

Development of SMIU Model School & University Academic Block at SMIU City Campus Karachi (Phase-I, Model School)

Tender Drawings





DEVELOPMENT OF SMIU CAMPUS KARACHI







TENDER DRAWINGS

Architecture

MODEL SCHOOL City Campus

July' 2018





	ARCHITECTURE					
S.#	DRAWING NO.	DRAWING TITLE				
	A0 - GENERAL DRA	WINGS				
1	EA-986-SMS-A0-000	TITLE SHEET				
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3	EA-986-SMS-A0-0002	VIEWS				
4	EA-986-SMS-A0-0003	MASTER PLAN (LOCATION PLAN)				
5	EA-986-SMS-A0-0004	SITE PLAN & SETTING OUT PLAN				
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2	EA-986-SMS-A1-0200	FIRST FLOOR PLAN				
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4	EA-986-SMS-A1-0200	THIRD FLOOR PLAN				
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2	EA-986-SMS-A3-0020	ELEVATIONS 01 ELEVATIONS 02				
3	EA-986-SMS-A3-0030					
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	A6 - SCHEDULE					
1	EA-986-SMS-A6-0010	SCHEDULE OF FINISHES				
2	EA-986-SMS-A6-0020	DOORS & WINDOWS SCHEDULE, PLANS AND ELEVATIONS				
	EA-986-SMS-A10-0010	MISCELLANEOUS DETAILS				





EA Consulting Pvt Ltd

Head Office:AL-9, 15th Lane, Khayaban-e-Hial, Phase 7, Defence Housing Authority, Karachi, 75500 - Pakistan Phone No. 11:111:584, Fax No. \$84-1825 Email : info@eaworld.com | www.eaworld.com

Project :

DEVELOPMENT OF SMIU CAMPUS KARACHI

Note:

 All Dimensions to be conf on site with architect.
 Do not scale.

Only written dimensions to be followed.
 Any discrepancies to be clarified with the architect.

1	25.05.2018	For Tender
0	03.05.2018	For Client Approval
No.	DATE	DESCRIPTION
REVISIONS		

May 25, 2018
Client
Tender

ARCHITECTURE

TENDER

Building Name

MODEL SCHOOL CITY CAMPUS

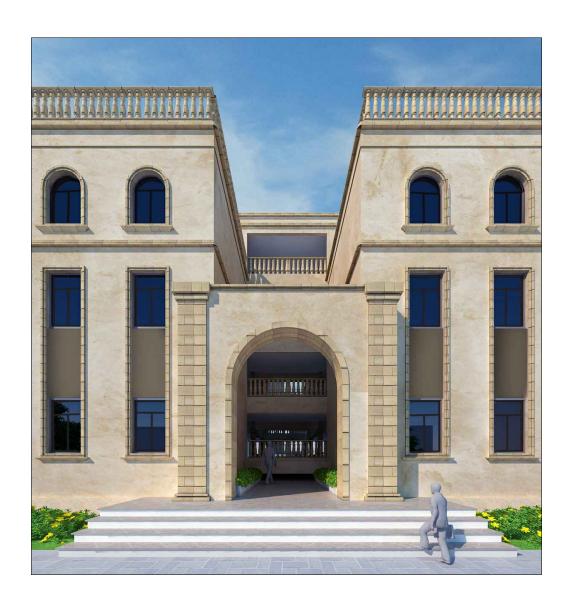
Drawing Title

LIST OF DRAWING

	Designed :	Checked :	Approved :
ı	FA	NIK	K
ı	Drawn :	Date :	Scale / Sheet 3/32"=1'-0"@A
ı	МН		3/16"=1'-0"@A
ı	Project Code :		Rev.:
	_	00986	

Drawing No. : EA-00986-SMS- A0-0001









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Head Office:AL-9, 15th Lane, Khayaban-e-Hilal, Phase 7,
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Phone No. 111-111-584, Fax No. 584-1825
Enail : inlo@eaworld.com | www.eaworld.com | www.eaworld.com

DEVELOPMENT OF SMIU CAMPUS KARACHI

03.05.2018 For Client Approva No. DATE DESCRIPTION

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 Tender

REVISIONS

ARCHITECTURE

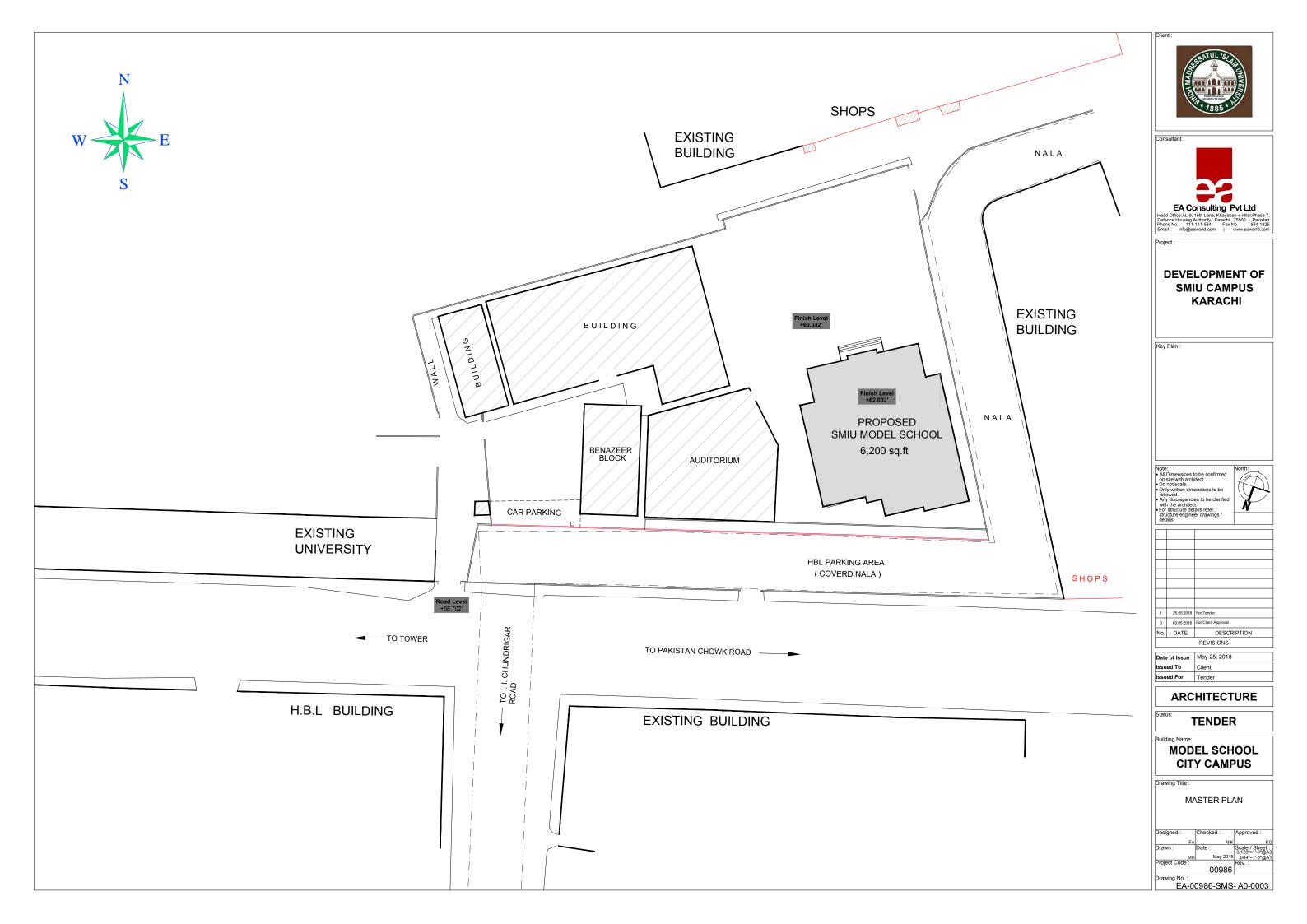
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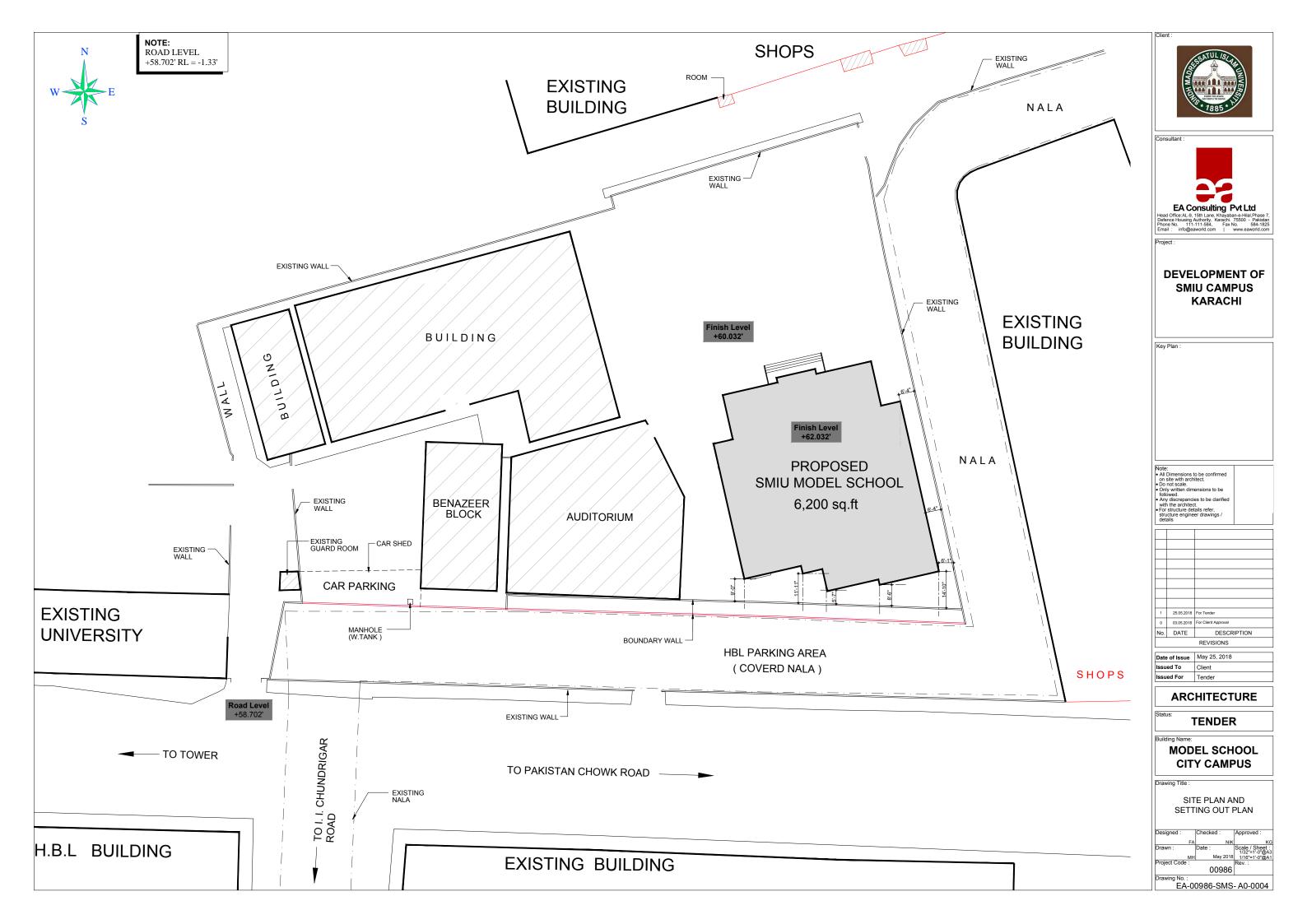
MODEL SCHOOL CITY CAMPUS

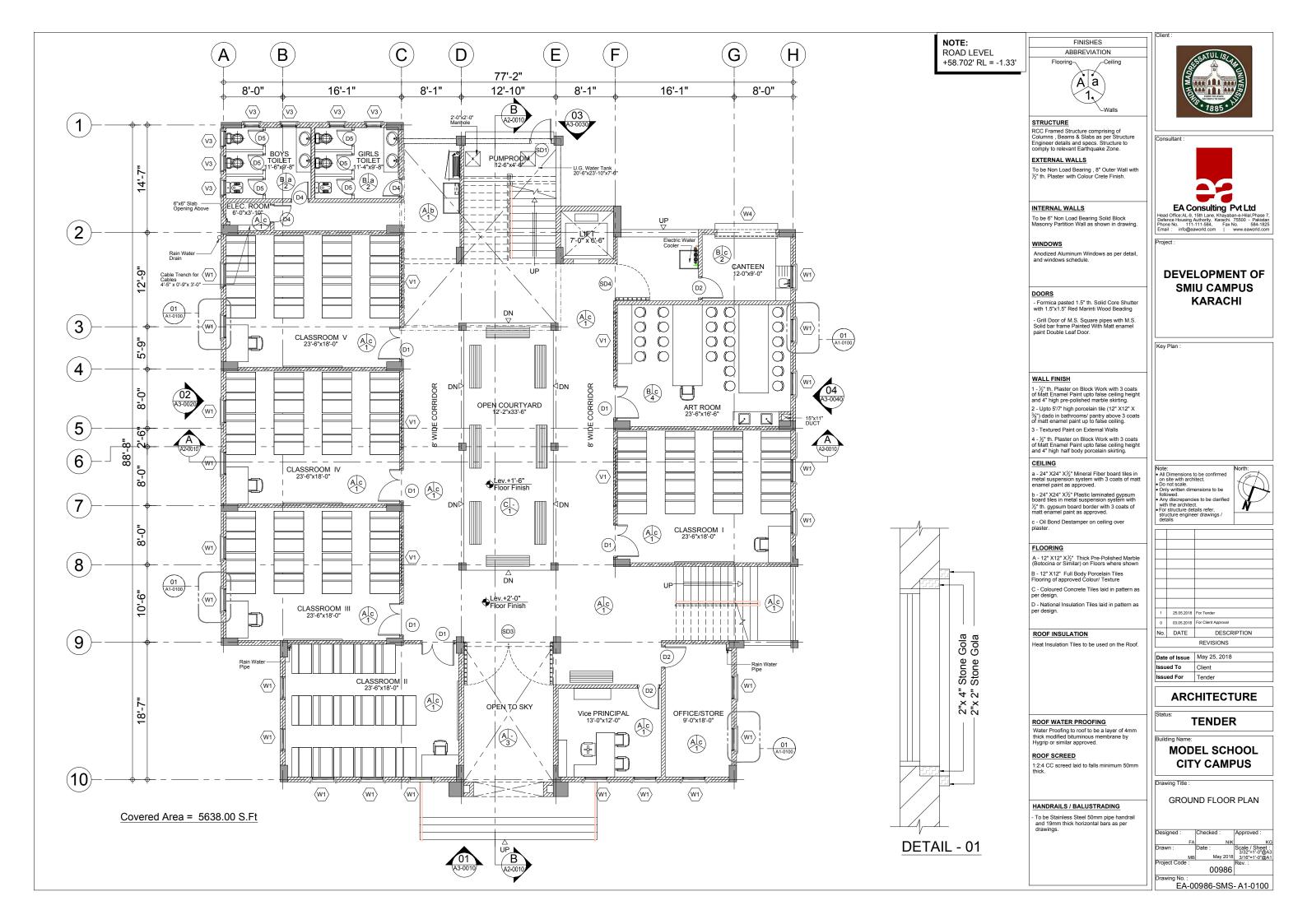
3D VIEWS

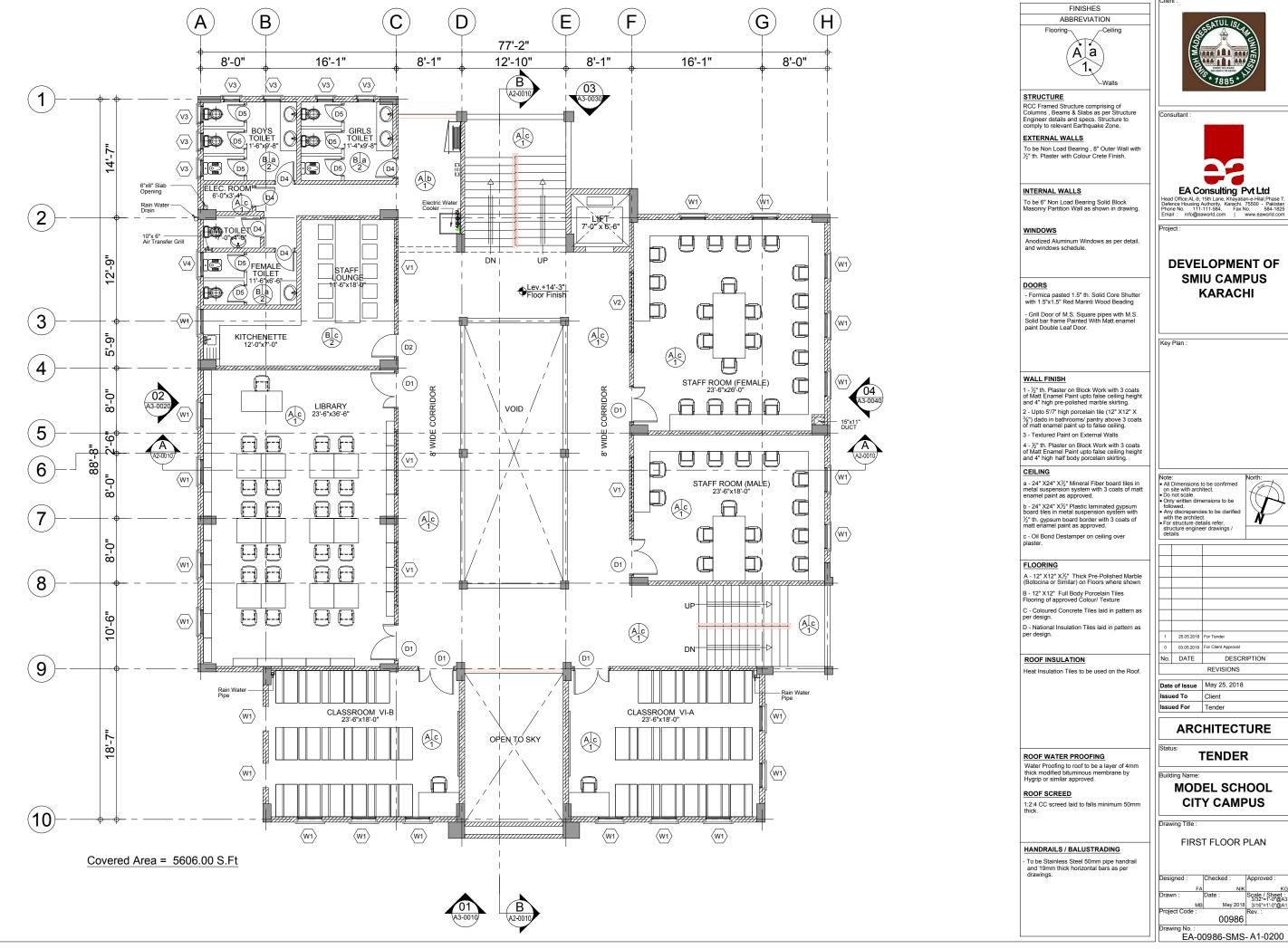
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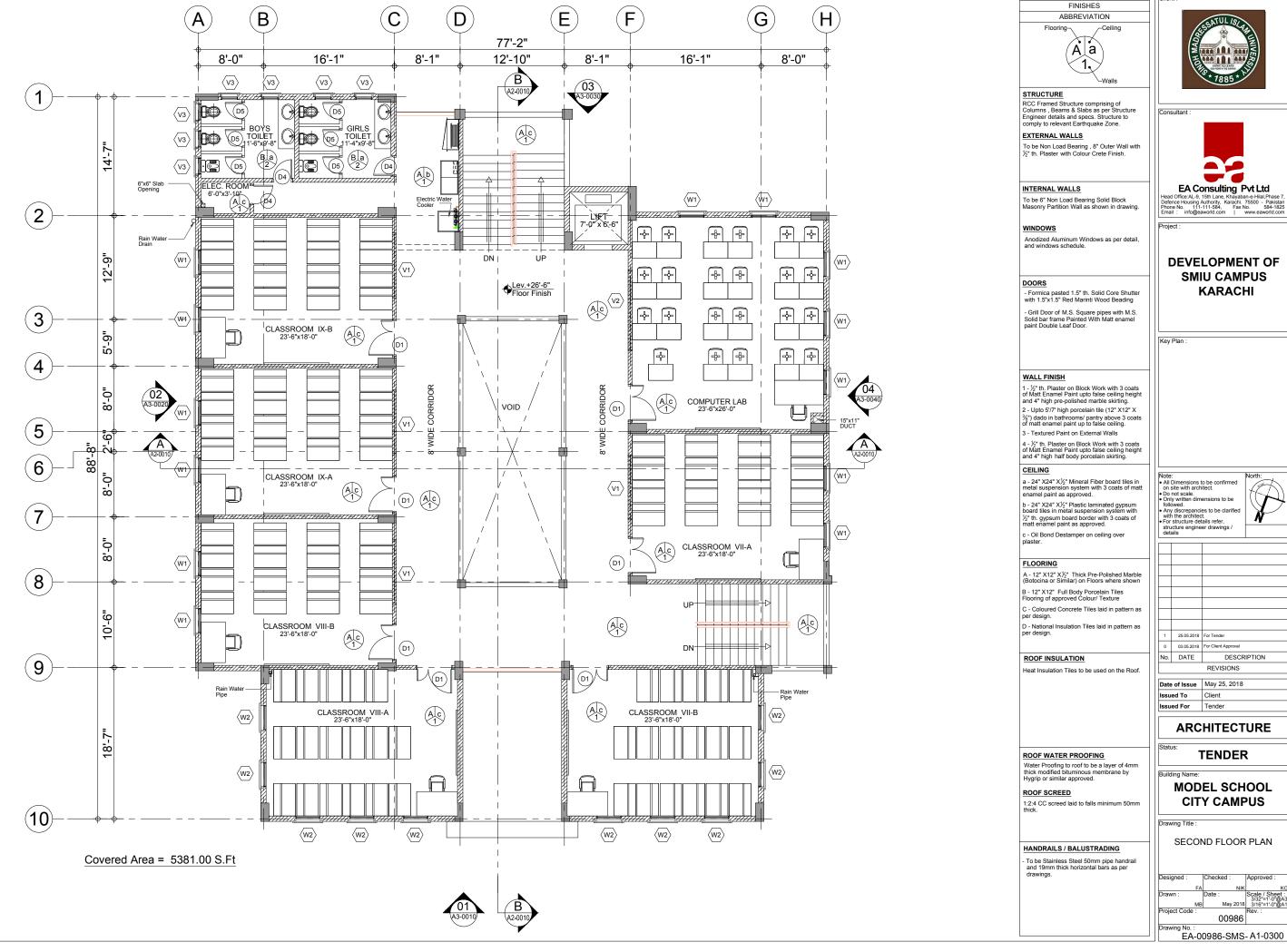






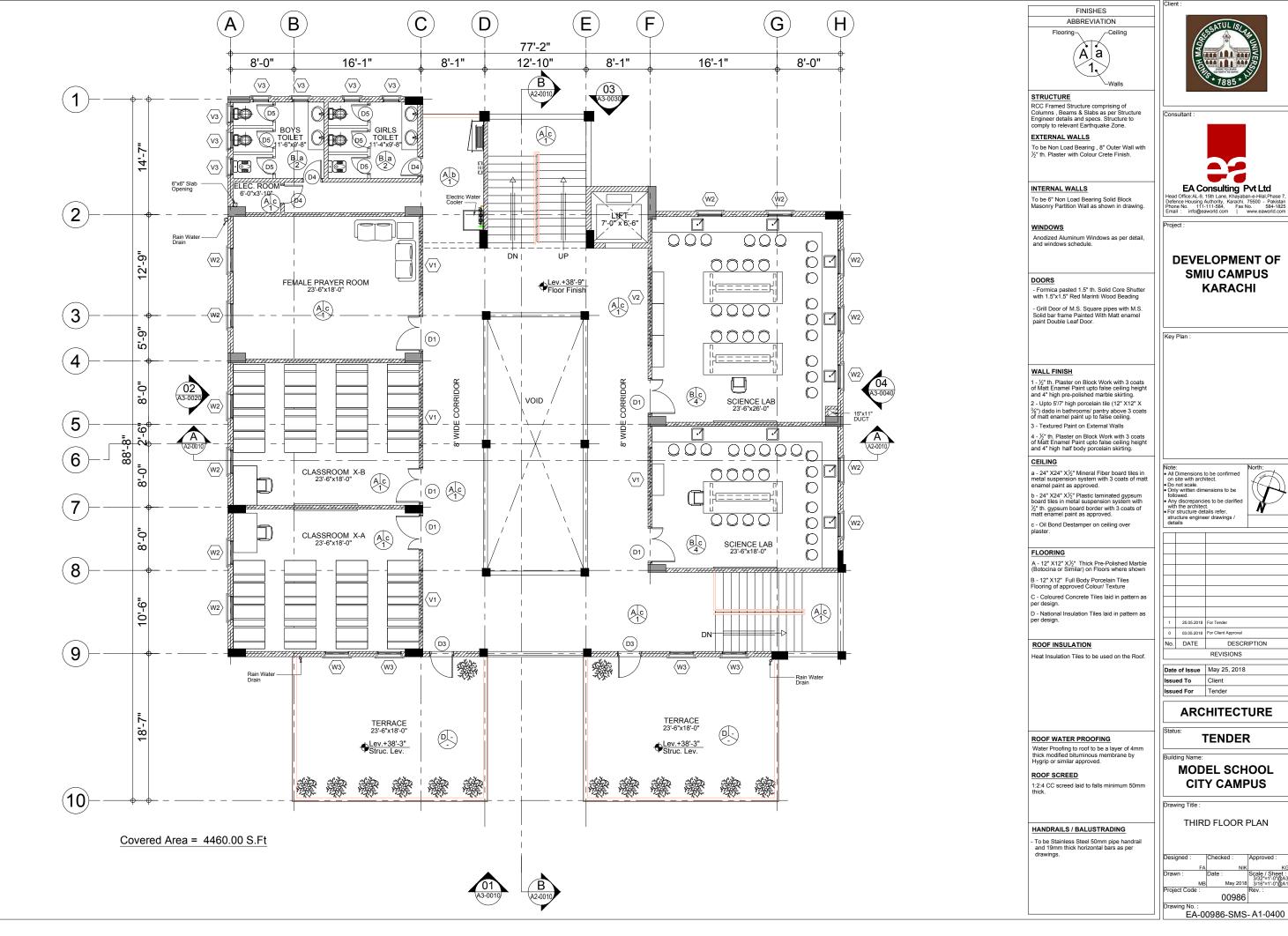
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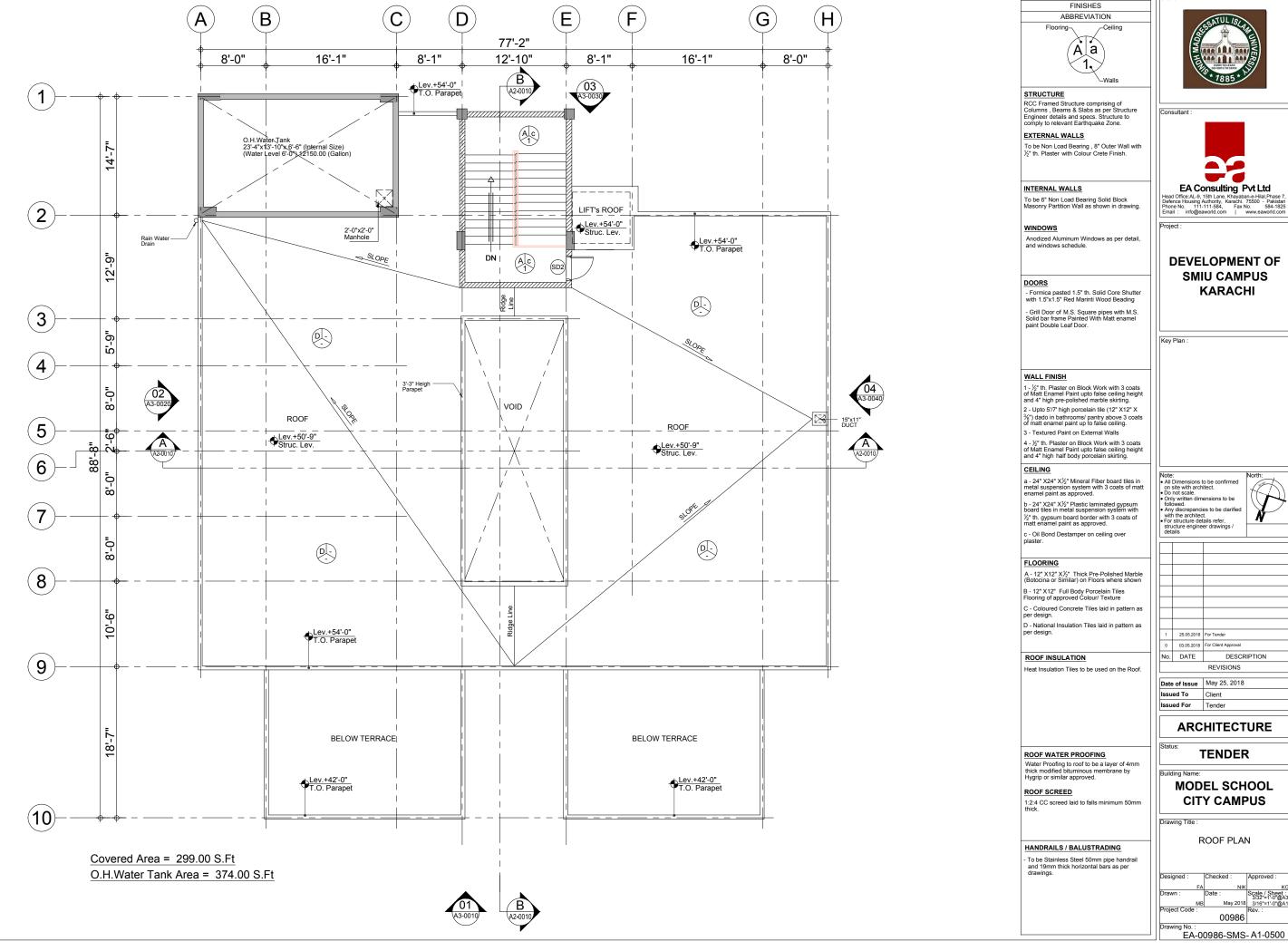
May 2018 3/16"=1'-0"@A1

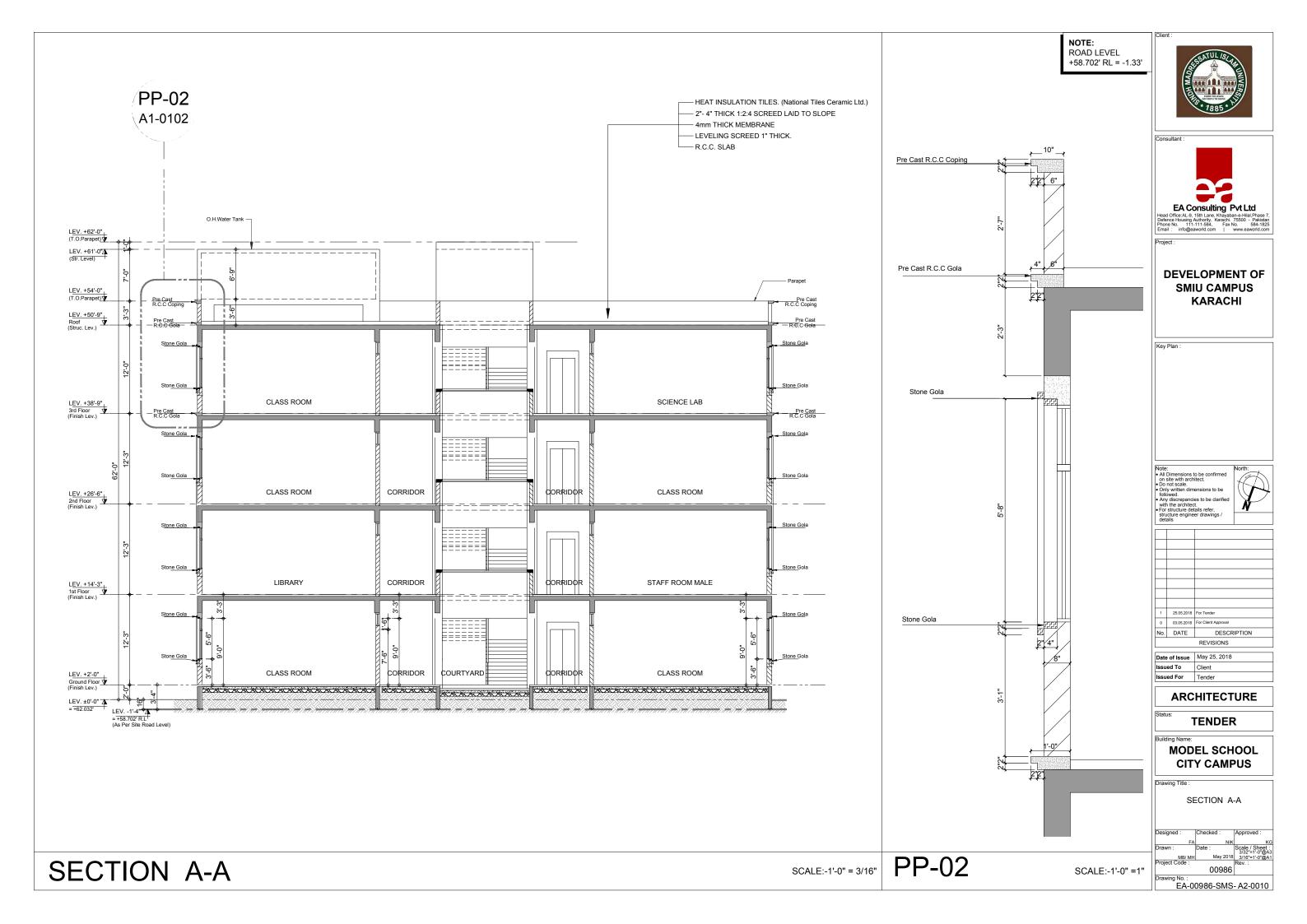




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			REVISIONS











Project :

DEVELOPMENT OF SMIU CAMPUS KARACHI



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• Only written dimensions to be followed.

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Any discrepancies to be clarified with the architect.

For structure details refer, structure engineer drawings /

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ARCHITECTURE

TENDER

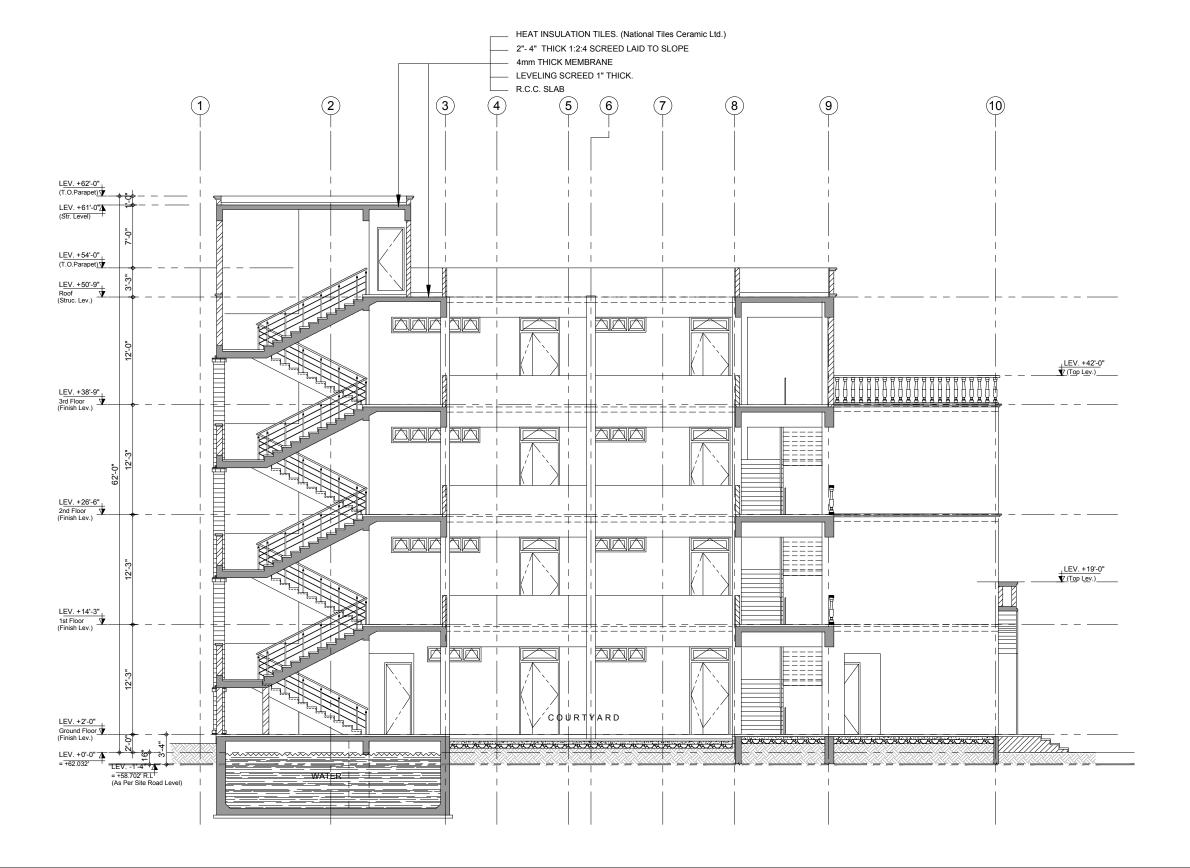
Building Name

MODEL SCHOOL CITY CAMPUS

SECTION B-B

Designed: | Checked: | Approx

| FA | NIK | Size | Sheet | Size | Size | Sheet | Size | Size | Size | Size | Sheet | Size |







Project :

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Client
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ARCHITECTURE

TENDER

Building Nam

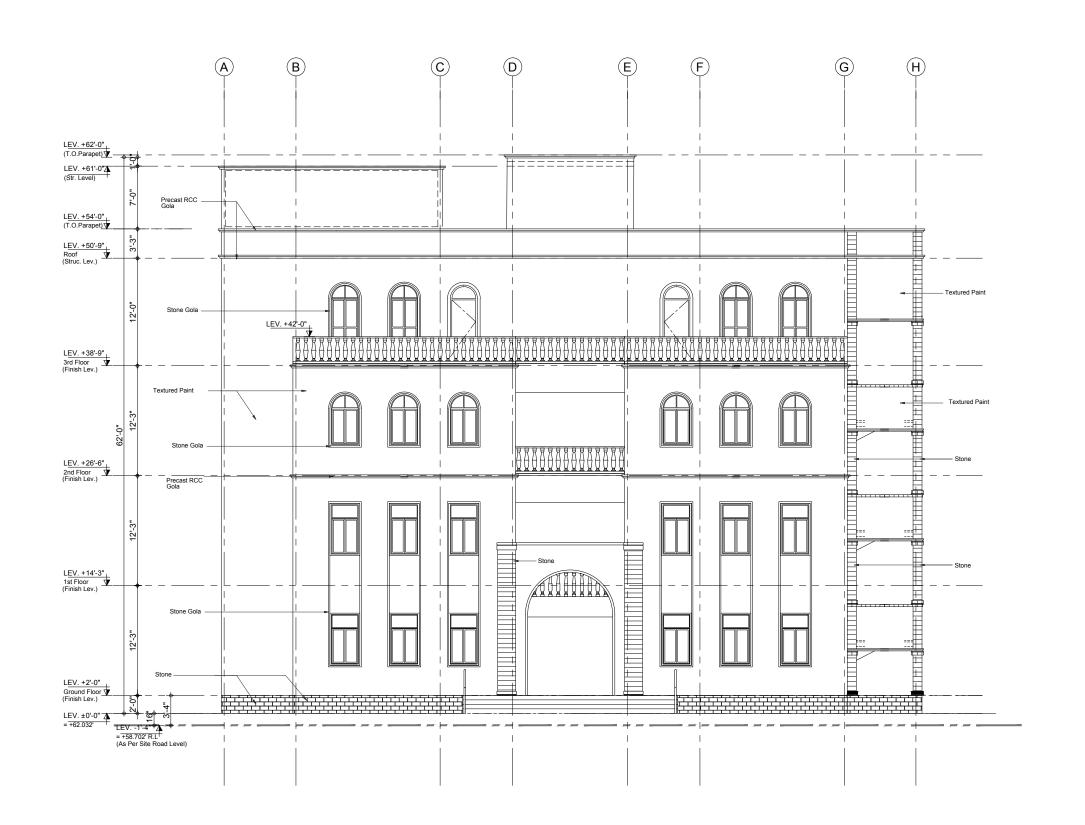
MODEL SCHOOL CITY CAMPUS

Drawing Little

ELEVATION 01

Designed :	Checked :	Approved :
FA	NIK	ŀ
Drawn :	Date :	Scale / Sheet 3/32"=1'-0"@/
MB/ MH	May 2018	3/16"=1'-0"@/
Project Code :		Rev.:
	00986	
Drawing No. :		

EA-00986-SMS- A3-0010









DEVELOPMENT OF SMIU CAMPUS **KARACHI**

Key Plan :		

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Date of Issue May 25, 2018 Issued To Client ssued For Tender

REVISIONS

ARCHITECTURE

TENDER

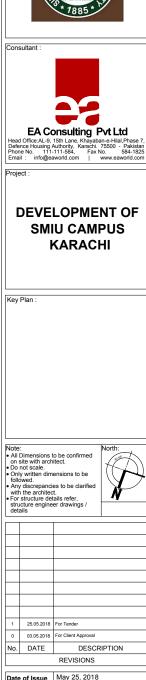
MODEL SCHOOL CITY CAMPUS

ELEVATION 02

Designed :	Checked:	Approved :
FA	NIK	
Drawn :		Scale / Sheet 3/32"=1'-0"@/
MB/ MH	May 2018	3/16"=1'-0"@/
Project Code :	-	Rev.:
-	00986	
Drawing No. :		

EA-00986-SMS- A3-0020





Date of Issue May 25, 2018
Issued To Client
Issued For Tender

ARCHITECTURE

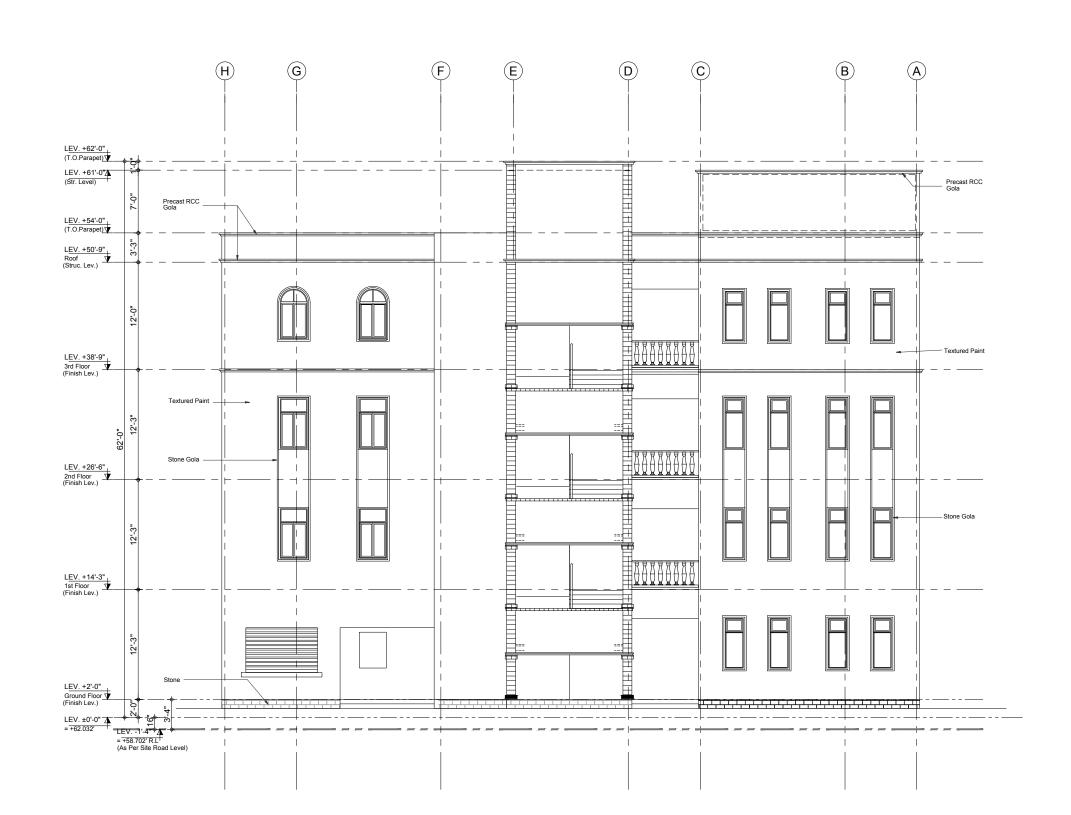
TENDER

Building Name

MODEL SCHOOL CITY CAMPUS

ELEVATION 03

wing No. : EA-00986-SMS- A3-0030









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REVISIONS				

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ARCHITECTURE

TENDER

Building Name

MODEL SCHOOL CITY CAMPUS

ELEVATION 04

Designed :	Checked:	Approved :
FA	NIK	
Drawn :	Date :	Scale / Shee 3/32"=1'-0"@
MB/ MH	May 2018	3/16"=1'-0"@
Project Code :		Rev.:
	00986	
Drawing No. :		

EA-00986-SMS- A3-0040

	10	9	8 7 6 5	3	2 1
LEV. +62'-0" (T.O.Parapet) \(\frac{1}{2} \) LEV. +61'-0"\(\frac{1}{2} \) (Sir. Level)	Precast RCC				
(T.O.Parapet) (T	LEV. +42'-0"				
LEV. +38'-9" 3rd Floor (Finish Lev.)	Textured Paint				Textured Paint
2nd Floor (Finish Lev.)	e Gola				Textured Paint
(Finish Lev.) LEV. +2'-0" Ground Floor (Finish Lev.)					Stone
LEV. ±0'-0"					

