STRUCTURAL STABILITY CERTIFICATE

[~~FOR PLINTH CHECKING~~ / FOR COMPLETION]

To,
The Town Development Officer
Vadodara Municipal Corporation,
Vadodara.

Name of Work :

Name of Owner : Jashbhai P. Patel & others

Location : Virendrabhai School, T.P.No-46, R.S.No-237, F.P.No-16 O.P.No-160, Chhani, Vadodara.

Type of Structure : Frame Structure

VMC Permission No. : 003BP23242154

This is to Certify that the above mentioned building is structurally designed by me as per prevailing engineering norms and relevant I. S. codes IS 456 & IS 875.

I have verified the various structural elements on site at various level i. e. foundation, plinth and floors. I have also verified the effect of the recent earth quake and found the structure safe and serviceable / usable.

Reinforcement of the said work is checked as per my design and drawings prior to concreting. I therefore certify that building is safe and serviceable / usable.

For, **ZARNA ASSOCIATES**
Structural Consultants

Dr. V.R. Patel
Ph. D. (Structural Engg.)
B. E. (Civil), M. E. (Structure)
(Structural Designer)

VMC LIC No. SH64
VUDA LIC No. S21

Name : Dr. Vinubhai R. Patel
Address : 910-915, "Samanvay Silver" Appartment, Mujmahuda Crossing,
Besides Royal Orchid Hotel, Akota Road, Vadodara-390 020. GUJARAT (INDIA)
Office : Mobile : +91 8347413334 to 39 +91 9227627339 to 40
E-mail : zarnaasso@yahoo.com / mail@zarnaassociates.com
Web. : www.zarnaassociates.com

Form 15: Structural Inspection Report

(Maintainance of Building - See Schedule 17)

(This form has to be completed by registered Structural Engineer on Record after his site Inspection and verification regarding compliance of all recommendation by the owner, which in the opinion of the registered Structural Engineer on Record is necessary for safety of the structure)

No	Description	Information	Notes
1.	Title, Location and Address of the building including T.P. No, F.P. No, etc		
2.	Name of Present Owner		
3.	Name of Structural Engineer on Record	Dr. Vinubhai R. Patel	
4.	Use of the building	Residential - Commercial	
5.	Year of construction		
	Year of subsequent additions		
	Nature of additions or alterations		
6.	Date of Last Inspection Report		
	SEOR for Last Inspection Report		
7.	Class 1 Building		
8.	Class 2 Building		
9.	Type of structure ƒ Load bearing walls ƒ R.C.C frame ƒ R.C.C frame and Shear walls ƒ Steel frame		
10.	Soil data ƒ Type of soil ƒ Design safe bearing capacity ƒ Any change subsequent to construction ƒ Any open excavation pit ƒ Any water body near by ƒ Proximity of drain ƒ Underground water tank ƒ Outlets of rain water pipes ƒ Settlements	 Medium Hard 20 T/m^2	IS: 1893 Cl. 6.3.5.2 IS: 1904

(a) Function	(b) Framed construction							
	Residence (with or without shops	Apartments (with or Without shops	Office Bldg.	Shopping centre	School, College	Hostel	Audit-oria	Factory
	1	2	3	4	5	6	7	8
A. Load bearing masonry wall construction								
B. Framed structure	✔							
construction and structural materials	Critical load bearing element	Brick ✔	RCC	Stone	Timber	Steel		
	Roof Floor	RCC ✔	Timber	RBC	Steel	Jack-arch		

Part 2 Load bearing masonry buildings			
	Description	Information	Notes
1.	Building category	-	
2.	Any cracks in masonry walls	-	
	Extent of cracks	-	
	Location of cracks	-	
	Sketch of cracks, if necessary	-	
3.	Recommendations, if any	-	

Part 3 Reinforced Concrete framed buildings			
	Description	Information	Notes
1.	Type of Building	-	
2.	Any cracks in beams	-	
	Extent of cracks	-	
	Probable causes	-	
3.	Any cracks in columns	-	
	Extent of cracks	-	
	Probable causes	-	
4.	Any cracks in slab	-	
	Extent of cracks	-	
	Probable causes	-	
	Spilling of concrete or plaster of slab	-	
	Corrosion of Reinforcement	-	
5.	Cover Spell	-	

Part 3 Reinforced Concrete framed buildings			
	Description	Information	Notes
6.	Exposure of reinforcement	Not Observed	
7.	Subsequent damage by user for taking pipes, conduits, hanging fans or any other fixtures, etc.		
8.	Loads in excess of design loads		
9.	Recommendations, if any		

Part 4 Buildings in Structural Steel			
	Description	Information	Notes
1.	Building category	Not Applicable	
2.	Painting		
3.	Corrosion		
4.	Joints, nuts, bolts, rivets, welds, gusset plates		
5.	Bending or buckling of members		
6.	Base plate connections with columns of pedestal		
7.	Loads in excess of design loads		
8.	Recommendations, if any		

This is to certify that the above is a correct representation of facts as given to me by the owner and as determined by me after Site Inspection to the best of my ability and judgment.

The recommendations made by me to ensure adequate safety of the structure are compiled with by the owner to my entire satisfaction.

Name of the SEOR: DR. VINUBHAI R. PATEL
Registration No.: SEOR/01/21 - 2023-2028
Address: 910-915, SAMANVAY SILVER APP.,
MUJMAHUDA CROSSING, VADODARA.
Tel. No.: 9227627339/40

Signature:
Date:

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D. (Str. Engg.) M.E. (Str.) B.E. (Civil)
VUDA LIC No. SEOR/01/21, 2023-28
VMC LIC No. SEOR/01/64, 2024-27
14, Ratnam Appartment, Opp. Neptune Tower
Productivity Road, Vadodara-390007

PFORM. NO. 8

BUILDING COMPLETION CERTIFICTE

Reference No: -

Location:-

Owner Name: -

Received on:-

Submitted on:-

The
Chief Executive Authority
Urban Development Authority

Sir,

1. The building/s has/have been constructed according to the sanctioned plan

2. The building/s has/have been constructed as per approved plan and structural design one set of structural drawings as executed & certified by the Structural safety as specified in relevant prevailing Indian Standards Specification/Guidelines.

3. Construction has been done under our supervision/guidance and adheres to the drawings submitted and records of supervision have been maintained by us.

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D. (Str. Engg.) M.E. (Str.) B.E.(Civil)
SUDA Regd. No. [illegible]/21
VMC Lic. No. SE/OB-01/64
14, Ratnam Appartment, Opp. Neptune Tower
Productivity Road, Vadodara-390007
Structural Engineer 2023-26
*(DR. V. R. PATEL) 2024-27

Signature of the
Supervising Engineer/
Owner

* I undertake engineering design liability up to 10(ten) years from completion date of work. I am not liable and responsible for any defects, damages and loss of life and/or any others issues with regards to workmanship, unapproved structural changes, at any point of time. Co-ordination of structural drawings in accordance with approved building plans will be the responsibility of the plan-submitting agency to the authority.

Date:

Date:

Name in Block letters:

Name in Block Letters:

Address:

Address:

Form 10: Notice for Commencement of Construction

(See Regulation No. 6.5.1)

To

The Chief Executive Authority / Municipal Commissioner/Chief Officer

Urban Development Authority / Municipal Corporation /Area Development Authority/ Nagarpalika

File No: _____

Dated: _____

Proposed building: _____

(Title of the work)

Plot No.: _____ Area of the Plot: _____

Address and location of proposed building: _____

_____

Sir/Madam,

This is to notify you that the construction of the proposed building shall commence on (date). The _____construction of the building shall be undertaken in compliance with the sanctioned drawings and the Development Regulations.

Enclosed with this Notice are:

1) Detailed Working Drawings including structural design and specifications duly verified and certified by the AOR or EOR and SEOR for the project.

Name of the AOR/EOR: _____

Registration No.: _____

Address: _____

_____

Tel. No.: _____

Signature:

Date: _____

Name of the Owner/Developer: _____

Address: _____

_____

Tel. No.: _____

Signature:

Date: _____

Name of the SEOR: DR.V.R.PATEL

Registration No.: SEOR/01/21 - 2023-2028

Address: 910-915, SAMANVAY SILVER APP., MUJMAHUDA CROSSING, AKOTA ROAD, VADODARA.

Tel. No.: 9227627339/40

Signature:

Date

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D. (Str. Engg.) M.E. (Str.) B.E. (Civil)
VUDA LIC No. SEOR/01/21/ 2023-26
VMC LIC No. SEOR/01/64/ 2024-27
14, Ratnam Appartment, Opp. Neptune Tower
Productivity Road, Vadodara-390007

Name of the COWOR: _____

Registration No.: _____

Address: _____

_____

Tel. No.: _____

Signature: _____

Date: _____

FORM. NO. 11

STRUCTURAL INPECTION REPORT

(This form has to be completed by registered by registered Structural Designer after his site inspection and verification regarding compliance of all recommendation by the owner, which in the opinion of the registered structural designer are necessary for safety of the structure)

I. Description by title and location of the property including T.P.No.,F.P.No. etc.:

II. Name of the present owner:

III. Description f the structure:
class I or II (Briefly describe the property in general and structure in particlure)

(a) Function	(b) Framed construction							
	Residence(with or without shops)	Aperients(with or without shops)	Office Bldg.	Shopping centre	School, collage	Hostel	Auditoria	Factory
	1	2	3	4	5	6	7	8
A Load bearing masonry wall construction								
B.Framed Structure								
Construction & structural materials	Critical load bearing element	brick	RCC	Stone	Timber	Steel		
	Roof Floor	RCC	Timber	RBC	Steel	Jack-arch		

IV. Year of construction
year of subs equent addition or rectification(please describe briefly the nature of addition or rectification's)

V. Date of Fast inspection report filed:
last filed by whom (This does not apply to the first report)

VI. Soil on which building is founded
i) any change subsequent to construction.
ii)Nearby open excavation
iii)Nearby collection of water
iv)proximity of drain
v)underground water tank
vi)R.W. pipes out-lets
vii)Settlements

VII. The Super-structure(R.C.C Frame structure)

i) Crack in beam or column nature and extent of crack probable causes

ii)Cover spell

iii)Exposure of reinforcement

iv)subsequent damage by user for taking pipes, conduits, hanging, fans or any other fixtures etc.

