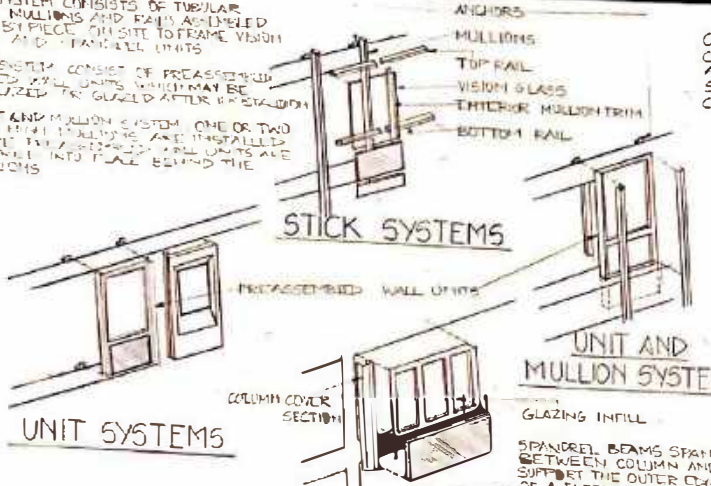
GLAZING

STICK SYSTEM CONSISTS OF TUBULAR METAL MULLIONS AND RAILS ASSEMBLED PIECE BY PIECE ON SITE TO FRAME VISION GLASS AND PANNEL UNITS

UNIT SYSTEM CONSIST OF PREASSEMBLED FRAMED WALL UNITS WHICH MAY BE GLAZED AFTER INSTALLATION

IN UNIT AND MULLION SYSTEM ONE OR TWO STOREY HIGH MULLIONS ARE INSTALLED BEFORE THE PREASSEMBLED WALL UNITS ARE LOWERED INTO PLACE BEHIND THE MULLIONS



STICK SYSTEMS

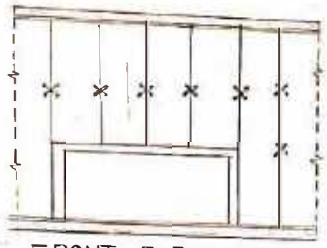
UNIT SYSTEMS

UNIT AND MULLION SYSTEMS

COLUMN-COVER AND SPANDREL SYSTEMS CONSISTS OF VISION-GLASS ASSEMBLIES AND SPANDREL UNITS SUPPORTED BY SPANDREL BEAMS BETWEEN EXTERIOR COLUMNS CLAD WITH COVER SECTIONS.

SPANDREL BEAMS SPAN BETWEEN COLUMN AND SUPPORT THE OUTER EDGE OF A FLOOR OR A ROOF

COLUMN-COVER AND SPANDREL SYSTEM



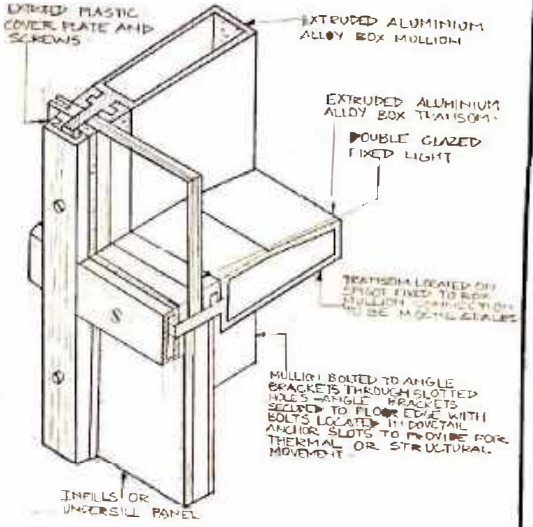
FRONT ELEVATION OF SPIDER WEB DETAIL

SPIDER GLAZING IS A PART OF THE FRAME-LESS GLASS SYSTEM WHERE THEY PROVIDE A FLUSH EXTERNAL APPEARANCE WITH UNINTERRUPTED VIEWS
- VERY FLEXIBLE AND CONTEMPORARY DESIGN MEDIUM.

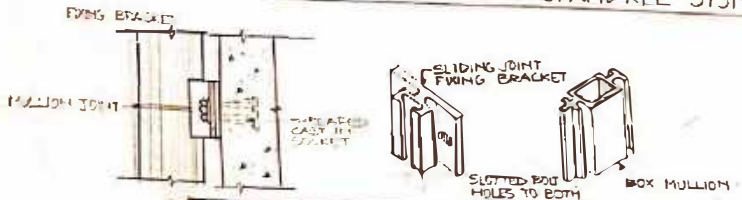
CURTAIN WALLING A FORM OF LIGHT WEIGHT NON-LOADED BEARING EXTERNAL CLADDING WHICH FORMS A COMPLETE ENVELOPE OR SHEATH AROUND THE STRUCTURAL FRAME.

IN LOW RISE STRUCTURES THE CURTAIN WALL FRAMING COULD BE OF TIMBER OR PATENT GLAZING BUT IN USUAL LIGHT RISE CONCRETE BOX OR SOLID MEMBERS OF STEEL OR ALUMINIUM ALLOY ARE NORMALLY EMPLOYED

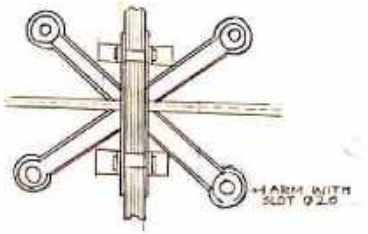
EASY TO ASSEMBLE, FIX AND MAINTAIN



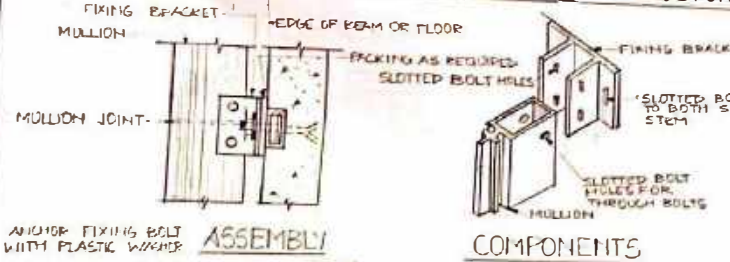
ISOMETRIC VIEW OF TYPICAL CURTAIN WALLING DETAIL