SCHEDULE OF FINISHES

Ground Floor							
S.#	TITLE	FLOOR	SKIRTING	DADO	WALL	CEILING	REMARKS
01	Ent. Steps / Platform	Marble Tile Floor	Marble Tile	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High
02	Class Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High
03	Art Room	Full body Porcelain tiles	Half body Porcelain tiles		Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High
04	Vice Principal Office	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High
05	Office/ Store	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High
06	Canteen	Full body Porcelain tiles	Half body Porcelain tiles	Dado 5' High	Matt Enamel Paint	Oil Bond Destemper	Dado Up To 5' High
07	Electrical Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destamper	Skirting Up To 4" High
08	Corridors	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destamper	Skirting Up To 4" High
09	Toilets	Matt Finish Porcelain Tile Floor Finish	Half body Porcelain tiles	Dado 7' High	Matt Enamel Paint	False Ceiling	Dado Up To 7' High
10	Courtyard	Coloured Concrete Tiles	Marble Tile Skirting	-	-	-	Skirting Up To 4" High

Fir	First Floor								
S.#	TITLE	FLOOR	SKIRTING	DADO	WALL	CEILING	REMARKS		
01	Staff Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High		
02	Class Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High		
03	Library	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High		
04	Faculty Lounge/ Pantry	Full body Porcelain tiles	Half body Porcelain tiles	Dado 5' High	Matt Enamel Paint	Oil Bond Destemper	Dado Up To 5' High		
05	Corridors	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destamper	Skirting Up To 4" High		
06	Toilets	Matt Finish Porcelain Tile Floor Finish	Half body Porcelain tiles	Dado 7' High	Matt Enamel Paint	False Ceiling	Dado Up To 7' High		
07	Electrical Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destamper	Skirting Up To 4" High		

Se	Second Floor						
S.#	TITLE	FLOOR	SKIRTING	DADO	WALL	CEILING	REMARKS
01	Computer Lab	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 6" High
02	Class Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 6" High
03	Electrical Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destamper	Skirting Up To 4" High
04	Corridors	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destamper	Skirting Up To 4" High
05	Toilets	Matt Finish Porcelain Tile Floor Finish	Half body Porcelain tiles	Dado 7' High	Matt Enamel Paint	False Ceiling	Dado Up To 7' High

Third Floor							
S.#	TITLE	FLOOR	SKIRTING	DADO	WALL	CEILING	REMARKS
01	Science Lab	Full body Porcelain tiles	Half body Porcelain tiles	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High
02	Class Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High
03	Female Prayer Room	Marble Tile Floor	Marble Tile Skirting		Matt Enamel Paint	Oil Bond Destemper	Skirting Up To 4" High
04	Electrical Room	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destamper	Skirting Up To 4" High
05	Corridors	Marble Tile Floor	Marble Tile Skirting	-	Matt Enamel Paint	Oil Bond Destamper	Skirting Up To 4" High
06	Toilets	Matt Finish Porcelain Tile Floor Finish	Half body Porcelain tiles	Dado 7' High	Matt Enamel Paint	False Ceiling	Dado Up To 7' High

LIST OF MATERIAL All Internal Walls 1/2" Thick Cement 1:3 C.C Plaster with paint finish as specified Sand Plaster Finish Plain Plaster. All Concrete Ceiling Soffits, Beams, Column etc. to have 1/2" C.C Plaster Finish for Paint as specified 02 12"x12"x1/2" Thick Pre-Polished Marble (Botocina or Similar) on Floors where shown 04 12"x4"x1/2" Thick Marble (Botocina) Chemical Pre-Polished Tiles Skirting as per Drawing. 05 12"x12"x3/8" Thick Half Body Porcelain Tiles Dado. Full Body Porcelain Tiles Flooring of approved Colour/ Texture 06 07 Laid to Patterns as shown 08 ICI or Berger Matt Enamel Paint for approved Colour on walls 09 Oil Bond Destamper on ceiling Textured Paint on external Walls



EA Consulting Pvt Ltd

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Defence Housing Authority, Karachi, 75500 Pakistan
Phone No. 111-111-584, Fax No. 584-1825
Email: inflo@aewolfd.com | www.eaworld.com

DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :		



1	25.05.2018	For Tender				
0	03.05.2018	For Client Approval				
No.	DATE	DESCRIPTION				
	REVISIONS					

	Date of Issue	May 25, 2018
	Issued To	Client
l	Issued For	Tender
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ARCHITECTURE

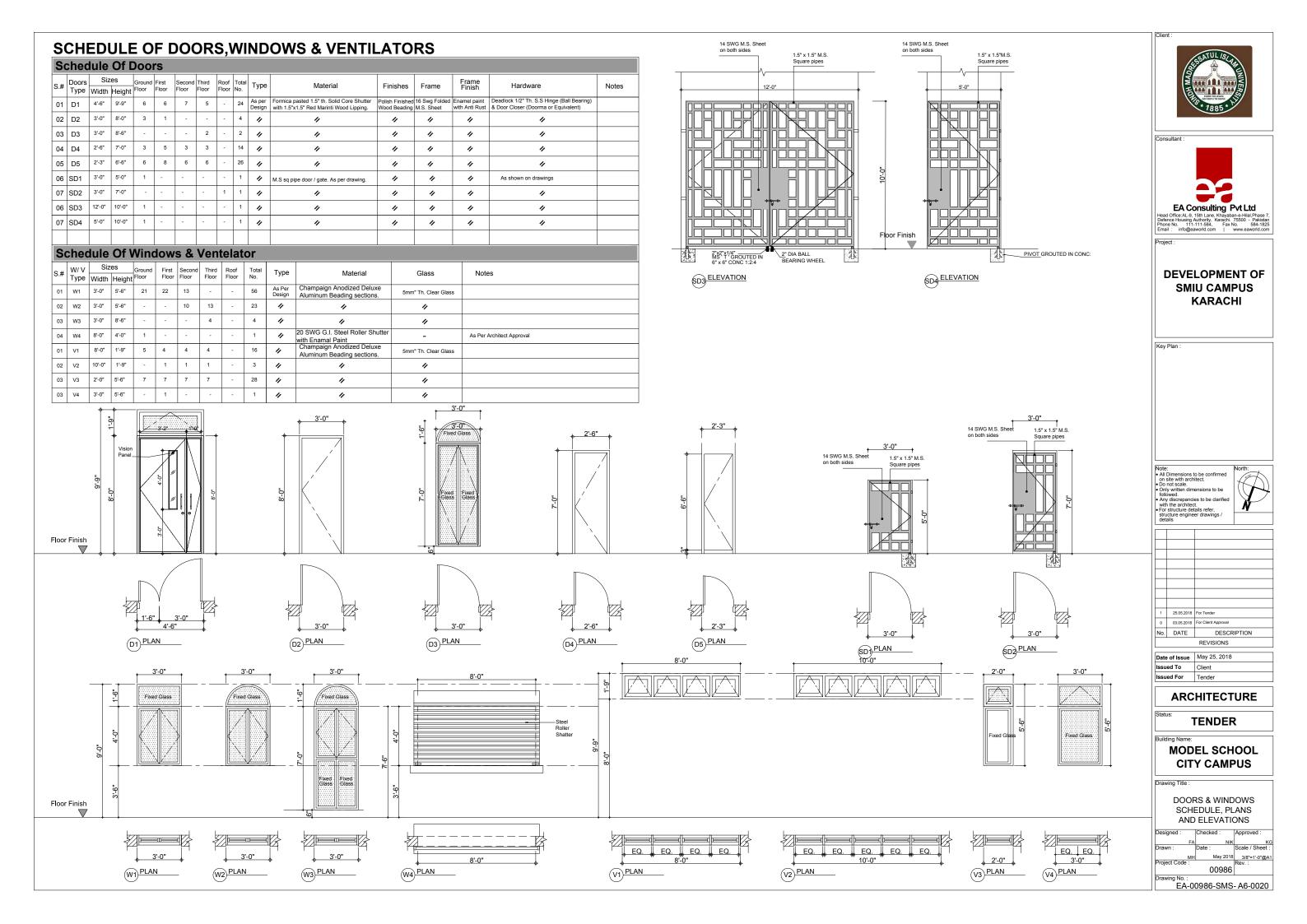
TENDER

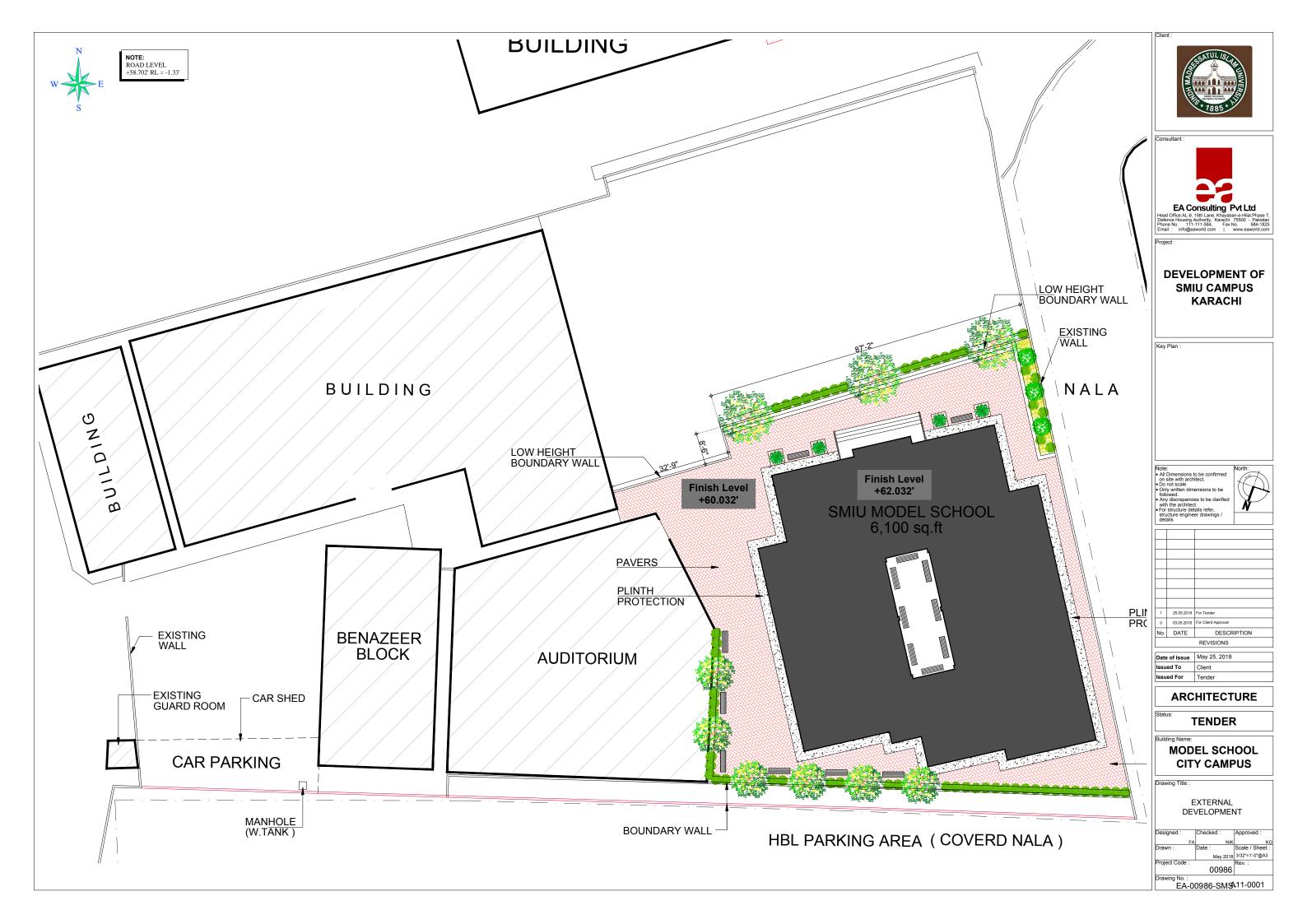
MODEL SCHOOL CITY CAMPUS

SCHEDULE OF FINISHES

Designed :	Checked:	Approved :
FA	NIK	ŀ
Drawn :	Date :	Scale / Sheet
MH	May 2018	3/8"=1'-0"@/
Project Code :	-	Rev.:
	00986	

Drawing No. : EA-00986-SMS- A6-0010





DEVELOPMENT OF SMIU CAMPUS KARACHI







TENDER DRAWINGS

Structure

MODEL SCHOOL City Campus
JULY' 2018





	LIST OF DRAWINGS					
S.NO.	DRG. NO.	DESCRIPTION				
STA	NDARD DRAWINGS					
01	EA-986-SMS-S-0000	LIST OF DRAWINGS				
02	EA-986-SMS-S-0001	GENERAL NOTES				
03	EA-986-SMS-S-0011	STANDARD DETAILS (SHEET 1 OF 5)				
04	EA-986-SMS-S-0012	STANDARD DETAILS (SHEET 2 OF 5)				
05	EA-986-SMS-S-0013	STANDARD DETAILS (SHEET 3 OF 5)				
06	EA-986-SMS-S-0014	STANDARD DETAILS (SHEET 4 OF 5)				
07	EA-986-SMS-S-0015	STANDARD DETAILS (SHEET 5 OF 5)				
FOL	JNDATION PLAN					
08	EA-986-SMS-S-0101	COLUMN LAYOUT PLAN & DETAILS				
09	EA-986-SMS-S-0102	COLUMN SCHEDULE				
10	EA-986-SMS-S-0103	FOUNDATION LAYOUT PLAN & DETAILS				
FRA	MING PLAN					
11	EA-986-SMS-S-2001	PLINTH FRAMING PLAN & DETAILS				
12	EA-986-SMS-S-2002	FIRST FLOOR FRAMING PLAN & DETAILS				
13	EA-986-SMS-S-2003	SECOND FLOOR FRAMING PLAN & DETAILS				
14	EA-986-SMS-S-2004	THIRD FLOOR FRAMING PLAN & DETAILS				
15	EA-986-SMS-S-2005	ROOF FRAMING PLAN & DETAILS				
16	EA-986-SMS-S-2006	UPPER ROOF FRAMING REINFORCEMENT PLAN & DETAILS				
REI	NFORCEMENT PLAN					
17	EA-986-SMS-S-3001	FIRST FLOOR REINFORCEMENT PLAN & SECTION DETAILS				
18	EA-986-SMS-S-3002	SECOND FLOOR REINFORCEMENT PLAN & SECTION DETAILS				
19	EA-986-SMS-S-3003	THIRD FLOOR REINFORCEMENT PLAN & SECTION DETAILS				
20	EA-986-SMS-S-3004	ROOF REINFORCEMENT PLAN & SECTION DETAILS				
	AM DETAIL					
21	EA-986-SMS-S-4001	BEAM SCHEDULE & DETAILS (SHEET 1 OF 2)				
22	EA-986-SMS-S-4002	BEAM SCHEDULE & DETAILS (SHEET 2 OF 2)				
	IK DETAIL	LINIDED ODOLIND WATED TANIK DEINICODOCKACNIT DI ANI 0. DETAU C				
23	EA-986-SMS-S-5001	UNDER GROUND WATER TANK REINFORCEMENT PLAN & DETAILS				
24 CT 4	EA-986-SMS-S-5002	OVER HEAD WATER TANK REINFORCEMENT PLAN & DETAILS				
	AIRCASE DETAIL	CTAID CACE 1 DIANI CECTIONI 0. DETAILC				
25	EA-986-SMS-S-6001	STAIR CASE—1 PLAN SECTION & DETAILS				
26	EA-986-SMS-S-6002	STAIR CASE-2 PLAN SECTION & DETAILS				



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Project

DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :

Note:

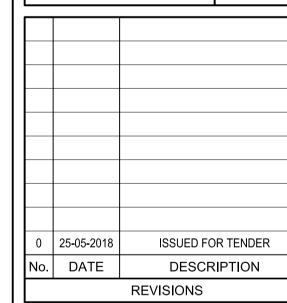
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STRUCTURE

TENDER

Building Name:

MODEL SCHOOL CITY CAMPUS

Drawing Title

LIST OF DRAWING

Designed: Checked: Approved:

HA HA AKM

Drawn: Date: Scale / Sheet:

MMK April,2018 AS SHOWN

Project Code: Rev.:

00986 0

Drawing No.:

EA-986-SMS-S-0000

PROJECT DESCRIPTION

1 - THE PROPOSED PROJECT SMIU IS LOCATED IN KARACHI. IT MAINLY COMPRISES OF CLASS ROOM , ART ROOM , LIBRARY, MOSQUE FACULTY BLOCK, HOSTEL, FACULTY & STAFF RESIDENCE AND COMMON FACILITIES.

GENERAL

- G1 STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DISCIPLINE DRAWINGS, DOCUMENTS, SPECIFICATIONS ETC. AS PART OF THE CONTRACT DOCUMENT OR. MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
- G2 DIMENSIONS SHALL NOT BE OBTAINED BY SCALING DRAWINGS.
- G3 FOR MAIN SETTING OUT LINES AND LEVELS REFER TO ARCHITECTURAL DRAWINGS.
- G4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE SAFETY OF CONSTRUCTION AT ALL TIMES AND SHALL ENSURE THAT NO PART OF INTERMEDIATE COMPLETED CONSTRUCTION IS HAZARDOUS (FOR EXAMPLE; SIDES OF EXCAVATION, STARTER BARS ETC.)
- G5 THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING AGAINST LATERAL FORCES AND ALL CONSTRUCTION LOADS THROUGHOUT THE CONSTRUCTION PROCESS.
- G6 ALL ELEMENTS OF THE STRUCTURE DESIGNED BY THE CONTRACTOR SHALL BE SUBMITTED TO DESIGN CONSULTANT FOR REVIEW.
- G7 THE DESIGN CONSULTANT'S REVIEW PROCESS FOR ALL SUBMITTALS, DRAWINGS, METHOD STATEMENTS AND DOCUMENTS IS ONLY COMPLETE ONCE A STATUS OF 'NO OBJECTION' IS REACHED. THE SUBMITTAL SHALL BE REVIEWED BY THE DESIGN CONSULTANT FOR COMPLIANCE WITH THE DESIGN INTENT THIS DOES NOT RELIEVE THE CONTRACTOR FROM HIS CONTRACTUAL RESPONSIBILITIES.
- G8 FOR ALL BUILDERS WORK INFORMATION (OPENINGS IN STRUCTURAL ELEMENTS):- LIGHTING POINTS. GULLIES, CAST-IN PIPES, SLEEVES, ELECTRICAL TRENCHES, MANHOLES ETC, REFER TO MEP STRUCTURAL, MEP AND ARCHITECTURAL ELEMENTS/DETAILS FOR CONSULTANT'S REVIEW BEFORE COMMENCEMENT OF CONSTRUCTION IN THE AREA CONCERNED.
- G9 ALL DESIGN, WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH THE CURRENT ACI, UBC, AISC, PCB AND LOCAL AUTHORITY STANDARDS AND PROJECT DESIGN CRITERIA UNLESS NOTED OTHERWISE.
- F1 THE CONTRACTOR SHALL READ AND FAMILIARIZE HIMSELF WITH THE GEOTECHNICAL INVESTIGATION REPORT AS WELL AS VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH THE SURFACE AND SUBSURFACE
- F2 LOOSE POCKETS OF SOIL WHICH ARE ENCOUNTERED SHALL BE REMOVED AND REPLACED WITH GOOD SOIL COMPACTED TO ACHIEVE THE DESIRED BEARING PRESSURE.
- F3 ANY ADJACENT FOOTING IN THE VICINITY OF THE WORK SHALL BE PROPERLY PROTECTED BEFORE
- F4 FOUNDATION STRICTLY BE PLACED ON FIRM WELL COMPACTED EARTH ACCORDING TO GEOTECHNICAL REPORT ALL THE GROUND IMPROVEMENT WORK SHALL
- F5 FOOTING HAS BEEN DESIGNED USING AN ALLOWABLE BEARING CAPACITY OF 1.5 TSF AT DEPTH OF 8.25-10.0 FEET FROM E.G.L. AS CONDUCTED BY GEOTECHNICAL SERVICES THIS SHOULD BE VERIFIED PRIOR TO START OF CONSTRUCTION.

BE DONE ACCORDING TO GUIDE LINE PROVIDED IN GEOTECHNICAL REPORT.

F6 IT IS IMPORTANT TO NOTE THAT BEFORE PLACING FOUNDATION CONCRETE THE EXCAVATIONS SHOULD BE CAREFULLY INSPECTED TO ENSURE THAT FILL HAS BEEN CROSSED AND FOUNDATIONS ARE BEING PLACED IN COMPETENT SOIL. THIS PRECAUTION IS NECESSARY TO GUARD AGAINST LOCALIZED FILLS AND INHOMOGENITIES

DESIGN LOADS

EXECUTION OF WORK.

DL1 SEISMIC LOADING IN ACCORDANCE WITH PAKISTAN BUILDING CODE-SEISMIC PROVISION 2007 (BCP-SP-2027)

SEISMIC ZONE SEISMIC ZONE FACTOR = TYPE SC (AS PER GEO. TECH. REPORT) IMPORTANCE FACTOR, I = 1.0OCCUPANCY CATEGORY IV STANDARD OCCUPANCY NUMERICAL COEFFICIENT, R = AS PER TABLE 16-N-UBC97.

= 0.24

= 0.32

LIVE LOADS

DL2 OFFICES		50	ps
CLASSROOM	=	40	ps
LIBRARIES READING ROOM	=	60	ps
LIBRARIES STAKING ROOM	=	150	ps.
LEATURE HALL	=	100	ps
DINING ROOMS AND RESTAURANTS	=	100	ps
CORRIDORS (FIRST FLOOR AND BELOW)	=	100	ps
OFFICE CORRIDORS (ABOVE FIRST FLOORS)	=	80	ps
STAIRS AND LOBBIES	=	100	ps [·]
BALCONIES (EXTERIOR)	=	100	ps
FIRE ESCAPES	=	100	ps
YARDS AND TERRACES, PEDISTRIAN	=	100	ps
CAR PARKING	=	70	ps
FOOD COURT (RESTAURANT)	=	100	ns.

DL3 DEAD LOADS

CHILLERS/AHU

LV//GENERATOR ROOM

CEILING, MEP SERVICES = 10 psfFLOOR FINISHES = 36 psf DRY PARTITION WALL = 10 psf

DESIGN CODE OF PRACTICE

DC1 1997 UNIFORM BUILDING CODE. FOR SEISMIC DESIGN & WIND LOAD.

DC2 ACI-318-14 BUILDING CODE FOR STRUCTURAL CONCRETE AND COMMENTARY.

DC3 ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

DC4 AISC 14 EDITION SPECIFICATION FOR STRUCTURAL STEEL BUILDING. DC6 BCP-2007 SEISMIC BUILDING CODE OF PAKISTAN.

DC7 ACI 360R-92 DESIGN OF SLAB ON GRADE

THE FREE END OF THE BAR, OR

ANCHORAGE OF BARS BY HOOKS:

LESS THEN 4 BAR DIAMETERS, ACCORDING TO ACI CODE:

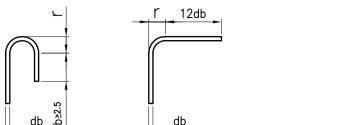
* THE DIMENSIONS AND BENDING RADII FOR HOOKS TO BE USE AS STANDARDIZED IN THE ACI CODE:

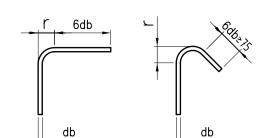
= 200

= 200 ps

- 1- A 180' BEND PLUS AN EXTENSION OF AT LEAST 4 BAR DIAMETERS, BUT NOT LESS THAN 2.5 IN AT THE FREE END OF BAR OR
- 2- A 90° BEND PLUS AN EXTENSION OF AT LEAST 12 BAR DIAMETERS AT THE FREE END OF THE BAR, OR
- 3- FOR STIRRUP ANE TIE ANCHORAGE ONLY: a. FOR NO. 5 BARS AND SMALLER, A 90° BEND PLUS AN EXTENSION OF AT LEAST 6 BAR DIAMETERS AT
- b. FOR NOS. 6.7 AND 8 BARS, A 90° BEND PLUS AN EXTENSION OF AT LEAST 12 BAR DIAMETERS AT THE
- c. FOR NO. 8 BARS AND SMALLER, A 135° BEND PLUS AN EXTENSION OF AT LEAST 6 BAR DIAMETERS AT
- THE FREE END OF THE BAR. THE MINIMUM DIAMETER OF BEND, MEASURED ON THE INSIDE OF THE BAR, FOR STANDARD HOOKS OTHER THAN FOR STIRRUPS OR TIES IN SIZES NOS. 3 THROUGH 5, SHOULD NOT BE LESS THAN 6 BAR DIAMETER. FOR

STIRRUP AND TIE HOOKS, FOR BAR SIZES NO.5 AND SMALLER, THE INSIDE DIAMETER OF BEND SHOULD NOT BE





(a). MAIN REINFORCEMENT $r = 4db FOR db \leq N0.8$

r = 5db FOR db > N0.8

(b). STIRRUPS AND TIES

6 - GENERAL CONSTRUCTION CONDITION

- GC1 ALL EXCAVATION SHALL BE BASED ON ENGINEERING SHOP DRAWINGS PREPARED BY THE CONTRACTOR, INCLUDING PLANS AND SECTIONS OF EXCAVATION SEQUENCES.
- GC2 THE CONTRACTOR SHALL PROVIDE SURFACE DRAINAGE CHANNELS AND SUMPS AND SUMP PUMPS TO PROTECT ALL EXCAVATIONS FROM FLOODING. FLOODING OF ANY EXCAVATION AFTER APPROVAL OF SUB GRADE WILL BE A CAUSE FOR REVOCATION OF APPROVAL AND COMPLETE RE-PREPARATION OF THE SUBGRADE.
- DRAWINGS FOR LOCATION. THE CONTRACTOR SHALL PREPARE COORDINATED SERVICES DRAWINGS IDENTIFYING GC3 THE CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION (MAT/SHEET COVERING) FOR ALL EXCAVATED SLOPES TO PROTECT SLOPES FROM INSTABILITY AND DETERIORATION DUE TO ENVIRONMENTAL CONDITIONS.
 - GC4 THE EXCAVATION RETENTION SYSTEM SHALL BE DONE BY THE CONTRACTOR, UNLESS NOTED
 - OTHERWISE, IN ACCORDANCE WITH THE GEOTECHNICAL DESIGN PARAMETERS AND SOIL PRESSURES AS INDICATED IN THE GEOTECHNICAL INVESTIGATION REPORT.
 - GC5 THE CONTRACTOR SHALL CONTINUOUSLY SURVEY VERTICAL AND HORIZONTAL MOVEMENTS OF THE TOP OF THE SOIL BENCH MARKS ADJACENT TO AND AWAY FROM THE SITE PERIMETER FOR VERTICAL AND HORIZONTAL MOVEMENTS AND OBSERVATION WELLS FOR MONITORING WATER LEVELS BELOW GROUND SURFACE.
 - GC6 THE SITE SHALL BE DE-WATERED, AS NECESSARY, BEFORE (OR AS) THE EXCAVATION PROCEEDS. THE CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION EQUIPMENT FOR THE DE-WATERING SYSTEM INCLUDING, BUT NOT LIMITED TO, TRENCHES, SUMPS, DE-WATERING WELLS, WELL POINTS, OBSERVATION WELLS, PUMPING SYSTEM, DISPOSAL LOCATION, SETTLING BASINS, MAINTENANCE AND EMERGENCY BACK-UP EQUIPMENT, ETC.
 - GC7 THE DE-WATERING SYSTEM SHALL MAINTAIN THE WATER LEVEL A MINIMUM OF 3ft BELOW THE DEEPEST FOUNDATION SUBGRADE AT ALL TIMES.

REINFORCED CONCRETE

- C1 THE CONTRACTOR SHALL SUBMIT DETAILED RC DRAWINGS AND BAR BENDING SCHEDULES SHOWING BAR SIZES, SPACING, PLACEMENT AND SUPPORT DETAILS DOWELS AT EXPANSION JOINTS AND LAPS ETC. FOR REVIEW AND ACCEPTANCE OF THE DESIGN CONSULTANT. WORK SHALL NOT COMMENCE UNTIL THE SHOP DRAWINGS ARE REVIEWED AND ACCEPTED REVIEW OF SHOP DRAWINGS DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE INPUT OF ALL TRADES ON THE SHOP DRAWINGS.
- C2 REFER TO SPECIFICATIONS FOR QUALITY AND PERFORMANCE REQUIREMENTS OF CONCRETE.

(i) NORMAL CONCRETE NOT IN CONTACT WITH THE GROUND:

CEMENT (OPC) MIN. CEMENT CONTENT 24 lb/ft 3 (380kg/m 3) MAX. W/C RATIO 0.40

(ii) NORMAL CONCRETE IN CONTACT WITH THE GROUND: AS PER SOIL REPORT

MIN. CEMENT CONTENT 24 lb/ft³ (380kg/m³) MAX. W/C RATIO 0.40

C3 ALL CAST-IN-SITU CONCRETE SHALL HAVE A MINIMUM 28 DAYS CUBE STRENGTH UNLESS NOTED OTHERWISE OR MENTIONED IN FOLLOWING TABLE:

ITEM	28 DAYS CYLINDRICAL STRENGTH (PSI)
RAFT	3000
RETAINING WALLS	3000
COLUMNS	4000
SHEAR WALLS	4000
BEAMS	3000
SLABS	3000
LEAN	1000
SITU	1500

- C4 WATER CEMENT RATIO SHALL NOT EXCEED 0.4.
- C5 MAXIMUM POSSIBLE WATER-SOLUBLE CHLORIDE ION (CL) CONTENT IN CONCRETE SHALL NOT EXCEED 0.15% BY WEIGHT OF
- C6 MAXIMUM SIZE OF COURSE AGGREGATE SHALL BE 25MM UNLESS NOTED OTHERWISE. C7 CONTRACTOR SHALL GET APPROVAL FROM DESIGN CONSULTANT OF A CONCRETE MIX DESIGN.
- C8 THE CONTRACTOR SHALL PERFORM AND SUBMIT FOR REVIEW INSTRUMENT SURVEYS OF FINISHED CONCRETE SLAB SURFACES. BOTH BEFORE AND AFTER REMOVAL OF FORM WORK AND/OR SHORING SYSTEM TO VERIFY AS-BUILT TOLERANCES.
- C9 REFER TO SPECIFICATIONS FOR REQUIREMENTS OF CONCRETE SURFACE FINISH AND CASTING TOLERANCE.
- C10 PROVIDE UPWARD CAMBER TO SLABS AND BEAMS AS NOTED ON STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS CAMBER BOTH UNDERSIDE AND TOP OF CONCRETE TO MAINTAIN THE SLAB AND BEAM DEPTH SHOWN ON THE DRAWINGS UNLESS NOTED
- C11 BEAMS, SLABS, COLUMNS, WALLS AND FOUNDATION ELEMENTS SHALL NOT BE SLEEVED OR BOXED-OUT OR HAVE THE R11 FOR HOUSE KEEPING PADS AND FLOATING SLABS PROVIDE REINFORCEMENT IN ACCORDANCE WITH THE CURRENT ACI 318 REINFORCEMENT INTERRUPTED EXCEPT AS INDICATED ON THE STRUCTURAL DRAWINGS. C12 ALL CONCRETE SHALL CONTAIN AN APPROVED WATER REDUCING, PLASTICIZING ADMIXTURE. APPROVED HIGH RANGE WATER REDUCING ADMIXTURE MAY BE UTILIZED AT THE CONTRACTOR'S OPTION. ALL CONCRETE PERMANENTLY EXPOSED TO

2"

- WEATHER SHALL ALSO CONTAIN AN APPROVED AIR-ENTRAINING ADMIXTURE TO PROVIDE PERCENTAGE OF AIR REQUIRED FOR SEVERE EXPOSURE AS PER ACI 318.
- C13 NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
- C14 THE FOLLOWING CONCRETE CLEAR COVER TO PRIMARY REINFORCEMENT SHALL BE PROVIDED, UNLESS LARGER COVER IS NOTED ON THE STRUCTURAL DRAWINGS.
- CONCRETE CLEAR COVER SCHEDULE ELEMENT ABOVE GROUND ABOVE GROUND

	INTERIOR ENVIRONMENT	EXTERIOR ENVIRONMENT
COLUMNS(VERTICAL BARS)	1.5"	2"
BEAMS(LONGITUDINAL BARS)	1.5"	2"
WALLS	0.75"	1"
GRADE SLAB	0.75	2"
SUSPENDED SLAB	0.75"	1"
EQUIPMENT PAD	0.75	2"

WATER TANK

- CLEAR COVER SHALL NOT BE LESS THAN ONE BAR DIA. - CONCRETE COVER FOR SURFACE CAST AGAINST SOIL SHALL BE 3" AND FOR SURFACE INCONTACT WITH SOIL SHALL BE 2".

- C11 AGGREGATE FOR CONCRETE SHALL BE FROM APPROVED SOURCE AND SHALL COMPLY WITH THE SPECIFICATION REQUIREMENTS.
- C12 HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE MADE IN BEAMS UNLESS SHOWN OR REVIEWED BY DESIGN CONSULTANT, VERTICAL CONSTRUCTION JOINTS MAY BE MADE AT MIDSPAN OF BEAMS, OR SLABS HAVING NO POINT LOADS AT CENTER OF SPAN. UNLESS OTHERWISE NOTED OR SHOWN OR DIRECTED BY THE DESIGN CONSULTANT.
- C13 ALL CONCRETE SHALL BE COMPACTED USING ONLY MECHANICAL VIBRATION PROCESS.
- C14 ALL CONCRETE SHALL BE CURED IN ACCORDANCE WITH THE SPECIFICATIONS.

REINFORCEMENT

- R1 ALL REINFORCING BARS SHALL BE DEFORMED BARS WITH YIELD STRENGTH OF 414MPa CONFORMING TO ASTM A615.
- R2 EPOXY COATED REINFORCING BARS SHALL NOT BE PERMITTED.
- R3 ALL REINFORCING BARS SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE CURRENT ACI 318 AND ACI 315 UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.
- R4 ALL STARTER BARS SHALL BE SURVEYED AND LOCATION CONFIRMED IN AS-BUILT CONDITION PRIOR TO PLACING WALL/COLUMN REINFORCEMENT AND ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN CONSULTANT FOR
- R5 PROVIDE STARTER BARS TO WALLS AND COLUMNS SIMILAR IN NUMBER AND SIZE AND SPACING TO THE VERTICAL BARS ABOVE UNLESS NOTED OTHERWISE.
- R6 WELDING AND/OR SITE CUTTING OF THE REINFORCING BARS SHALL NOT BE PERMITTED UNLESS REVIEWED AND ACCEPTED BY THE DESIGN CONSULTANT.
- R7 ALL PROPRIETARY FIXING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- R8 ALL REINFORCING SPLICES SHALL BE CLASS B TENSION SPLICES IN ACCORDANCE WITH THE CURRENT ACI 318 UNLESS NOTED OTHERWISE. REFER TO SCHEDULE BELOW FOR SPLICE LENGTHS.

	TENSION SPLICE LENGTH
CLASS A	1.0X DEVELOPMENT LENGTH
CLASS B	1.3X DEVELOPMENT LENGTH

CLASS A = As PROVIDED ≥ 2 As REQUIRED AND PERCENTAGE As SPLIES < 50% CLASS B = ALL OTHER CONDITIONS

R9 ALL WIRE MESH REINFORCEMENT SHALL BE LAPPED AT LEAST 2 MESH PANELS AND SECURELY TIED. ALL REINFORCING DEVELOPMENT LENGTHS SHALL BE TENSION DEVELOPMENT LENGTHS IN ACCORDANCE WITH THE CURRENT ACI 318 UNLESS NOTED OTHERWISE. REFER TO SCHEDULE BELOW.

	TENSION DEVELOPMENT LENGTHS*					
			FOR f'c	= 3 ksi		
	#3	#4	#5	#6	#8	#10
CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN DIA OF BAR, AND BEAM STIRRUPS OR COLUMNS TIES THROUGHOUT SPACE LENGTH NOT LESS THAN THE CODE MINIMUM OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN TWICE THE DIA OF BAR, AND CLEAR COVER NOT LESS THAN DIA OF BAR	17"	22"	28"	32"	55"	69"
OTHER CASES	25"	33"	42"	50"	83"	123"

	TENSION DEVELOPMENT LENGTHS*					
		FOR f'c= 4 ksi				
	#3	#4	#5	#6	#8	#10
CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN DIA OF BAR, AND BEAM STIRRUPS OR COLUMNS TIES THROUGHOUT SPACE LENGTH NOT LESS THAN THE CODE MINIMUM OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN TWICE THE DIA OF BAR, AND CLEAR COVER NOT LESS THAN DIA OF BAR	15"	19"	24"	29"	48"	60"
OTHER CASES	22"	29"	36"	43"	72"	89"

			(ldh)
	DEVELOPMENT LENGTH	S FOR f'c= 3 ksi	
	TENSION HOOKS	COMPRESSION	
#3	7"	8"	
#4	9"	9"	
# 5	11"	11"	CONCRETE EACE
#6	14"	13"	
#8	18"	17"	
#10	22"	21"	¬

IS PLACED SUCH THAT MORE THEN 12in OF FRESH CONCRETE IS CAST BELOW.

R10 MECHANICAL SPLICING OF LARGE DIAMETER BARS MAY BE ACCEPTABLE SUBJECT TO REVIEW BY THE DESIGN CONSULTANT UNLESS NOTED OTHERWISE OR SHOWN ON THE STRUCTURAL DRAWINGS.

CONSTRUCTION INSPECTION PROGRAM FOOTNOTES:

- 1. PROVIDE CONSTRUCTION INSPECTION, CONSTRUCTION TESTING, REPORTING AND COMPLIANCE PROCEDURES ACCORDING TO CHAPTER 17 OF THE UBC-97 BUILDING CODE
- 2. PRIOR TO THE BEGINNING OF CONSTRUCTION, REVIEW THE CONSTRUCTION INSPECTION REQUIREMENTS WITH THE ARCHITECT, ENGINEER, BUILDING OFFICIAL, GENERAL CONTRACTOR AND CONSTRUCTION INSPECTORS.
- 3. DUTIES OF THE CONSTRUCTION INSPECTOR INCLUDE, BUT ARE NOT LIMITED TO:
- A. OBSERVE THE WORK FOR CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS. BRING DISCREPANCIES TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE ENGINEER AND TO TO THE BUILDING OFFICIAL.
- B. FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, ARCHITECT, STRUCTURAL ENGINEER, GENERAL CONTRACTOR AND OWNER IN A TIMELY MANNER.
- C. SUBMIT A FINAL REPORT STATING WHETHER THE WORK REQUIRING CONSTRUCTION INSPECTION WAS INSPECTED, AND WHETHER THE WORKS IN CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS.
- 4. DUTIES TO THE GENERAL CONTRACTOR INCLUDE, BUT ARE NOT LIMITED TO:
- A. NOTIFY CONSTRUCTION INSPECTOR THAT WORK IS READY FOR INSPECTION AT LEAST 24 HOURS BEFORE INSPECTION IS REQUIRED. B. MAINTAIN ACCESS TO WORK REQUIRING INSPECTION UNTIL IT HAS BEEN OBSERVED AND INDICATED TO BE IN CONFORMANCE BY THE CONSTRUCTION INSPECTOR AND APPROVED.
- C. PROVIDE THE CONSTRUCTION INSPECTOR WITH ACCESS TO APPROVED DRAWINGS AND SPECIFICATIONS AT THE JOB SITE.
- D. MAINTAIN JOB-SITE COPIES OF ALL REPORTS SUBMITTED BY THE CONSTRUCTION INSPECTOR.
- A. CONTINUOUS INSPECTION: THE SPECIAL INSPECTOR IS OBSERVING THE WORK REQUIRING SPECIAL INSPECTION AT ALL TIMES.
- THE SPECIAL INSPECTOR IS ON SITE AS REQUIRED TO CONFIRM THAT THE WORK REQUIRING SPECIAL INSPECTION IS IN CONFORMANCE.

STRUCTURAL STEEL

SS1 MATERIALS

- 1- ALL STRUCTURAL STEEL SHALL BE 36 ksi STRENGTH PRIME GRADE QUALITY HOT ROLLED MILD STEEL
- CONFORMING TO ASTM-A36 OR EQUIVALENT. 2- ALL NUTS & BOLTS SHALL CONFORM TO ASTM-A325 OR A490 ALL NUTS ARE ASTM-A563 & ALL WASHERS
- ARE ASTM-F436 OR EQUIVALENT & ANCHOR BOLTS ASTM-A307. 3- ALL WELDING SHALL BE CARRIED OUT USING E70XX TYPE ELECTRODES MADE BY PAKISTAN OXYGEN OR EQUIVALENT.

SS2 FABRICATION

1- CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS FOR APPROVAL BY THE ENGINEER & SHOP FABRICATION DETAILS BASED ON THESE STRUCTURAL DRAWINGS. THE SHOP DETAILS OF EACH PART SHALL SHOW CUT LENGTH, WELD DETAILS, BOLTS HOLE LOCATIONS ETC.

- 1- WELDING SHALL BE DONE BY LICENSED WELDER.
- 2- ALL WELDS SHALL BE CONTINUOUS ALL AROUND WITH FULL RETURNS AT ENDS 3- WELD LENGTHS ALONG THE LONGITUDINAL AXIS OF THE MEMBER SHALL BE SUFFICIENT TO DEVELOP
- THE FULL WORKING FORCE OF THE MEMBER.
- 4- ALL EXPOSED STRUCTURAL STEEL SURFACES INCLUDING NUTS & BOLTS TO BE PAINTED WITH TWO COATS OF LEAD PRIMER & TWO COATS OF RED OXIDE AFTER WIRE BRUSHING 5- ALL WELDING WORK SHALL CONFIRM TO THE AWS D1.1 "STRUCTURAL WELDING CODE - STEEL, "2003,
- AND SHALL BE PERFORMED BY AWS CERTIFIED WELDERS, OR EQUIVALENT BRITISH STANDARD WELDING QUALIFICATIONS. 6- MINIMUM FILLET WELD SIZES SHALL COMPLY WITH THE AISC SPECIFCATION REQUIREMENTS, BUT

SHALL NOT BE LESS THAN 6MM, UNLESS NOTED OTHERWISE.

- SS4 ERECTION AND INSTALLATION (GUIDE ONLY) 1- PROVIDE ANCHOR BOLTS, ETC IN RCC WORKS ACCURATELY WITH THE HELP OF "TEMPLATES" AT THE
 - TIME OF CONCRETING & CHECK LOCATION BEFORE FABRICATION. PROVIDE SHOP DRAWINGS SHOWING EXACT CUT LENGTHS IDENTIFICATION MARKS OF PIECES ETC FOR
- APPROVAL TO THE ENGINEER. ADEQUATE SCAFFOLDING, PLATFORMS, WINCHES ETC SHALL BE PROVIDE AT SITE DURING INSTALLATION OF MEMBERS TEMPORARY BRACINGS AND SCAFFOLDS SHALL BE IMMEDIATELY PROVIDE TO HOLD THE BEAMS IN POSITION, INSTALLATION OF SECONDARY BRACING AND PURLINS ETC
- SHALL FOLLOW. 4- DO NOT REMOVE THE TEMPORARY SHORING TILL ALL THE BRACINGS AND PURLINS ARE INSTALLED.

SS5 MISCELLANEOUS

- 1- THE STRUCTURAL STEEL SYSTEMS HAVE BEEN DESIGNED PER AISC LRFD (LOAD AND RESISTANCE
- FACTOR DESIGN), ALL CONTRACTOR ALTERNATIVE DESIGNS SHALL MEET THESE RESPECTIVE DESIGN 2- ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 "STRUCTURAL WELDING CODE - STEEL, "2003, AND SHALL BE PERFORMED BY AWS CERTIFIED WELDERS, OR EQUIVALENT BRITISH STANDARD
- WELDING QUALIFICATIONS.
- 3- ALL STRUCTURAL STEEL SHALL BE EPOXY PAINTED AS PER SPECIFICATION. 4- THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED, AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE CONSULTANT FOR REVIEW PRIOR TO THE START OF FABRICATION AND / OR ERECTION.
- 5- THE CONTRACTOR SHALL ENGAGE A QUALIFIED STRUCTURAL STEEL MATERIALS TESTING AGENCY, ACCEPTABLE TO THE OWNER TO CONTINUOUSLY PERFORM ALL REQUIRED SHOP FABRICATION AND FIELD ERECTION, TESTING (VISUAL, MAGNETIC PARTICLE AND ULTRASONIC) AND INSPECTIONS. TESTING REGIME SHALL BE AS APPROVED BY THE CONSULTANT
- 6- ALL WELDS SHALL BE VISUALLY INSPECTED 100% PER AWS D1.1. WELD SIZE AND CONFIGURATION MEASUREMENTS SHALL BE PERFORMED FOR A MINIMUM OF 15% OF ALL WELDS ON A RANDOM BASIS
- X-RAY TESTING SHALL ALSO BE PERFORMED ON MINIMUM 25% OF WELDS RANDOMLY. 7- 100% OF ALL BOLTED CONNECTIONS SHALL BE VISUALLY INSPECTED, AND THEN TESTED WITH A CALIBRATED TORQUE WRENCH TO VERIFY A MINIMUM OF 25% OF BOLTS IN EACH CONNECTION (2 BOLTS PER CONNECTION MINIMUM)
- 8- THE STRUCTURAL STEEL FABRICATOR AND ERECTOR SHALL SCHEDULE ALL WORK TO ALLOW THE ABOVE INSPECTION AND TESTING REQUIREMENTS TO BE COMPLETED.

9- THERE SHALL BE NO FIELD WELDING OF STEEL MEMBERS ALLOWED WITHOUT PRIOR REVIEW BY THE

ALL STRUCTURAL STEEL UNDER CONSTRUCTION TO BE DESIGNED BY THE CONTRACTOR ACCORDING TO

10- ALL STEEL STRUCTURES SHALL BE HOT DIP GALVANIZED WITH MINIMUM 70 MICRONS ZINC COATING.