Vi)crack in slab

vii) swelling of concrete or plaster of slab

viii)Corrosion of reinforcement

ix)Loads in excess of design loads

VIII. The super-structure(steel structure)

i) painting

ii)Correction

iii)Joint,nuts,bolts,rivets,welds,gusset pates

iv)Bending or buckling of members

v)base plate connection with columns or pedestals

vi)Loading

IX. The Super Structure(Load bearing masonry structure)

Cracks in masonry walls

(Please describe some of the major cracks, their nature, extent and location, with a sketch, if necessary.

X. Recommendation if any

This is to certify that the above is a correct representation of facts as given to me by the owner and as determined by me after site inspection to the best of my ability and judgment.

The recommendation made by me to ensure adequate safety of the structure is compiled with by the owner to my entire satisfaction.

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D. (Str. Eng.) M.E. (Str.) B.E. (Civil)
VUDA LIC No. SEOR/01/21/ 2023-28
VMC LIC No. SEOR/01/64/ 2024-27
14, Ratnam Appartment, Opp. Neptune Tower
Productivity Road, Vadodara-390007

Signature of the Registered structural Designer and Date
*(Dr. V. R. Patel)

Name of the registered structural designer: Dr. V. R. Patel

Registration No:

VUDA LIC No- SEOR/01/21/ 2023-2028
VMC LIC No- SEOR/01/64/2024-2027

Address: 910-915, Samanvay Silver App., Mujmahuda Crossing, Beside Royal Orchid Hotel, Akota Road, Vadodara.

* I undertake engineering design liability up to 10(ten) years from completion date of work. I am not liable and responsible for any defects, damages and loss of life and/or any others issues with regards to workmanship, unapproved structural changes, at any point of time. Co-ordination of structural drawings in accordance with approved building plans will be the responsibility of the plan-submitting agency to the authority.

Form 12: Notice of Completion of Construction and Compliance Certification

(See Regulation No.7.1.1)

To

The Chief Executive Authority / Municipal Commissioner /Chief Officer

Urban Development Authority / Municipal Corporation /Area Development Authority/ Nagarpalika

File No: _____

Dated: _____

Proposed building: _____

_____ (Title of the work) Plot No.: _____

_Area of the Plot: Address and location of proposed building: _____

Sir/Madam,

This is to notify you that the construction of the proposed building has been completed under our supervision.

We hereby certify that the construction of the building has been undertaken in compliance with the sanctioned drawings and the General Development Control Regulations. We declare that the building is to be used for _____purpose as per approved plan and it shall not be changed without obtaining written permission.

Any subsequent change from the completion drawings will be our responsibility.

Name of the Owner/Developer: _____

Address: _____

_____

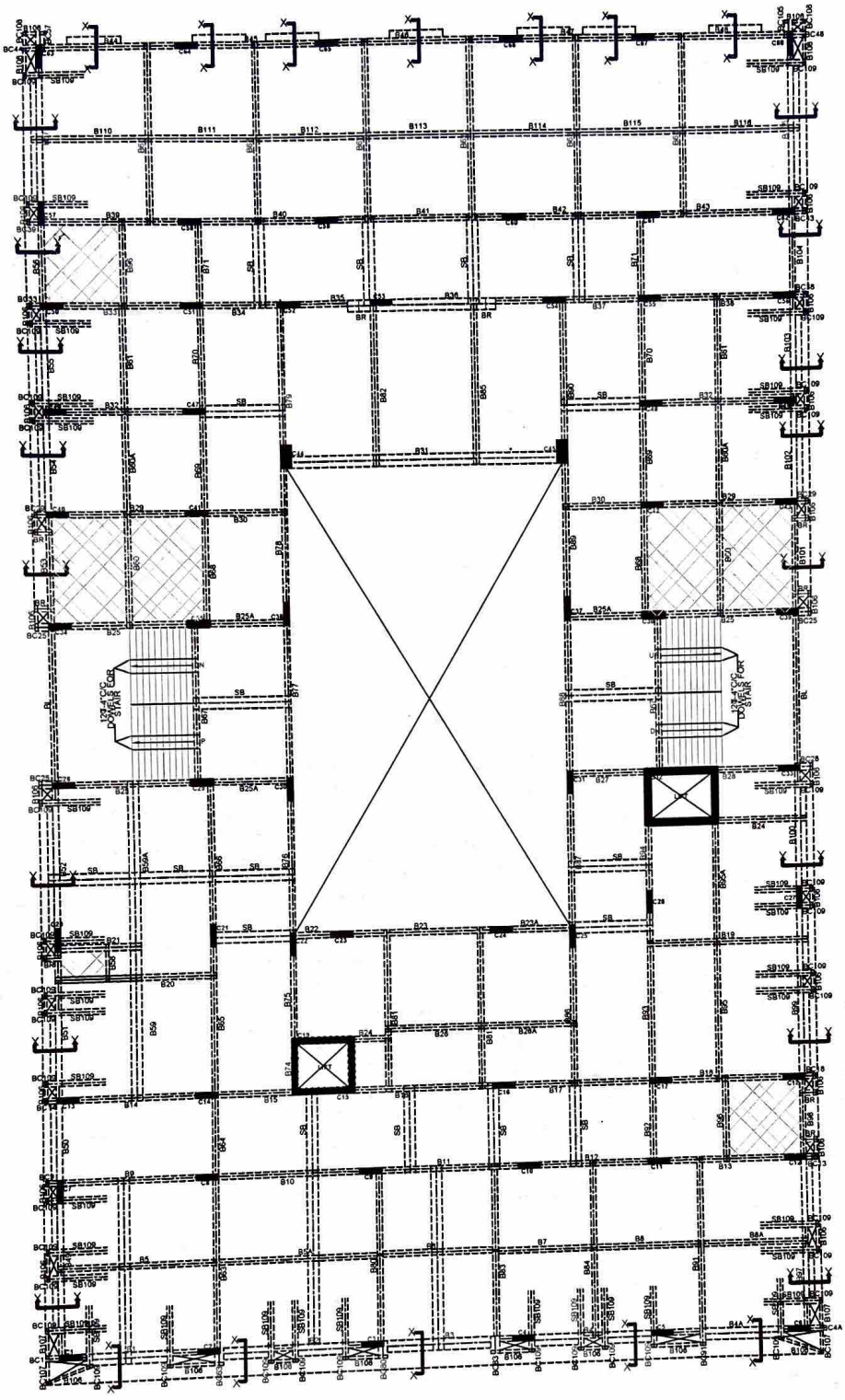
Tel. No.: _____

Signature:

Date: _____

Name of the SEOR:	Dr.V.R.Patel	Name of the AOR/EOR:	
Registration No.:	SEOR/01/64/2024-2027		
Address:	14-RATNAM APT, OPP.NEPTUNE TOWER, ALKAPURI, VADODARA		-
Tel. No.:		Tel. No.:	
Signature:		Signature:	
Date:		Date:	

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D. (Str. Engg.) M.E. (Str.) B.E. (Civil)
VUDA LIC No. SEOR/01/21/ 2023-28
VMC LIC No. SEOR/01/64/ 2024-27
14, Ratnam Appartment, Opp. Neptune Tower
Productivity Road, Vadodara-390007



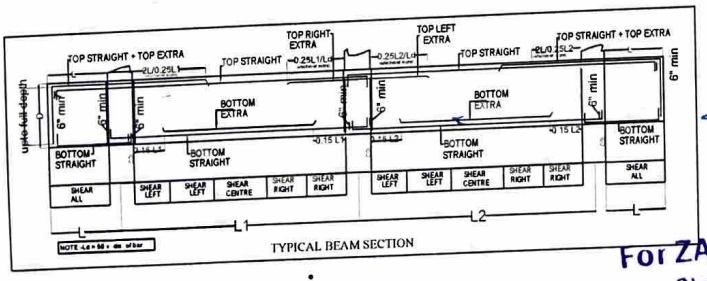
NOTES -

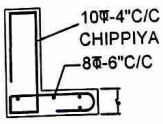
1 : REFER STAIR DRG ALONG WITH THIS DRG.
2 : REFER DET OF BL / DLR / DLC IN STAIR DRG.
3 : REFER GENERAL NOTES DRG.
4 : PROVIDE CAMBER OF 20mm-25mm FOR CANTILEVER SLAB/BEAM WITH SPAN LESS THAN 6 FEET.
5 : PROVIDE CAMBER OF 30mm-40mm FOR CANTILEVER SLAB/BEAM MORE THAN 6 FEET.
6 : PROVIDE THROUGHOUT RCC LINTEL & SILL OVER ALL WALLS.
7 : CHECK THE STRUCTURAL DRG WITH ARCH DRG / ELEVATION / SECTION / 3D
8 : IF ANY AMBIGUITY FOUND , CONTACT STRUCTURE ENGG. IMMEDIATELY BEFORE STARTING WORK.
9 : FOLLOW ONLY ARCHITECTURAL DIMENSIONS.
10 : STRUCTURE ENGINEER IS NOT RESPONSIBLE IF ANY ACCIDENT OCCURS ON SITE DUE TO CONSTRUCTION FAULTS.
11 : CHECK THE POSITION OF FC WITH ARCH. DRG
12 : GET IT APPROVED BY ARCHITECT BEFORE STARTING EXECUTION OF WORK.
13 : PROVIDE DRAINAGE PIPE AS PER PLUMBING CONSULTANT BEFORE CASTING SLAB & BEAM NO CUTOUTS ARE ALLOWED AFTER CASTING SLAB/BEAM.
14 : MINIMUM CAMBER AT CENTER OF SIMPLY SUPPORTED BEAM = $\frac{SPAN}{250}$ MM(CAMBER IN MM)
15 : MINIMUM CAMBER AT FREE END OF CANTILEVER IN (MM) = $\frac{SPAN}{75}$ MM(CAMBER IN MM)
16 : THIS STRUCTURE DRAWING IS BASED ON THE ARCH.DRG SENT BY MAIL ON DATE :-21-10-2023