FIXING CURTAIN WALLING TO STRUCTURE

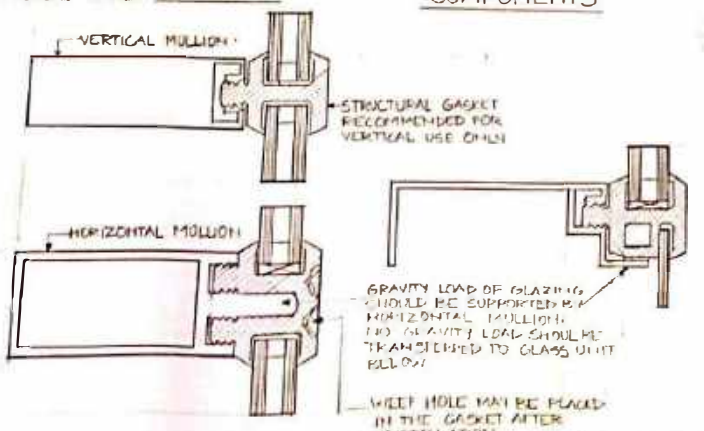


PLAN OF SPIDER WEB GLAZING JOINERY DETAIL

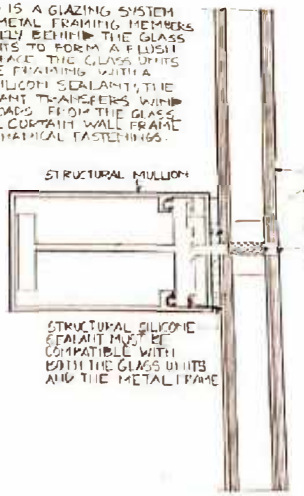


ASSEMBLY

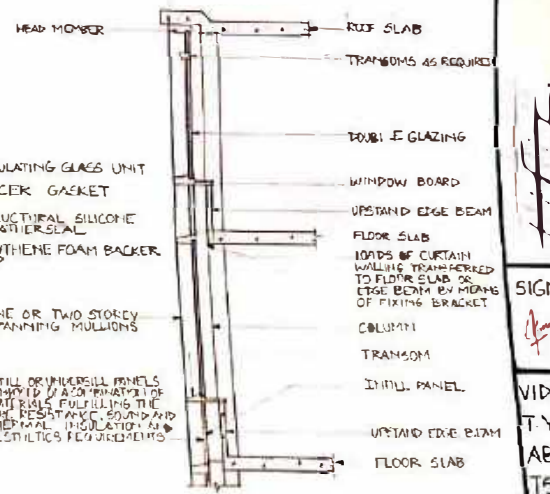
COMPONENTS



FLUSH GLAZING IS A GLAZING SYSTEM IN WHICH THE METAL FRAMING MEMBERS ARE SET ENTIRELY BEHIND THE GLASS PANES OR UNITS TO FORM A FLUSH EXTERIOR SURFACE. THE GLASS UNITS ADHERE TO THE FRAMING WITH A STRUCTURAL SILICONE SEALANT; THE SILICONE SEALANT TRANSFERS WIND AND OTHER LOADS FROM THE GLASS TO THE METAL CURTAIN WALL FRAME WITHOUT MECHANICAL FASTENINGS.



FLUSH GLAZING



TERMINOLOGY OF CURTAIN WALL

SPIDER WEB FITTING

FLUSH GLAZING

UNIT AND MULLION SYSTEM

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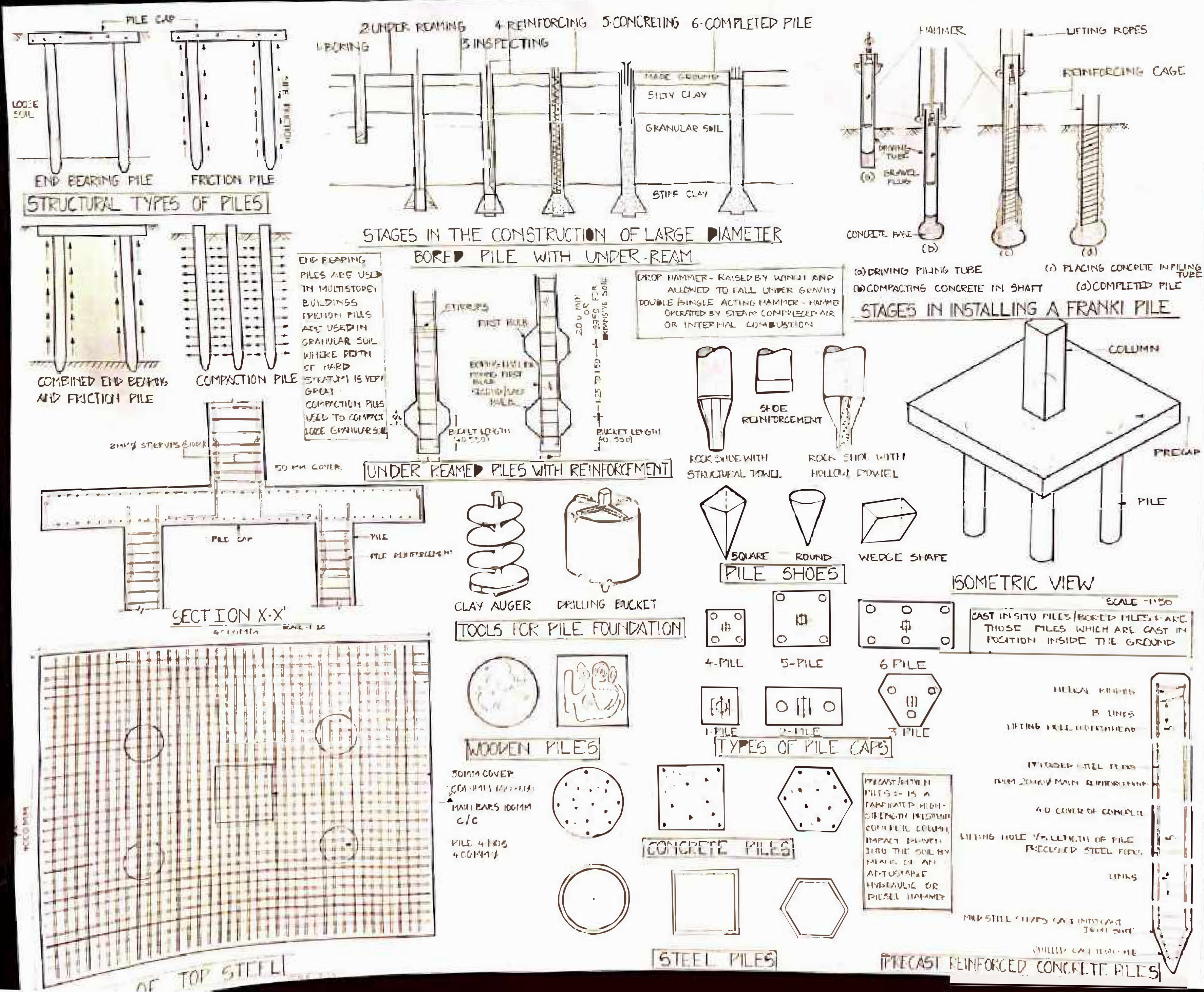
T.Y BARCH DIV-A
ABCM -V
TSAP
ROLL NO:- 34



