	No. of Columns	Size (mm x mm)	Upto First Floor		Above First Floor		Lateral Ties	Ties Profile		
				Column Verticals	Cross Section	Column Verticals	Cross Section				
1.	C1	05	300 x 380	#16 - 8 Nos + #12 - 2 Nos		#16 - 8 Nos + #12 - 2 Nos		1) Upto Stilt Floor Beam: # 8 @ 65 mm c/c 2) Above Stilt Floor Beam: # 8 @ 65 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			
2.	C2	04	300 x 380	#20 - 6 Nos + #16 - 4 Nos		#16 - 8 Nos + #12 - 2 Nos		1) Upto Stilt Floor Beam: # 8 @ 65 mm c/c 2) Above Stilt Floor Beam: # 8 @ 65 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			
3.	C2A	01	300 x 380	#20 - 6 Nos + #16 - 4 Nos		#20 - 6 Nos + #16 - 4 Nos		1) Upto Stilt Floor Beam: # 10 @ 95 mm c/c 2) Above Stilt Floor Beam: # 10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			
4.	C3	05	300 x 380	#20 - 6 Nos + #16 - 4 Nos		#20 - 2 Nos + #16 - 8 Nos		1) Upto Stilt Floor Beam: # 10 @ 95 mm c/c 2) Above Stilt Floor Beam: # 10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			
5.	C4	03	300 x 450	#20 - 4 Nos + #16 - 6 Nos		#16 - 10 Nos		1) Upto Stilt Floor Beam: # 10 @ 95 mm c/c 2) Above Stilt Floor Beam: # 10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			
6.	C5	02	300 x 500	#20 - 12 Nos		#20 - 4 Nos + #16 - 8 Nos		1) Upto Stilt Floor Beam: # 10 @ 70 mm c/c 2) Above Stilt Floor Beam: # 10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			
7.	C5A	02	300 x 500	#20 - 12 Nos		#20 - 12 Nos		1) Upto Stilt Floor Beam: # 10 @ 70 mm c/c 2) Above Stilt Floor Beam: # 10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			
8.	C6	05	300 x 500	#20 - 10 Nos		#20 - 8 Nos + #16 - 2 Nos		1) Upto Stilt Floor Beam: # 10 @ 95 mm c/c 2) Above Stilt Floor Beam: # 10 @ 95 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			
9.	C7	02	300 x 500	#20 - 12 Nos		#16 - 6 Nos + #12 - 6 Nos		1) Upto Stilt Floor Beam: # 10 @ 70 mm c/c 2) Above Stilt Floor Beam: # 10 @ 70 mm c/c for 500 mm at top and bottom near beam - column junction & at Splice and the rest #8 @ 150mm c/c			

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



TYPICAL COLUMN SPLICING AND CONFINING REINFORCEMENT DETAILS



TRUE COPY

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

- NOTE :**
- All the dimensions are in mm unless noted otherwise.
 - All structural drawings shall be read in conjunction with the relevant Architectural drawings.
 - All the RCC works shall be as per design mix of M30 grade, conforming to IS: 456 - 2000.
 - All the reinforcement shall be of Fe500D grade conforming to IS 1786 - 2008 unless noted otherwise.
 - The structure is designed for seismic zone III as per IS 1893:2016 and detailed as per IS13920:2016.
 - AAC Bricks has been considered for masonry work in super structure and Fly ash Bricks has been considered for masonry work in sub structure as recommended by EE Division - IV.
 - Structure is designed for (S+4) floors only.
 - Design of the structure carried out with Limit State Method.
 - Raft foundation at a depth of 3.0 m from the existing ground level & bearing capacity at this level is 160 kN/sq.m. as recommended in Soil Report.
 - Analysis of the structure done with ETABS.
 - Clear cover for reinforcement are as follows:
 - (a) Foundation - 50 mm
 - (b) Column/Shear wall - 40 mm
 - (c) Floor and roof beam - 30 mm
 - (d) Slab - 25 mm
 - Design mix report should be got approved by the Anna University/IIT Madras/PWD.
 - All PCC works should be carried out with PCC 1:4:8 conforming IS: 456 - 2000.
 - Cut lintels to be provided in all floors.
 - Lapping of column bars shall be midway between slabs and staggered with lap length not less than 50 Ø.
 - Anchorage of column bars into the footings shall not be less than 50 Ø.
 - 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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 - Ground water quality has to be conformed for suitability to construction work.
 - The ground water / soil to be tested for chlorides & sulphates and remedial measures if any should be taken accordingly.
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STRUCTURAL DETAILS