TYPICAL DETAIL OF STIRRUPS	
LEGG.	WIDTH OF BEAM
2 Bundle stirrrups	UP TO 12"
4-Legg.	≥ 12"
6-Legg.	≥ 24"

CONTINUE COLUMN
TERMINATE COLUMN

CONCRETE GRADE	
ITEM	GRADE
SLAB	M25
BEAM	M25
USE STEEL GRADE Fe 500-D	





SEC:X-X

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D.(Str. Engg.) M.E.(Str.) B.E.(Civil)

LAST NO : B116.
OMITTED NO :B72, B73

6" THK. SLAB

DETAIL OF GROUND FLOOR SLAB

PROJECT NAME:- VIRENDRABHAI (SCHOOL)

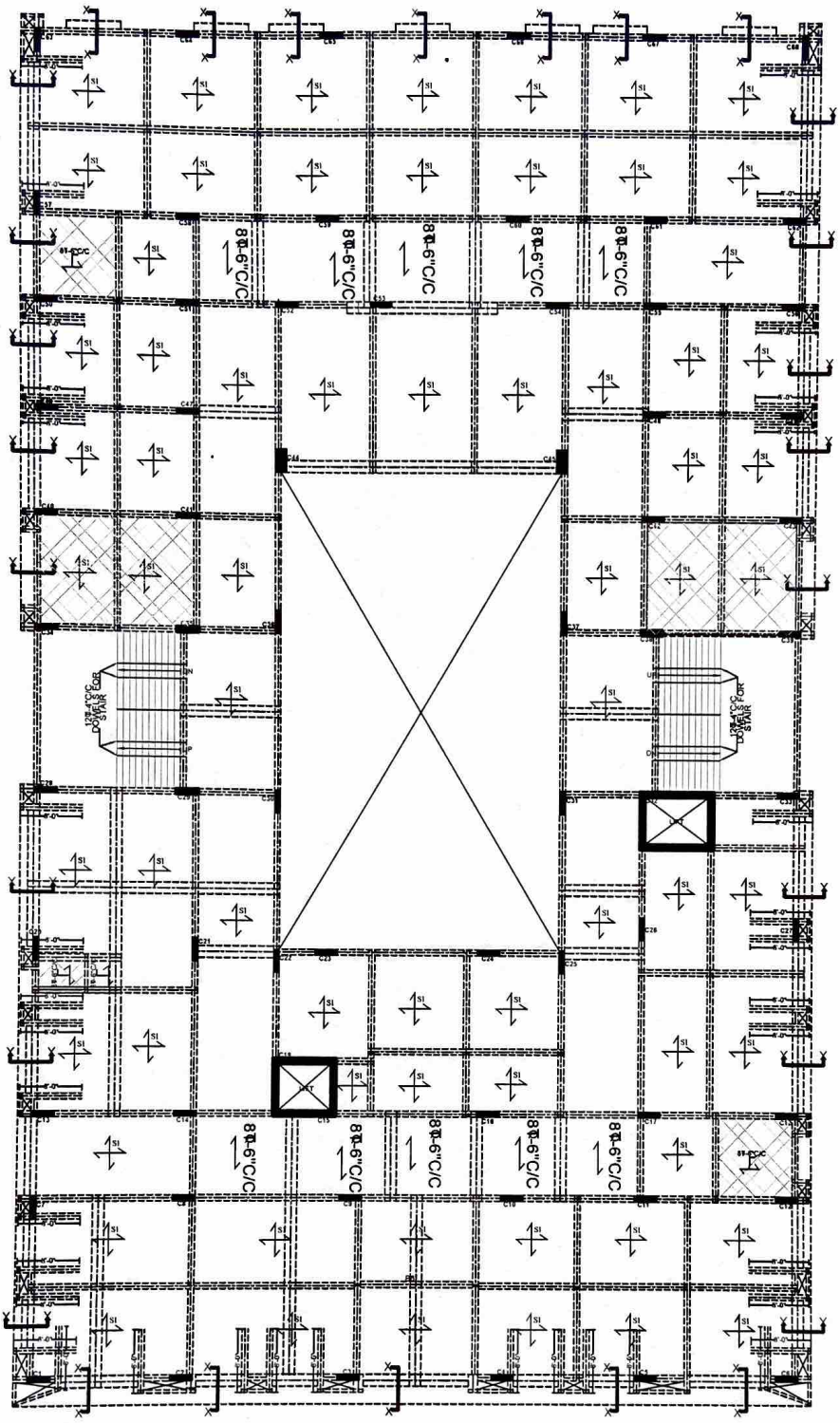
ARCHITECT: RUCHIR SHETH

STRUCTURAL CONSULTANT :

ZARNA ASSOCIATES
STRUCTURAL CONSULTING ENGINEER
910-915, Samanvay Silver Appartment,Mujmahuda Crossing, Beside Royal Orchid Hotel Akota Road, Vadodara-390020
Mo.No. - +91 8347-13334439
+91 92276-27339-10
E - Mail - zarnaassociate@yahoo.com

APPROVED BY:	VRP
CHECKED BY:	PRIYA
DRAWN BY:	PREM
CORRECTED BY:	
DATE:	24-11-23
PROJECT NO. :	151 2023
DRAWING TITLE:	DETAIL OF GROUND FLOOR SLAB
DRG NO : 5	
SCALE: N.T.S.	SHEET: A3 N

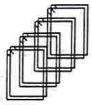
Z:\COMMON\STRUCTURE ONLY\2023\RUCHIR SHETH\VIRENDRABHAI CHHANI SCHOOL\STR DRG



NOTES:-

1. REFER STAIR DRG. ALONG WITH THIS DRG.
2. REFER DET OF BL / BLR / BLC IN STAIR DRG.
3. REFER GENERAL NOTES DRG.
4. PROVIDE CAMBER OF 20mm-25mm FOR CANTILEVER SLAB/BEAM WITH SPAN LESS THAN 6 FEET.
5. PROVIDE CAMBER OF 30mm-40mm FOR CANTILEVER SLAB/BEAM MORE THAN 6 FEET.
6. PROVIDE THROUGHOUT RCC LINTEL & SILL OVER ALL WALLS.
7. CHECK THE STRUCTURAL DRG. WITH ARCH. DRG / ELEVATION / SECTION / 3D.
8. IF ANY AMBIGUITY FOUND, CONTACT STRUCTURE ENGG. IMMEDIATELY BEFORE STARTING WORK.
9. FOLLOW ONLY ARCHITECTURAL DIMENSIONS.
10. STRUCTURE ENGINEER IS NOT RESPONSIBLE IF ANY ACCIDENT OCCURS ON SITE DUE TO CONSTRUCTION FAULTS.
11. CHECK THE POSITION OF FC WITH ARCH. DRG
12. GET IT APPROVED BY ARCHITECT BEFORE STARTING EXECUTION OF WORK.
13. PROVIDE DRAINAGE PIPE AS PER PLUMBING CONSULTANT BEFORE CASTING SLAB & BEAM. NO CUTOUTS ARE ALLOWED AFTER CASTING SLAB/BEAM.
14. MINIMUM CAMBER AT CENTER OF SIMPLY SUPPORTED BEAM = $\frac{SPAN}{250}$ MM(CAMBER IN MM)
15. MINIMUM CAMBER AT FREE END OF CANTILEVER IN (MM) = $\frac{SPAN}{90}$ MM(CAMBER IN MM)
16. THIS STRUCTURE DRAWING IS BASED ON THE ARCH DRG SENT BY MAIL ON DATE -21-10-2023

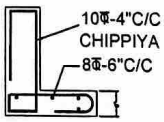
TYPICAL DETAIL OF STIRRUPS

LEGG.	WIDTH OF BEAM
 2 Bundle stirrrups	UP TO 12"
 4-Legg.	≥ 12"
 6-Legg.	≥ 24"

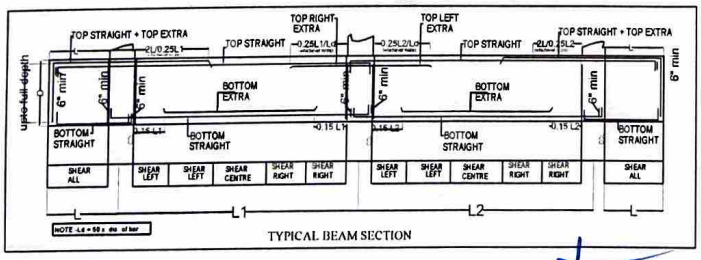
CONTINUE COLUMN

TERMINATE COLUMN

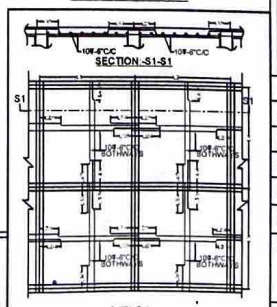
CONCRETE GRADE	
ITEM	GRADE
SLAB	M25
BEAM	M25
USE STEEL GRADE Fe 500-D	



SEC:X-X



TYPICAL BEAM SECTION



SECTION:-A-A
6" THK.SLAB

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D.(Str. Engg.) M.E.(Str.) B.E.(Civil)

LAST NO : B116

OMITTED NO : B73.