PILE FOUNDATION

THESE CAN BE DEFINED AS SERIES OF COLUMNS CONSTRUCTED OR INSERTED INTO THE GROUND TO TRANSMIT THE LOAD OF A STRUCTURE TO A LOWER LEVEL OF SUBSOIL.

PILED FOUNDATIONS CAN BE USED WHEN SUITABLE FOUNDATION CONDITIONS ARE NOT PRESENT AT OR NEAR GROUND LEVEL MAKING THE USE OF DEEP TRADITIONAL FOUNDATIONS IS UNECONOMIC.

DISPLACEMENT PILE TYPES
- PREFORMED
  - DRIVEN IN SITU
  - CAST IN-SITU
  - TIMBER, CONCRETE, STEEL
  - BOX, TUBE, H, SCREW
- PARTIALLY PREFORMED
  - TIL AND IN SITU CONCRETE
  - STEEL AND IN-SITU CONCRETE

- MAJOR USES OF PILES:
  1) TO CARRY VERTICAL COMPRESSION LOADS
  2) TO RESIST UPLIFT LOADS
  3) TO RESIST HORIZONTAL OR INCLINED LOADS.
- IT IS USED WHERE THE SOIL IS COMPRESSIBLE, WATER LOGGED AND WHEN STRATUM OF REQUIRED BEARING CAPACITY IS AT GREATER DEPTH.

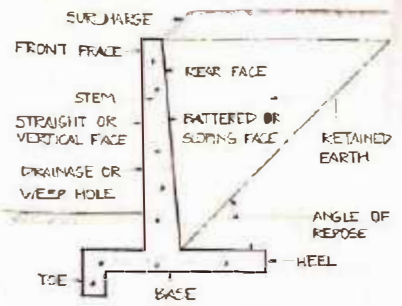
SIGN

SHEET NO 03

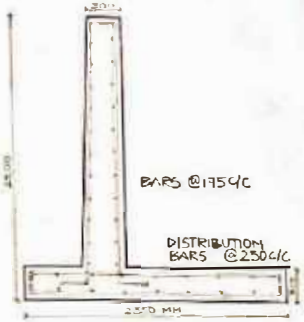
NAME :- VIDHI KEDIA
T.Y.BARCH DIV-A
ABCM - V
TSAP
ROLL NO :- 34

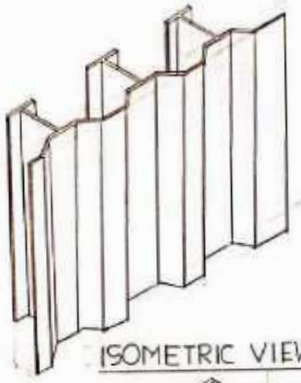
RETAINING WALLS

A RETAINING WALL IS A STRUCTURE THAT HOLDS OR RETAINS SOIL BEHIND IT.
THERE ARE MANY TYPES OF MATERIALS THAT CAN BE USED TO CREATE RETAINING WALLS LIKE CONCRETE BLOCKS, POURED CONCRETE, TREATED TIMBER, BRICK, ROCKS OR BOULDERS.
THE MATERIAL RETAINED OR SUPPORTED BY A RETAINING WALL IS CALLED BACKFILL.
RETAINING WALLS HAVE PRIMARY FUNCTION OF RETAINING SOILS AT AN ANGLE IN EXCESS OF THE SOIL'S NATURE ANGLE OF REPOSE.
DESIGN CONSIDERATION:
1) OVERTURNING OF THE WALL DOES NOT OCCUR.
2) FORWARD SLIDING DOES NOT OCCUR.
3) MATERIALS USED ARE SUITABLE.
4) THE SUBSOIL IS NOT OVER LOADED.
MOST IMPORTANT CONSIDERATION IN DESIGNING IS TO RECOGNIZE AND COUNTERACT THE TENDENCY OF THE RETAINED MATERIAL TO MOVE DOWNSLOPE DUE TO GRAVITY WHICH CREATES LATERAL EARTH PRESSURE BEHIND THE WALL.

