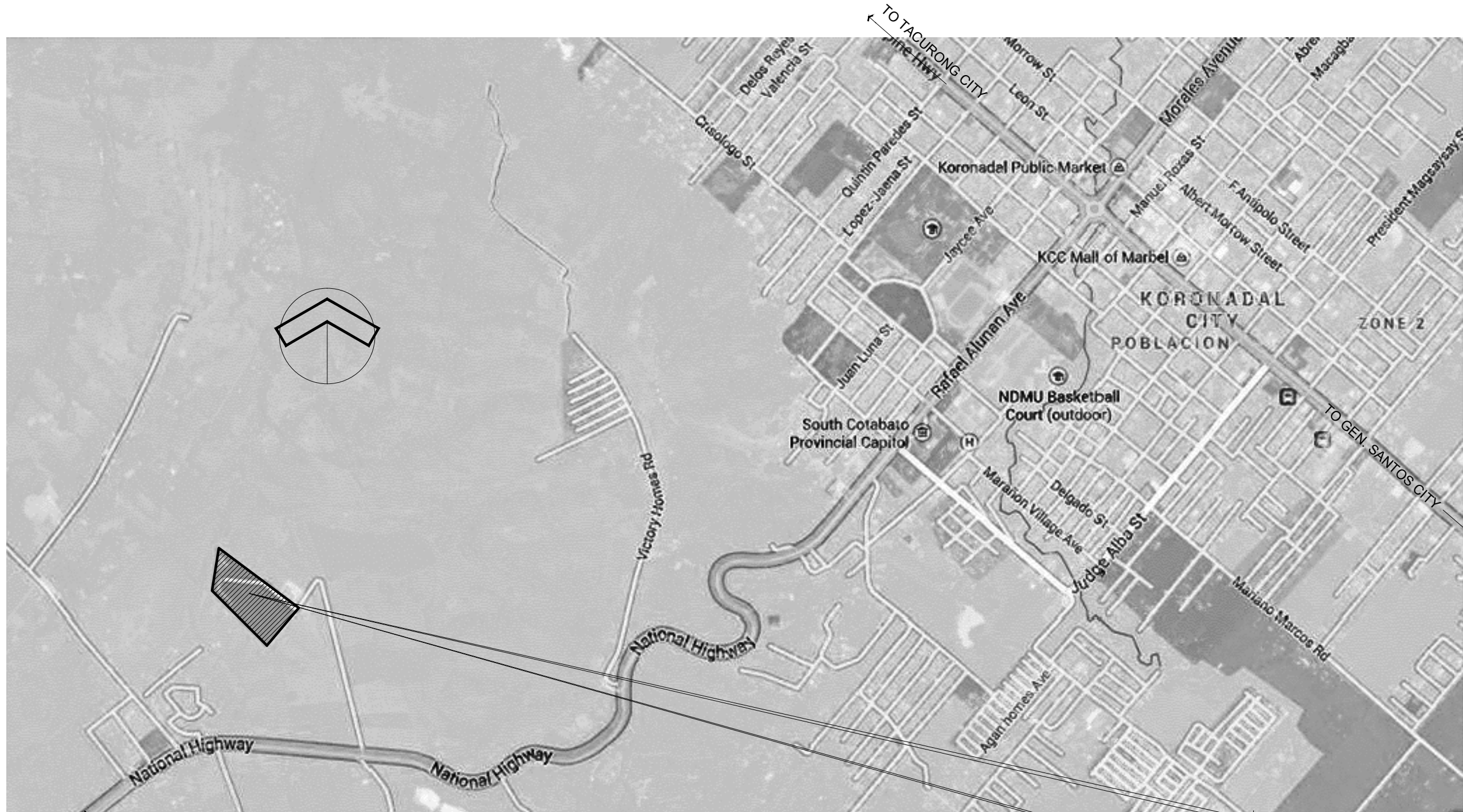
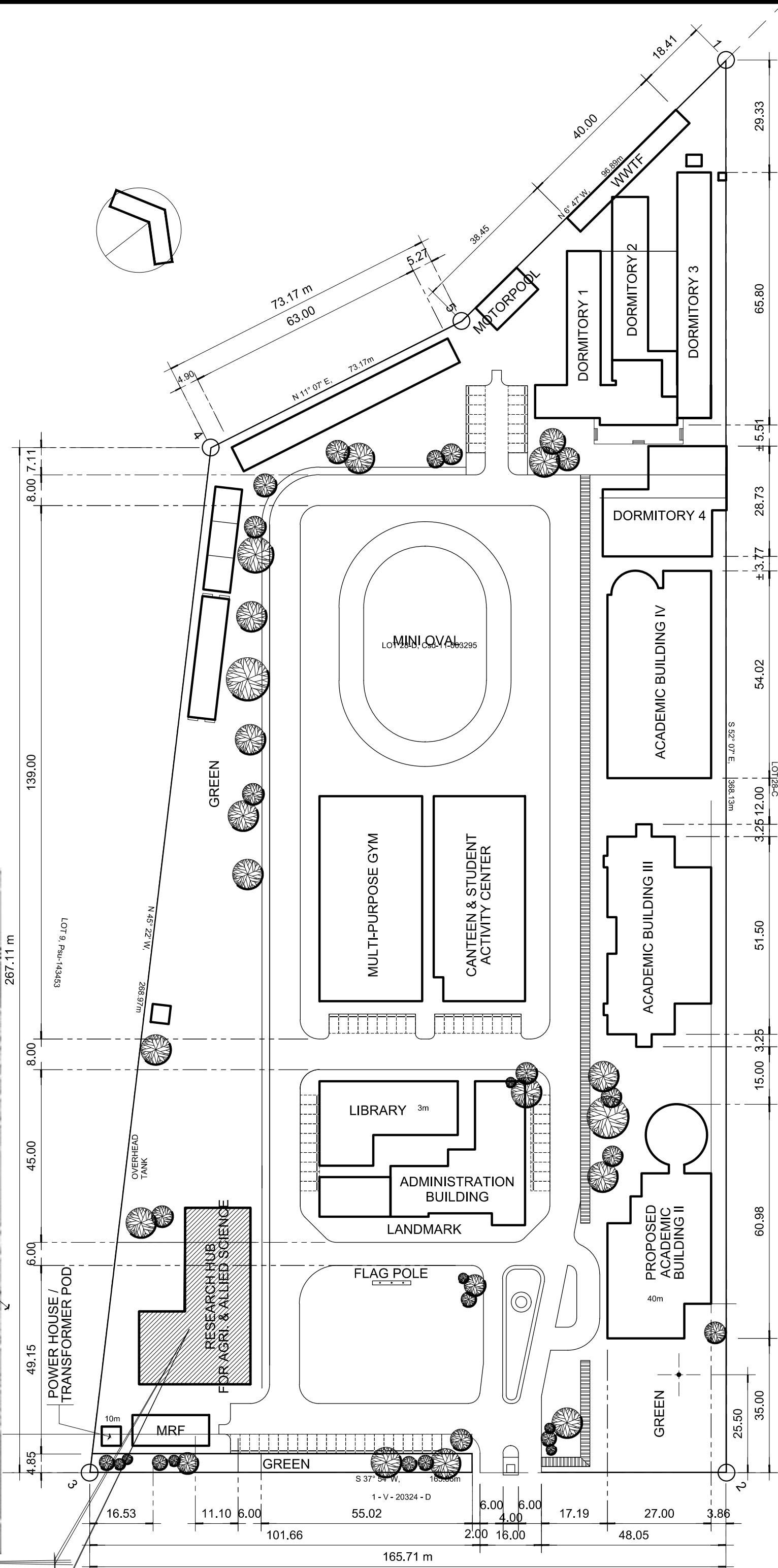




01
A-01
PERSPECTIVE
NTS



02
A-01
LOCATION PLAN
SCALE: NTS



02
A-01
SITE DEVELOPMENT PLAN
SCALE: 1:1000

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KORONADAL CITY

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BUILDING OFFICIAL

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LINE AND GRADE

ARCHITECTURAL

STRUCTURAL

ELECTRICAL

MECHANICAL

SANITARY

ELECTRONICS

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27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY ☎ No: 301-1917

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O.R. | DATE: 141342 | 16JULY15
PTR: 7805115
DATE ISS: 04 JAN 2018
PLACE ISS: GSC
TIN: 123-875-856

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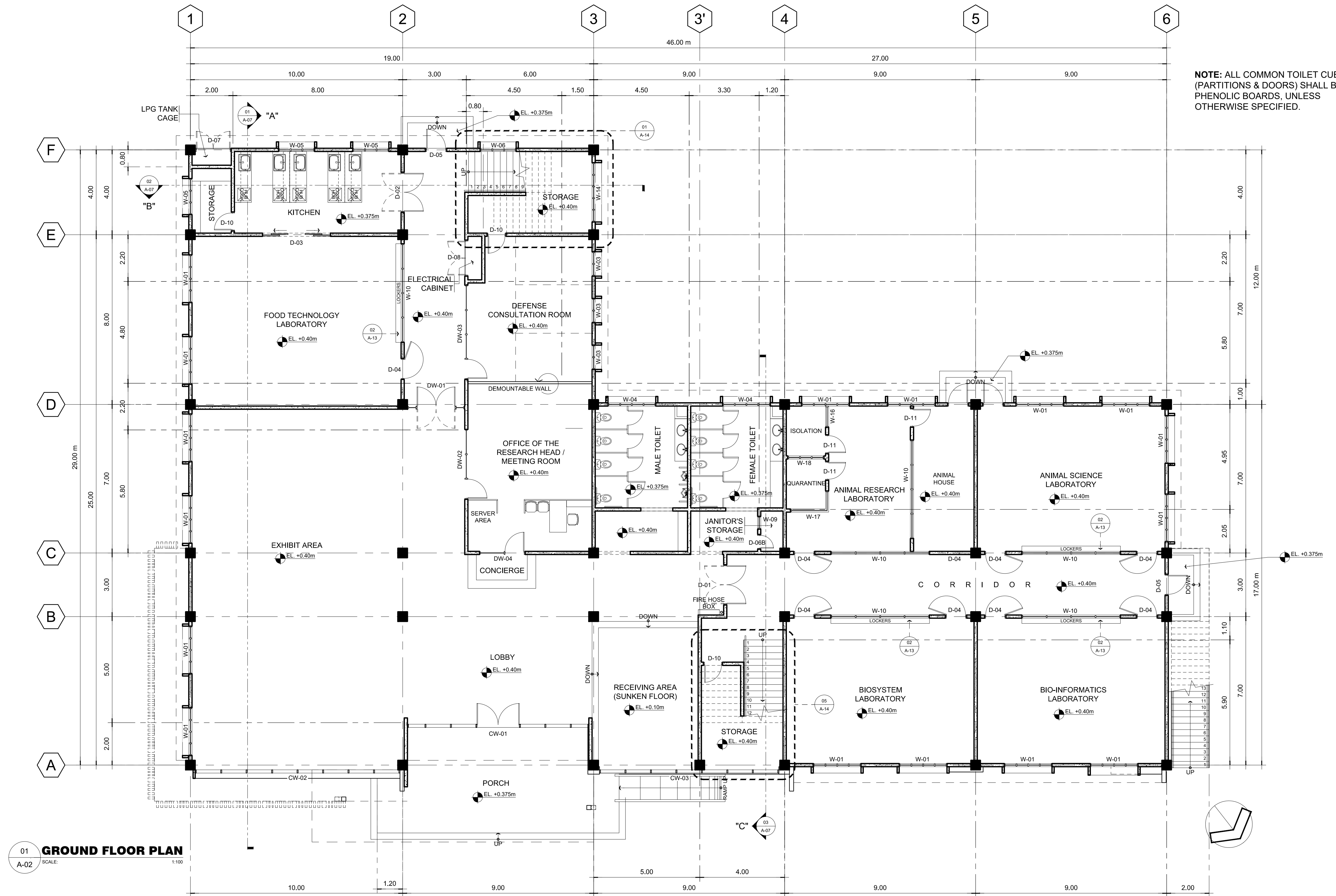
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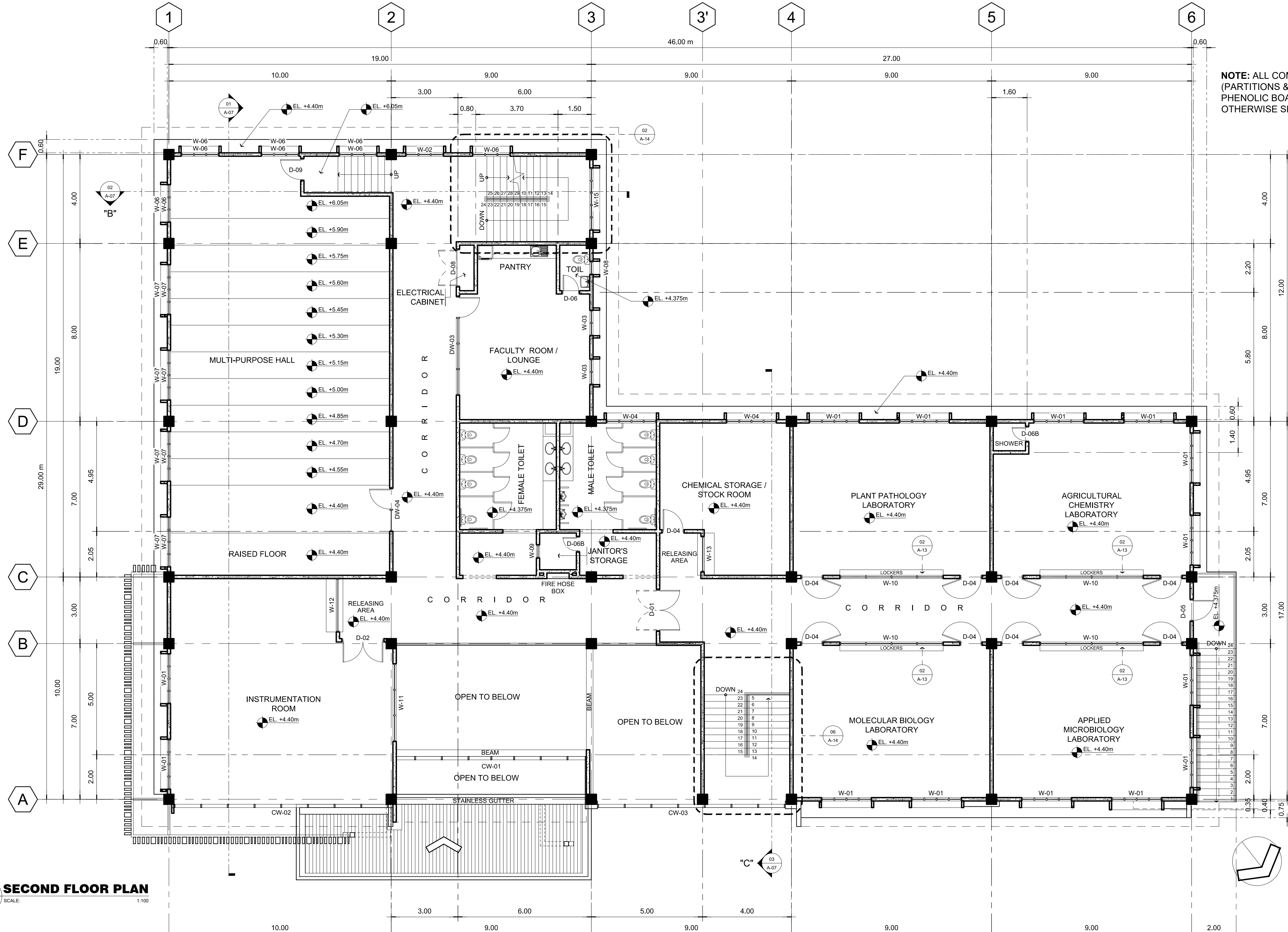
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A-01

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47





NOTE: ALL COMMON TOILET CUBICLE (PARTITIONS & DOORS) SHALL BE OF PHENOLIC BOARDS, UNLESS OTHERWISE SPECIFIED.

01 SECOND FLOOR PLAN
SCALE: 1:100
A-03



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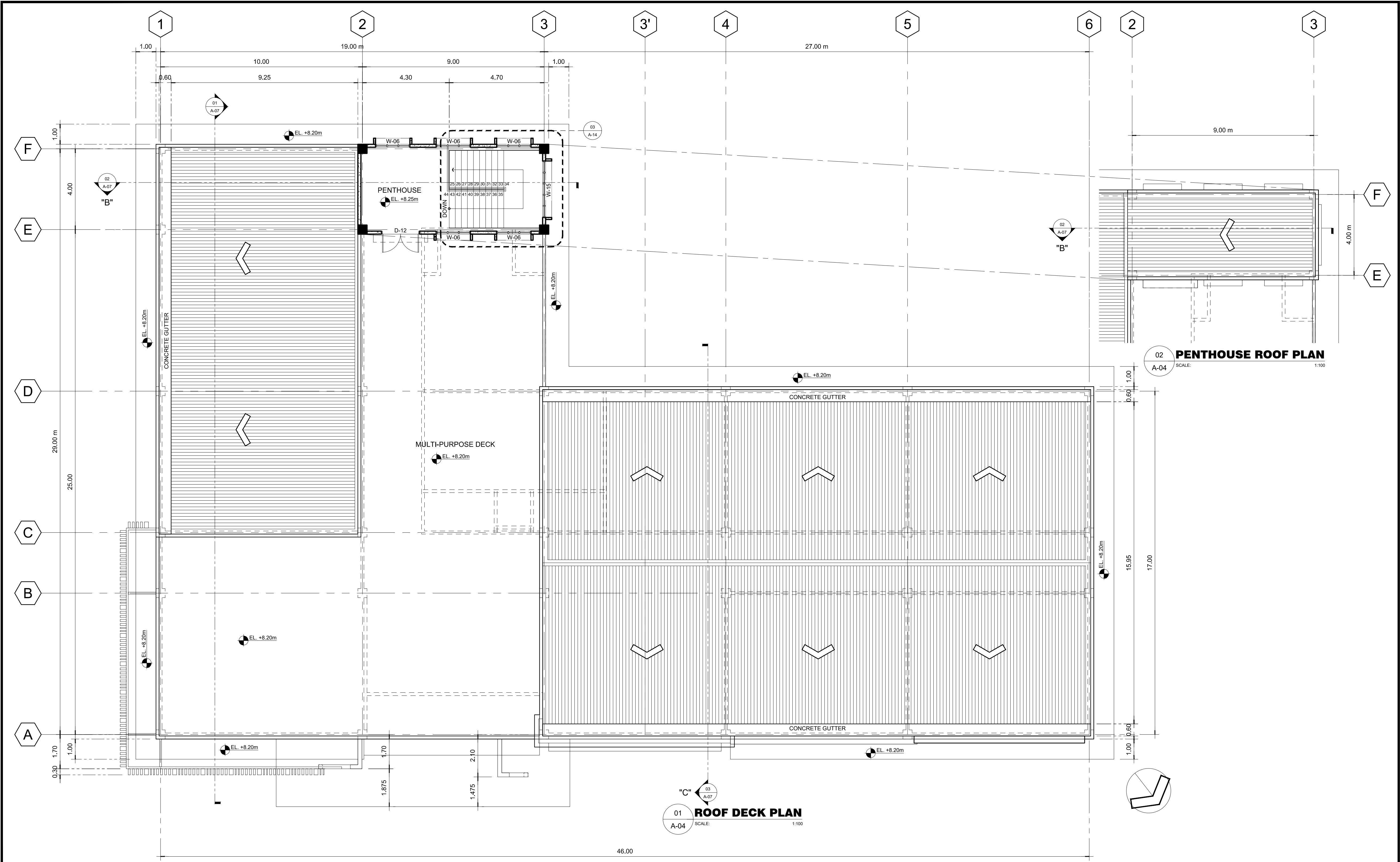
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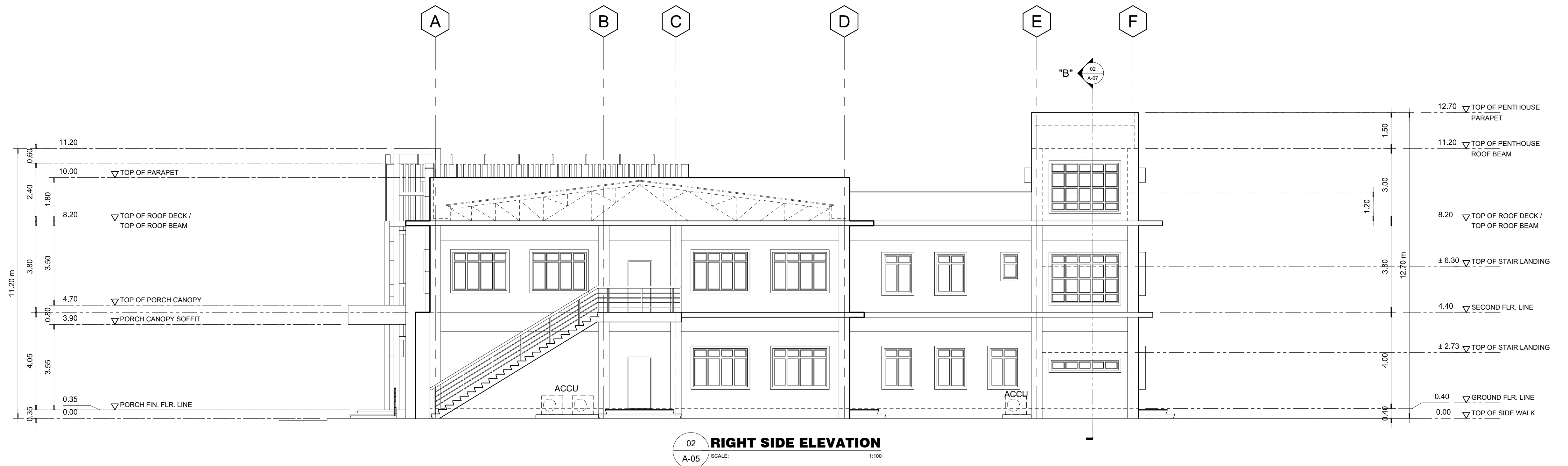
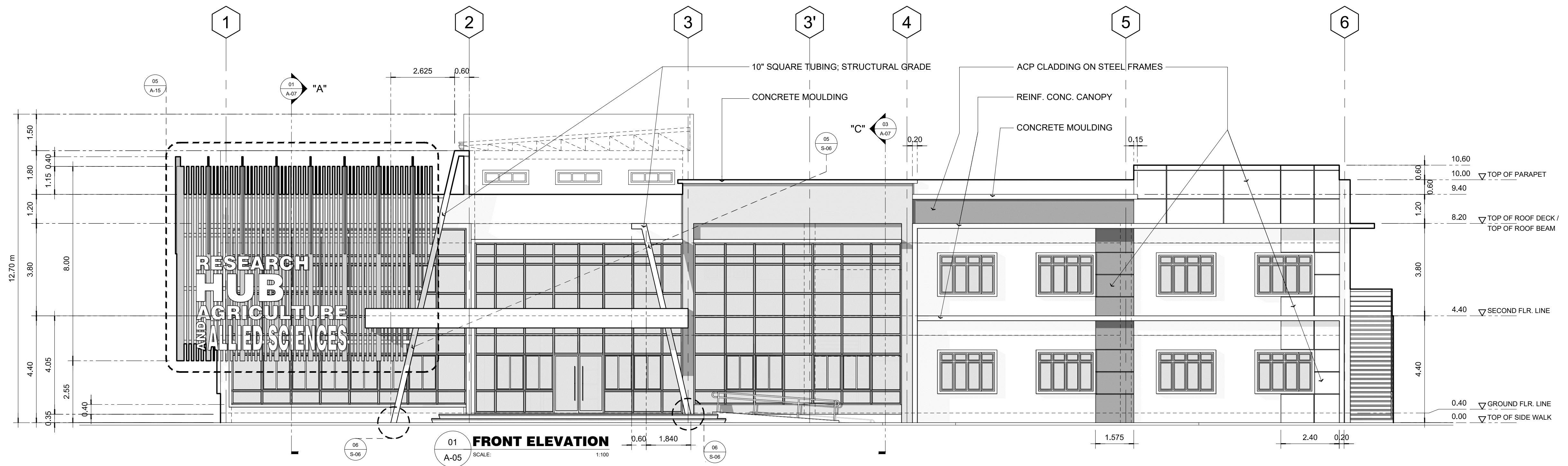
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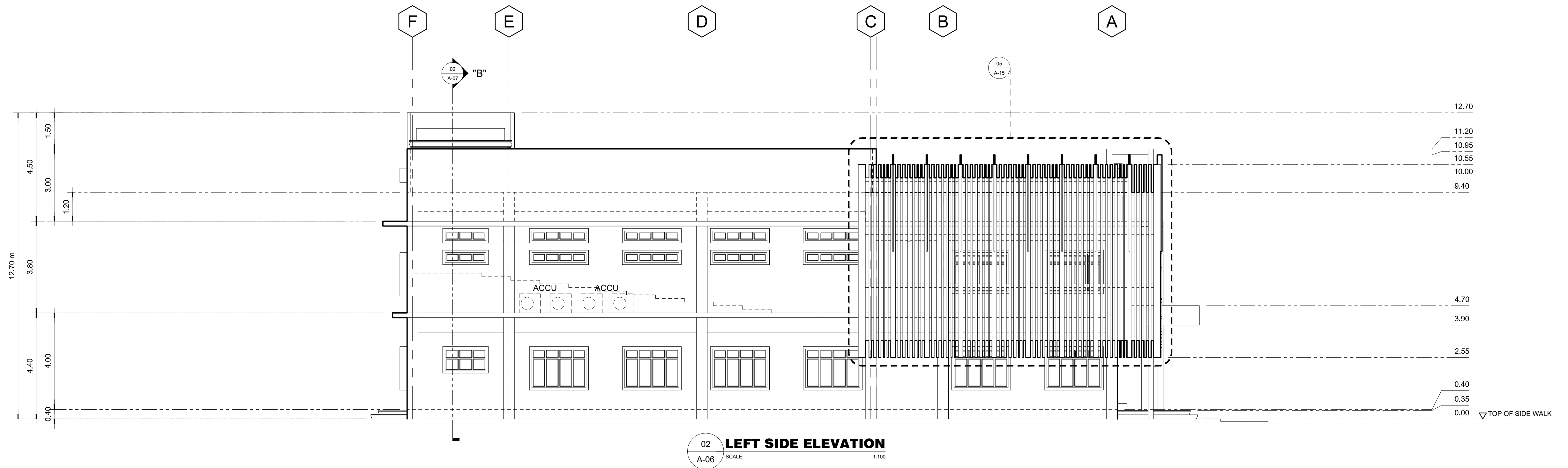
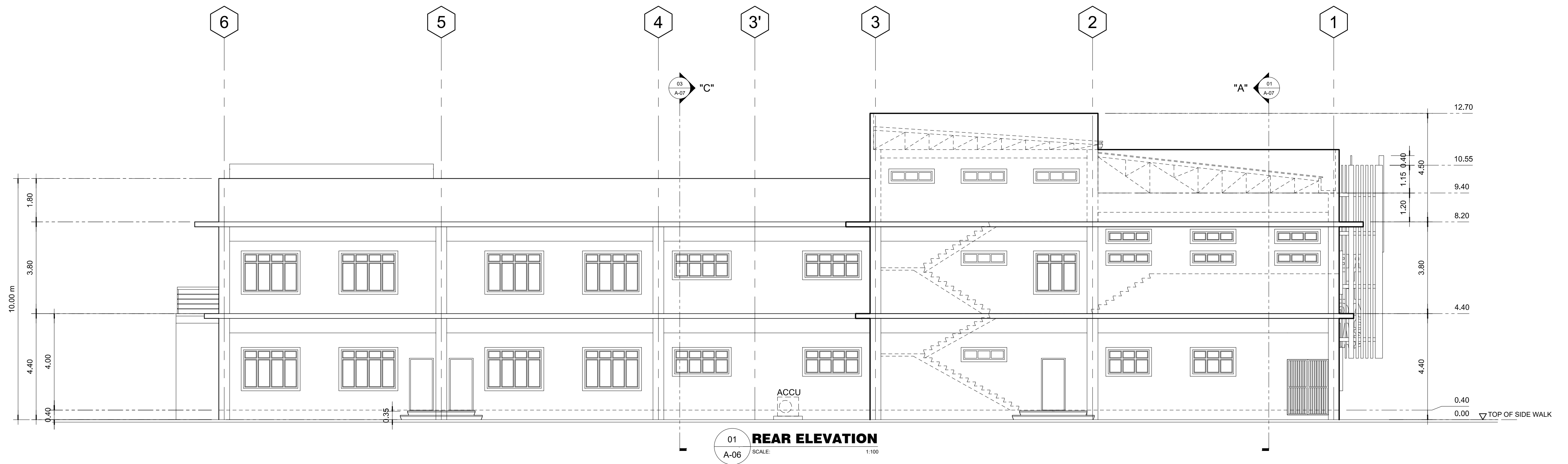
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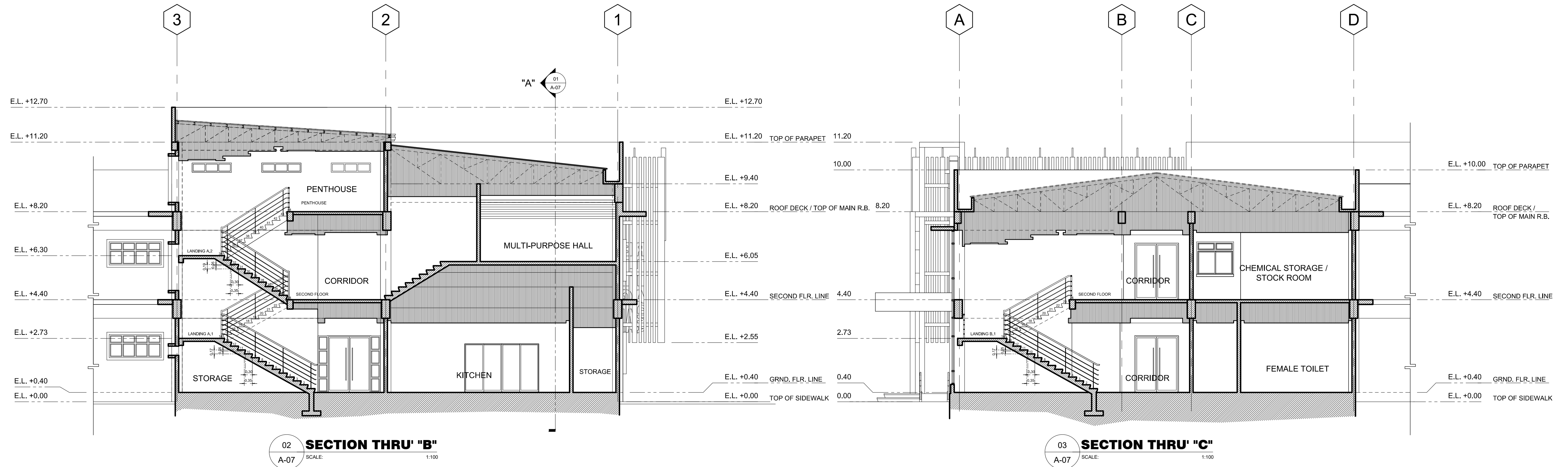
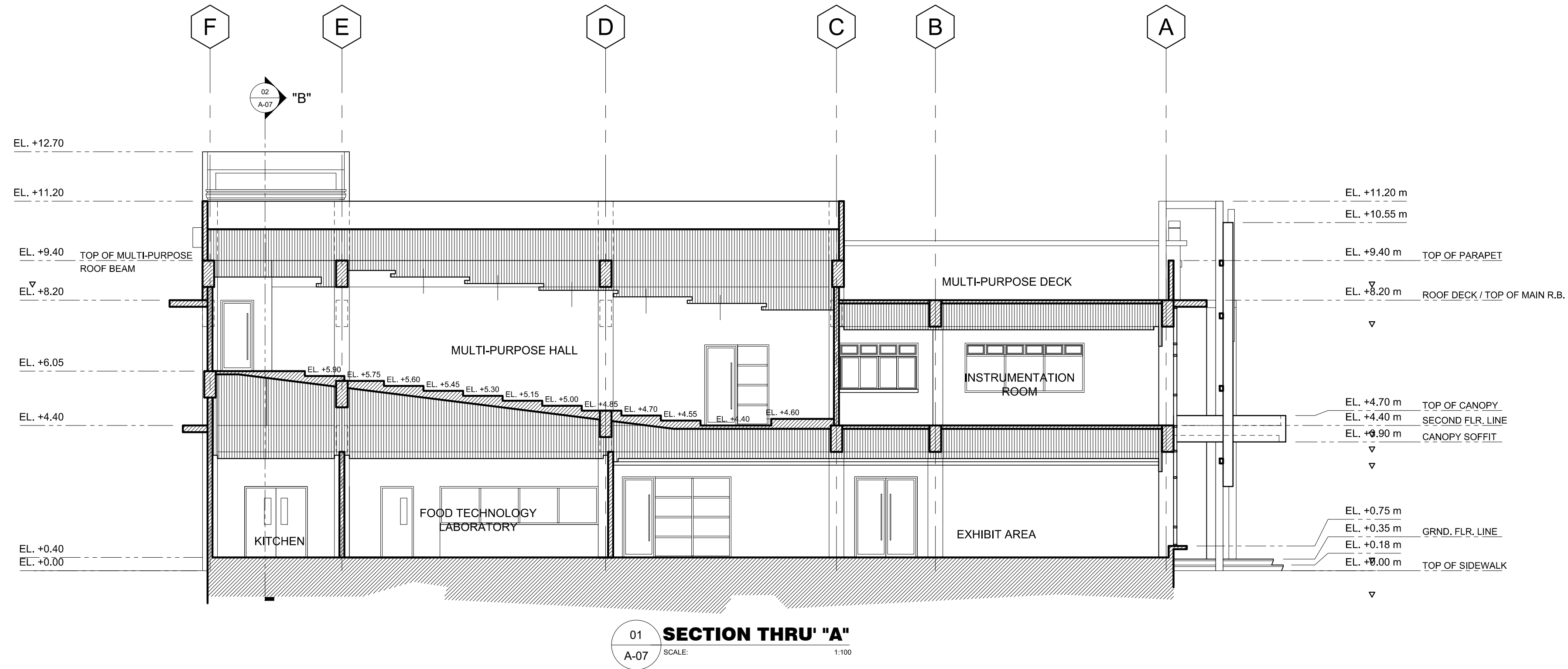
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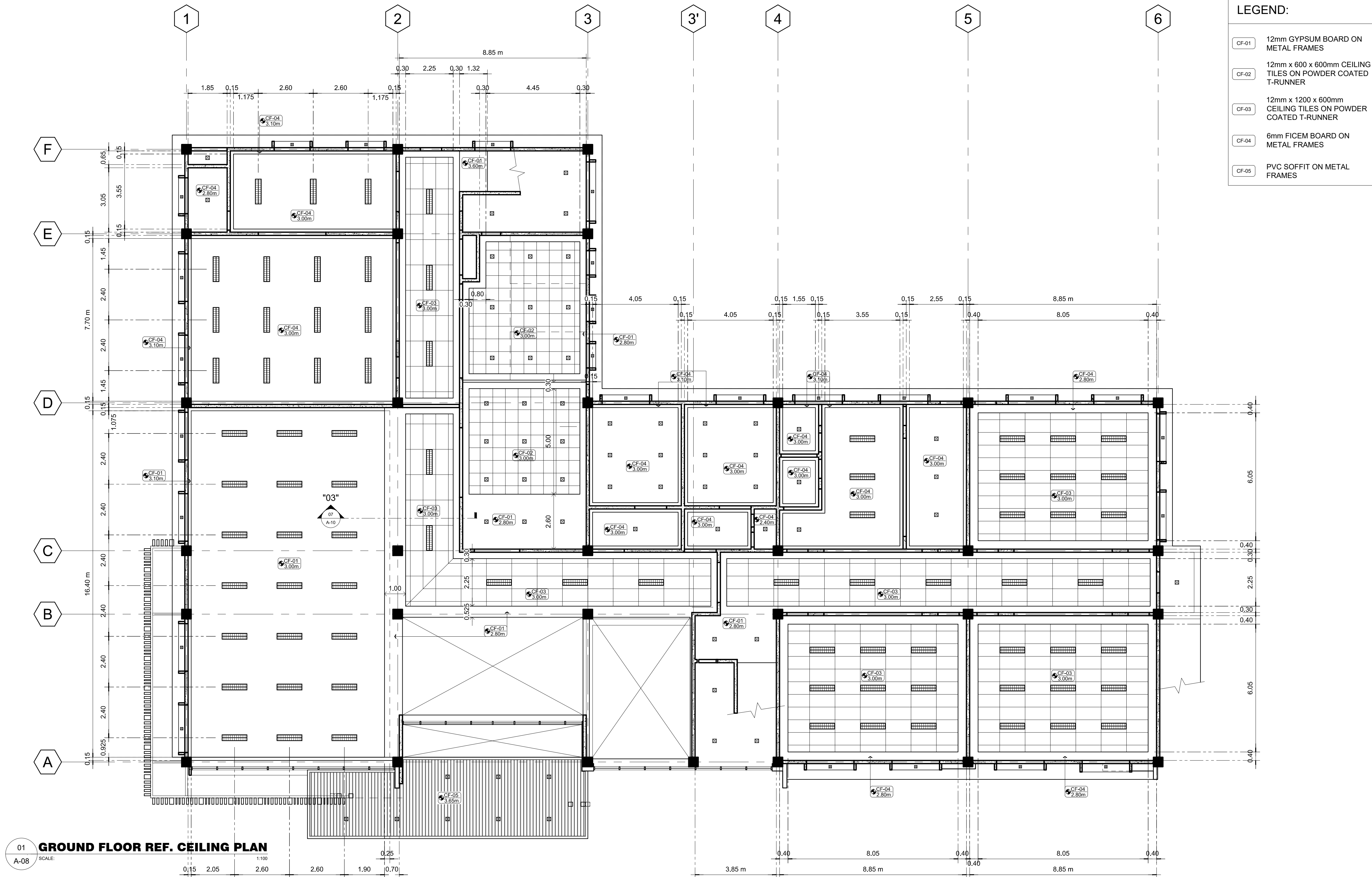
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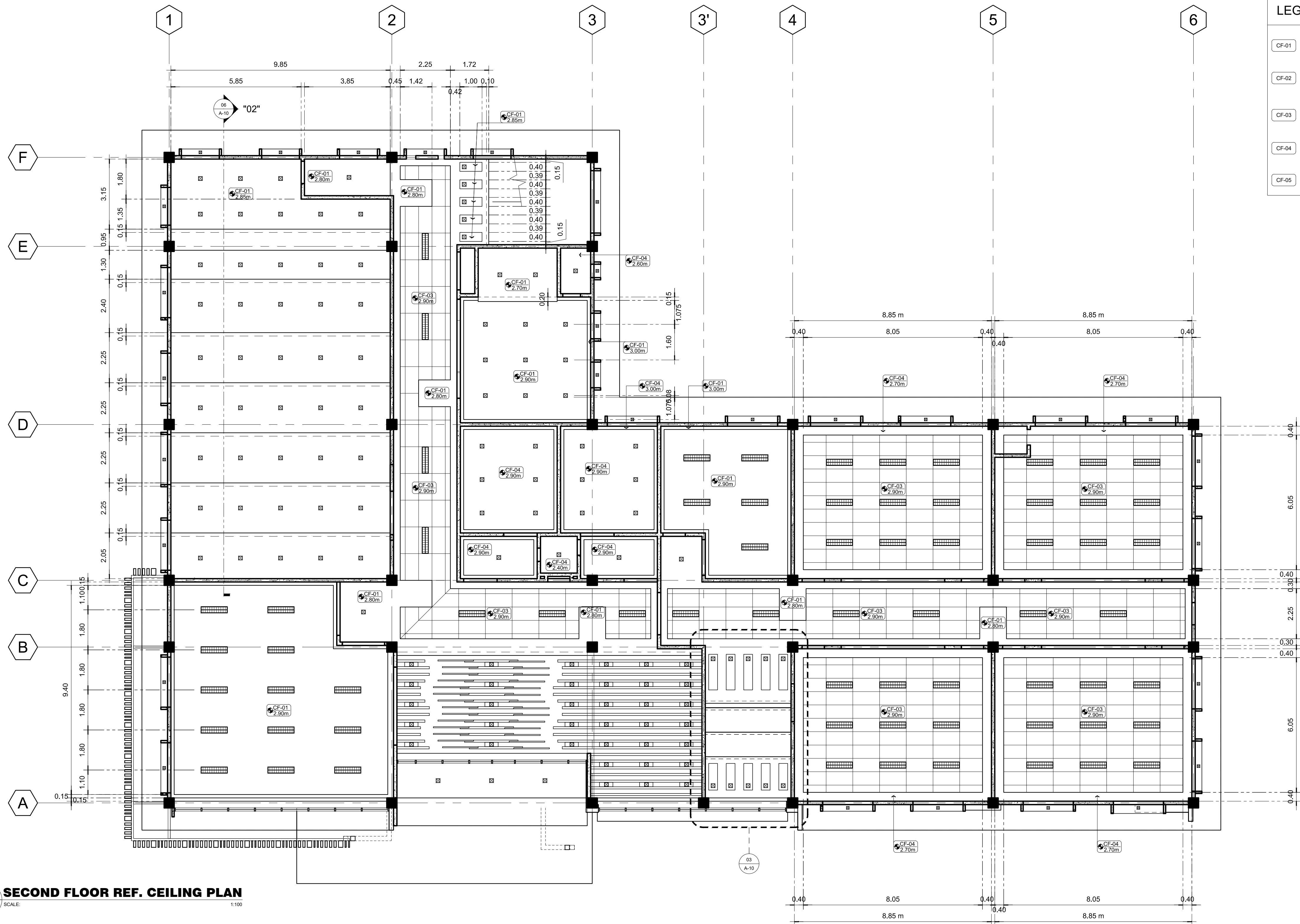
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A-04	
04	47