6" THK. SLAB

DETAIL OF GROUND FLOOR SLAB

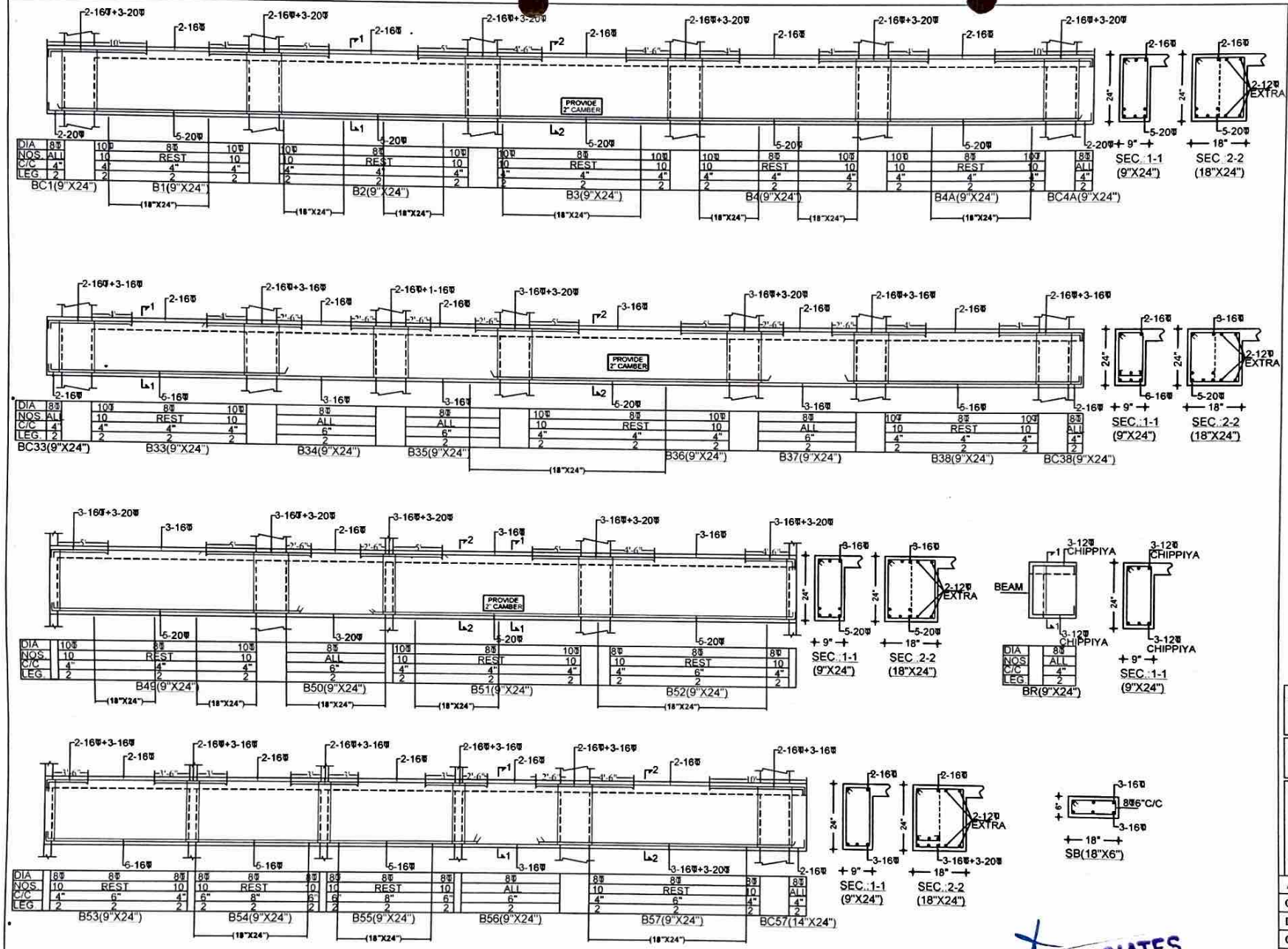
PROJECT NAME:-
VIRENDRABHAI (SCHOOL)

ARCHITECT:
RUCHIR SHETH

STRUCTURAL CONSULTANT :
ZARNA ASSOCIATES
STRUCTURAL CONSULTING ENGINEER
910-915, Samanvay Silver Appartment, Mujmahuda Crossing, Besides Royal Orchid Hotel Akota Road, Vadodara-390020
Mo.No. - +91 8347-1-13334/39
+91 92276-27339/40
E - Mail - zarnaassoc@yahoo.com

APPROVED BY:	VRP
CHECKED BY:	PRIYA
DRAWN BY:	PREM
CORRECTED BY:	
DATE:	24-11-23
PROJECT NO. :	151-2023
DRAWING TITLE:	DETAIL OF GROUND FLOOR SLAB
DRG NO : 5	
SCALE: N.T.S	SHEET: A3 N

Z:\COMMON\STRUCTURE ONLY\2023\RUCHIR SHETH\VIRENDRABHAI CHHANI SCHOOL\STR DRG



NOTES -

1. REFER STAIR DRG. ALONG WITH THIS DRG
2. REFER DET OF BL / BLR / BLC IN STAIR DRG
3. REFER GENERAL NOTES DRG.
4. PROVIDE CAMBER OF 20mm-25mm FOR CANTILEVER SLAB/BEAM WITH SPAN LESS THAN 6 FEET
5. PROVIDE CAMBER OF 30mm-40mm FOR CANTILEVER SLAB/BEAM MORE THAN 6 FEET
6. PROVIDE THROUGHOUT RCC LINTEL & SILL OVER ALL WALLS
7. CHECK THE STRUCTURAL DRG. WITH ARCH DRG / ELEVATION / SECTION / 3D
8. IF ANY AMBIGUITY FOUND, CONTACT STRUCTURE ENGG. IMMEDIATELY BEFORE STARTING WORK
9. FOLLOW ONLY ARCHITECTURAL DIMENSIONS
10. STRUCTURE ENGINEER IS NOT RESPONSIBLE IF ANY ACCIDENT OCCURS ON SITE DUE TO CONSTRUCTION FAULTS
11. CHECK THE POSITION OF FC WITH ARCH. DRG
12. GET IT APPROVED BY ARCHITECT BEFORE STARTING EXECUTION OF WORK
13. PROVIDE DRAINAGE PIPE AS PER PLUMBING CONSULTANT BEFORE CASTING SLAB & BEAM NO CUTOUTS ARE ALLOWED AFTER CASTING SLAB/BEAM
14. MINIMUM CAMBER AT CENTER OF SIMPLY SUPPORTED BEAM = $\frac{SPAN}{250}$ MM(CAMBER IN MM)
15. MINIMUM CAMBER AT FREE END OF CANTILEVER IN (MM) = $\frac{SPAN}{50}$ MM(CAMBER IN MM)
16. THIS STRUCTURE DRAWING IS BASED ON THE ARCH DRG SENT BY MAIL ON DATE -21-10-2023

CONCRETE GRADE	
ITEM	GRADE
COLUMN	M25/M35
BEAM	M25
RETAINING WALL	M35
USE STEEL GRADE Fe 500-D	

PROJECT NAME:- VIRENDRABHAI (SCHOOL)

ARCHITECT: RUCHIR SHETH

STRUCTURAL CONSULTANT: ZARNA ASSOCIATES
STRUCTURAL CONSULTING ENGINEER

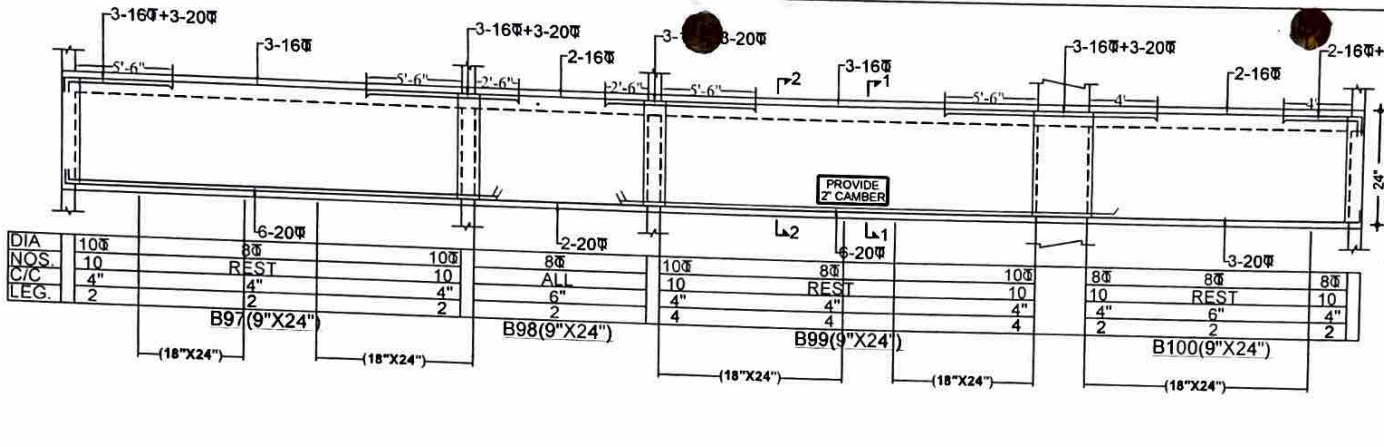
APPROVED BY	VRP
CHECKED BY	PRIYA
DRAWN BY	PREM
CORRECTED BY	
DATE	24-11-2023
PROJECT NO	
DRAWING TITLE	GROUND FLOOR BEAM
DRG NO : 13	
SCALE N.T.S.	SHEET A3