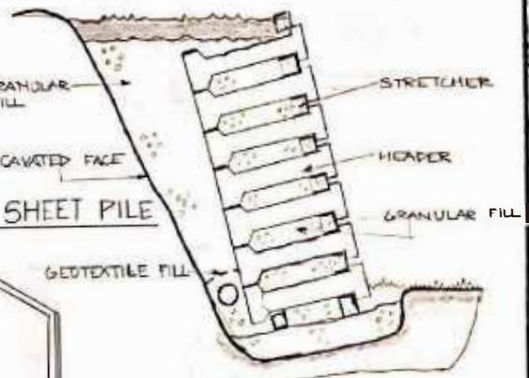


RETAINING WALL TERMINOLOGY

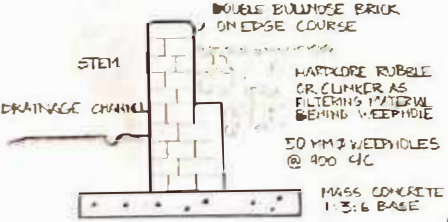




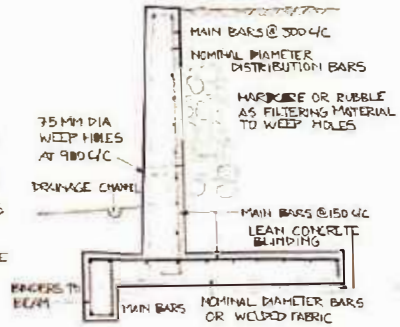
ISOMETRIC VIEW OF SHEET PILE



CONCRETE CRIB WALL

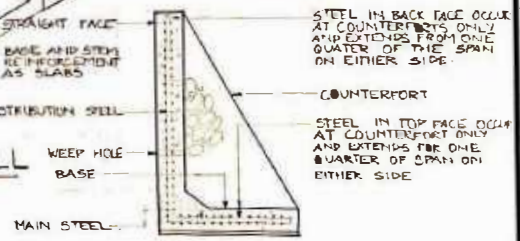


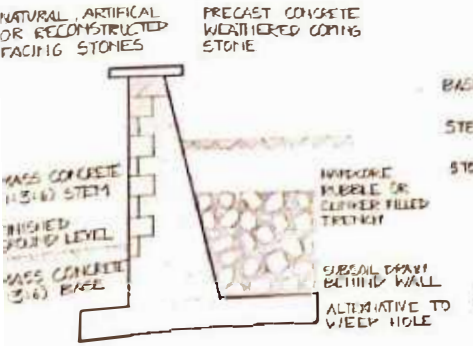
BRICK MASS RETAINING WALL



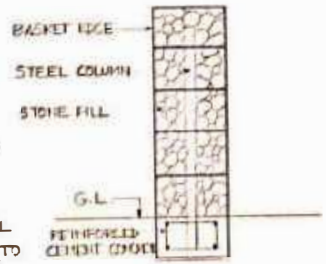
CANTILEVER RETAINING WALL
SCALE 1:25

PRECAST RETAINING WALL

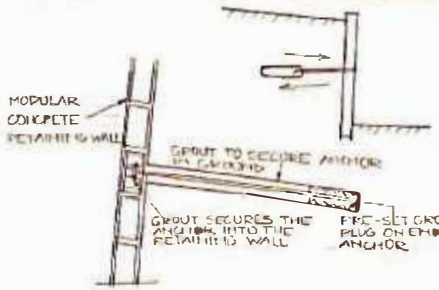




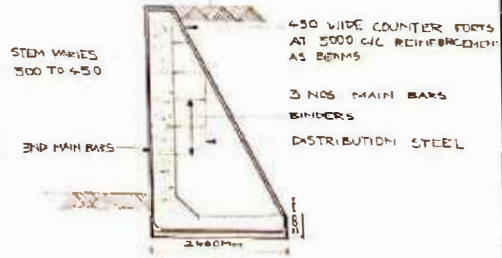
MASS CONCRETE RETAINING WALL WITH STONE FACING



GABION WALL SECTION

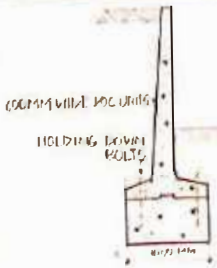


ANCHORED RETAINING WALL

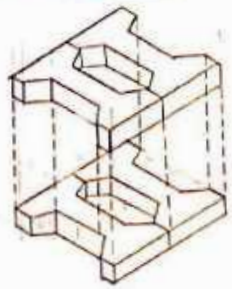


ANGLE OF REPOSE OR CRITICAL ANGLE OF REPOSE OF A GRANULAR MATERIAL IS THE STEEPEST ANGLE OF DESCENT RELATIVE TO THE HORIZONTAL PLANE TO WHICH A MATERIAL CAN BE FILLED WITHOUT SLUMPING ANGLE CAN RANGE FROM 0° TO 90° MORPHOLOGY OF THE MATERIAL AFFECTS THE ANGLE OF REPOSE

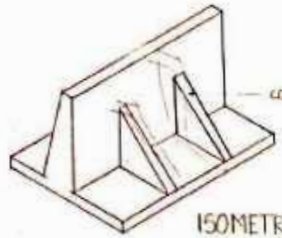
ANGLE OF REPOSE



PRECAST RETAINING WALL



COUNTERFORT RETAINING WALL



ISOMETRIC VIEW

SIGN	SHEET NO.
24/7/17	04

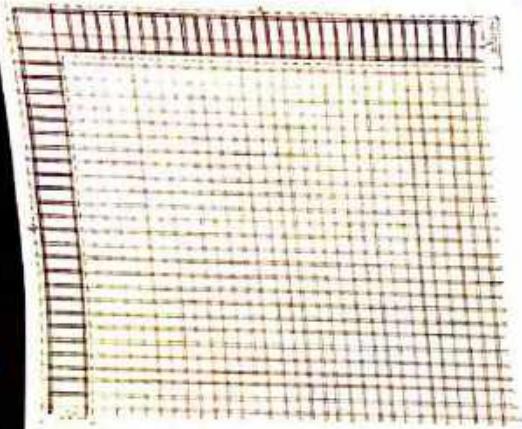
VIDHI RATEEV KEDIA
TY BARCH DIV-A
ABCM SEM-V
TSAP
ROLL NO:- 34

RAFT FOUNDATIO

USUALLY COVERING AN AREA EQUAL TO OR GREATER THAN THE BASE OF THE BUILD OR STRUCTURE.
LIGHTLY LOADED STRUC WITH POOR SOIL BEARING CAPACITY. W LOADS TRANSMITTED COLUMNS ARE SUCH THAT THEY NEED LAR FOOTINGS REQUIRING PLAN AREA OF MORE THAN HALF THE AREA COVERED BY THE BUILI THEN IT IS PREFERAB TO PROVIDE RAFT FOUNDATION.
USED IN STRUCTURES LIKE CHIMNEYS, SILOS COOLING TOWERS, BUILDING WITH BASEMENTS WHERE CONTINUOUS WATER PROOFING IS NEEDED

TYPES OF RAFT FOUN ATIO

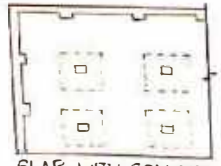
1) PLANE SLAB RAFT
2) BEAM AND SLAB
3) SLAB WITH COLUMN PEDESTALS
4) CELLULAR RAFTS
5) PILED RAFTS
6) STRIP RAFTS OR GRID RAFTS.