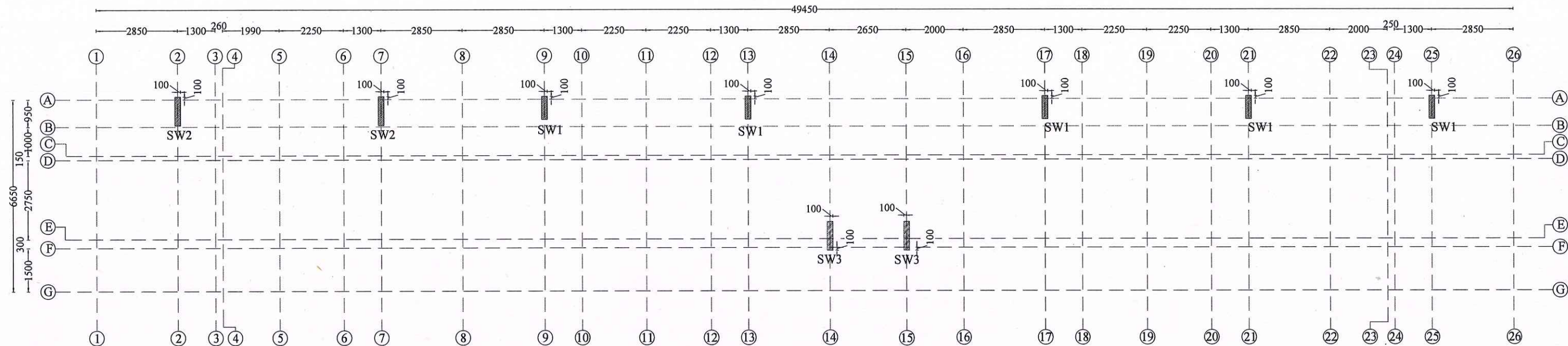
PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT APPASWAMY MUDALI STREET SCHEME, CORPORATION DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
SCHEDULE OF COLUMNS
TYPE DESIGN NO.: 91/2022-(BLOCK - 02)
DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/06.
REVISION NO.:

Assistant Engineer	Asst. Exe. Engineer
Executive Engineer	sd.xxxx 03.01.2024 SE - PMU
SE - North II	sd.xxxx 12.01.2024 Chief Engineer - North

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

SHEAR WALL LAYOUT



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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7. Structure is designed for (S+4) floors only.
8. Design of the structure carried out with Limit State Method.
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10. Analysis of the structure done with ETABS.
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 - (a) Foundation - 50 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:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
SHEAR WALL LAYOUT

TYPE DESIGN NO.: 91/2022-(BLOCK - 02)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/07.