Z:\COMMON\STRUCTURE ONLY\2023\RUCHIR SHETH\VIRENDRABHAI CHHANI SCHOOL\STR DRG

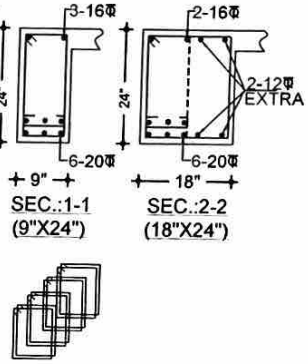
GROUND FLOOR BEAM

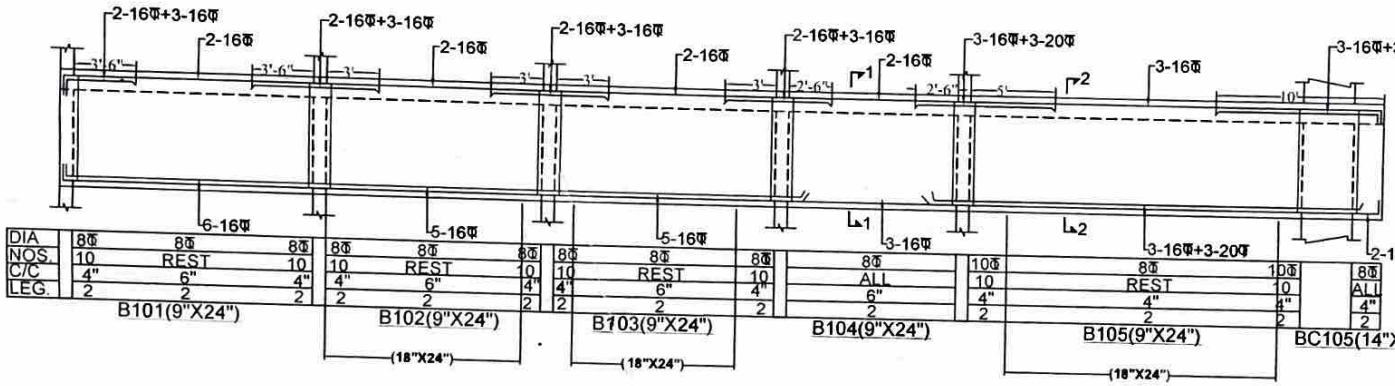
1/2

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D.(Str. Engg.) M.E.(Str.) B.E.(Civil)

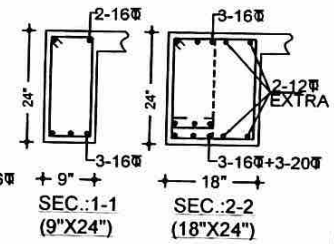


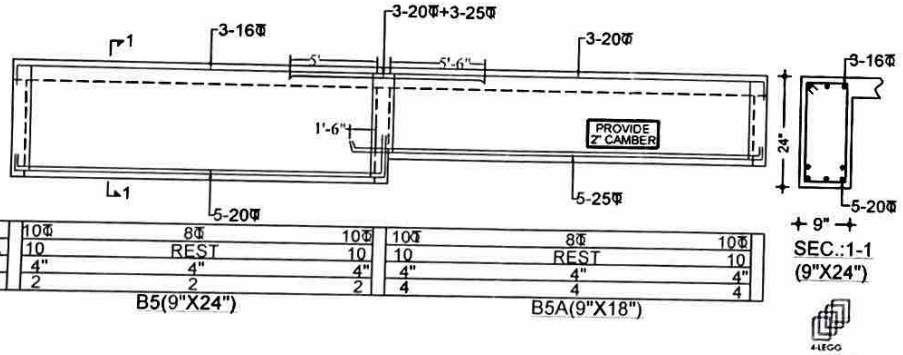
DIA	10Φ	8Φ	10Φ	8Φ	10Φ	8Φ	10Φ	8Φ	8Φ	8Φ
NOS.	10	REST	10	ALL	10	REST	10	10	REST	10
C/C	4"	4"	4"	6"	4"	4"	4"	4"	6"	4"
LEG.	2	2	2	2	4	4	4	2	2	2





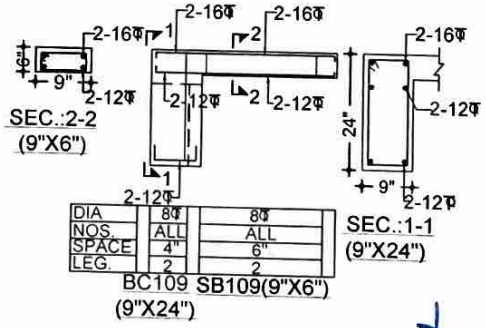
DIA	8Φ	8Φ	8Φ	8Φ	8Φ	8Φ	8Φ	8Φ	8Φ	10Φ	8Φ	10Φ	8Φ
NOS.	10	REST	10	10	REST	10	10	REST	10	10	REST	10	ALL
C/C	4"	6"	4"	4"	6"	4"	4"	6"	4"	4"	4"	4"	4"
LEG.	2	2	2	2	2	2	2	2	2	2	2	2	2





DIA	10Φ	8Φ	10Φ	10Φ	8Φ	10Φ
NOS.	10	REST	10	10	REST	10
C/C	4"	4"	4"	4"	4"	4"
LEG.	2	2	2	4	4	4

B5(9"X24") B5A(9"X18")



DIA	8Φ	8Φ
NOS.	ALL	ALL
SPACE	4"	6"
LEG.	2	2

BC109 SB109(9"X6") (9"X24")

NOTES :-

1. REFER STAIR DRG ALONG WITH THIS DRG
2. REFER DET OF BL / BLR / BLC IN STAIR DRG
3. REFER GENERAL NOTES DRG
4. PROVIDE CAMBER OF 20mm-25mm FOR CANTILEVER SLAB/BEAM WITH SPAN LESS THAN 6 FEET
5. PROVIDE CAMBER OF 30mm-40mm FOR CANTILEVER SLAB/BEAM MORE THAN 6 FEET
6. PROVIDE THROUGHOUT RCC LINTEL & SILL OVER ALL WALLS
7. CHECK THE STRUCTURAL DRG WITH ARCH DRG / ELEVATION / SECTION / 3D
8. IF ANY AMBIGUITY FOUND , CONTACT STRUCTURE ENGG IMMEDIATELY BEFORE STARTING WORK
9. FOLLOW ONLY ARCHITECTURAL DIMENSIONS
10. STRUCTURE ENGINEER IS NOT RESPONSIBLE IF ANY ACCIDENT OCCURS ON SITE DUE TO CONSTRUCTION FAULTS
11. CHECK THE POSITION OF FC WITH ARCH. DRG
12. GET IT APPROVED BY ARCHITECT BEFORE STARTING EXECUTION OF WORK
13. PROVIDE DRAINAGE PIPE AS PER PLUMBING CONSULTANT BEFORE CASTING SLAB & BEAM NO CUTOUTS ARE ALLOWED AFTER CASTING SLAB/BEAM
14. MINIMUM CAMBER AT CENTER OF SIMPLY SUPPORTED BEAM = $\frac{SPAN}{250}$ MM(CAMBER IN MM)
15. MINIMUM CAMBER AT FREE END OF CANTILEVER IN (MM) = $\frac{SPAN}{50}$ MM(CAMBER IN MM)
16. THIS STRUCTURE DRAWING IS BASED ON THE ARCH.DRG SENT BY MAIL ON DATE :-21-10-2023

CONCRETE GRADE	
ITEM	GRADE
COLUMN	M25/M35
BEAM	M25
RETAINING WALL	M35
USE STEEL GRADE Fe 500-D	

PROJECT NAME:-
VIRENDRABHAI (SCHOOL)

ARCHITECT:
RUCHIR SHETH

STRUCTURAL CONSULTANT :
ZARNA ASSOCIATES
STRUCTURAL CONSULTING ENGINEER

SHOP-19, SAMANVAY SILVER APARTMENT, MUBARAKPURA CROSSING BESIDE ROYAL ORCHID HOTEL, AKOTA ROAD, VADODARA. Tele ph. no. no. : +91 92276 27939 or +91 83474 11143 to 49
E-Mail : zarnaassociates@yahoo.com