LEGEND:	
CF-01	12mm GYPSUM BOARD ON METAL FRAMES
CF-02	12mm x 600 x 600mm CEILING TILES ON POWDER COATED T-RUNNER
CF-03	12mm x 1200 x 600mm CEILING TILES ON POWDER COATED T-RUNNER
CF-04	6mm FICEM BOARD ON METAL FRAMES
CF-05	PVC SOFFIT ON METAL FRAMES

01 SECOND FLOOR REF. CEILING PLAN
A-09 SCALE: 1:100



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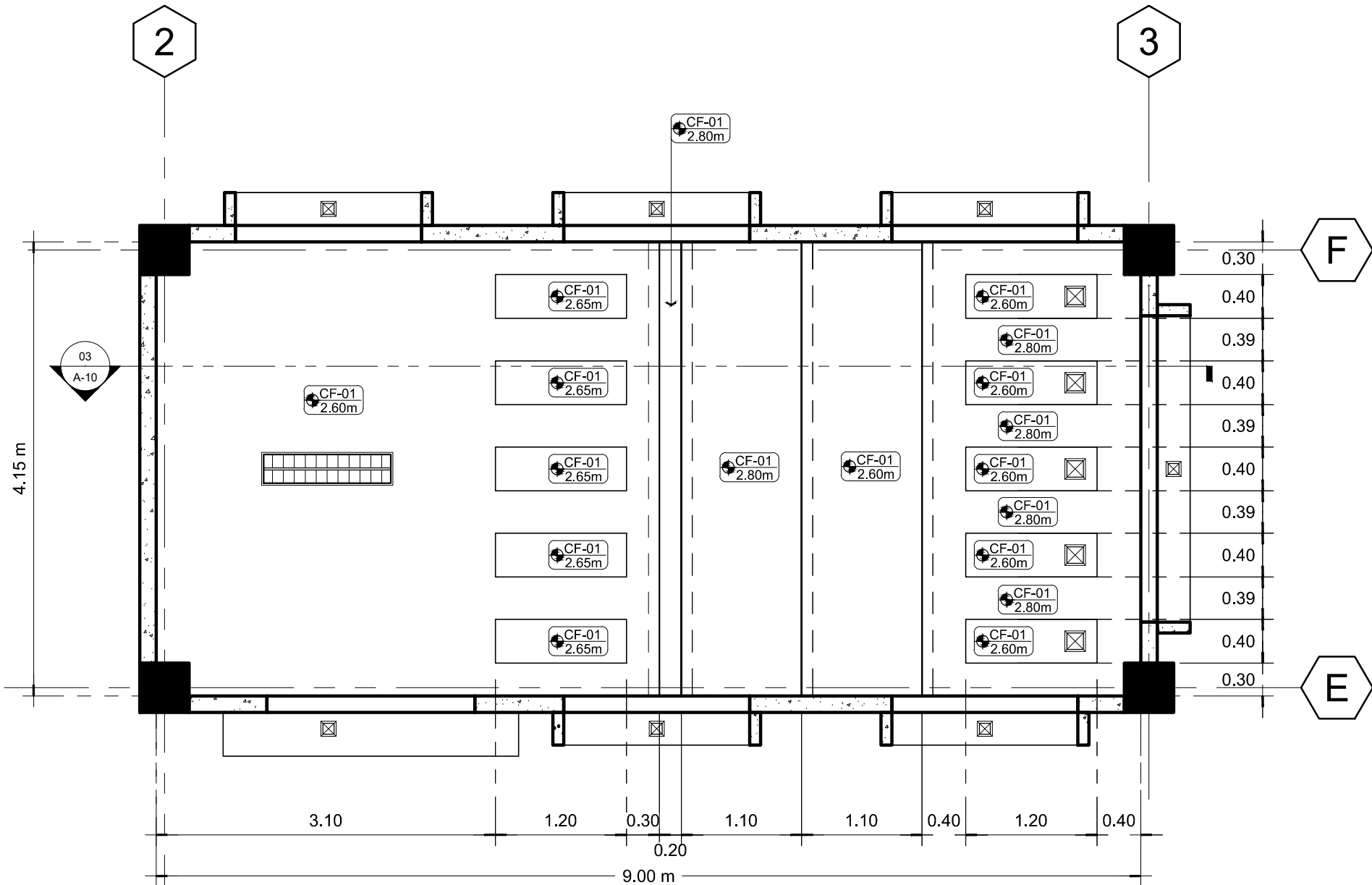
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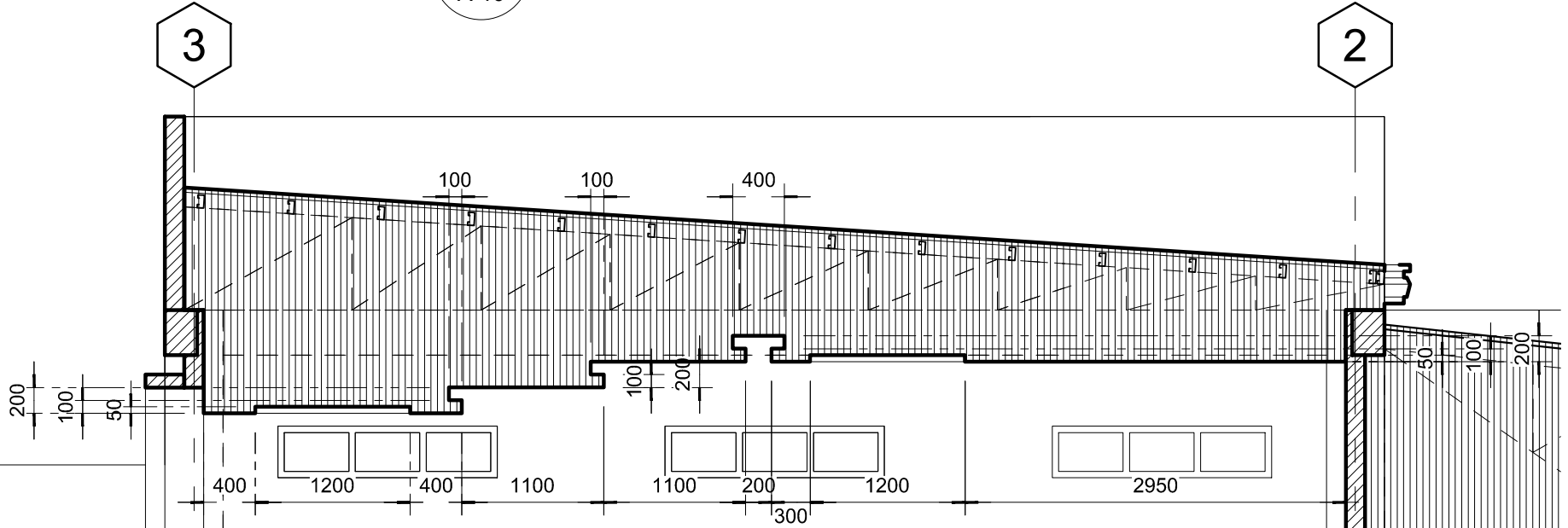
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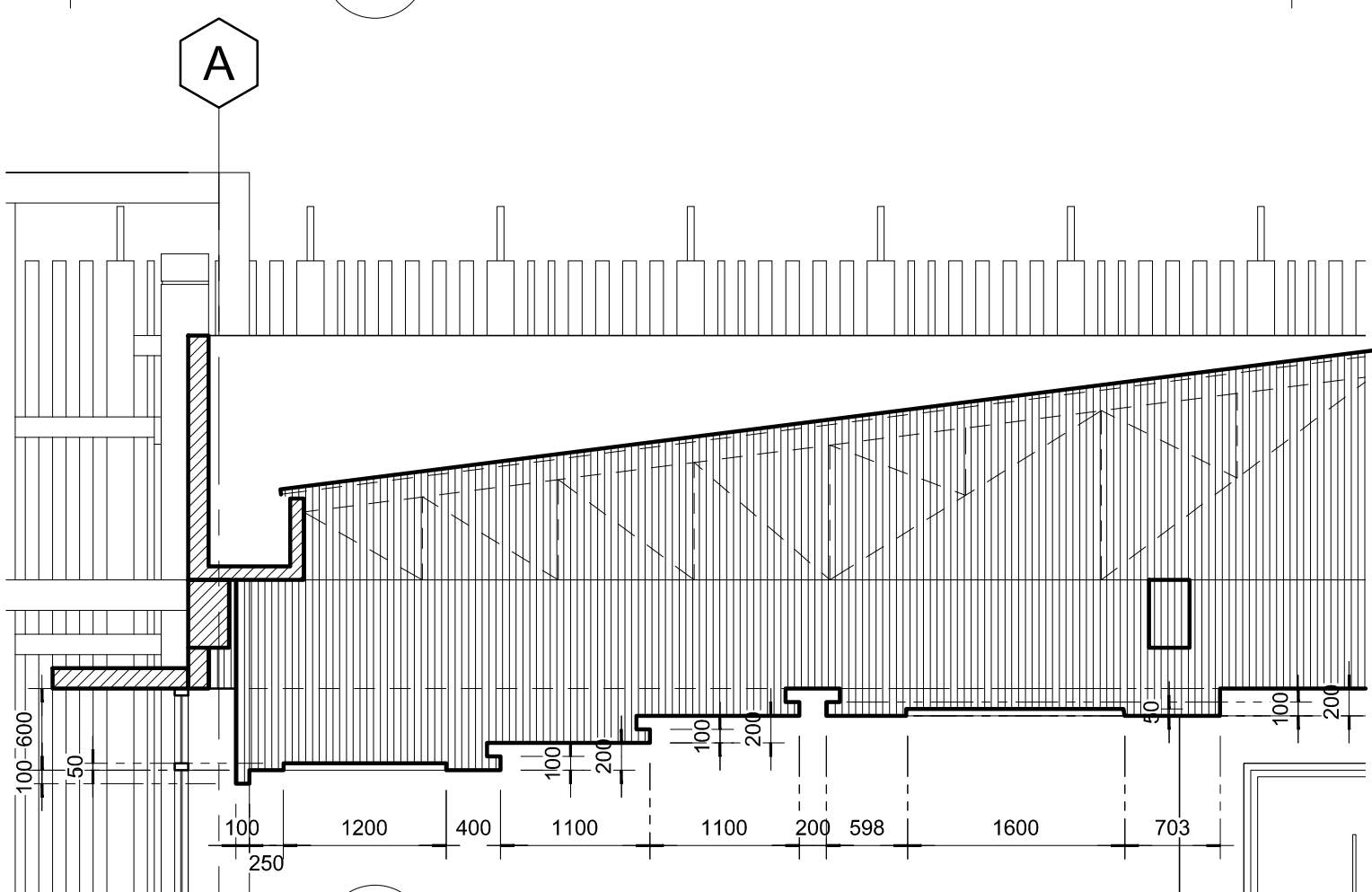
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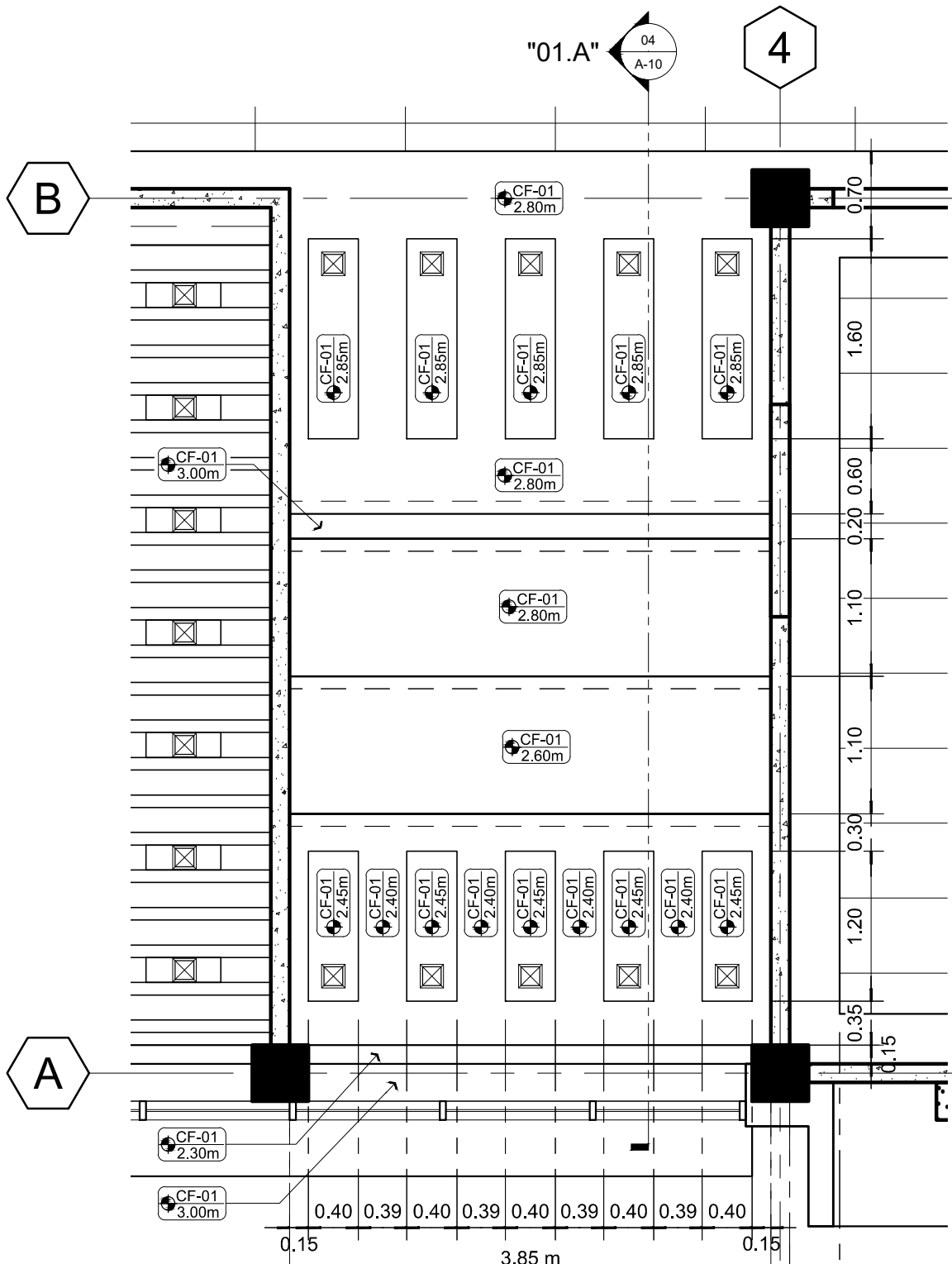
01 PENTHOUSE REF. CEILING PLAN
A-10 SCALE: 1:50



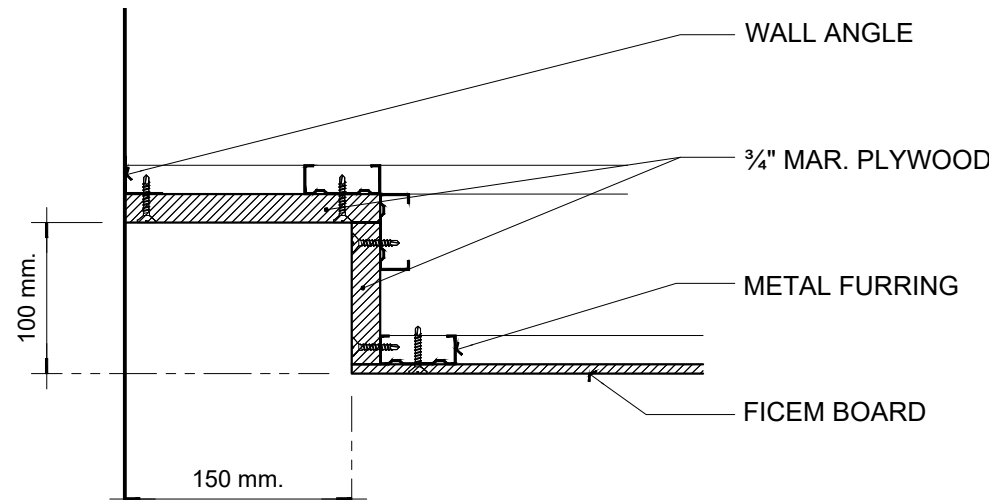
02 PENTHOUSE CEILING SECTION
A-10 SCALE: 1:50



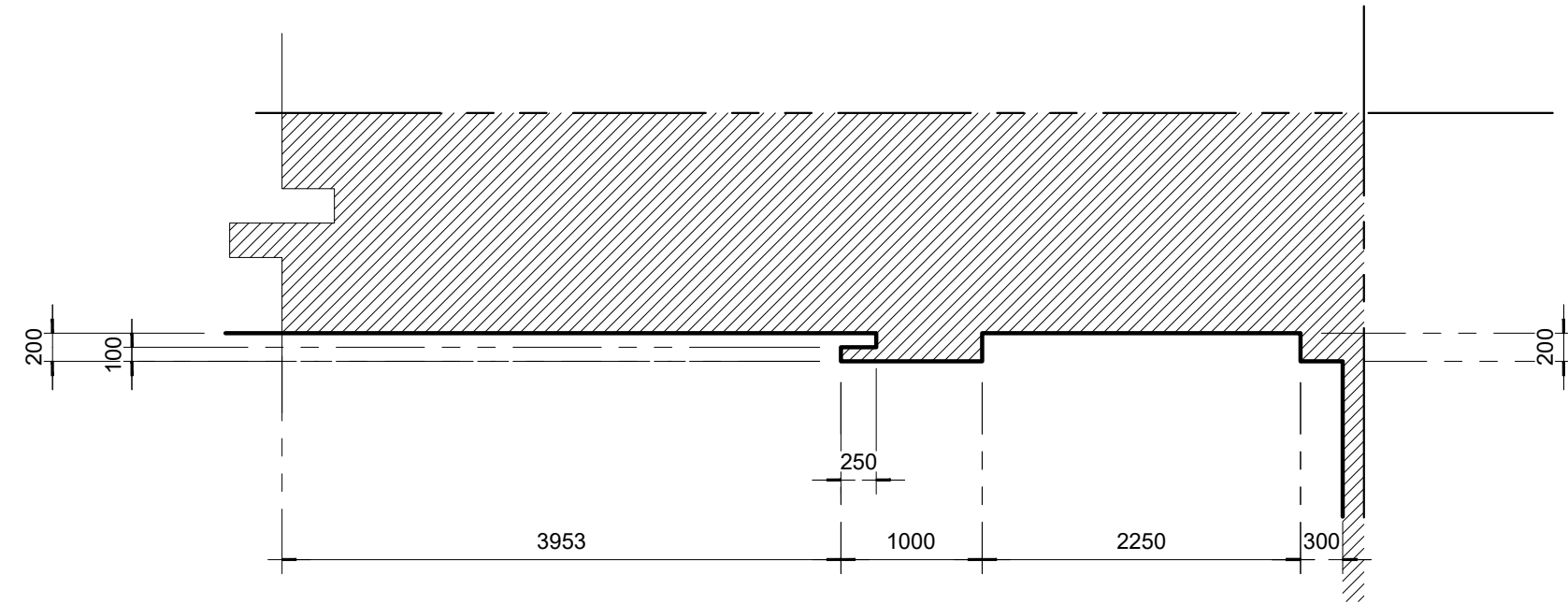
04 CEILING SECTION THRU '01.A'
A-10 SCALE: 1:50



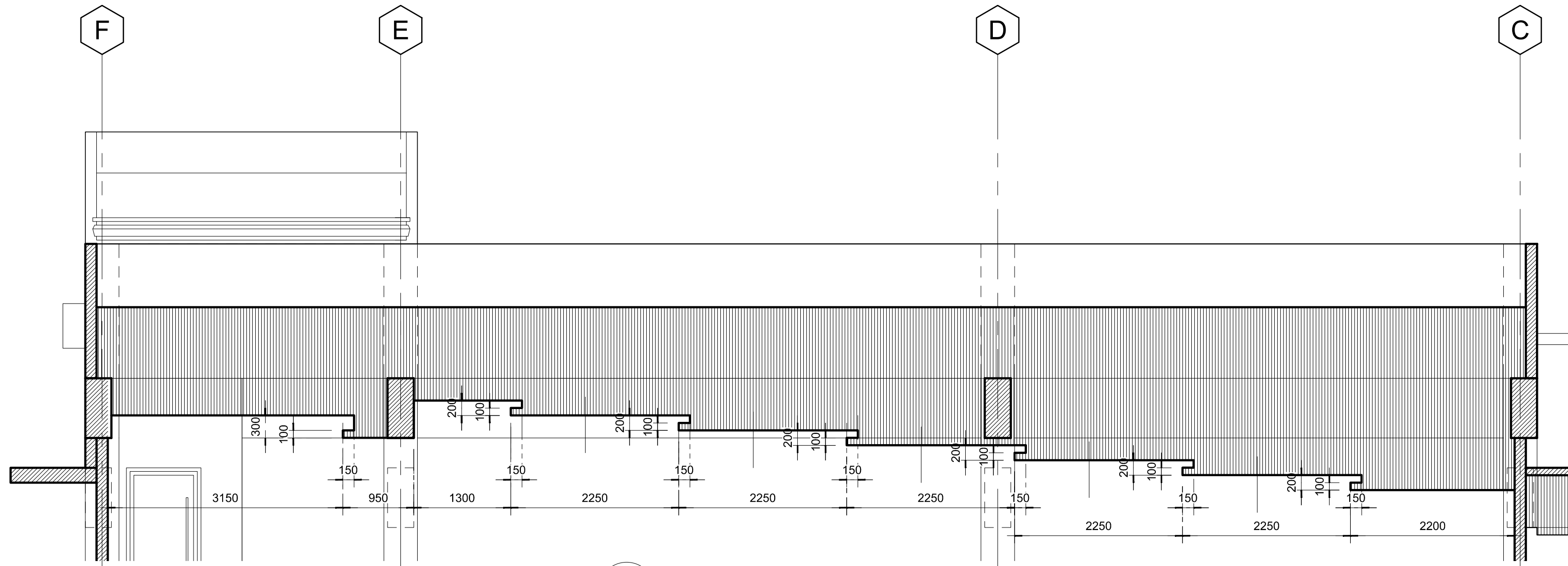
03 CEILING BLOW-UP PLAN "01"
A-10 SCALE: 1:50



05 TYPICAL SHADOW LINE DETAIL
A-10 SCALE: 1:5



07 CEILING SECTION THRU '03'
A-10 SCALE: 1:50



06 CEILING SECTION THRU '02'
A-10 SCALE: 1:50

LEGEND:

- CF-01 12mm GYPSUM BOARD ON METAL FRAMES
- CF-02 12mm x 600 x 600mm CEILING TILES ON POWDER COATED T-RUNNER
- CF-03 12mm x 1200 x 600mm CEILING TILES ON POWDER COATED T-RUNNER
- CF-04 6mm FICEM BOARD ON METAL FRAMES
- CF-05 PVC SOFFIT ON METAL FRAMES



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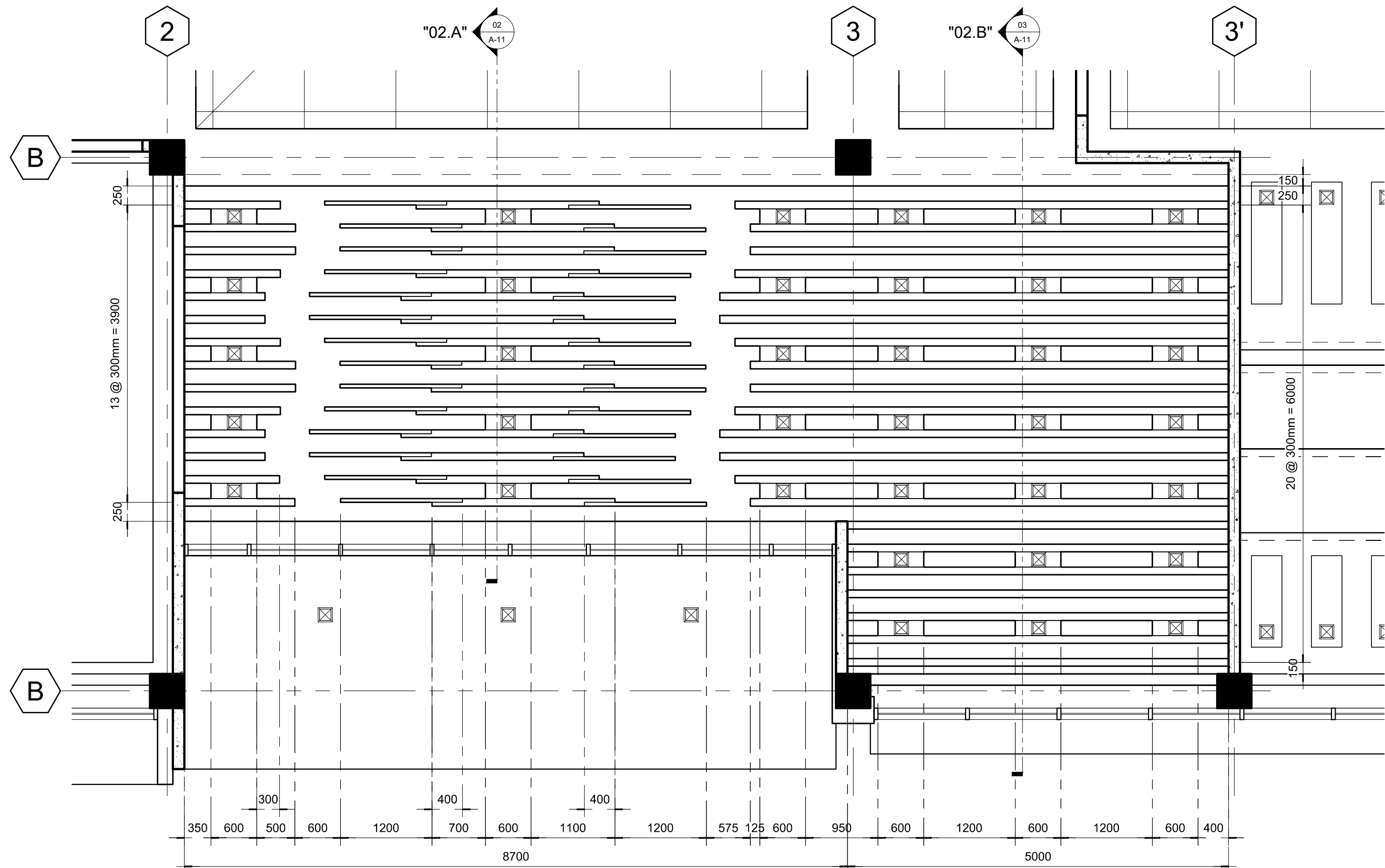
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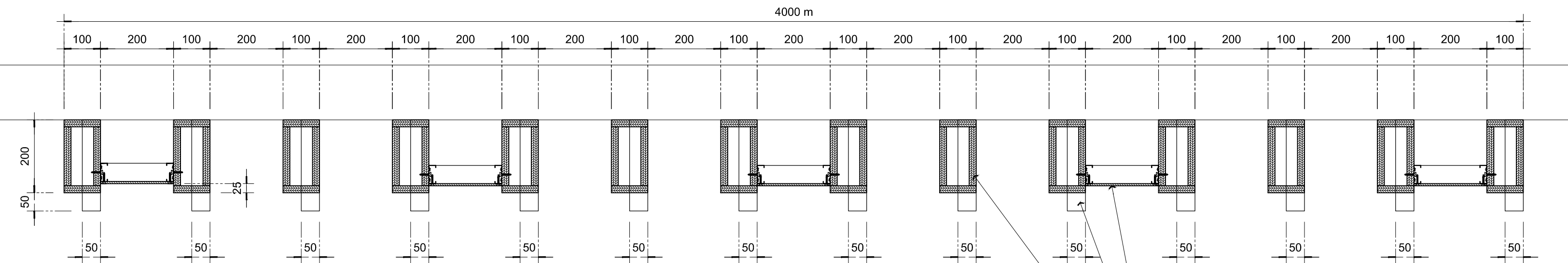
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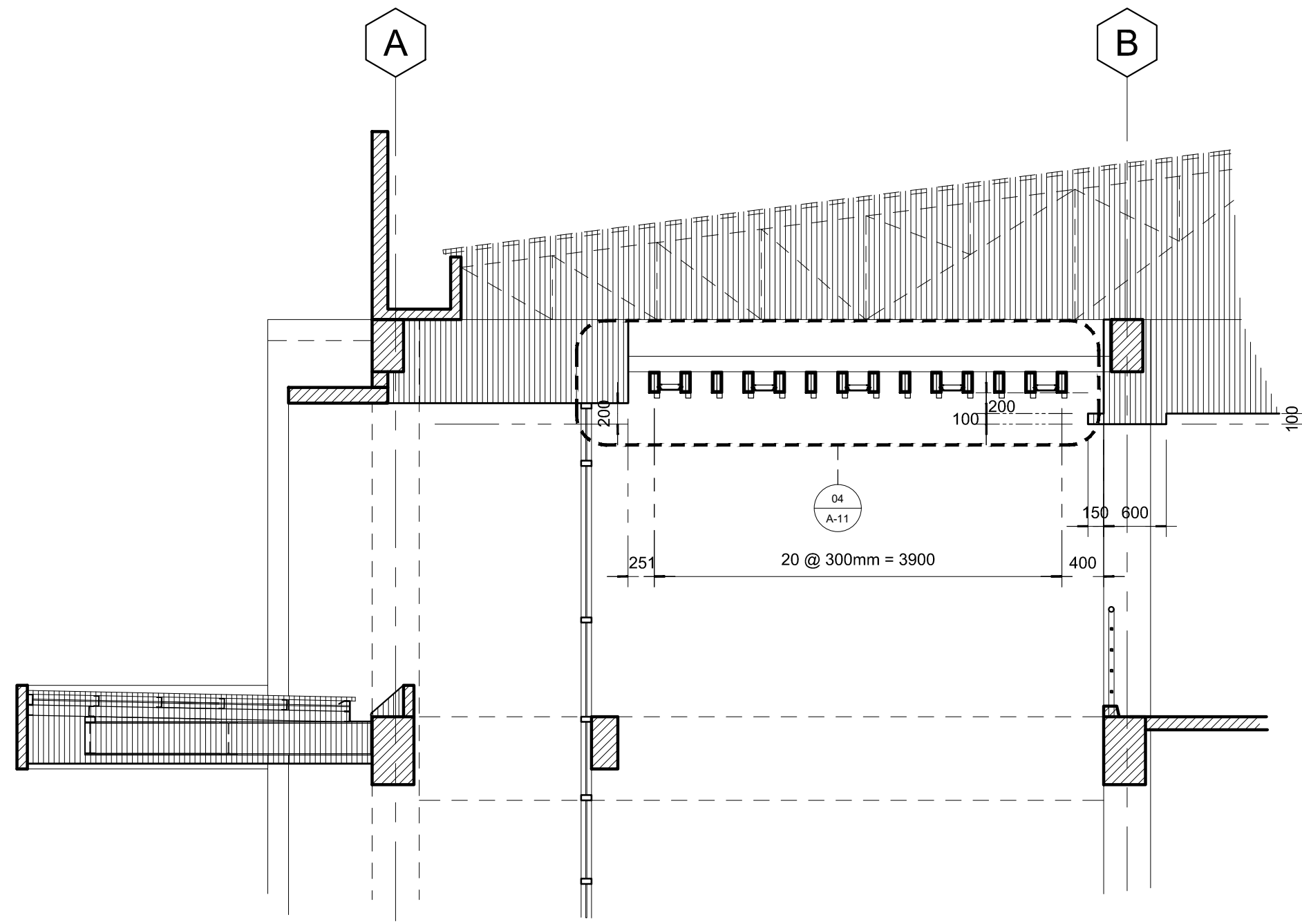