REVISION NO.: TRUE COPY

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

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 03.01.2024
SE - PMU

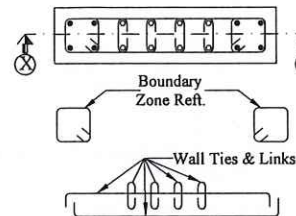
SE - North II

sd.xxxx 12.01.2024
Chief Engineer - North



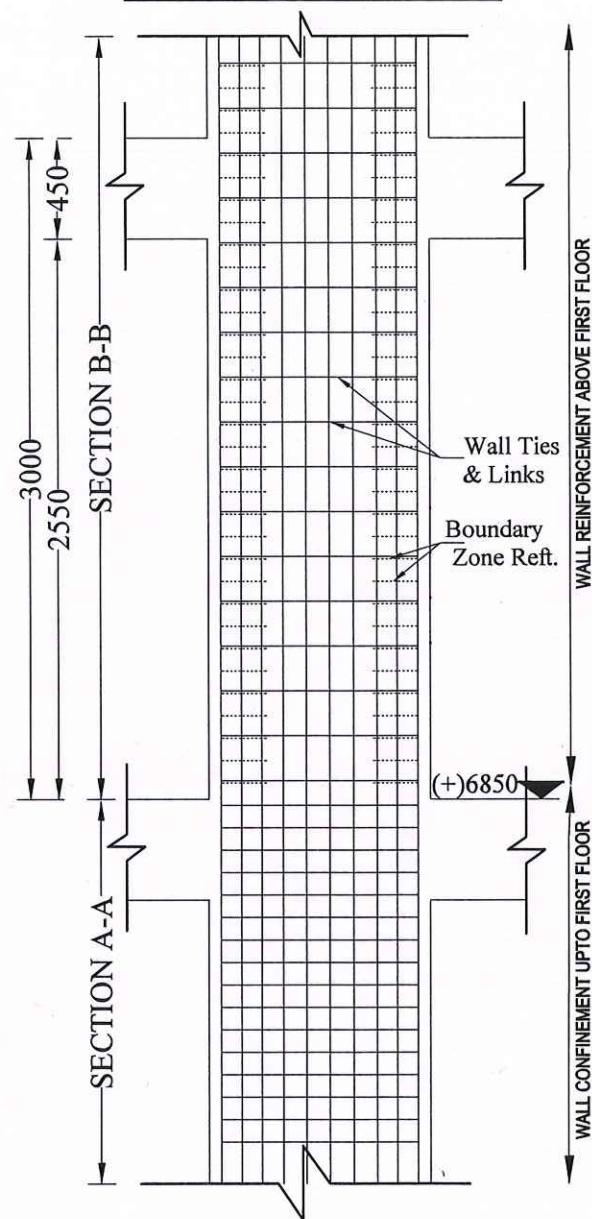
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

SECTION B-B

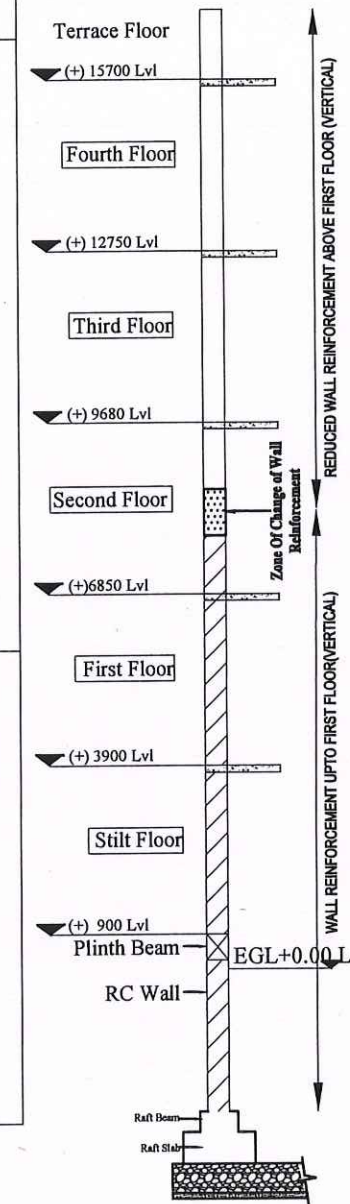


SHEAR WALL REINFORCEMENT DETAILS

DETAILS @ SECTION X-X



Location	SW1 (5 Nos)	SW2 (2 No)	SW3 (2 No)
Above First floor level	● - 16mm (8 Nos) ○ - 12mm (8 Nos) 8@65 c/c 8@130 c/c	● - 16mm (8 Nos) ○ - 12mm (12 Nos) 8@65 c/c 8@130 c/c	● - 16mm (8 Nos) ○ - 12mm (12 Nos) 8@65 c/c 8@130 c/c
Upto First floor level	● - 16mm (16 Nos) 10@95 c/c	● - 16mm (20 Nos) 10@100 c/c	● - 20mm (20 Nos) 10@100 c/c



NOTE :

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(d) Slab	- 25 mm
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STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT APPASWAMY MUDALI STREET SCHEME, CORPORATION DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
SHEAR WALL REINFORCEMENT DETAILS

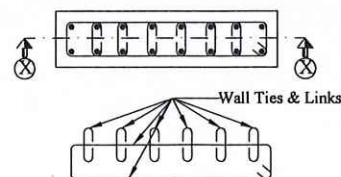
TYPE DESIGN NO.: 91/2022-(BLOCK - 2)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/08.