PERFORMANCE CRITERIA GENERAL NOTES AND BOQ OF THE TENDER DOCUMENT.

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A1. GENERAL ABBREVIATIONS
                                                            S.S.L.- STRUCTURAL SLAB LEVEL
        APPROX— APPROXIMATELY
                                   LG - LONG
                                   M – METRE
                                                            STD - STANDARD
       BP - BASE POINT
                                                            TBC - TO BE CONFIRMED
       CHAM — CHAMFERED
                                    MAX — MAXIMUM
                                                            THK - THICKNESS
        CJ - CONSTRUCTION JOINT
                                   MIN — MINIMUM
                                                            TJ - TRANSVERSE JOINT
        CONC - CONCRETE
                                    MJ - MOVEMENT JOINT
                                                            TW - THICKNESS OF WALL
                                    IN - INCHES
        DEG - DEGREES
                                                            TYP - TYPICAL
                                    No - NUMBER
        DIA – DIAMETER
                                                            UNO - UNLESS NOTED OTHERWISE
                                    NOM - NOMINAL
        D – DEPTH
                                    NTS - NOT TO SCALE
                                                            P.L – PLINTH LEVEI
        DWG - DRAWING
                                   P/O - PERMANENT OPENING BOF - BOTTOM OF FOOTING
        EGL — EXISTING GROUND LEVEL
                                    RAD - RADIUS