01 **CEILING BLOW-UP PLAN "02"**
A-11 SCALE: 1:50

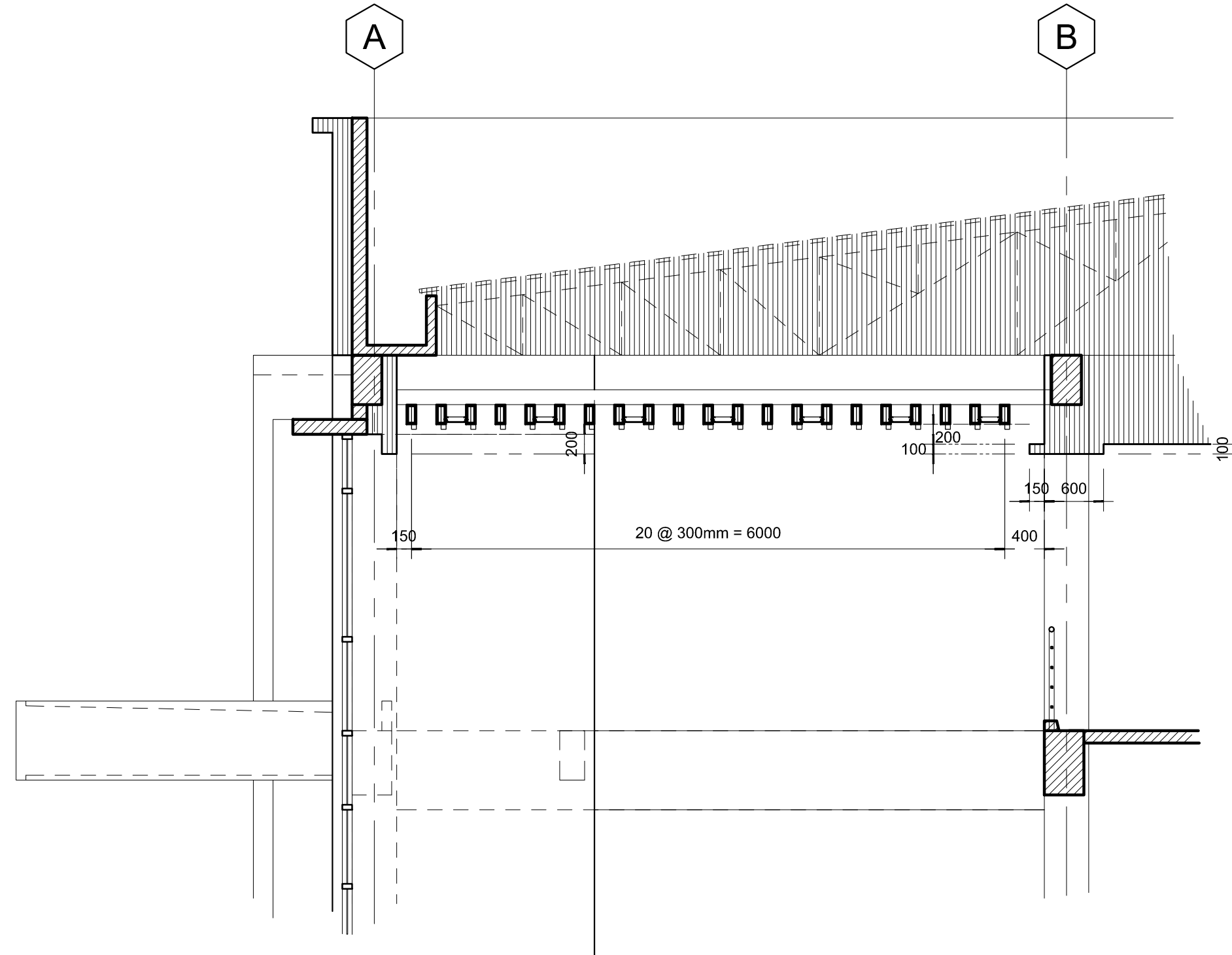


04 **CEILING BLOW-UP DETAILS "02.C"**
A-11 SCALE: 1:20

1/4" FICEM BOARD ON METAL FURRING
50 (w) x 250 (d) x 1600mm (L) BUILD-UP
TRELLIS, 3/4" MAR. PLYWOOD
100 (w) x 200mm (d) BUILD-UP TRELLIS,
3/4" MAR. PLYWOOD



02 **CEILING SECTION THRU' "02.A"**
A-11 SCALE: 1:50



03 **CEILING SECTION THRU' "02.B"**
A-11 SCALE: 1:50



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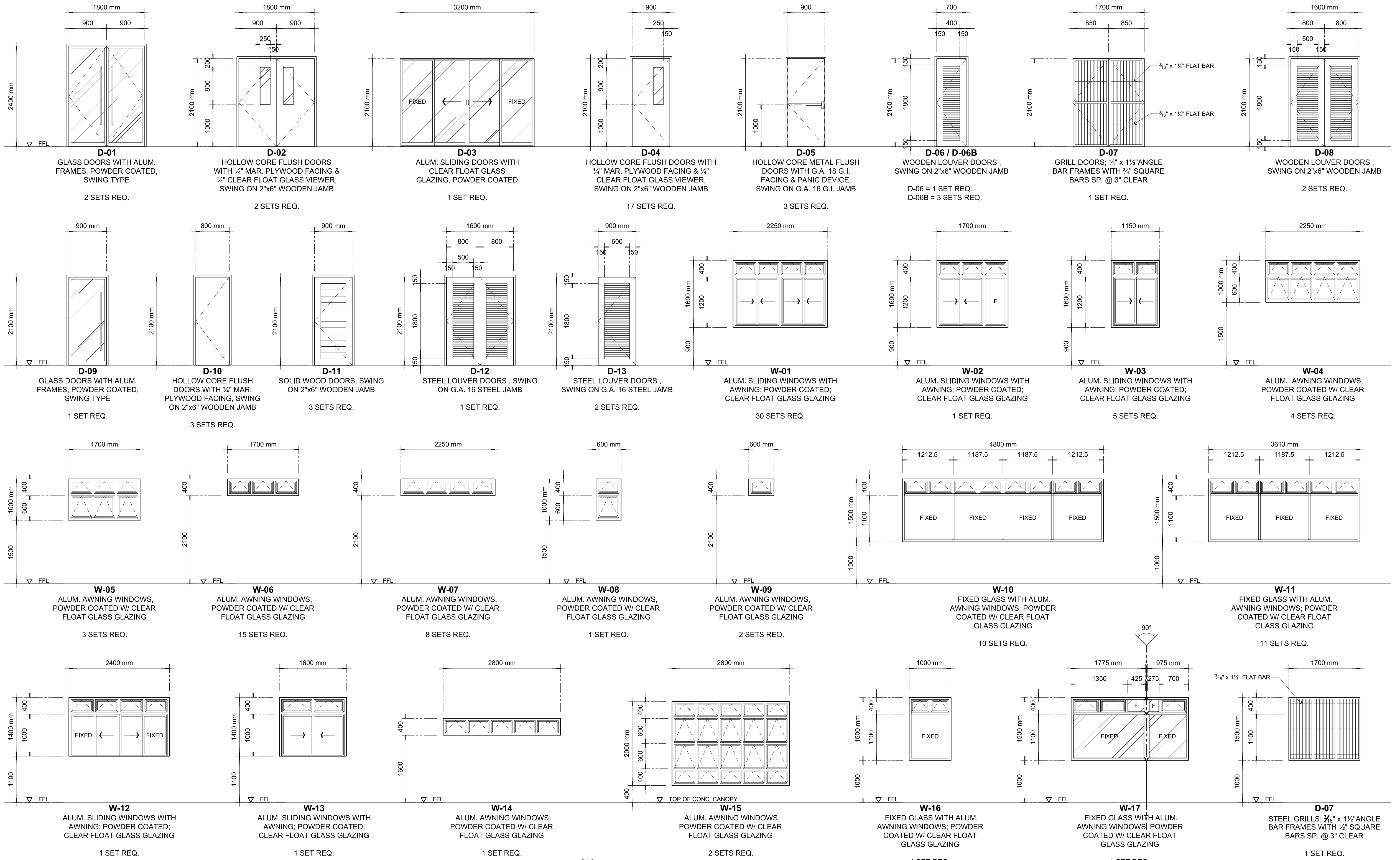
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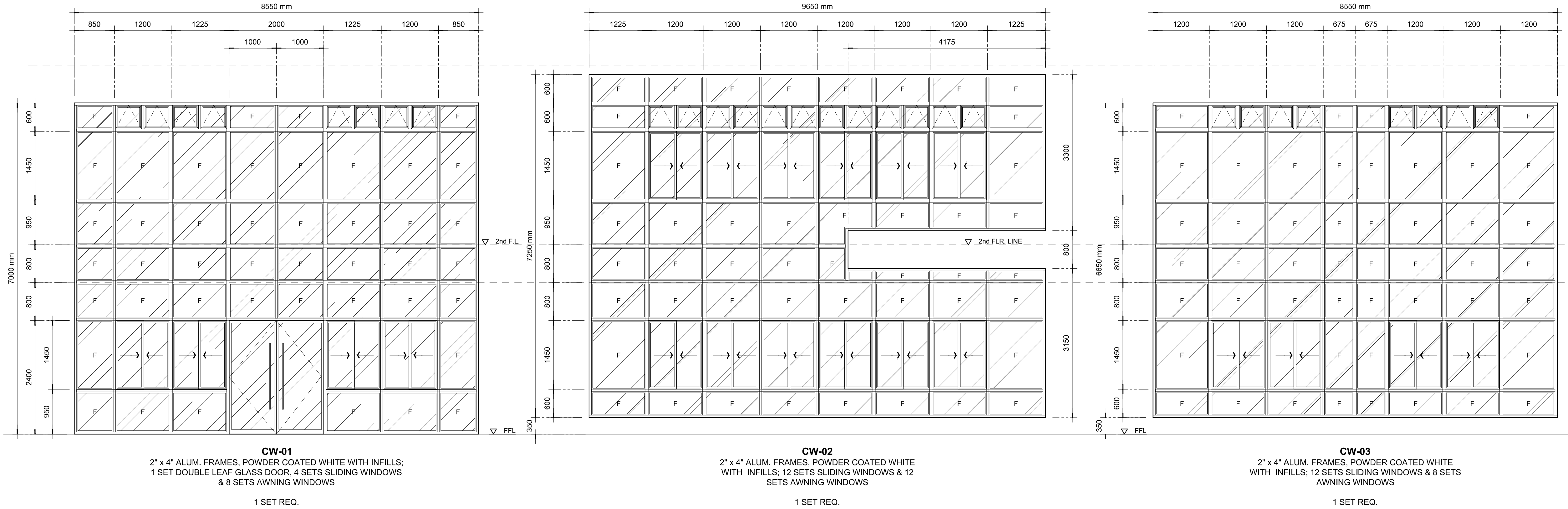
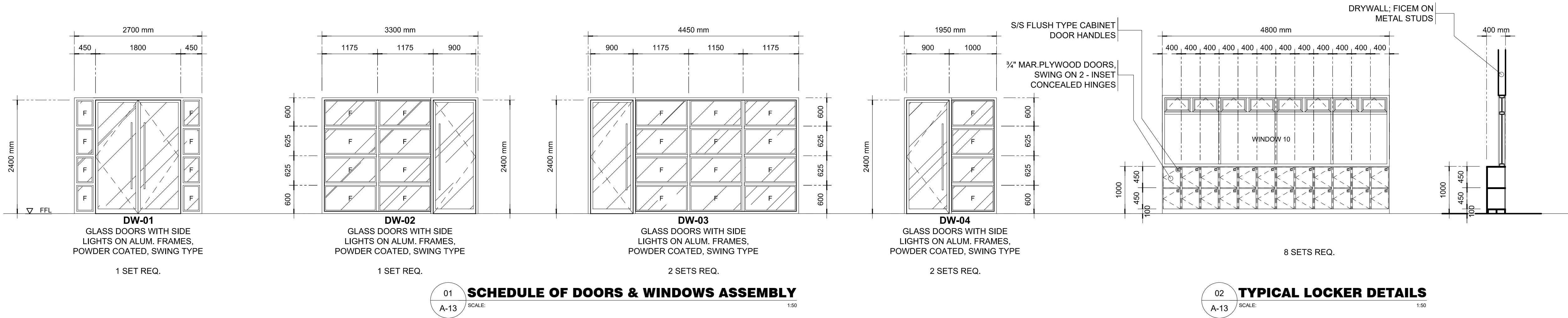
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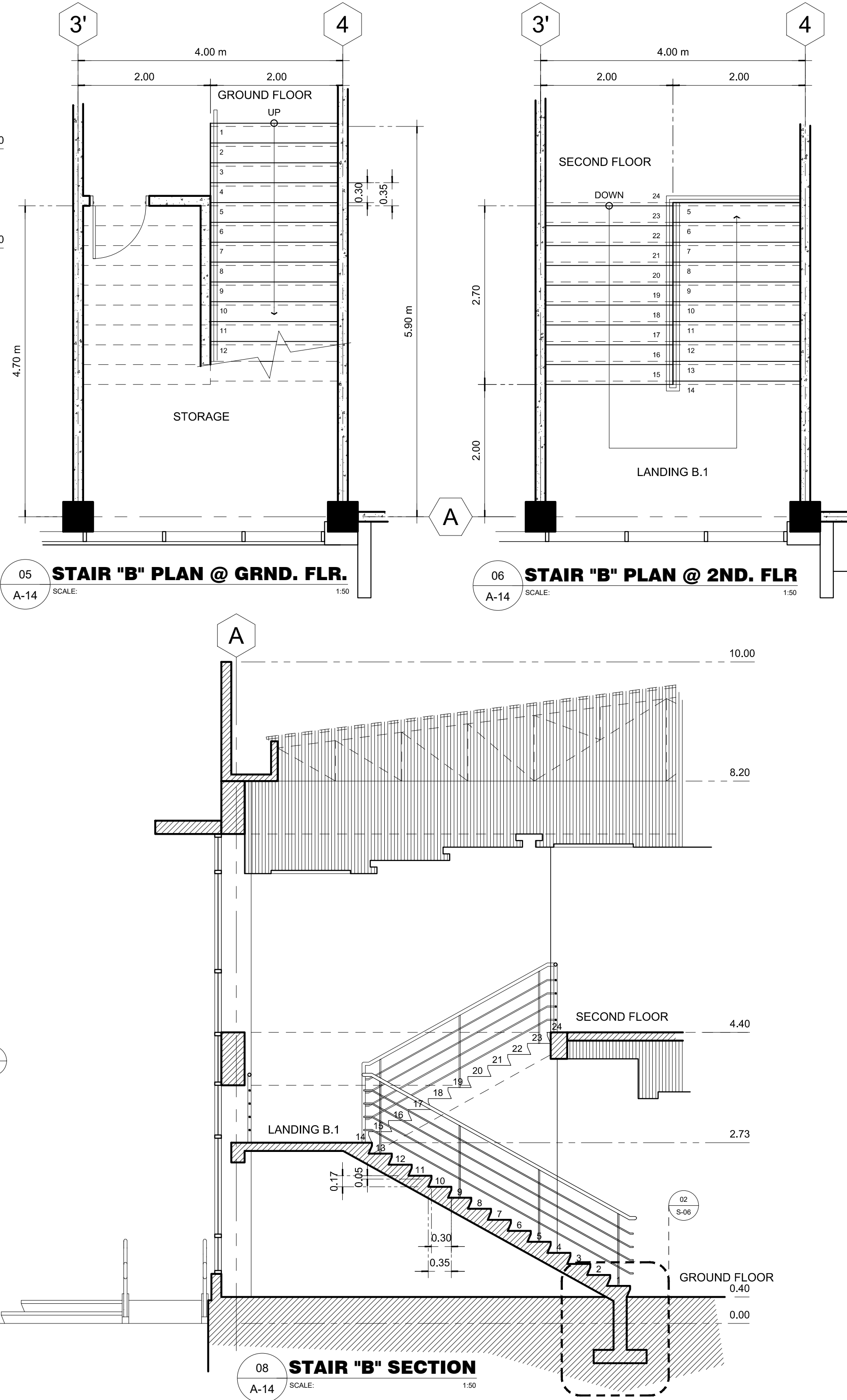
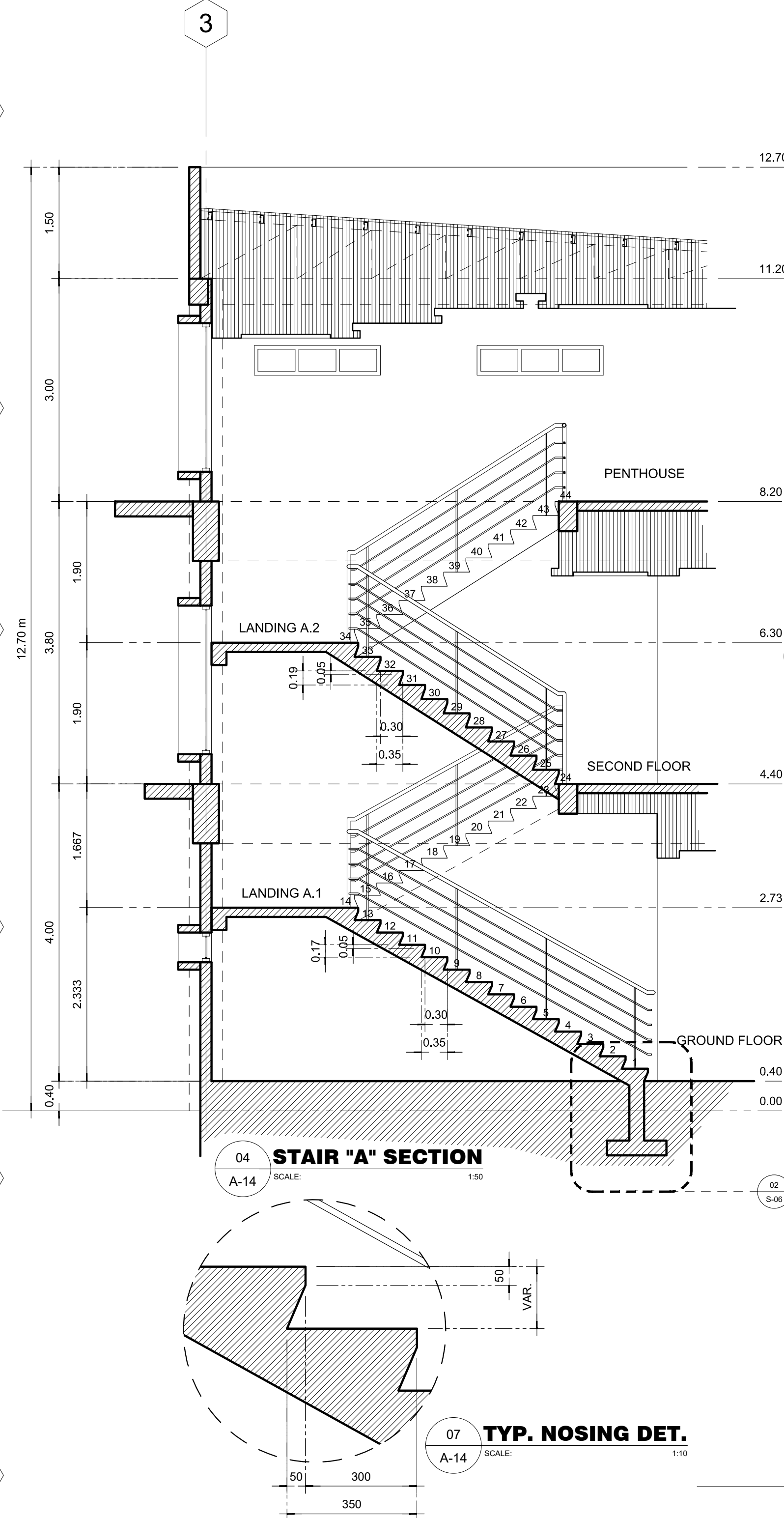
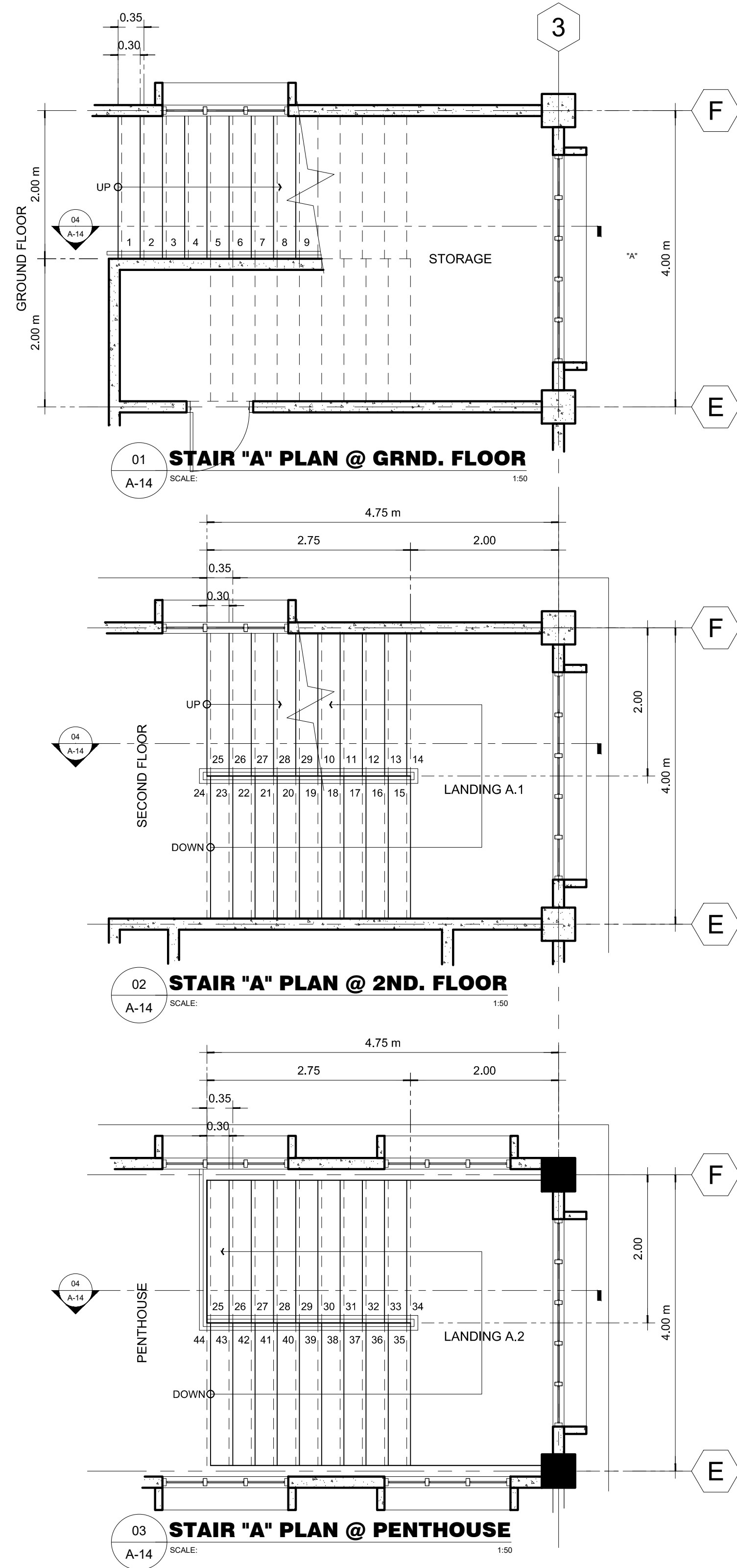
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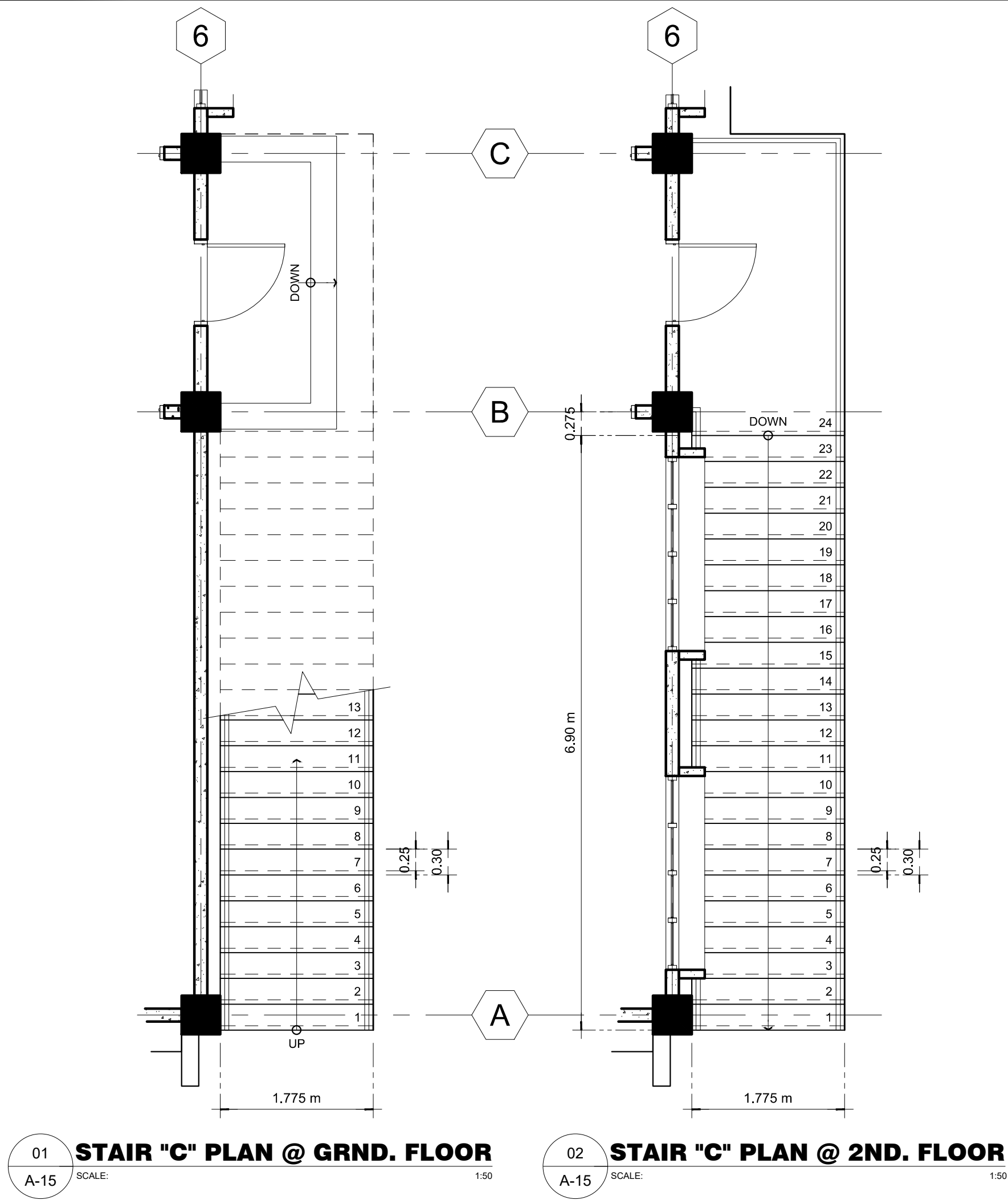
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03 SCHEDULE OF CURTAIN WALLS
A-13 SCALE: 1:50





LEGEND:

- A - 200 x 300 x 8000mm BUILD-UP ACP ON METAL FRAMES; PVDF, AF-400, MOUSE GRAY METALLIC
- B - 100 x 300 x 8000mm BUILD-UP ACP ON METAL FRAMES; PVDF, AF-400, MOUSE GRAY METALLIC
- C - 50 x 300 x 8000mm BUILD-UP ACP ON METAL FRAMES; PVDF, AF-400, MOUSE GRAY METALLIC
- D - 50 x 200 x 4000mm BUILD-UP ACP ON METAL FRAMES; PVDF, AF-370, RED

NOTE:
FOR STRUCTURAL FRAMING &
ANCHORAGE DETAILS, REFER SHEET S-07



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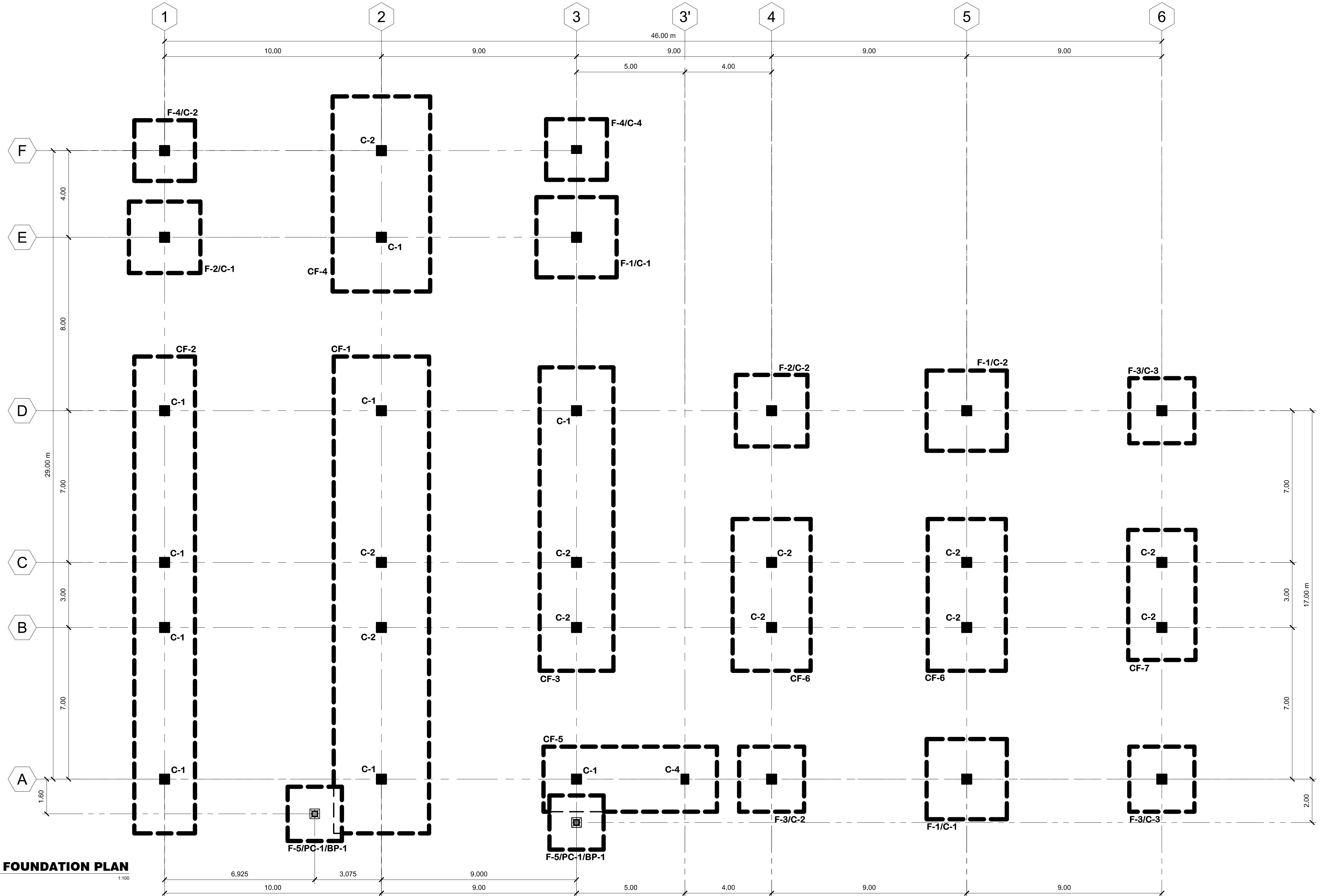
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01 (MAIN) FOUNDATION PLAN
S-01 SCALE: 1:100

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PRC:	8270
VALIDITY	08 MAY 2018
IAPOA:	04440 141342 071615
O.R. DATE	141342 16JULY15
PTR	7805115
DATE ISS.	04 JAN 2018
PLACE ISS.	GSC
TIN	123-875-856

SECTION 33 of RA 9266 | Drawing & specifications & other contract documents duly signed, stamp or sealed, as instruments of service, are the intellectual property and documents of the architect, whether the object for which they are made is executed or not it shall be unlawful for any person to duplicate or to make copies of said documents for use in the repetition of & for other projects or buildings, without the written consent of architect or author of said documents.

JAMES P. PACIS
CIVIL / STRUCTURAL ENGINEER

PRC Reg.No.: 52853 PTR No.: 7805170
TIN No.: 102-900-986 Date: 01/04/18 Iss.: GSC

PROJECT TITLE / LOCATION

PROPOSED RESEARCH HUB FOR AGRICULTURE & ALLIED SCIENCES
PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

APPROVED BY

CHUCHI P. GARGANERA, PH. D.
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PREPARED BY:

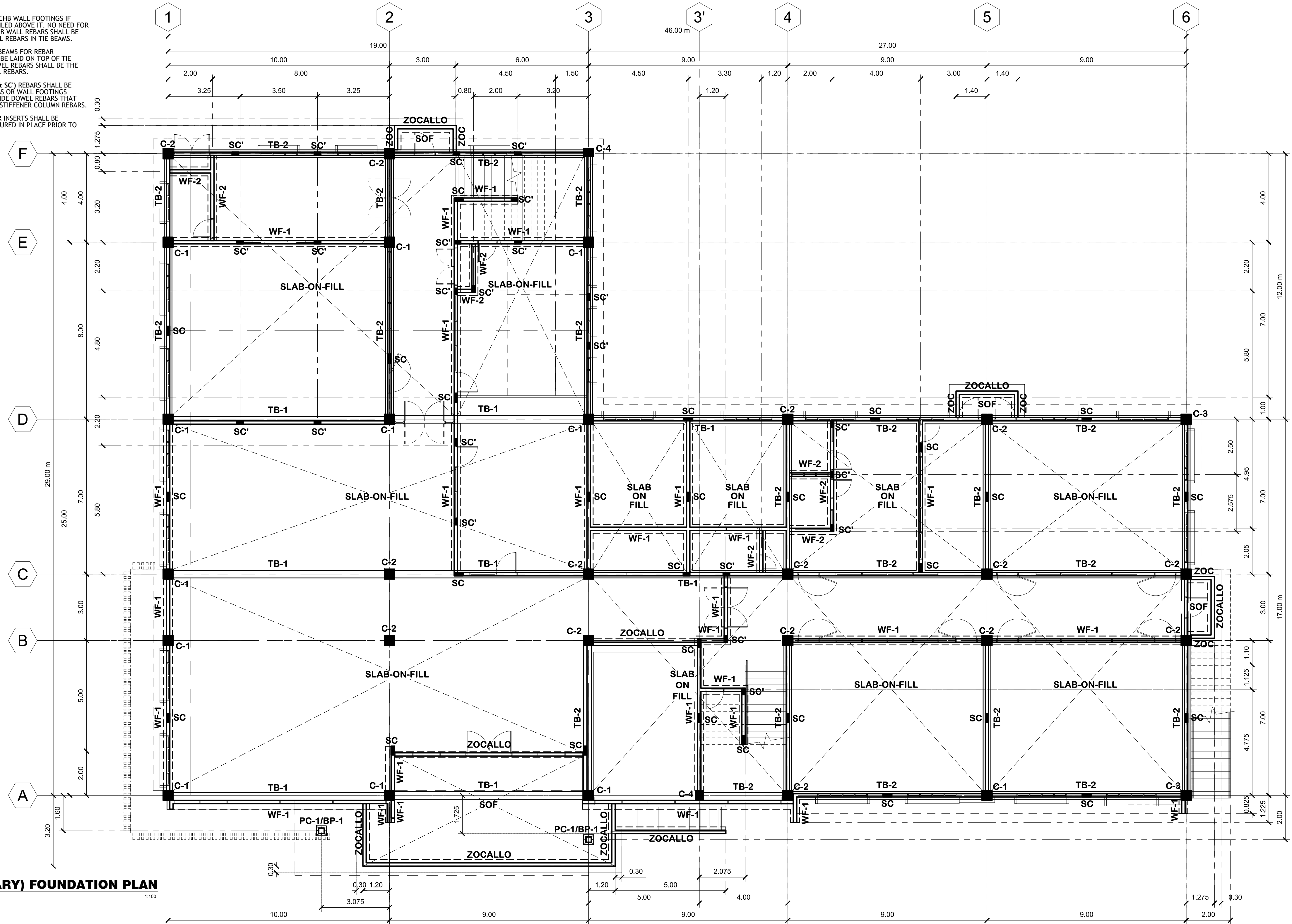
J.P. PACIS ENGINEERING SERVICES
STRUCTURAL CONSULTANT

CHECKED BY: _____
RESIDENT ENGINEER

SHEET NO.	
S-01	
16	44

NOTE: unless otherwise specified

- 1) TIE BEAMS SHALL BE SERVED AS CHB WALL FOOTINGS IF THERE ARE CHB WALLS TO BE PILED ABOVE IT. NO NEED FOR WALL FOOTING PROVISIONS. CHB WALL REBARS SHALL BE ANCHORED TO PROVIDED DOWEL REBARS IN TIE BEAMS.
- 2) PROVIDE DOWEL REBARS IN THE BEAMS FOR REBAR ANCHORAGE OF CHB WALLS TO BE LAID ON TOP OF TIE BEAMS. SIZE & SPACING OF DOWEL REBARS SHALL BE THE SAME WITH CHB WALL VERTICAL REBARS.
- 3) WALL STIFFENER COLUMNS (SC & SC') REBARS SHALL BE ANCHORED TO EITHER TIE BEAMS OR WALL FOOTINGS WHENEVER IS AVAILABLE. PROVIDE DOWEL REBARS THAT MATCH THE SIZE & NUMBER OF STIFFENER COLUMN REBARS.
- 4) DOWEL REBARS, BOLTS & OTHER INSERTS SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE PRIOR TO POURING OF CONCRETE.