REVISION NO.:

Assistant Engineer	Asst. Exe. Engineer
Executive Engineer	sd.xxxx 03.01.2024 SE - PMU
SE - North II	sd.xxxx 12.01.2024 Chief Engineer - North

SECTION A-A



TYPICAL SHEAR WALL
CONFINING REINFORCEMENT
DETAILS

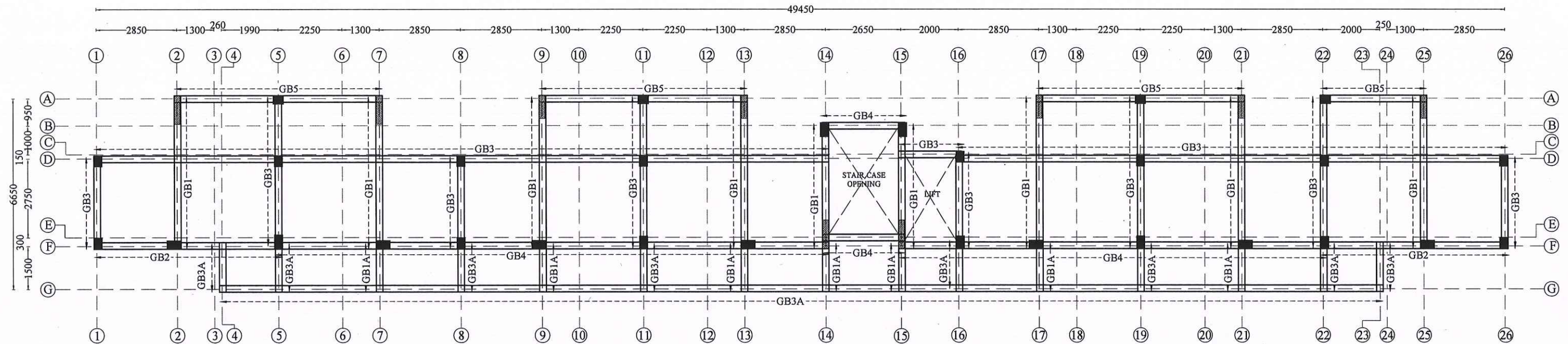
TRUE COPY

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



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

GRADE BEAM LAYOUT



NOTE :

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STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT
APPASWAMY MUDALI STREET SCHEME, CORPORATION
DN.109 ZONE IX, GREATER CHENNAI CORPORATION.

TITLE:
GRADE BEAM LAYOUT

TYPE DESIGN NO.: 91/2022-(BLOCK - 02)

DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/09.

REVISION NO.: **TRUE COPY**

[Signature]
13.1.24
EXECUTIVE ENGINEER
STRUCTURAL AND QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
5, KAMARAJAR SALAI, CHENNAI-600 005.

Assistant Engineer

Asst. Exe. Engineer

Executive Engineer

sd.xxxx 03.01.2024
SE - PMU

SE - North II

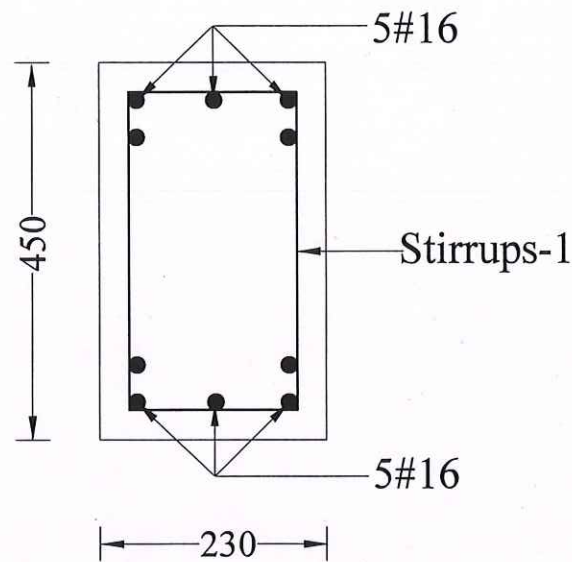
sd.xxxx 12.01.2024
Chief Engineer - North