    EXPANSION JOINT

                                                            SOG - SLAB ON GRADE
                                    RC - REINFORCED CONCRETE
        EXTG - EXISTING
                                    REF – REFER
        FFL - FINISHED FLOOR LEVEL
```

REQD — REQUIRED

SOP - SETTING OUT POINT

IJ - ISOLATION JOINT

GA – GENERAL ARRANGEMENT REV – REVISION

GWT - GROUND WATER TABLE SQ - SQUARE

A2. REINFORCEMENT ABBREVIATIONS ABR - ALT. BARS REVERSED ABS - ALT. BARS STAGGERED

FGL — FINISHED GROUND LEVEL

ALT – ALTERNATE B – BOTTOM CRS - CENTRES

GL — GROUND LEVEL

EF - EACH FACE EW - EACH WAY EXTF — EXTERNAL FACE FF – FAR FACE

INTF - INTERNAL FACE NF - NEAR FACE PRS - PAIRS REINF - REINFORCEMENT

H – HORIZONTAL

STG – STAGGERED T - TOP T/O - TEMPORARY OPENING Ta – TENSION ANCHORAGE

TOC - TOP OF CONCRETE

V – VERTICAL

ADD. – ADDITIONAL

EA Consulting Pvt Ltd

Head Office:AL-9, 15th Lane, Khayaban-e-Hilal,Phase

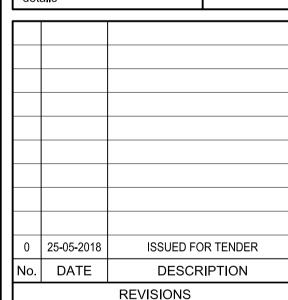
Consultant :

Key Plan :

Defence Housing Authority, Karachi. 75500 - Pakistan Phone No. 111-111-584, Fax No. 584-1825 Email: info@eaworld.com | www.eaworld.com

DEVELOPMENT OF SMIU CAMPUS KARACHI

 All Dimensions to be confirmed on site with architect. Do not scale. Only written dimensions to be Any discrepancies to be clarified with the architect. For structure details refer, structure engineer drawings / details



Date of Issue | May 25, 2018 Issued To Client Issued For Tender

STRUCTURE

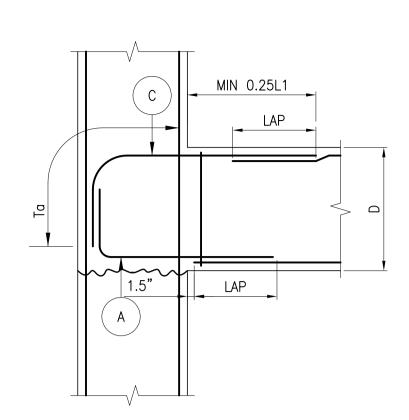
TENDER

Building Name: MODEL SCHOOL **CITY CAMPUS**

GENERAL NOTES

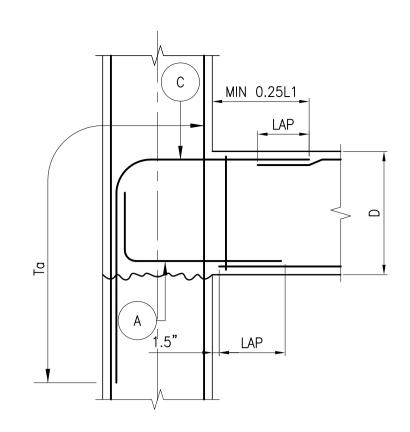
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Drawing No. EA-986-GEN-S-000



NOTE: TYPE-1 : Ta TO BE ACHEIVED WITHIN BEAM DEPTH WITH L-BAR (EDGE COLUMN)

Ta — TENSION ANCHORAGE



TYPE-2 : Ta TO BE ACHEIVED BY ANCHORING L-BARS INTO COLUMN. (Ta CANNOT BE ACHEIVED WITHIN BEAM DEPTH) (EDGE COLUMN)

A DETAILS OF COLUMN BEAM INTERSECTIONS

WALL/COLUMN LAP LAP 1.5"

TYPE-3: To TO BE ACHEIVED BY STRAIGHT BARS (LONG COLUMNS / WALLS)

NOTES:-

- 2. TO AVOID EXCESSIVE LAPPING THE
 CONTRACTOR MAY PROPOSE ALTERNATIVE
 REINFORCEMENT ARRANGEMENTS FOR
 CONTINUOUS BEAMS FOR THE ENGINEER'S
 APPROVAL. THE ALTERNATIVE ARRANGEMENTS
 MUST NOT RESULT IN LESSER REINFORCEMENT
 BEING PROVIDED IN ANY LOCATION THAN THAT
 INDICATED IN THE BEAM SCHEDULE.
- 3. CONTRACTOR MAY PROPOSE ALTERNATIVE
 DETAILING FOR CONTINUOUS BEAMS FOR
 CONSIDERING REINFORCEMENT TO RUN
 CONTINUOUSLY ACROSS BEAM / COLUMN
 JUNCTION UTILIZING THE MAXIMUM LENGTH OF
 BAR AS MUCH AS POSSIBLE. LAPS WHERE
 REQUIRED SHOULD BE PROVIDED ONLY AT THE
 LOCATIONS SHOWN ON THE TYPICAL DETAILS.
- 4. FOR DETAILS OF BARS MARKED THUS

 (A), (B), (C) ETC. SEE BEAM SCHEDULES.

- 5. MAXIMUM CLEAR DISTANCE BETWEEN

 LONGITUDINAL BARS = 6" UNLESS

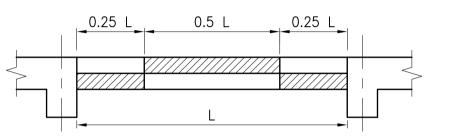
 SCHEDULED OTHERWISE.
- 6. SIDE REINFORCEMENT FOR ALL BEAMS DEEPER THAN 2'-6" (OVERALL) UNO

WIDTH OF BEAM	SIDE REFT
8"	#4@10"
12"	#4@8"
16"	#4@6"
21" OR GREATER THAN 21"	#5@8"

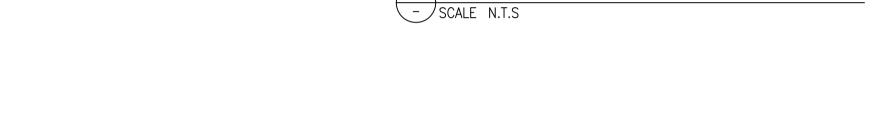
7. WHERE REFT IS TO BE DETAILED

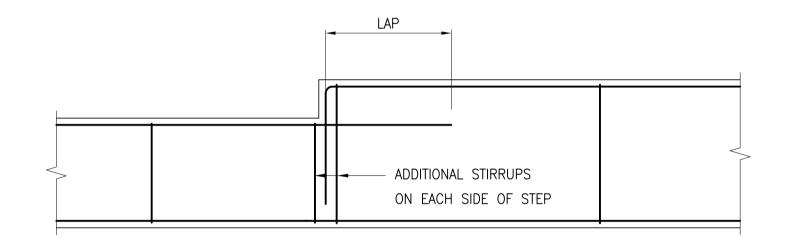
CONTINUOUSLY, LAPS IN REFT MAY OCCUR

ONLY IN SHADED AREAS SHOWN BELOW:

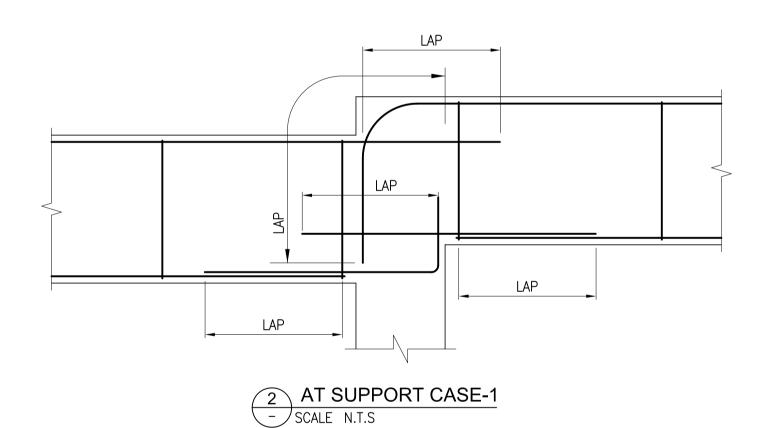


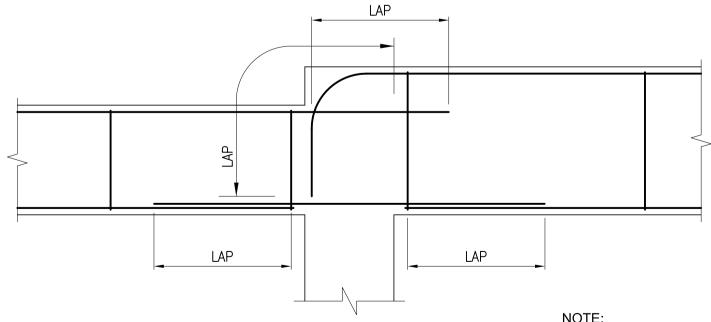
C LAP LOCATIONS
- SCALE N.T.S





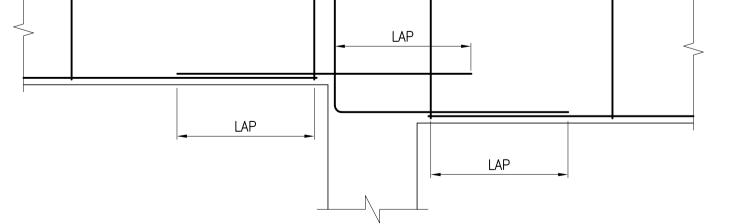
1 IN SPAN - SCALE N.T.S





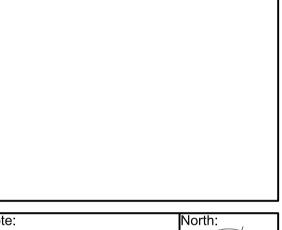
1. COLUMN REINFORCEMENT OMITTED FOR CLARITY





4 AT SUPPORT CASE-3
- SCALE N.T.S





EA Consulting Pvt Ltd

Head Office:AL-9, 15th Lane, Khayaban-e-Hilal,Phase 7, Defence Housing Authority, Karachi. 75500 - Pakistan Phone No. 111-111-584, Fax No. 584-1825 Email : info@eaworld.com | www.eaworld.com

DEVELOPMENT OF

SMIU CAMPUS

KARACHI

Note:
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 Do not scale.
 Only written dimensions to be followed.
 Any discrepancies to be clarified with the architect.
 For structure details refer, structure engineer drawings / details

Consultant :

Key Plan :

det	details			
0	25-05-2018	ISSUED FOR TENDER		
No.	DATE	DESCRIPTION		
		REVISIONS		

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	Date of Issue	May 25, 2018
	Issued To	Client
	Issued For	Tender

STRUCTURE

TENDER

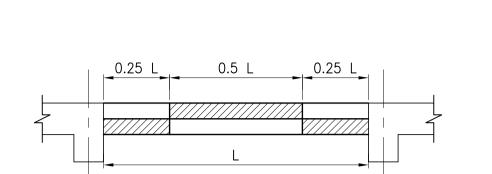
ding Name:

MODEL SCHOOL CITY CAMPUS

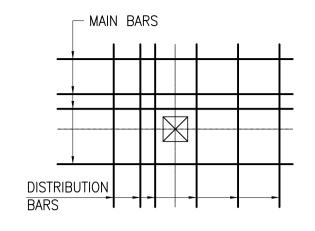
Drawing Title :

STANDARD DETAILS (SHEET 1 OF 5)

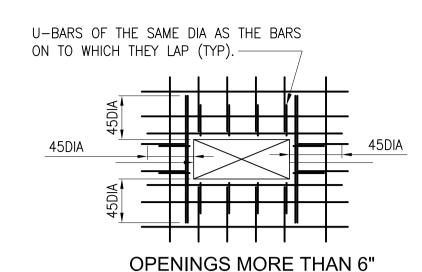
Designed :	Checked :	Approved :				
НА	НА	AKM				
Drawn :	Date :	Scale / Sheet :				
MMK	April,2018	AS SHOWN				
Project Code :		Rev.:				
00986 0						
Drawing No. :						
	EA-986-GEN-S-0011					



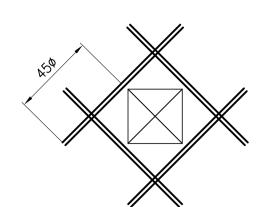
A LAP LOCATIONS - SCALE N.T.S



B OPENINGS MORE THAN 6" √ SCALE N.T.S BARS MAY BE DISPLACED NO ADDITIONAL REINF. NECESSARY



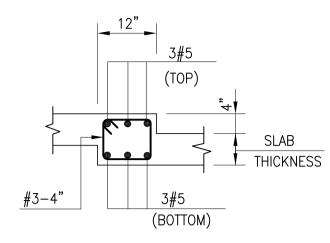
AND LESS THAN 18" - SCALE N.T.S CUT BARS INTERUPTED BY HOLE. PROVIDE TRIMMER BARS OF SAME DIA. TYPE & NUMBER AS CUT BARS



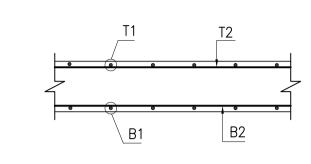
1. ALL REPLACEMENT AND DIAGONAL BARS SHOULD EXTEND AN ANCHORAGE LENGTH BEYOND THE EDGE OF THE HOLE. 2. HOLES LARGER THAN 36" IN ANY DIRECTION ARE DETAILED ON THE DRAWINGS

OPENINGS MORE THAN 18" D AND LESS THAN 36"

- SCALE N.T.S PROVIDE TRIMMER BARS AS PREVIOUS DETAIL IN ADDITION PROVIDE DIAGONAL TRIMMER OF SAME DIA, TYPE & NUMBER AS PREVIOUS DETAIL TRIMMERS.

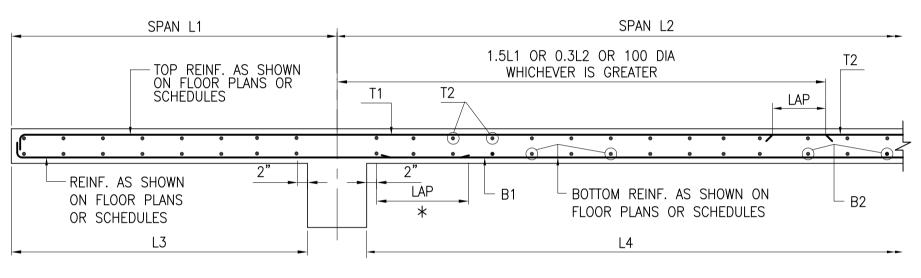


TYP. SECTION OF FOLD E AT SUNK SLAB - SCALE N.T.S

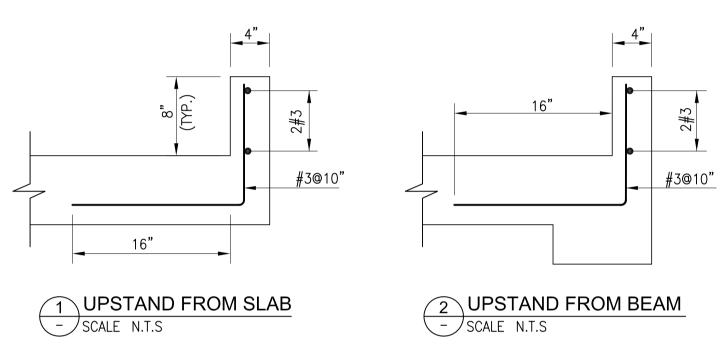


T1 DENOTES FIRST (OUTERMOST) LAYER OF TOP REINF. T2 DENOTES SECOND LAYER TOP REINF. B1 DENOTES FIRST (OUTERMOST) LAYER OF BOTTOM REINF. B2 DENOTES SECOND LAYER OF BOTTOM REINF.. ETC

F NOTATION FOR PLACEMENT OF REINFORCEMENT - SCALE N.T.S



G CANTILEVER SLAB - ∕SCALE N.T.S MULTIPLE LAYERS OF REINF. ARE NUMBERED IN ASCENDING ORDER FROM THE OUTERMOST LAYER INWARDS AS SHOWN



(H) TYPICAL OPENING UPSTAND REINFORCEMENT DETAIL

TRIMMER BARS

THE AREA OF VERTICAL BARS CURTAILED DUE TO OPENING &

TOTAL AREA OF HORIZONTAL TRIMMERS SHALL NOT BE LESS THAN

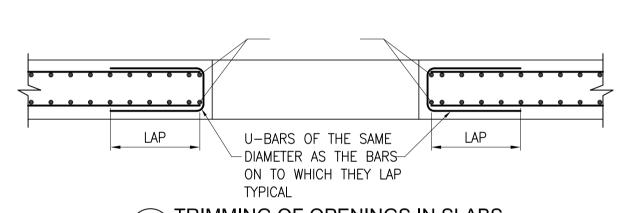
2. LINKS SHALL BE #3 BARS AND SHALL CONFORM WITH THE SPACING

OF WALL REINFORCEMENT, BUT SPACING NOT TO EXCEED 8"

3. THIS DETAIL APPLIES TO OPENINGS >10".

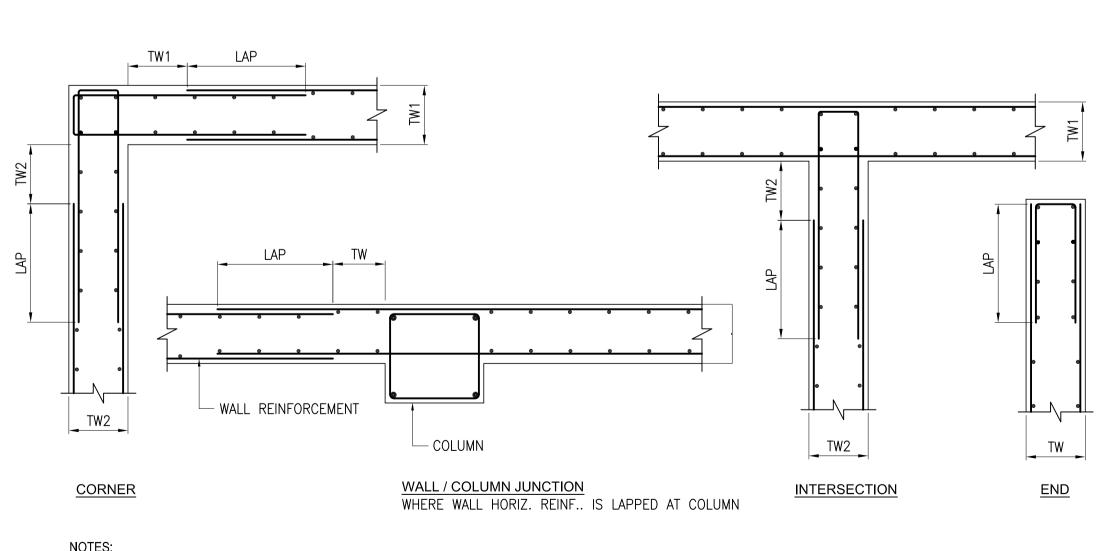
THE AREA OF HORIZONTAL BARS CURTAILED DUE TO OPENING. THESE

TRIMMERS SHALL BE DISTRIBUTED EQUALLY ON BOTH SIDES OF OPENING



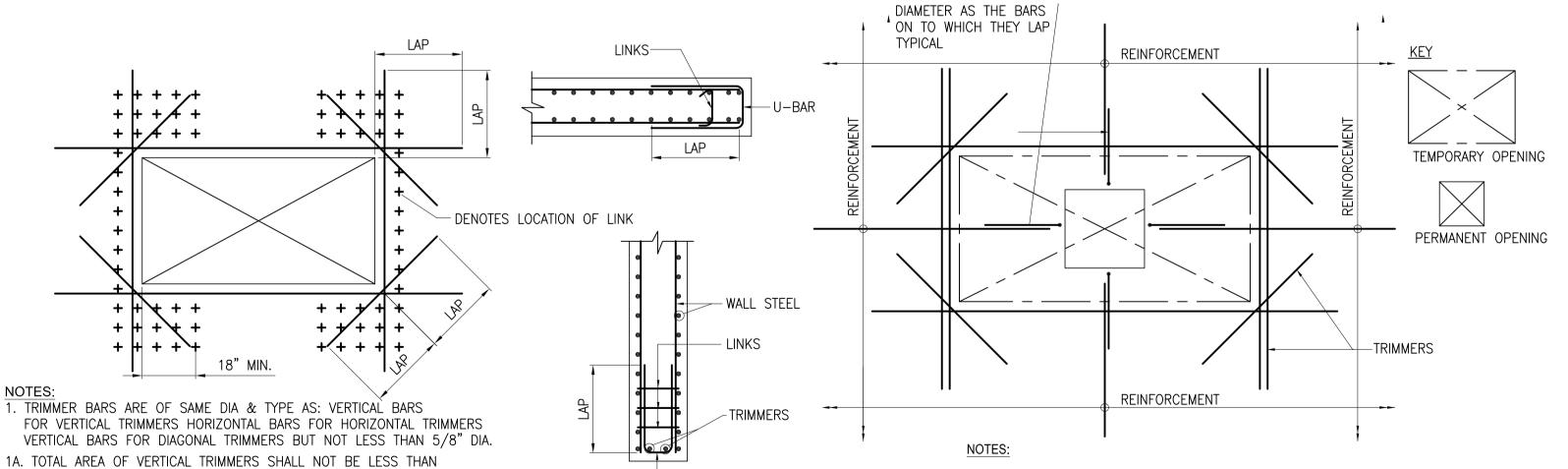
TRIMMING OF OPENINGS IN SLABS - SCALE N.T.S

U-BARS OF THE SAME



NOTES: 1. TW, TW1 & TW2 ARE WALL THICKNESSES

J WALL JUNCTION DETAILS - SCALE N.T.S



1. TRIMMERS ARE FIXED TO TEMPORARY

OPENING (BOXOUT) DIMENSIONS. 2. REINFORCÈMENT TÉRMINATES AT PERMANENT OPENING. IF PERMANENT OPENING IS OMITTED THEN REINFORCEMENT IS CONTINUOUS THROUGHOUT UNO.

DETAIL WHERE TEMPORARY & PERMANENT OPENINGS ARE CONCURRENT

TRIMMING OF HOLES IN WALLS - SCALE N.T.S

U-BAR (1 BAR DIAMETER

LESS THAN VERTICAL WALL

REINFORCEMENT)

- SCALE N.T.S



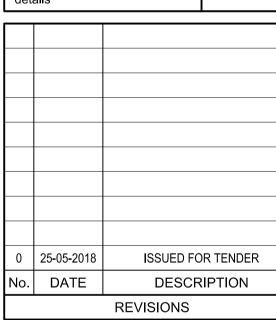
Consultant: **EA Consulting Pvt Ltd** Head Office:AL-9, 15th Lane, Khayaban-e-Hilal,Phase 7, Defence Housing Authority, Karachi. 75500 - Pakistan Phone No. 111-111-584, Fax No. 584-1825 Email : info@eaworld.com | www.eaworld.com

> **DEVELOPMENT OF SMIU CAMPUS KARACHI**

Key Plan :

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• Any discrepancies to be clarified with the architect. For structure details refer, structure engineer drawings /



Date of Issue | May 25, 2018 Issued To Client Issued For Tender

STRUCTURE

TENDER

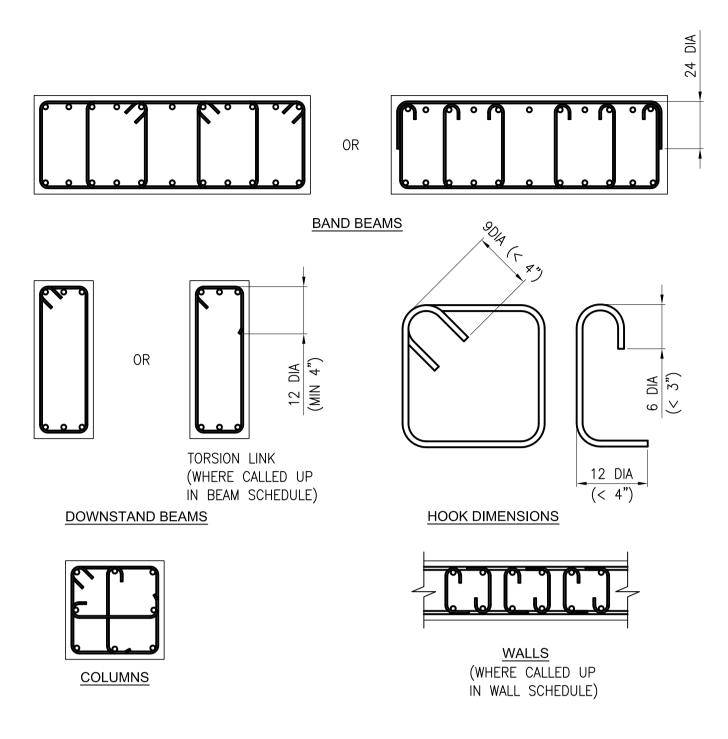
Building Name: MODEL SCHOOL CITY CAMPUS

Drawing Title: STANDARD DETAILS

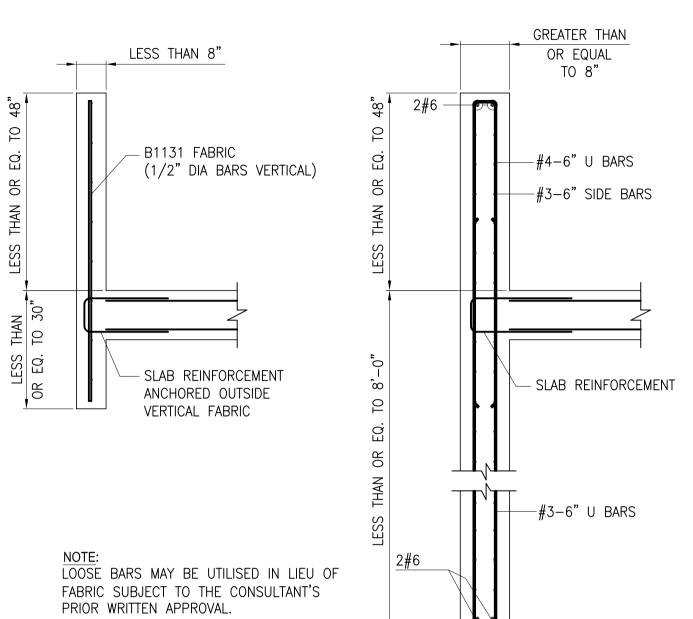
Checked: April,2018 00986 Drawing No.:

EA-986-GEN-S-0012

(SHEET 2 OF 5)

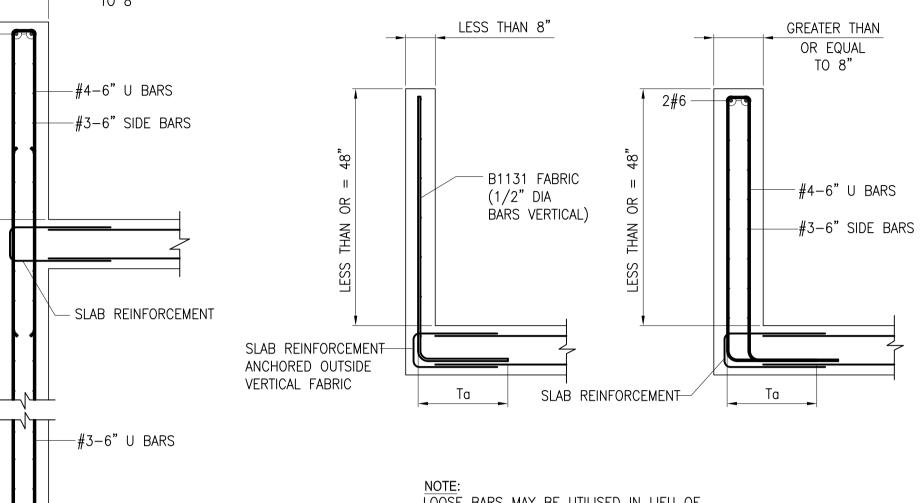






UPSTAND/DOWNSTAND REINFORCEMENT

SCALE N.T.S



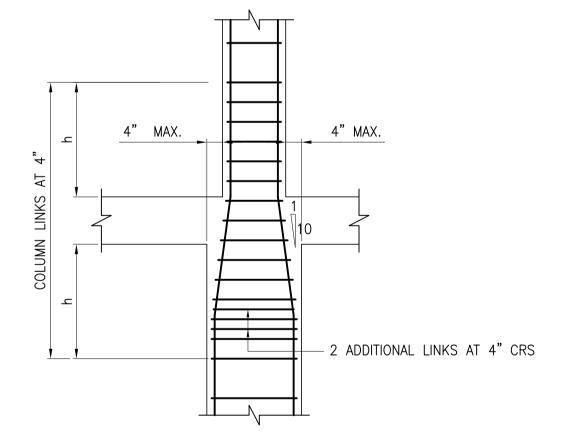
LOOSE BARS MAY BE UTILISED IN LIEU OF FABRIC SUBJECT TO THE CONSULTANT'S PRIOR WRITTEN APPROVAL.





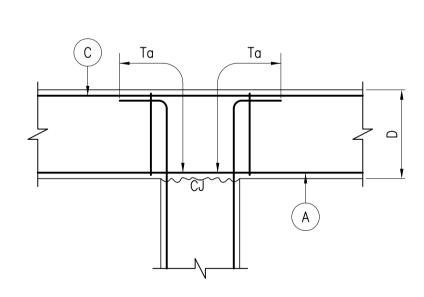
WHERE STEP IS 4" OR LESS CRANKED BARS MAY BE USED SIMILAR TO DETAIL B

GREATER THAN 4"

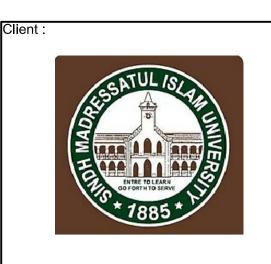


SYMMETRICAL COLUMN JUNCTION SHOWN WITH STEP 4" OR LESS - SCALE N.T.S

1. WHERE STEP IS GREATER THAN 4" BARS FROM LARGER COLUMN TO BE BENT AT 90° AND TERMINATED AS SHOWN IN DETAIL 1.

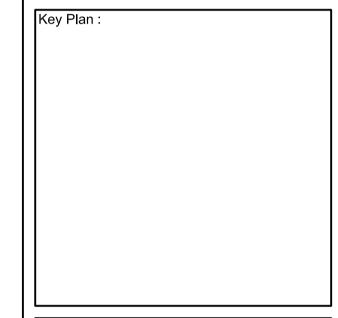


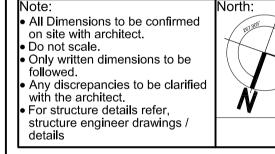
COLUMN BEAM JUNCTION DETAIL F SHOWN WITH STEP 4" OR LESS - SCALE N.T.S

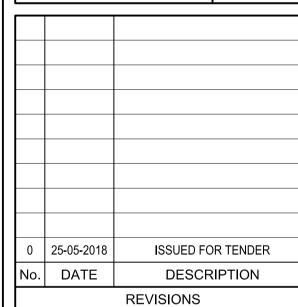




DEVELOPMENT OF SMIU CAMPUS KARACHI







	Date of Issue	May 25, 2018
	Issued To	Client
	Issued For	Tender

STRUCTURE

TENDER

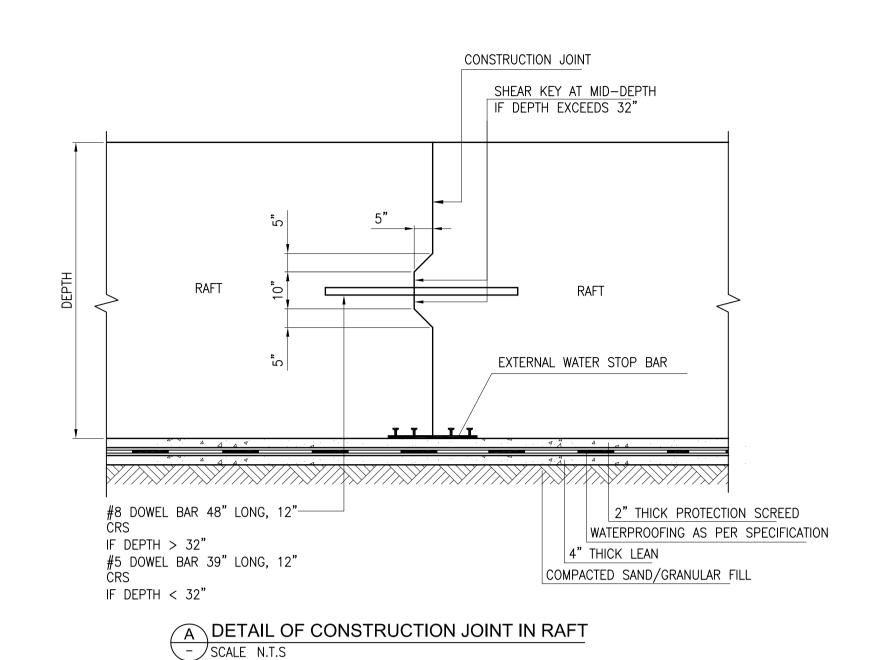
MODEL SCHOOL CITY CAMPUS

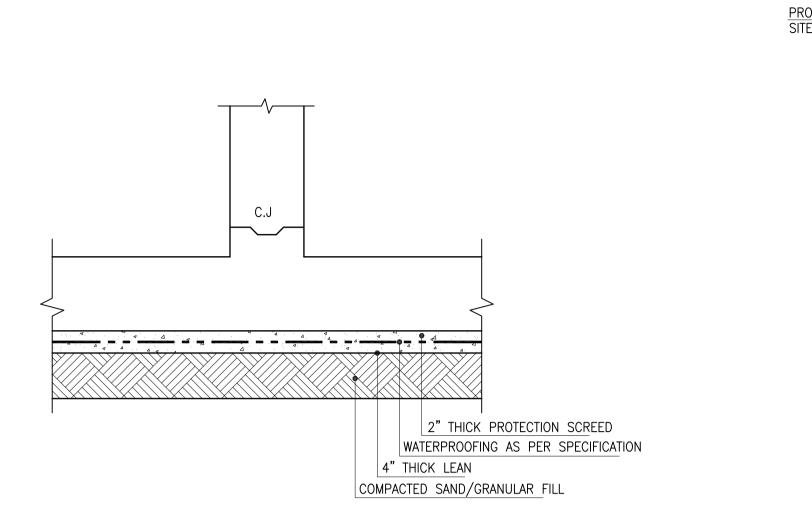
Drawing Title: STANDARD DETAILS

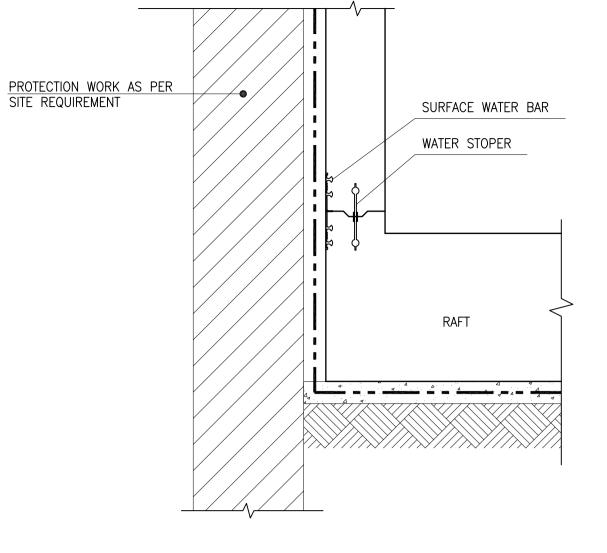
Apr**il**,2018

EA-986-GEN-S-0013

(SHEET 3 OF 5)

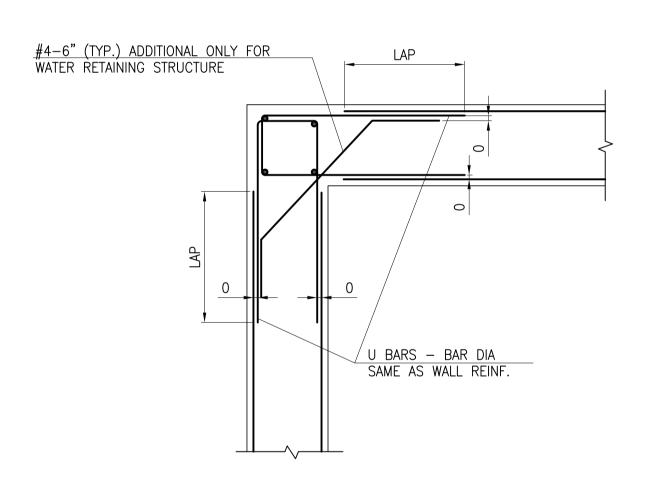


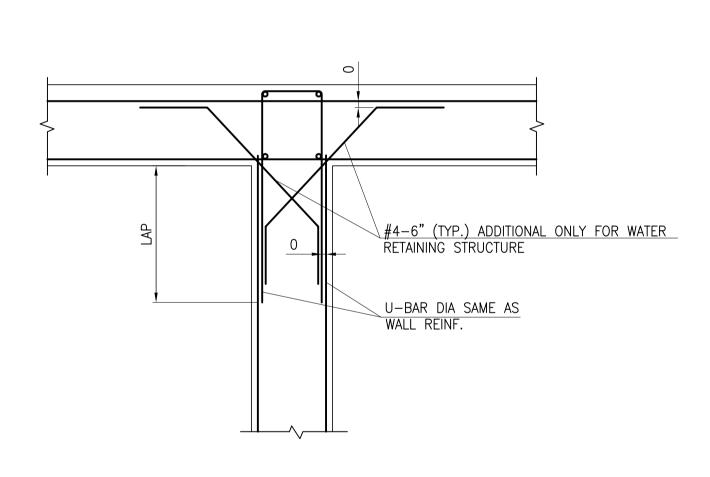


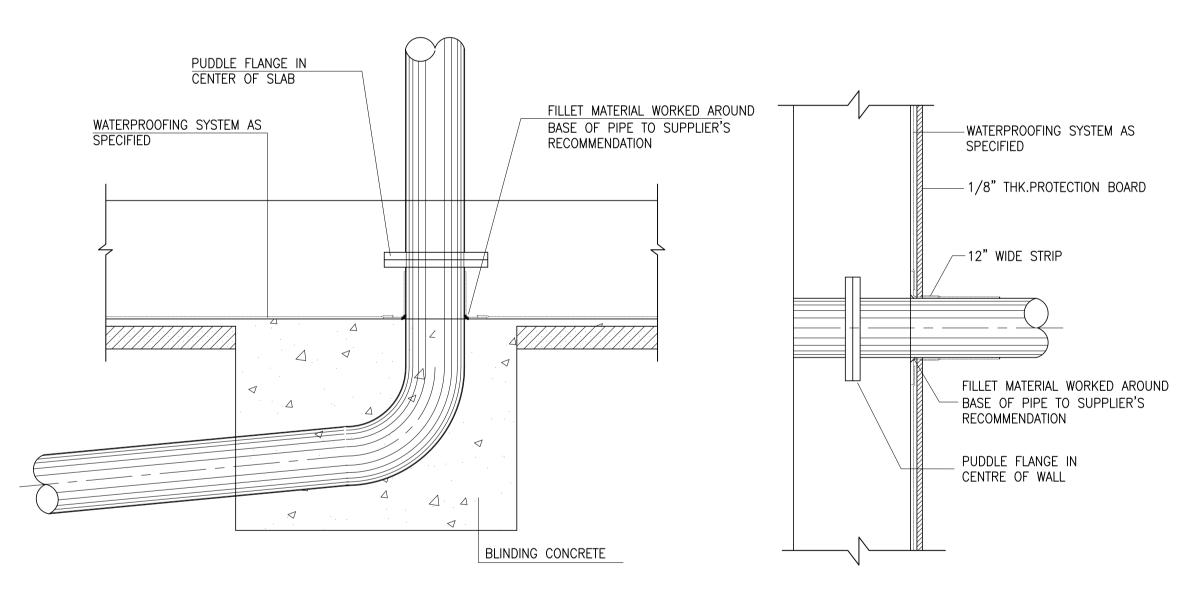


B WATER PROOFING DETAIL FOR LIFT FOUNDATION - SCALE N.T.S

C TYPICAL WATER STOPER DETAIL - SCALE N.T.S



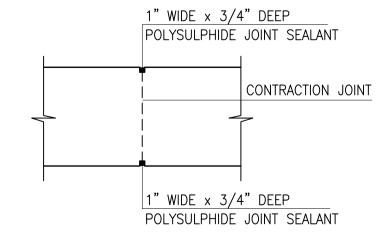




TYPICAL CORNER DETAIL D FOR WATER TANK WALL U.N.O - SCALE N.T.S

TYPICAL INTERSECTION DETAIL FOR WATER TANK WALL U.N.O - SCALE N.T.S

TYPICAL SERVICE ENTRY DETAIL F IN FOUNDATION / WALL / SLAB - SCALE N.T.S



G TYPICAL CONTRACTION JOINT PLAN - SCALE N.T.S

TENDER MODEL SCHOOL CITY CAMPUS

ISSUED FOR TENDER

DESCRIPTION

REVISIONS

STRUCTURE

Consultant :

Key Plan :

All Dimensions to be confirmed

Only written dimensions to be

Only written dimensions to be followed.
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on site with architect.

• Do not scale.

0 25-05-2018

No. DATE

Issued To

Drawing Title :

Date of Issue | May 25, 2018

Issued For Tender

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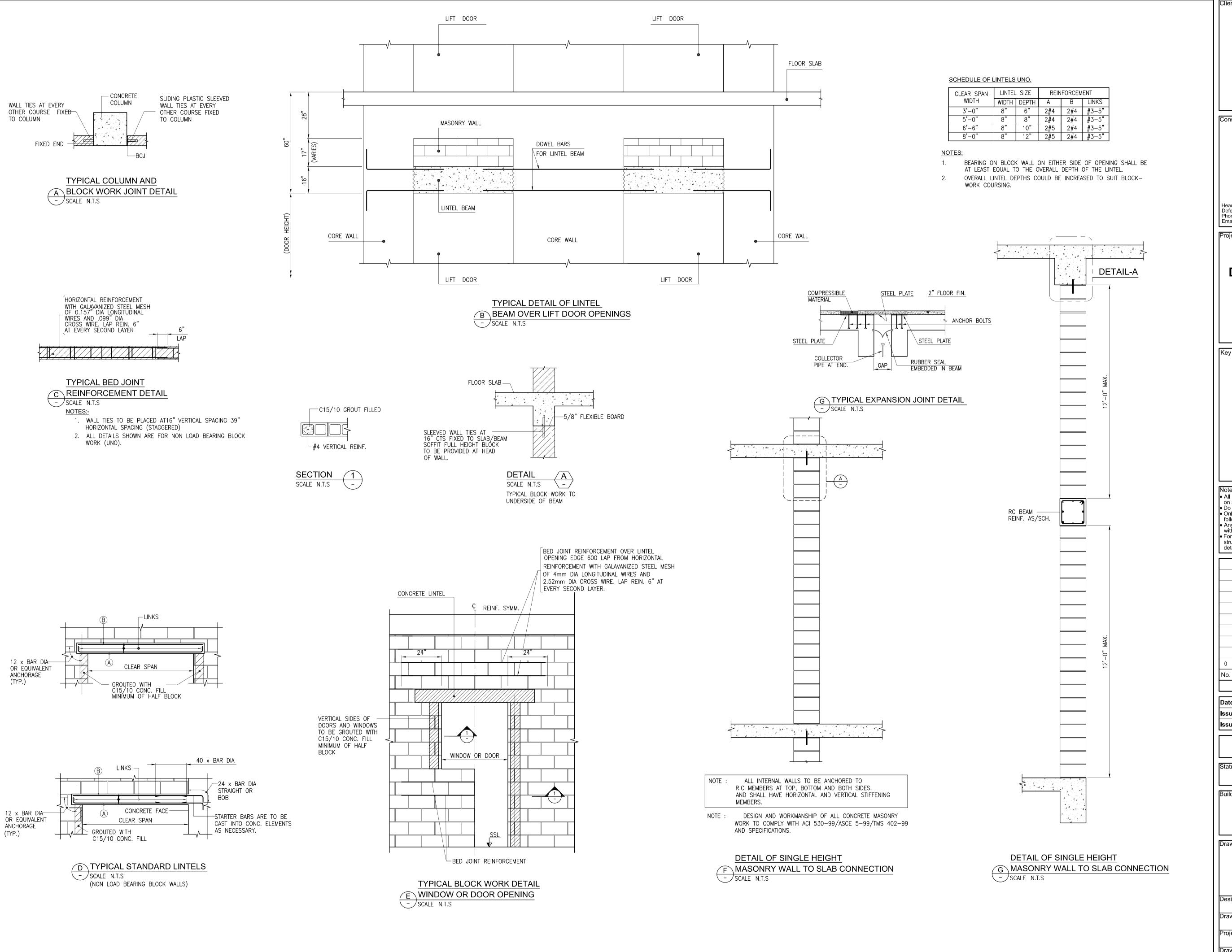
DEVELOPMENT OF

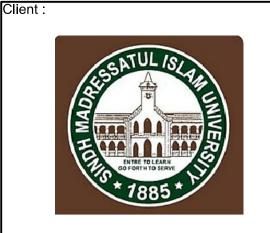
SMIU CAMPUS

KARACHI

STANDARD DETAILS (SHEET 4 OF 5)

Designed: Checked: Apr**il**,2018 00986 EA-986-GEN-S-0014







DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :

Note:

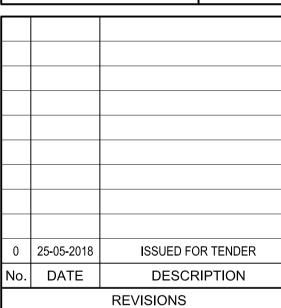
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Date of Issue	May 25, 2018
Issued To	Client
Issued For	Tender

STRUCTURE

TENDER

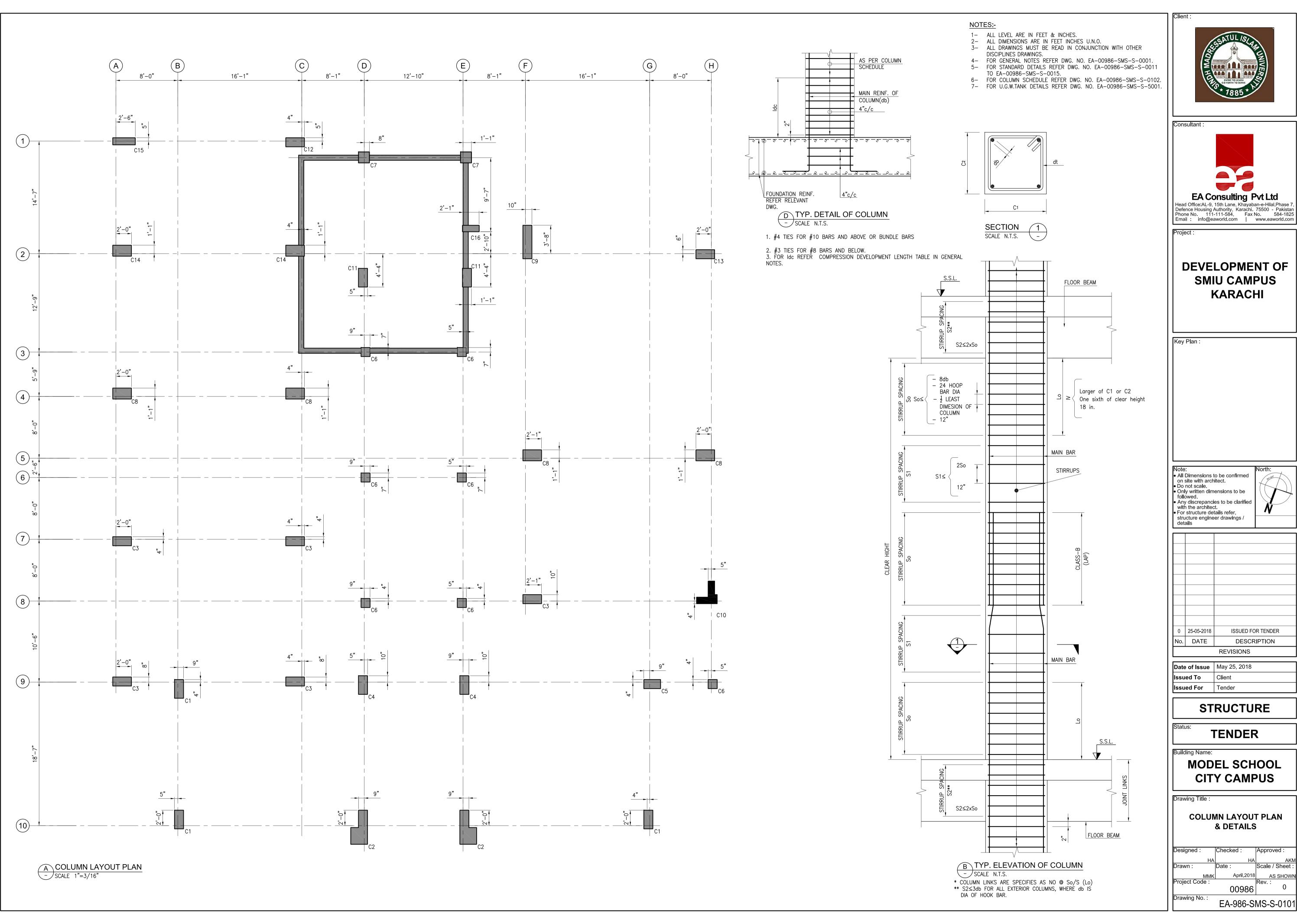
Building Name:

MODEL SCHOOL

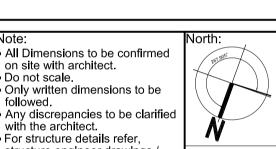
CITY CAMPUS

Drawing Title :

STANDARD DETAILS (SHEET 5 OF 5)





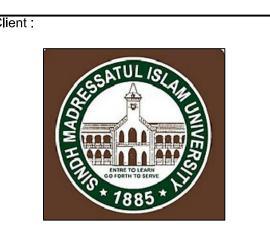


UPPER ROOF LEVEL TO ROOF LEVEL	fc' = 4000 psi	2'-3"	2'-3"		2'-3"	2'-9" 14-#6	2'-0" \tilde{\text{3.7}}
		2-#3@5"/10"c/c LINKS 2'-3"	2-#3@5"/10"c/c LINKS 2'-3"	2'-3"	4-#3@5"/10"c/c LINKS 2'-3"	3-#3@5"/10"c/c LINKS	2-#3@5"/10"c/c LINKS
ROOF LEVEL TO 3RD LEVEL	fc' = 4000 psi	,	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	-0-	1-3	2'-9"	2'-0" \$\tilde{\pi}\$
	+	12-#6 2-#3@5"/10"c/c LINKS	16-#6 2-#3@5"/10"c/c LINKS	18-#6 3-#3@5"/10"c/c LINKS	16-#6 4-#3@5"/10"c/c LINKS	14-#6 3-#3@5"/10"c/c LINKS	8-#5 2-#3@5"/10"c/c LINKS
3RD LEVEL TO 1ST LEVEL	fc' = 4000 psi	2'-3"	2'-3"	2'-3"	2'-3"	2'-9"	2'-0" \(\tag{7}\)
		2-#3@5"/10"c/c LINKS	2-#3@5"/10"c/c LINKS	3-#3@5"/10"c/c LINKS	4-#3@5"/10"c/c LINKS	3-#3@5"/10"c/c LINKS	6-#3 2-#3@5"/10"c/c LINKS
1ST LEVEL TO PLINTH LEVEL	fc' = 4000 psi	2'-3"	2'-3"	2'-3"	2'-3"	2'-9"	2'-0"
		12-#6 2-#3@5"/10"c/c LINKS	16-#6 2-#3@5"/10"c/c LINKS	18-#6 3-#3@5"/10"c/c LINKS	16-#8 4-#3@5"/10"c/c LINKS	14-#6 3-#3@5"/10"c/c LINKS	8-#5 2-#3@5"/10"c/c LINKS
PLINTH LEVEL TO FOUNDATION	fc' = 4000 psi	2'-5"	2'-5"	2'-5"	2'-5"	2'-11"	2'-2"
		12-#6 2-#3@5"/10"c/c LINKS	16-#6 2-#3@5"/10"c/c LINKS	18-#6 3-#3@5"/10"c/c LINKS	16-#8 4-#3@5"/10"c/c LINKS	14-#6 3-#3@5"/10"c/c LINKS	8-#5 2-#3@5"/10"c/c LINKS
COLUMN ID		C11	C12	C13	C14	C15	C16

- 1- ALL LEVEL ARE IN FEET & INCHES.
 2- ALL DIMENSIONS ARE IN FEET INCHES U.N.O.
 3- ALL DRAWINGS MUST BE READ IN CONJUNCTION WITH OTHER
- DISCIPLINES DRAWINGS.

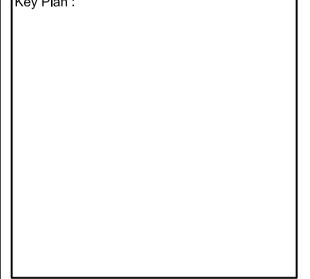
 4- FOR GENERAL NOTES REFER DWG. NO. EA-00986-SMS-S-0001.

 5- FOR STANDARD DETAILS REFER DWG. NO. EA-00986-SMS-S-0011