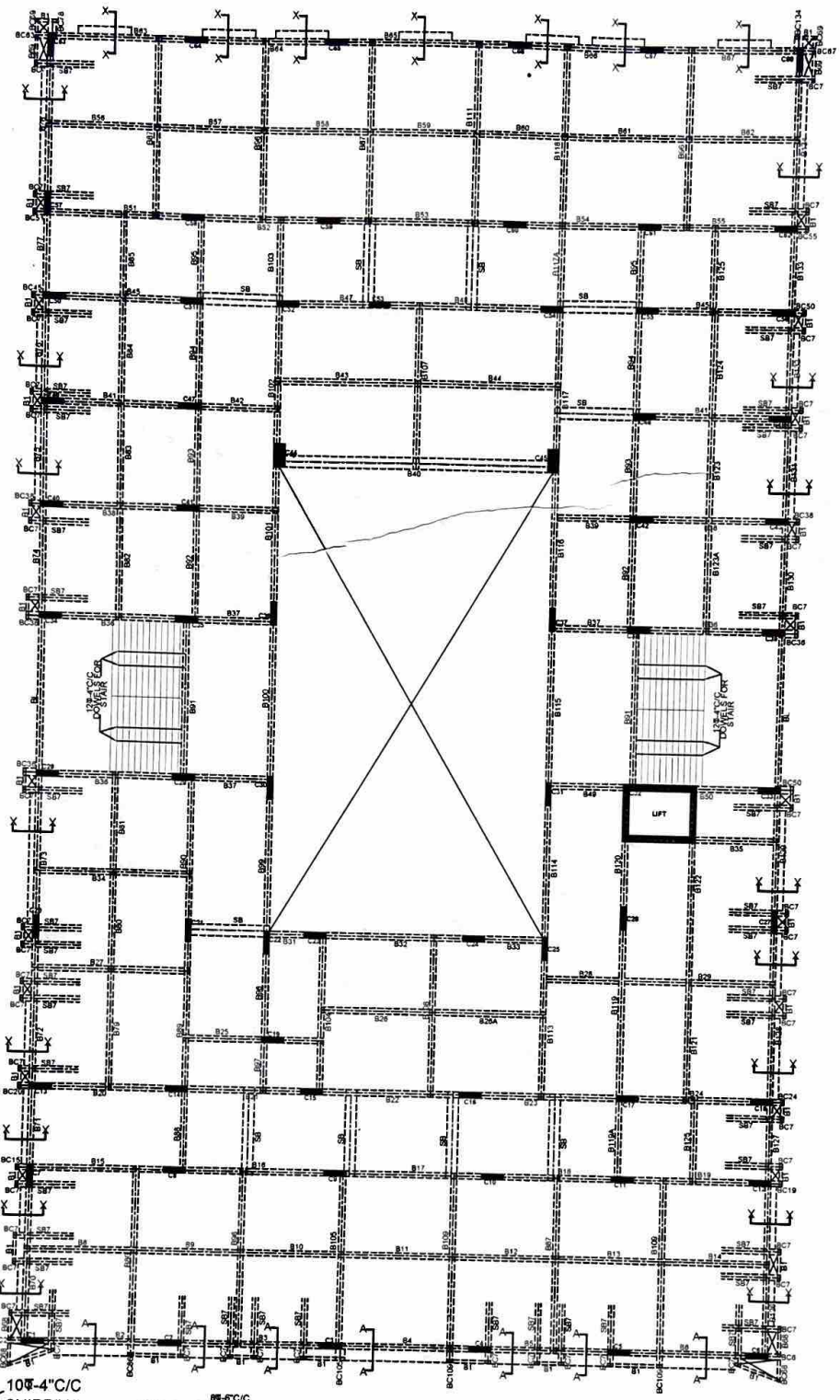
APPROVED BY	VRP
CHECKED BY	PRIYA
DRAWN BY	PREM
CORRECTED BY	
DATE	24-11-2023
PROJECT NO	
DRAWING TITLE	GROUND FLOOR BEAM
DRG N0 : 13	
SCALE: N.T.S.	SHEET: A3 N

Z:\COMMON\STRUCTURE ONLY\2023\RUCHIR SHETH\VIRENDRABHAI CHHANI SCHOOL\STR DRG

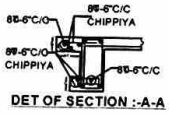
GROUND FLOOR BEAM

2/2

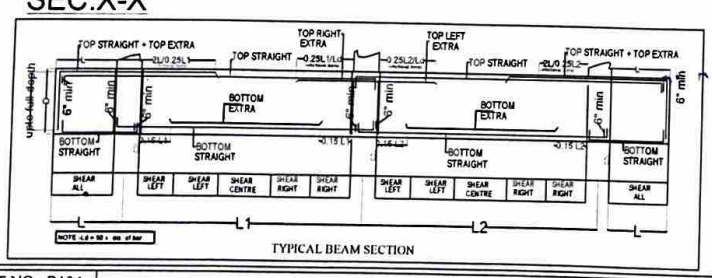
For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D.(Str. Engg.) M.E.(Str.) B.E.(Civil)



SEC:X-X



DET OF SECTION :-A-A



TYPICAL BEAM SECTION

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
(Str. Engg.) M.E.(Str.) B.E.(Civil)

NOTES -

1. REFER STAIR DRG ALONG WITH THIS DRG
2. REFER DET OF BL / BLR / BLC IN STAIR DRG
3. REFER GENERAL NOTES DRG
4. PROVIDE CAMBER OF 20mm-25mm FOR CANTILEVER SLAB/BEAM WITH SPAN LESS THAN 6 FEET
5. PROVIDE CAMBER OF 30mm-40mm FOR CANTILEVER SLAB/BEAM MORE THAN 6 FEET
6. PROVIDE THROUGHOUT RCC LINTEL & SILL OVER ALL WALLS
7. CHECK THE STRUCTURAL DRG. WITH ARCH. DRG / ELEVATION / SECTION / 3D
8. IF ANY AMBIGUITY FOUND , CONTACT STRUCTURE ENGG. IMMEDIATELY BEFORE STARTING WORK.
9. FOLLOW ONLY ARCHITECTURAL DIMENSIONS.
10. STRUCTURE ENGINEER IS NOT RESPONSIBLE IF ANY ACCIDENT OCCURS ON SITE DUE TO CONSTRUCTION FAULTS.
11. CHECK THE POSITION OF FC WITH ARCH. DRG
12. GET IT APPROVED BY ARCHITECT BEFORE STARTING EXECUTION OF WORK.
13. PROVIDE DRAINAGE PIPE AS PER PLUMBING CONSULTANT BEFORE CASTING SLAB & BEAM. NO CUTOUTS ARE ALLOWED AFTER CASTING SLAB/BEAM.
14. MINIMUM CAMBER AT CENTER OF SIMPLY SUPPORTED BEAM = $\frac{SPAN}{250}$ MM(CAMBER IN MM)
15. MINIMUM CAMBER AT FREE END OF CANTILEVER IN (MM) = $\frac{SPAN}{125}$ MM(CAMBER IN MM)
16. THIS STRUCTURE DRAWING IS BASED ON THE ARCH DRG SENT BY MAIL ON DATE -21-10-2023

TYPICAL DETAIL OF STIRRUPS

LEGG.	WIDTH OF BEAM
2 Bundle stirrrups	UP TO 12"
4-Legg.	≥ 12"
6-Legg.	≥ 24"

CONTINUE COLUMN
TERMINATE COLUMN

CONCRETE GRADE	
ITEM	GRADE
SLAB	M25
BEAM	M25
USE STEEL GRADE Fe 500-D	

PROJECT NAME:- VIRENDRABHAI (SCHOOL)

ARCHITECT: RUCHIR SHETH

STRUCTURAL CONSULTANT :
ZARNA ASSOCIATES
STRUCTURAL CONSULTING ENGINEER
910-915, Samanvay Silver Appartment, Mujmahuda Crossing, Besides Royal Orchid Hotel Akota Road, Vadodara-390020
Mo.No. - +91 83474-13334/39
+91 9227-6-27339/40
E - Mail - zarnaasso@yahoo.com

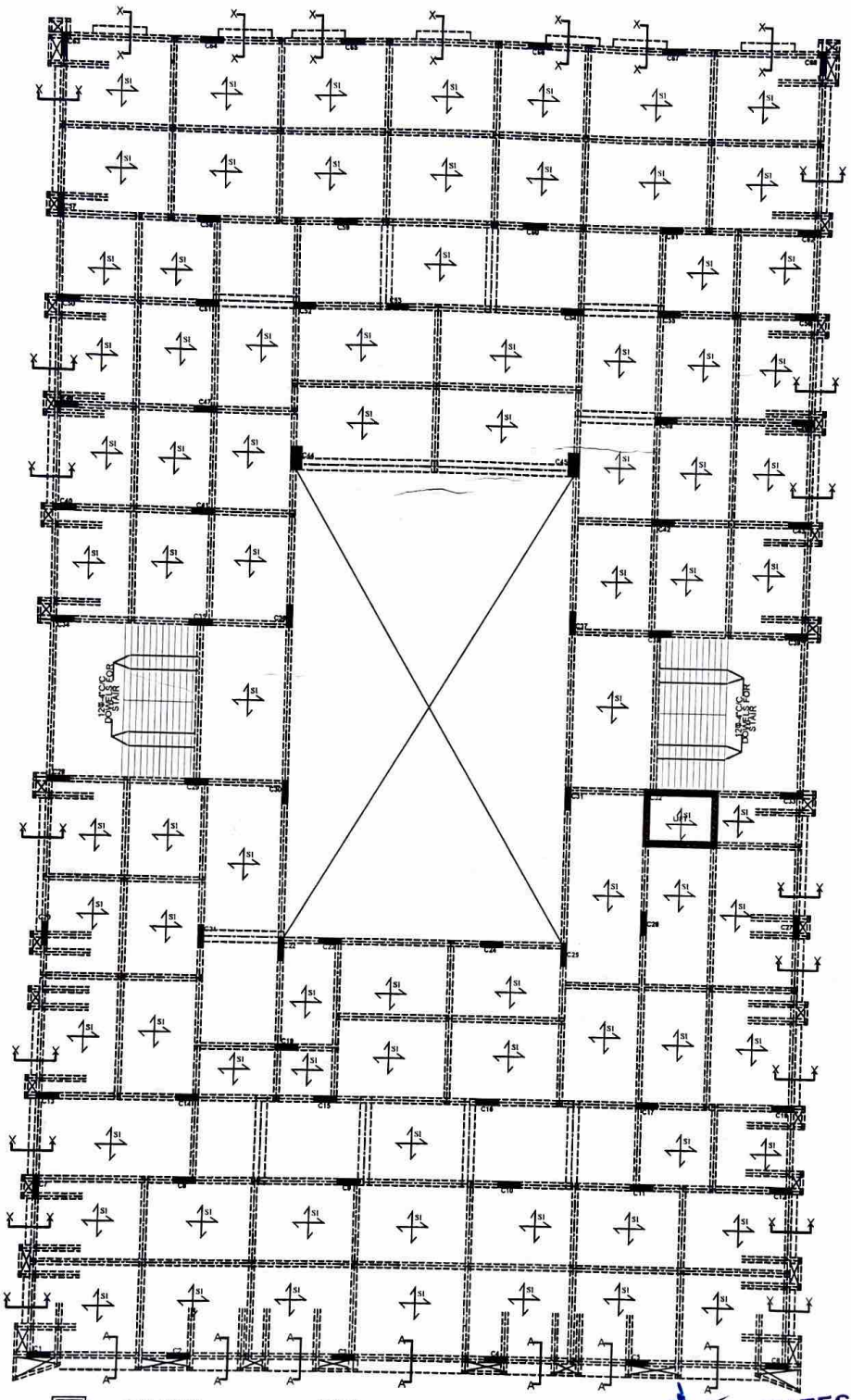
APPROVED BY:	VRP
CHECKED BY:	PRIYA
DRAWN BY:	HARSHANG
CORRECTED BY:	----------
DATE:	08-01-2024
PROJECT NO.	151-2023
DRAWING TITLE:	DETAIL OF SECOND FLOOR SLAB
DRG NO : 6	
SCALE: N.T.S.	SHEET: A3 N