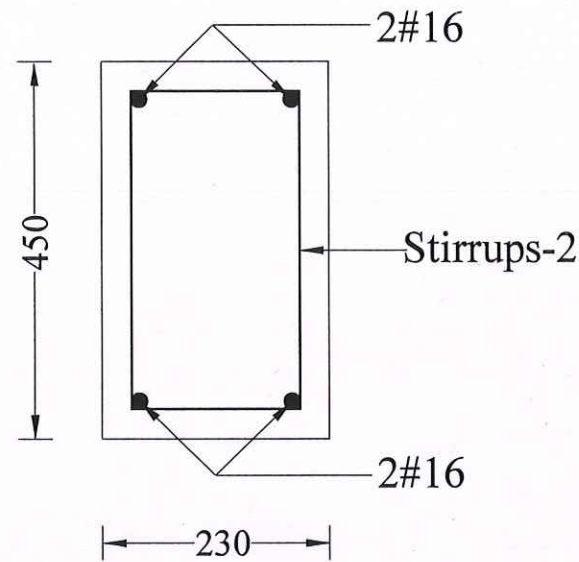
STRUCTURAL & QUALITY CONTROL CELL
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD
NO.5, KAMARAJAR SALAI
CHENNAI - 600 005.

GRADE BEAM DETAILS

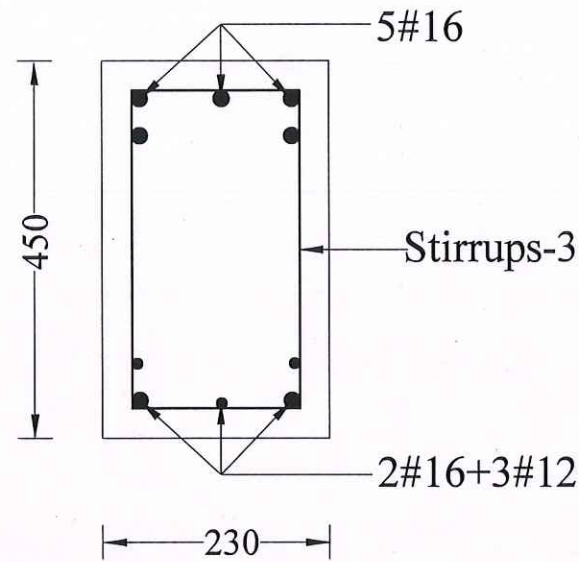
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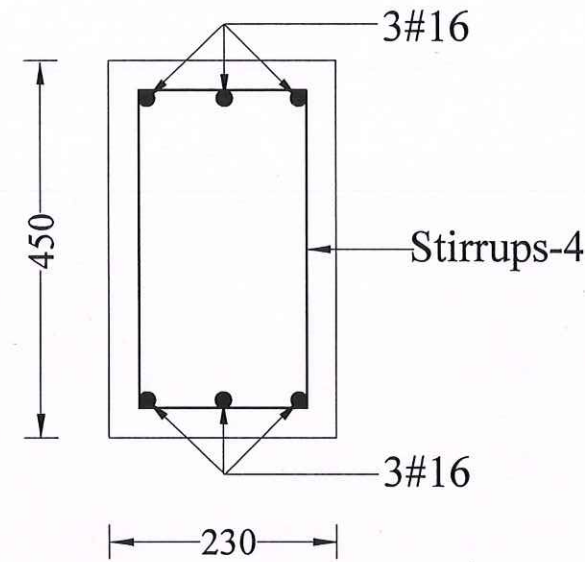
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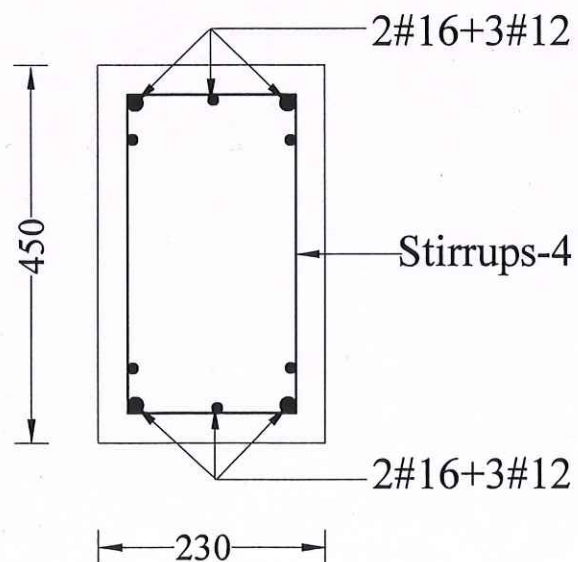
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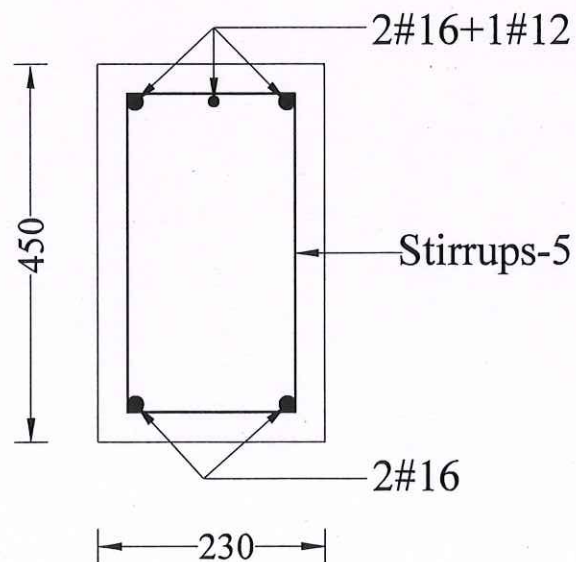
GB3
(230 x450)