- TO EA-00986-SMS-S-0015.
 6- FOR COLUMN MARK REFER DWG. NO. EA-00986-SMS-S-0101.





DEVELOPMENT OF SMIU CAMPUS KARACHI



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0	25-05-2018	ISSUED FOR TENDER		
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REVISIONS				

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STRUCTURE

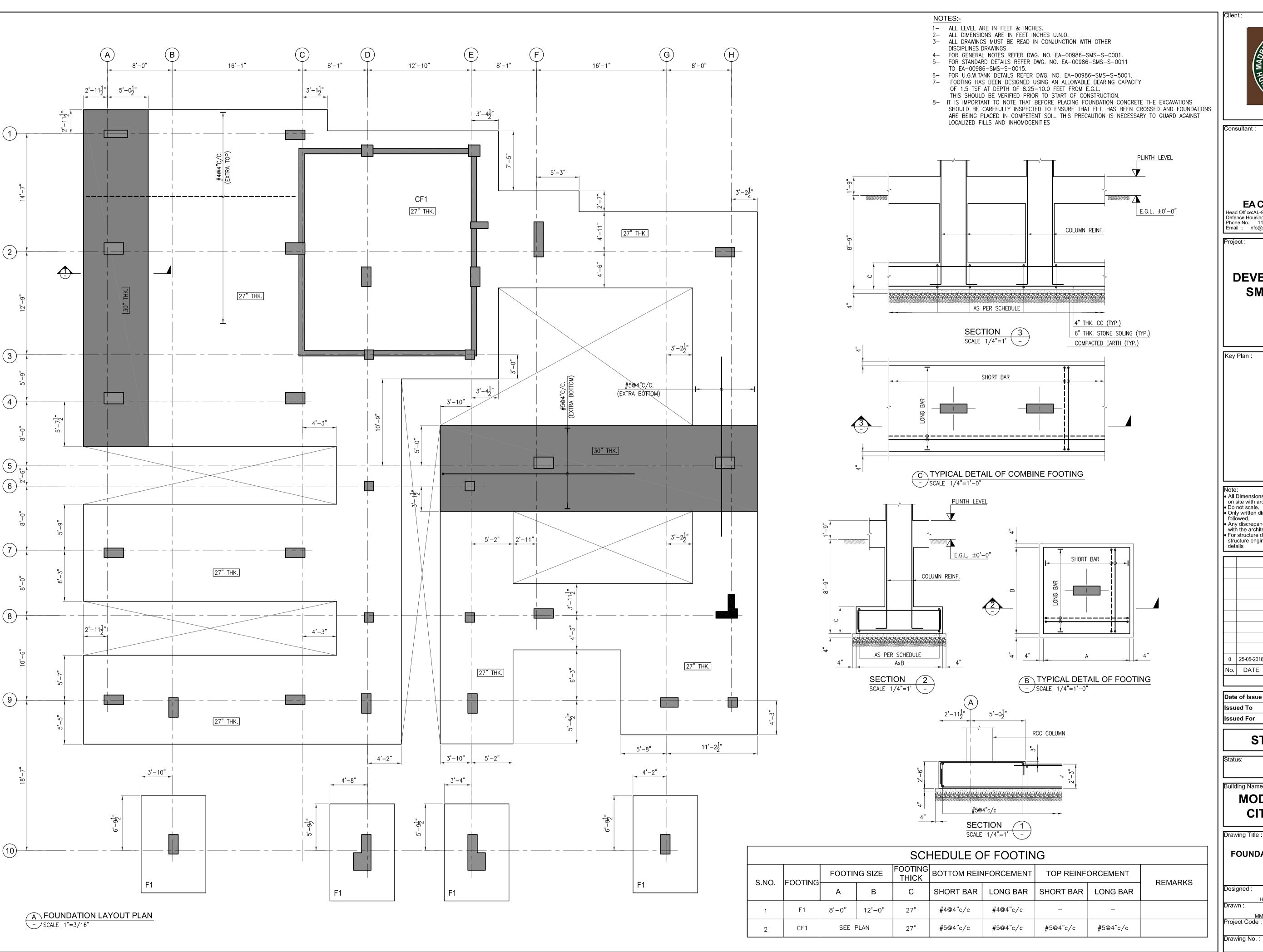
TENDER

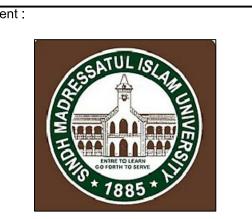
MODEL SCHOOL CITY CAMPUS

COLUMN SCHEDULE

Designed :	Checked :	Approved :	
НА	HA	AKI	
Drawn :	Date :	Scale / Sheet :	
MMK	April,2018	AS SHOW	
Project Code :		Rev.:	
	00986	0	
Drawing No. :	E 4 000 01	40 0 0400	
	EA-986-SI	VIO-0-0102	

UPPER ROOF LEVEL TO ROOF LEVEL	fc' = 4000 psi							1'-3" 16-#6 3-#3@5"/10"c/c LINKS		4'-2" 16-#6 3-#3@5"/10"c/c LINKS	1'-6" 8" 4"
ROOF LEVEL TO 3RD LEVEL	fc' = 4000 psi			2'-3" 12-#6 2-#3@5"/10"c/c LINKS	1'-1" 1'-0" 2" 8-#6 2-#3@5"/10"c/c LINKS	2'-0" 12-#6 2-#3@5"/10"c/c LINKS	1'-0" 8-#6 2-#3@5"/10"c/c LINKS	1'-3" 16-#6 3-#3@5"/10"c/c LINKS	2'-3" 22-#6 4-#3@5"/10"c/c LINKS	4'-2" 16-#6 3-#3@5"/10"c/c LINKS	24-#6 5-#3@5"/10"c/c LINKS 1'-6" 8" 4"
3RD LEVEL TO 1ST LEVEL	fc' = 4000 psi	2'-3" 12-#6 2-#3@5"/10"c/c LINKS	2'-3" 12-#6 2-#3@5"/10"c/c LINKS	2'-3" 12-#6 2-#3@5"/10"c/c LINKS	2'-3" 16-#6 2-#3@5"/10"c/c LINKS	2'-0" 12-#6 2-#3@5"/10"c/c LINKS	8-#6 2-#3@5"/10"c/c LINKS	1'-3" 16-#6 3-#3@5"/10"c/c LINKS	2'-3" 22-#6 4-#3@5"/10"c/c LINKS	4'-2" 16-#6 3-#3@5"/10"c/c LINKS	24-#6 5-#3@5"/10"c/c LINKS
1ST LEVEL TO PLINTH LEVEL	fc' = 4000 psi	2'-3" 2'-3" 12-#6 2-#3@5"/10"c/c LINKS	2'-0" 2'-3" 28-#6 5-#3@5"/10"c/c LINKS	2'-3" 2'-3" 12-#6 2-#3@5"/10"c/c LINKS	2'-3" 16-#6 2-#3@5"/10"c/c LINKS	2'-0" 12-#6 2-#3@5"/10"c/c LINKS	1'-0" 8-#6 2-#3@5"/10"c/c LINKS	1'-3" 16-#6 3-#3@5"/10"c/c LINKS	2'-3" 2'-3" 22-#6 4-#3@5"/10"c/c LINKS	4'-2" 16-#6 3-#3@5"/10"c/c LINKS	24-#6 5-#3@5"/10"c/c LINKS
PLINTH LEVEL TO FOUNDATION	fc' = 4000 psi	2'-5" 12-#6 2-#3@5"/10"c/c LINKS	2'-2" 2'-3" 28-#6 5-#3@5"/10"c/c LINKS	2'-5" 12-#6 2-#3@5"/10"c/c LINKS	2'-5" 16-#6 2-#3@5"/10"c/c LINKS	2'-2" 12-#6 2-#3@5"/10"c/c LINKS	1'-2" 1'-2" 8-#6 2-#3@5"/10"c/c LINKS	1'-5" 16-#6 3-#3@5"/10"c/c LINKS	2'-5" 22-#6 4-#3@5"/10"c/c LINKS	4'-4" 16-#6 3-#3@5"/10"c/c LINKS	24-#6 5-#3@5"/10"c/c LINKS
COLUMN ID		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10

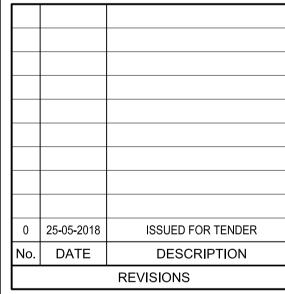






DEVELOPMENT OF SMIU CAMPUS KARACHI

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	Issued For	Tender

STRUCTURE

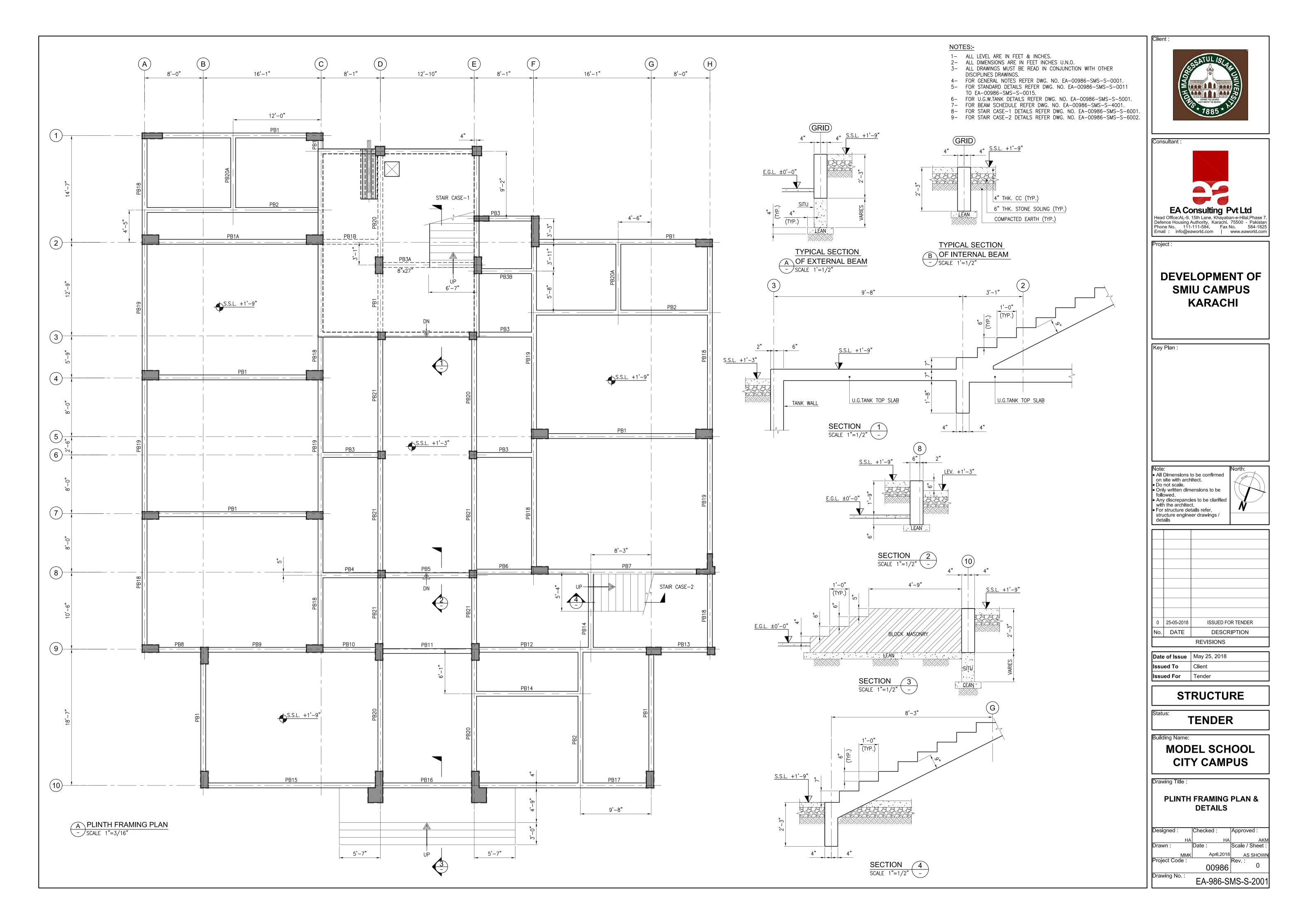
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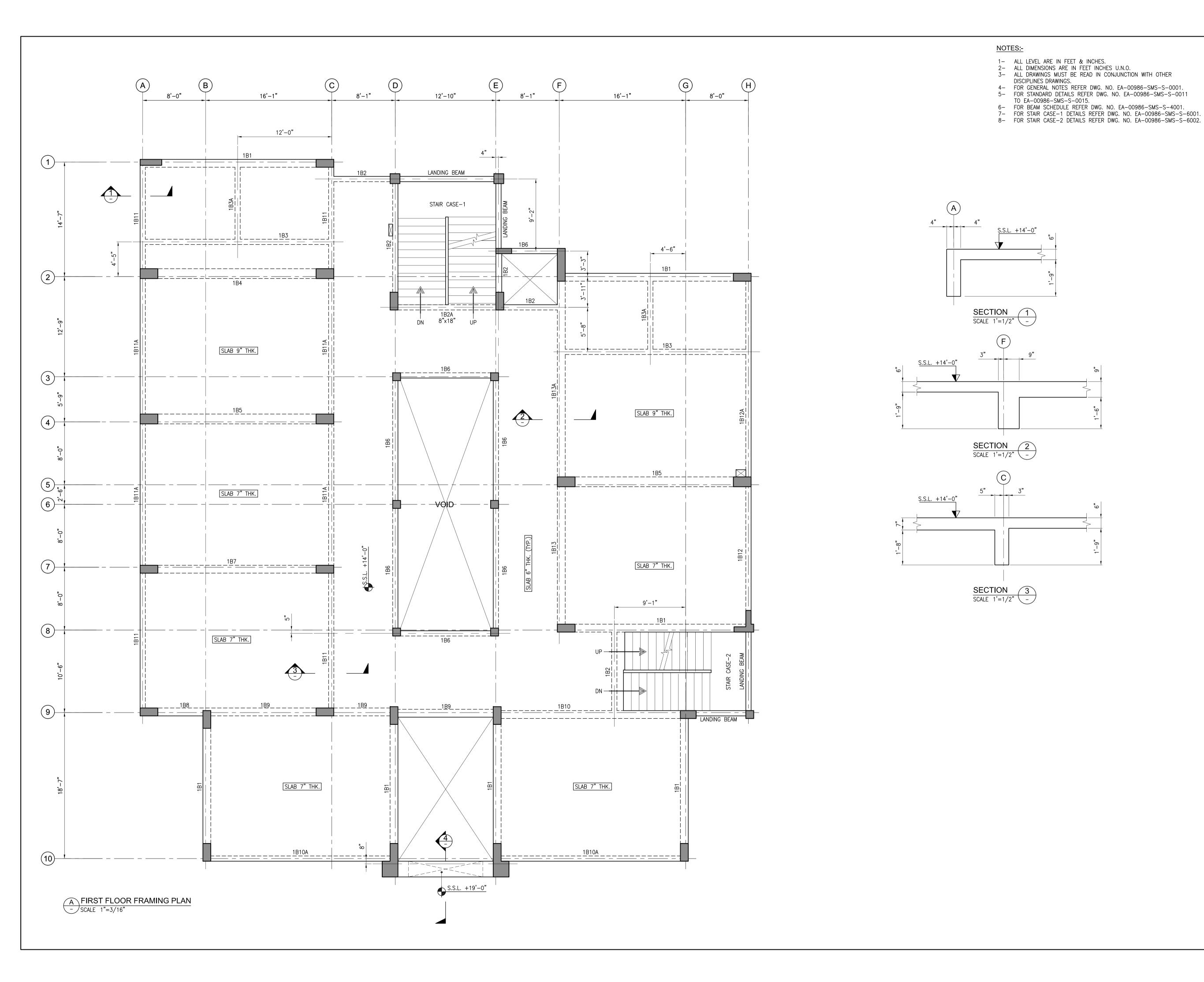
MODEL SCHOOL CITY CAMPUS

FOUNDATION LAYOUT PLAN & DETAILS

April,2018 00986

EA-986-SMS-S-0103











DEVELOPMENT OF SMIU CAMPUS KARACHI

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0	25-05-2018	ISSUED FOR TENDER
No.	DATE	DESCRIPTION
REVISIONS		

Date of Issue | May 25, 2018 Issued To Client Issued For Tender

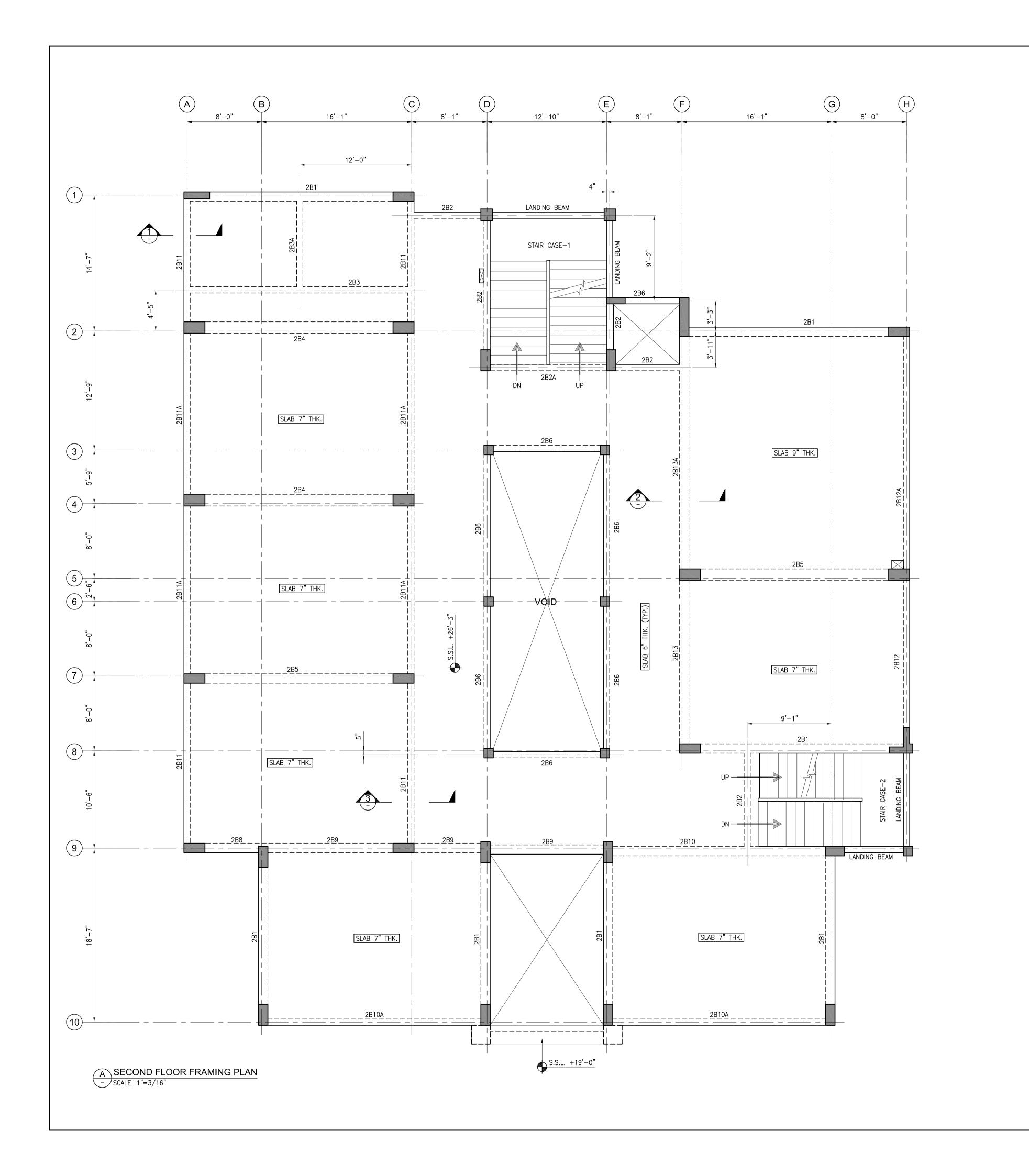
STRUCTURE

TENDER

MODEL SCHOOL CITY CAMPUS

FIRST FLOOR FRAMING **PLAN & DETAILS**

Drawing No. EA-986-SMS-S-2002



SECTION 1 SCALE 1'=1/2" -

- 1- ALL LEVEL ARE IN FEET & INCHES.
- 2- ALL DIMENSIONS ARE IN FEET INCHES U.N.O. ALL DRAWINGS MUST BE READ IN CONJUNCTION WITH OTHER
- DISCIPLINES DRAWINGS.
- 4- FOR GENERAL NOTES REFER DWG. NO. EA-00986-SMS-S-0001. 5- FOR STANDARD DETAILS REFER DWG. NO. EA-00986-SMS-S-0011
- TO EA-00986-SMS-S-0015.

 FOR BEAM SCHEDULE REFER DWG. NO. EA-00986-SMS-S-4001.

 FOR STAIR CASE-1 DETAILS REFER DWG. NO. EA-00986-SMS-S-6001.

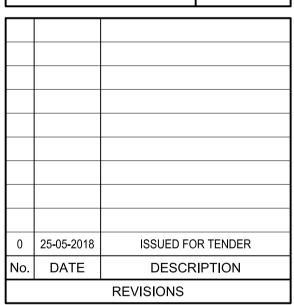
 FOR STAIR CASE-2 DETAILS REFER DWG. NO. EA-00986-SMS-S-6002.





DEVELOPMENT OF SMIU CAMPUS KARACHI

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Date of Issue May 25, 2018 Issued To Client Issued For Tender

STRUCTURE

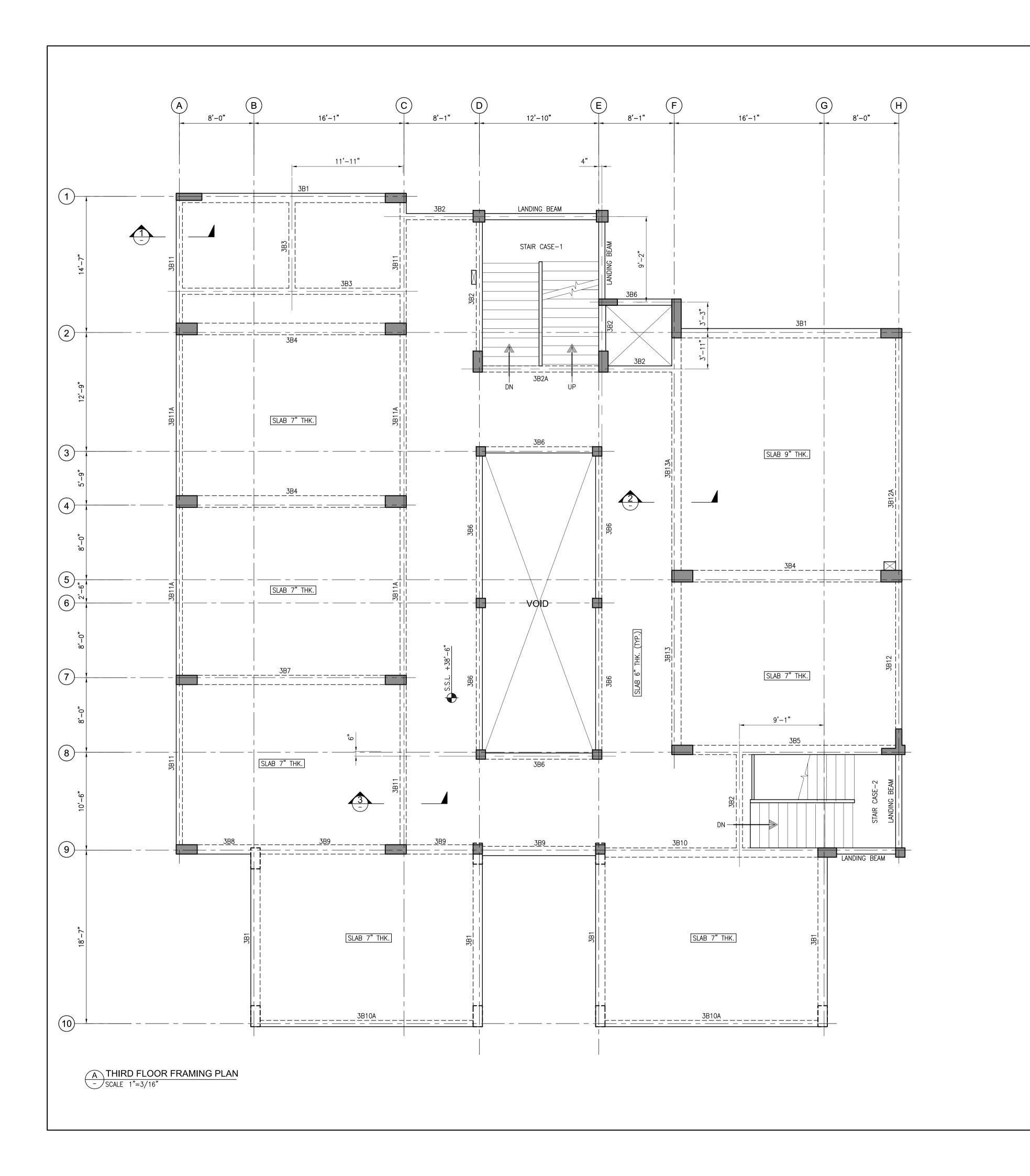
TENDER

MODEL SCHOOL CITY CAMPUS

SECOND FLOOR FRAMING **PLAN & DETAILS**

Drawing No.

EA-986-SMS-S-2003



SECTION 1 SCALE 1'=1/2" -

SECTION (

SECTION 3 SCALE 1'=1/2" -

SCALE 1'=1/2"

- 1- ALL LEVEL ARE IN FEET & INCHES.
- 2- ALL DIMENSIONS ARE IN FEET INCHES U.N.O. ALL DRAWINGS MUST BE READ IN CONJUNCTION WITH OTHER
- DISCIPLINES DRAWINGS.
- 4- FOR GENERAL NOTES REFER DWG. NO. EA-00986-SMS-S-0001. 5- FOR STANDARD DETAILS REFER DWG. NO. EA-00986-SMS-S-0011
- TO EA-00986-SMS-S-0015.

 FOR BEAM SCHEDULE REFER DWG. NO. EA-00986-SMS-S-4001.

 FOR STAIR CASE-1 DETAILS REFER DWG. NO. EA-00986-SMS-S-6001.

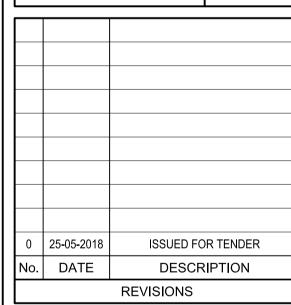
 FOR STAIR CASE-2 DETAILS REFER DWG. NO. EA-00986-SMS-S-6002.





DEVELOPMENT OF SMIU CAMPUS KARACHI

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Date of Issue May 25, 2018 Issued To Client Issued For Tender

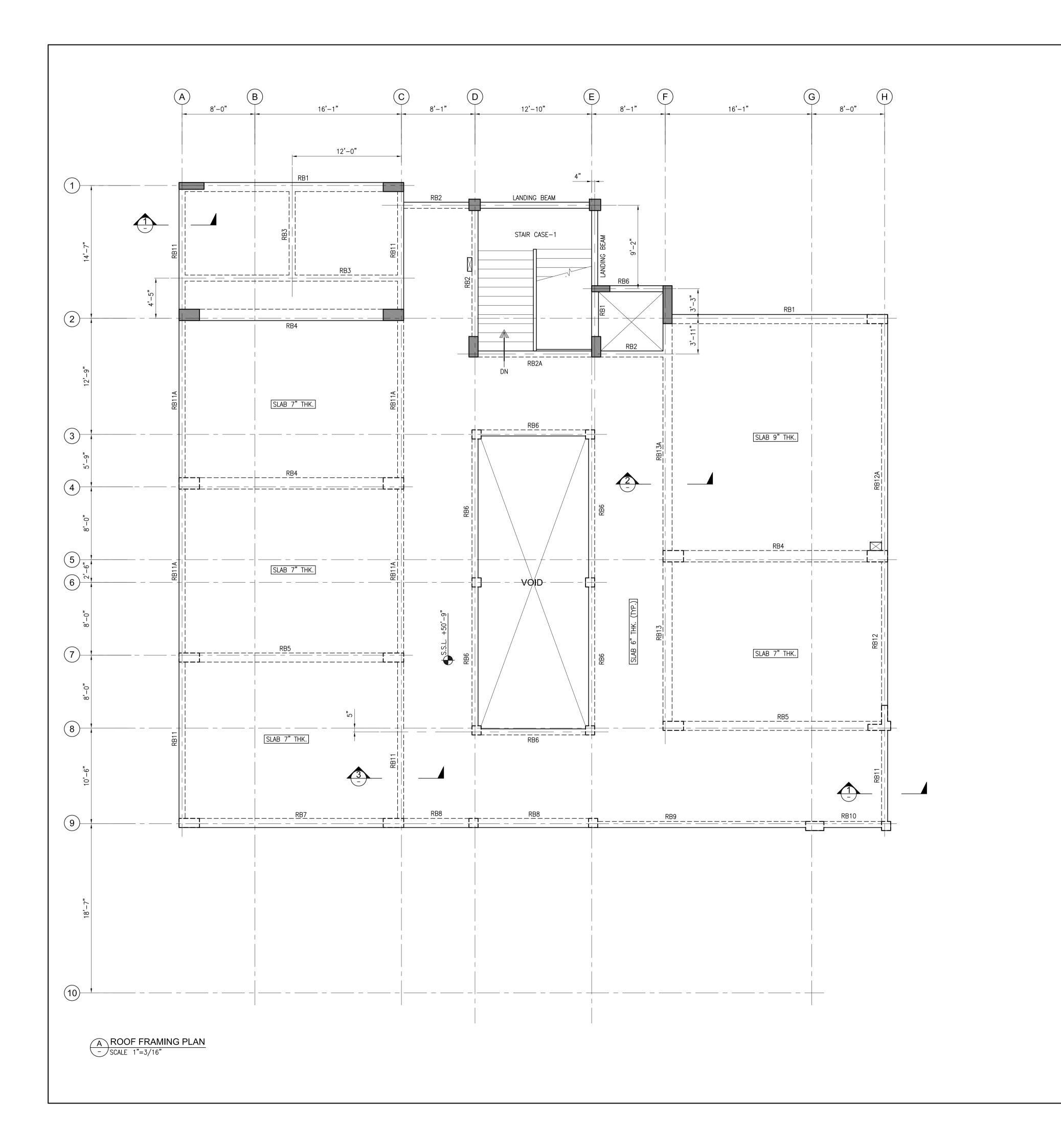
STRUCTURE

TENDER

MODEL SCHOOL CITY CAMPUS

THIRD FLOOR FRAMING **PLAN & DETAILS**

Drawing No. EA-986-SMS-S-2004



1- ALL LEVEL ARE IN FEET & INCHES.2- ALL DIMENSIONS ARE IN FEET INCHES U.N.O.

S.S.L. +50'-9"

SECTION 1 SCALE 1'=1/2" -

SECTION 3

- ALL DRAWINGS MUST BE READ IN CONJUNCTION WITH OTHER
- DISCIPLINES DRAWINGS.
- FOR GENERAL NOTES REFER DWG. NO. EA-00986-SMS-S-0001.

 FOR STANDARD DETAILS REFER DWG. NO. EA-00986-SMS-S-0011
 TO EA-00986-SMS-S-0015.

 FOR BEAM SCHEDULE REFER DWG. NO. EA-00986-SMS-S-4001.

 FOR STAIR CASE-1 DETAILS REFER DWG. NO. EA-00986-SMS-S-6001.





DEVELOPMENT OF SMIU CAMPUS KARACHI

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0 25-05-2018 ISSUED FOR TENDER No. DATE DESCRIPTION **REVISIONS**

Date of Issue May 25, 2018 Issued To Client Issued For Tender

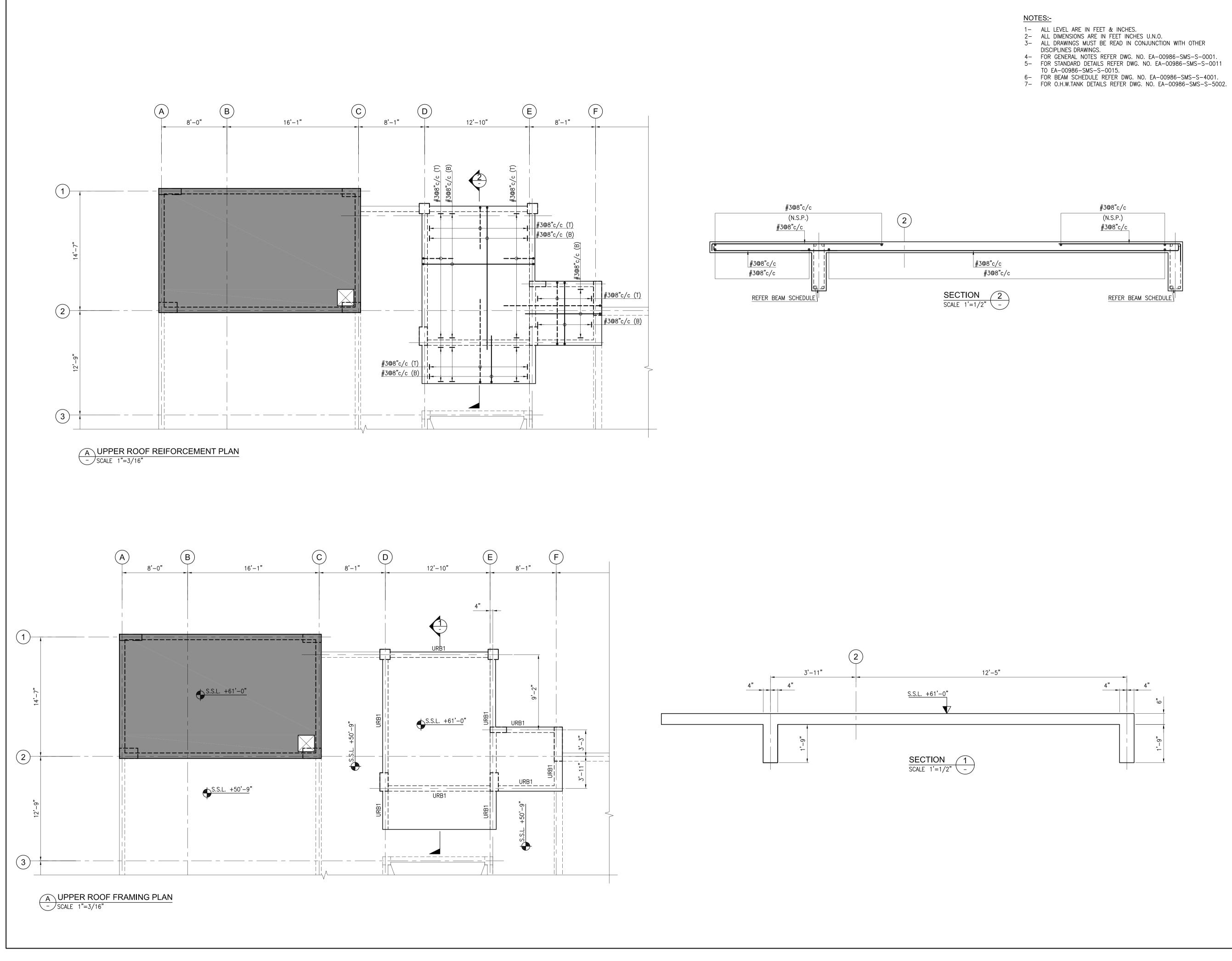
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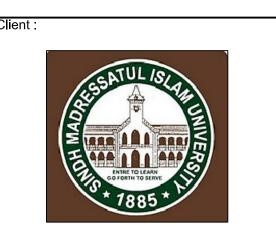
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MODEL SCHOOL CITY CAMPUS

ROOF FRAMING PLAN & DETAILS

EA-986-SMS-S-2005





Consultant :

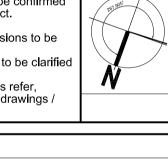


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DEVELOPMENT OF SMIU CAMPUS KARACHI

Note:

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0	25-05-2018	ISSUED FOR TENDER
No.	DATE	DESCRIPTION
		REVISIONS

Issued To Client Issued For Tender	Date of Issue	May 25, 2018
Issued For Tender	Issued To	Client
	Issued For	Tender

STRUCTURE

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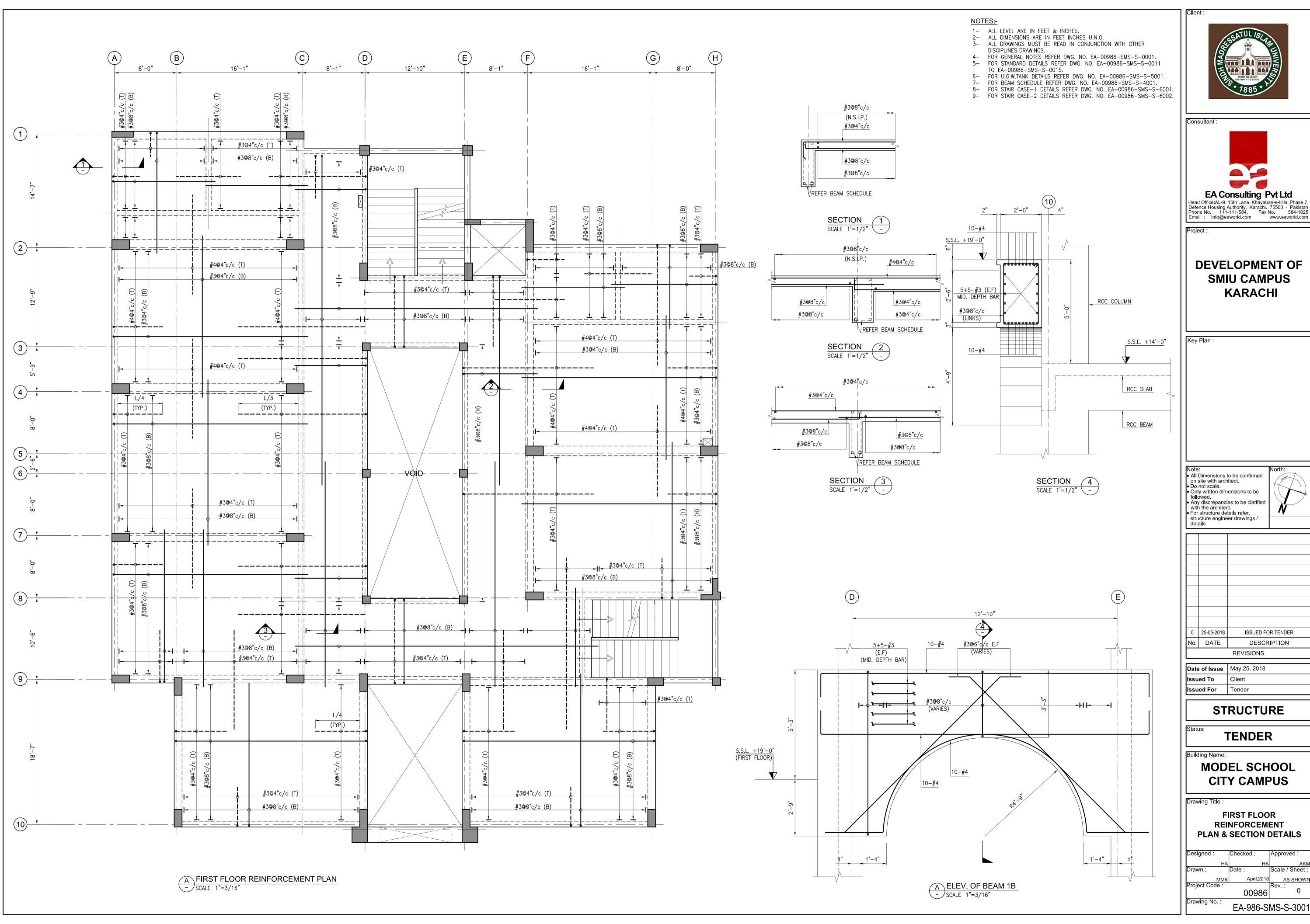
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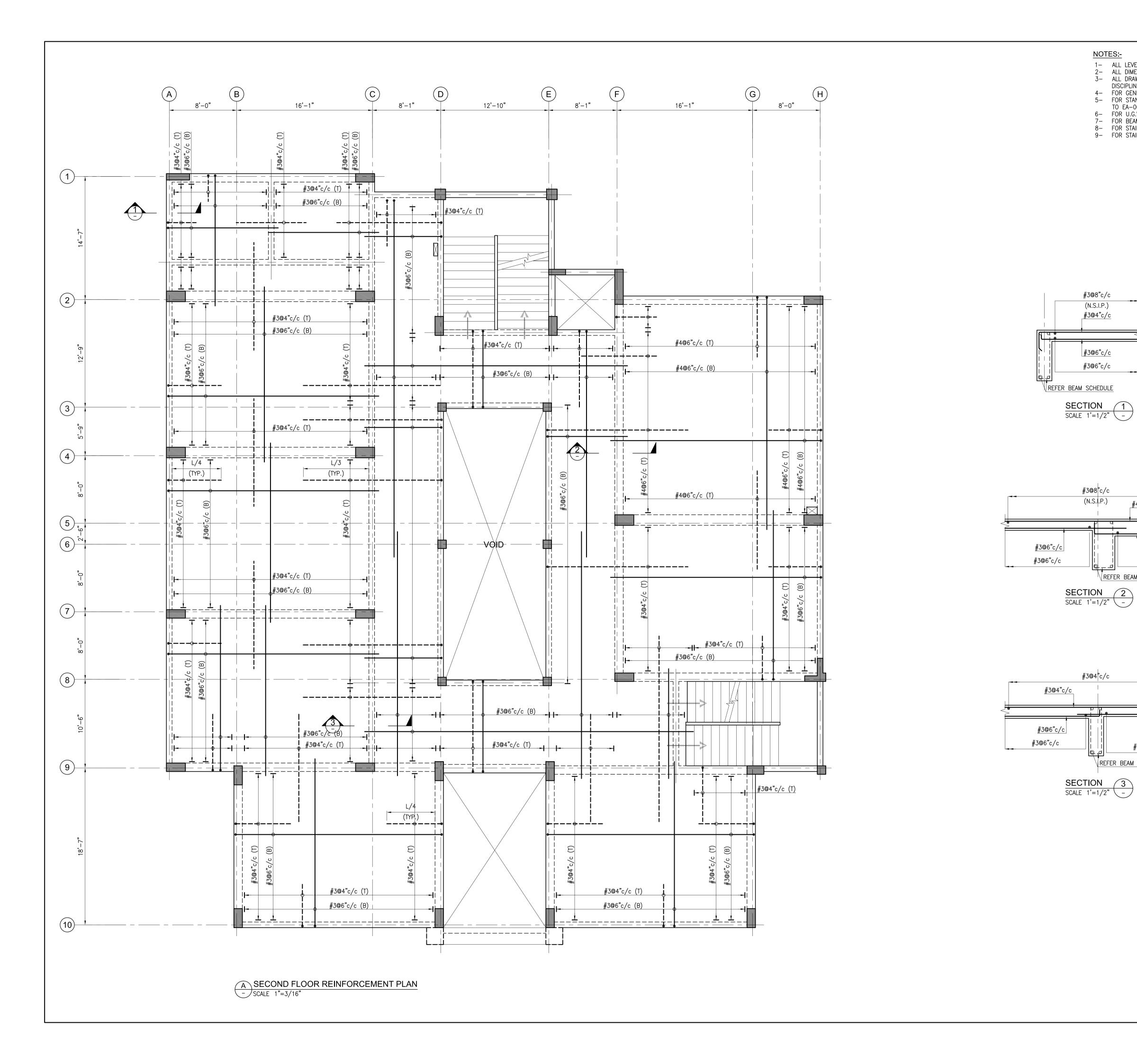
MODEL SCHOOL CITY CAMPUS

Drawing Tit

UPPER ROOF FRAMING REINFORCEMENT PLAN & DETAILS

Designed :	Checked :	Approved :
HA		AKM
Drawn :	Date :	Scale / Sheet :
MMK	April,2018	AS SHOWN
Project Code :		Rev.:
	00986	U
Drawing No. :	EV 086 SI	MS-S-2006
	EM-300-9	VIO-0-2000





NOTES:-

#3@8"c/c

(N.S.I.P.) #3@4"c/c

#3@6"c/c

#3@6"c/c

#3@8"c/c

(N.S.I.P.)

#3@4"c/c

#4@6"c/c

#4@6"c/c

#4@6"c/c

#3@6"c/c

#3@6"c/c

REFER BEAM SCHEDULE

REFER BEAM SCHEDULE

- 1- ALL LEVEL ARE IN FEET & INCHES.
- 2- ALL DIMENSIONS ARE IN FEET INCHES U.N.O. 3- ALL DRAWINGS MUST BE READ IN CONJUNCTION WITH OTHER
- DISCIPLINES DRAWINGS.
- 4- FOR GENERAL NOTES REFER DWG. NO. EA-00986-SMS-S-0001. 5- FOR STANDARD DETAILS REFER DWG. NO. EA-00986-SMS-S-0011
- TO EA-00986-SMS-S-0015. 6- FOR U.G.W.TANK DETAILS REFER DWG. NO. EA-00986-SMS-S-5001. 7- FOR BEAM SCHEDULE REFER DWG. NO. EA-00986-SMS-S-4001.
- 8- FOR STAIR CASE-1 DETAILS REFER DWG. NO. EA-00986-SMS-S-6001. 9- FOR STAIR CASE-2 DETAILS REFER DWG. NO. EA-00986-SMS-S-6002.



DEVELOPMENT OF SMIU CAMPUS KARACHI

All Dimensions to be confirmed on site with architect.
Do not scale.
Only written dimensions to be only with differentiations to be followed.
Any discrepancies to be clarified with the architect.
For structure details refer, structure engineer drawings / details

0 25-05-2018 ISSUED FOR TENDER No. DATE DESCRIPTION REVISIONS

Date of Issue May 25, 2018 Issued To Client Issued For Tender

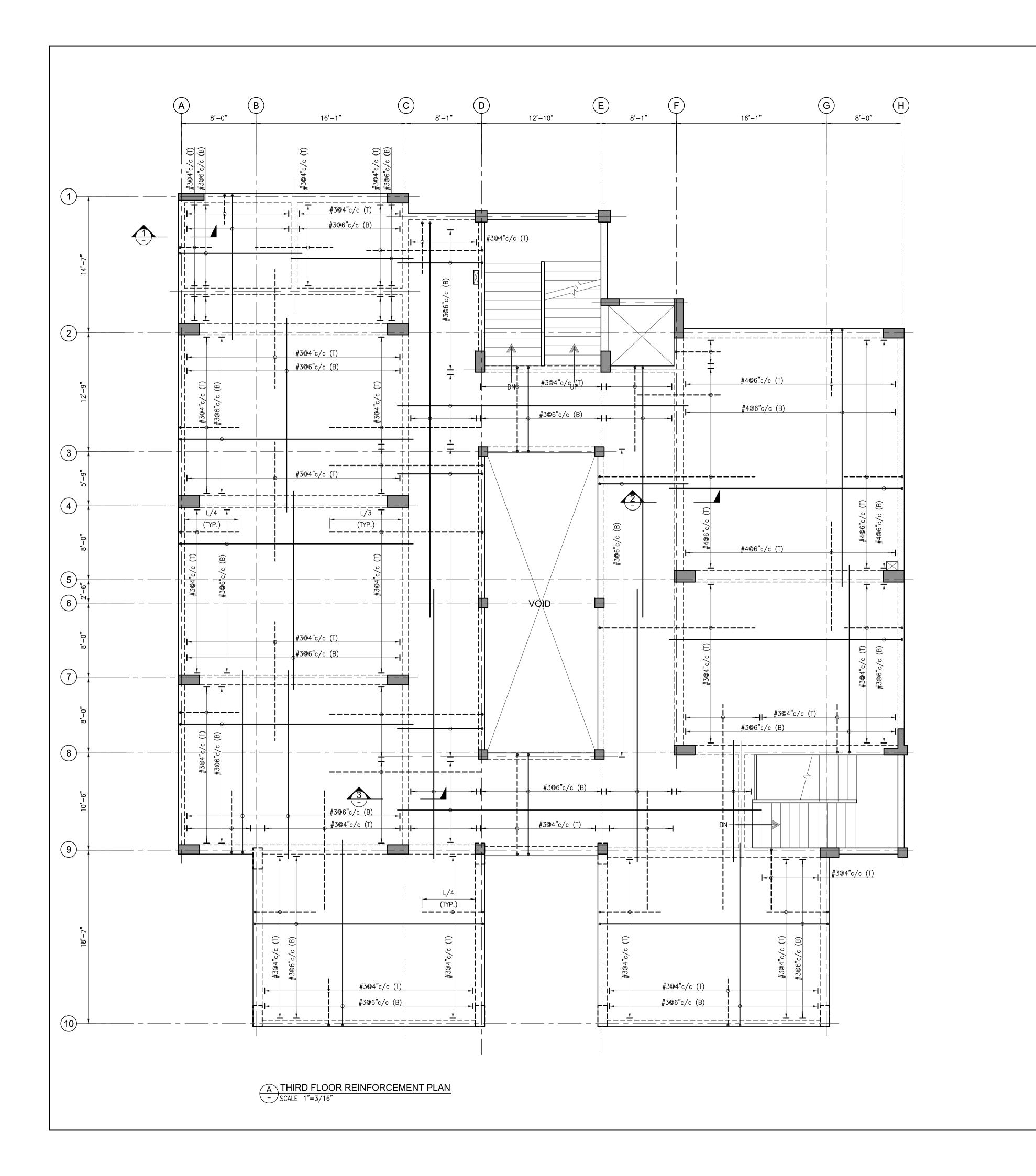
STRUCTURE

TENDER

MODEL SCHOOL CITY CAMPUS

SECOND FLOOR REINFORCEMENT PLAN & SECTION DETAILS

April,2018 00986 Drawing No. : EA-986-SMS-S-3002



#3@8"c/c

(N.S.I.P.)

#3@4"c/c

#3@6"c/c

#3@6"c/c

SECTION 1 SCALE 1'=1/2" \ -

#3@8^{*}c/c

(N.S.I.P.)

SECTION 2 SCALE 1'=1/2" -

#3@4"c/c

SECTION 3 SCALE 1'=1/2" -

#3@6"c/c

#3@6"c/c

#3@4"c/c

#3@6"c/c

#3@6"c/c

#4@4"c/c

#4@6"c/c

#4@6"c/c

#3@6"c/c

#3@6"c/c

REFER BEAM SCHEDULE

REFER BEAM SCHEDULE

REFER BEAM SCHEDULE

- 1- ALL LEVEL ARE IN FEET & INCHES.
- 2- ALL DIMENSIONS ARE IN FEET INCHES U.N.O. 3- ALL DRAWINGS MUST BE READ IN CONJUNCTION WITH OTHER
- DISCIPLINES DRAWINGS. 4- FOR GENERAL NOTES REFER DWG. NO. EA-00986-SMS-S-0001.
- 5- FOR STANDARD DETAILS REFER DWG. NO. EA-00986-SMS-S-0011 TO EA-00986-SMS-S-0015.
- 6- FOR U.G.W.TANK DETAILS REFER DWG. NO. EA-00986-SMS-S-5001. 7- FOR BEAM SCHEDULE REFER DWG. NO. EA-00986-SMS-S-4001.
- 8- FOR STAIR CASE-1 DETAILS REFER DWG. NO. EA-00986-SMS-S-6001.
- 9- FOR STAIR CASE-2 DETAILS REFER DWG. NO. EA-00986-SMS-S-6002.



Consultant:



DEVELOPMENT OF SMIU CAMPUS KARACHI

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Date of Issue May 25, 2018 Issued To Issued For Tender

REVISIONS

DESCRIPTION

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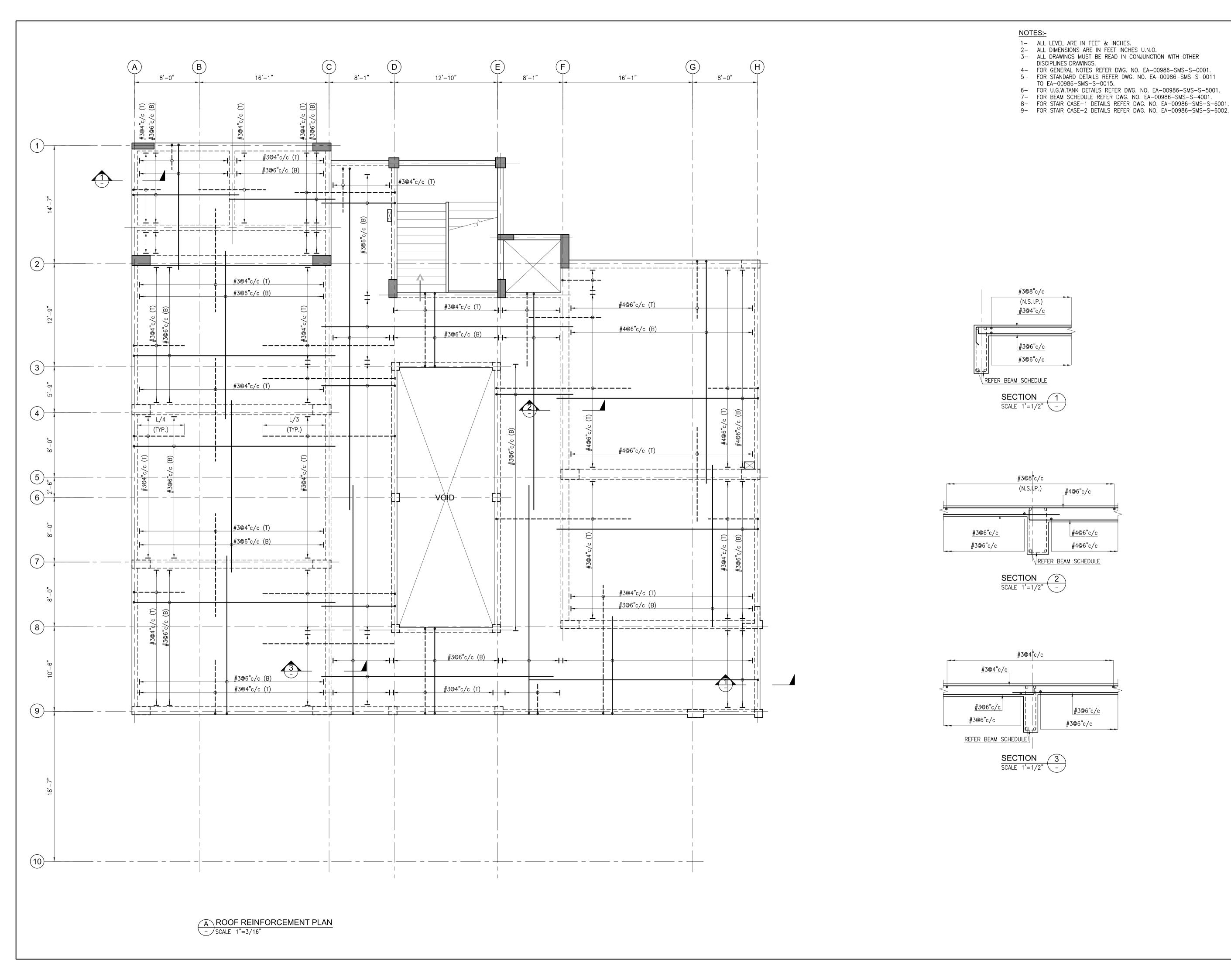
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No. DATE

MODEL SCHOOL CITY CAMPUS

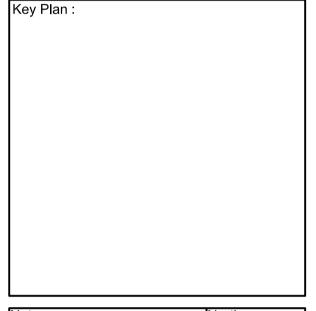
THIRD FLOOR REINFORCEMENT PLAN & SECTION DETAILS

April,2018 00986 Drawing No. : EA-986-SMS-S-3003



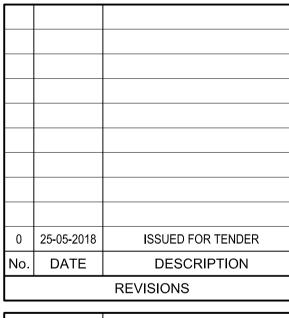






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Date of Issue	May 25, 2018
Issued To	Client
Issued For	Tender

STRUCTURE

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uilding Name:

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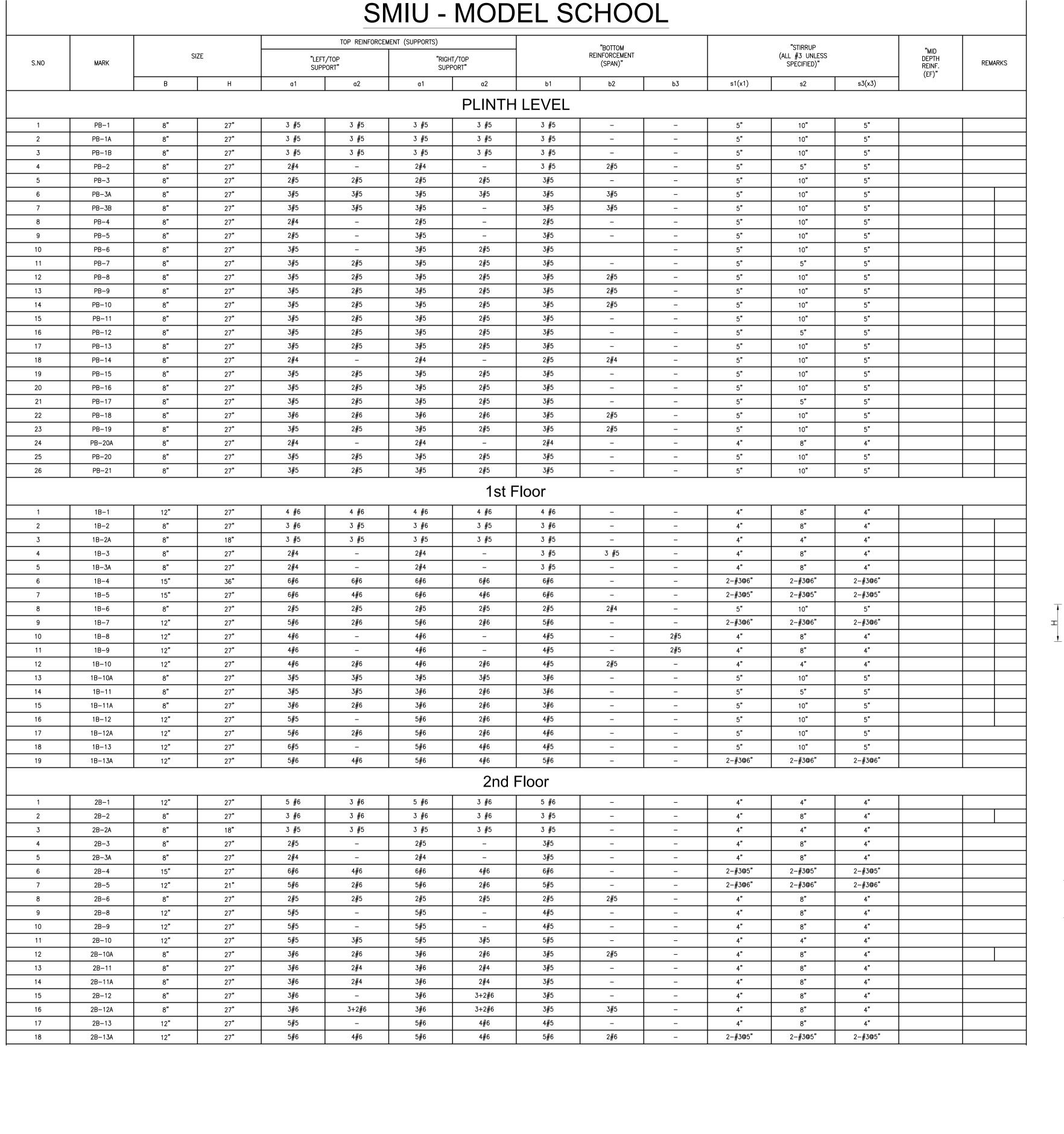
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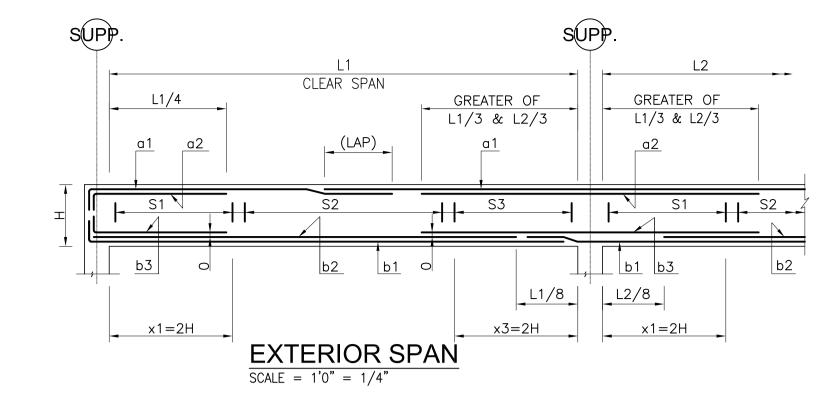
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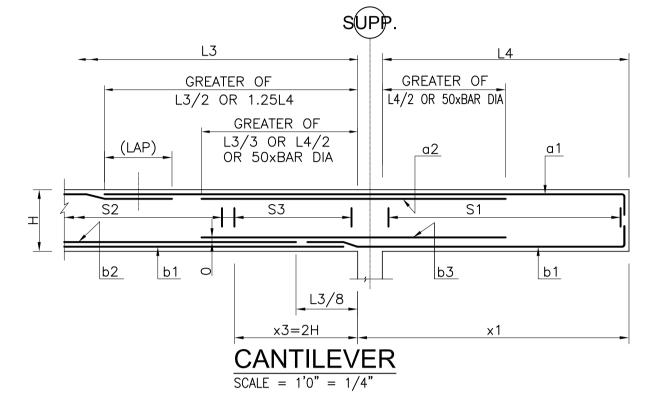
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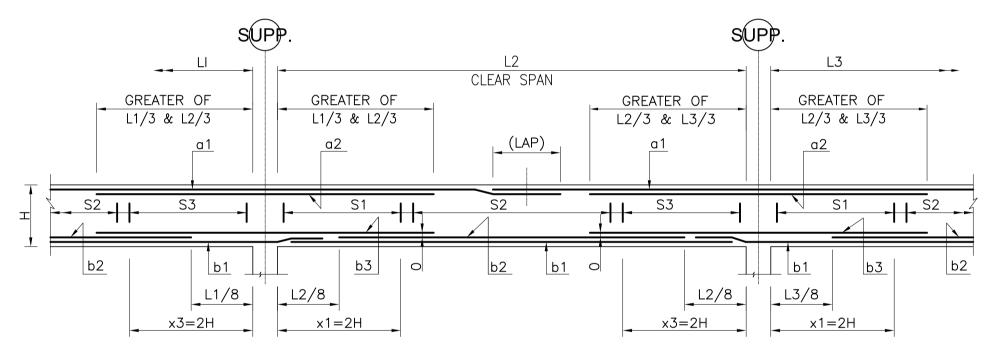
PLAN
& SECTION DETAILS

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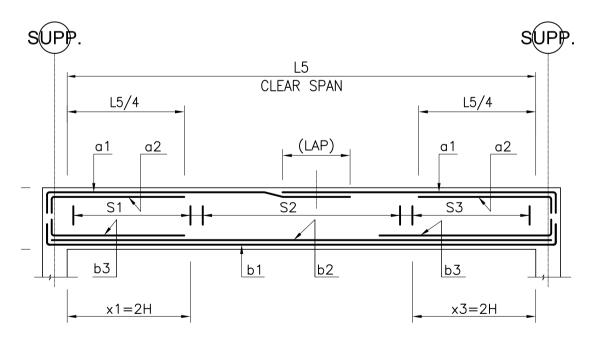






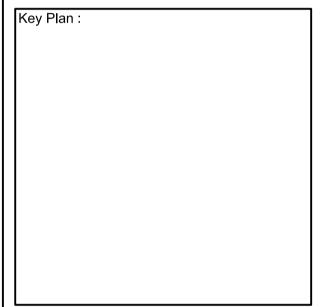


INTERIOR SPAN
SCALE = 1'0" = 1/4"









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Date of Issue	May 25, 2018
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b2

TYP. SECTION

 $\overline{\text{SCALE} = 1'0" = 1/4"}$

(REINF. AS PER SCHEDULE)

BEAM SCHEDULE (SHEET 1 OF 2)

Designed: Checked: Approved:

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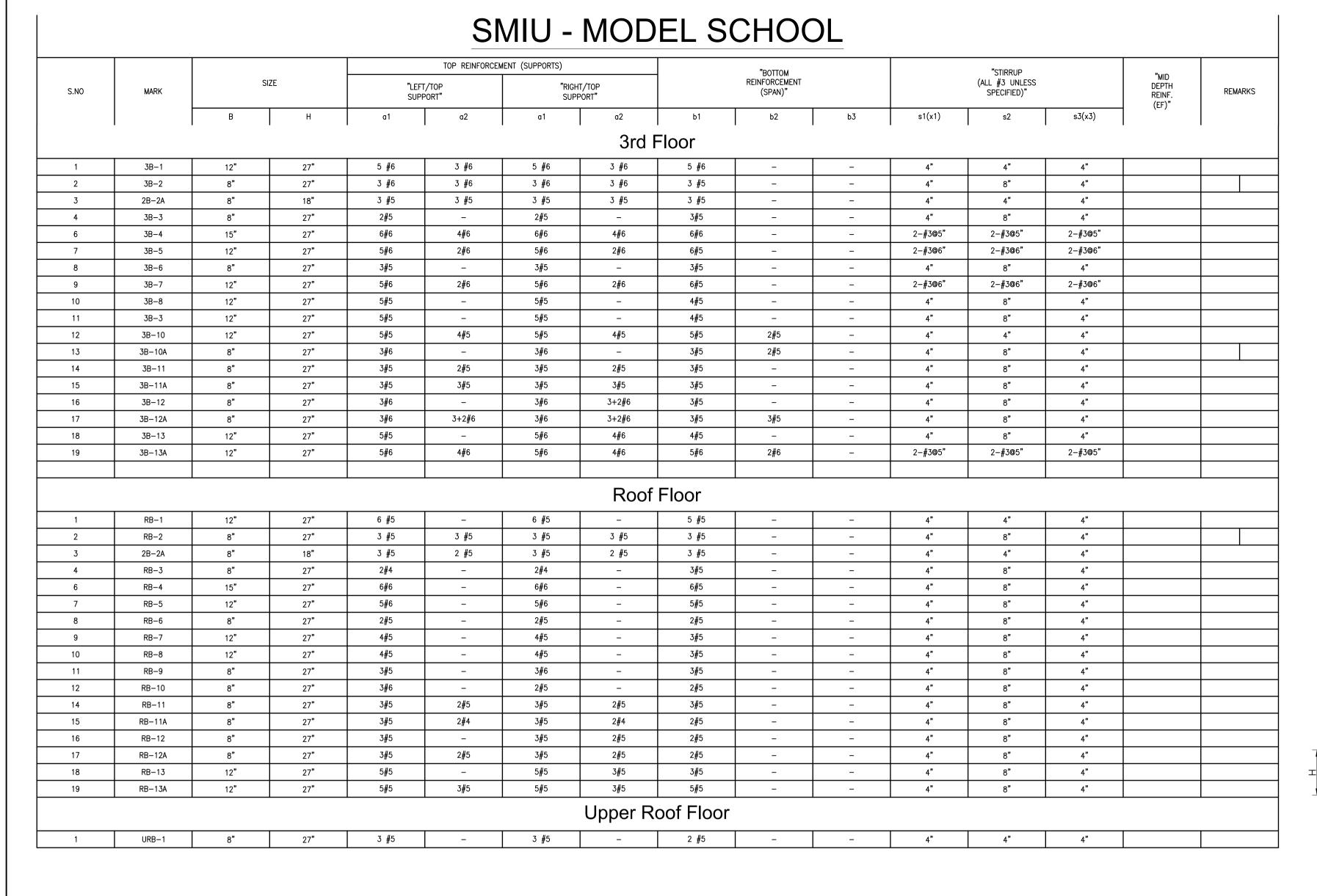
MMK April,2018 AS SHOWN

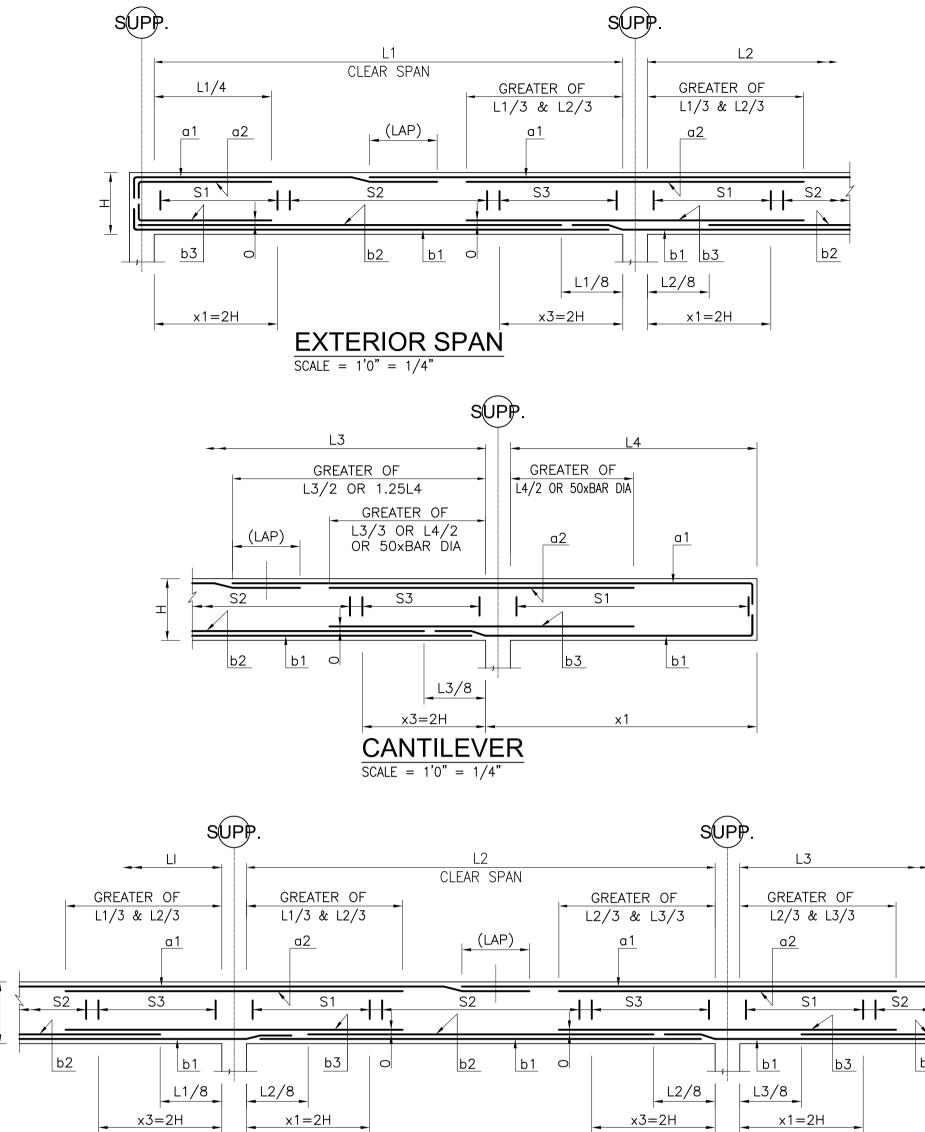
Project Code: Rev.:

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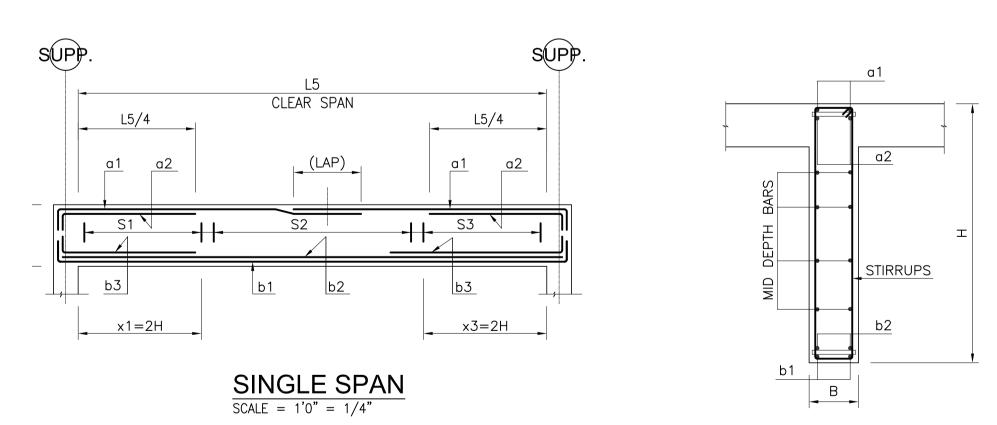
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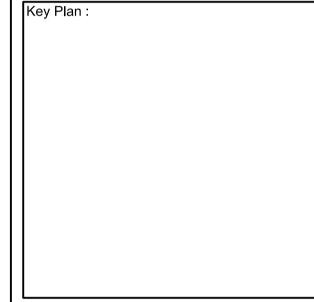


TYP. SECTION

SCALE = 1'0" = 1/4"
(REINF. AS PER SCHEDULE)

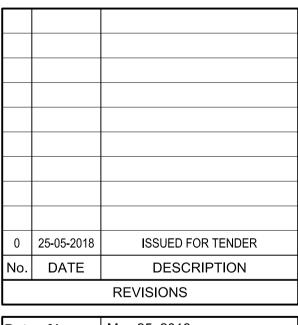






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Date of Issue	May 25, 2018
Issued To	Client
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lding Name:

MODEL SCHOOL CITY CAMPUS

BEAM SCHEDULE
(SHEET 2 OF 2)

Designed: Checked: Approved:

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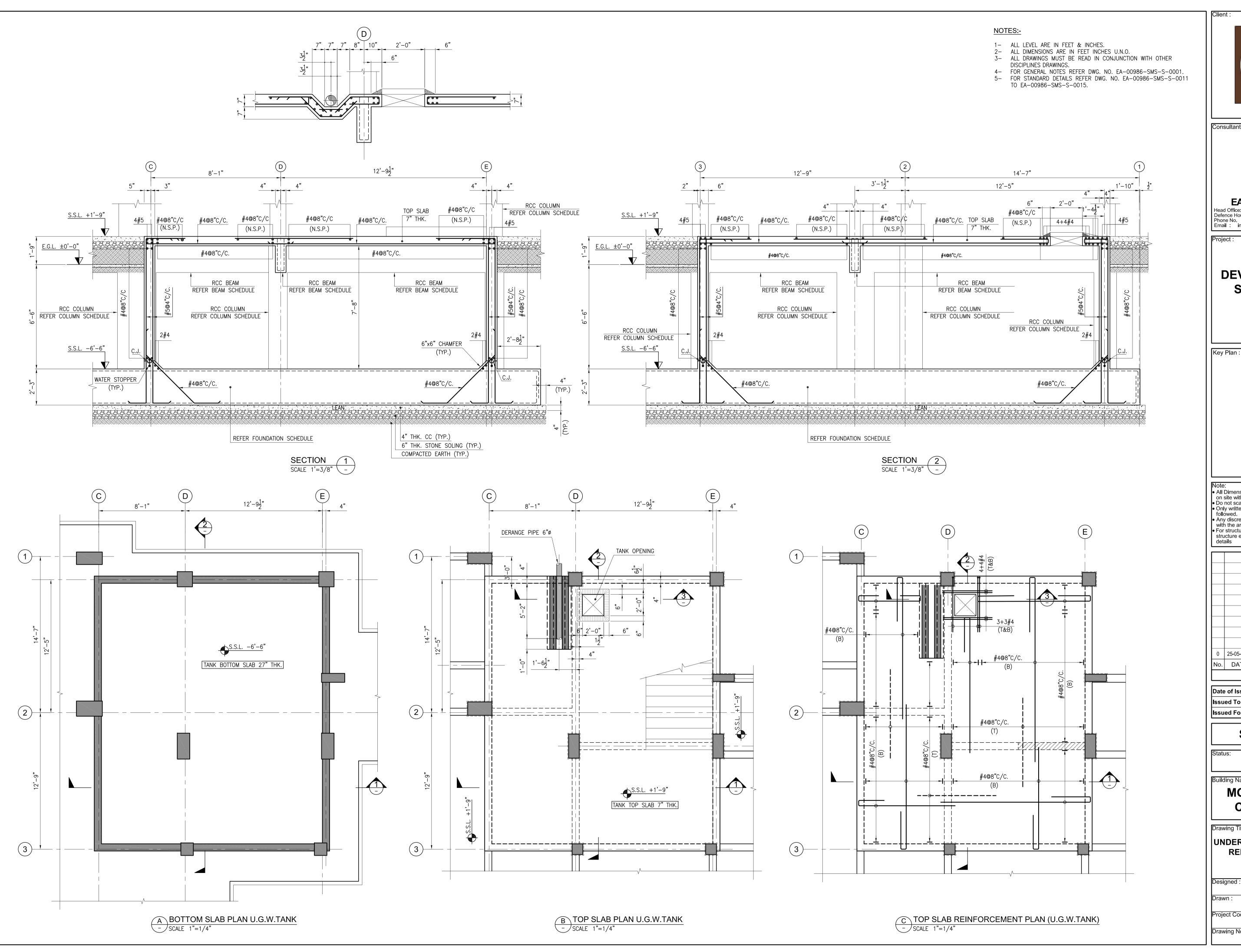
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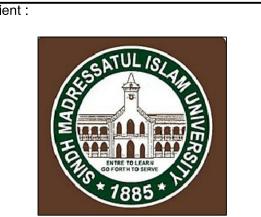
Project Code: Rev.:

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Drawing No.:

EA-986-SMS-S-4002







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Note:
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Date of Issue	May 25, 2018
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STRUCTURE

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Building Name:

MODEL SCHOOL

CITY CAMPUS

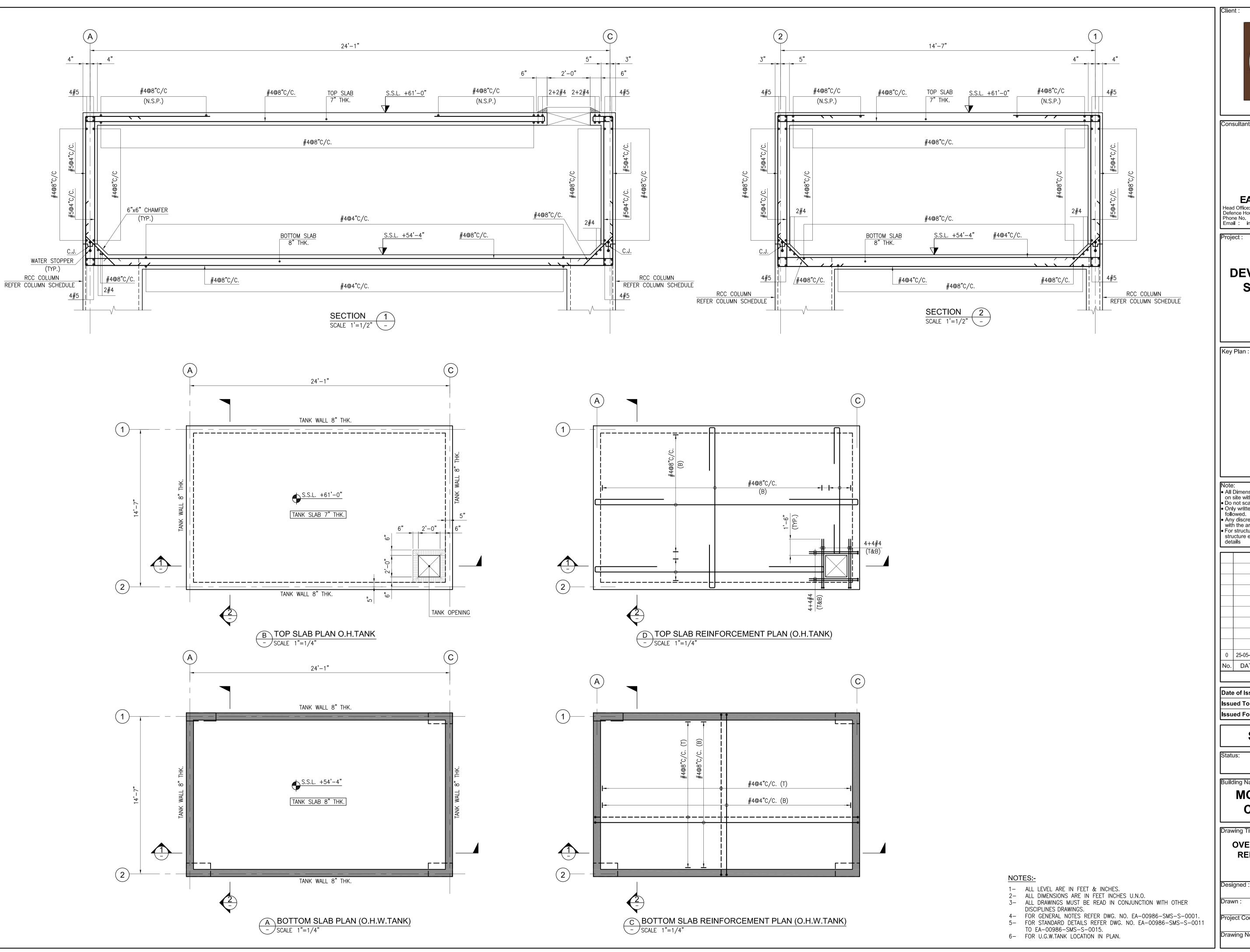
UNDER GROUND WATER TANK REINFORCEMENT PLAN & DETAILS

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MMK April,2018 AS SHOWN
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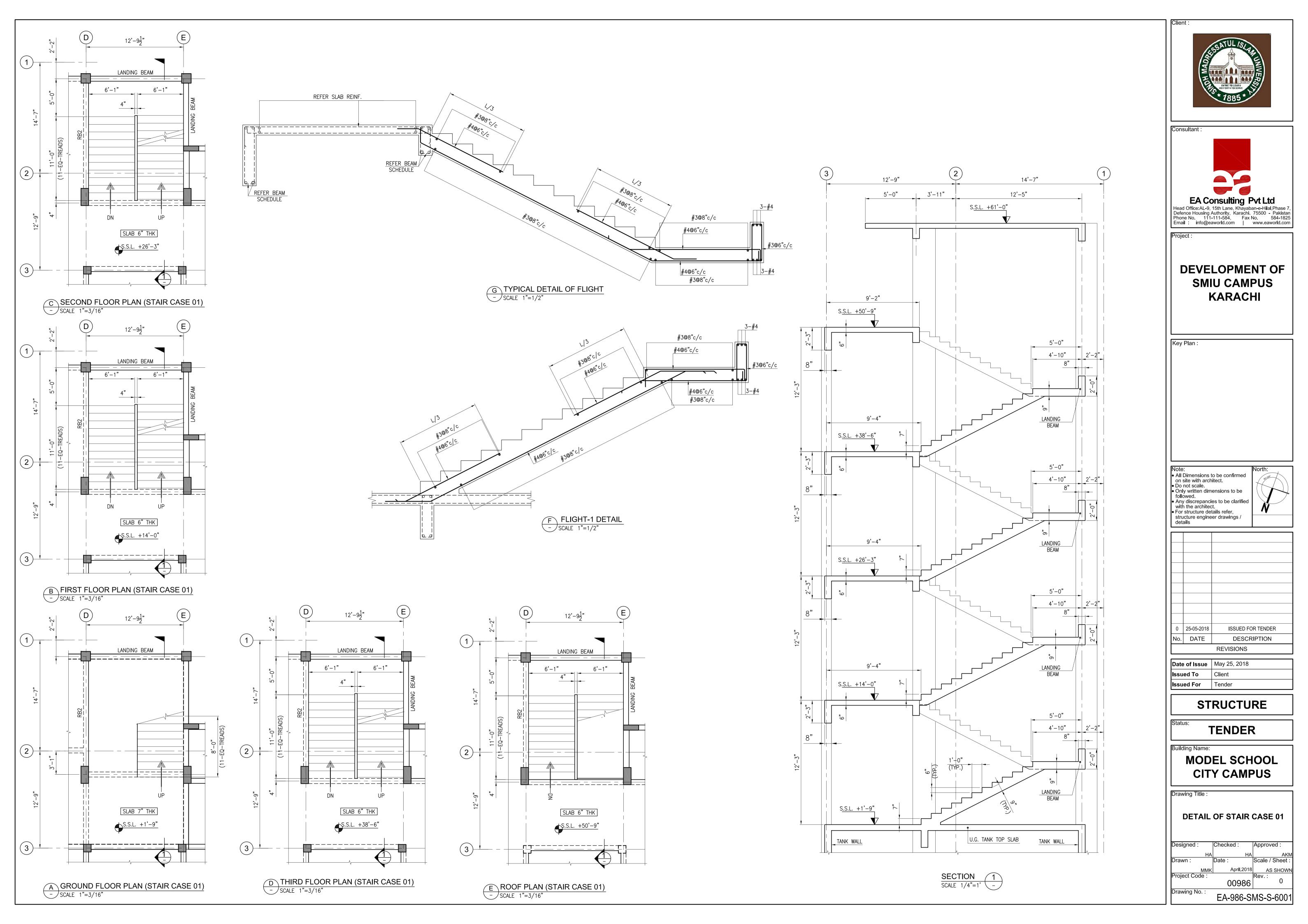
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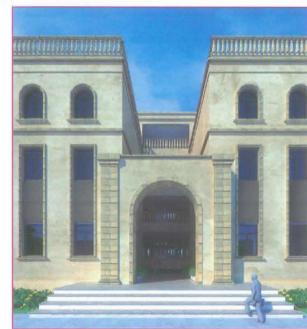
MODEL SCHOOL CITY CAMPUS