01 (SECONDARY) FOUNDATION PLAN
SCALE: 1:100

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27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY ☎ No: 301-1917

Michael T. Ang
MICHAEL T. ANG, fuap
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CIVIL / STRUCTURAL ENGINEER
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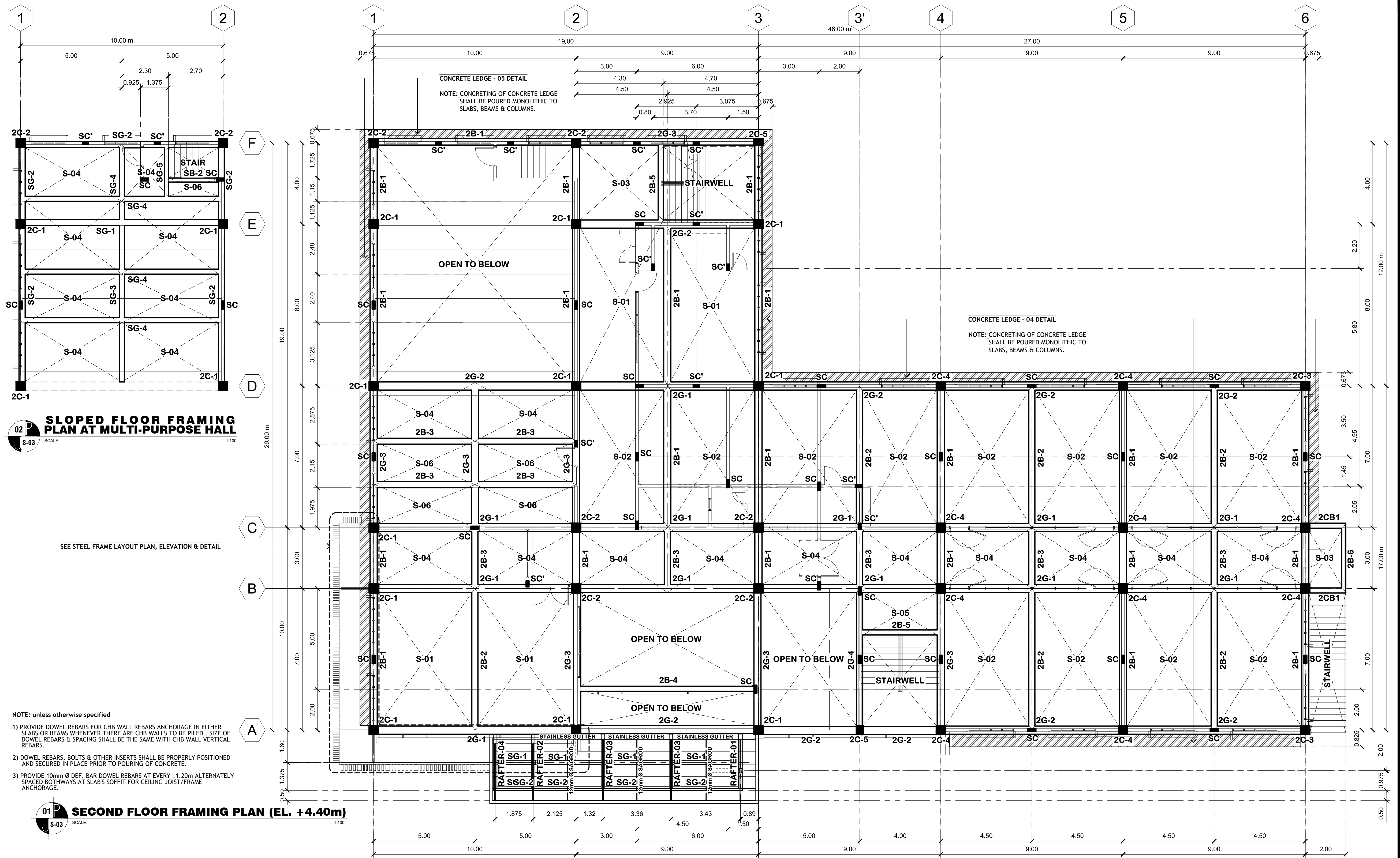
PROJECT TITLE / LOCATION
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PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

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J.P. PACIS ENGINEERING SERVICES
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CHECKED BY:

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27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY ☎ No: 301-1917

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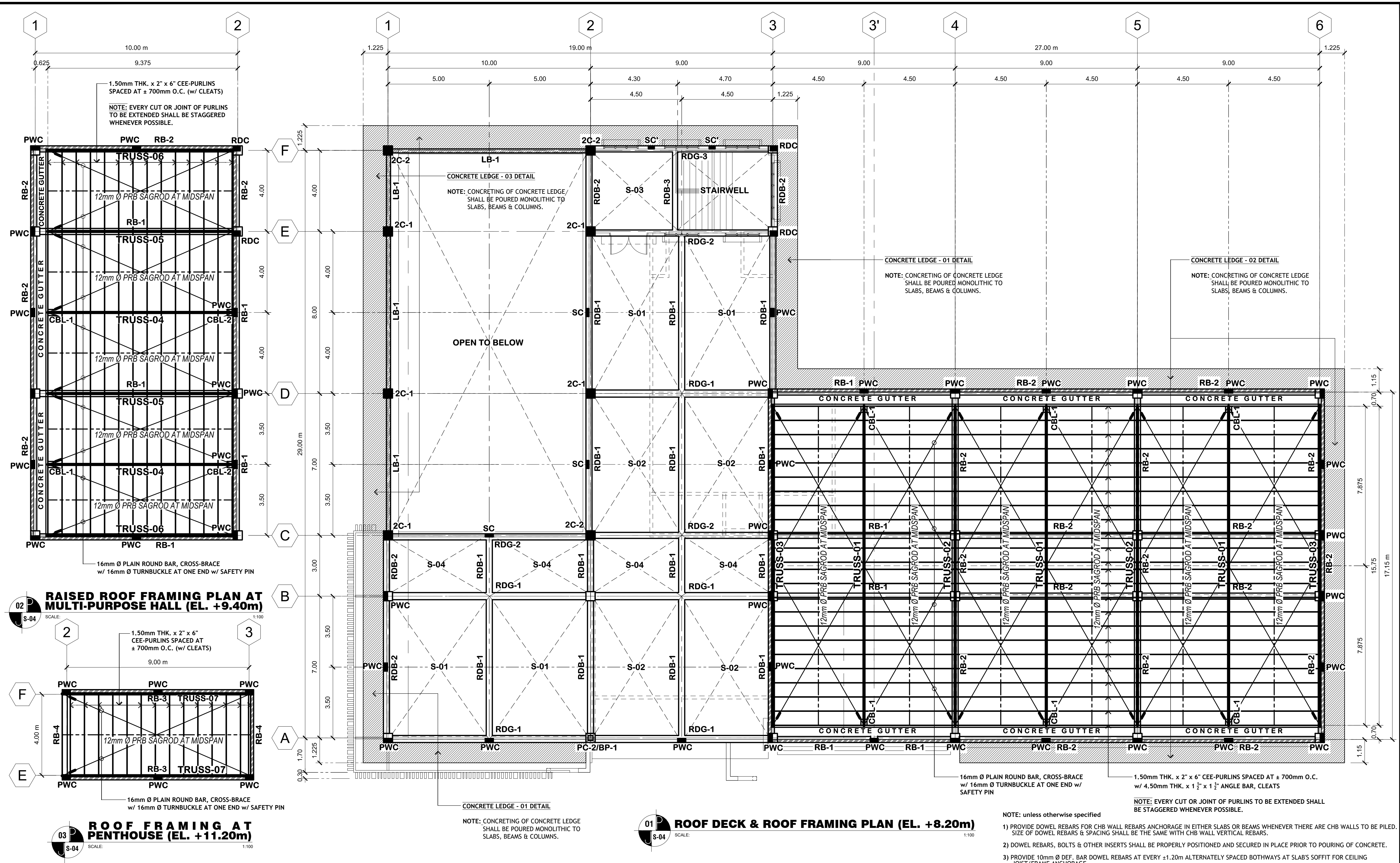
JAMES P. PACIS
CIVIL / STRUCTURAL ENGINEER


PRC Reg.No.: 52853 PTR No.: 7805170

TIN No.: 102-900-986 Date: 01/04/18 Iss.: GSC

PROJECT TITLE / LOCATION	APPROVED BY	PREPARED BY:	SHEET NO. S-03 18 44
PROPOSED RESEARCH HUB FOR AGRICULTURE & ALLIED SCIENCES PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City	CHUCHI P. GARGANERA, PH. D. DIRECTOR III	J.P. PACIS ENGINEERING SERVICES STRUCTURAL CONSULTANT	
	ADDRESS: PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City	CHECKED BY: _____ RESIDENT ENGINEER	


FILE NAME: PHILSCI RESEARCH HUB STRUCT. PLAN.dwg | April 28, 2018





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JAMES P. PACIS
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STRUCTURAL CONSULTANT

CHECKED BY:
RESIDENT ENGINEER

SHEET NO.

S-04

19 44

CONSTRUCTION NOTES & DETAILS

A. GENERAL

1. CONSTRUCTION NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. MODIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.
2. SHOP DRAWINGS WITH ERECTION AND PLACING DIAGRAMS OF ALL STRUCTURAL STEEL, MISCELLANEOUS IRON, PRE-CAST CONCRETE ETC. SHALL BE SUBMITTED FOR ENGINEER'S APPROVAL BEFORE FABRICATION.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK IS TO BEGIN, CHECK WITH MECHANICAL AND ELECTRICAL CONTRACTORS FOR CONDUITS, PIPE SLEEVES, ETC. TO BE EMBEDDED IN CONCRETE.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE SHORINGS AND BRACINGS OF THE STRUCTURE FOR ALL LOADS THAT MAYBE IMPOSED DURING CONSTRUCTION.

B. CONCRETE & REINFORCEMENT

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE LATEST BUILDING CODE OF AMERICAN CONCRETE INSTITUTE (ACI-318).
2. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT THE END OF TWENTY EIGHT (28) DAYS WITH CORRESPONDING MAXIMUM SIZE AGGREGATE AND SLUMPS AS FOLLOWS :

LOCATION	28 DAYS STRENGTH	MAX. SIZE AGGREGATE	MAX. SLUMP
CURBS & SOF	2500 PSI(20.5 MPa)	1 IN. (25MM.)	3/4 IN. (19MM.)
WALL FOOTINGS & STIFF. COLUMNS	3000 PSI(21.0 MPa)	1 IN. (25MM.)	3/4 IN. (19MM.)
FOUNDATION & FOOTING TIE BEAM	3500 PSI(24.0 MPa)	3/4 IN. (19MM.)	3/4 IN. (19MM.)
BEAMS & SLAB	3500 PSI(24.0 MPa)	3/4 IN. (19MM.)	3/4 IN. (19MM.)
COLUMNS & STAIR	3500 PSI(24.0 MPa)	3/4 IN. (19MM.)	3/4 IN. (19MM.)

3. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 (PNS 49); GRADE 33 FOR DIA. 12 AND SMALLER BARS AND GRADE 40 FOR DIA. 16 AND LARGER BARS ALL TIES ARE ALL GRADE 33.
4. IN GENERAL, THE LATEST EDITION OF ACI-315, MANUAL OF STANDARD PRACTICE DETAILING REINFORCED CONCRETE STRUCTURES SHALL BE ADHERED TO, UNLESS OTHERWISE SHOWN OR NOTED.
5. MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

SUSPENDED SLABS	3/4 IN. (19 MM.)
SLAB ON GRADE	1 1/2 IN. (38 MM.)
WALLS ABOVE GRADE	1 IN. (25 MM.)
BEAM STIRRUPS AND COLUMN TIES	1 1/2 IN. (38 MM.)
WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FORMS	2 IN. (50 MM.)
WHERE CONCRETE IS DEPOSITED DIRECTLY AGAINST EARTH	2 3/4 IN. (70 MM.)

6. SPLICES SHALL BE SECURELY WIRED TOGETHER AND SHALL LAP OR EXTEND IN ACCORDANCE WITH TABLE 1 (TABLE OF LAP SPlice AND ANCHORAGE LENGTH). UNLESS OTHERWISE SHOWN ON DRAWINGS, SPLICES SHALL BE STAGGERED WHENEVER POSSIBLE.
7. ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS, SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
8. CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, STOOLS, EQUIPMENTS, AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.
9. ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF SEVEN (7) CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.
10. STRIPPING OF FORMS AND SHORES:

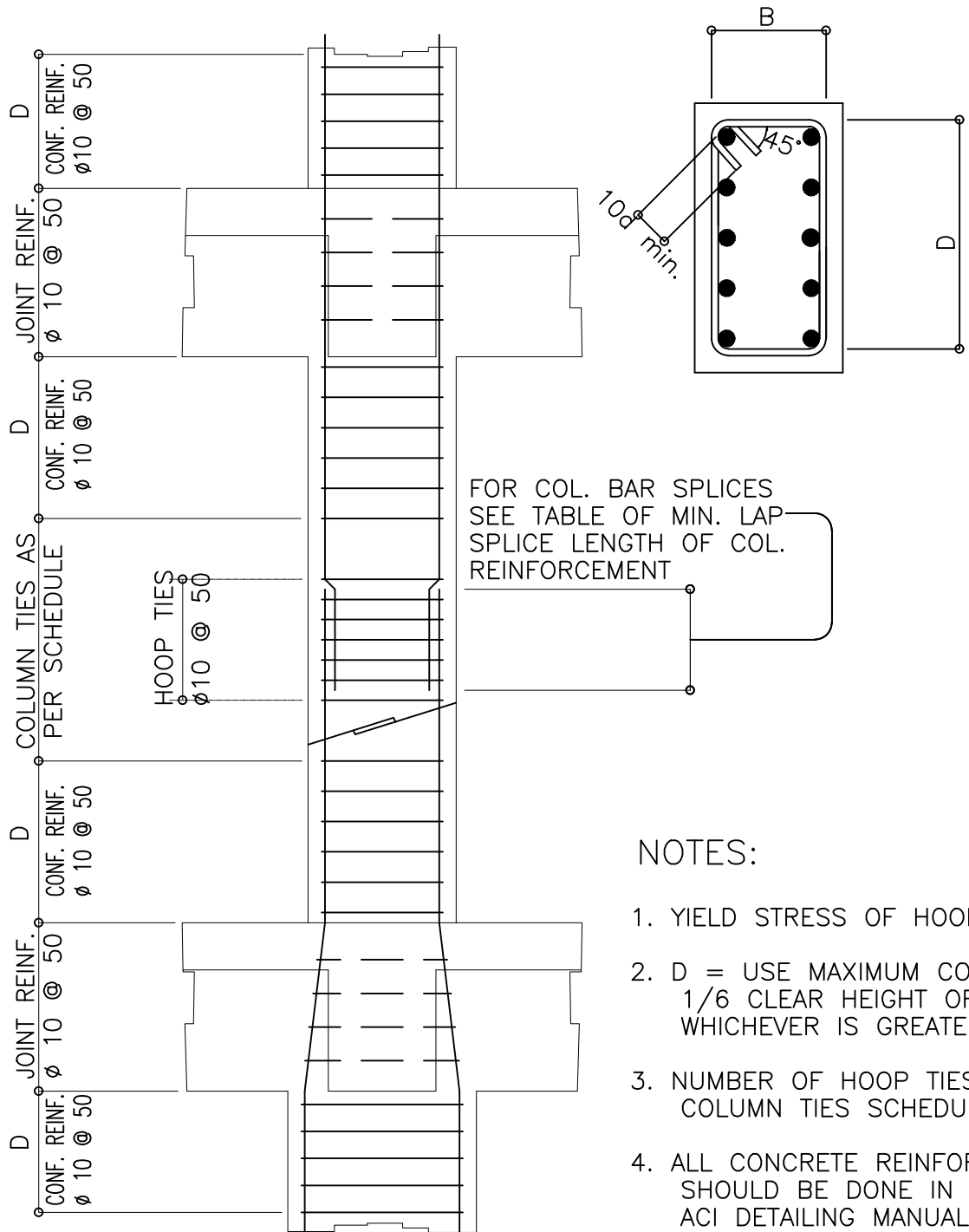
FOUNDATION	24 HRS.
SUSPENDED SLAB EXCEPT WHEN ADDITIONAL LOADS ARE IMPOSED	8 DAYS
WALLS	18 HRS.
BEAMS & COLUMNS	8 DAYS

C. FOUNDATION

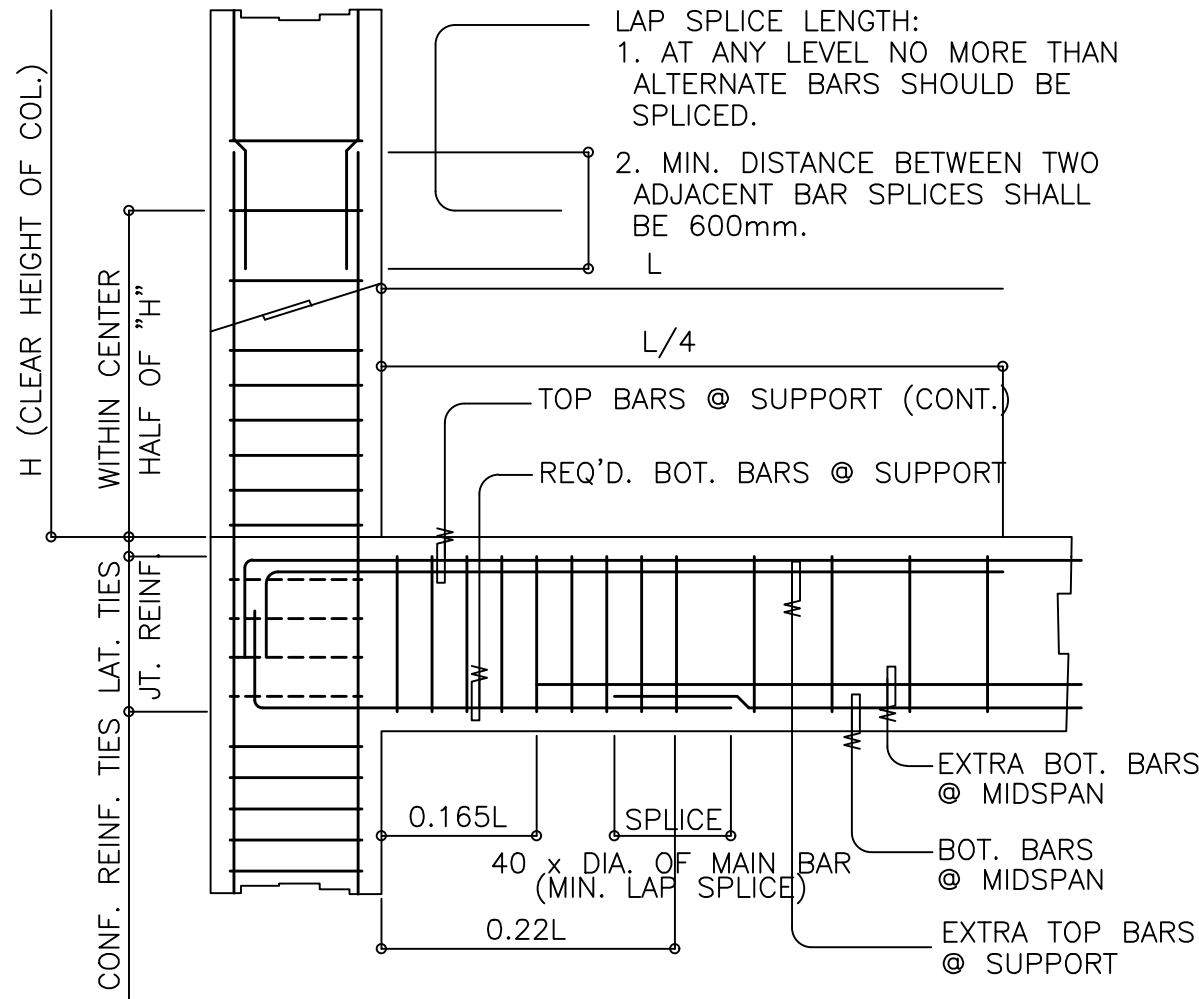
1. FOUNDATION IS DESIGNED FOR AN ALLOWABLE SOIL BEARING CAPACITY OF OF 110.0 kPa. (SEE SOIL TEST RESULT)
2. FOUNDATION SHALL REST ON NATURAL SOIL. UNLESS OTHERWISE NOTED BY THE ENGINEER, NO PART OF THE FOUNDATION SHALL REST ON FILL.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER FOOTING EXCAVATION HAVE BEEN COMPLETED AND PRIOR TO CONCRETING TO CONFIRM THE DESIGN SOIL BEARING CAPACITY.

D. STEEL STRUCTURES

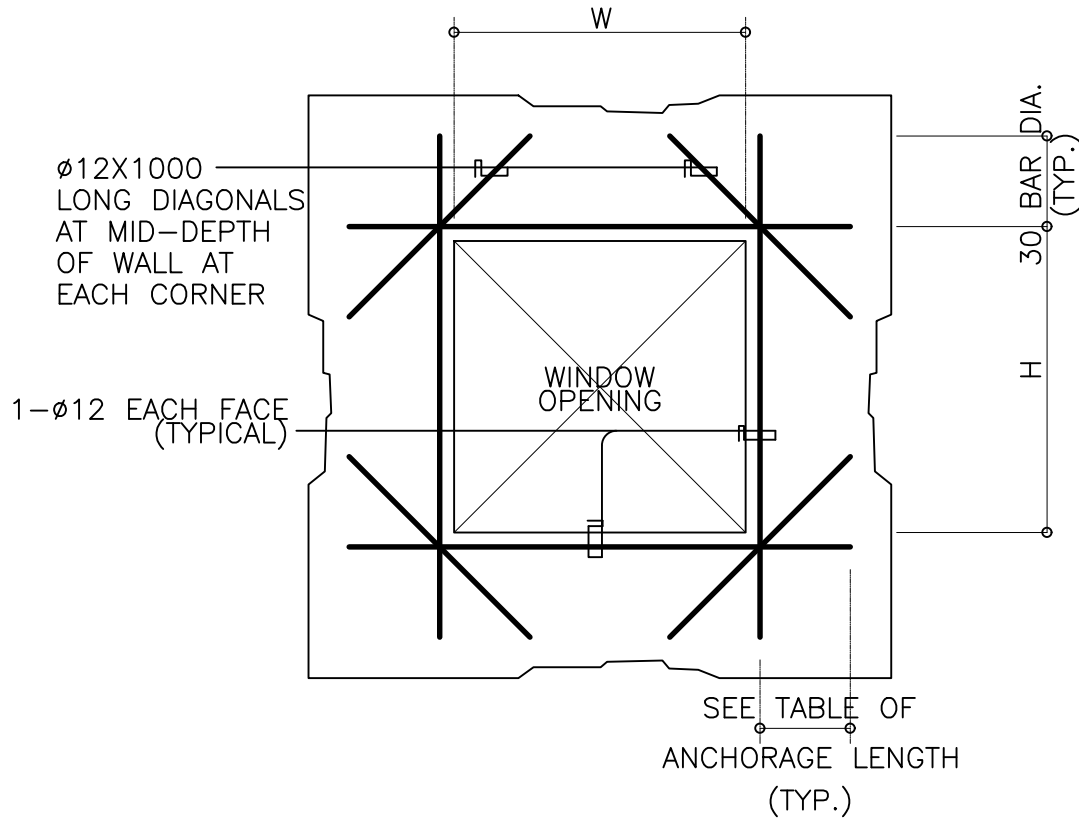
- 1) All steel members should conform with ASTM A 36 Steel Specifications.
- 2) Welds should be E 60 Electrodes and should conform to the Standard Code for Welding in Building Construction. All welds shall develop at least 100% of the structural steel member strength.
- 3) In actual fabrication of steel trusses, members meeting at a point shall have their gravity axis intersect as nearly as practicable at a common point to avoid eccentricity.
- 4) The Contractor shall verify all dimensions and conditions at the site before proceeding with the work.
- 5) The Contractor shall provide temporary erection bracing and shoring for all structural members as required for structural stability during all phases of construction.
- 6) The Contractor shall be responsible for the accurate location of all steel works including items used to attach materials to other parts of the work.
- 7) The Contractor shall see to it that any or all items of work which are to be built into the works of other trades are installed at the proper time.
- 8) The Contractor shall submit for approval samples, shop and erection drawings, showing in detail the proposed design, fabrication and erection. No work shall be started until these samples and drawings have been approved.



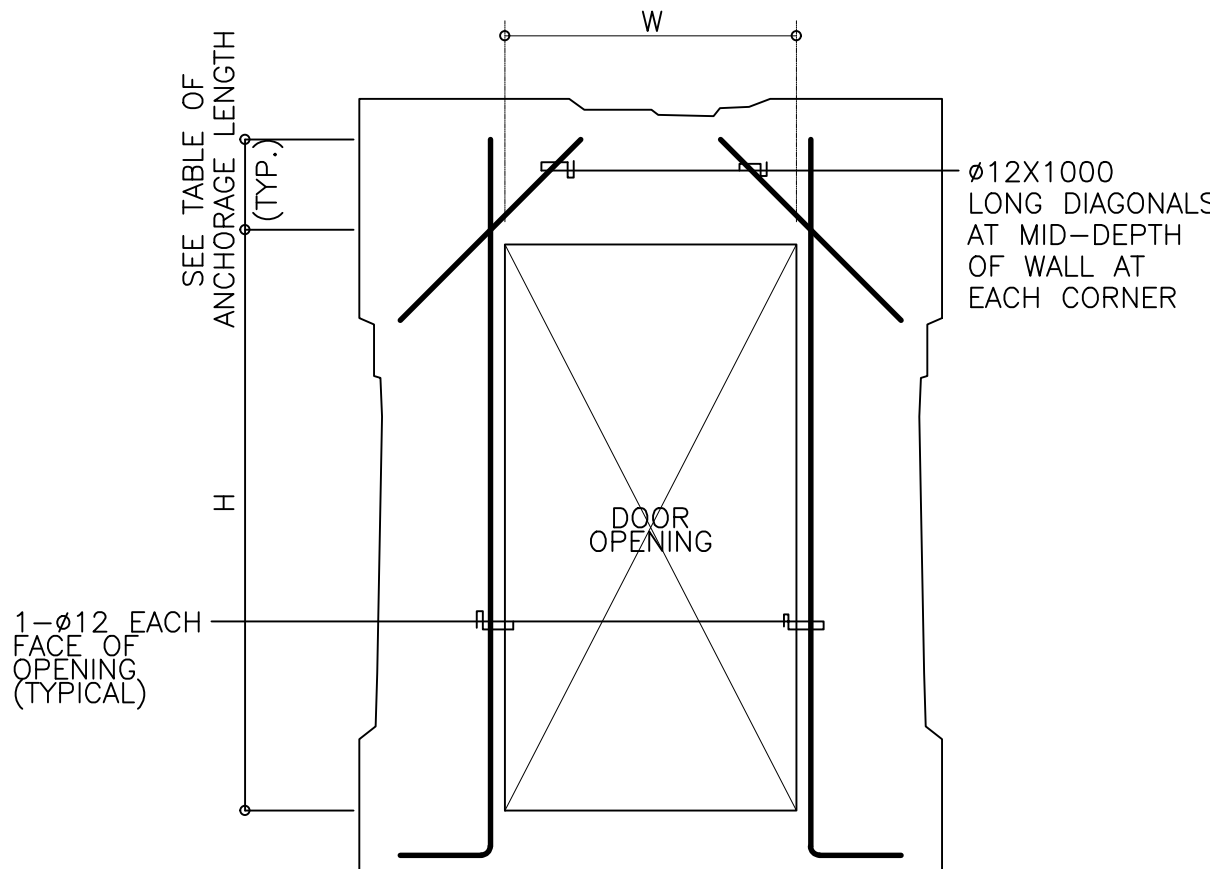
01 COLUMN ELEV. SHOWING DOWELS AND TIES SPACING DETAIL



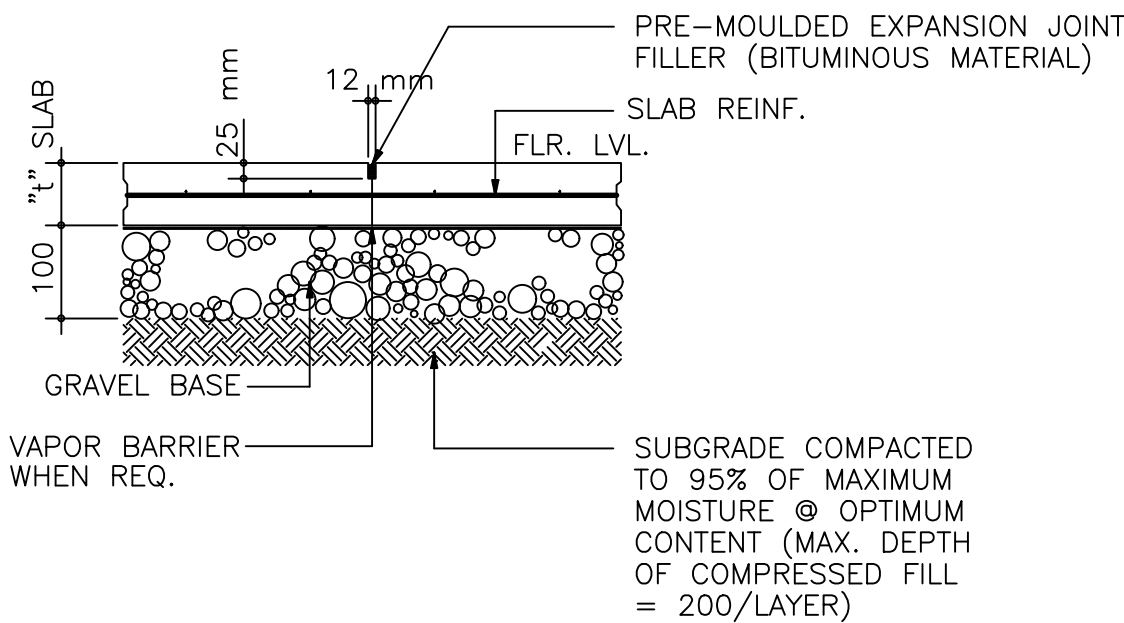
02 COLUMN LAP SPlice AND EXT. GIRDER TO COLUMN CONNECTION DETAIL



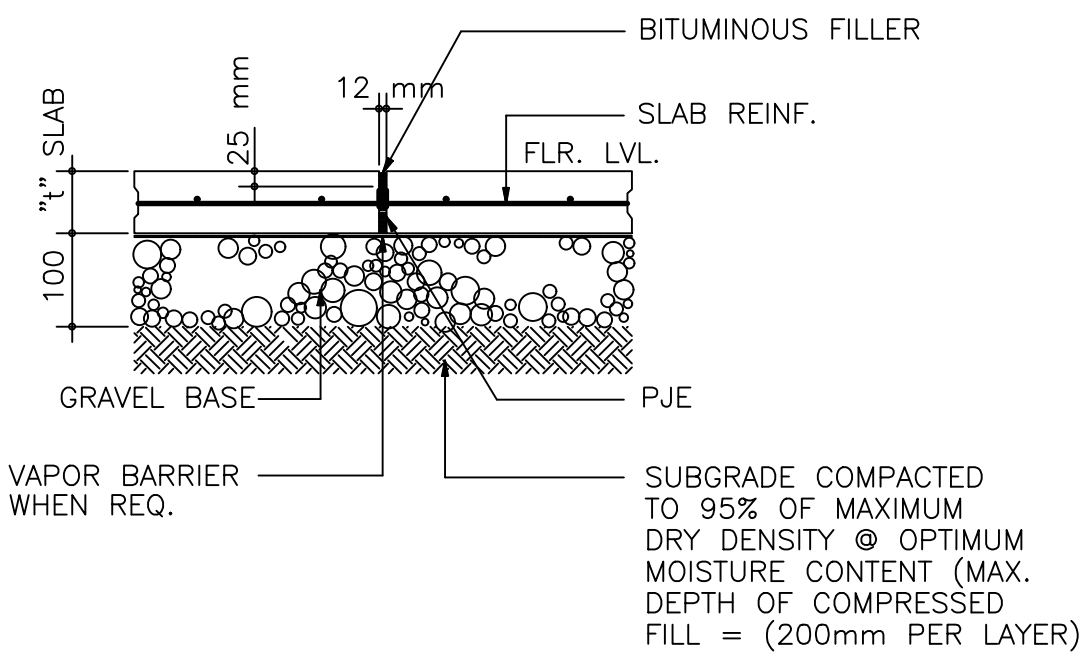
03 WINDOW OPENING DETAIL



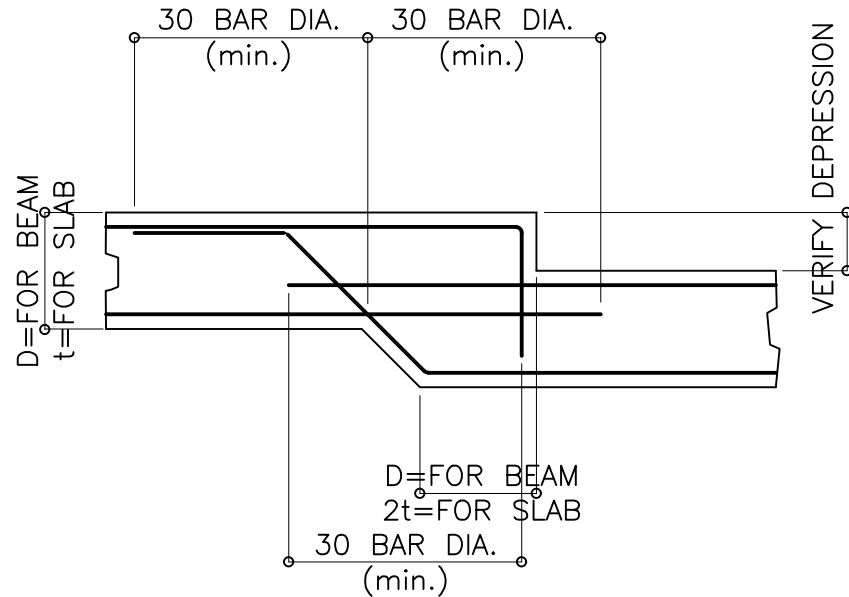
04 DOOR OPENING DETAIL



05 SLAB-ON-GRADE EXPANSION JOINT DETAIL

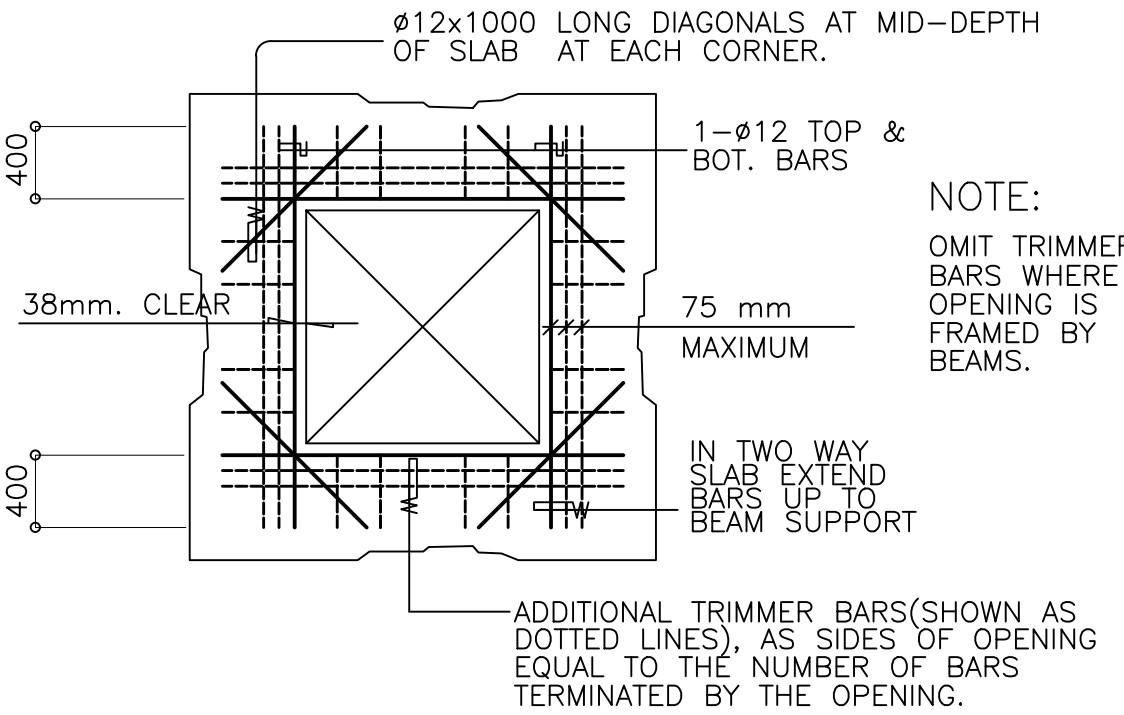


06 SLAB-ON-GRADE CONSTRUCTION JOINT DETAIL



07 BEAM/SLAB CHANGE SOFFIT DETAIL

NOTE:
PROVIDE THESE ADDITIONAL BARS FOR ALL OPENINGS PLUS BARS (SHOWN AS DOTTED LINES) PARALLEL TO SIDE OF OPENING EQUAL TO THE NUMBER OF INTERRUPTED BARS BY THE OPENING.
SEE ARCHITECTURAL & MECHANICAL PLANS FOR SLAB OPENING LOCATION.