GB4
(230 x450)



GB5
(230 x450)



NOTE :

- 1) Stirrups-1 - 2L#8mm Stirrups @ 100mm 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 entire length of the beam.
- 3) Stirrups-3 - 2L#10mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 100mm c/c.
- 4) Stirrups-4 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 120mm c/c.
- 5) Stirrups-5 - 2L#8mm Stirrups @ 75mm c/c for 900 mm length on all side near beam column junction and the rest at 150mm c/c.

TRUE COPY

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

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STRUCTURAL DETAILS

PROJECT:
RECONSTRUCTION OF 68 TENEMENTS (S+4) AT APPASWAMY
MUDALI STREET SCHEME, CORPORATION DN.109 ZONE IX,
GREATER CHENNAI CORPORATION.

TITLE:

GRADE BEAM DETAILS

TYPE DESIGN NO.: 91/2022-(BLOCK - 02)

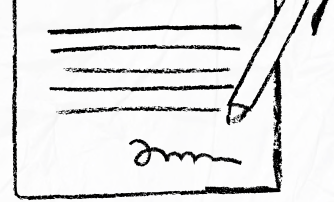
DWG.NO.: TNUHDB/APPASWAMY MUDALI STREET/10.

REVISION NO.:

Assistant Engineer	Asst. Exe. Engineer
Executive Engineer	sd.xxxx 03.01.2024 SE - PMU
SE - North II	sd.xxxx 12.01.2024 Chief Engineer - North



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



our services doesn't just end there



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Property Buying Assistance, Property Selling Support, Market Price Analysis, Owner Outreach and Negotiation.



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Certified EC, Patta, legal opinions, property verification, due diligence, litigation solutions, and legal heir certificates.



Property Development & Approvals

Building plan approvals, construction, layout and sub-division approvals, zone conversion, and occupancy certification.



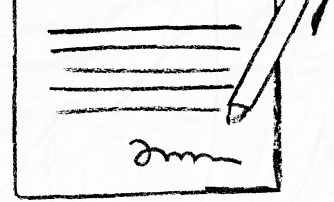
NRI & Investment Services

Escrow Services, Rentals, Litigation Solutions, Property Valuation and Property Management



Compliance & Special Services

Demolition, Vaasthu checks, regularization of unauthorized buildings, and office space solutions.



 **empowering your real estate decisions**
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Guideline Value, Apartment Composite Value, Stamp Duty & Registration Fees Calculator, Building Value Calculator, Capital Gains Calculator, Area Unit Converter, Length Unit Converter



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Encumbrance Certificate (EC) Search, Find Your SRO, Temple Property Check, WAQF Property Check, View Patta/Chitta, View FMB, Patta Analyzer, EC Analyzer



Zoning & Land Use Analysis

Land Use Zone Finder, CRZ Zone Check, Aquifer Zone Check, CBA Check, EWS Check, Road Width Check, Proposed Road Widening Check, FSI Calculator



Property Documentation & Workflow Tools

Forms & Templates, Document Generator, Document Translation, Dictionary



Vastu & Property Management Tools

Home Vastu Shastra, Plot Vastu Shastra, Property Management



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