OVER HEAD WATER TANK REINFORCEMENT PLAN & DETAILS

April,2018 EA-986-SMS-S-5002









TENDER DRAWINGS

Plumbing

MODEL SCHOOL City Campus





S.#	DRAWING NO.	DRAWING TITLE
	DRAINAGE DRAWIN	NG
1	EA-986-SMS-P1-000	TITLE SHEET
2	EA-986-SMS-P1-0001	LIST OF DRAWINGS
3	EA-986-SMS-P1-0002	SCHEDULE
4	EA-986-SMS-P1-0003	DETAIL DRAWING
5	EA-986-SMS-D1-0100	GROUND FLOOR PLAN
6	EA-986-SMS-D1-0200	FIRST FLOOR PLAN
7	EA-986-SMS-D1-0300	SECOND FLOOR PLAN
8	EA-986-SMS-D1-0400	THIRD FLOOR PLAN
9	EA-986-SMS-D1-0500	ROOF PLAN
	WATER DRAWING	
1	EA-986-SMS-W1-0100	GROUND FLOOR PLAN
2	EA-986-SMS-W1-0200	FIRST FLOOR PLAN
3	EA-986-SMS-W1-0300	SECOND FLOOR PLAN
4	EA-986-SMS-W1-0400	THIRD FLOOR PLAN
5	EA-986-SMS-W1-0500	ROOF PLAN
	FIRE FIGHTING DRA	AWING
1	EA-986-SMS-F1-0100	GROUND FLOOR PLAN
2	EA-986-SMS-F1-0200	FIRST FLOOR PLAN
3	EA-986-SMS-F1-0300	SECOND FLOOR PLAN
4	EA-986-SMS-F1-0400	THIRD FLOOR PLAN
5	EA-986-SMS-F1-0500	ROOF PLAN





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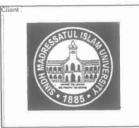
MODEL SCHOOL CITY CAMPUS

Drawing Title :

LIST OF DRAWING

Designed :	Checked:	Approved:
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Project Code:		Rev.:
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							TR	RANSFER	PU	MP:	5															
			DESCRIPTION SERVICE			(GPM.) MAXIMUM TOTAL DYNAMIC HEAD (FT)	MINIMUM TOTAL DYNAMIC HEAD (FT) MANUFACTURER	PUMP TYPE				MOTOR						w.			WER	,				
EQUIP.IMAGE	EQUIP.TAG	DESCRIPTION		LOCATION	FLOW RATE (GPM.)			UFACTI	STAGES	VERTICAL MULTISTAGE	HORIZONTAL SPLIT	END SUCTION	IN LINE	VERTICAL	SUBMERSIBLE	MINIMUM H.P.	POWER K.W	VOLTS	PHASE	CYCLES (Hz)	MANUAL	AUTOMATIC CONTROL	PRESSURE GAUG		EMERGENCY PO REQUIRED	REMARKS
	(TP)	TRANSFER PUMP	WATER TRANSFER TO OHT	GROUND	65		75	-	-	~	-	-	-	-	-	1.23	0.92	220	1	50	1	1	8.	~	- W	DUTY PUMP
	(TP) (02)	TRANSFER PUMP	WATER TRANSFER TO OHT	GROUND	65	-	75	-	-	~	-	L	-		*	1.23	0.92	220	1	50	1	✓	e	~	1	STANDBY PUMP



EA Consulting Pvt Ltd
Head Office AL-9, 15th Lane, Knayoban-e-Hail Phase 7, Defence Abusing Authority: Knarehr, 75500 : Pakistan Phone No. 111-111-584, Fax No: 584-1925 Email: Info@eaworld.com www.eaworld.com

Project

DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :

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•	All Dimensions to be confirmed on site with architect.
•	Do not scale.
÷	Only written dimensions to be followed.
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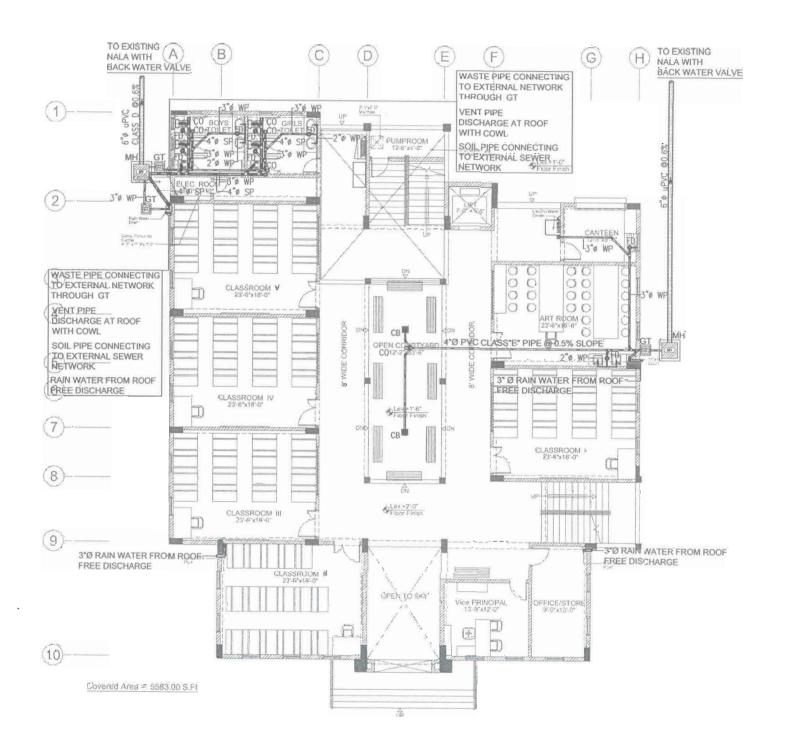
TENDER

MODEL SCHOOL
CITY CAMPUS

Drawing Title

EQUIPMENT SCHEDULE

| Designed : | Checked | Approved : | | AT | ZA | | AT | Checked | Approved : | AT | ZA | Checked | AT | Checked | Checked | Approved : | Checked | Checked





EA Consulting Pvt Ltd

DEVELOPMENT OF SMIU CAMPUS KARACHI

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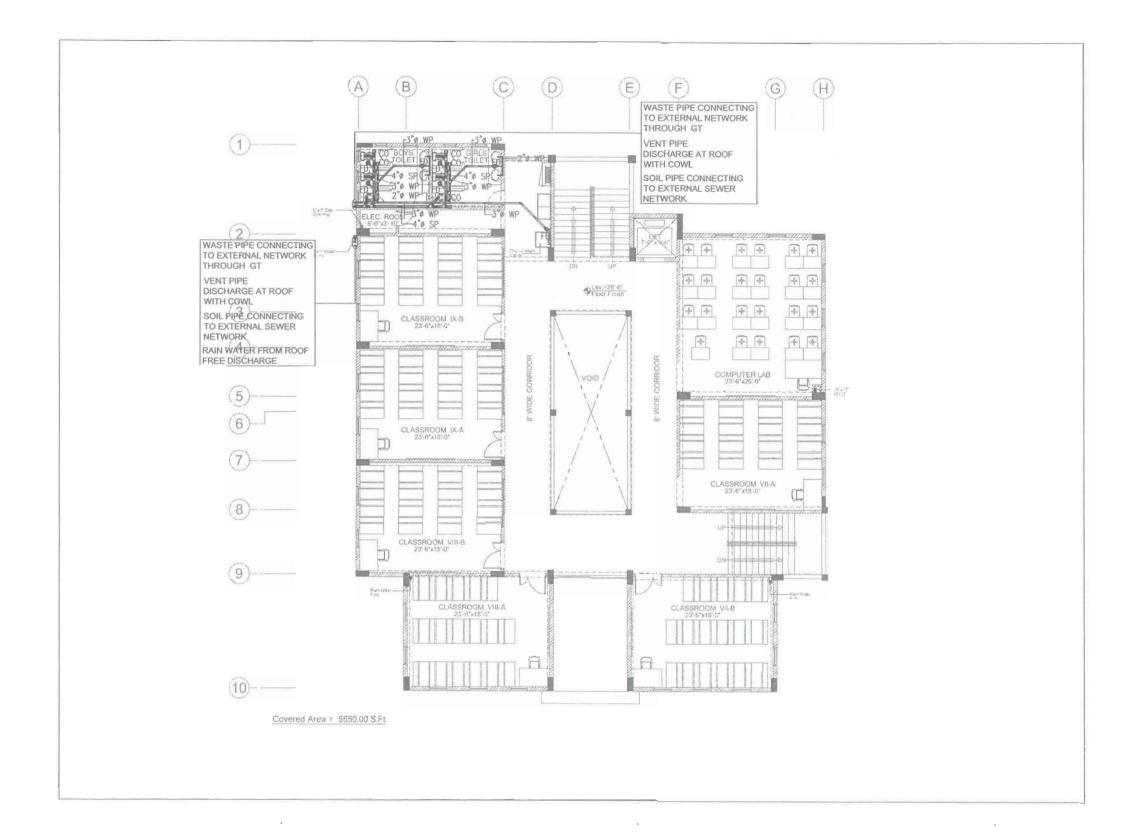
TENDER

MODEL SCHOOL CITY CAMPUS

GROUND FLOOR PLAN DRAINAGE LAYOUT

00986

EA-00986-SMS-D1-0100





Consultant



Head Office:AL-9, 15th Lane, Khayaban-e-Hilal, Phase 7. Defence Housing Authority. Karachi, 75500 - Pakistan Phone No. 111-111-584, Fax No. 584-1825 Email: info@eaworld.cem www.eaworld.com

oject :

DEVELOPMENT OF SMIU CAMPUS KARACHI

Note:

All Dimensions to be confirmed on site with architect.

Do not scale.

Do not scale.

Only written dimensions to be followed.

Any discrepancies to be clarified with the architect.

For Structure details refer,

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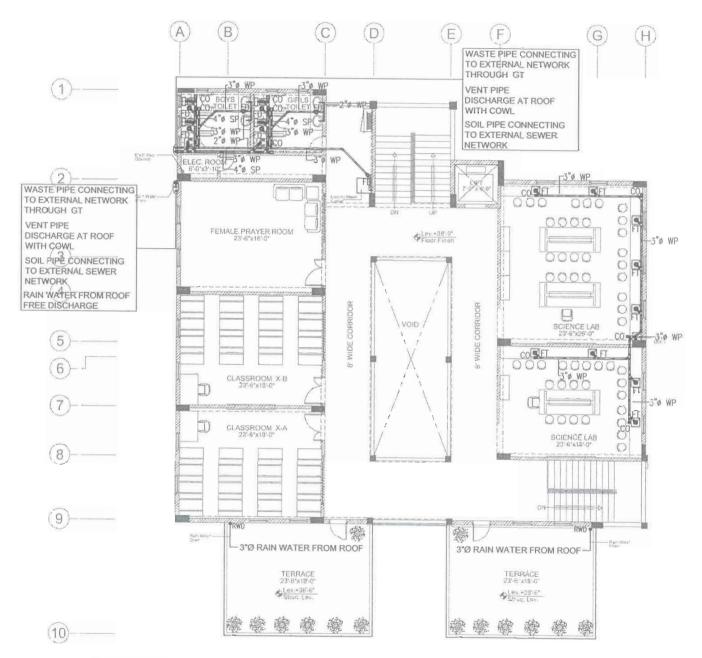
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MODEL SCHOOL CITY CAMPUS

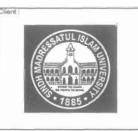
Drawing Title :

SECOND FLOOR PLAN DRAINAGE LAYOUT

Designed : A.1	Checked :	Approved : Z.A
Drawn : M.E	Date MAY-2018	Scale / Sheet 1/16"=1'-0"@A
Project Code :	00986	Rev.:
Drawing No.: EA-	00986-SMS	S-D1-0300



Covered Area = 4621.00 S.Ft



Consultant



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DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :

Note:

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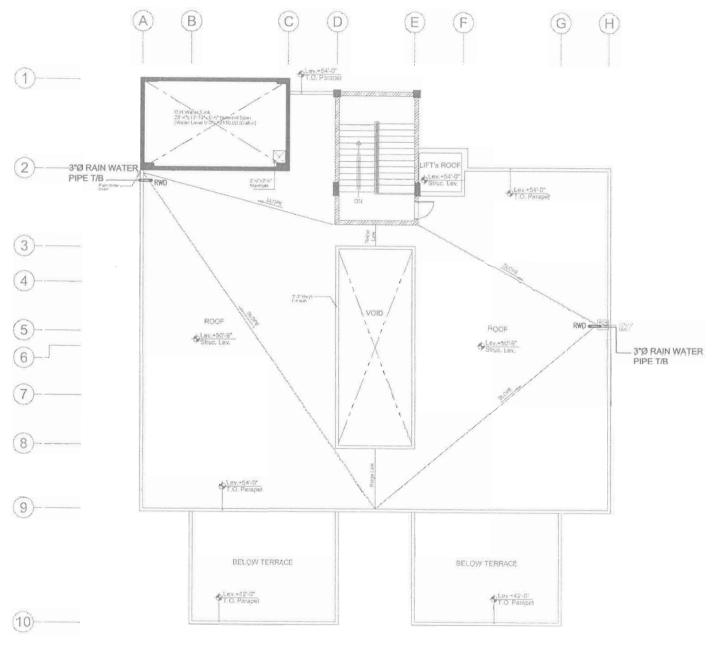
TENDER

MODEL SCHOOL CITY CAMPUS

Drawing 1

THIRD FLOOR PLAN DRAINAGE LAYOUT

EA-00986-SMS-D1-0400



Covered Area = 288.00 S.Ft O.H.Water Tank Area = 374.00 S.Ft





EA Consulting Pvt Ltd
Head Office AL-9, 15th Lane, Rnsystem-e-Hall Phase 7
Defence Housing Authority, Karschi, 75500 - Pakista
Penne No. 11-111-584 Fax No. 584-1629
Formal programmer of the Consultation of

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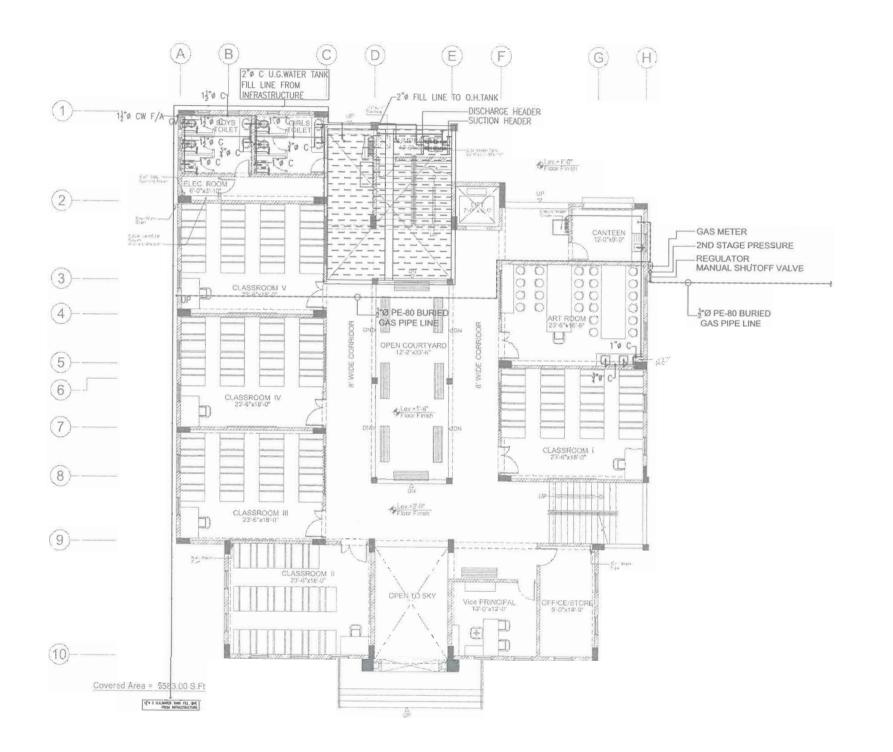
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MODEL SCHOOL CITY CAMPUS

ROOFPLAN DRAINAGE LAYOUT

EA-00986-SMS-D1-0500





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Head Offlos M.1-9, 1591 Lane, Khayaban e-Hilai, Phaso 7, Oefence Housing Authority, Kanchi - 75500 Palsistan Phone No. 111-111-584. Fax No. 584-1625 Limal : ino@eawchi.com | www.ewowdc.com | www.ewowdc.co

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DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan:

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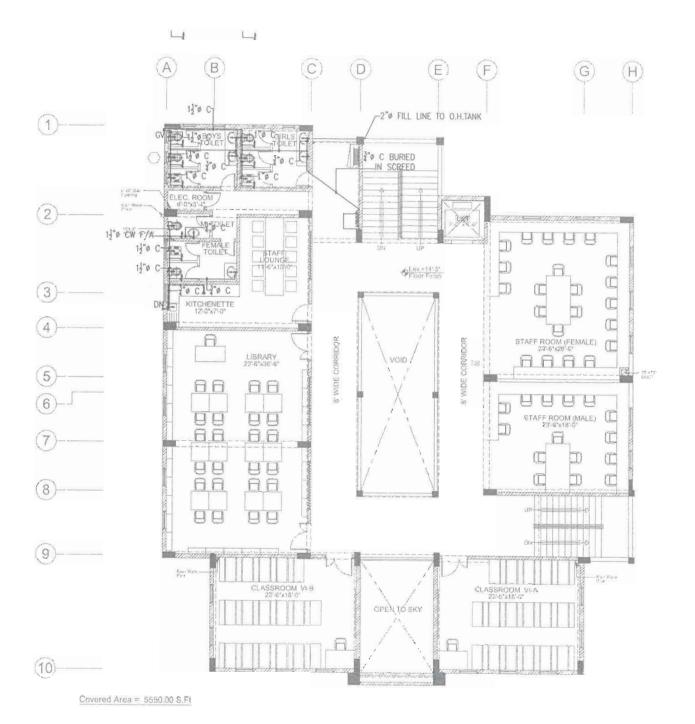
MODEL SCHOOL

CITY CAMPUS

Drawing Tibe

GROUND FLOOR PLAN WATER SUPPLY LAYOUT

Drawing No. : EA-00986-SMS-W1-0100



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EA Consulting Pvt Ltd

Head Office At-9, 15th Lane, Khayaban-e-Hilal, Phase 7
Defonio Housing Authority, Karich-15500 - Pakista
Phena No. 111-111-564, Fax No. 564-182
Email : info@eaword.com / www.eaword.com

Project:

DEVELOPMENT OF SMIU CAMPUS KARACHI

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No. DATE DESCRIPTION

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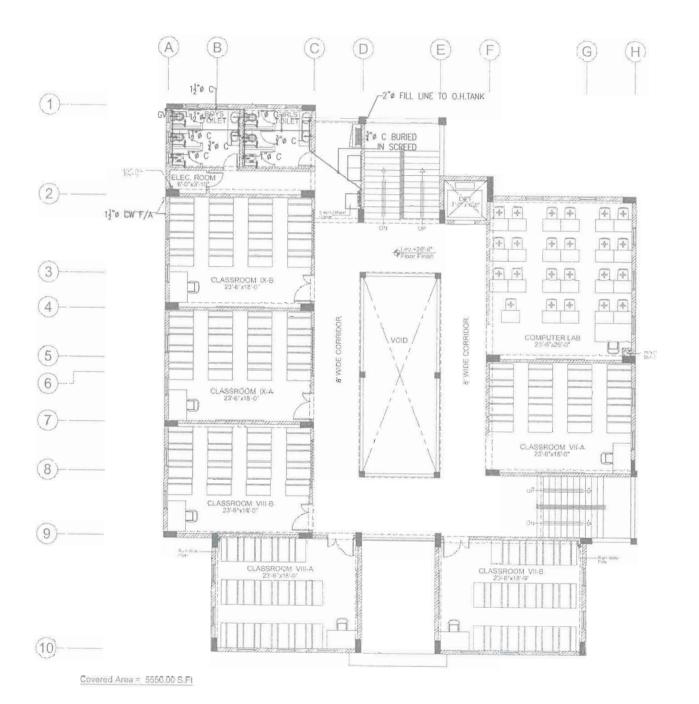
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MODEL SCHOOL CITY CAMPUS

Drawing Title

FIRST FLOOR PLAN WATER SUPPLY LAYOUT

EA-00986-SMS-W1-0200





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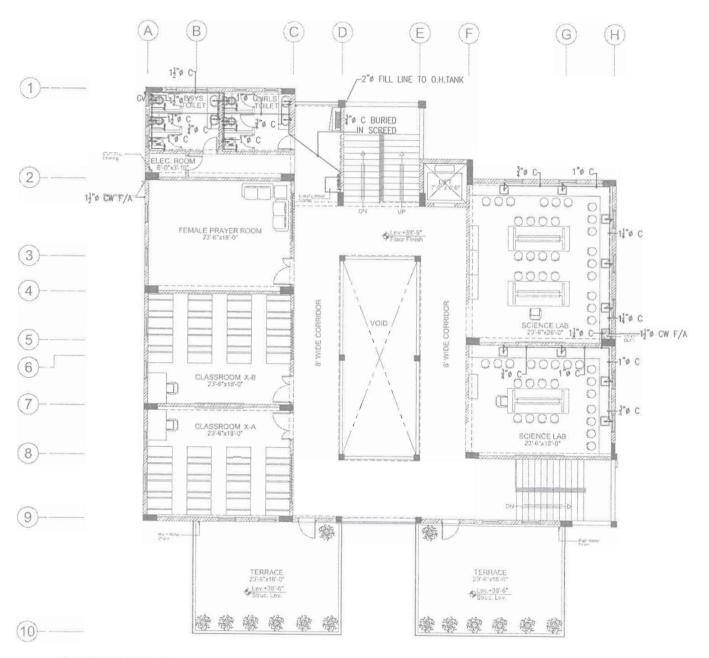
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MODEL SCHOOL CITY CAMPUS

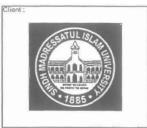
FIRST FLOOR PLAN WATER SUPPLY LAYOUT

M.D MAY,2018 1/16"=1'-0"@A 00986

EA-00986-SMS-W1-0300



Covered Area = 4621.00 S.FI



EA Consulting Pvt Ltd
Head OfficeAL-9, 15th Lane, Physipabern-Held Phase 7
Defence Housing Authority, Karzeki, 7550a
Phone No. 11-11-1564, Fax No. 584-1622
Emel : Info@eaworld.com www.eaworld.com

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DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan:

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Date of Issue MAY 05, 2018

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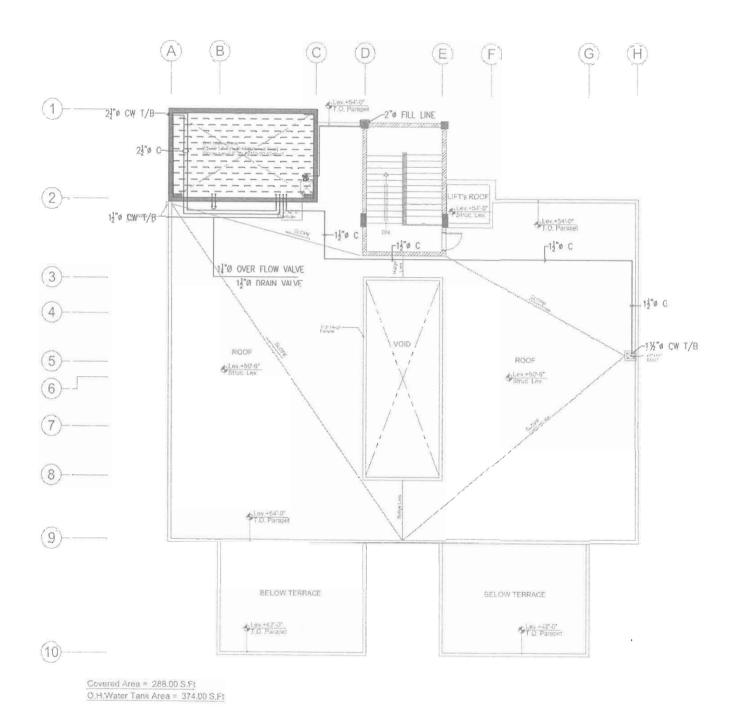
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MODEL SCHOOL

Drawing Tit

THIRD FLOOR PLAN WATER SUPPLY LAYOUT

Designed: Checked: Approved: Z.A.
Drawn: Date: Scale / Sheet: M.D.
M.D. MAY,2018 1/16'=1'-0'@A2
Project Code: 00986
Drawing No.:
EA-00986-SMS-W1-0400



EA Consulting Pvt Ltd
Head Office;Al. 9, 15th Lane, Khayaban-e-Hild, Phase 7
Defence Housing Authority, Karachi, 75500; Pakistate
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Email info@eaworld.com | www.esworld.com

DEVELOPMENT OF SMIU CAMPUS KARACHI

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TENDER

MODEL SCHOOL CITY CAMPUS

ROOF PLAN WATER SUPPLY LAYOUT

Date : Scale / Stale / 00986

awing No. EA-00986-SMS-W1-0500









MODEL SCHOOL City Campus

July'2018





	ELECTRICAL					
S.#	DRAWING NO.	DRAWING TITLE				
	E - GENERAL DRAW	INGS				
1	EA-00986-SMS-E-0000	TITLE SHEET				
2	EA-00986-SMS-E-0001	LIST OF DRAWINGS				
3	EA-00986-SMS-E-0002	LEGEND OF ELECTRICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES				
4	EA-00986-SMS-E-0003	ELECTRICAL STANDARD DETAIL (SHEET 1 OF 2)				
5	EA-00986-SMS-E-0004	ELECTRICAL STANDARD DETAIL (SHEET 2 OF 2)				
6	EA-00986-SMS-E-0005	ELECTRICAL DISTRIBUTION SCHEMATIC DIAGRAM				
	EL - LIGHTING LAYO	OUT PLANS				
1	EA-00986-SMS-EL-0100	GROUND FLOOR PLAN LIGHTING LAYOUT				
2	EA-00986-SMS-EL-0200	FIRST FLOOR PLAN LIGHTING LAYOUT				
3	EA-00986-SMS-EL-0300	SECOND FLOOR PLAN LIGHTING LAYOUT				
4	EA-00986-SMS-EL-0400	THIRD FLOOR PLAN LIGHTING LAYOUT				
5	EA-00986-SMS-EL-0500	ROOF PLAN LIGHTING & LIGHTNING PROTECTION SYSTEMS LAYOUT				
	EP - POWER LAYOU	T PLANS				
1	EA-00986-SMS-EP-0100	GROUND FLOOR PLAN POWER LAYOUT				
2	EA-00986-SMS-EP-0200	FIRST FLOOR PLAN POWER LAYOUT				
3	EA-00986-SMS-EP-0300	SECOND FLOOR PLAN POWER LAYOUT				
4	EA-00986-SMS-EP-0400	THIRD FLOOR PLAN POWER LAYOUT				
5	EA-00986-SMS-EP-0500	ROOF PLAN LIGHTNING PROTECTION SYSTEM LAYOUT				

	EXTRA LOW VOLTAGE					
S.#	DRAWING NO.	DRAWING TITLE				
	IT - ELV & IT SYSTE	M LAYOUT PLANS				
1	EA-00986-SMS-IT-0100	GROUND FLOOR PLAN ELV & IT SYSTEMS LAYOUT				
2	EA-00986-SMS-IT-0200	FIRST FLOOR PLAN ELV & IT SYSTEMS LAYOUT				
3	EA-00986-SMS-IT-0300	SECOND FLOOR PLAN ELV & IT SYSTEMS LAYOUT				
4	EA-00986-SMS-IT-0400	THIRD FLOOR PLAN ELV & IT SYSTEMS LAYOUT				
5	EA-00986-SMS-IT-0500	COMMUNICATION SYSTEM SCHEMATIC DIAGRAM				
6	EA-00986-SMS-IT-0600	CCTV SYSTEM SCHEMATIC DIAGRAM				
7	EA-00986-SMS-IT-0700	PUBLIC ADDRESS SCHEMATIC DIAGRAM				
8	EA-00986-SMS-IT-0800	MASTER CLOCK SYSTEM SCHEMATIC DIAGRAM				

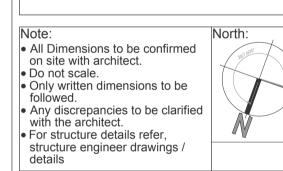


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DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :



All Dimensions to be confirmed on site with architect.
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0 25, May 2018 ISSUED FOR TENDER No. DATE DESCRIPTION

Date of Issue	25th May 2018
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Building Name:

MODEL SCHOOL CITY CAMPUS

Drawing Title :

LIST OF DRAWINGS

Drawing No. : EA-00986-SMS-E-0001

LEGEND FOR LIGHTING MINIMUM LUMINOUS FLUX MOUNTING S.No. SYMBOL DESCRIPTION DOWNLIGHT FIXTURE (IP-20) 20W LED 1600 Lm SURFACE CEILING DOWNLIGHT FIXTURE (IP-44) RECESSED CEILING DOWNLIGHT FIXTURE (IP-44) 1000 Lm RECESSED F1 4' LONG BATTEN LIGHT CEILING 3700 Lm SURFACE 40W LED FIXTURE (IP-20) CEILING 2' LONG BATTEN LIGHT 20W LED 1900 Lm SURFACE FIXTURE (IP-20) ⊢⊚ W1 WALL CEILING CEILING FAN 56" SURFACE WALL WALL BRACKET FAN 12 " WALL EXHAUST FAN 6" / 8" LIGHTING CONTROL SWITCH WALL WALL FAN DIMMER (N GANG) TWO WAY LIGHTING CONTROL WALL

NOTES;- 1. ALL FINISHES OF LIGHT FIXTURES AND COLOUR TEMPERATURE OF LAMPS SHALL BE SUBJECT

SWITCHES

SYMBOL	DESCRIPTION
√ NS	LIGHTING CONTROL SWITCH (N GANG)
d ND	FAN DIMMER (N GANG)
X	TWO WAY LIGHTING CONTROL SWITCH

LEGEND FOR LIGHTNING PROTECTION

SYMBOLS	DESCRIPTION
•-	TAPER POINTED COPPER AIR TERMINAL 500mm LONG 15mmØ WITH BASE BARE COPPER
● DN	DOWN CONDUCTOR 70sqmm
•	CONDUCTOR CLAMPS
	25mmx3mm LIGHTNING PROTECTION COPPER STRIP

LEGEND FOR POWER SYSTEM

LLGLIND	FOR POWER STSTEM
SYMBOL	DESCRIPTION
	13A 3 PIN MULTI STANDARD SWITCHED SOCKET OUTLET
	13A 3 PIN MULTI STANDARD SWITCHED SOCKET OUTLET (MOUNTED ABOVE COUNTER TOP)
因	13A 3 PIN FLAT 2-GANG SWITCHED SOCKET OUTLET
	15A 3 PIN 1-GANG SWITCHED SOCKET OUTLET
	13A 3 PIN FLAT 1-GANG UNSWITCHED SOCKET OUTLET
8	10A 1-GANG SWITCH
	TPN ISOLATOR
	DISTRIBUTION BOARD (DB)
	SUB MAIN DISTRIBUTION BOARD (SMDB)
UPS	230V, 600VA UPS SINGLE IN SINGLE OUT
	POWER MANHOLE
	EARTH PIT FOR POWER
₩ LP	EARTH PIT FOR LIGHTNING PROTECTION
ΔΔ	EARTH BAR WITH SINGLE DISCONNETING LINK
SS-V	SELECTOR SWITCH / VOLTMETER
	AMPERE METER
 (R) (Y) (B)	PHASE INDICATION LAMPS (R,Y,B)
	NON FERROUS CABLE GLAND PLATE
-	FUSE
	SINGLE POLE MINIATURE CIRCUIT BREAKER (MCB)
	TRIPPLE POLE MOULDED CASE CIRCUIT BREAKER (MCCB)
A	SURGE PROTECTION DEVICE TYPE II
G	DIESEL GENERATOR SET

MINIMUM REQUIREMENT OF CONDUIT SIZES SHALL BE AS TABULATED BELOW:

CABLE SIZE	CONDUIT SIZE								
CONDUCTOR CIZE	20mm Ø	25mm Ø	32mm Ø	38mm Ø	50mm Ø				
CONDUCTOR SIZE	MAXIMUM No. OF CABLES								
2.5 mm²	5	10	_	_	_				
4.0 mm²	4	5	_	_	_				
6.0 mm²	3	5	_	_	_				
10.0 mm²	2	3	5	_	-				
16.0 mm²	_	2	4	5	_				
25.0 mm²	_	_	3	4	_				
35.0 mm²	_	_	2	3	5				
50.0 mm²	_	_	_	_	4				

CONDUIT AND HOME RUNS

SYMBOL	DESCRIPTION
	CONDUIT CONCEALED IN FLOOR
	CONDUIT CONCEALED IN CEILING (SLAB) OR WALL
R1,Y1 (DB-N, EDB-N)	CONDUIT OR CABLE RUN TO DISTRIBUTION BOARD (R1,Y1,B1) INDICATES REFERENCE CIRCUIT. (DB-N)- INDICATES DISTRIBUTION BOARD NAME