08 SLAB OPENING DETAIL



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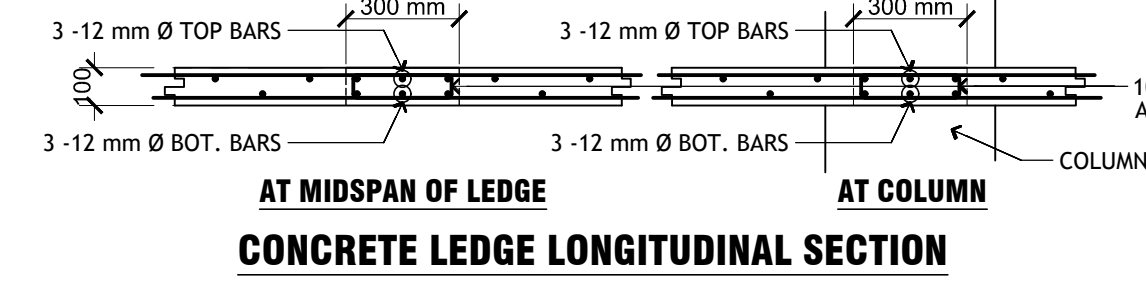
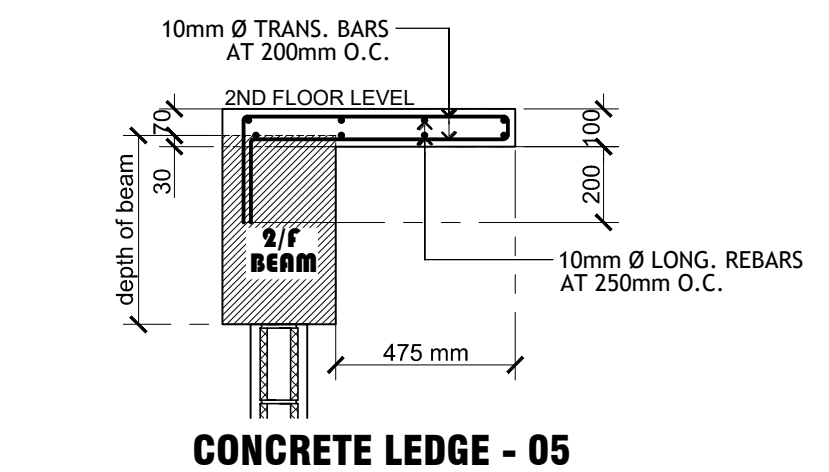
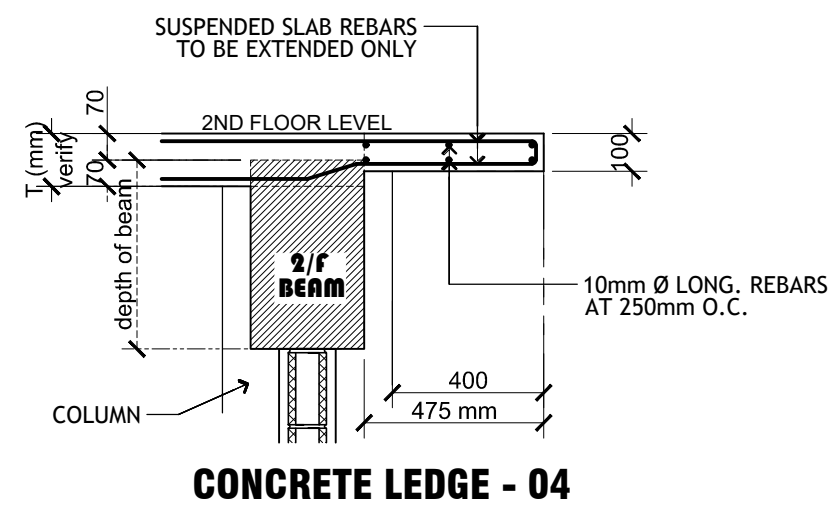
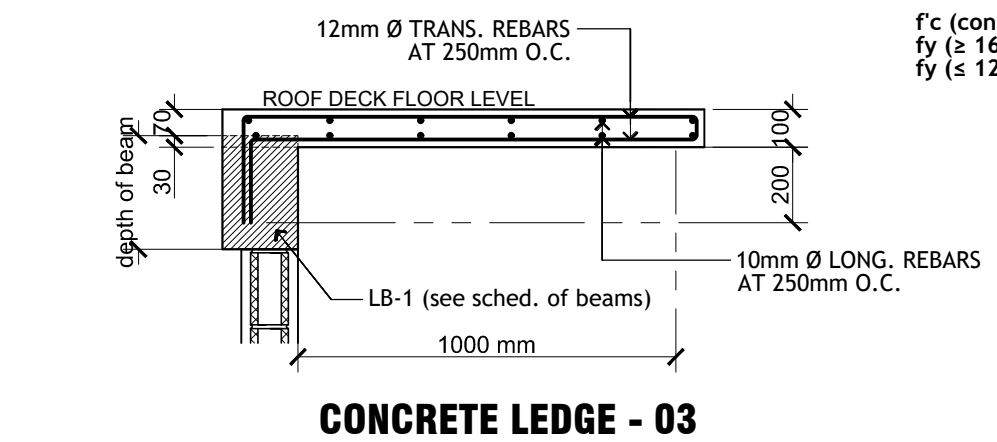
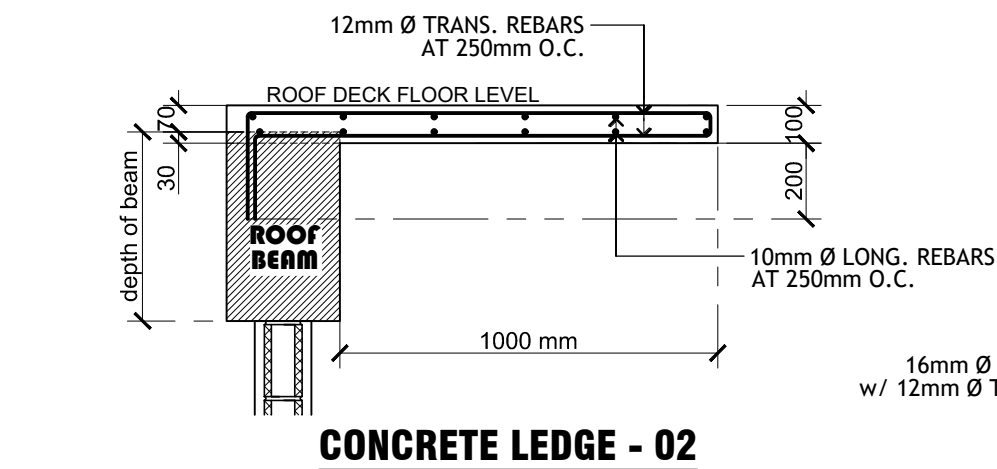
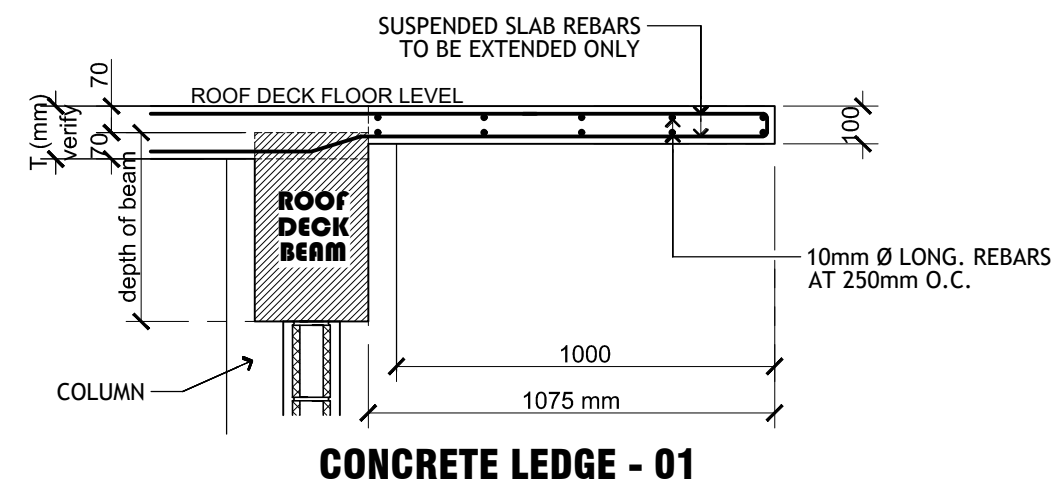
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NOTE: unless otherwise specified

f_c (concrete) = 3500 psi
f_y (main rebars) = GRADE 33

CONCRETING OF CONCRETE LEDGE SHALL BE MONOLITHIC TO BEAMS & SLABS.
CONCRETE LEDGE REBARS SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE PRIOR TO POURING OF CONCRETE.



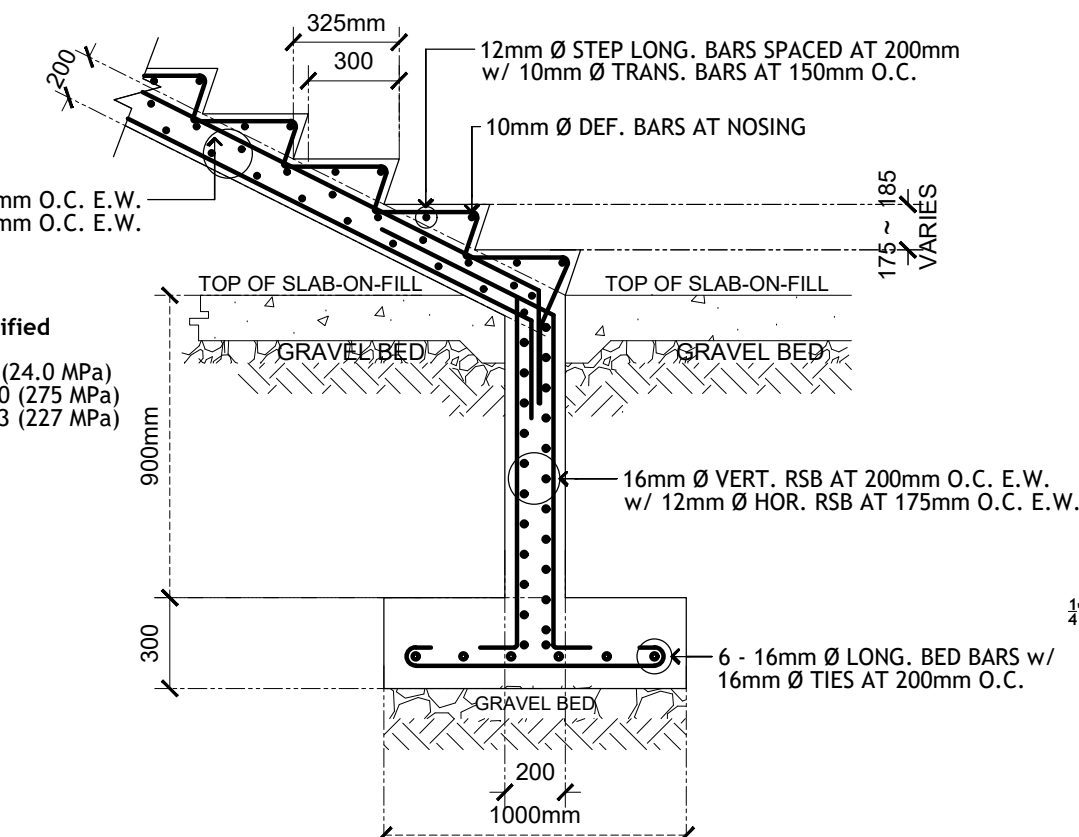
CONCRETE LEDGE DETAILS

SCHEDULE OF STAIR MID-LANDING BEAMS						
MARK	DIMENSIONS (mm)	LOCATION	MAIN REINFORCEMENTS			
			AT SUPPORTS	AT MID-SPAN	WEB BARS	STIRRUPS
SLB-1	200	TOP	2 - 25mm Ø CB + 2 - 25mm Ø EB	2 - 25mm Ø CB	2 - 16mm Ø CB	B
		BOTTOM	2 - 25mm Ø CB	2 - 25mm Ø CB + 2 - 25mm Ø EB		
SLB-2	200	TOP	2 - 20mm Ø CB + 2 - 20mm Ø EB	2 - 20mm Ø CB	---	C
		BOTTOM	2 - 20mm Ø CB	2 - 20mm Ø CB + 2 - 20mm Ø EB		
SLB-3	175	TOP	2 - 25mm Ø CB + 2 - 25mm Ø EB	2 - 25mm Ø CB	2 - 16mm Ø CB	B
		BOTTOM	2 - 25mm Ø CB	2 - 25mm Ø CB + 2 - 25mm Ø EB		
SLB-4	175	TOP	2 - 20mm Ø CB + 2 - 20mm Ø EB	2 - 20mm Ø CB	---	C
		BOTTOM	2 - 20mm Ø CB	2 - 20mm Ø CB + 2 - 20mm Ø EB		
SLCB1	200	TOP	4 - 25mm Ø CB	CANTILEVER BEAM (TAPERED TO 350mm)	2 - 16mm Ø CB	B
		BOTTOM	2 - 25mm Ø CB			
SLCB2	175	TOP	4 - 25mm Ø CB	CANTILEVER BEAM (TAPERED TO 350mm)	2 - 16mm Ø CB	B
		BOTTOM	2 - 25mm Ø CB			

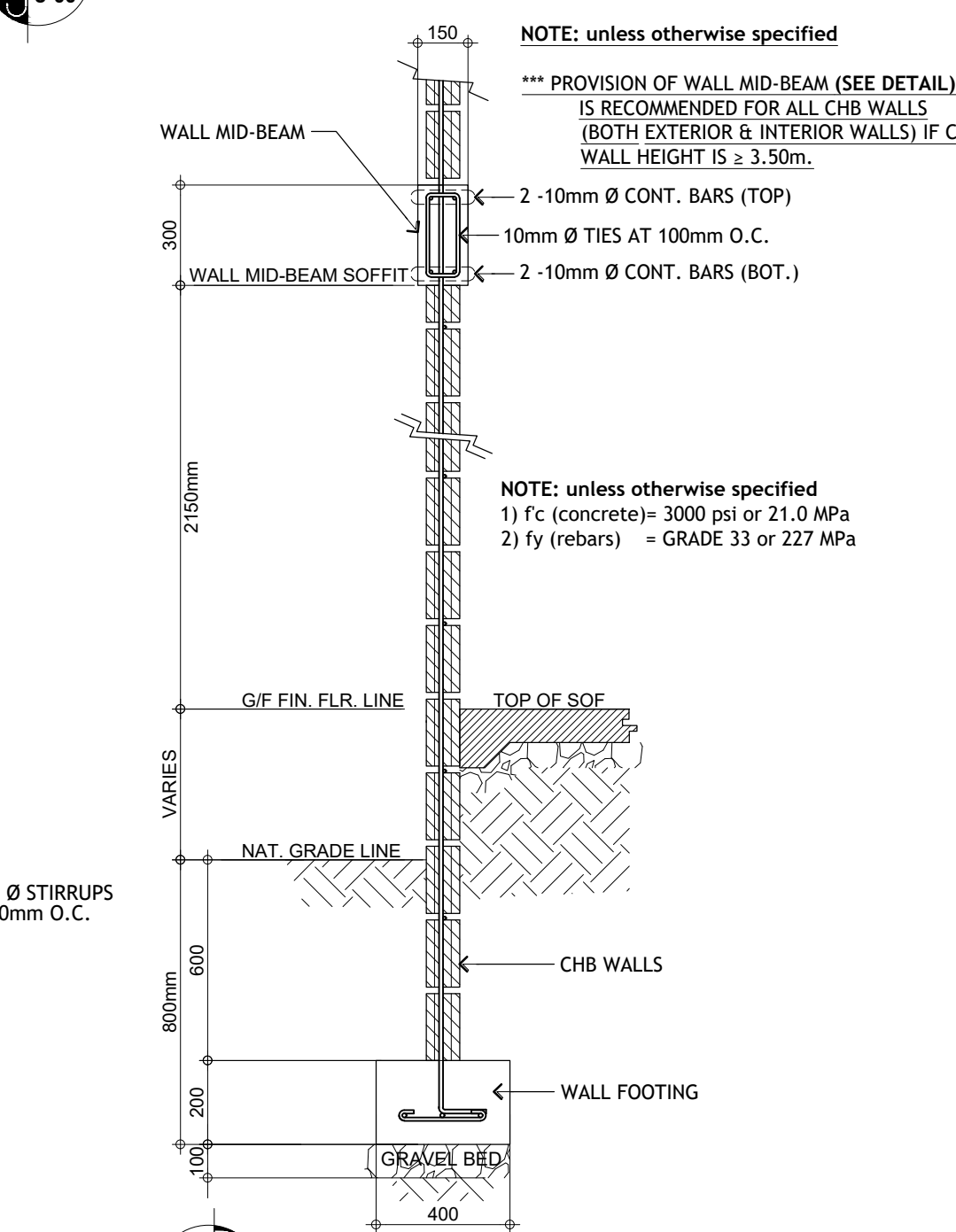
NOTE:

f_c (concrete) = 3500 psi (24.0 MPa)
f_y (≥ 16mm Ø) = GRADE 40 (275 MPa)
f_y (≤ 12mm Ø) = GRADE 33 (227 MPa)

A --- 12mm Ø: 5 @ 75mm, 10 @ 100mm, 5 @ 125mm, REST @ 150mm O.C.
B --- 10mm Ø: 5 @ 50mm, 5 @ 75mm, 10 @ 100mm, 5 @ 125mm, REST @ 150mm O.C.
C --- 10mm Ø: 5 @ 75mm, 10 @ 100mm, REST @ 150mm O.C.

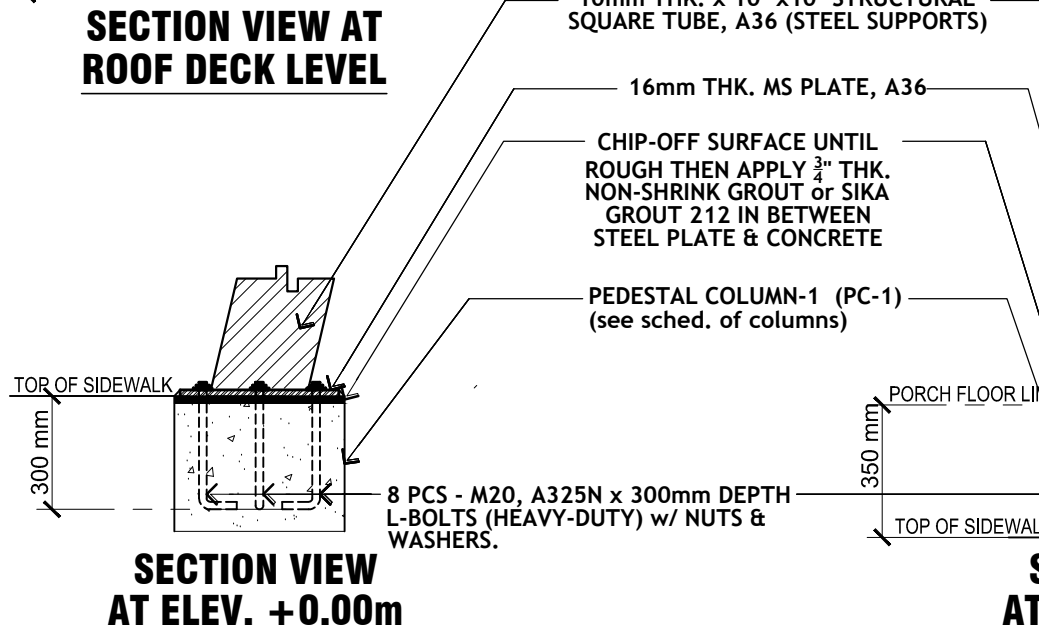
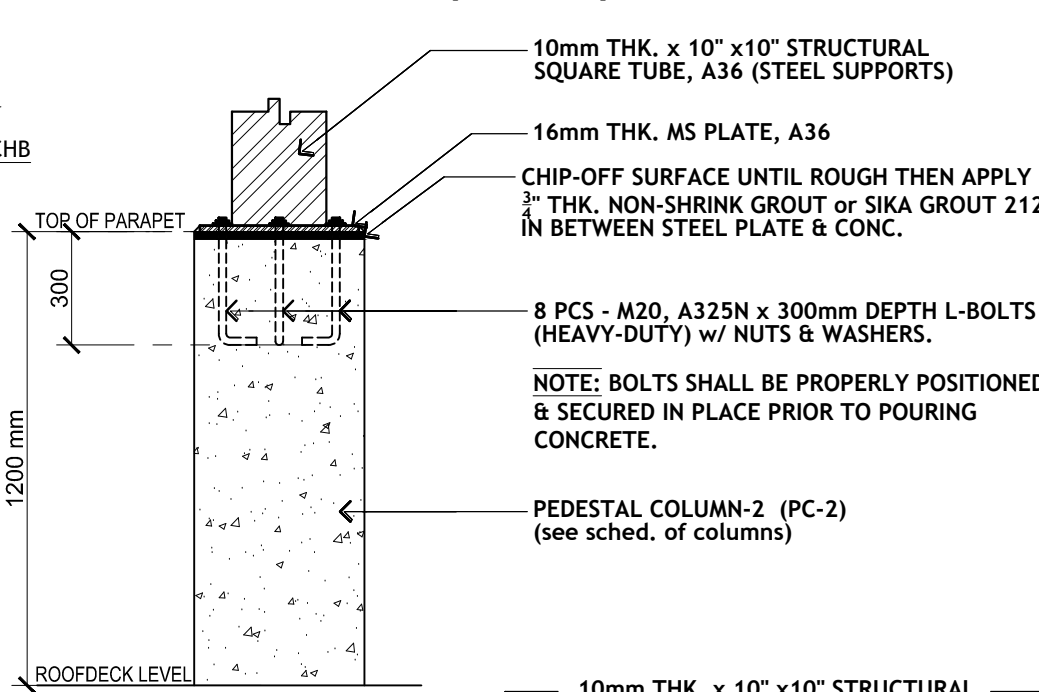
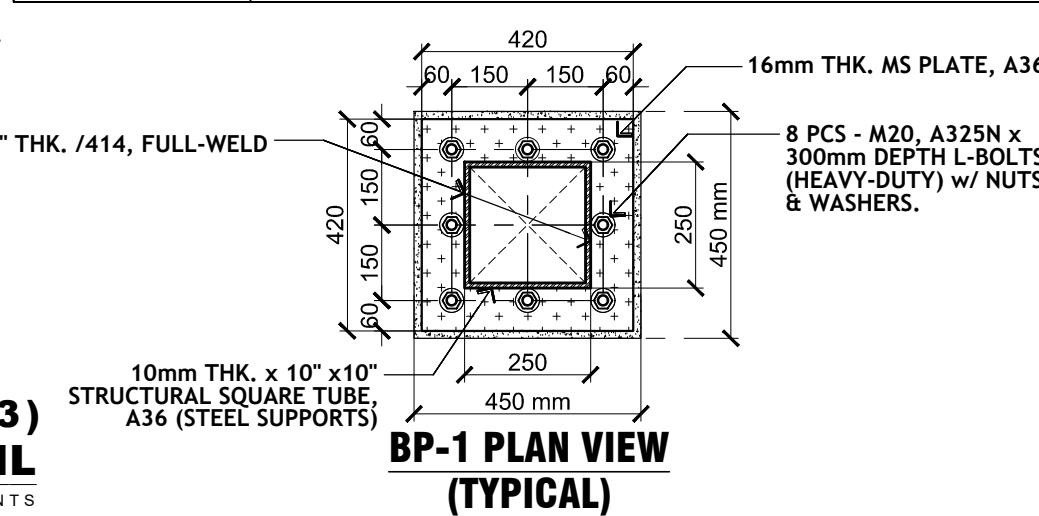


TYPICAL STAIR FOOTING & STEPS DETAIL

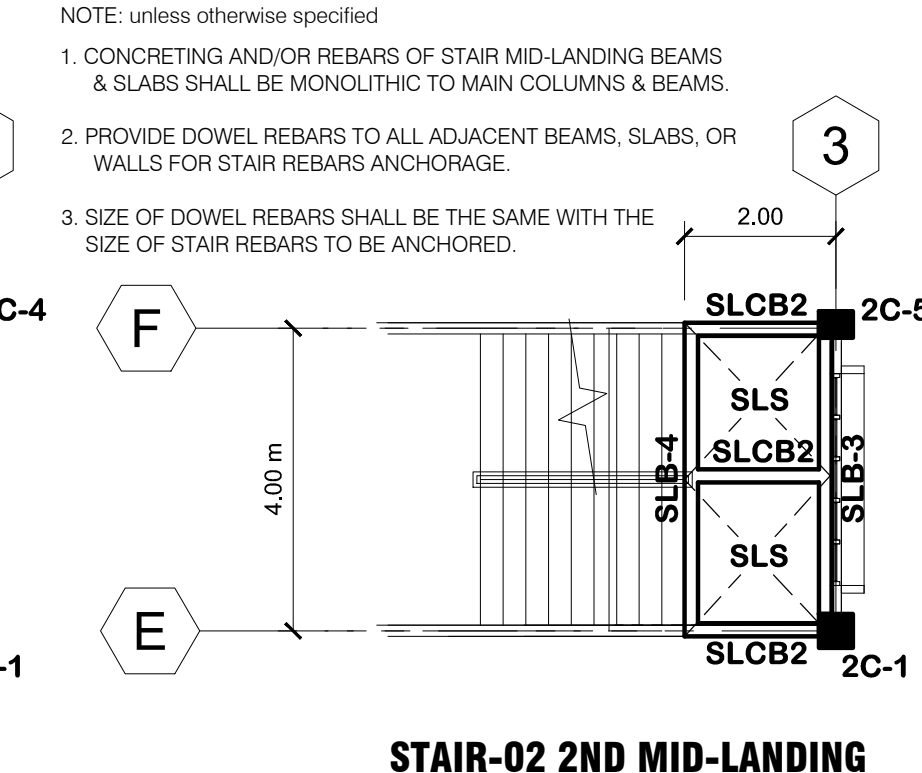
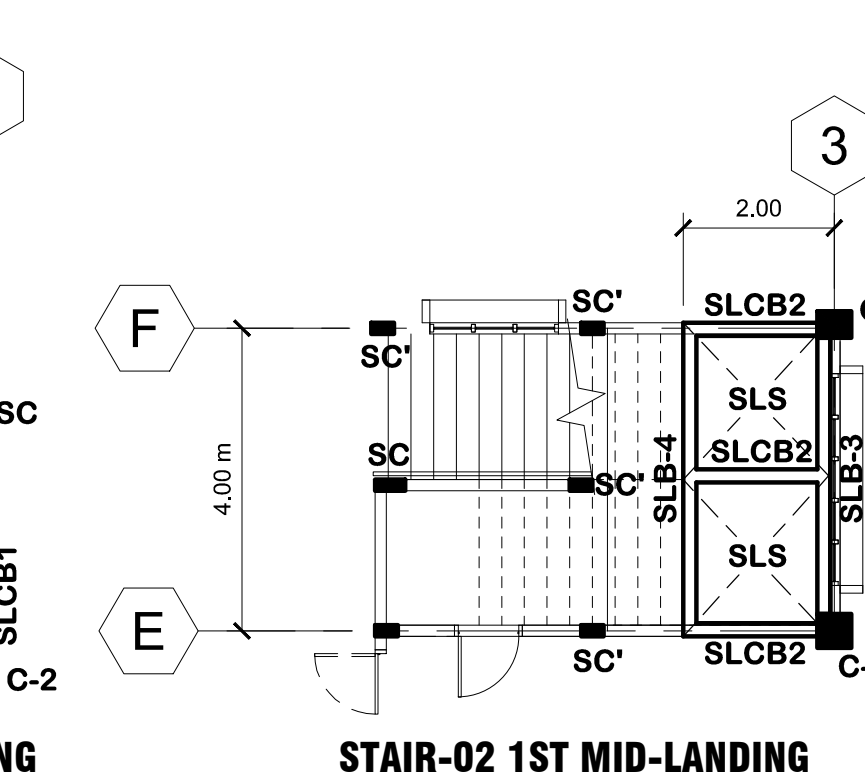
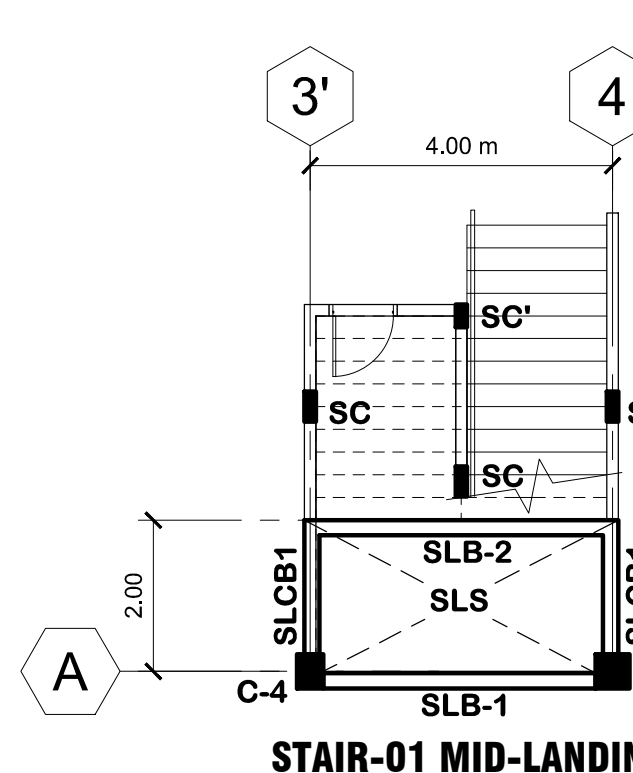


TYP. WALL MID-BEAM DET.