LAST NO : B134

OMITED NO : - B46,B49,B106, B110,B112

6" THK. SLAB
DETAIL OF SECOND FLOOR SLAB

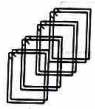
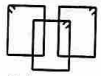
Z:\COMMON\STRUCTURE ONLY\2023\RUCHIR SHETH\VIRENDRABHAI CHHANI SCHOOL\STR DRG



NOTES :-

1. REFER STAIR DRG. ALONG WITH THIS DRG.
2. REFER DET OF BL / BLR / BLC IN STAIR DRG.
3. REFER GENERAL NOTES DRG.
4. PROVIDE CAMBER OF 20mm-25mm FOR CANTILEVER SLAB/BEAM WITH SPAN LESS THAN 6 FEET.
5. PROVIDE CAMBER OF 30mm-40mm FOR CANTILEVER SLAB/BEAM MORE THAN 6 FEET.
6. PROVIDE THROUGHOUT RCC LINTEL & SILL OVER ALL WALLS.
7. CHECK THE STRUCTURAL DRG. WITH ARCH. DRG / ELEVATION / SECTION / 3D.
8. IF ANY AMBIGUITY FOUND, CONTACT STRUCTURE ENGG. IMMEDIATELY BEFORE STARTING WORK.
9. FOLLOW ONLY ARCHITECTURAL DIMENSIONS.
10. STRUCTURE ENGINEER IS NOT RESPONSIBLE IF ANY ACCIDENT OCCURS ON SITE DUE TO CONSTRUCTION FAULTS.
11. CHECK THE POSITION OF FC WITH ARCH. DRG.
12. GET IT APPROVED BY ARCHITECT BEFORE STARTING EXECUTION OF WORK.
13. PROVIDE DRAINAGE PIPE AS PER PLUMBING CONSULTANT BEFORE CASTING SLAB & BEAM. NO CUTOUTS ARE ALLOWED AFTER CASTING SLAB/BEAM.
14. MINIMUM CAMBER AT CENTER OF SIMPLY SUPPORTED BEAM = $\frac{SPAN}{350}$ MM (CAMBER IN MM)
15. MINIMUM CAMBER AT FREE END OF CANTILEVER IN (MM) = $\frac{SPAN}{75}$ MM (CAMBER IN MM)
16. THIS STRUCTURE DRAWING IS BASED ON THE ARCH DRG SENT BY MAIL ON DATE:-21-10-2023.

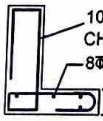
TYPICAL DETAIL OF STIRRUPS

LEGG.	WIDTH OF BEAM
 2 Bundle stirrrups	UP TO 12"
 4-Legg.	≥ 12"
 6-Legg.	≥ 24"

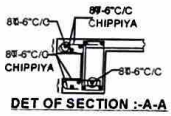
CONTINUE COLUMN

TERMINATE COLUMN

CONCRETE GRADE	
ITEM	GRADE
SLAB	M25
BEAM	M25
USE STEEL GRADE Fe 500-D	

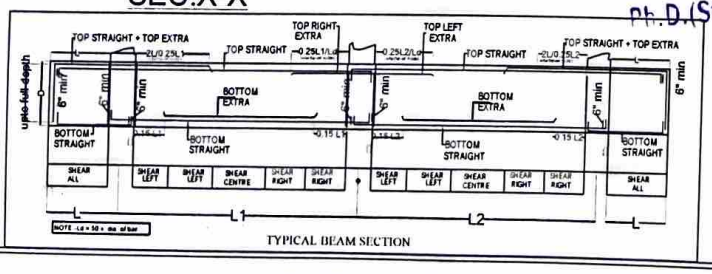


SEC:X-X

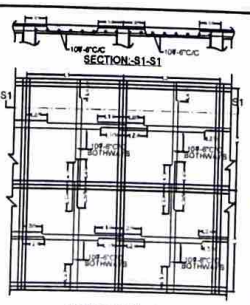


DET OF SECTION :-A-A

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D.(Str. Engg.) M.E.(Str.) B.E.(Civil)



TYPICAL BEAM SECTION



SECTION:-A-A
6" THK.SLAB

6" THK. SLAB.
DETAIL OF SECOND FLOOR SLAB

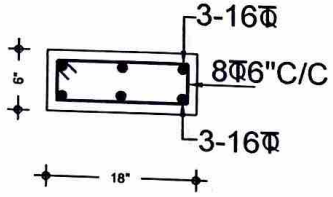
PROJECT NAME:-
VIRENDRABHAI (SCHOOL)

ARCHITECT:
RUCHIR SHETH

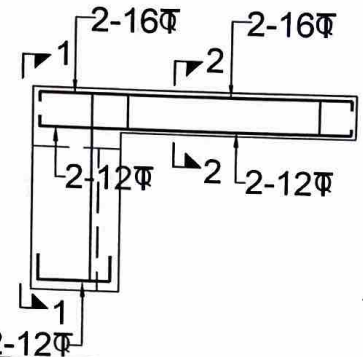
STRUCTURAL CONSULTANT :
ZARNA ASSOCIATES
STRUCTURAL CONSULTING ENGINEER
910-915, Samanvay Silver Appartment, Mujmahuda Crossing, Besides Royal Orchid Hotel Alkota Road, Vadodara-390020
Mo No. : +91 83474-13334/39
+91 92276-27339/40
E - Mail : zarnaassoc@yahoo.com

APPROVED BY:	VRP
CHECKED BY:	PRIYA
DRAWN BY:	HARSHANG
CORRECTED BY:	----------
DATE:	08-01-2024
PROJECT NO:	151/2023
DRAWING TITLE:	DETAIL OF SECOND FLOOR SLAB
DRG NO:	6
SCALE: N.T.S.	SHEET: A3 N

Z:\COMMON\STRUCTURE ONLY\2023\RUCHIR SHETH\VIRENDRABHAI CHHANI SCHOOL\STR DRG



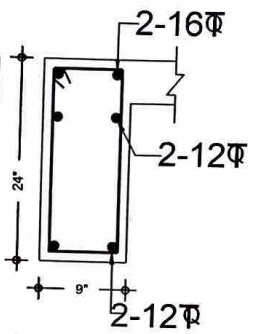
SB(18"X6")



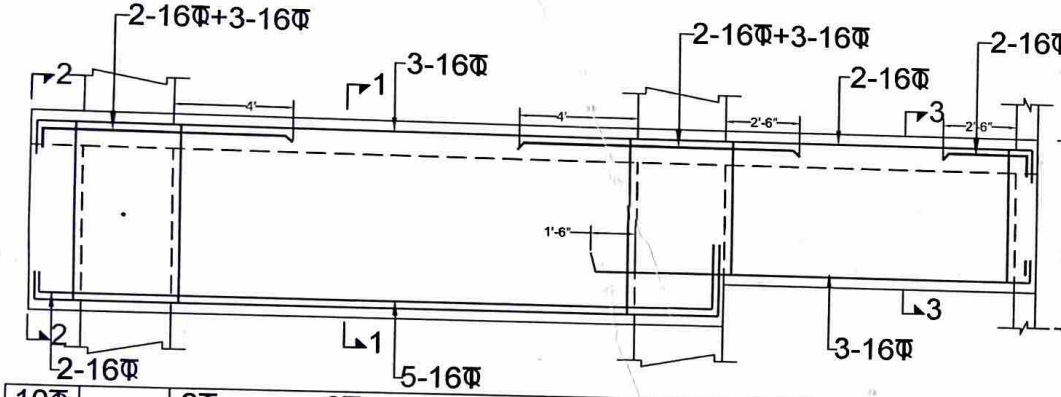
DIA	8Φ	8Φ
NOS.	ALL	ALL
SPACE	4"	6"
LEG.	2	2

BC7 (9"X24")

SB7(9"X6")



SEC.:1-1 (9"X24")

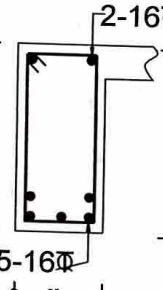


10Φ	8Φ	8Φ	8Φ	8Φ
ALL	10	REST	10	ALL
4"	4"	6"	4"	6"
2	2	2	2	2

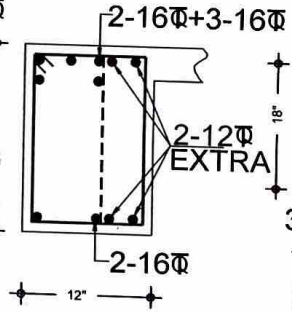
BC36 (12"X24")

B36(9"X24")

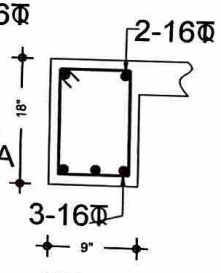
B37(9"X18")



SEC.:1-1 (9"X24")



SEC.:2-2 (12"X24")



SEC.:3-3 (9"X18")

SECOND FLOOR BEAM

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D.(Str. Engg.) M.E.(Str.) B.E.(Civil)