	CONDUIT OR CABLE RUN TO EQUIPMENT AS INDICATED OR CONTINUED AS INDICATED

LEGEND FOR IT SYSTEM

SYMBOL	DESCRIPTION
\bigvee	SINGLE RJ45 OUTLET FOR VOICE (1'-6" ATFL)
•	SINGLE RJ45 OUTLET FOR DATA (1'-6" ATFL)
W	SINGLE RJ45 DATA OUTLET FOR WIFI @CEILING / WALL
P	SINGLE RJ45 DATA OUTLET FOR PROJECTOR ABOVE FALSE CEILING
TV▼	TELEVISION POINT @ (4'-8" ATFL)
×	FLOOR DISTRIBUTION BOX: 1 No RJ45 OUTLET FOR VOICE & 1 No RJ45 OUTLET FOR DATA 1 No 13A DUAL & 1 No 13A UNIVERSAL SOCKET OUTLET
42U	42U TELECOM RACK (FLOOR STANDING)
12U	12U TELECOM RACK (WALL MOUNTED) (4'-8" ATFL)
MTJB	MAIN TELEPHONE JUNCTION BOX (4'-8" ATFL)
TJB	TELEPHONE JUNCTION BOX (4'-8" ATFL)
	MANHOLE FOR TELECOM (2'-0"x2'-0")
	CCTV FIXED CAMERA TYPE (WALL MOUNTED) (7'-0" ATFL)
-	SPLITTER (SURFACE MOUNTED)
ACS	ACCESS CONTROL PANEL (2 DOOR)
CIR	PROXIMATELY CARD READER (4'-8" ATFL)
•	DOOR LOCK UNIT (ABOVE THE DOOR)
PB	PUSH BUTTON (4'-8" ATFL)

LEGEND FOR FA , PA & EM LIGHTING SYSTEMS

SYMBOL	DESCRIPTION
\otimes	ANALOGUE INTELLIGENT ADDRESSABLE SMOKE DETECTOR
\oslash	ANALOGUE INTELLIGENT ADDRESSABLE HEAT DETECTOR
\square	ANALOGUE INTELLIGENT ADDRESSABLE SMOKE DETECTOR WITH SOUNDER
—	WALL SOUNDER WITH FLASHER / STROBE WEATHER PROOF TYPE
	WALL SOUNDER WITH FLASHER / STROBE
•	ANALOGUE INTELLIGENT ADDRESSABLE MANUAL PULL STATION/CALL POINT
	ANALOGUE INTELLIGENT ADDRESSABLE MANUAL PULL STATION/CALL POINT WEATHER PROOF TYPE
FACP	FIRE ALARM CONTROL PANEL (ADDRESSABLE)
IF	FOR PUMP
©	PA / VA SURFACE SPEAKER WITH BOX (6W)
©S)	CEILING SPEAKER (6W) FOR PA SYSTEM
	PUBLIC ADDRESS SPEAKER WALL MOUNTED
	GOOSENECK MICROPHONE
PA	PA RACK
	MIXER AMPLIFIER
EM	EMERGENCY LIGHT (CEILING / RECESSED) 1x8W (IP20 LED LAMP)
[EM]	EMERGENCY LIGHT (CEILING / RECESSED) 1x8W (IP65 LED LAMP)
EM	EMERGENCY LIGHT (WALL MOUNTED) 1x8W (IP20 LED LAMP)
EM	EMERGENCY LIGHT (WALL MOUNTED) 1x8W (IP65 LED LAMP)
↓ EXIT ↓ / EXIT	DIRECTIONAL PANDENT 1x8W EXIT LIGHT (IP-65); W/P DENOTES WEATHER PROOF LED TYPE

GENERAL NOTES

- 1.1- THE FOLLOWING NOTES SHALL APPLY TO ALL THE ELECTRICAL DRAWINGS UNLESS OTHERWISE INDICATED OR NOTED.
- 1.2- DO NOT SCALE FROM THE LAYOUT DWGS. WORK ACCORDING TO ARCHITECTURAL AND ELECTRICAL DETAILS, UNLESS OTHERWISE INDICATED.
- 1.3- THE ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE REST OF THE DRAWINGS PERTAINING TO ARCHITECTURE, STRUCTURE, AIRCONDITIONING, PLUMBING, AND AS PER SPECIFICATIONS.
- 2.1- UNLESS OTHERWISE INDICATED ALL CONDUITS SHOWN ON DRAWINGS SHALL BE RIGID NON- METALIC PVC. CONDUITS.
- 2.2- ALL EXPOSED CONDUITS SHALL BE RIGID GALVANIZED IRON UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 2.3- EARTH CONTINUITY SHALL BE IN ACCORDANCE WITH THE IEE REGULATIONS AND AS PER SPECIFICATION.
- 2.4- LIGHTING OUTLETS SHALL BE EXPOSED OR CONCEALED IN ACCORDANCE TO ASSOCIATED CONDUITS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER
- 2.5- SHAPE AND DIMENSION OF SYMBOLIZED LIGHT FIXTURES DO NOT NECESSARILY REPRESENT SHAPE AND DIMENSIONS OF ACTUAL FIXTURES INTENDED FOR THIS PURPOSE.
- 2.6- FOR EMERGENCY LIGHTING SELF CONTAIN LGHTING IS TO BE FEED FROM NEAREST DB CIRCUIT.
- 3.1- MOUNTING HEIGHTS OF SOCKET OUTLETS, SWITCHES & DBs SHALL BE AS SHOWN IN ELECTRICAL STANDARD DETAIL DRAWING OR AS DIRECTED BY ENGINEER ON SITE.
- 4.1- THE MINIMUM CONDUIT SIZE USED SHALL BE Ø 20mm.
- 4.2- CONTRACTOR SHALL PROVIDE THE REQUIRED CONDUIT SIZE WHEREVER NOT INDICATED FOR THE EASE OF PULLING OF CABLES.
- 4.3- ALL OPENINGS, SLEEVES AND SHAFTS BETWEEN FLOORS USED FOR POWER & LOW CURRENT CABLES SHALL BE SEALED WITH FIRE RESISTANT MATERIAL OR CHEQUERED PLATE TO THE APPROVAL OF ENGINEER.
- 4.4- ALL BREAKERS PROTECTING MOTORS SHALL BE MOTOR PROTECTOR TYPE.
- SERVING ALL MECHANICAL. EQUIPMENT, A/C UNITS ETC. FULLY CO- ORDINATED WITH MECHANICAL SERVICES, REQUIREMENTS.
- 4.6- FOR ELV & IT SYSTEM MINIMUM CONDUIT SIZE IS 1"DIA.

ABBREVIATION

WP	WEATHER PROOF
DN	DOWN CONDUIT
UP	UP CONDUIT
CFL	COMPACT FLUORESCENT LAMP
HDGI	HOT DIP GALVANIZED IRON
CWTP	COLD WATER TRANSFER PUMP
SP	SUMP PUMP
I.P	IRRIGATION PUMP
F.P	FIRE PUMP
J.P	JOCKEY PUMP
SF	SUPPLY FAN
EF	EXHAUST FAN
CL	CONNECTED LOAD
DL	DEMAND LOAD
DDL	DIVERSIFIED DEMAND LOAD
TCL	TOTAL CONNECTED LOAD
TDL	TOTAL DEMAND LOAD
TDDL	TOTAL DIVERSIFIED DEMAND LOAD

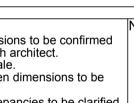


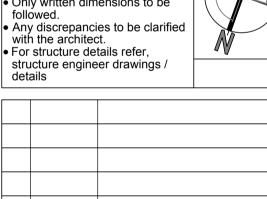
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DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :





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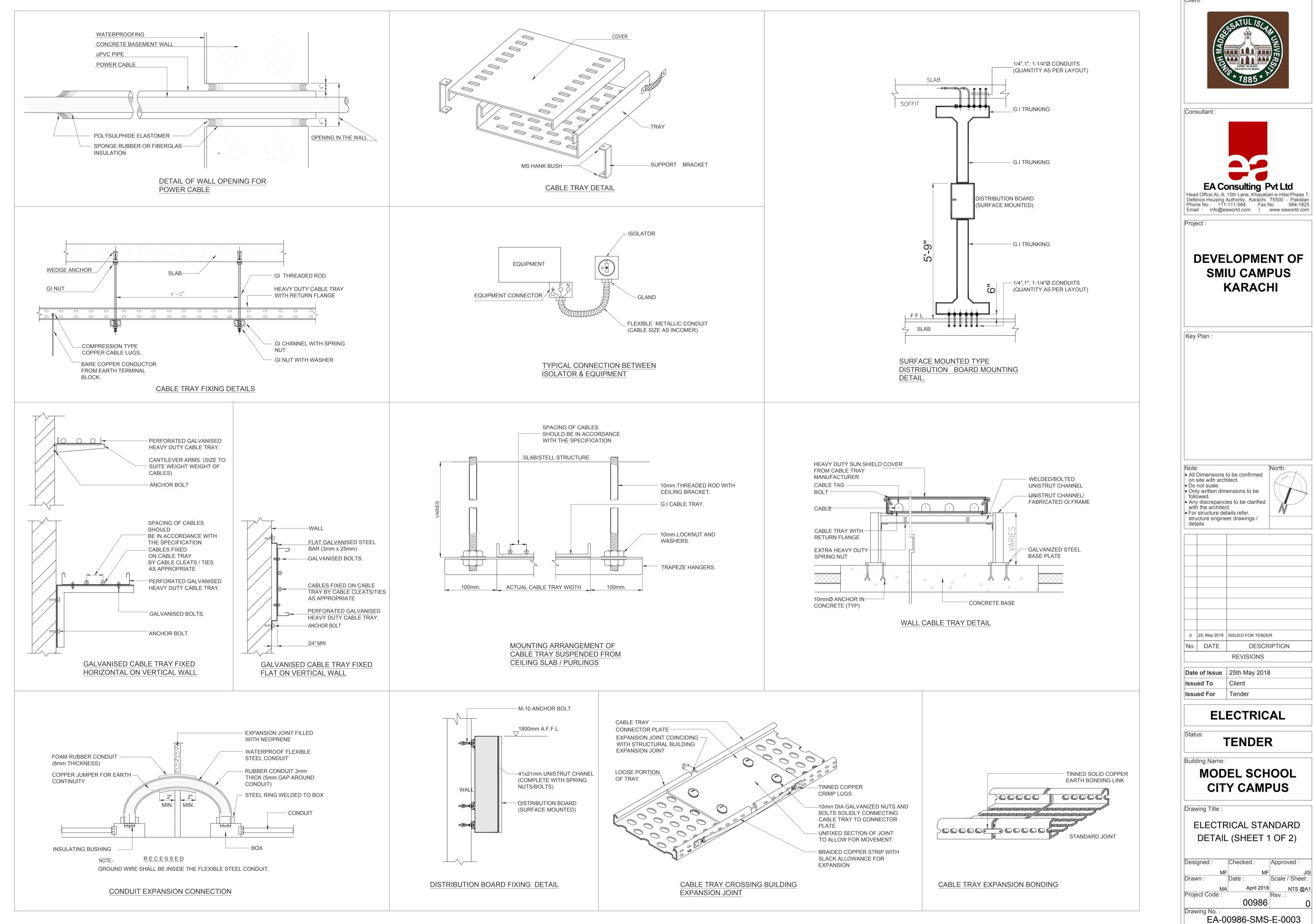
Building Name:

Drawing Title:

MODEL SCHOOL CITY CAMPUS

LEGEND OF ELECTRICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES

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Designed :	Checked:	Approved :
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Drawn :	Date :	Scale / Sheet :
MA	April 2018	NTS @A
Project Code :		Rev.:
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Drawing No.:		
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DEVELOPMENT OF SMIU CAMPUS KARACHI

 All Dimensions to be confirmed Only written dimensions to be Any discrepancies to be clarified

0 25, May 2018 ISSUED FOR TENDER DESCRIPTION REVISIONS

Date of Issue 25th May 2018

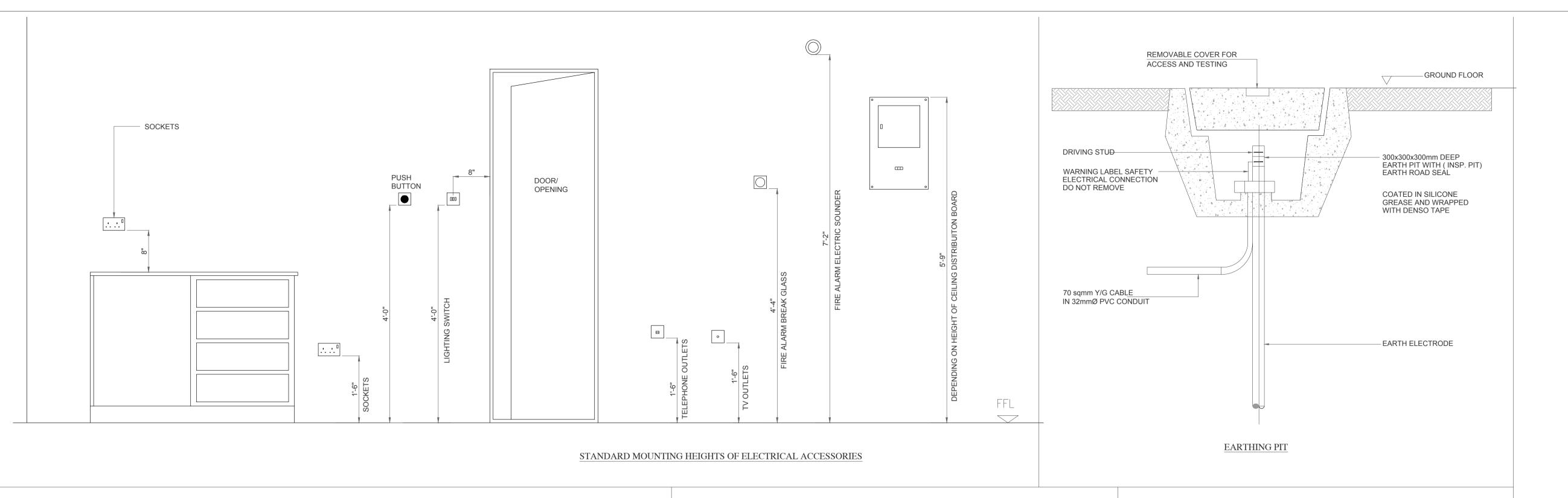
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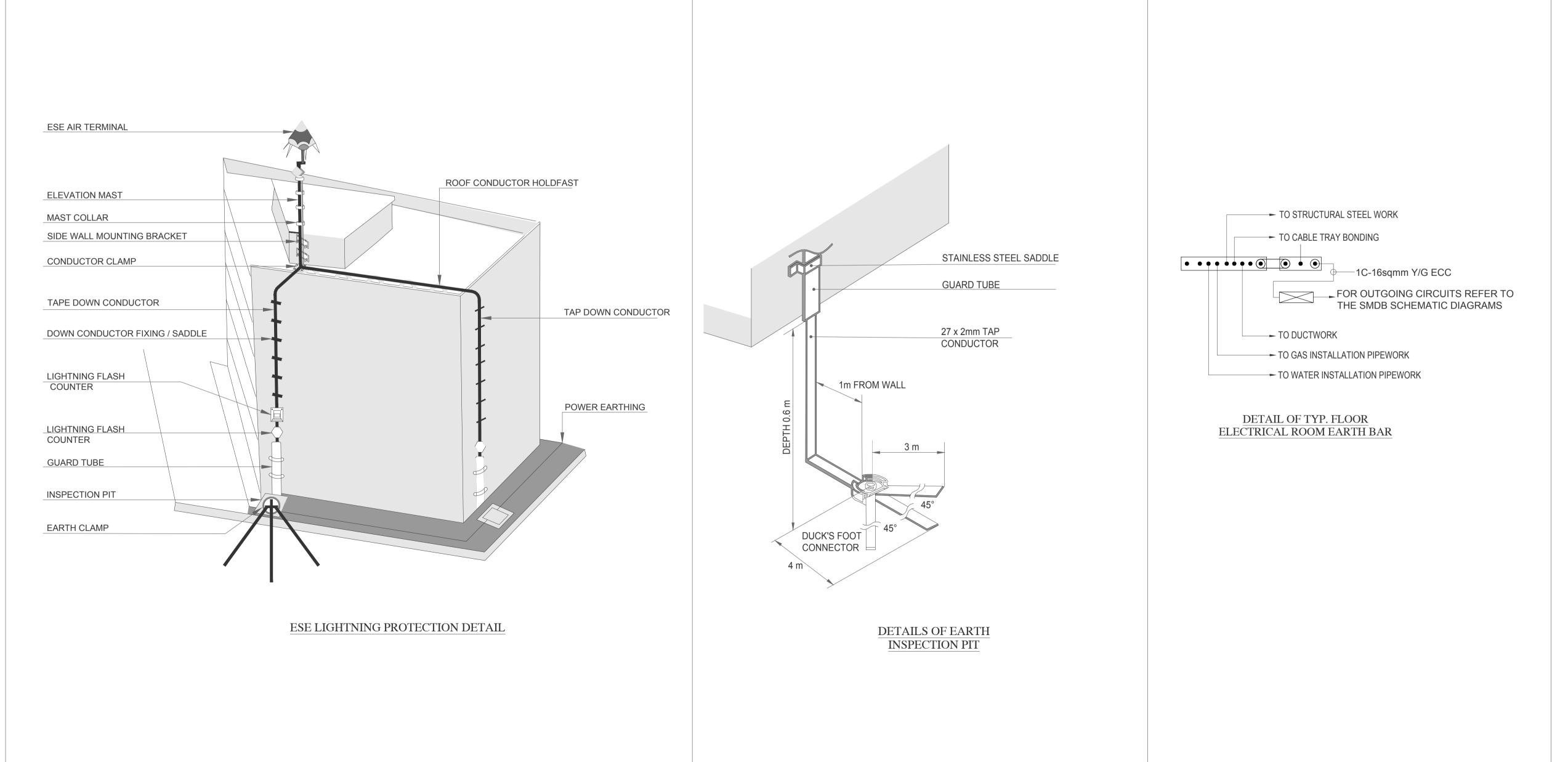
TENDER

MODEL SCHOOL **CITY CAMPUS**

ELECTRICAL STANDARD DETAIL (SHEET 1 OF 2)

Approved: April 2018





Consultant :



DEVELOPMENT OF SMIU CAMPUS KARACHI

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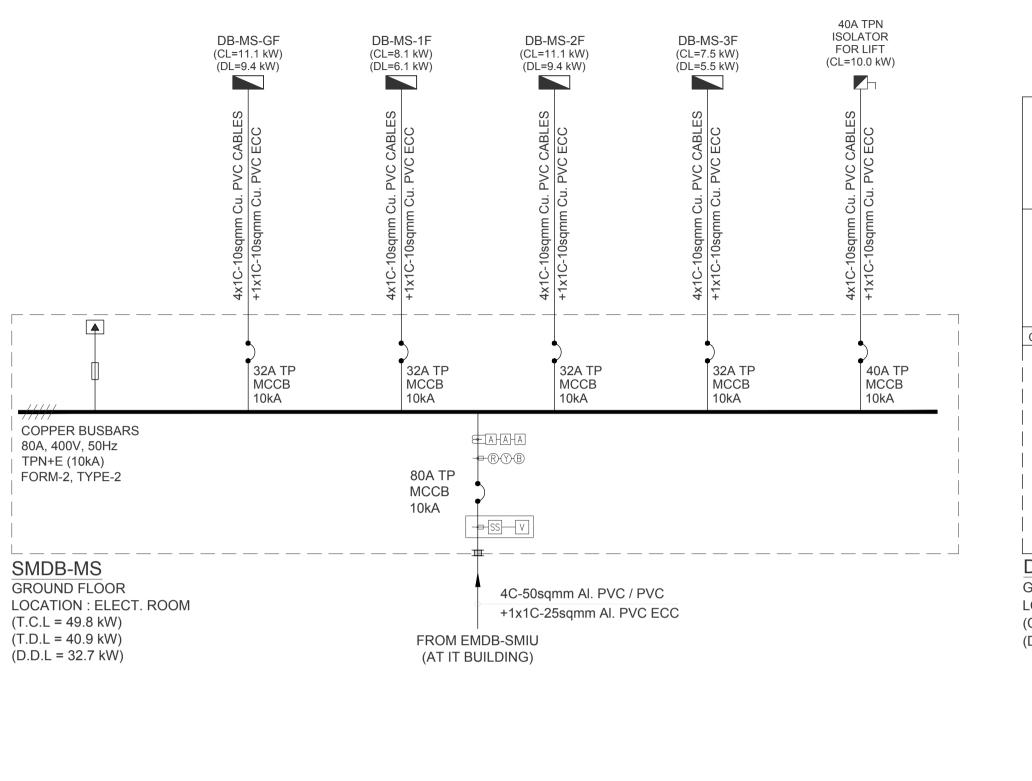
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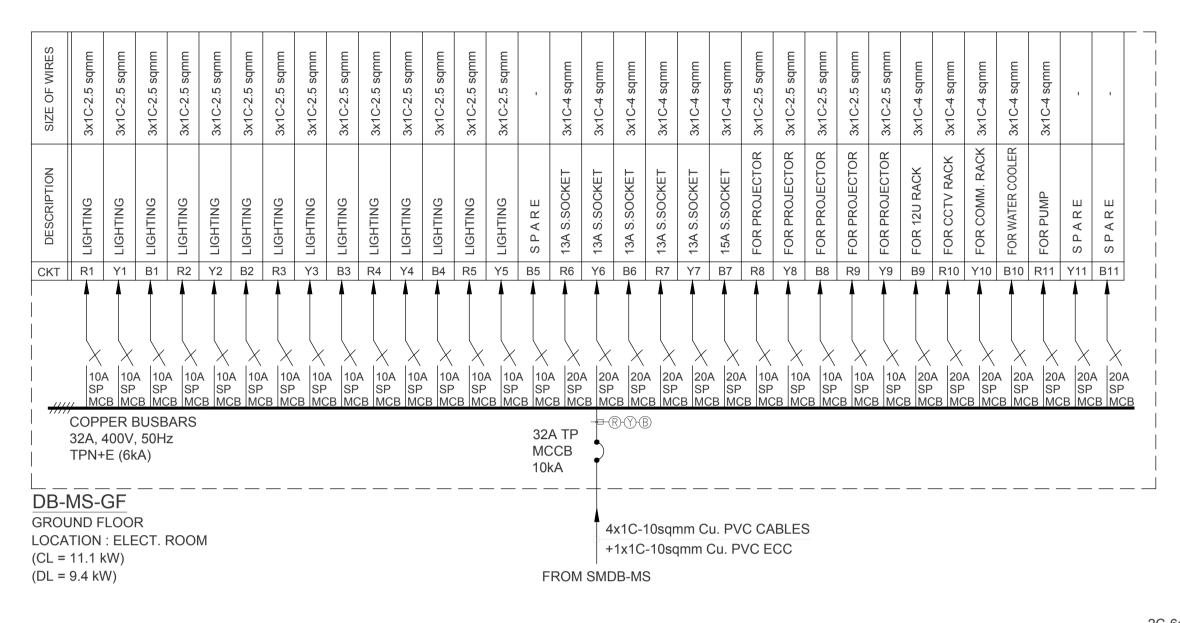
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ELECTRICAL STANDARD DETAIL (SHEET 2 OF 2)

April 2018 NTS @A1 Project Code :

EA-00986-SMS-E-0004



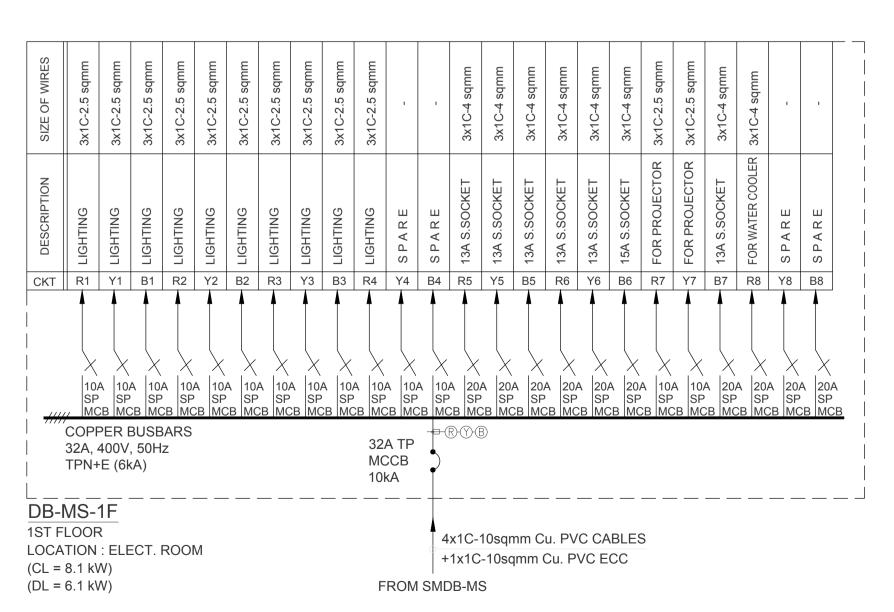


| 20A | 20A

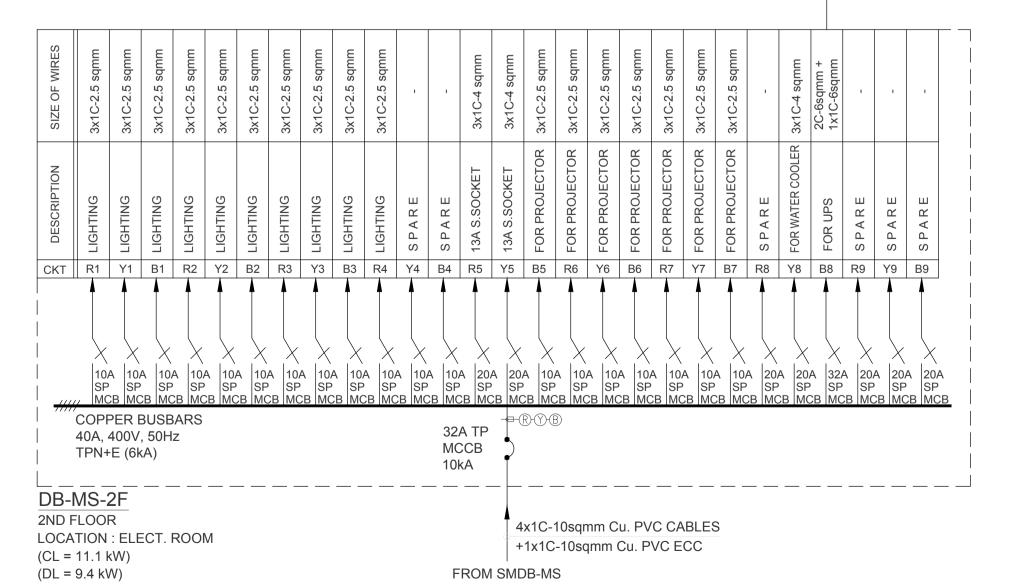
6 kVA UPS WITH 10 MINUTES BACKUP TIME

2C-6sqmm Cu. PVC FLEXIBLE CABLE

+ 1x1C-6sqmm Cu. PVC ECC



SIZE OF WIRES	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-4 sqmm	3x1C-4 sqmm	3x1C-4 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-2.5 sqmm	3x1C-4 sqmm	,
DESCRIPTION	LIGHTING	LIGHTING	LIGHTING	LIGHTING	LIGHTING	LIGHTING	LIGHTING	LIGHTING	LIGHTING	13A S.SOCKET	13A S.SOCKET	13A S.SOCKET	FOR PROJECTOR	FOR PROJECTOR	FOR PROJECTOR	FOR PROJECTOR	FOR WATER COOLER	SPARE
CKT	R1	Y1	B1	R2	Y2	B2	R3	Y3	В3	R4	Y4	B4	R5	Y5	B5	R6	Y6	B6
		1	- 1			1	- 1	- 1	1	- 1	1	1	1				- 1	- 1
	10, SP MC COPF 32A, TPN+	SP CB MC PER E 400V	BUSB , 50H	SP MC SARS	SP	A 1000 SP CB MC	CB MC	SP	B MC	A 200 SP MC	CB MC	A 200/ SP CB MC	A 1000 SP CB MC	A 1000 SP	SP	SP	A 20.0 SP CB MC	SF





EA Consulting Pvt Ltd

Head Office:AL-9, 15th Lane, Khayaban-e-Hilal,Phase 7,
Defence Housing Authority, Karachi. 75500 - Pakistan
Phone No. 111-111-584, Fax No. 584-1825
Email: info@eaworld.com | www.eaworld.com

Project:

DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :

Note:

All Dimensions to be confirmed on site with architect.

Do not scale.

Only written dimensions to be followed.

Any discrepancies to be clarified with the architect.

For structure details refer, structure engineer drawings /

0	25, May 2018	ISSUED FOR TENDER
No.	DATE	DESCRIPTION
		REVISIONS
Date	e of Issue	25th May 2018

Date of Issue 25th May 2018
Issued To Client
Issued For Tender

ELECTRICAL

TENDER

Building Name:

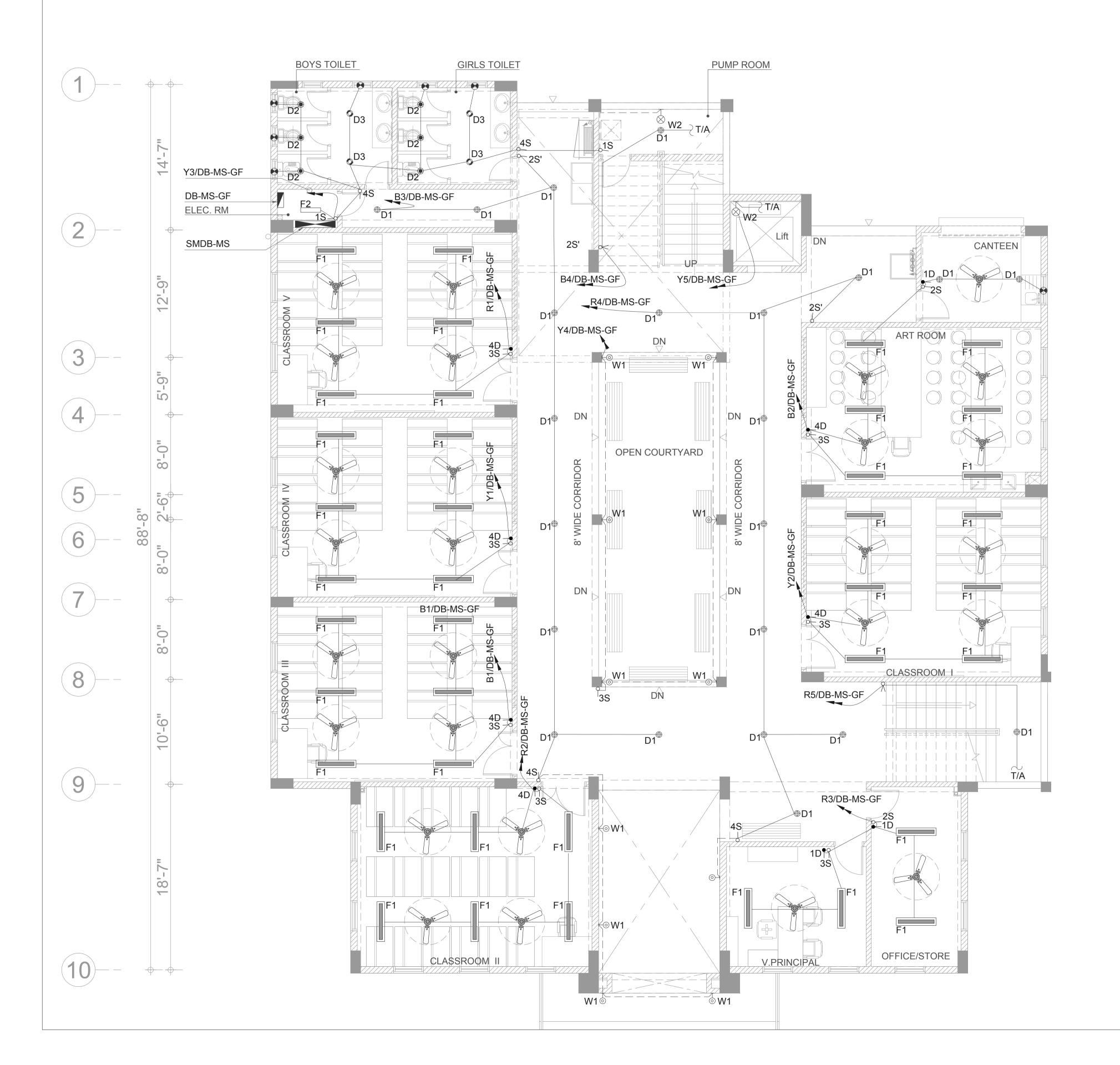
MODEL SCHOOL CITY CAMPUS

Drawing Title :

ELECTRICAL DISTRIBUTION SCHEMATIC DIAGRAM

- 1			
	Designed:	Checked:	Approved :
	MF	MF	JIS
	Drawn :	Date :	Scale / Sheet :
	ZA	April 2018	NTS @A1
	Project Code :		Rev.:
		00986	0
	Drawing No.:		
	EA	-00986-SM	1S-E-0005





	LE	EGEND FOR LIG	HTING		
S.No.	SYMBOL	DESCRIPTION	LAMP	MINIMUM LUMINOUS FLUX	MOUNTING
1	⊕D1	DOWNLIGHT FIXTURE (IP-20)	20W LED	1600 Lm	CEILING SURFACE
2	⊕ D2	DOWNLIGHT FIXTURE (IP-44)	7W LED	650 Lm	CEILING RECESSED
3	⊘ D3	DOWNLIGHT FIXTURE (IP-44)	10W LED	1000 Lm	CEILING RECESSED
4	F1	4' LONG BATTEN LIGHT FIXTURE (IP-20)	40W LED	3700 Lm	CEILING SURFACE
5	F2	2' LONG BATTEN LIGHT FIXTURE (IP-20)	20W LED	1900 Lm	CEILING SURFACE
6	⊢⊚ W1	WALL LIGHT FIXTURE (IP-54)	2x5W LED		WALL
7	⊢⊗ W2	BULKHEAD LIGHT FIXTURE (IP-54)	10W LED	800 Lm	WALL
8		CEILING FAN 56"	-		CEILING SURFACE
9		WALL BRACKET FAN 12 "			WALL
10	€/⊜	EXHAUST FAN 6" / 8"			WALL
11	ુ NS	LIGHTING CONTROL SWITCH (N GANG)			WALL
12	↓ ND	FAN DIMMER (N GANG)			WALL
13	X	TWO WAY LIGHTING CONTROL SWITCH			WALL

NOTES;
1. ALL FINISHES OF LIGHT FIXTURES AND COLOUR
TEMPERATURE OF LAMPS SHALL BE SUBJECT
TO ARCHITECT'S APPROVAL.



Consultant :

EA Consulting Pvt Ltd

Head Office:AL-9, 15th Lane, Khayaban-e-Hilal,Phase 7,
Defence Housing Authority, Karachi. 75500 - Pakistan
Phone No. 111-111-584, Fax No. 584-1825
Email: info@eaworld.com | www.eaworld.com

Project :

DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :

Note:

• All Dimensions to be confirmed on site with architect.

• Do not scale.

• Only written dimensions to be

d North.

•	follo Any with For stru	owed. y discrepanci n the archited structure de		
	0	25, May 2018	ISSUED FOR TENDE	R
N	Ю.	DATE	DESCR	IPTION
			REVISIONS	

Date of Issue	25th May 2018
Issued To	Client
Issued For	Tender

ELECTRICAL

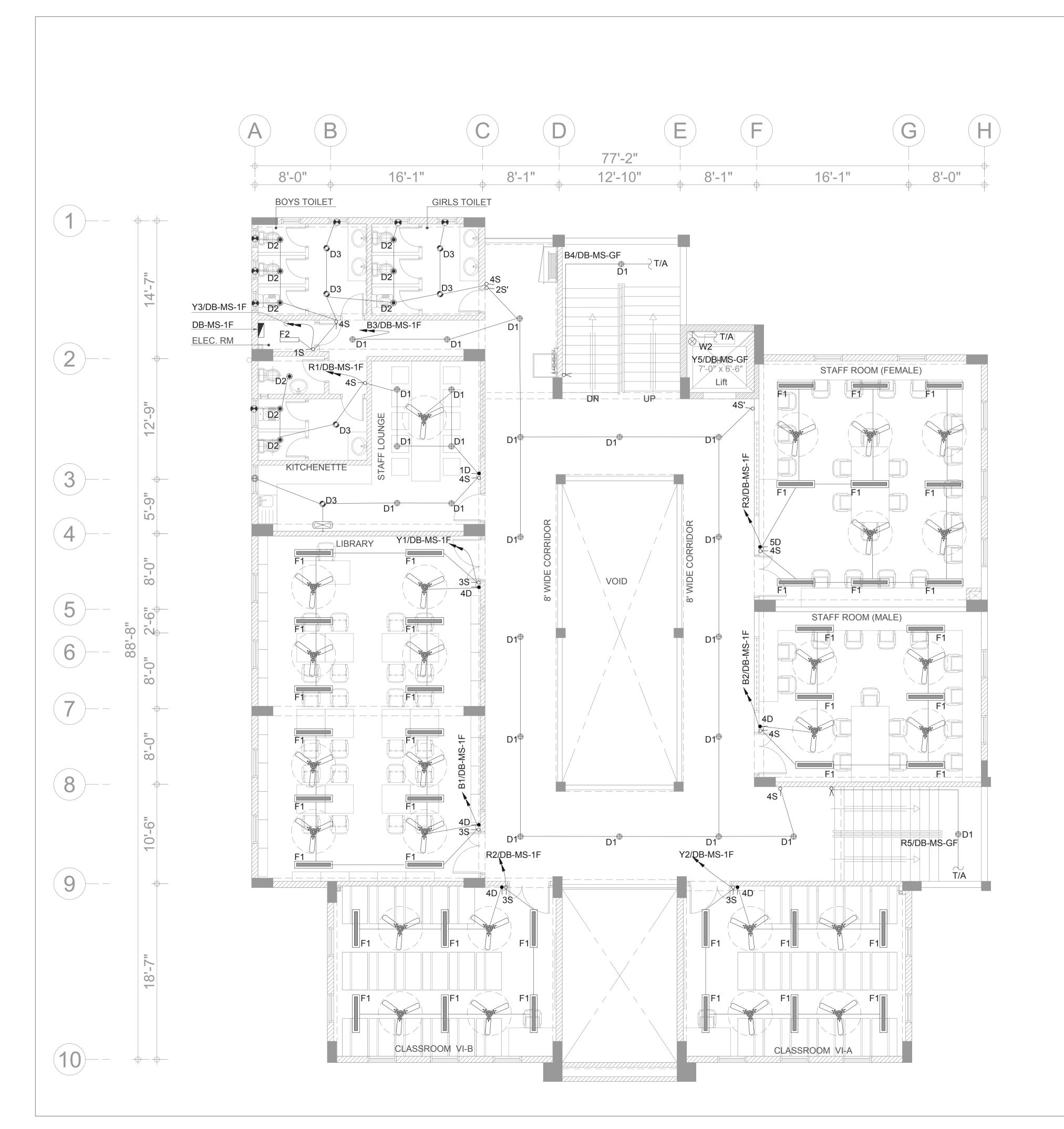
TENDER

Building Name:

MODEL SCHOOL CITY CAMPUS

Drawing Title :

GROUND FLOOR PLAN LIGHTING LAYOUT



LEGEND FOR LIGHTING				
SYMBOL	DESCRIPTION	LAMP	MINIMUM LUMINOUS FLUX	MOUNTING
⊕D1	DOWNLIGHT FIXTURE (IP-20)	20W LED	1600 Lm	CEILING SURFACE
⊕ D2	DOWNLIGHT FIXTURE (IP-44)	7W LED	650 Lm	CEILING RECESSED
⊘ D3	DOWNLIGHT FIXTURE (IP-44)	10W LED	1000 Lm	CEILING RECESSED
F1	4' LONG BATTEN LIGHT FIXTURE (IP-20)	40W LED	3700 Lm	CEILING SURFACE
F2	2' LONG BATTEN LIGHT FIXTURE (IP-20)	20W LED	1900 Lm	CEILING SURFACE
⊢⊚ W1	WALL LIGHT FIXTURE (IP-54)	2x5W LED		WALL
⊢⊗ W2	BULKHEAD LIGHT FIXTURE (IP-54)	10W LED	800 Lm	WALL
	CEILING FAN 56"	-		CEILING SURFACE
	WALL BRACKET FAN 12 "			WALL
€/⊜	EXHAUST FAN 6" / 8"			WALL
, NS	LIGHTING CONTROL SWITCH (N GANG)			WALL
↓ ND	FAN DIMMER (N GANG)			WALL
X	TWO WAY LIGHTING CONTROL SWITCH			WALL
	SYMBOL ⊕D1 ⊕D2 ♠D3 F1 E2 ⊢⊚W1 ⊢⊗W2 ♠ NS ♠ ND	SYMBOL DESCRIPTION DOWNLIGHT FIXTURE (IP-20) DOWNLIGHT FIXTURE (IP-44) DOWNLIGHT FIXTURE (IP-44) F1 4' LONG BATTEN LIGHT FIXTURE (IP-20) F2 2' LONG BATTEN LIGHT FIXTURE (IP-20) WALL LIGHT FIXTURE (IP-54) WALL LIGHT FIXTURE (IP-54) BULKHEAD LIGHT FIXTURE (IP-54) CEILING FAN 56" WALL BRACKET FAN 12 " XNS LIGHTING CONTROL SWITCH (N GANG) ND FAN DIMMER (N GANG) TWO WAY LIGHTING CONTROL	SYMBOL DESCRIPTION LAMP DOWNLIGHT FIXTURE (IP-20) 20W LED DOWNLIGHT FIXTURE (IP-44) 7W LED DOWNLIGHT FIXTURE (IP-44) 10W LED 1 4' LONG BATTEN LIGHT FIXTURE (IP-20) 40W LED 2' LONG BATTEN LIGHT FIXTURE (IP-20) 20W LED 2' LONG BATTEN LIGHT FIXTURE (IP-54) 20W LED WALL LIGHT FIXTURE (IP-54) 2x5W LED WALL LIGHT FIXTURE (IP-54) 10W LED CEILING FAN 56" - WALL BRACKET FAN 12 " XNS LIGHTING CONTROL SWITCH (N GANG) ND FAN DIMMER (N GANG) TWO WAY LIGHTING CONTROL	SYMBOL DESCRIPTION LAMP LUMINOUS FLUX ⊕D1 DOWNLIGHT FIXTURE (IP-20) 20W LED 1600 Lm ⊕D2 DOWNLIGHT FIXTURE (IP-44) 7W LED 650 Lm ФD3 DOWNLIGHT FIXTURE (IP-44) 10W LED 1000 Lm F1 4' LONG BATTEN LIGHT FIXTURE (IP-20) 40W LED 3700 Lm F2 2' LONG BATTEN LIGHT FIXTURE (IP-20) 1900 Lm F2 2' LONG BATTEN LIGHT FIXTURE (IP-54) 2x5W LED F2 WALL LIGHT FIXTURE (IP-54) 2x5W LED F3 WALL LIGHT FIXTURE (IP-54) 7W LED 800 Lm F4 W2 BULKHEAD LIGHT FIXTURE (IP-54) 7W LED 800 Lm F5 WALL BRACKET FAN 12 " F NS LIGHTING CONTROL SWITCH (N GANG) F ND FAN DIMMER (N GANG) TWO WAY LIGHTING CONTROL

NOTES;
1. ALL FINISHES OF LIGHT FIXTURES AND COLOUR
TEMPERATURE OF LAMPS SHALL BE SUBJECT
TO ARCHITECT'S APPROVAL.

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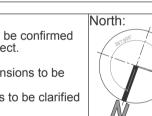
Consultant :



Project :

DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :



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 Do not scale.
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0	25, May 2018	ISSUED FOR TENDER				
No.	DATE	DESCRIPTION				
		REVISIONS				

Date of Issue	25th May 2018
Issued To	Client
Issued For	Tender

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TENDER

Building Name:

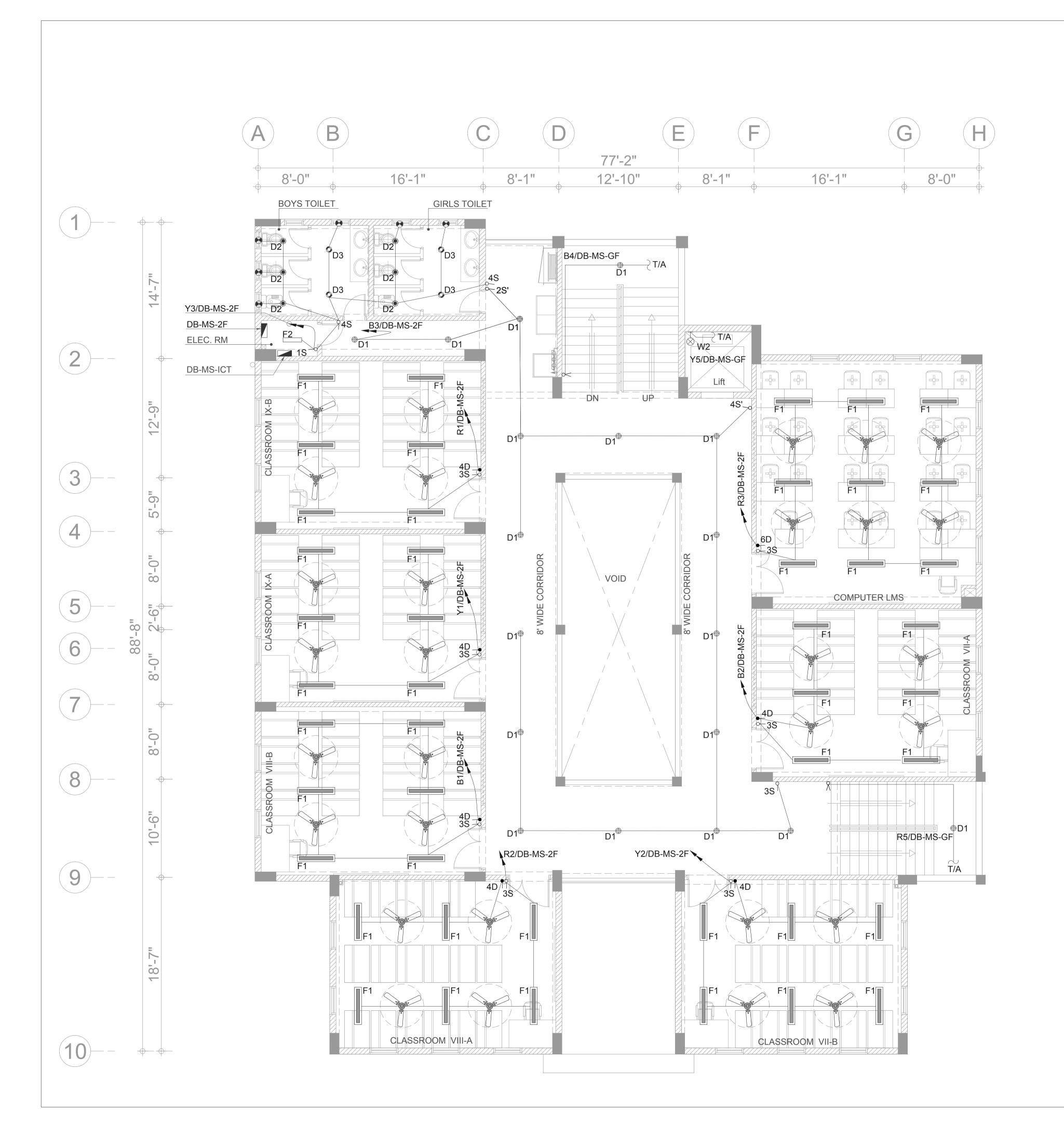
MODEL SCHOOL CITY CAMPUS

Drawing Title

FIRST FLOOR PLAN LIGHTING LAYOUT