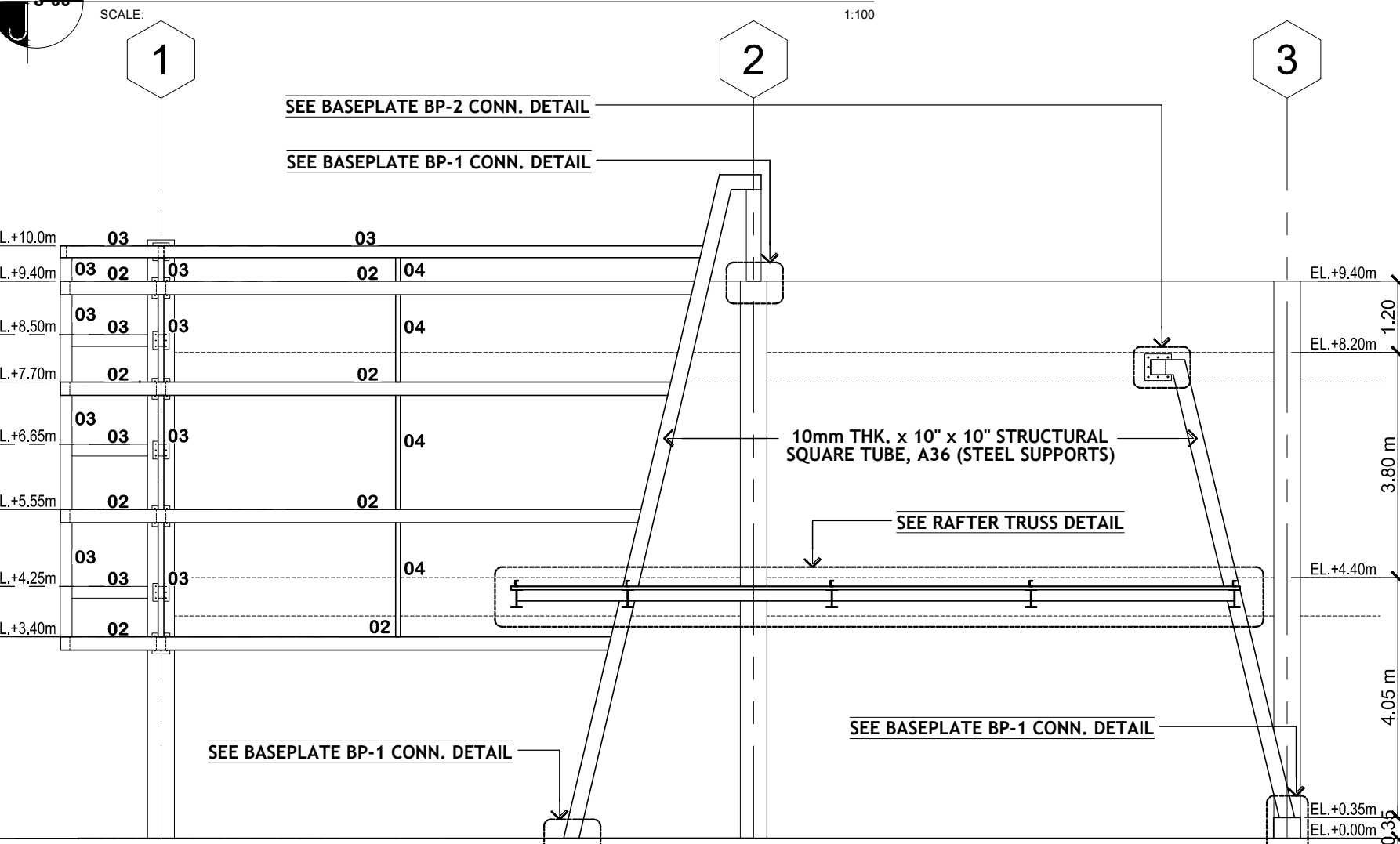
SCHEDULE OF STAIR MID-LANDING SLAB				
MARK	T (mm)	LOCATION	REINFORCEMENTS	
			TRANSVERSE BARS	LONGITUDINAL BARS
SLS STAIR LANDING SLAB	200	TOP BARS	16mm Ø CONT. BARS AT 200mm O.C.	12mm Ø CONT. BARS AT 175mm O.C.
		BOT. BARS	16mm Ø CONT. BARS AT 200mm O.C.	12mm Ø CONT. BARS AT 175mm O.C.
Fc (concrete)		3500 psi (24.0MPa)		
fy (rebars)		GRADE 33 (227 MPa)		




BASEPLATE BP-1 CONN. DETAIL

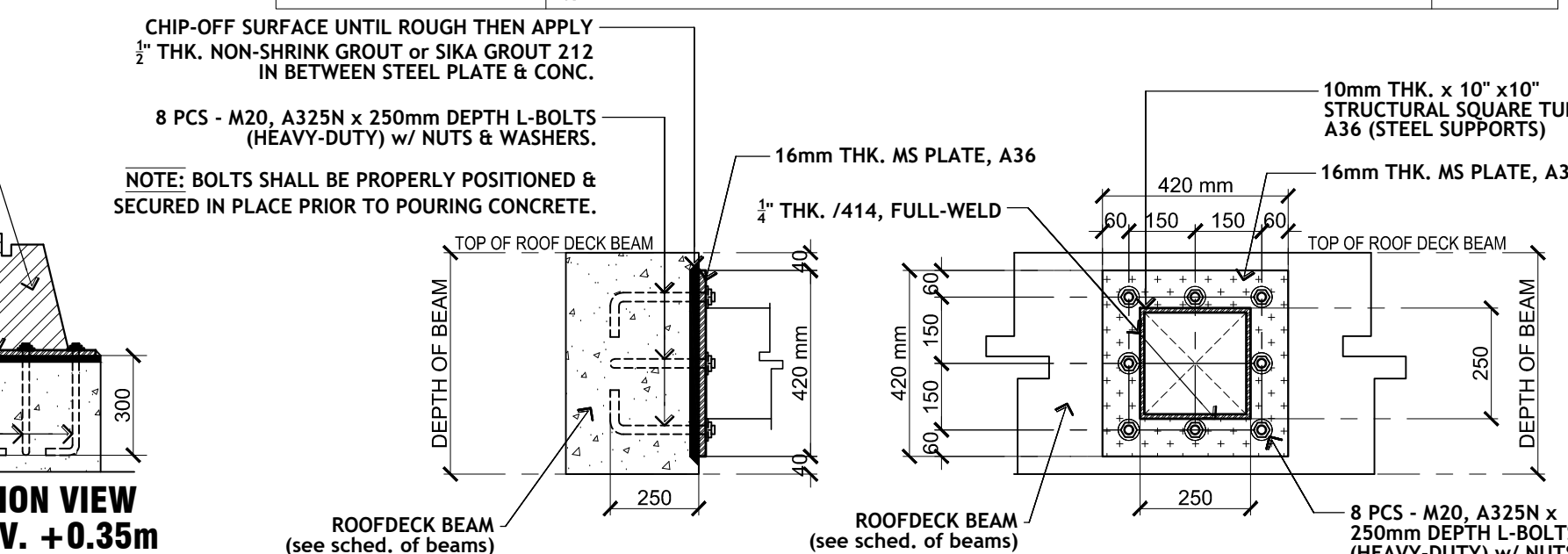


STAIR MID-LANDING FLOOR FRAMING PLAN



STEEL FRAME FRONT ELEVATION

SCHEDULE OF STEEL FRAME MEMBERS								
LEGEND	DESIGNATION	DETAIL	TECHNICAL SPECIFICATIONS				REMARK	
			AREA (mm ²)	FLANGE "T" (mm)"	WEB "T" (mm)"	FLANGE BASE (mm)"		DEPTH (mm)"
01	2 - C 9 x 20		3794	10.49	11.38	67.26	228.6	HIGH DENSITY CHANNEL BAR, A36
02	2 - C 9 x 15		2845	10.49	7.24	63.12	228.6	
03	2 - C 8 x 13.75		2606	9.91	7.70	59.51	203.2	
04	2 - C 4 x 7.25		1374	7.52	8.15	43.71	101.6	
NOTE: WELD THICKNESS			1/8" / 414, FULL-WELD					



BASEPLATE BP-2 CONN. DETAIL

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27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY
No: 301-1917

MICHAEL T. ANG, fuap
ARCHITECT

PRC: 8270
VALIDITY: 08 MAY 2018
IAPOA: 04440 141342 071615
O.R. | DATE: 141342 | 16JULY15
PTR: 7805115
DATE ISS: 04 JAN 2018
PLACE ISS: GSC
TIN: 123-875-856

SECTION 33 of RA 9266 | Drawing & specifications & other contract documents duly signed, stamp or sealed, as instruments of service, are the intellectual property and documents of the architect, whether the object for which they are made is executed or not it shall be unlawful for any person to duplicate or to make copies of said documents for use in the repetition of & for other projects or buildings, whether executed partly or in whole, without the written consent of architect or author of said documents.

JAMES P. PACIS
CIVIL / STRUCTURAL ENGINEER

PRC Reg.No.: 52853 PTR No.: 7805170
TIN No.: 102-900-986 Date: 01/04/18 Iss.: GSC

PROPOSED RESEARCH HUB FOR AGRICULTURE & ALLIED SCIENCES
PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

APPROVED BY
CHUCHI P. GARGANERA, PH. D.
DIRECTOR III

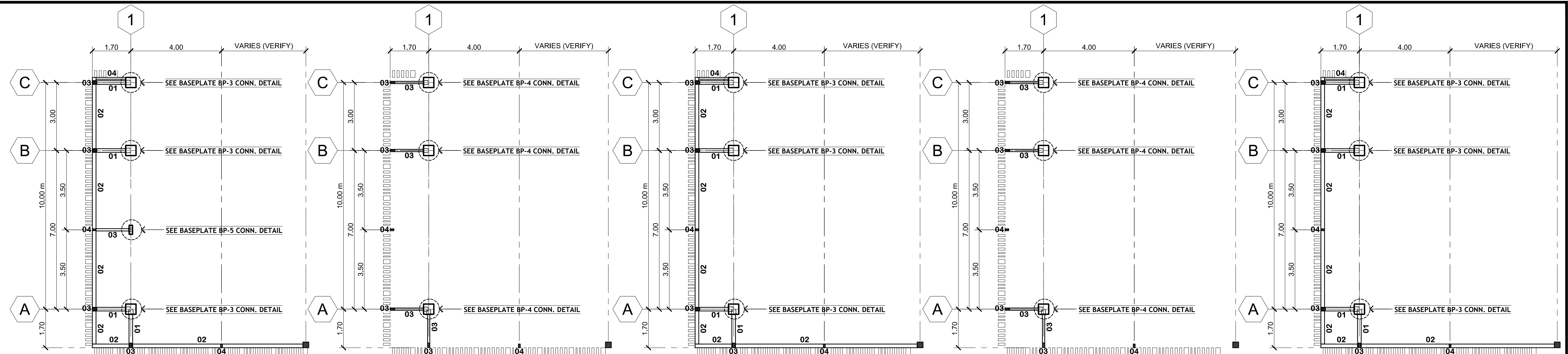
ADDRESS: PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

PREPARED BY:
J.P. PACIS ENGINEERING SERVICES
STRUCTURAL CONSULTANT

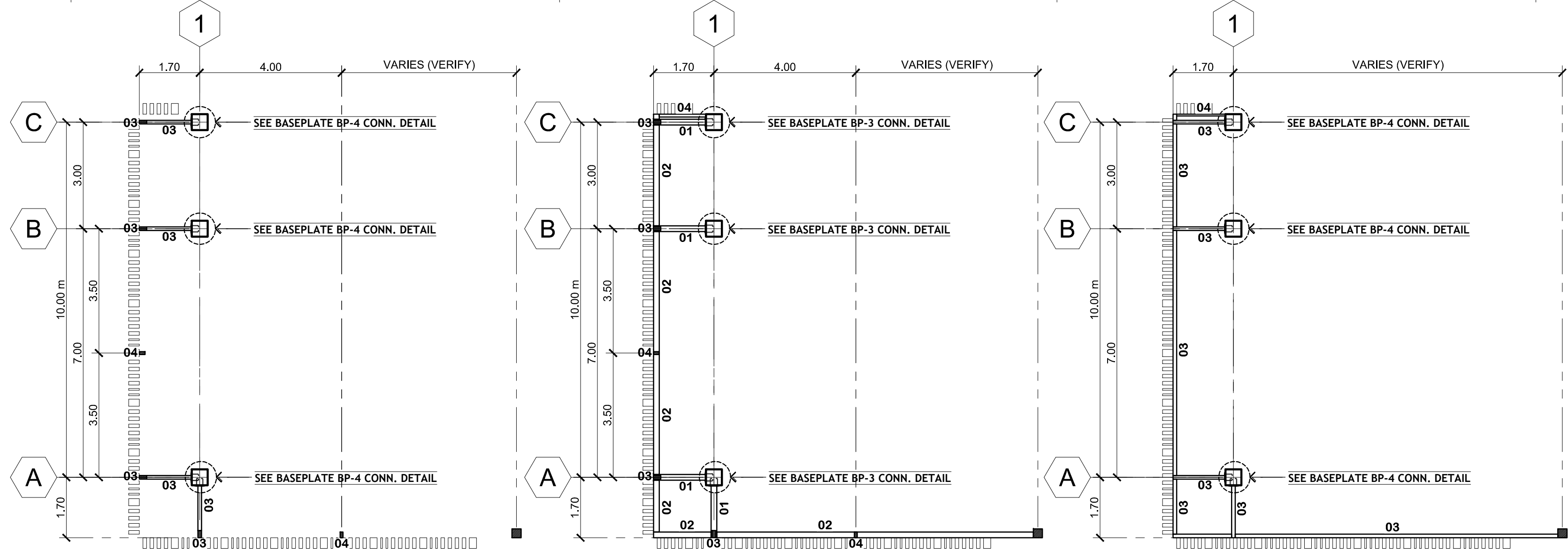
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
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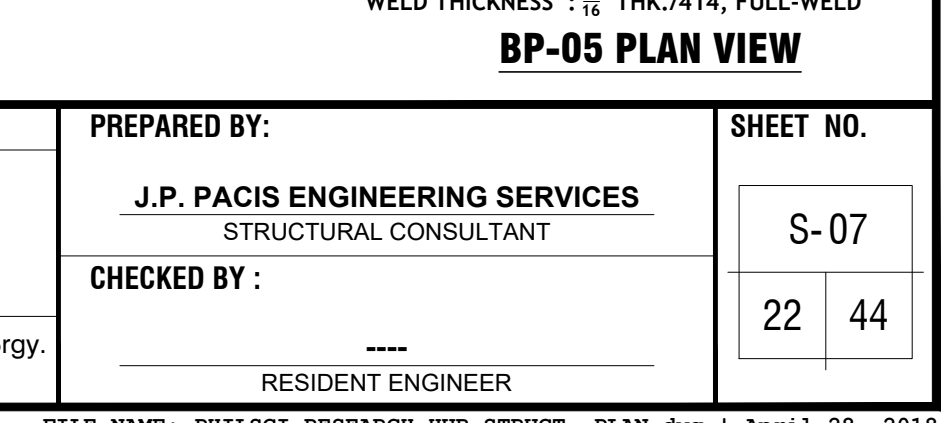
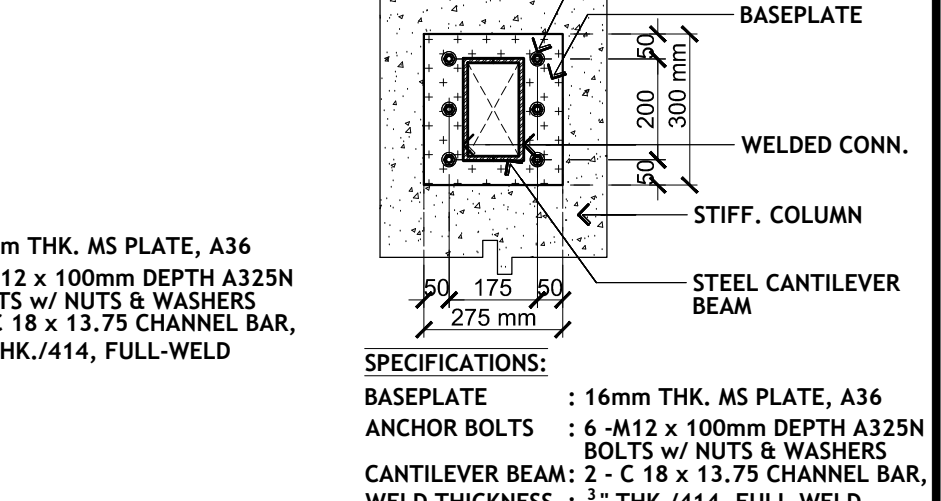
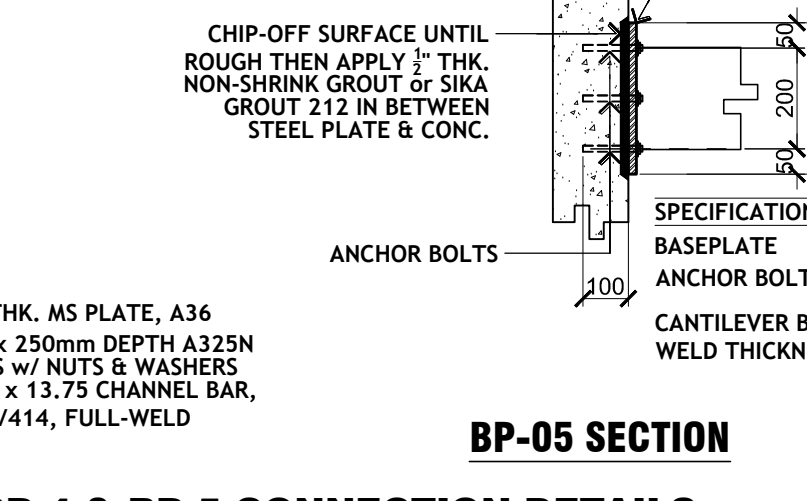
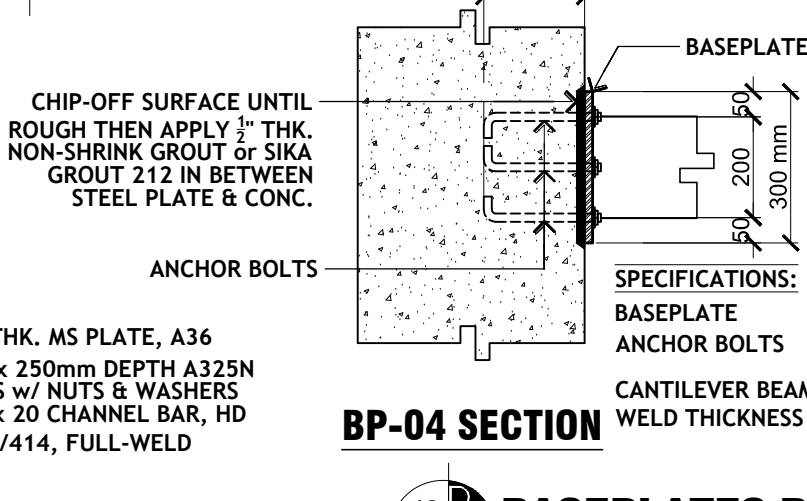
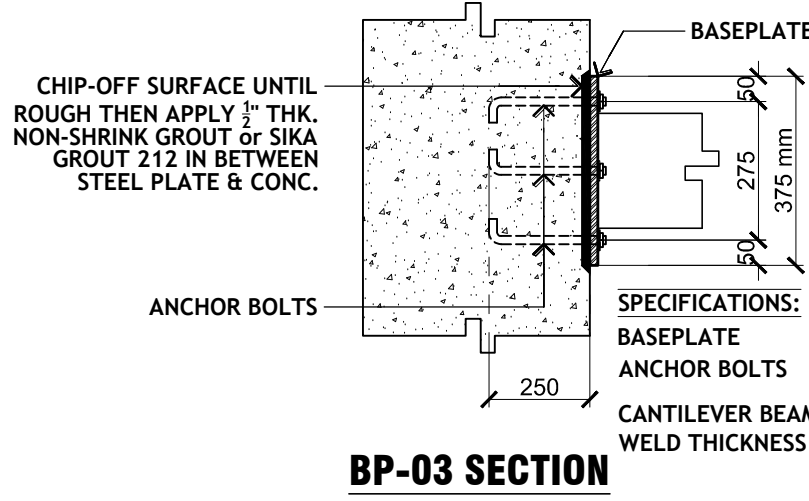


01 STEEL FRAME LAYOUT PLAN (ELE. +3.40m) SCALE: 1:100
02 STEEL FRAME LAYOUT PLAN (ELE. +4.25m) SCALE: 1:100
03 STEEL FRAME LAYOUT PLAN (ELE. +5.55m) SCALE: 1:100
04 STEEL FRAME LAYOUT PLAN (ELE. +6.65m) SCALE: 1:100
05 STEEL FRAME LAYOUT PLAN (ELE. +7.70m) SCALE: 1:100



06 STEEL FRAME LAYOUT PLAN (ELE. +8.50m) SCALE: 1:100
07 STEEL FRAME LAYOUT PLAN (ELE. +9.40m) SCALE: 1:100
08 STEEL FRAME LAYOUT PLAN (ELE. +10.0m) SCALE: 1:100

SCHEDULE OF STEEL FRAME MEMBERS								
LEGEND	DESIGNATION	DETAIL	TECHNICAL SPECIFICATIONS				REMARK	
			AREA (mm ²)	FLANGE " T (mm)"	WEB " T (mm)"	FLANGE BASE (mm)		DEPTH (mm)
01	2 - C 9 x 20		3794	10.49	11.38	67.26	228.6	HIGH DENSITY CHANNEL BAR, A36
02	2 - C 9 x 15		2845	10.49	7.24	63.12	228.6	
03	2 - C 8 x 13.75		2606	9.91	7.70	59.51	203.2	
04	2 - C 4 x 7.25		1374	7.52	8.15	43.71	101.6	
NOTE: WELD THICKNESS			3/16" /414, FULL-WELD					



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architectural designs
PLANS • DESIGNS • ESTIMATES • CONSTRUCTION MANAGEMENT •
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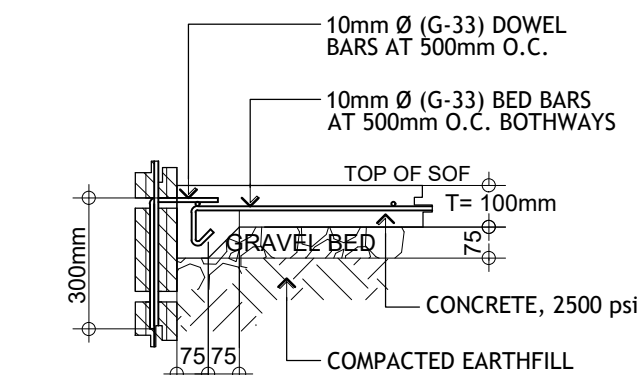
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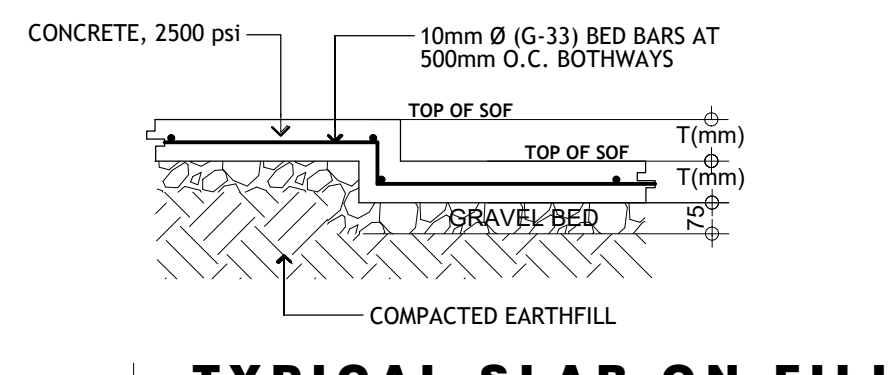
PREPARED BY:
J.P. PACIS ENGINEERING SERVICES
STRUCTURAL CONSULTANT
CHECKED BY: _____
RESIDENT ENGINEER

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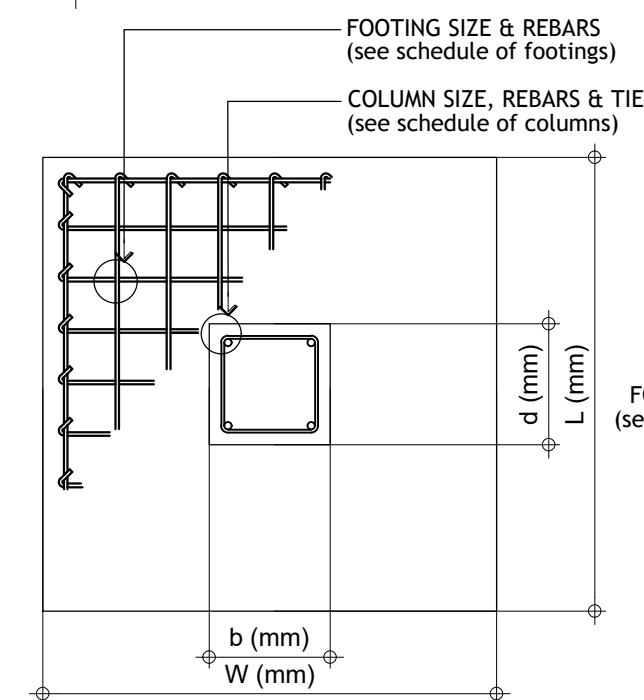
SCHEDULE OF FOOTINGS									
MARK	DIMENSIONS (mm)			DEPTH (mm)	MAIN REINFORCEMENTS		REMARKS		
	L	W	T		ALONG LONG DIRECTION	ALONG SHORT DIRECTION			
CF-1	22000	4400	650	2300	24 - 20mm Ø TOP BARS & 24 - 20mm Ø BOTTOM BARS O.C.	120 - 20mm Ø TOP BARS & 120 - 20mm Ø BOTTOM BARS O.C.	COMBINED FOOTINGS		
CF-2	22000	2800	550	2200	16 - 25mm Ø TOP BARS & 16 - 25mm Ø BOTTOM BARS O.C.	110 - 16mm Ø TOP BARS & 110 - 16mm Ø BOTTOM BARS O.C.			
CF-3	14000	3400	550	2000	26 - 25mm Ø TOP BARS & 26 - 25mm Ø BOTTOM BARS O.C.	77 - 16mm Ø TOP BARS & 77 - 16mm Ø BOTTOM BARS O.C.			
CF-4	9000	4500	650	2000	29 - 20mm Ø TOP BARS & 29 - 20mm Ø BOTTOM BARS O.C.	44 - 20mm Ø TOP BARS & 44 - 20mm Ø BOTTOM BARS O.C.			
CF-5	8000	3000	450	2000	14 - 25mm Ø TOP BARS & 14 - 25mm Ø BOTTOM BARS O.C.	38 - 16mm Ø TOP BARS & 38 - 16mm Ø BOTTOM BARS O.C.			
CF-6	7000	3600	600	2000	17 - 25mm Ø TOP BARS & 17 - 25mm Ø BOTTOM BARS O.C.	42 - 16mm Ø TOP BARS & 42 - 16mm Ø BOTTOM BARS O.C.			
CF-7	6000	3100	450	2000	18 - 20mm Ø TOP BARS & 18 - 20mm Ø BOTTOM BARS O.C.	30 - 16mm Ø TOP BARS & 30 - 16mm Ø BOTTOM BARS O.C.			
F-1	3700	3700	450	2000	18 - 20mm Ø BED BARS O.C. BOTHWAYS		ISOLATED FOOTINGS		
F-2	3300	3300	450	2000	20 - 16mm Ø BED BARS O.C. BOTHWAYS				
F-3	3000	3000	350	1800	19 - 16mm Ø BED BARS O.C. BOTHWAYS				
F-4	2800	2800	350	1800	16 - 16mm Ø BED BARS O.C. BOTHWAYS				
F-5	2500	2500	350	1550	13 - 16mm Ø BED BARS O.C. BOTHWAYS				
NOTE:									
f'c (concrete) 3500 psi (24.0 MPa)									
fy (rebars) GRADE 40 (275 MPa)									



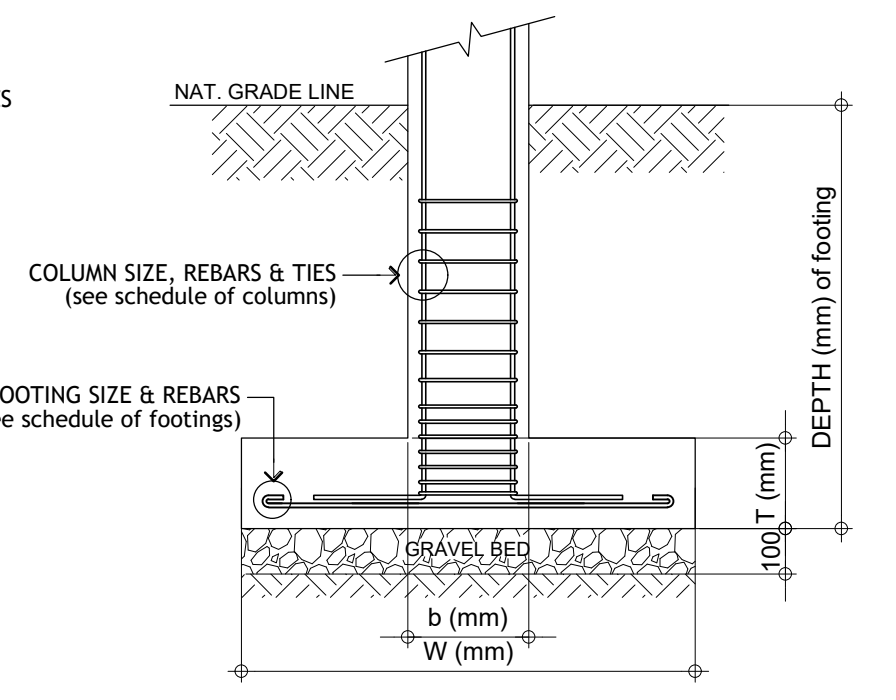
01 SLAB-ON-FILL DETAIL
SCALE: 1:20
S-08 NOT DRAWN TO SCALE



02 TYPICAL SLAB-ON-FILL CHANGE IN ELEVATION DETAIL
S-08 NOT DRAWN TO SCALE

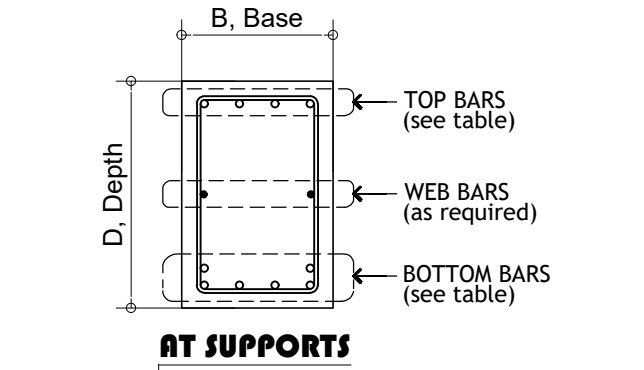


03 TYPICAL ISOLATED COLUMN FOOTING DETAIL
S-08 NOT DRAWN TO SCALE

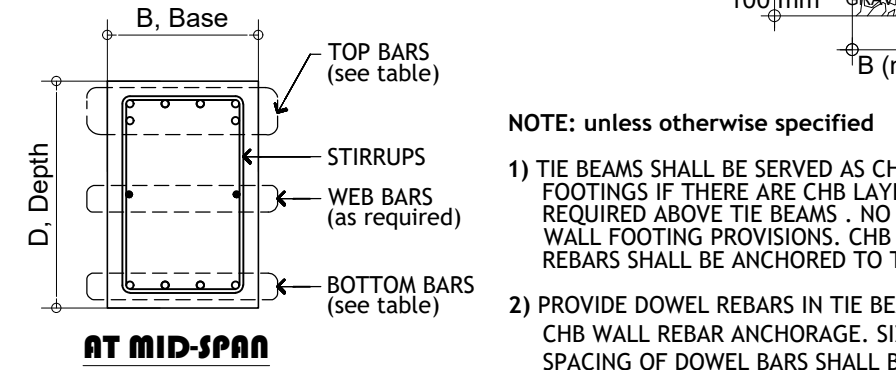


04 TYPICAL TIE BEAM SECTION DETAIL
S-08 NOT DRAWN TO SCALE

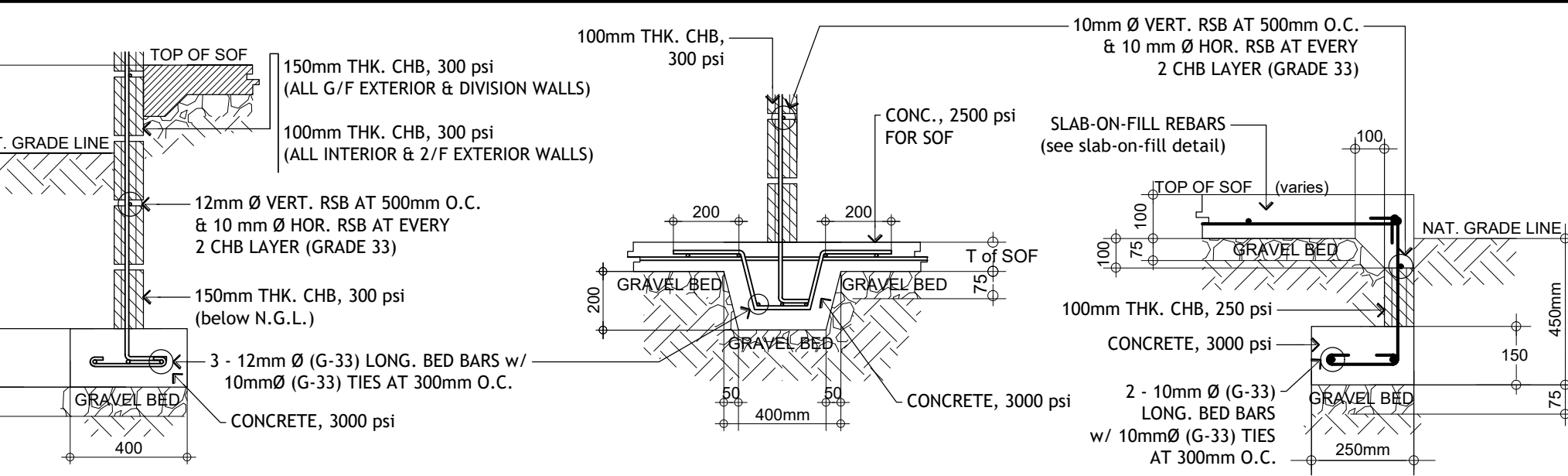
SCHEDULE OF TIE BEAMS								
MARK	DIMENSIONS (mm)		DEPTH (mm)	LOCATION	MAIN REINFORCEMENTS			
	B. Base	D. Depth			AT SUPPORTS	AT MID-SPAN	WEB BARS	
TB-1	350	550	1150	TOP	7 - 25mm Ø CB	7 - 25mm Ø CB		2 - 25mm Ø CB
				BOTTOM	7 - 25mm Ø CB	7 - 25mm Ø CB		
TB-2	350	500	1100	TOP	5 - 25mm Ø CB	5 - 25mm Ø CB		2 - 25mm Ø CB
				BOTTOM	5 - 25mm Ø CB	5 - 25mm Ø CB		
f'c (concrete)			3500 psi (24.0 MPa)					
fy (main bars)			GRADE 40 (275 MPa)					
fy (stirrups)			GRADE 33 (227 MPa)					
					NOTE: 10mm Ø STIRRUPS --- 5 @ 50mm, 10 @ 100mm, REST @ 150mm O.C.			