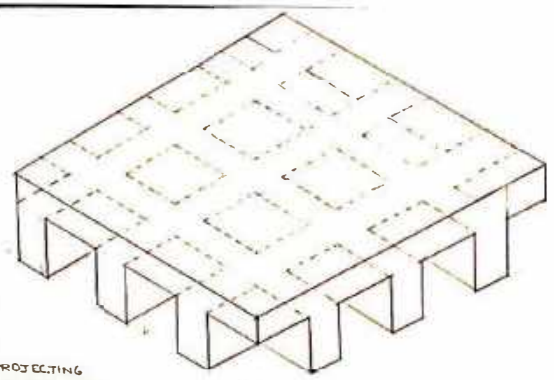
DETAILED PLAN OF END COLUMN

PLANE SLAB RAFT
FOR FAIRLY SMALL AND UNIFORM SPACING OF COLUMNS AND WHEN THE SUPPORTING SOIL IS NOT TOO COMPRESSIBLE

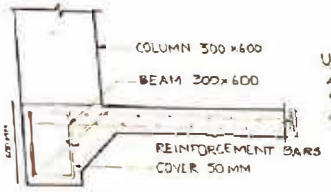
BEAM AND SLAB RAFT
FOR LARGE COLUMN SPACING AND UNEQUAL COLUMN LOADS



SLAB WITH COLUMN PEDESTAL
FOR COLUMNS WITH HEAVY LOADS WHICH MAY REQUIRE LARGE SHEAR STRENGTH OR FLEXURAL STRENGTH OF SLAB

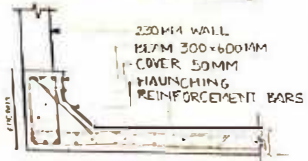


ISOMETRIC VIEW OF DOWNSTAND BEAM

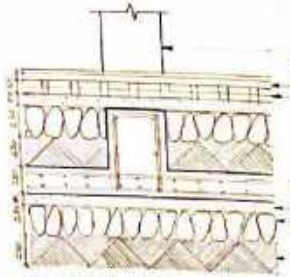


UPSTAND BEAM - A BEAM PROJECTING ABOVE A CONCRETE FLOOR RATHER THAN CONCEALED BENEATH IT

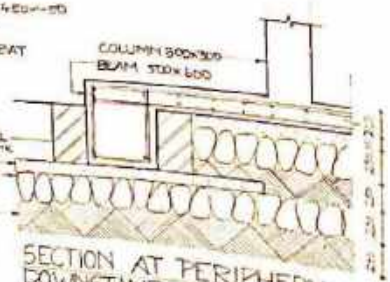
REINFORCEMENT DETAIL OF DOWNSTAND BEAM
SCALE 1:20



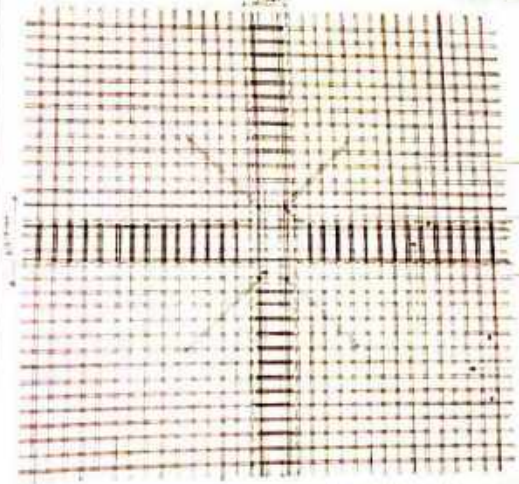
REINFORCEMENT DETAIL OF UPSTAND BEAM
SCALE 1:20



SECTION CUT THROUGH BEAM
SCALE 1:20

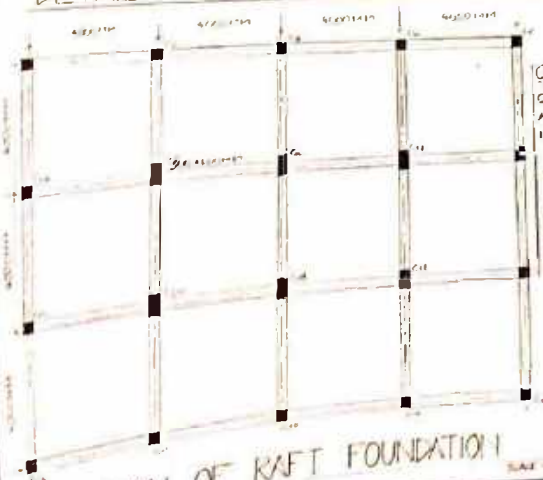


SECTION AT PERIPHERY DOWNSTAND BEAM
SCALE 1:20



DETAILED PLAN OF COLUMN-BEAM-SLAB JUNCTION
SCALE 1:20

DETAILED SECTION X-X'