NOTES:-

1. REFER STAIR DRG. ALONG WITH THIS DRG.
2. REFER DET OF BL / BLR / BLC IN STAIR DRG
3. REFER GENERAL NOTES DRG.
4. PROVIDE CAMBER OF 20mm-25mm FOR CANTILEVER SLAB/BEAM WITH SPAN LESS THAN 6 FEET.
5. PROVIDE CAMBER OF 30mm-40mm FOR CANTILEVER SLAB/BEAM MORE THAN 6 FEET.
6. PROVIDE THROUGHOUT RCC LINTEL & SILL OVER ALL WALLS.
7. CHECK THE STRUCTURAL DRG. WITH ARCH DRG / ELEVATION / SECTION / 3D.
8. IF ANY AMBIGUITY FOUND, CONTACT STRUCTURE ENGG. IMMEDIATELY BEFORE STARTING WORK.
9. FOLLOW ONLY ARCHITECTURAL DIMENSIONS.
10. STRUCTURE ENGINEER IS NOT RESPONSIBLE IF ANY ACCIDENT OCCURS ON SITE DUE TO CONSTRUCTION FAULTS.
11. CHECK THE POSITION OF FC WITH ARCH. DRG.
12. GET IT APPROVED BY ARCHITECT BEFORE STARTING EXECUTION OF WORK.
13. PROVIDE DRAINAGE PIPE AS PER PLUMBING CONSULTANT BEFORE CASTING SLAB & BEAM. NO CUTOUTS ARE ALLOWED AFTER CASTING SLAB/BEAM.
14. MINIMUM CAMBER AT CENTER OF SIMPLY SUPPORTED BEAM = $\frac{SPAN}{350}$ MM(CAMBER IN MM)
15. MINIMUM CAMBER AT FREE END OF CANTILEVER IN (MM) = $\frac{SPAN}{50}$ MM(CAMBER IN MM)
16. THIS STRUCTURE DRAWING IS BASED ON THE ARCH DRG SENT BY MAIL ON DATE -23-10-2023

CONCRETE GRADE	
ITEM	GRADE
COLUMN	M25/M35
BEAM	M25
RETAINING WALL	M35
USE STEEL GRADE Fe 500-D	

PROJECT NAME:-
VIRENDRABHAI (SCHOOL)

ARCHITECT:
RUCHIR SHETH

STRUCTURAL CONSULTANT:
ZARNA ASSOCIATES
STRUCTURAL CONSULTING ENGINEER
910-915, SAMANVAY SILVER APPARTMENT, MUMAIRUDA CROSSING, BESIDES ROYAL ORCHID HOTEL, MOTA ROAD, VADODARA-390020
Tele ph. mo no. - +91 92276-27339-40, +91 83474-14334 to 39
E-Mail - zarnaassoci@yahoo.com

APPROVED BY:	VRP
CHECKED BY:	PRIYA
DRAWN BY:	HARSHANG
CORRECTED BY:	----------
DATE:	08-01-2024
PROJECT NO.:	151707
DRAWING TITLE:	SECOND FLOOR BEAM
DRG NO : 14	
SCALE: N.T.S.	SHEET: A3 N

Z:\COMMON\STRUCTURE ONLY\2023\RUCHIR SHETH\VIRENDRABHAI CHHANI SCHOOL\STR DRG

PROJECT NAME:	VIRENDRA BHAI- SCHOOL	PROJECT NO:-	15/2023
TITLE :-	2nd FLOOR SLAB		
DATE:-	09-01-2024	SHEET NO:-	1

ZARNA ASSOCIATES
structural consultants
approved valuer

910-915 , samanvay silver app., Mujmahuda crossing, Besides royal orchid hotel, Akota road,vadodara-390020.

BEAM REINFORCEMENT DETAILING

BEAM NO.	SIZE OF BEAM(INCH)		LONGITUDINAL BARS										SHEAR BARS												REMARKS
			BOTTOM				TOP																		
			STR.		EXT.		EXTRA LEFT		STRAIGHT		EXTRA RIGHT		LEFT				CENTER				RIGHT				
	B	D	N	D	N	D	N	D	N	D	N	D	D	NO.	C/C	L	D	NO.	C/C	L	D	NO.	C/C	L	
B1	4½	24	2	12	0	0	0	0	2	12	0	0	8	ALL	6	2	8	ALL	6	2	8	ALL	6	2	
BC2	9	24	5	20	0	0	3	20	2	16	3	20	10	ALL	4	2	10	ALL	4	2	10	ALL	4	2	
B2	9	24	5	20	0	0	3	20	2	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B3	9	24	5	20	0	0	3	20	2	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B4	9	24	5	20	0	0	3	20	2	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B5	9	24	5	20	0	0	3	20	2	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B6	9	24	5	20	0	0	3	20	2	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
BC6	9	24	2	20	0	0	3	20	2	16	3	20	10	ALL	4	2	10	ALL	4	2	10	ALL	4	2	
BC7	9	24					REFFER		SECTION		DETAIL														
SB7	9	6																							
B8	9	18	5	16	0	0	0	0	2	16	3	16	8	10	4	2	8	REST	6	2	8	10	4	2	
B9	9	18	5	16	0	0	3	16	2	16	3	16	8	10	4	2	8	REST	6	2	8	10	4	2	
B10	9	18	5	16	0	0	3	16	2	16	3	16	8	10	4	2	8	REST	6	2	8	10	4	2	
B11	9	18	6	16	0	0	3	16	2	16	3	16	8	10	4	2	8	REST	6	2	8	10	4	2	
B12	9	18	5	16	0	0	3	16	2	16	3	16	8	10	4	2	8	REST	6	2	8	10	4	2	
B13	9	18	5	16	0	0	3	16	2	16	3	16	8	10	4	2	8	REST	6	2	8	10	4	2	
B14	9	18	5	16	0	0	3	16	2	16	0	0	8	10	4	2	8	REST	6	2	8	10	4	2	
BC15	9	24	2	20	0	0	3	20	3	16	3	20	10	ALL	4	2	10	ALL	4	2	10	ALL	4	2	
B15	9	24	5	20	0	0	3	20	3	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B16	9	24	5	20	0	0	3	20	3	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B17	9	24	5	20	0	0	3	20	3	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B18	9	24	5	20	0	0	3	20	3	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B19	9	24	5	20	0	0	3	20	3	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
BC19	9	24	2	20	0	0	3	20	3	16	3	20	10	ALL	4	2	10	ALL	4	2	10	ALL	4	2	
BC20	9	24	3	16	0	0	3	16	2	16	3	16	10	ALL	4	2	10	ALL	4	2	10	ALL	4	2	
B20	9	24	5	16	0	0	3	16	2	16	3	16	8	10	4	2	8	REST	6	2	8	10	4	2	
B21	9	24	3	16	0	0	3	16	2	16	3	20	8	10	6	2	8	REST	8	2	8	10	6	2	
B22	9	24	5	20	0	0	3	20	3	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B23	9	24	5	20	0	0	3	20	3	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
B24	9	24	5	16	0	0	3	20	2	16	3	16	8	10	4	2	8	REST	6	2	8	10	4	2	

REINFORCEMENT WEIGHT (KG)						
8 MM	10 MM	12 MM	16 MM	20 MM	25 MM	32 MM
1,652	607	165	807	854	0	0

CONC.	FINE AGGREGATE		COARSE AGGREGATE	
CFT	CFT	M^3	CFT	M^3
457	229	6	343	10

For ZARNA ASSOCIATES
Structural Consultants
Dr. V. R. PATEL
Ph.D.(Str. Engg.) M.E.(Str.) B.E.(Ci

PROJECT NAME:	VIRENDRA BHAI -SCHOOL	PROJECT NO:-	15/2023	ZARNA ASSOCIATES structural consultants approved valuer
TITLE :-	2ND FLOOR SLAB			
DATE:-	09-01-2024	SHEET NO:-	6	910-915 , samanvay silver app., Mujmahuda crossing, Besides royal orchid hotel, Akota road,vadodara-390020.

30-12-2023

BEAM NO.	LONGITUDINAL BARS												SHEAR BARS												REMARKS
	SIZE OF BEAM(INCH)		BOTTOM				TOP						LEFT				CENTER				RIGHT				
			STR.		EXT.		EXTRA LEFT		STRAIGHT		EXTRA RIGHT														
	B	D	N	D	N	D	N	D	N	D	N	D	D	NO.	C/C	L	D	NO.	C/C	L	D	NO.	C/C	L	
B130	9	24	4	16	0	0	2	16	2	16	2	16	8	10	6	2	8	REST	8	2	8	10	6	2	
B131	9	24	4	16	0	0	2	16	2	16	2	16	8	10	6	2	8	REST	8	2	8	10	6	2	
B132	9	24	4	16	0	0	2	16	2	16	2	16	8	10	6	2	8	REST	8	2	8	10	6	2	
B133	9	24	3	16	0	0	2	16	2	16	3	20	8	ALL	6	2	8	ALL	6	2	8	ALL	6	2	
B134	9	24	5	20	0	0	3	20	3	16	3	20	10	10	4	2	8	REST	4	2	10	10	4	2	
BC134	9	24	2	20	0	0	3	20	3	16	0	0	10	ALL	4	2	10	ALL	4	2	10	ALL	4	2	

REINFORCEMENT WEIGHT (KG)						
8 MM	10 MM	12 MM	16 MM	20 MM	25 MM	32 MM
305	89	0	258	120	0	0

CONC. REQD.	FINE AGGREGATE		COARSE AGGREGATE	
CFT	CFT	M^3	CFT	M^3
91	46	1	68	2

FOR ZARNA ASSOCIATES
Structural Consultants
D. V. R. PATEL
Ph.D.(Str. Engg.) M.E.(Str.) B.E.(Civil)