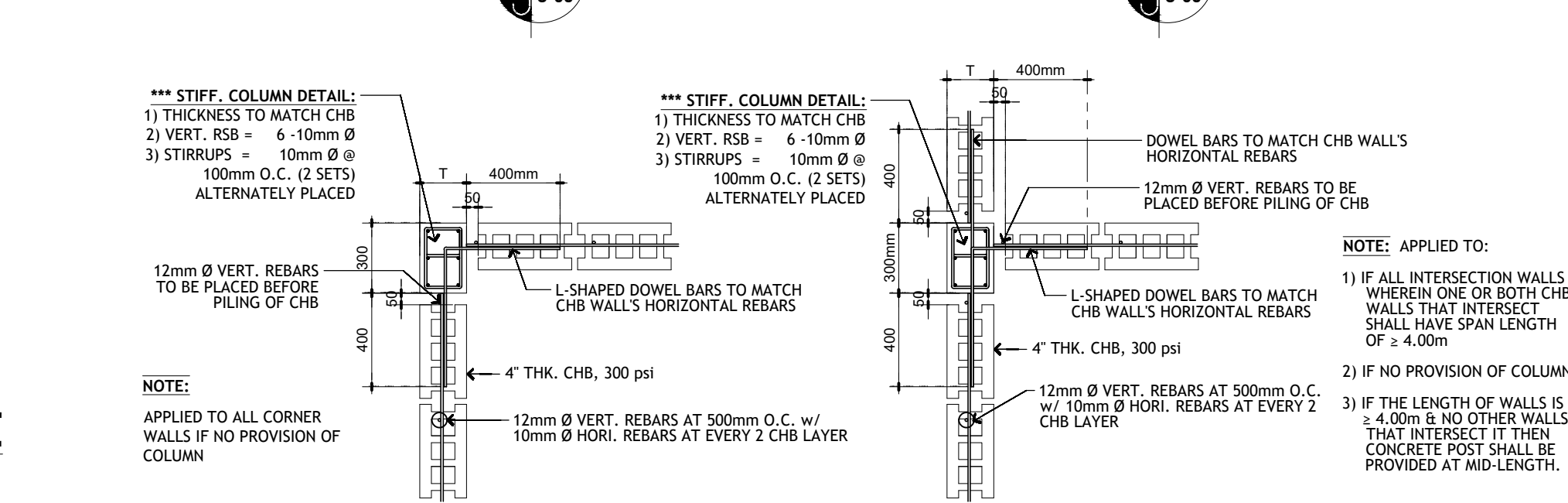
05 WALL FOOTING WF-1 DET.
S-08 NOT DRAWN TO SCALE



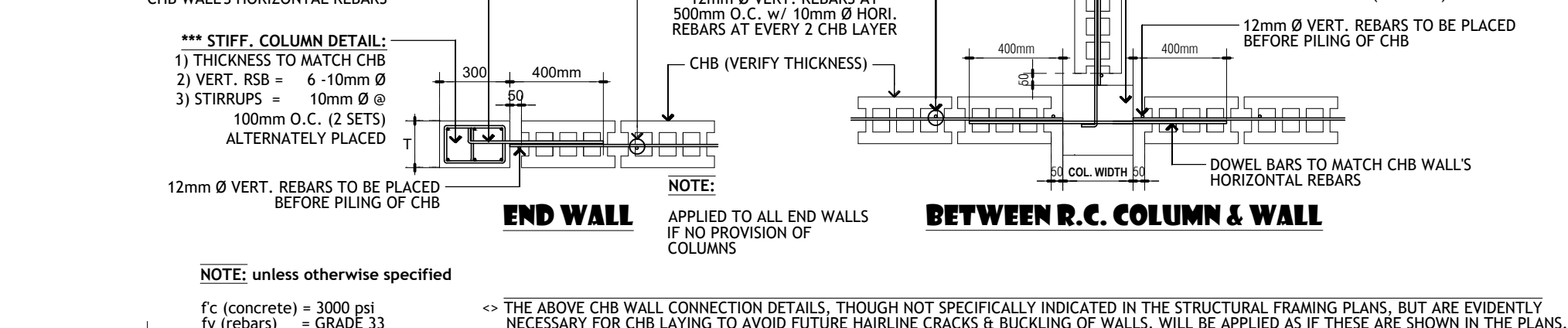
06 WALL FOOTING WF-2 DET.
S-08 NOT DRAWN TO SCALE



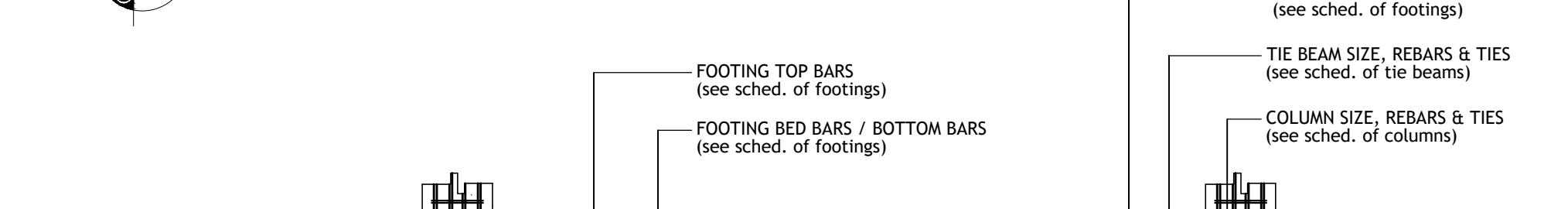
07 ZOCALLO DETAIL
S-08 NOT DRAWN TO SCALE



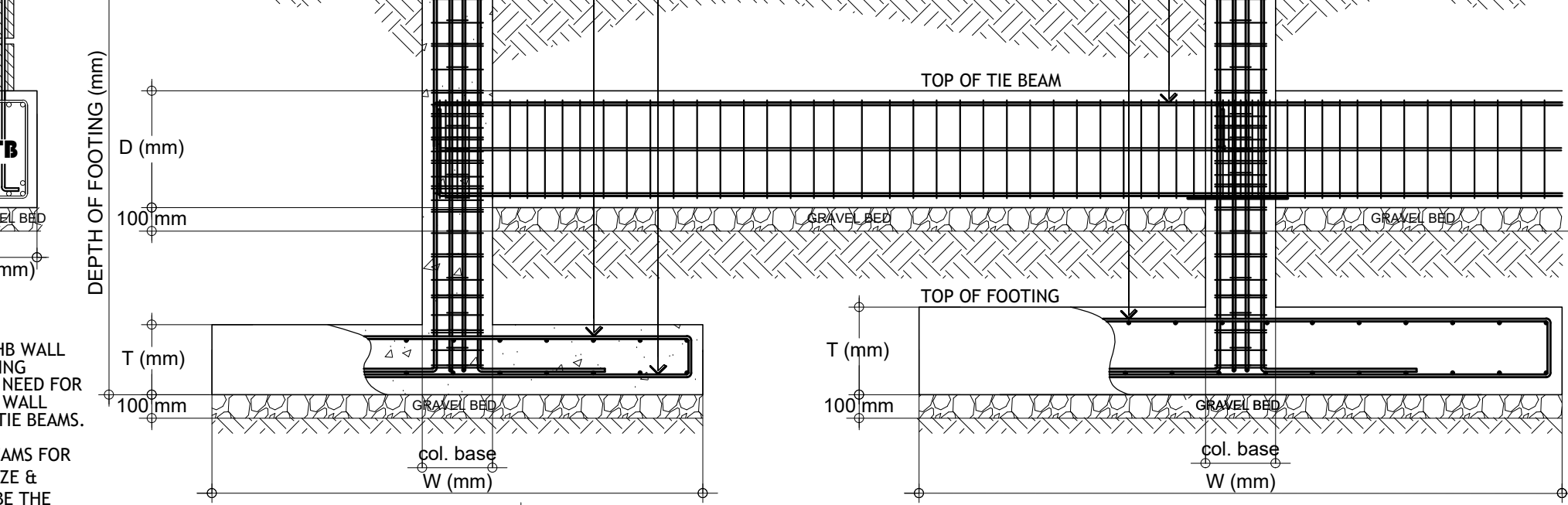
08 TYP. CHB WALLS CONNECTION DETAILS (APPLIED TO ALL FLOOR LEVEL)
S-08 NOT DRAWN TO SCALE



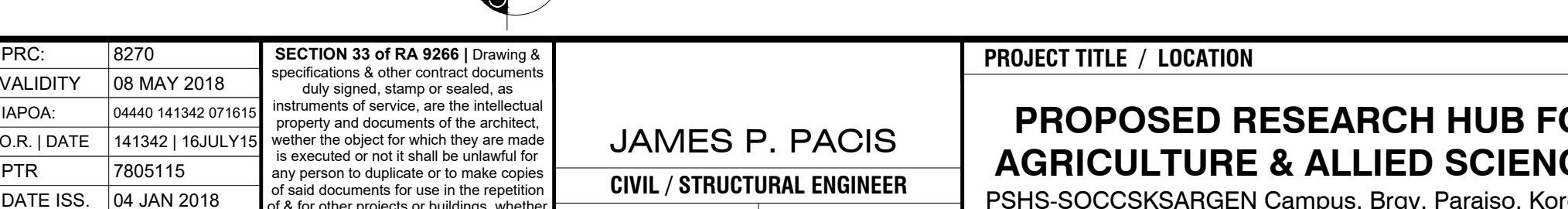
09 CORNER WALL
S-08 NOT DRAWN TO SCALE



10 INTERSECTION WALL OR MID-LENGTH OF WALL
S-08 NOT DRAWN TO SCALE

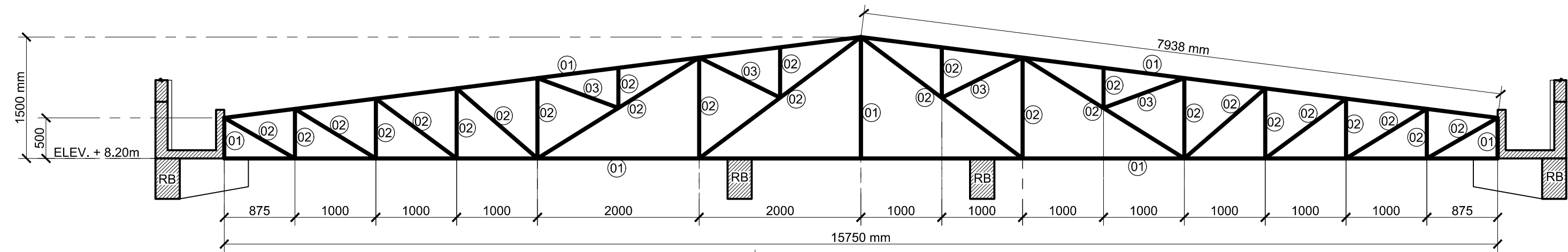


11 END WALL
S-08 NOT DRAWN TO SCALE

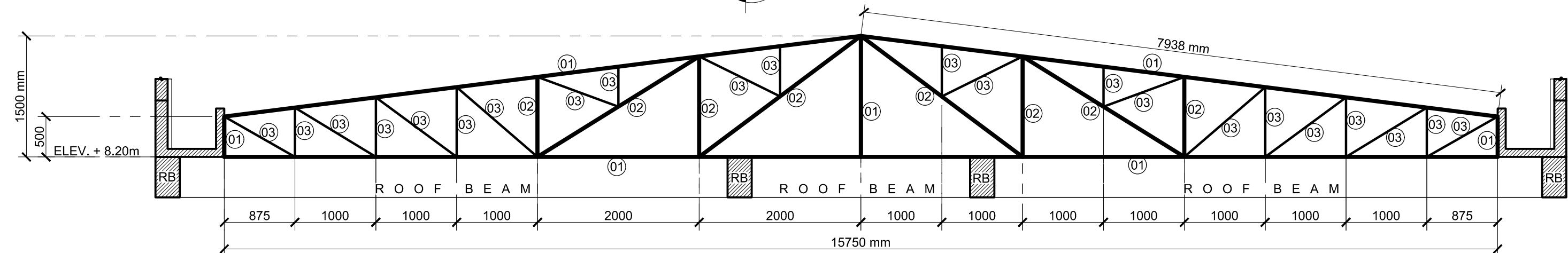


12 BETWEEN R.C. COLUMN & WALL
S-08 NOT DRAWN TO SCALE

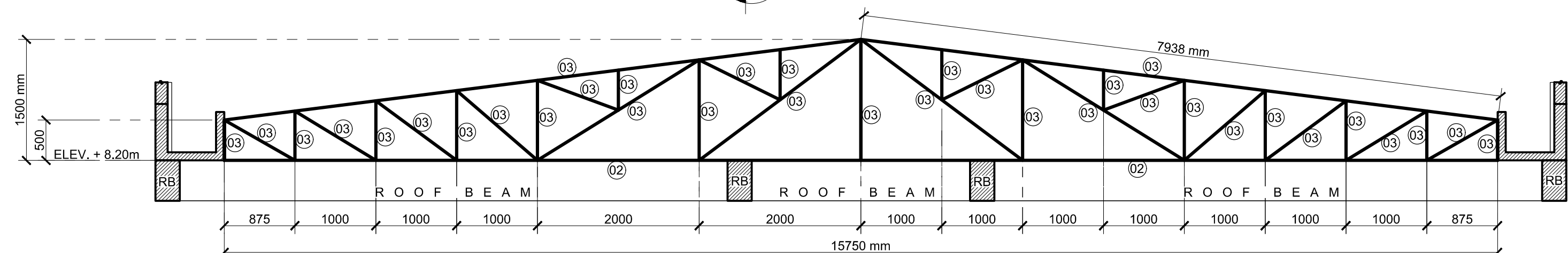
SCHEDULE OF PRIMARY & SECONDARY COLUMNS									
"MARK"	DIMENSIONS (b x d) & BAR ARRANGEMENT		REINFORCEMENTS		f'c (concrete)	fy (steel bars)			
						main bars	stirrups		
C-1 2C-1			VERTICAL REBARS	20 - 25mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
C-2 2C-2			VERTICAL REBARS	16 - 25mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
PC-1 UP TO TOP OF SOF ONLY			VERTICAL REBARS	20 - 20mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
C-3 2C-3			VERTICAL REBARS	20 - 20mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
C-4			VERTICAL REBARS	16 - 20mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
2C-4			VERTICAL REBARS	16 - 20mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
PC-2 UP TO TOP OF PARAPET			VERTICAL REBARS	16 - 20mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
2C-5			VERTICAL REBARS	12 - 20mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
RDC ROOF DECK COLUMN			VERTICAL REBARS	10 - 20mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø DOUBLE					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, 5 @ 120mm, REST @ 150mm					
PWC PARAPET WALL COLUMN			VERTICAL REBARS	6 - 16mm Ø	3500 PSI (24.0 MPa)	GRADE 40 (275 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, REST @ 125mm					
SC WALL STIFF. COLUMN			VERTICAL REBARS	8 - 12mm Ø	3000 PSI (21.0 MPa)	GRADE 33 (227 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø DOUBLE					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, REST @ 125mm					
SC' WALL STIFF. COLUMN			VERTICAL REBARS	6 - 10mm Ø	3000 PSI (21.0 MPa)	GRADE 33 (227 MPa)	GRADE 33 (227 MPa)		
			MAIN LATERAL TIES	10mm Ø					
			SECONDARY TIES	5 @ 50mm, 10 @ 100mm, REST @ 125mm					



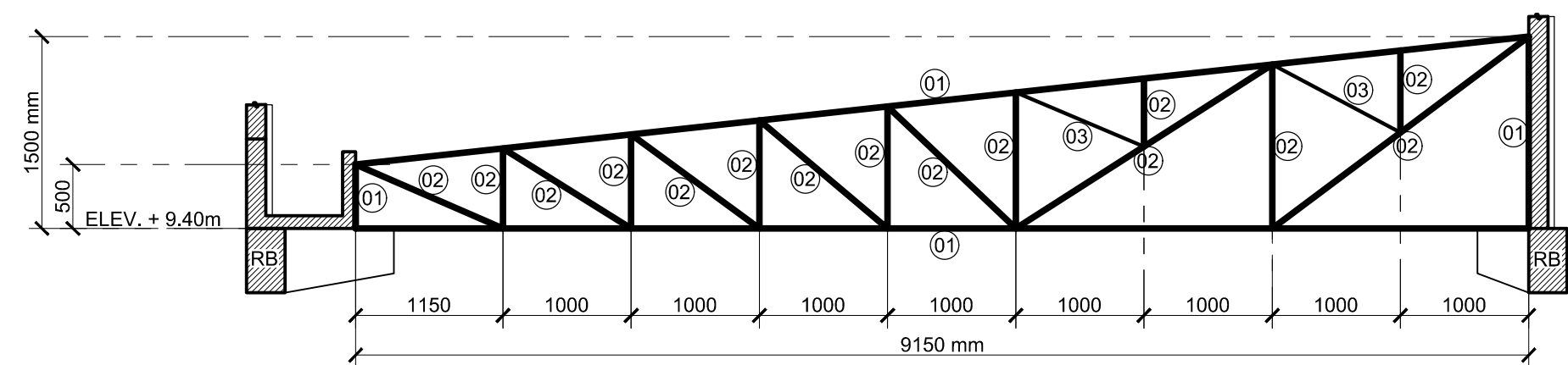
TRUSS - 01 DETAIL
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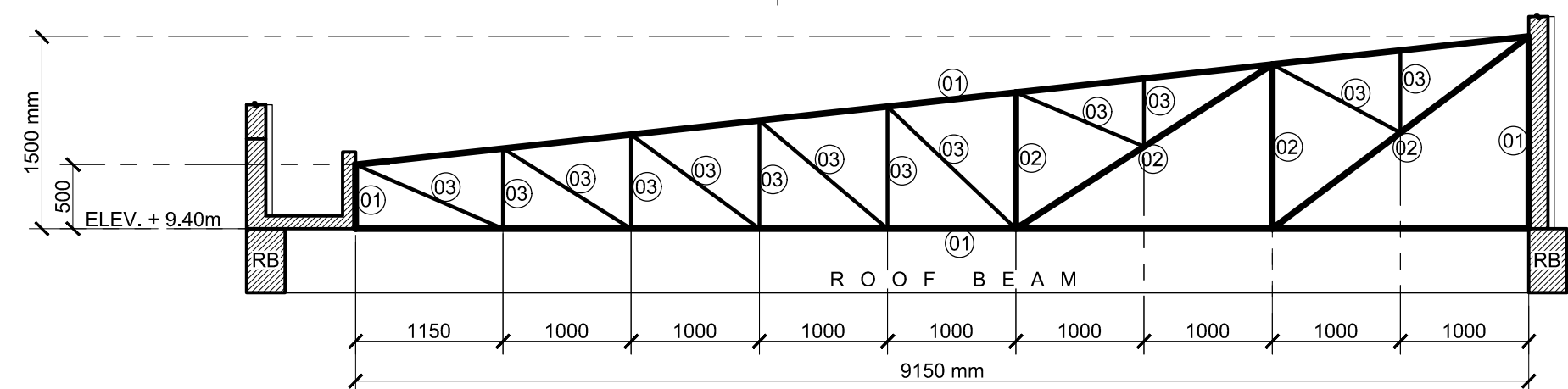
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SCALE: 1:50



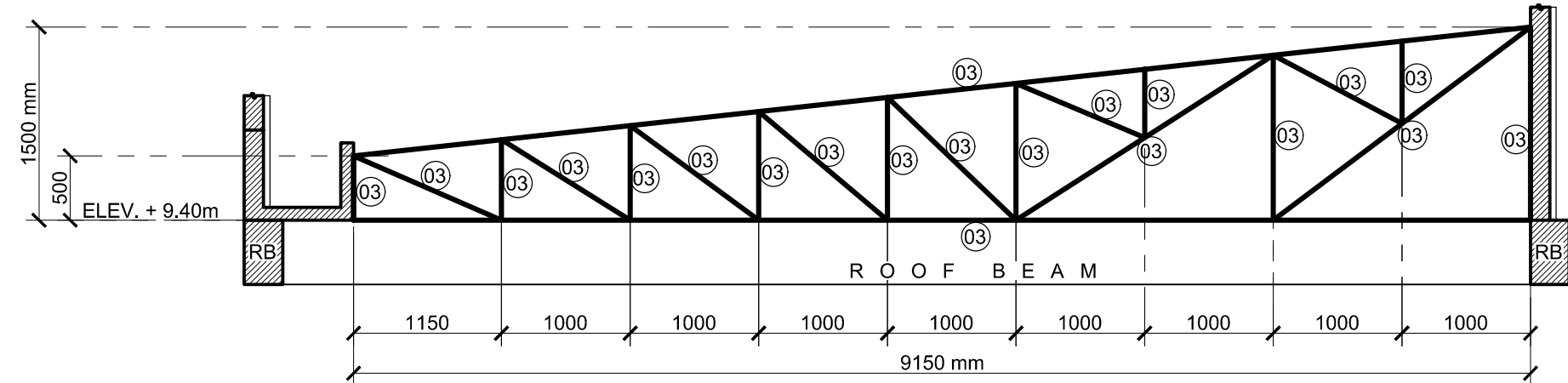
TRUSS - 03 DETAIL
SCALE: 1:50



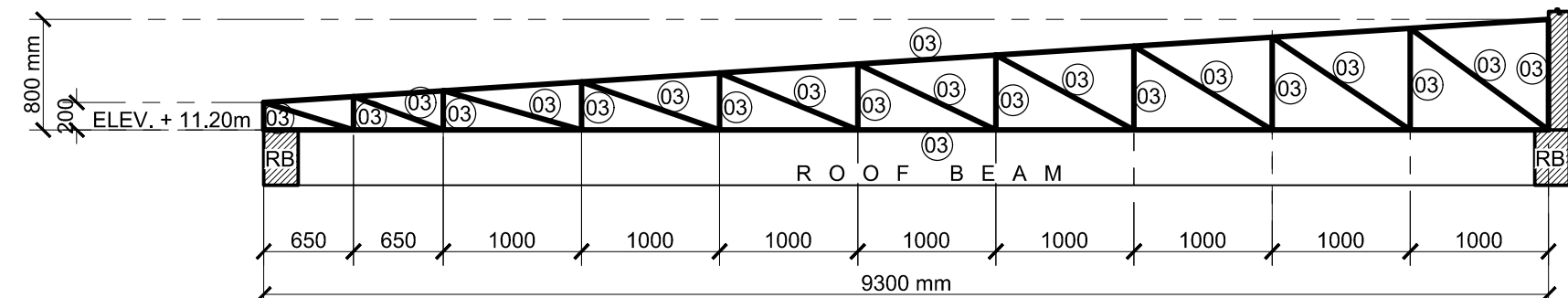
TRUSS - 04 DETAIL
SCALE: 1:50



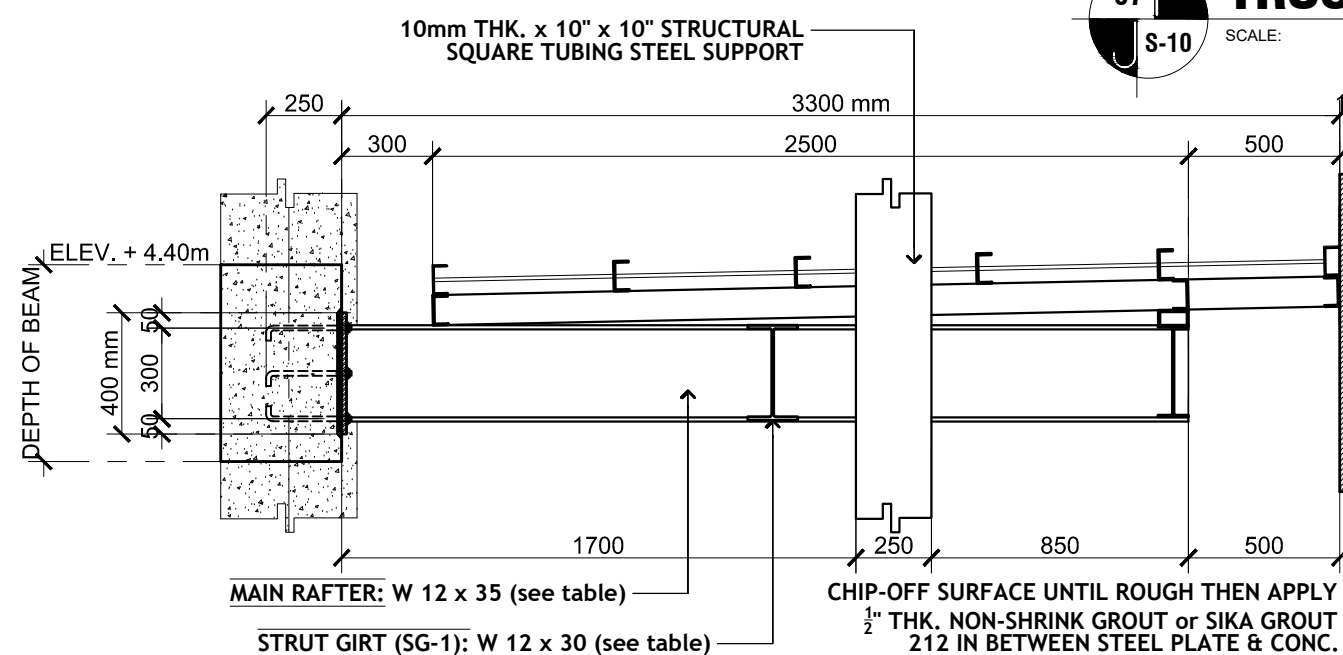
TRUSS - 05 DETAIL
SCALE: 1:50



TRUSS - 06 DETAIL
SCALE: 1:50



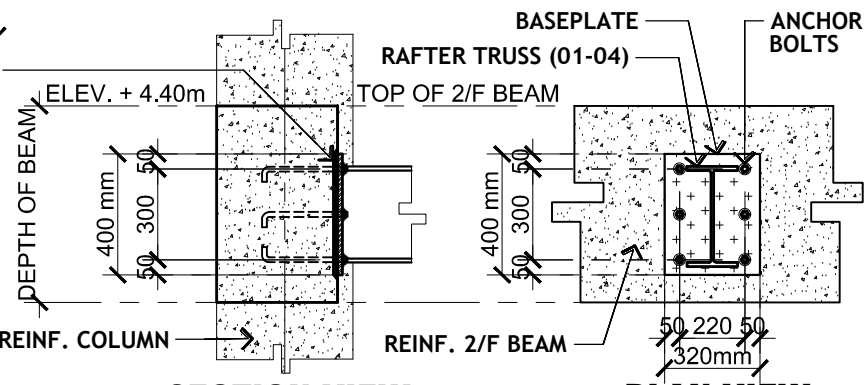
TRUSS - 07 DETAIL
SCALE: 1:50



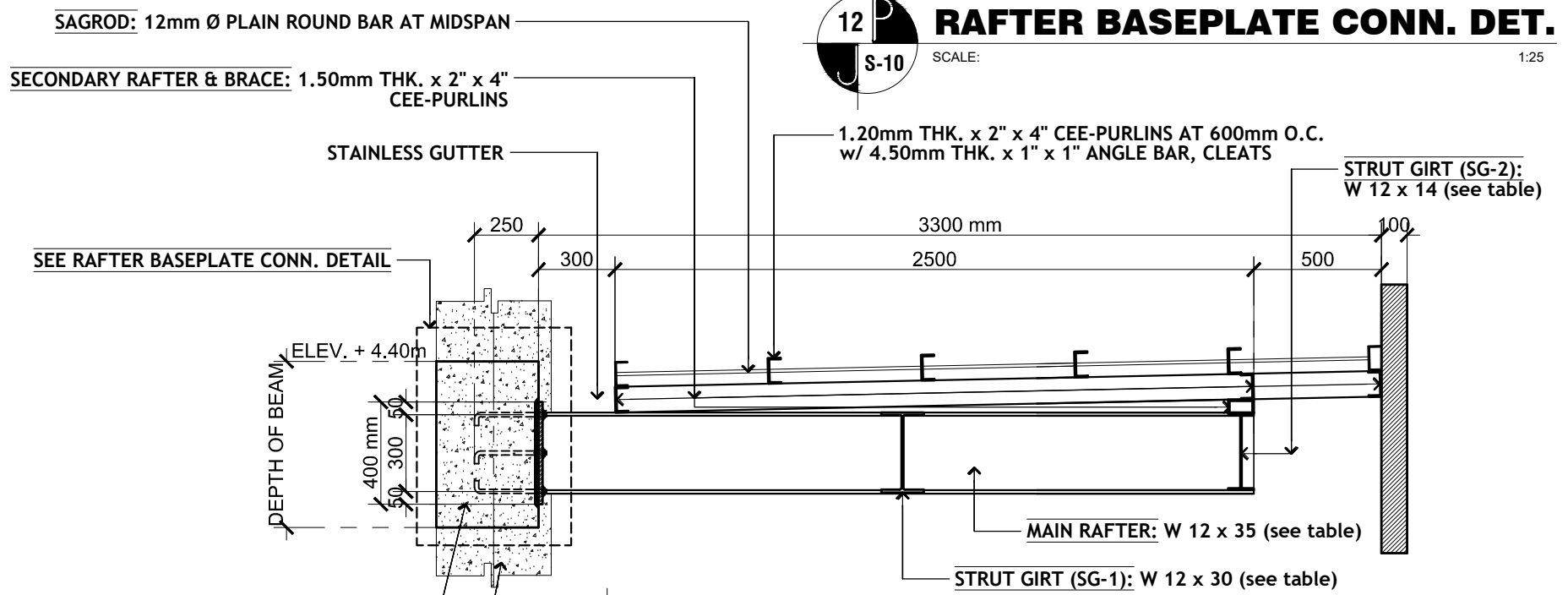
RAFTER - 01 DETAIL (@ PORCH)
SCALE: 1:25

SPECIFICATIONS: FOR RAFTER BASEPLATE
BASEPLATE : 16mm THK. MS PLATE, A36
ANCHOR BOLTS : 6 - M22 x 250mm DEPTH A325N
L-BOLTS w/ NUTS & WASHERS
RAFTER TRUSS(1-4): W 12 x 35, A36 (WIDE FLANGE)
WELD THICKNESS : 3/16" THK./414, FULL-WELD

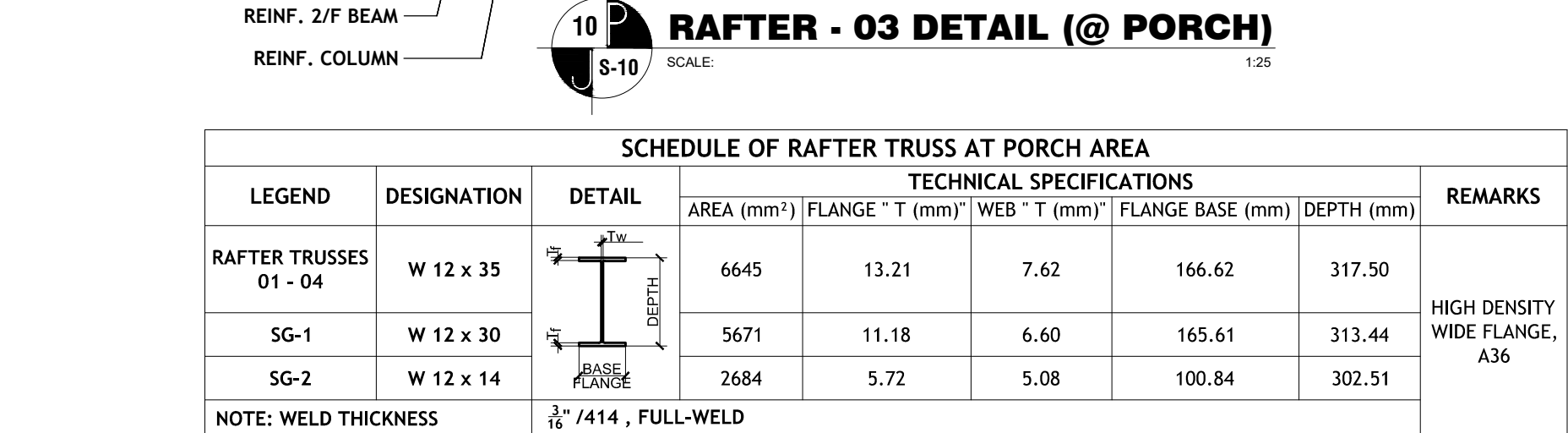
SCHEDULE OF ROOF FRAMING STEEL MEMBERS		
DESIGNATION	LEGEND	SPECIFICATIONS
ROOF TRUSS	01	2L - 6mm THK. x 2 1/2" x 2 1/2" ANGLE BAR, A36
	02	2L - 6mm THK. x 2" x 2" ANGLE BAR, A36
	03	1L - 6mm THK. x 2" x 2" ANGLE BAR, A36
PURLINS		1.50mm THK. x 2" x 6" CEE-PURLINS AT 700mm O.C.
CROSS-BRACE		16mm Ø PLAIN ROUND BAR w/ 16mm Ø TURNBUCKLE AT ONE END w/ SAFETY PIN
SAGROD		12mm Ø PLAIN ROUND BAR AT MIDSPAN
CLEATS		4.50mm THK. x 1 1/2" x 1 1/2" ANGLE BAR, A36



SECTION VIEW PLAN VIEW
RAFTER BASEPLATE CONN. DET.
SCALE: 1:25



RAFTER - 02 DETAIL (@ PORCH)
SCALE: 1:25



RAFTER - 03 DETAIL (@ PORCH)
SCALE: 1:25

SCHEDULE OF RAFTER TRUSS AT PORCH AREA								
LEGEND	DESIGNATION	DETAIL	TECHNICAL SPECIFICATIONS					REMARKS
			AREA (mm ²)	FLANGE " T (mm)"	WEB " T (mm)"	FLANGE BASE (mm)	DEPTH (mm)	
RAFTER TRUSSES 01 - 04	W 12 x 35		6645	13.21	7.62	166.62	317.50	HIGH DENSITY WIDE FLANGE, A36
	SG-1	W 12 x 30	5671	11.18	6.60	165.61	313.44	
	SG-2	W 12 x 14	2684	5.72	5.08	100.84	302.51	
	NOTE: WELD THICKNESS		3/16" /414 , FULL-WELD					

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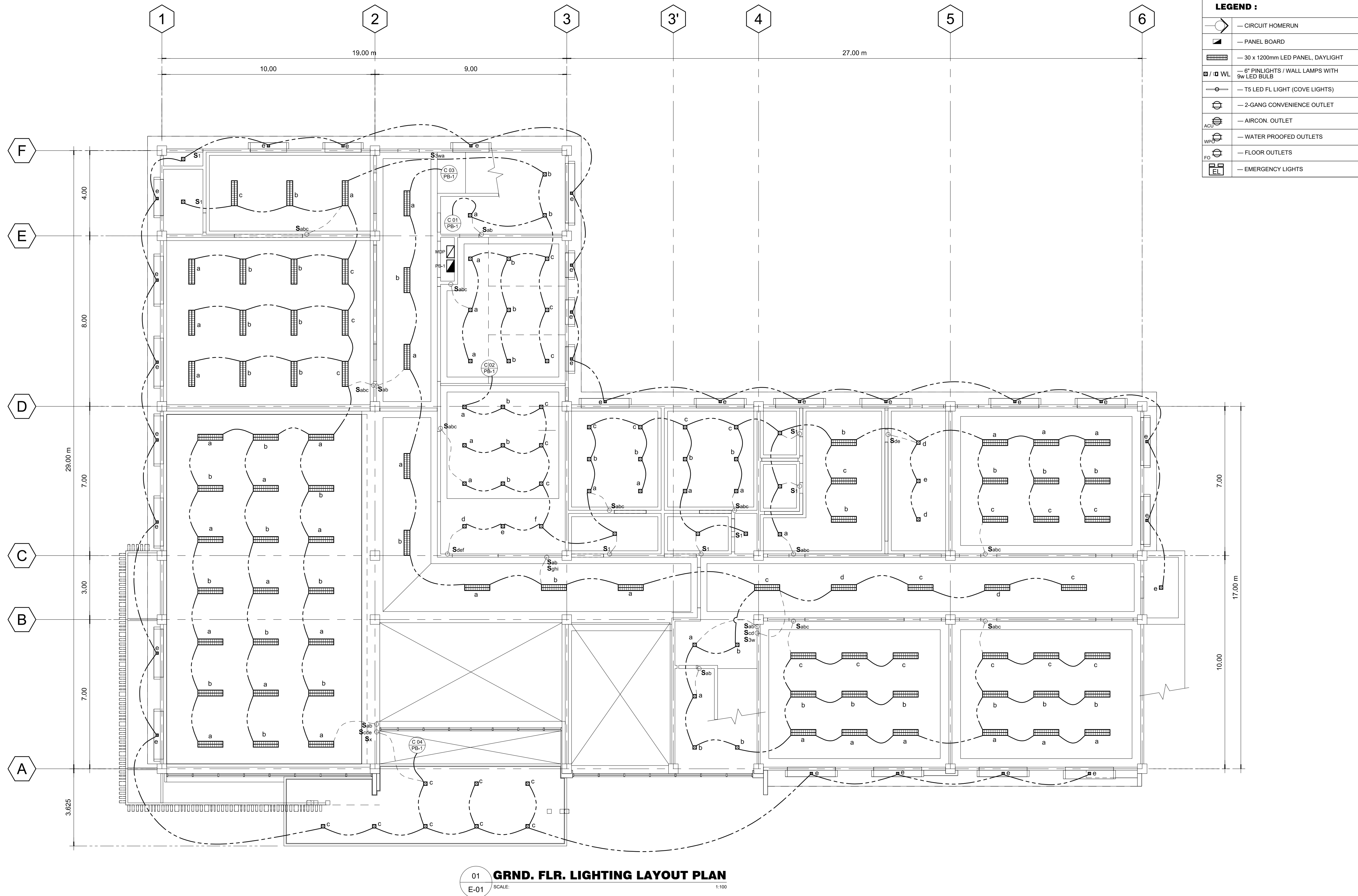
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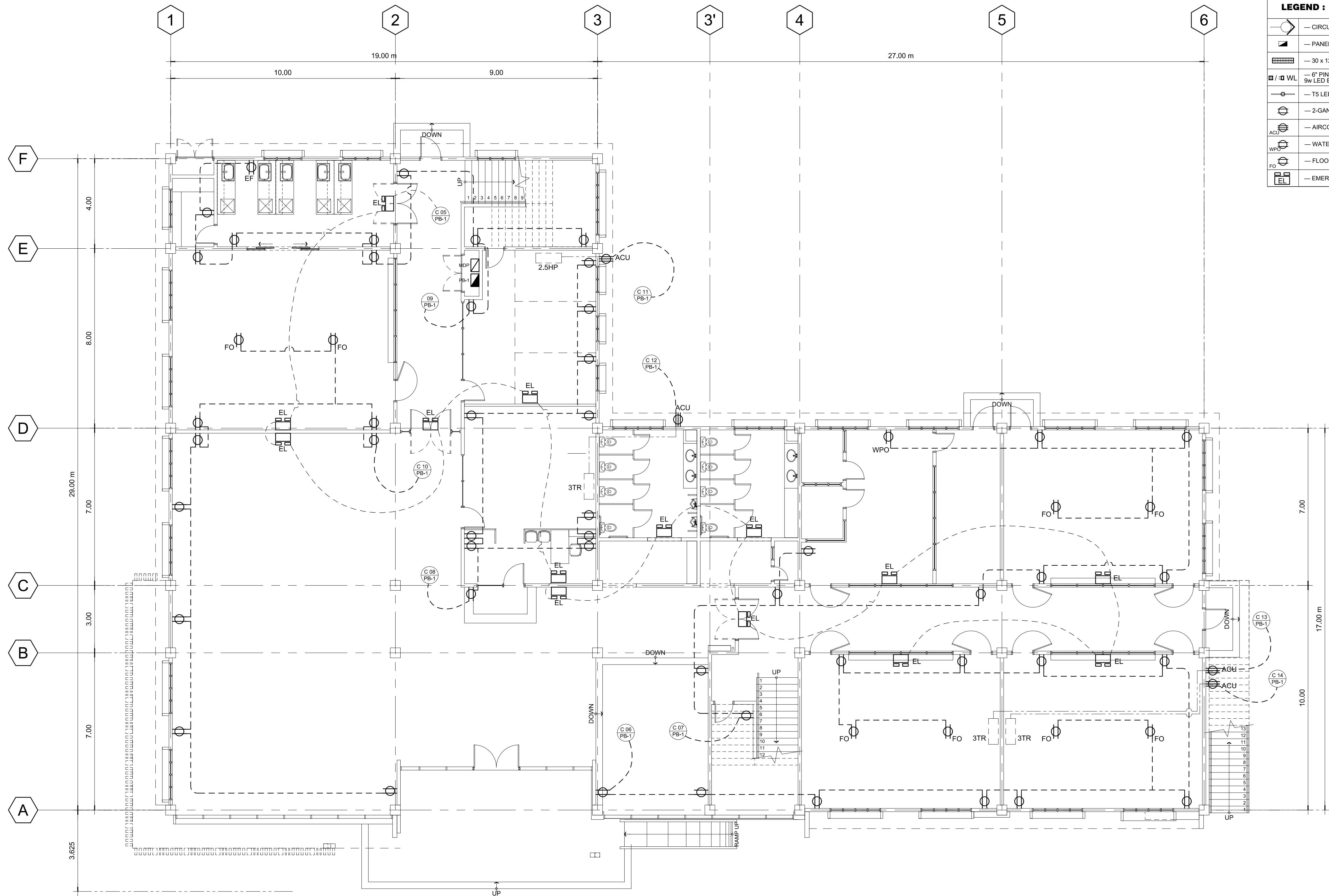
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CHECKED BY: _____
RESIDENT ENGINEER

SHEET NO.
S-10
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01 **GROUND FLOOR POWER LAYOUT PLAN**
A-02 SCALE: 1:100

ELECTRICAL NOTES AND SPECIFICATIONS:

ALL ELECTRICAL INSTALLATION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE AND THE RULES AND REGULATIONS OF THE OFFICE OF THE BUILDING OFFICIAL INCHARGE IN ENFORCING THE CODE.