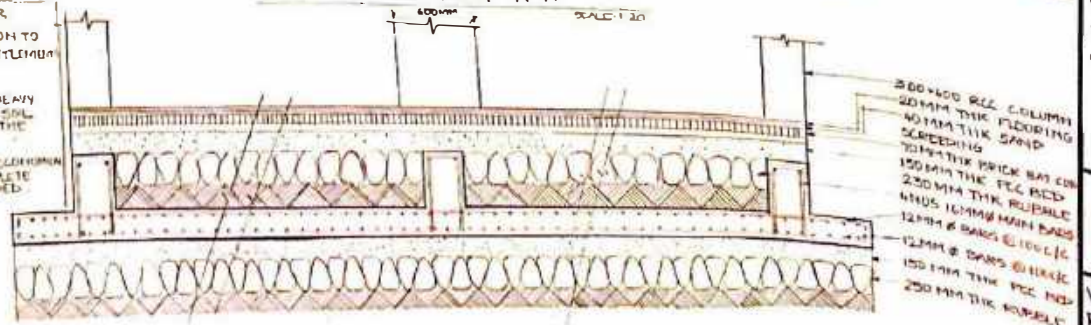


CELLULAR RAFT: FOR COMPLICATED FOUNDATION TO AVOID DIFFERENTIAL SETTLEMENT IN WEAK SOIL

PILED RAFT: FOR HEAVY STRUCTURES ON SOFT SOIL IN ORDER TO SHARE THE LOADS WITH PILES

GRID RAFT: FOR FLOORING DESIGN WHERE A CONCRETE SLAB MAY BE AVOIDED

KEY PLAN OF RAFT FOUNDATION
SCALE - NOT



DETAILED SECTION Y-Y
SCALE 1:20

SIGN

SHEET N 02

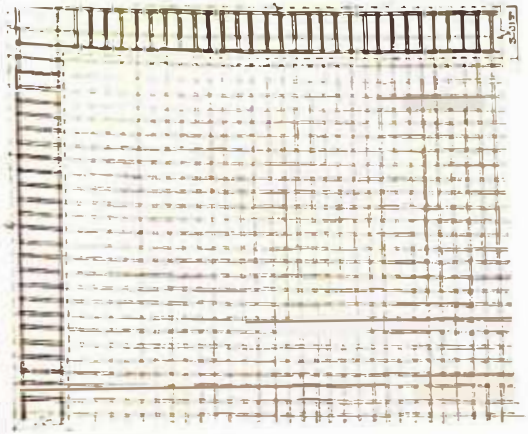
VIDHI RAJEEV KEDIA
ROLL NO - 34
T.Y BARCH DIV-A
ABCM - IX
TSAR

RAFT FOUNDATION

USUALLY COVERING AN AREA EQUAL TO OR GREATER THAN THE BASE OF THE BUILDING OR STRUCTURE.
LIGHTLY LOADED STRUCTURES WITH POOR SOIL BEARING CAPACITY WHEN LOADS TRANSMITTED BY COLUMNS ARE SUCH THAT THEY NEED LARGE FOOTINGS REQUIRING PLAN AREA OF MORE THAN HALF THE AREA COVERED BY THE BUILDING THEN IT IS PREFERABLE TO PROVIDE RAFT FOUNDATION.
USED IN STRUCTURES LIKE CHIMNEYS, SILOS, COOLING TOWERS, BUILDING WITH BASEMENTS WHERE CONTINUOUS WATER PROOFING IS NEEDED.

TYPES OF RAFT FOUNDATION

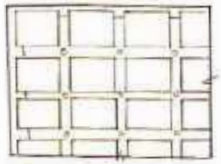
1) PLANE SLAB RAFT
2) BEAM AND SLAB
3) SLAB WITH COLUMN PEDESTALS
4) CELLULAR RAFTS
5) PILED RAFTS
6) STRIP RAFTS OR GRID RAFTS.



DETAILED PLAN OF END COLUMN

PLANE SLAB RAFT

FOR FAIRLY SMALL AND UNIFORM SPACING OF COLUMNS AND WHEN THE SUPPORTING SOIL IS NOT TOO COMPRESSIBLE

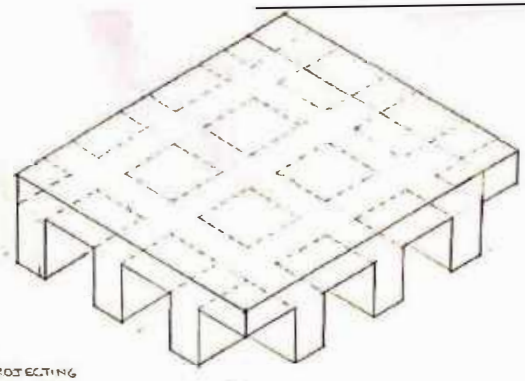


BEAM AND SLAB RAFT

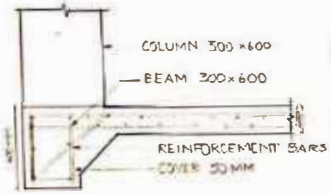
FOR LARGE COLUMN SPACING AND UNEQUAL COLUMN LOADS

SLAB WITH COLUMN PEDESTAL

FOR COLUMNS WITH HEAVY LOADS WHICH MAY REQUIRE LARGE SHEAR STRENGTH OR FLEXURAL STRENGTH OF SLAB



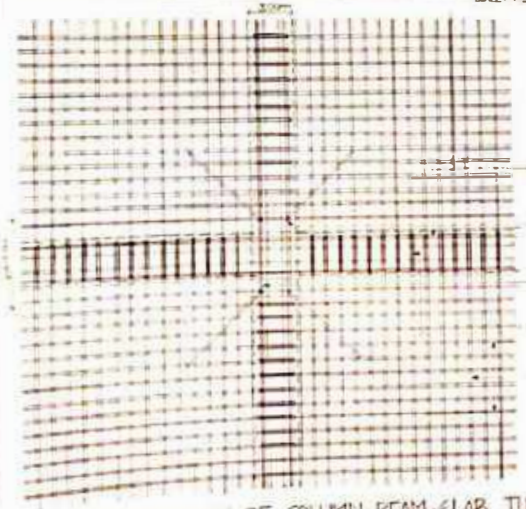
ISOMETRIC VIEW OF DOWNSTAND BEAM



UPSTAND BEAM - A BEAM PROJECTING ABOVE A CONCRETE FLOOR RATHER THAN CONCEALED BENEATH IT

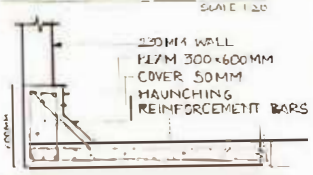
REINFORCEMENT DETAIL OF DOWNSTAND BEAM

SCALE 1:20



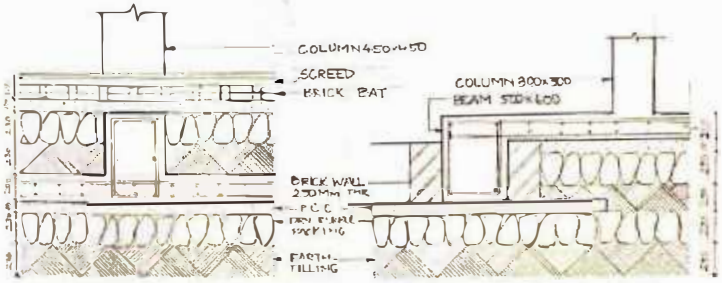
DETAILED PLAN OF COLUMN-BEAM-SLAB JUNCTION