Designed :	Checked:	Approved :
MI	MF	JIS
Drawn :	Date :	Scale / Sheet : 3/32"=1'-0"@A3
MA	April 2018	3/16"=1'-0"@A1
Project Code :		Rev.:
	00986	0

Drawing No. : EA-00986-SMS-EL-0200



S.No.	SYMBOL	DESCRIPTION	LAMP	MINIMUM LUMINOUS FLUX	MOUNTING
1	⊕D1	DOWNLIGHT FIXTURE (IP-20)	20W LED	1600 Lm	CEILING SURFACE
2	⊕ D2	DOWNLIGHT FIXTURE (IP-44)	7W LED	650 Lm	CEILING RECESSED
3	⊘ D3	DOWNLIGHT FIXTURE (IP-44)	10W LED	1000 Lm	CEILING RECESSED
4	F1	4' LONG BATTEN LIGHT FIXTURE (IP-20)	40W LED	3700 Lm	CEILING SURFACE
5	F2	2' LONG BATTEN LIGHT FIXTURE (IP-20)	20W LED	1900 Lm	CEILING SURFACE
6	⊢⊚ W1	WALL LIGHT FIXTURE (IP-54)	2x5W LED		WALL
7	⊢⊗ W2	BULKHEAD LIGHT FIXTURE (IP-54)	10W LED	800 Lm	WALL
8		CEILING FAN 56"	-		CEILING SURFACE
9		WALL BRACKET FAN 12 "			WALL
10	€/⊚	EXHAUST FAN 6" / 8"			WALL
11	∫ NS	LIGHTING CONTROL SWITCH (N GANG)			WALL
12	↓ ND	FAN DIMMER (N GANG)			WALL
13	X	TWO WAY LIGHTING CONTROL SWITCH			WALL

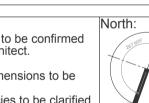
NOTES;- 1. ALL FINISHES OF LIGHT FIXTURES AND COLOUR TEMPERATURE OF LAMPS SHALL BE SUBJECT TO ARCHITECT'S APPROVAL.

Consultant :



DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan:



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 Do not scale.
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 For structure details refer, structure engineer drawings / details

0 25, May 2018 ISSUED FOR TENDER

DESCRIPTION

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	Date of Issue	25th May 2018
	Issued To	Client
	Issued For	Tender
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REVISIONS

ELECTRICAL

TENDER

Building Name:

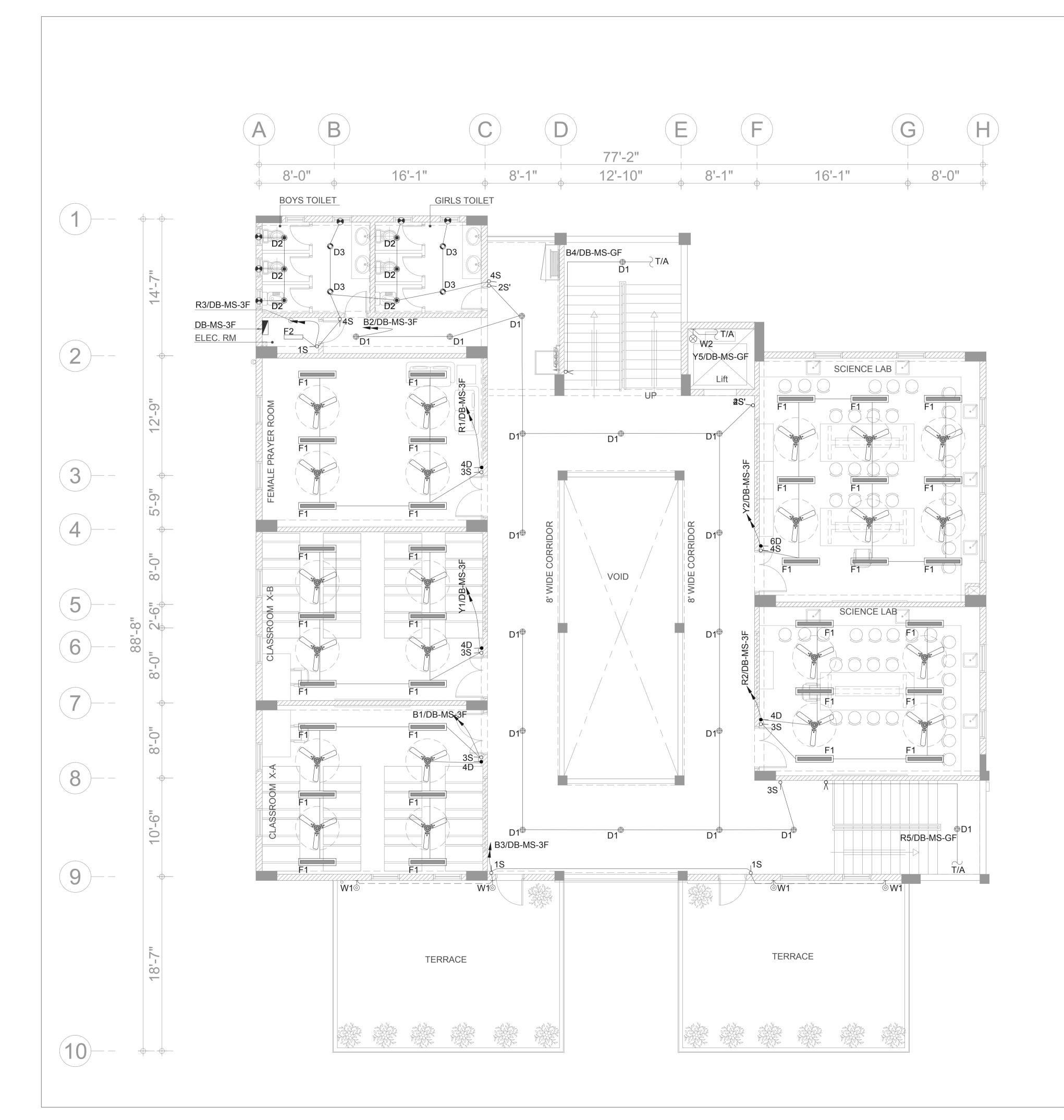
No. DATE

MODEL SCHOOL CITY CAMPUS

Drawing Title:

SECOND FLOOR PLAN LIGHTING LAYOUT

April 2018 3/32"=1'-0"@A3 3/16"=1'-0"@A1 Drawing No. : EA-00986-SMS-EL-0300



LEGEND FOR LIGHTING					
SYMBOL	DESCRIPTION	LAMP	MINIMUM LUMINOUS FLUX	MOUNTING	
⊕D1	DOWNLIGHT FIXTURE (IP-20)	20W LED	1600 Lm	CEILING SURFACE	
⊕ D2	DOWNLIGHT FIXTURE (IP-44)	7W LED	650 Lm	CEILING RECESSED	
⊘ D3	DOWNLIGHT FIXTURE (IP-44)	10W LED	1000 Lm	CEILING RECESSED	
F1	4' LONG BATTEN LIGHT FIXTURE (IP-20)	40W LED	3700 Lm	CEILING SURFACE	
F2	2' LONG BATTEN LIGHT FIXTURE (IP-20)	20W LED	1900 Lm	CEILING SURFACE	
⊢⊚ W1	WALL LIGHT FIXTURE (IP-54)	2x5W LED		WALL	
⊢⊗ W2	BULKHEAD LIGHT FIXTURE (IP-54)	10W LED	800 Lm	WALL	
	CEILING FAN 56"	-		CEILING SURFACE	
	WALL BRACKET FAN 12 "			WALL	
♦/⊚	EXHAUST FAN 6" / 8"			WALL	
, NS	LIGHTING CONTROL SWITCH (N GANG)			WALL	
↓ ND	FAN DIMMER (N GANG)			WALL	
X	TWO WAY LIGHTING CONTROL SWITCH			WALL	
	SYMBOL ⊕D1 ⊕D2 ♠D3 F1 F2 ⊢⊚W1 ⊢⊗W2 ♠ ♠ NS ♠ ND	SYMBOL DESCRIPTION DOWNLIGHT FIXTURE (IP-20) DOWNLIGHT FIXTURE (IP-44) DOWNLIGHT FIXTURE (IP-44) DOWNLIGHT FIXTURE (IP-44) F1 4' LONG BATTEN LIGHT FIXTURE (IP-20) F2 2' LONG BATTEN LIGHT FIXTURE (IP-20) WALL LIGHT FIXTURE (IP-54) WALL LIGHT FIXTURE (IP-54) BULKHEAD LIGHT FIXTURE (IP-54) CEILING FAN 56" WALL BRACKET FAN 12 " XNS LIGHTING CONTROL SWITCH (N GANG) ND FAN DIMMER (N GANG) TWO WAY LIGHTING CONTROL	SYMBOL DESCRIPTION LAMP ⊕D1 DOWNLIGHT FIXTURE (IP-20) 20W LED ⊕D2 DOWNLIGHT FIXTURE (IP-44) 7W LED •D3 DOWNLIGHT FIXTURE (IP-44) 10W LED F1 4' LONG BATTEN LIGHT FIXTURE (IP-20) 40W LED F2 2' LONG BATTEN LIGHT FIXTURE (IP-20) 20W LED H⊕W1 WALL LIGHT FIXTURE (IP-54) 2x5W LED H⊕W2 BULKHEAD LIGHT FIXTURE (IP-54) 10W LED CEILING FAN 56" - WALL BRACKET FAN 12 " • MS LIGHTING CONTROL SWITCH (N GANG) IND FAN DIMMER (N GANG) TWO WAY LIGHTING CONTROL	BYMBOL DESCRIPTION LAMP LUMINOUS FLUX DOWNLIGHT FIXTURE (IP-20) 20W LED 1600 Lm DOWNLIGHT FIXTURE (IP-44) 7W LED 650 Lm DOWNLIGHT FIXTURE (IP-44) 10W LED 1000 Lm 1000 Lm	

NOTES;
1. ALL FINISHES OF LIGHT FIXTURES AND COLOUR
TEMPERATURE OF LAMPS SHALL BE SUBJECT
TO ARCHITECT'S APPROVAL.

ENTRE TO LEARN OF FORTH TO SERVE

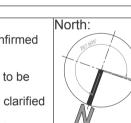
Consultant :



Project :

DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :



Note:
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Do not scale.
Only written dimensions to be followed.

followed.

• Any discrepancies to be clarified with the architect.

• For structure details refer, structure engineer drawings / details

0 25, May 2018 ISSUED FOR TENDER

No. DATE DESCRIPTION

REVISIONS

Date of Issue 25th May 2018
Issued To Client
Issued For Tender

ELECTRICAL

TENDER

Building Name:

MODEL SCHOOL CITY CAMPUS

Drawing Title

THIRD FLOOR PLAN LIGHTING LAYOUT

Designed: Checked: Approved:

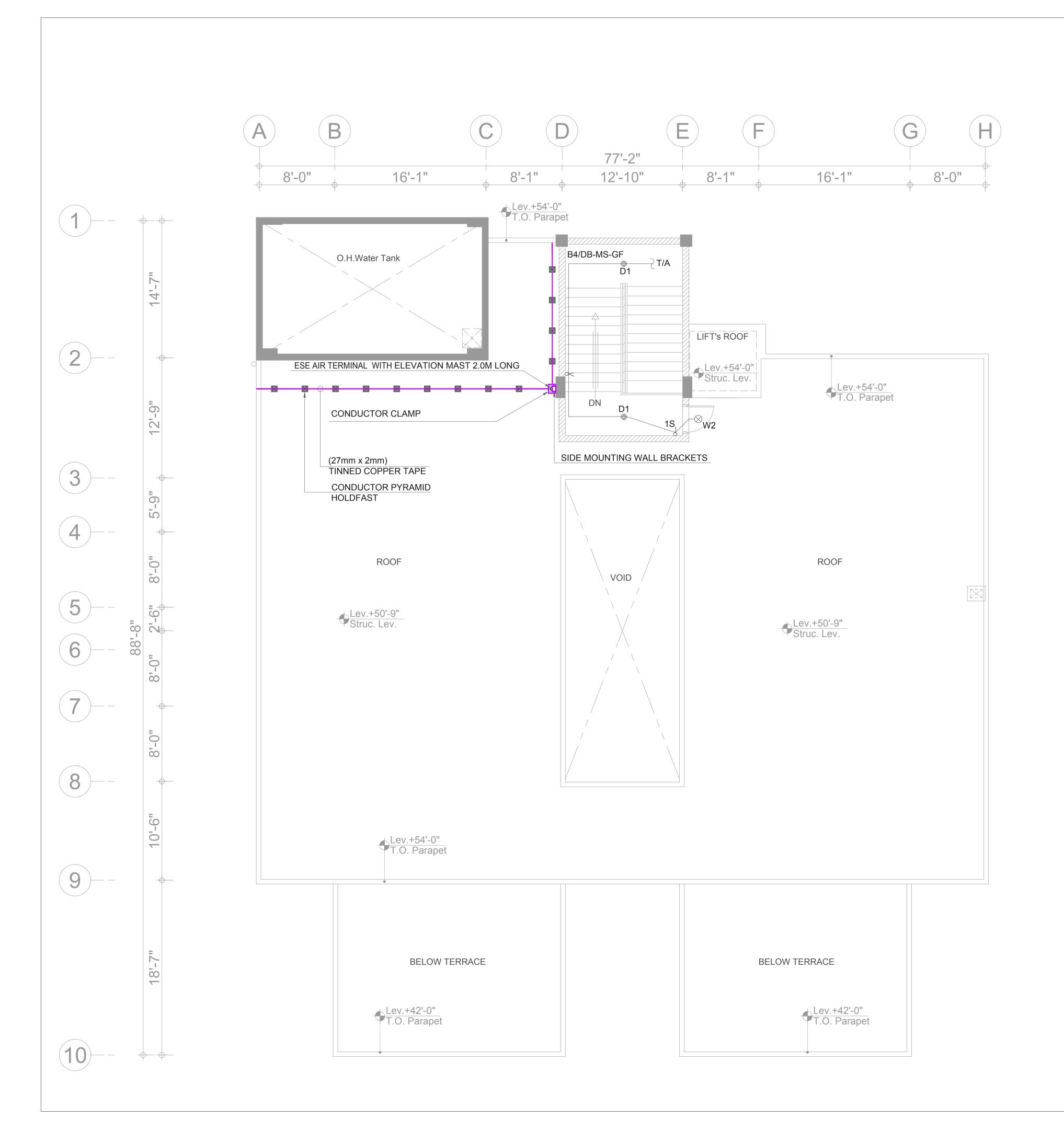
MF MF JIS

Drawn: Date: Scale / Sheet: 3/32"=1'-0"@A3

April 2018 3/16"=1'-0"@A1

Project Code: Rev.:

Drawing No. : EA-00986-SMS-EL-0400



LEGEND FOR LIGHTING					
SYMBOL	DESCRIPTION	LAMP	MINIMUM LUMINOUS FLUX	MOUNTING	
⊕D1	DOWNLIGHT FIXTURE (IP-20)	20W LED	1600 Lm	CEILING SURFACE	
⊕ D2	DOWNLIGHT FIXTURE (IP-44)	7W LED	650 Lm	CEILING RECESSED	
⊘ D3	DOWNLIGHT FIXTURE (IP-44)	10W LED	1000 Lm	CEILING RECESSED	
F1	4' LONG BATTEN LIGHT FIXTURE (IP-20)	40W LED	3700 Lm	CEILING SURFACE	
F2	2' LONG BATTEN LIGHT FIXTURE (IP-20)	20W LED	1900 Lm	CEILING SURFACE	
⊢⊚ W1	WALL LIGHT FIXTURE (IP-54)	2x5W LED		WALL	
⊢⊗ W2	BULKHEAD LIGHT FIXTURE (IP-54)	10W LED	800 Lm	WALL	
	CEILING FAN 56"	-		CEILING SURFACE	
	WALL BRACKET FAN 12 "			WALL	
♦/⊜	EXHAUST FAN 6" / 8"			WALL	
ુ NS	LIGHTING CONTROL SWITCH (N GANG)			WALL	
↓ ND	FAN DIMMER (N GANG)			WALL	
X	TWO WAY LIGHTING CONTROL SWITCH			WALL	
	⊕D1 ⊕D2 ●D3 F1	 ⊕D1 DOWNLIGHT FIXTURE (IP-20) ⊕D2 DOWNLIGHT FIXTURE (IP-44) ⊕D3 DOWNLIGHT FIXTURE (IP-44) ☐F1 4' LONG BATTEN LIGHT FIXTURE (IP-20) ☐F2 2' LONG BATTEN LIGHT FIXTURE (IP-20) ☐W1 WALL LIGHT FIXTURE (IP-54) ☐W2 BULKHEAD LIGHT FIXTURE (IP-54) ☐F3 CEILING FAN 56" ☐WALL BRACKET FAN 12 " ☐FXHAUST FAN 6" / 8" ✓ NS LIGHTING CONTROL SWITCH (N GANG) ✓ ND FAN DIMMER (N GANG) ✓ TWO WAY LIGHTING CONTROL 	⊕D1 DOWNLIGHT FIXTURE (IP-20) 20W LED ⊕D2 DOWNLIGHT FIXTURE (IP-44) 7W LED ☐D3 DOWNLIGHT FIXTURE (IP-44) 10W LED ☐F1 4' LONG BATTEN LIGHT FIXTURE (IP-20) 40W LED ☐F2 2' LONG BATTEN LIGHT FIXTURE (IP-20) 20W LED ☐W1 WALL LIGHT FIXTURE (IP-54) 2x5W LED ☐W2 BULKHEAD LIGHT FIXTURE (IP-54) 10W LED ☐CEILING FAN 56" - ☐W3 WALL BRACKET FAN 12 " ☐W4 WALL BRACKET FAN 12 " ☐W5 WALL BRACKET FAN 12 " ☐W4 WALL BRACKET FAN 12 " ☐W4 WALL BRACKET FAN 12 " ☐W4 WALL BRACKET FAN 12 " ☐W5 WALL BRACKET FAN 12 " ☐W6 WALL BRACKET FAN 12 " ☐W7 WALL BRA	SYMBOL DESCRIPTION LAMP LUMINOUS FLUX DOWNLIGHT FIXTURE (IP-20) DOWNLIGHT FIXTURE (IP-44) POD3 DOWNLIGHT FIXTURE (IP-44) TOW LED TOWNLED TOWNLED	

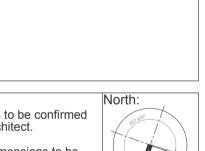
NOTES;- 1. ALL FINISHES OF LIGHT FIXTURES AND COLOUR TEMPERATURE OF LAMPS SHALL BE SUBJECT TO ARCHITECT'S APPROVAL.

Consultant :



DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan:



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0	25, May 2018	ISSUED FOR TENDER
No.	DATE	DESCRIPTION
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	Date of Issue	25th May 2018		
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REVISIONS

ELECTRICAL

TENDER

Building Name:

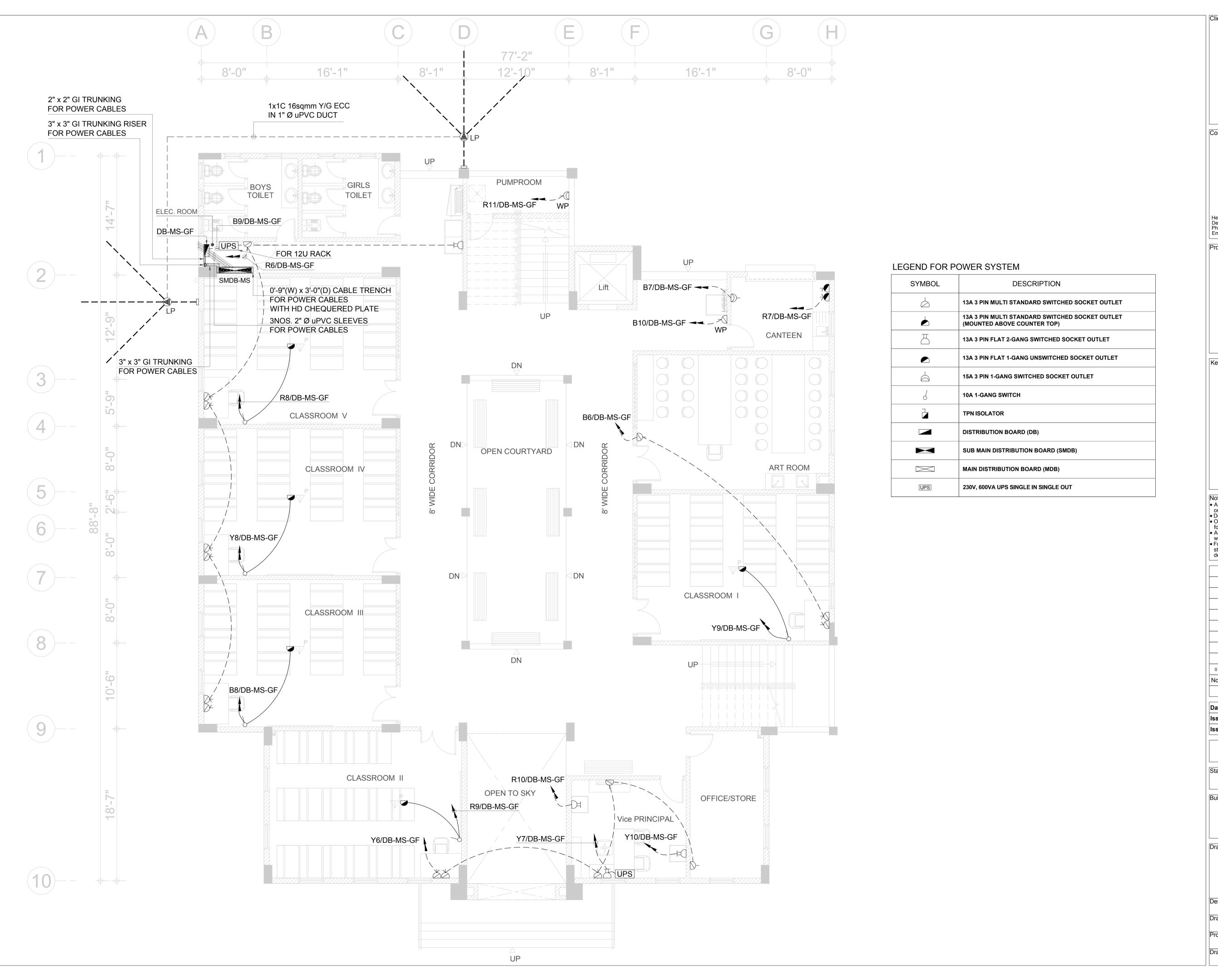
MODEL SCHOOL CITY CAMPUS

ROOF PLAN LIGHTING & LIGHTNING PROTECTION SYSTEMS LAYOUT

Scale / Sheet . 3/32"=1'-0"@A3 3/16"=1'-0"@A1

Rev. :

Drawing No. : EA-00986-SMS-EL-0500





EA Consulting Pvt Ltd

Head Office:AL-9, 15th Lane, Khayaban-e-Hilal,Phase 7,
Defence Housing Authority, Karachi. 75500 - Pakistan
Phone No. 111-111-584, Fax No. 584-1825
Email: info@eaworld.com | www.eaworld.com

Project :

DEVELOPMENT OF SMIU CAMPUS KARACHI

Key Plan :

Note:

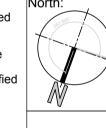
• All Dimensions to be confirmed on site with architect.

• Do not scale.

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• Any discrepancies to be clarified with the architect.

• For structure details refer,



det	details		
0	25, May 2018	ISSUED FOR TENDER	
No.	DATE	DESCRIPTION	
REVISIONS			

Date of Issue 25th May 2018
Issued To Client
Issued For Tender

ELECTRICAL

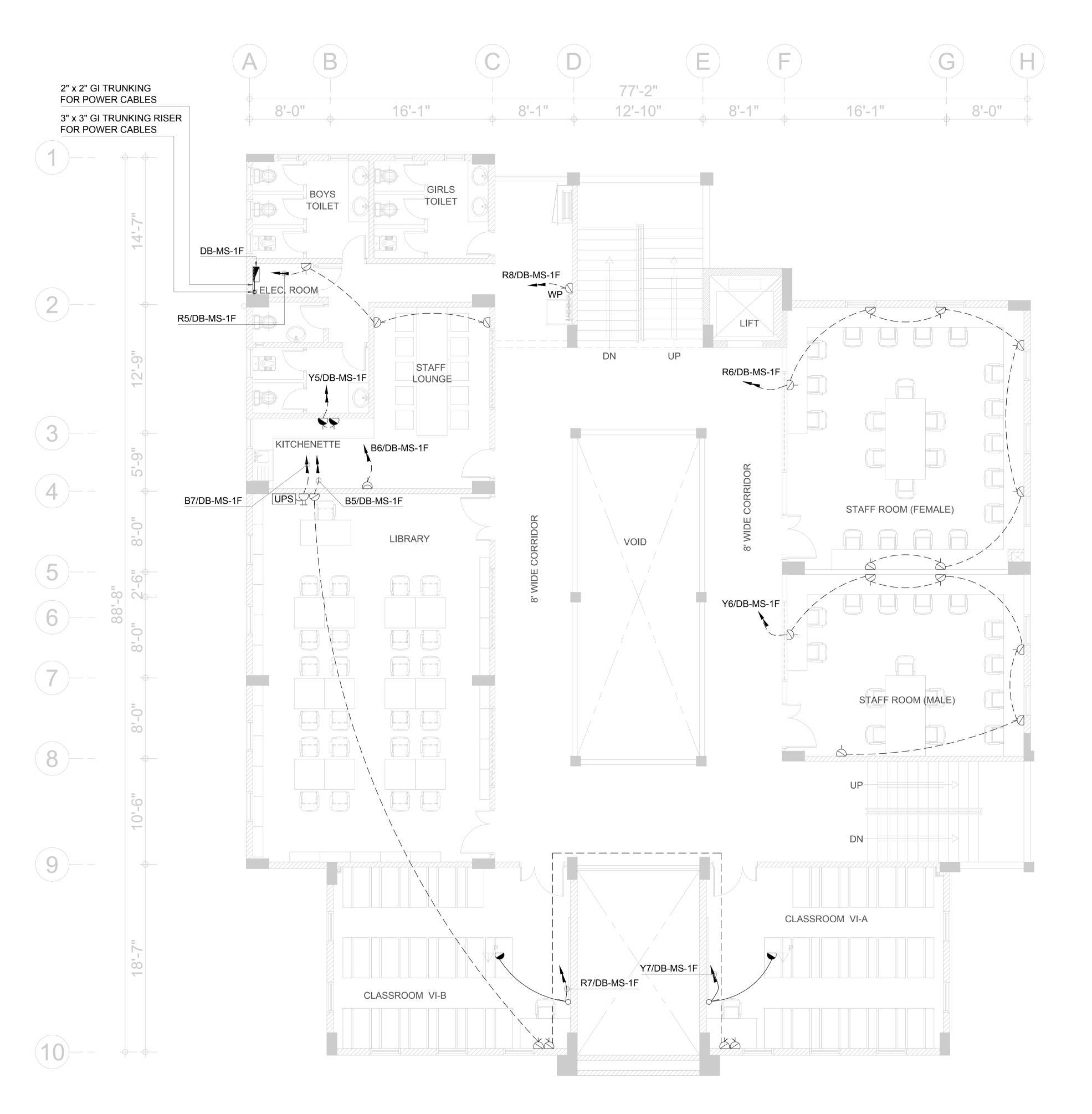
TENDER

Building Name:

MODEL SCHOOL CITY CAMPUS

Drawing Title :

GROUND FLOOR PLAN POWER LAYOUT





SYMBOL	DESCRIPTION		
	13A 3 PIN MULTI STANDARD SWITCHED SOCKET OUTLET		
	13A 3 PIN MULTI STANDARD SWITCHED SOCKET OUTLET (MOUNTED ABOVE COUNTER TOP)		
占	13A 3 PIN FLAT 2-GANG SWITCHED SOCKET OUTLET		
	13A 3 PIN FLAT 1-GANG UNSWITCHED SOCKET OUTLET		
	15A 3 PIN 1-GANG SWITCHED SOCKET OUTLET		
8	10A 1-GANG SWITCH		
	TPN ISOLATOR		
	DISTRIBUTION BOARD (DB)		
	SUB MAIN DISTRIBUTION BOARD (SMDB)		
	MAIN DISTRIBUTION BOARD (MDB)		
UPS	230V, 600VA UPS SINGLE IN SINGLE OUT		





Project

DEVELOPMENT OF SMIU CAMPUS KARACHI

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REVISIONS

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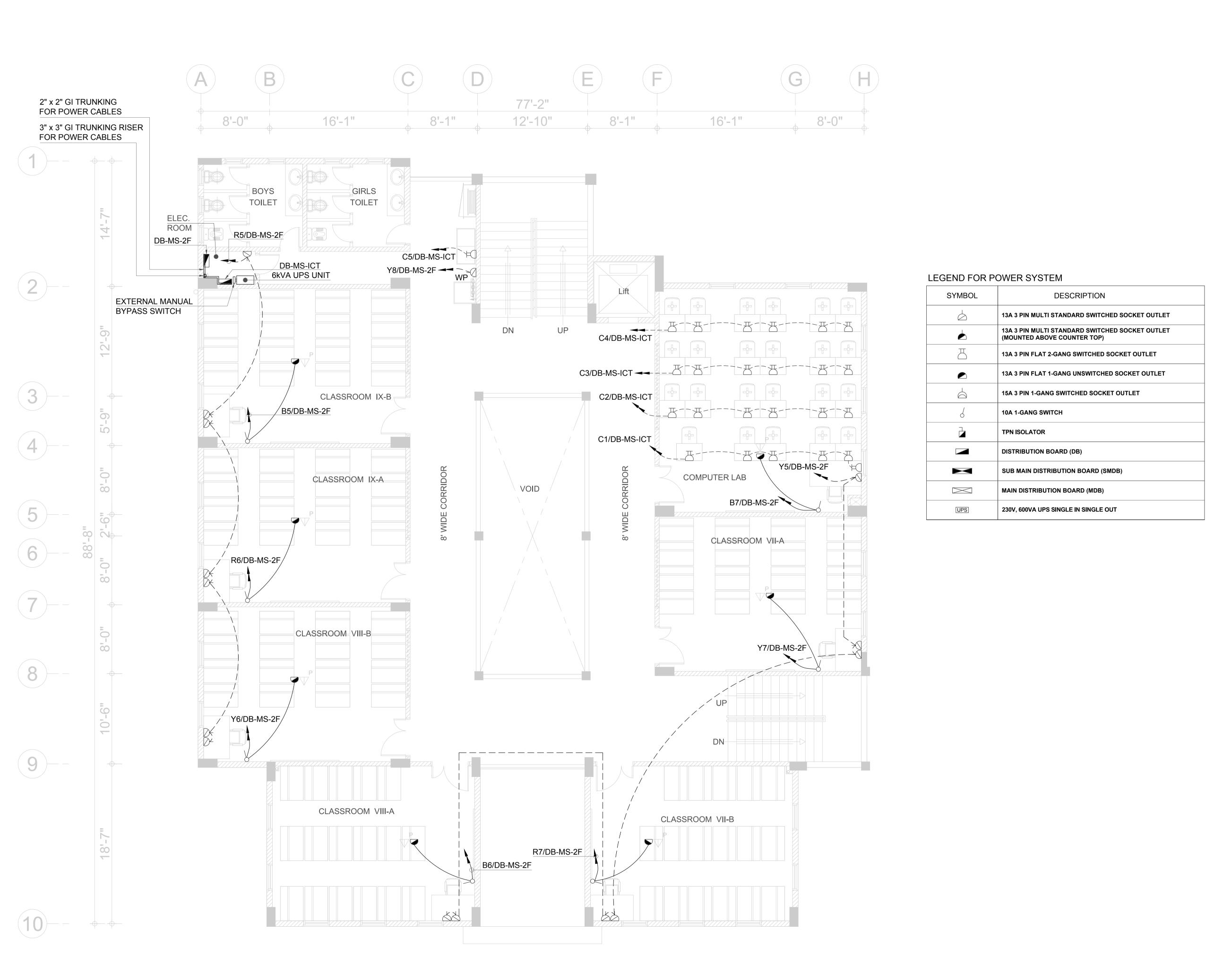
ELECTRICAL

TENDER

MODEL SCHOOL CITY CAMPUS

Drawing Title

FIRST FLOOR PLAN POWER LAYOUT





EA Consulting Pvt Ltd

Head Office:AL-9, 15th Lane, Khayaban-e-Hilal,Phase 7,
Defence Housing Authority, Karachi. 75500 - Pakistan
Phone No. 111-111-584, Fax No. 584-1825
Email: info@eaworld.com | www.eaworld.com

oject :

DEVELOPMENT OF SMIU CAMPUS KARACHI

Note:

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No. DATE DESCRIPTION
REVISIONS

Date of Issue 25th May 2018
Issued To Client
Issued For Tender

ELECTRICAL

TENDER

ILNDL

MODEL SCHOOL CITY CAMPUS

Drawing Title

SECOND FLOOR PLAN POWER LAYOUT

Designed: Checked: Approved:

MF MF JIS

Drawn: Date: Scale / Sheet: 3/32"=1'-0"@A3

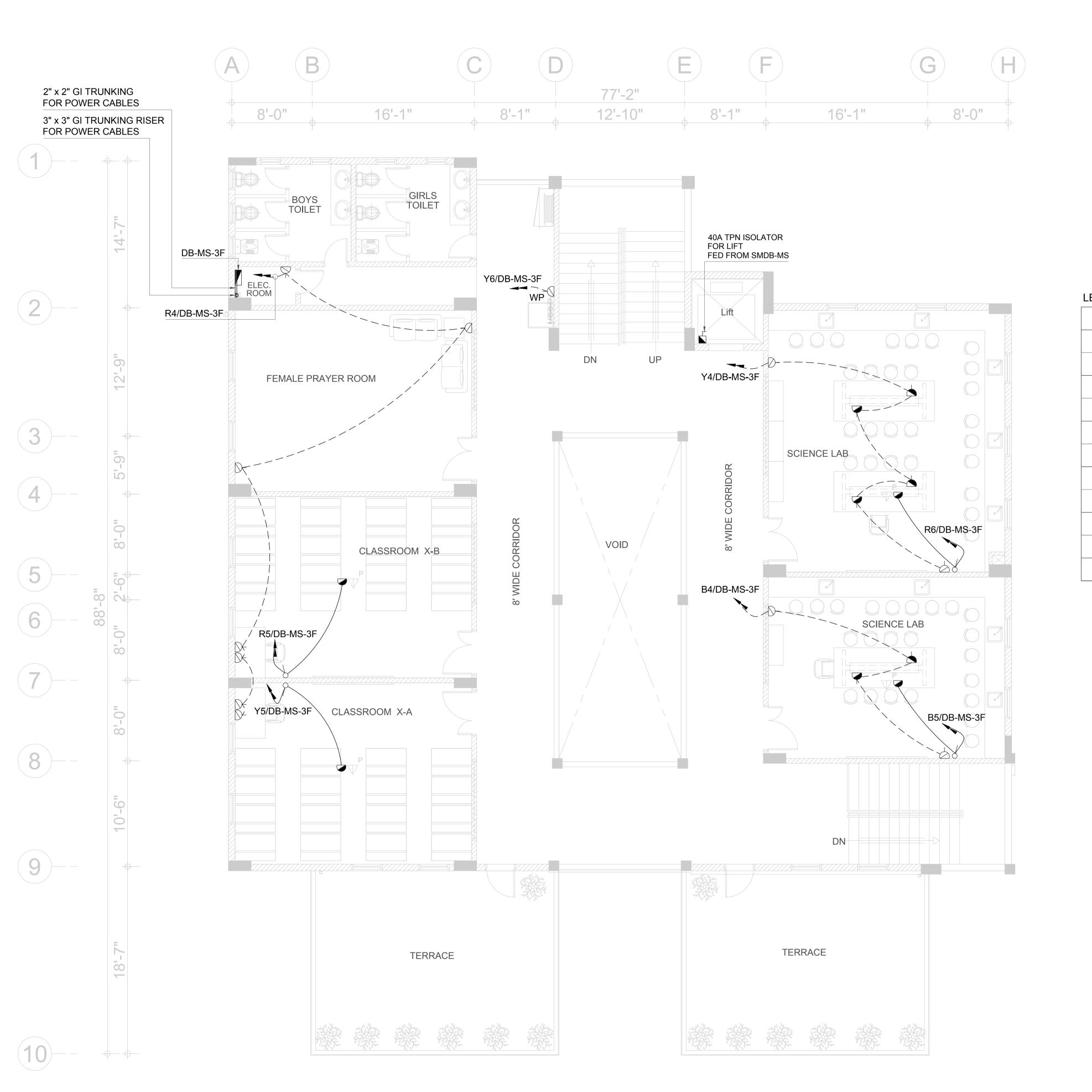
ZA April 2018 3/16"=1'-0"@A1

Project Code: Rev.:

00986 0

Drawing No.:

EA-00986-SMS-EP-0300





SYMBOL DESCRIPTION			
6	13A 3 PIN MULTI STANDARD SWITCHED SOCKET OUTLET		
	13A 3 PIN MULTI STANDARD SWITCHED SOCKET OUTLET (MOUNTED ABOVE COUNTER TOP)		
В	13A 3 PIN FLAT 2-GANG SWITCHED SOCKET OUTLET		
	13A 3 PIN FLAT 1-GANG UNSWITCHED SOCKET OUTLET		
	15A 3 PIN 1-GANG SWITCHED SOCKET OUTLET		
6	10A 1-GANG SWITCH		
	TPN ISOLATOR		
	DISTRIBUTION BOARD (DB)		
$\mathbf{\times}$	SUB MAIN DISTRIBUTION BOARD (SMDB)		
	MAIN DISTRIBUTION BOARD (MDB)		
UPS	230V, 600VA UPS SINGLE IN SINGLE OUT		



EA Consulting Pvt Ltd

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Email: info@eaworld.com | www.eaworld.com

Project :

DEVELOPMENT OF SMIU CAMPUS KARACHI

All Dimensions to be confirmed on site with architect.
 Do not scale.
 Only written dimensions to be followed.
 Any discrepancies to be clarified with the architect.
 For structure details refer, structure engineer drawings / details

0 25, May 2018 ISSUED FOR TENDER

No. DATE DESCRIPTION

REVISIONS

Date of Issue 25th May 2018
Issued To Client
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ELECTRICAL

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MODEL SCHOOL CITY CAMPUS

Drawing T

THIRD FLOOR PLAN POWER LAYOUT

	Designed:		Chec	ked:	Approved :
		MF		MF	JIS
	Drawn :		Date	:	Scale / Sheet : 3/32"=1'-0"@A3
		ZA		April 2018	3/16"=1'-0"@A1
	Project Code	:			Rev.:
				00986	0
	Drawing No.	:			
	-EP-0400				

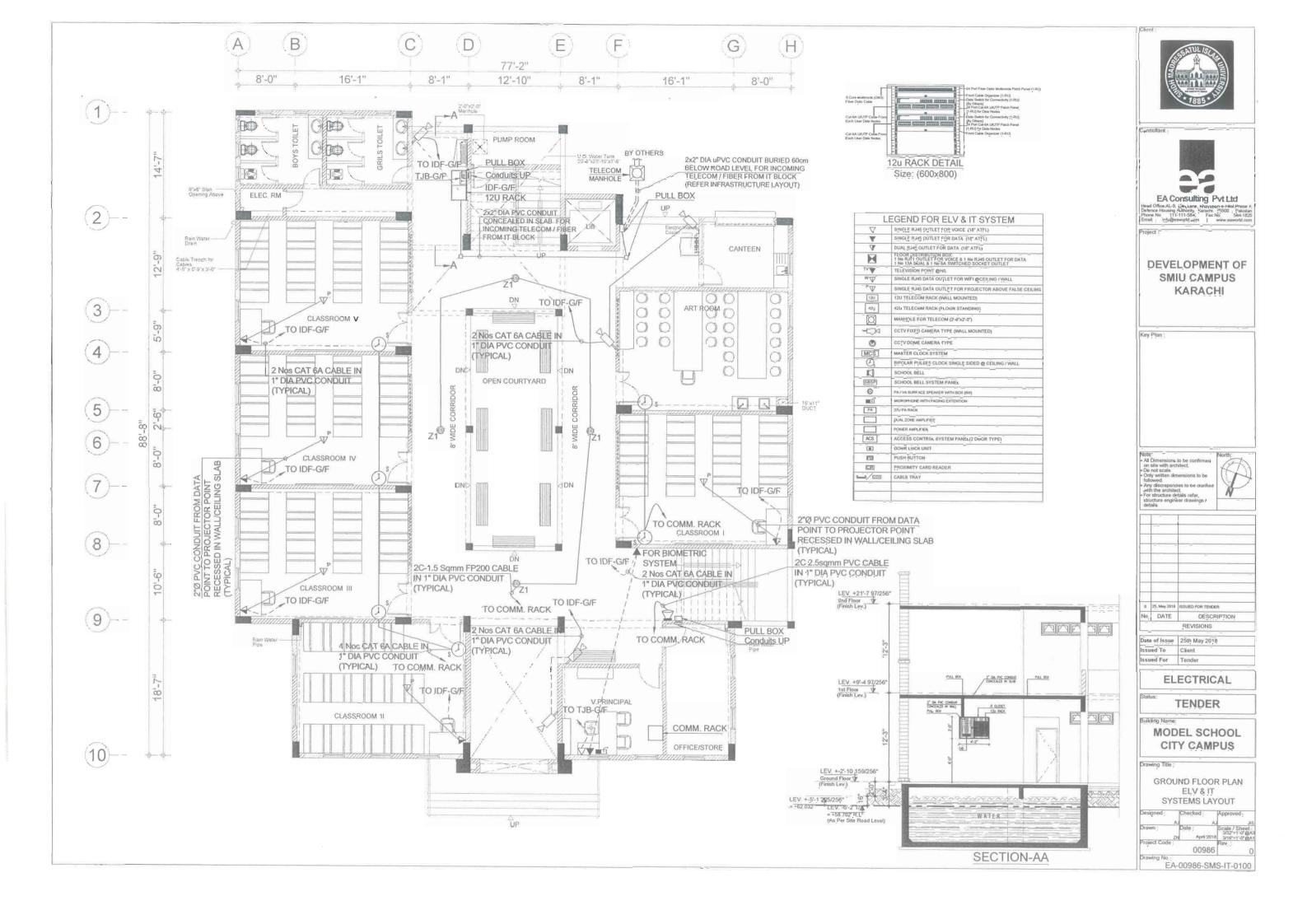
MODEL SCHOOL City Campus

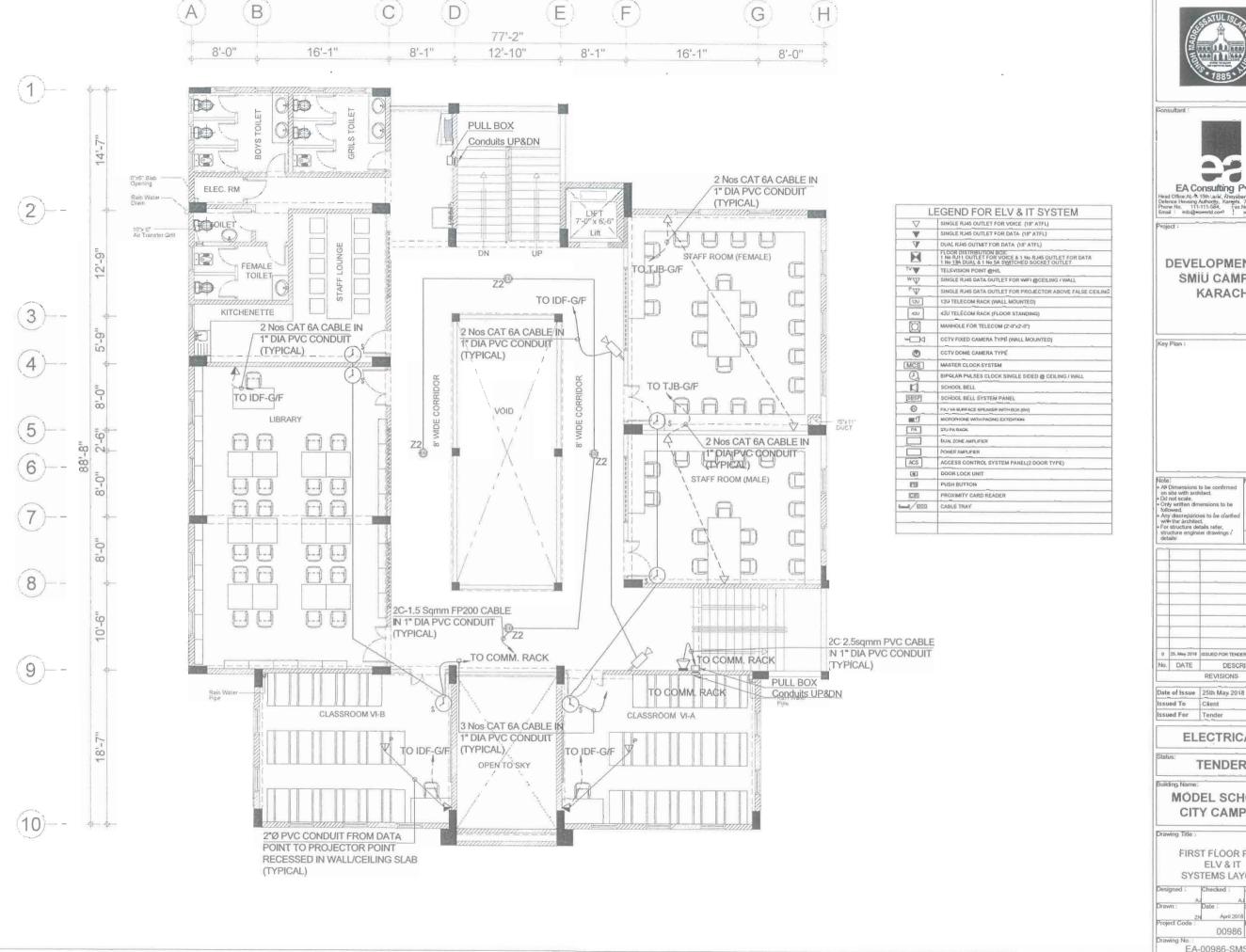
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DEVELOPMENT OF SMIU CAMPUS KARACHI

Note:

AP Dimensions to be confirmed on site with architect on site with architect.

BG not scale.

Dry written dimensions to be followed:

Any discrepsincies to be clarified with the architect.

For structure details refer, structure engineer drawings / details:

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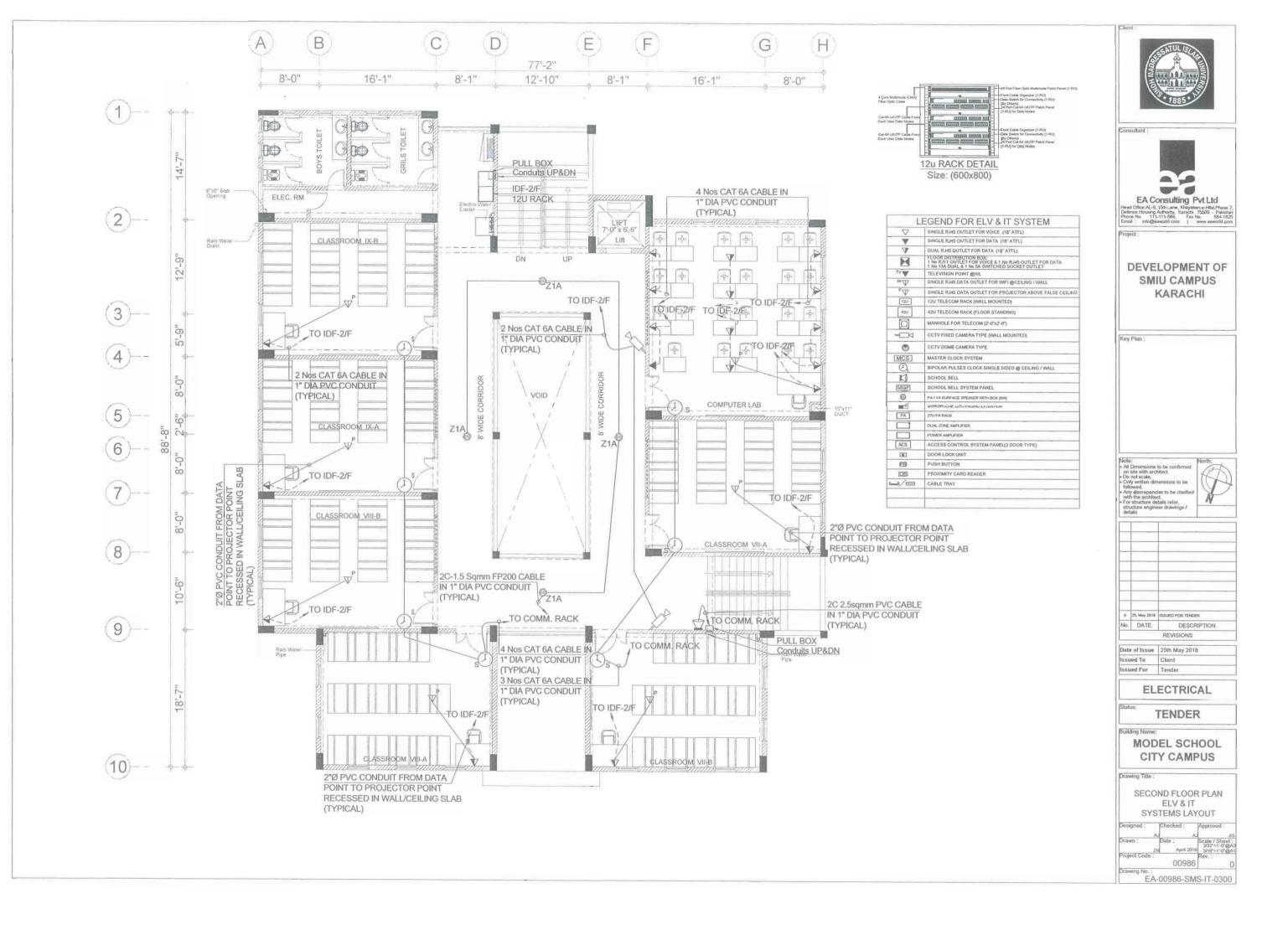
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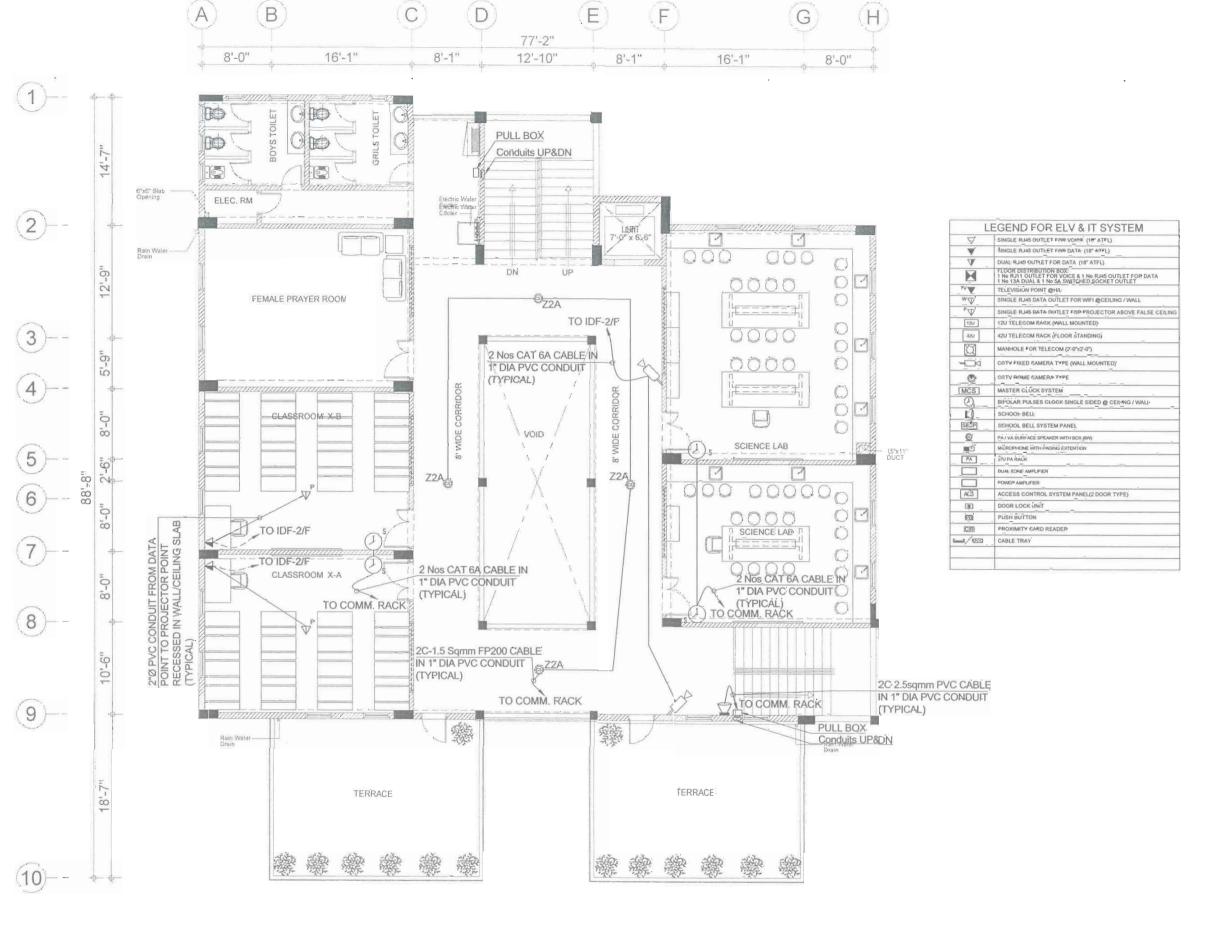
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MODEL SCHOOL CITY CAMPUS

FIRST FLOOR PLAN ELV & IT SYSTEMS LAYOUT

Checked: 00986 Drawing No.: EA-00986-SMS-IT-0200







Consultant:



Project :

DEVELOPMENT OF SMIU CAMPUS KARACHI

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Note:

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Any discrepancies to be darried with the architect.

For structure details refer, thinking engine of the property of the

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Building Name:

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Drawing Title :

THIRD FLOOR PLAN ELV & IT SYSTEMS LAYOUT

EA-00986-SMS-IT-0400