SCALE 1:20



REINFORCEMENT DETAIL OF UPSTAND BEAM

SCALE 1:20

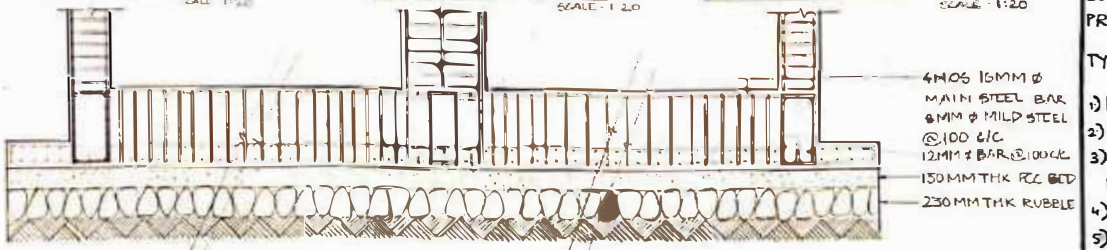


SECTION CUT THROUGH BEAM

SCALE - 1:20

SECTION AT PERIPHERY DOWNSTAND BEAM

SCALE - 1:20



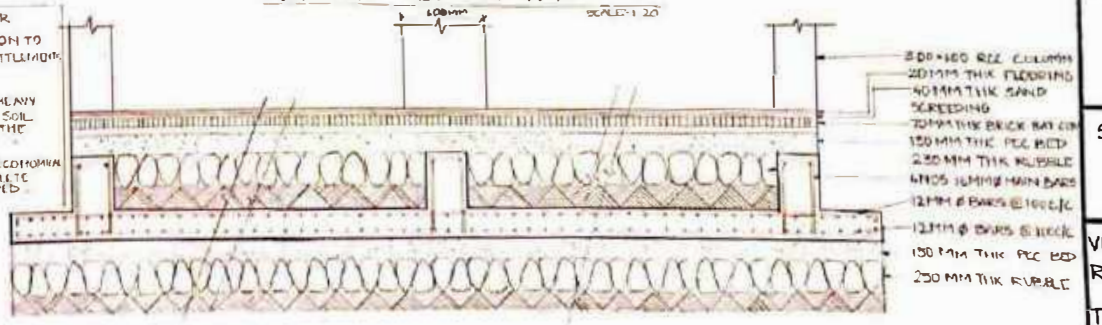
DETAILED SECTION X-X'

KEY PLAN OF RAFT FOUNDATION

CELLULAR RAFT: FOR COMPLICATED FOUNDATION TO AVOID DIFFERENTIAL SETTLEMENT IN WEAK SOIL

PILED RAFT: FOR HEAVY STRUCTURES ON SOFT SOIL IN ORDER TO SHARE THE LOADS WITH PILES

GRID RAFT: FOR ECONOMICAL DESIGN WHERE A COMPLETE SLAB MAY BE AVOIDED



DETAILED SECTION Y-Y'

SCALE 1:20

SIGN

SHEET NO. 02

VIDHI RAJEEV KEDIA
ROLL NO - 34
T.Y BARCH DIV-A
ABCM - IV
TSAR

ADVANCE FOUNDATION

FOOTINGS ARE AN IMPORTA PART OF FOUNDATION CONSTRUCTION

THE PURPOSE OF FOOTING IS TO SUPPORT THE FOUND TION AND PREVENT SETTL

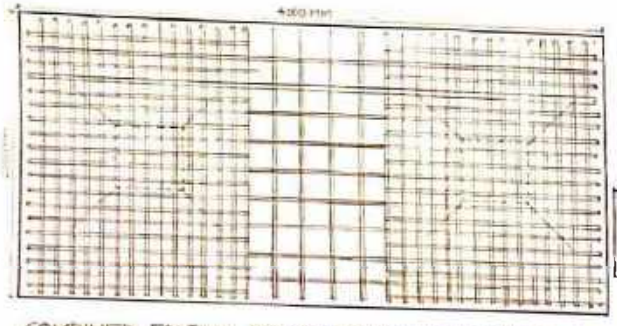
TYPES OF FOOTING:

⇒ECCENTRIC OR SHOE FOOTING - HALF FOOTING C OUT FROM THE ORIGINAL FOOTING AND HAS A SHAP OF SHOE. PROVIDED IN THE CORNER OF THE PLOT.

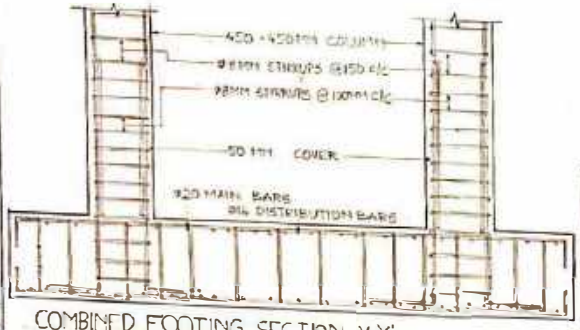
⇒COMBINED FOOTING - A FOOTING WHICH HAS MORE THAN ONE COLUMN. THIS KIND OF FOOTING IS ADOPTED WHEN THERE I LIMITED SPACE. CLASSIFIED IN TWO TYPES:

- RECTANGULAR COMBINED FOOTING
- TRAPEZOIDAL COMBINED FOOTING

⇒ ISOLATED FOOTING - FOOTI WHICH ARE PROVIDED UNI EACH COLUMN INDEPENDE USUALLY SQUARE. CIRCULAR RECTANGULAR IN SHAPE. THESE KIND OF FOOTING ARE PROVIDED WHERE TI SOIL BEARING CAPACITY IS GENERALLY VERY HIGH.

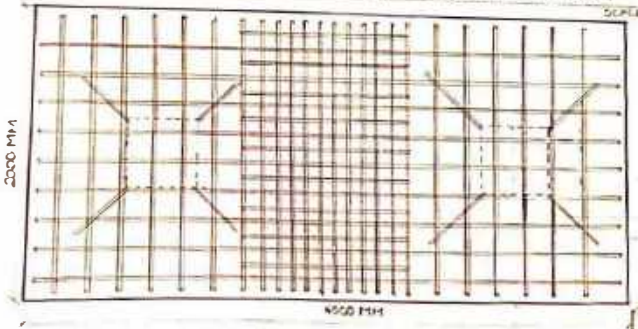


COMBINED FOOTING BOTTOM REINFORCEMENT PLAN



COMBINED FOOTING SECTION X-X'

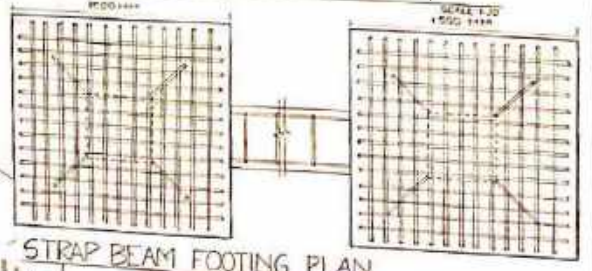
STRAP BEAM FOOTING SECTION X-X'



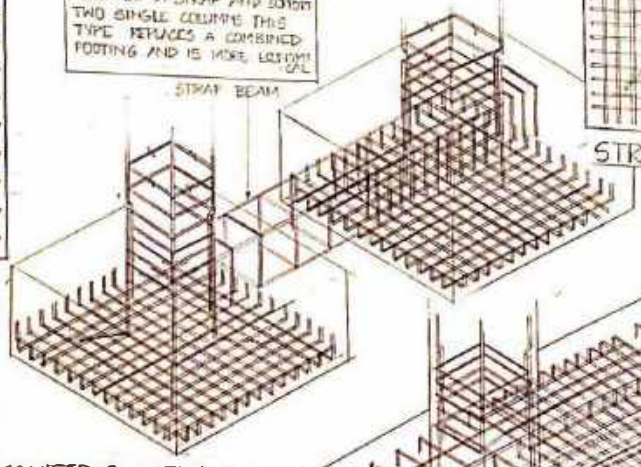
COMBINED FOOTING TOP REINFORCEMENT PLAN

CANTILEVER OR STRAP FOOTINGS CONSISTS OF TWO SINGLE FOOTINGS CONNECTED WITH A BEAM OR A STRAP AND BOTH TWO SINGLE COLUMNS THIS TYPE REPLACES A COMBINED FOOTING AND IS MORE ECONOMICAL

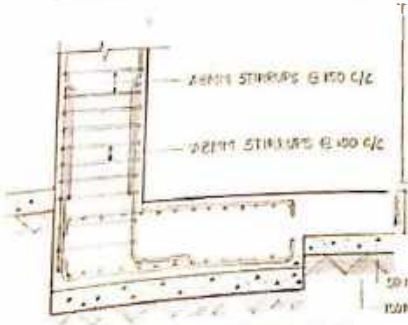
STRAP BEAM



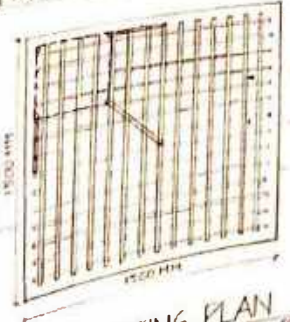
STRAP BEAM FOOTING PLAN



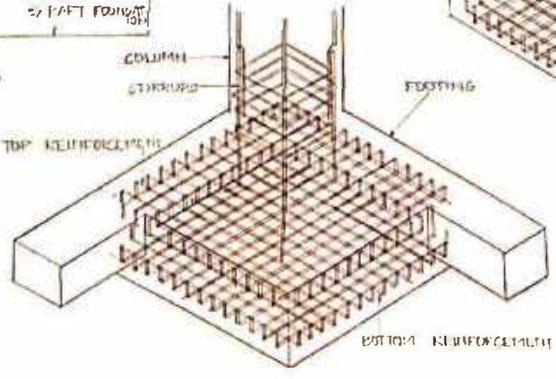
ISOMETRIC VIEW OF STRAP FOOTING



SHOE FOOTING SECTION X-X'

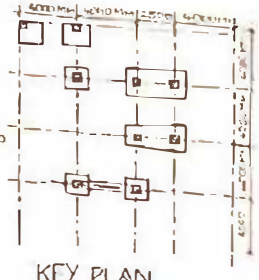


SHOE FOOTING PLAN



ISOMETRIC VIEW OF SHOE FOOTING

ISOMETRIC VIEW OF COMBINED FOOTING



KEY PLAN

SET	FOOTING NO.	COLUMN SIZE (MM × MM)	FOOTING	FOOTING TYPE	FOOTING SIZE (MM × MM)	FOOTING DEPTH
01	C_1	450 × 450	F1	SHOE	1500 × 1500	500
02	C_2	450 × 450	F2	SHOE	1500 × 1500	500
03	C_3	450 × 450	F3	ISOLATED	1500 × 1500	500
04	C_4, C_5	450 × 450	F4	RECTANGULAR COMBINED	4500 × 2100	650
05	C_6	300 × 300	F5	TRAPEZOIDAL COMBINED	[illegible]	650
	C_7	450 × 450				
	C_8, C_9	450 × 450	F6	STRAP	[illegible]	650

SIGN

SHEET NO 01

NAME - VIDHI KEDIA
TYBARCH DIV-A
ABCM SEM -IX
TSAP
ROLL NO. - 34