NO WIRE SMALLER THAN 2.0mm²Ø SHALL BE USED.

UNLESS OTHERWISE SPECIFIED, PULL BOXES SHALL BE PROVIDED WHENEVER REQUIRED AND NECESSARY ALTHOUGH SUCH BOXES ARE NOT INDICATED ON THE PLANS.

ALL MATERIALS AND REQUIREMENTS TO BE USED SHALL BE NEW AND OF APPROVED TYPE AS TO LOCATION AND PURPOSES.

ALL METAL FRAMES SHALL BE PROPERLY AND ADEQUATELY GROUNDED.

SERVICE VOLTAGE SHALL BE 220volts, THREE PHASE, 60 Hz.

THE ACTUAL LOCATION OF POWER SERVICE ENTRANCE SHALL BE VERIFIED AND ORIENTED FOR CONNECTION OF POWER SUPPLY.

VERIFY ALL DIMENSIONAL LOCATION OF FIXTURES, OUTLETS, EQUIPMENTS ON OTHER DRAWINGS OF RELATED TRADES AND INVESTIGATE ALL POSSIBLE INTERFERENCE AND CONDITION AFFECTING THE ELECTRICAL WORK.

PANEL BOARDS, CABINETS AND OTHER ENCLOSURES SHALL CONFORM TO NEMA STANDARDS.

IT IS NOT INTENDED THAT THE DRAWING SHOW EACH AND EVERY CONDUIT, JUNCTION BOX, OUTLET, etc. HOWEVER, SUCH ITEMS SHOULD BE FURNISHED AND INSTALLED IF NECESSARY TO COMPLETE THE SYSTEM IN ACCORDANCE WITH THE BEST PRACTICE OF THE TRADE.

MOUNTING HEIGHTS OF ELECTRICAL FIXTURES AND DEVICES SHALL BE AS FOLLOWS:

- SWITCHES
- CONVENIENCE OUTLETS
- PANEL BOARDS
- 1400mm ABOVE FINISH FLOOR LINE
- 300mm ABOVE FINISH FLOOR LINE
- 100mm ABOVE COUNTER / TABLE TOP
- 1800mm ABOVE FINISH FLOOR LINE TO THE TOP OF THE PANEL BOARD

ALL ELECTRICAL WORKS SHALL BE DONE BY COMPETENT ELECTRICIANS UNDER THE DIRECT SUPERVISION OF A DULY LICENSED MASTER ELECTRICIANS OR PROFESSIONAL ELECTRICAL ENGINEER.

SCHEDULE OF LOADS & COMPUTATIONS (PB-1)

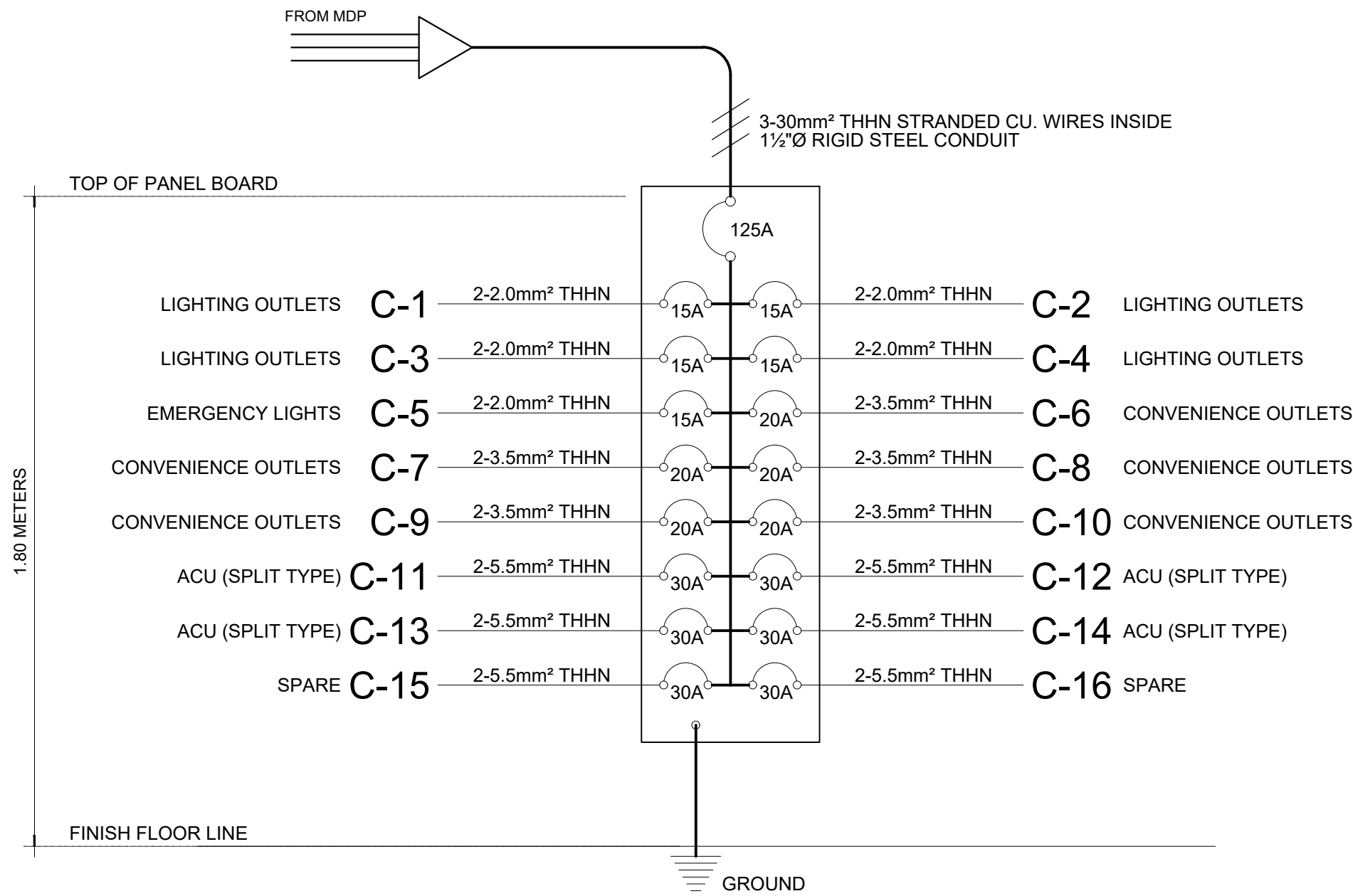
CIRCUIT NO.	DESCRIPTION	NO. OF OUTLETS			RATING WVA/HP/TR	AMPERES			SWITCHES					SIZE OF WIRES & CONDUITS	LENGTH OF WIRE (M)	Resistance (Ohm/m)	VOLTAGE DROP (V)	CIRCUIT PROTECTION			VOLTAGE
		L.O.	C.O.	OTHERS					S1	S2	S3	S4	3way					AT	AF	POLE	
C1	LIGHTING	49			2485 W	11.30			1	2	3			2 - 2.0mm² THHN WIRES / ½"Ø RSC	46.87	0.009	4.7648	15	20	2	230
C2	LIGHTING	45			1545 W		7.02		5	1	6			2 - 2.0mm² THHN WIRES / ½"Ø RSC	42.85	0.009	2.7083	15	20	2	230
C3	LIGHTING	36			1985 W			9.02			5	2		2 - 2.0mm² THHN WIRES / ½"Ø RSC	83.45	0.009	6.7765	15	20	2	230
C4	LIGHTING	39			975 W	4.43						1		2 - 2.0mm² THHN WIRES / ½"Ø RSC	148.00	0.009	5.9032	15	20	2	230
C5	EMERGENCY LIGHTS		14		1050 W		4.77							2 - 2.0mm² THHN WIRES / ½"Ø RSC	62.65	0.009	2.6911	15	20	2	230
C6	CONVENIENCE OUTLETS		14		2800 W			12.73						2 - 3.5mm² THHN WIRES / ½"Ø RSC	70.27	0.00506	4.5254	20	30	2	230
C7	CONVENIENCE OUTLETS		12		2400 W	10.91								2 - 3.5mm² THHN WIRES / ½"Ø RSC	71.06	0.00506	3.9225	20	30	2	230
C8	CONVENIENCE OUTLETS		11		2200 W		10.00							2 - 3.5mm² THHN WIRES / ½"Ø RSC	29.45	0.00506	1.4902	20	30	2	230
C9	CONVENIENCE OUTLETS		10		2546 W			11.57						2 - 3.5mm² THHN WIRES / ½"Ø RSC	28.98	0.00506	1.6970	20	30	2	230
C10	CONVENIENCE OUTLETS		10		2000 W	9.09								2 - 3.5mm² THHN WIRES / ½"Ø RSC	38.94	0.00506	1.7912	20	30	2	230
C11	ACU (WALL MOUNTED)			1	2.5 HP		16.00							2 - 5.5mm² THHN WIRES / ¾"Ø RSC	5.88	0.00324	0.3048	30	40	2	230
C12	ACU (WALL MOUNTED)			1	3 TR			22.00						2 - 5.5mm² THHN WIRES / ¾"Ø RSC	15.56	0.00324	1.1091	30	40	2	230
C13	ACU (WALL MOUNTED)			1	3 TR	22.00								2 - 5.5mm² THHN WIRES / ¾"Ø RSC	50.75	0.00324	3.6175	30	40	2	230
C14	ACU (WALL MOUNTED)			1	3 TR		22.00							2 - 5.5mm² THHN WIRES / ¾"Ø RSC	50.75	0.00324	3.6175	30	40	2	230
C15	SPARE				1000 W			4.55						2 - 5.5mm² THHN WIRES / ¾"Ø RSC	4.00	0.00324	0.0589	30	40	2	230
C16	SPARE				1000 W	4.55								2 - 5.5mm² THHN WIRES / ¾"Ø RSC	4.00	0.00324	0.0589	30	40	2	230
TOTAL		169	71	4		62.27	59.80	59.87						3 - 30mm² THHN WIRE IN 1½"Ø RSC	2.50	0.000606	0.1634	125	150	3	230

SIZE OF FEEDER:

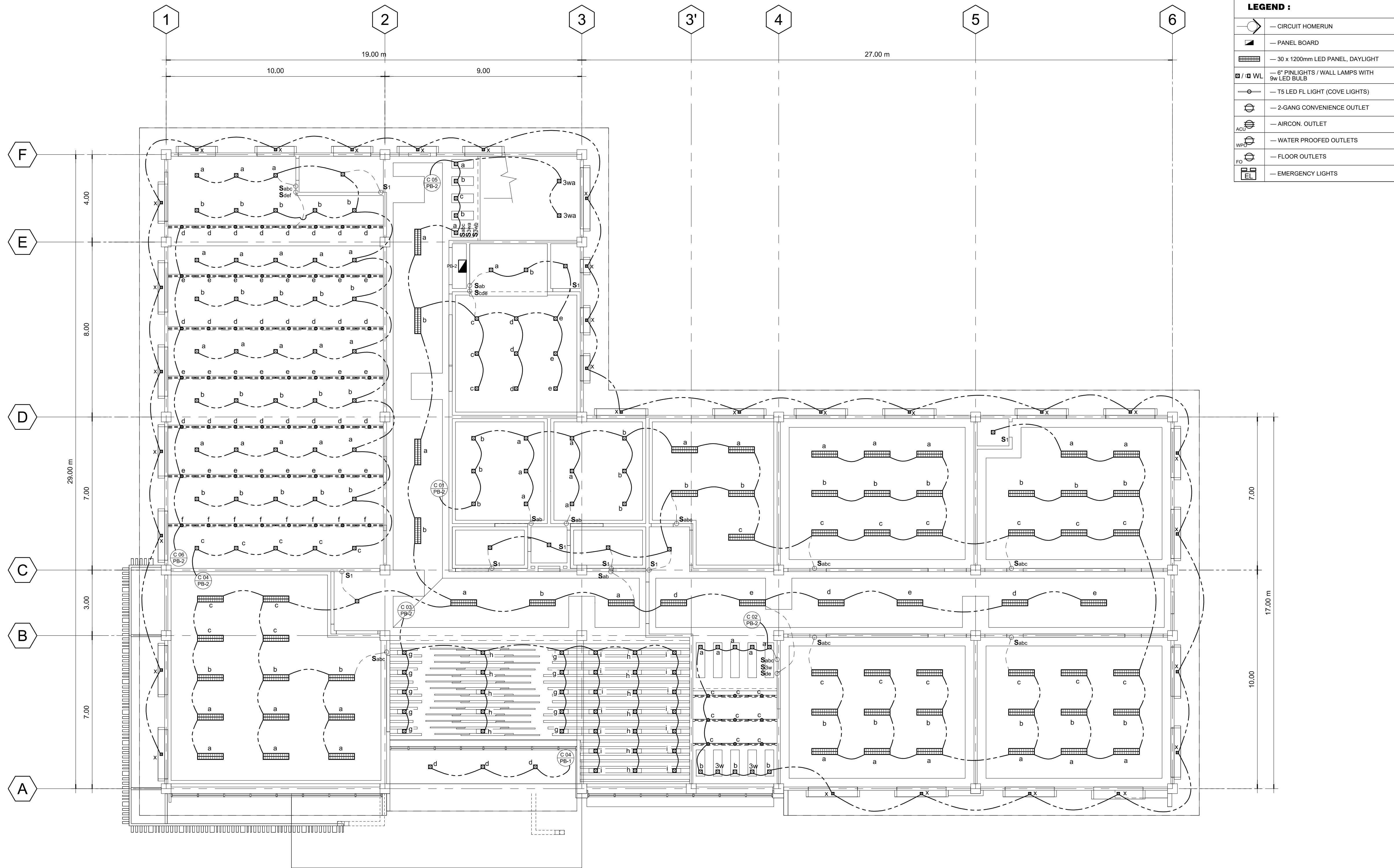
≥ A [62.27 × √3]

≥ 107.86 AMPERES

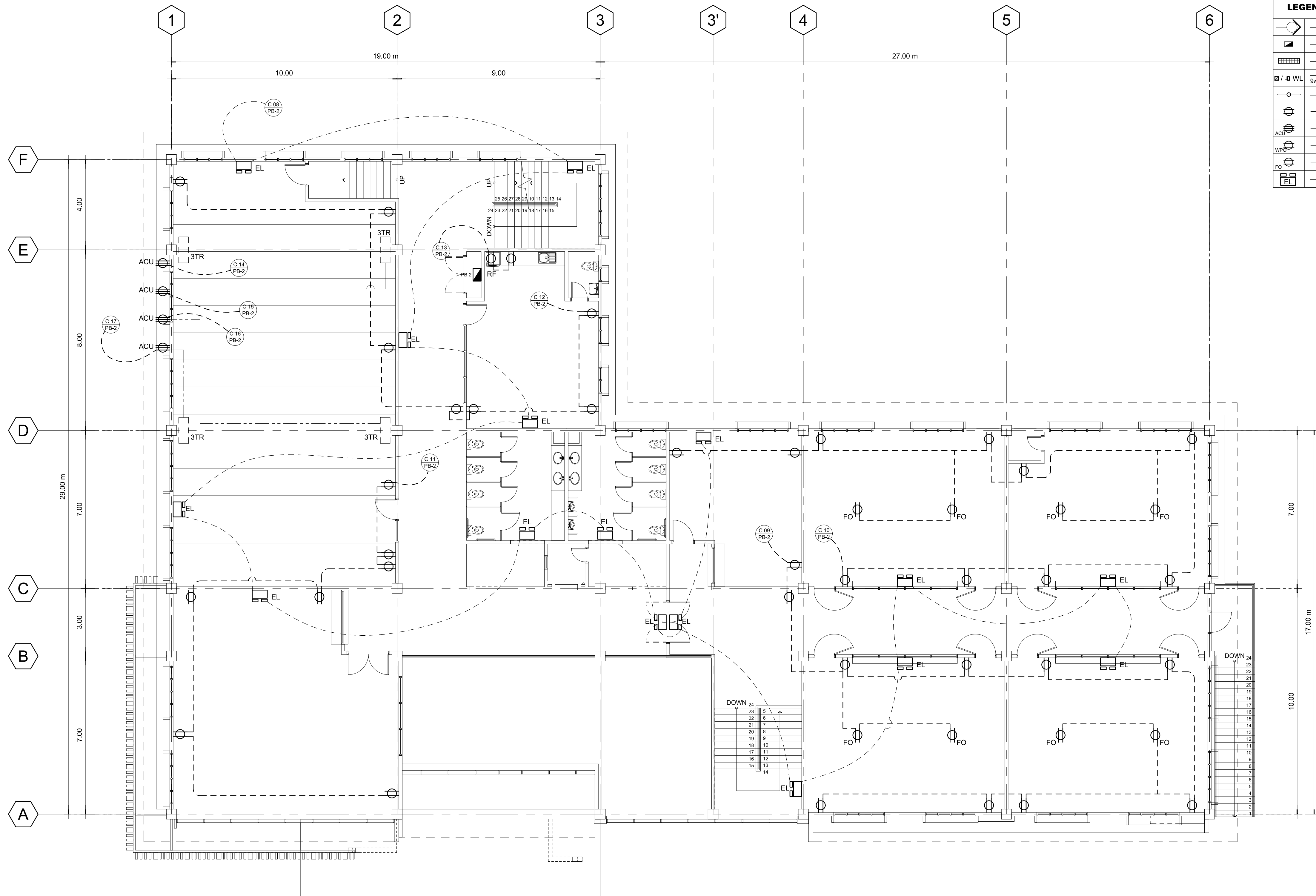
USE: 3 - 30mm² THHN WIRE IN 1½"Ø RSC PIPE



01 RISER DIAGRAM (PB-1)
E-03 NTS

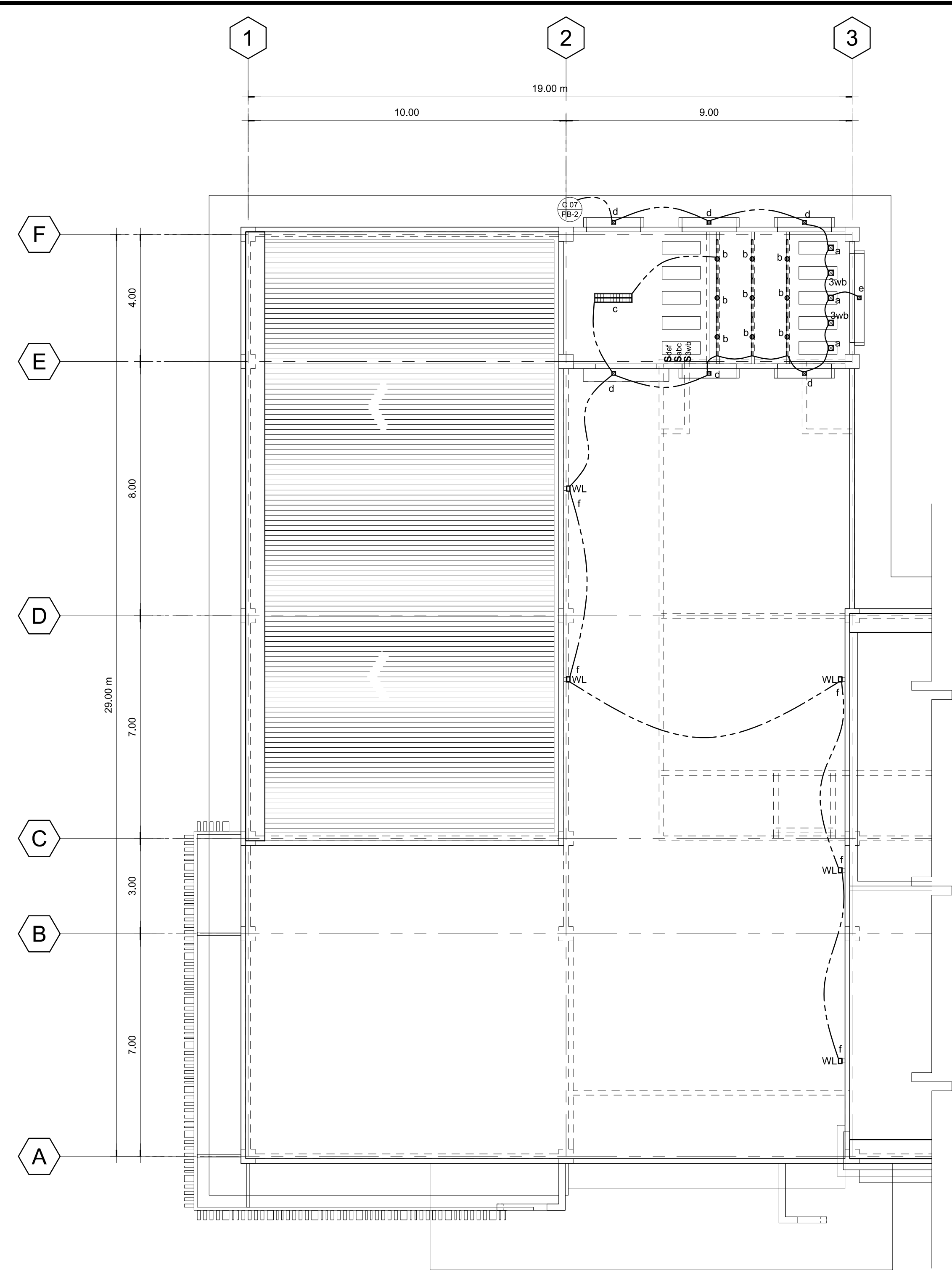


01 2ND FLOOR LIGHTING LAYOUT PLAN
E-02 SCALE: 1:100

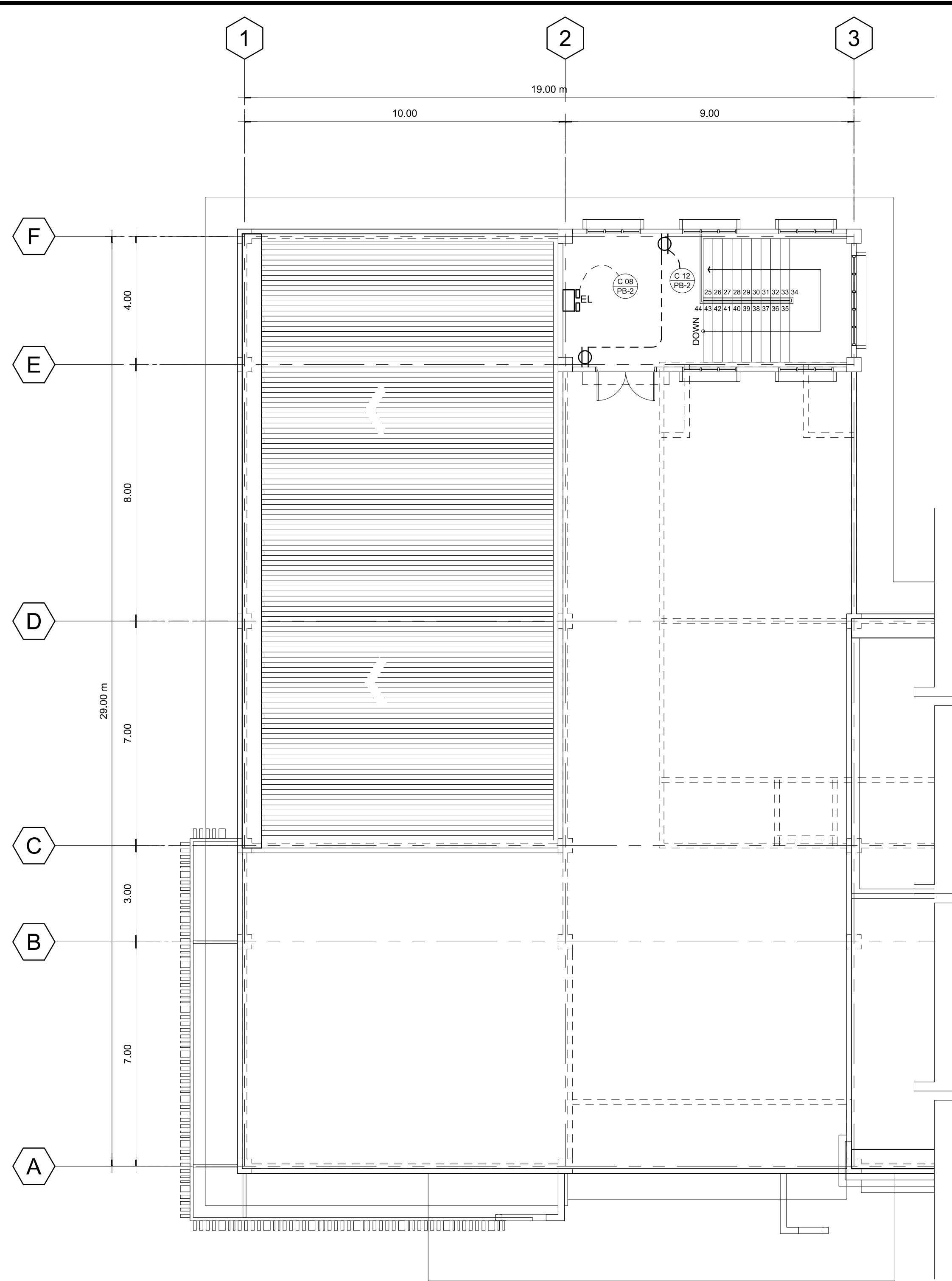


LEGEND :	
	— CIRCUIT HOMERUN
	— PANEL BOARD
	— 30 x 1200mm LED PANEL, DAYLIGHT
	— 6" PINLIGHTS / WALL LAMPS WITH 9w LED BULB
	— T5 LED FL LIGHT (COVE LIGHTS)
	— 2-GANG CONVENIENCE OUTLET
	— AIRCON. OUTLET
	— WATER PROOFED OUTLETS
	— FLOOR OUTLETS
	— EMERGENCY LIGHTS

01
A-03
SECOND FLOOR POWER LAYOUT PLAN
SCALE: 1:100



01 PENTHOUSE / ROOF DECK LIGHTING LAYOUT PLAN
A-03 SCALE: 1:100



01 PENTHOUSE / ROOF DECK POWER LAYOUT PLAN
A-03 SCALE: 1:100

LEGEND :	
	— CIRCUIT HOMERUN
	— PANEL BOARD
	— 30 x 1200mm LED PANEL, DAYLIGHT
	— 6" PINLIGHTS / WALL LAMPS WITH 9w LED BULB
	— T5 LED FL LIGHT (COVE LIGHTS)
	— 2-GANG CONVENIENCE OUTLET
	— AIRCON. OUTLET
	— WATER PROOFED OUTLETS
	— FLOOR OUTLETS
	— EMERGENCY LIGHTS

SCHEDULE OF LOADS & COMPUTATIONS (PB-2)

CIRCUIT NO.	DESCRIPTION	NO. OF OUTLETS			RATING W/V/A/HP/TP	AMPERES			SWITCHES				SIZE OF WIRES & CONDUITS	LENGTH OF WIRE (M)	Resistance (Ohm/m)	VOLTAGE DROP (V)	CIRCUIT PROTECTION			VOLTAGE
		L.O.	C.O.	OTHERS					S1	S2	S3	3way					AT	AF	POLE	
C1	LIGHTING	57			2825 W	12.84			5	2	5		2 - 2.0mm² THHN WIRES / ½"Ø RSC	74.22	0.009	8.5775	15	20	2	230
C2	LIGHTING	49			1270 W		5.77		1		1	2	2 - 2.0mm² THHN WIRES / ½"Ø RSC	156.53	0.009	8.1324	15	20	2	230
C3	LIGHTING	36			900 W			4.09			1		2 - 2.0mm² THHN WIRES / ½"Ø RSC	40.88	0.009	1.5051	15	20	2	230
C4	LIGHTING	44			1100 W	5.00					1		2 - 2.0mm² THHN WIRES / ½"Ø RSC	27.13	0.009	1.2209	15	20	2	230
C5	LIGHTING	46			2060 W		9.36					2	2 - 2.0mm² THHN WIRES / ½"Ø RSC	56.00	0.009	4.7193	15	20	2	230
C6	LIGHTING	56			1680 W			7.64			1		2 - 2.0mm² THHN WIRES / ½"Ø RSC	26.99	0.009	1.8549	15	20	2	230
C7	LIGHTING	27			755 W	3.43					2	2	2 - 2.0mm² THHN WIRES / ½"Ø RSC	52.15	0.009	1.6107	15	20	2	230
C8	EMERGENCY LIGHTS		16		1200 W		5.45						2 - 2.0mm² THHN WIRES / ½"Ø RSC	87.97	0.009	4.3185	15	20	2	230
C9	CONVENIENCE OUTLETS		14		2800 W			12.73					2 - 3.5mm² THHN WIRES / ½"Ø RSC	70.85	0.00506	4.5627	20	30	2	230
C10	CONVENIENCE OUTLETS		14		2800 W	12.73							2 - 3.5mm² THHN WIRES / ½"Ø RSC	59.29	0.00506	3.8183	20	30	2	230
C11	CONVENIENCE OUTLETS		7		1400 W		6.36						2 - 3.5mm² THHN WIRES / ½"Ø RSC	43.21	0.00506	1.3914	20	30	2	230
C12	CONVENIENCE OUTLETS		9		1800 W			8.18					2 - 3.5mm² THHN WIRES / ½"Ø RSC	36.93	0.00506	1.5289	20	30	2	230
C13	REF. & CONV. OUTLETS		2		1700 W	7.73							2 - 5.5mm² THHN WIRES / ¾"Ø RSC	3.18	0.00324	0.0796	30	40	2	230
C14	ACU (WALL MOUNTED)			1	3 TR		22.00						2 - 5.5mm² THHN WIRES / ¾"Ø RSC	13.56	0.00324	0.9666	30	40	2	230
C15	ACU (WALL MOUNTED)			1	3 TR			22.00					2 - 5.5mm² THHN WIRES / ¾"Ø RSC	13.94	0.00324	0.9936	30	40	2	230
C16	ACU (WALL MOUNTED)			1	3 TR	22.00							2 - 5.5mm² THHN WIRES / ¾"Ø RSC	14.07	0.00324	1.0029	30	40	2	230
C17	ACU (WALL MOUNTED)			1	3 TR		22.00						2 - 5.5mm² THHN WIRES / ¾"Ø RSC	14.29	0.00324	1.0186	30	40	2	230
C18	SPARE				1000 W		4.55						2 - 5.5mm² THHN WIRES / ¾"Ø RSC	2.50	0.00324	0.0368	30	40	2	230
C19	SPARE				1000 W	4.55							2 - 5.5mm² THHN WIRES / ¾"Ø RSC	2.50	0.00324	0.0368	30	40	2	230
C20	SPARE				1000 W		4.55						2 - 5.5mm² THHN WIRES / ¾"Ø RSC	2.50	0.00324	0.0368	30	40	2	230
TOTAL		315	62	4		68.27	75.50	59.18	6	2	11		3 - 38mm² THHN WIRE IN 2"Ø RSC	6.00	0.000474	0.3719	150	175	3	230

SIZE OF FEEDER:

≥ A [75.50 × √3]
≥ 130.77 AMPERES

USE: 3 - 38mm² THHN WIRE IN 2"Ø RSC PIPE

SCHEDULE OF LOADS & COMPUTATIONS FOR MDP

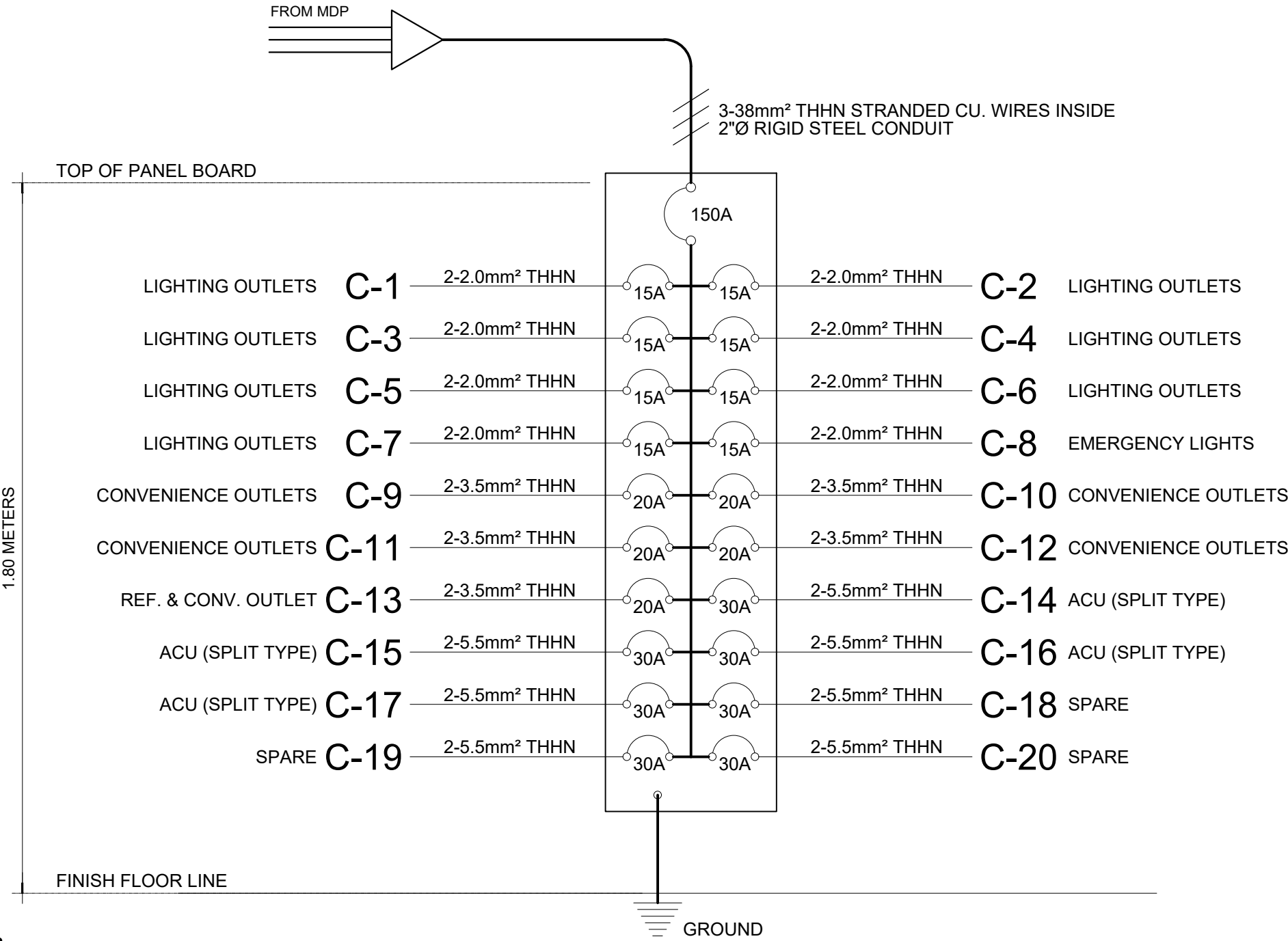
PANEL DESCRIPTION		AMPERES	CIRCUIT PROTECTION			VOLTAGE
			AT	AF	POLE	
	PB-1	107.86	125	150	3	230
	PB-2	130.77	150	175	3	230
TOTAL		238.63				

SIZE OF MAIN SERVICE ENTRANCE:

I = PB1 + PB2
= 107.86 + 130.77
= 238.63

USE: - 3 - 125mm² THHN STRANDED WIRES IN 3"Ø RSC

- 250 AMPERES, 3P, 250v, MAIN DISCONNECTION SWITCH



VOLTAGE DROP @ PANELS BOARD
DIST. FROM TAPPING POLE TO PANELS: ± 30 meters
MAIN = 238.63 Amps

01 RISER DIAGRAM (PB-2)
E-07 NTS

(FROM TABLE SYCWIN ELECTRIC WIRES AND CABLES)
Z(125 mm²) = 0.07420 / 300m
@ 30 m; Zt = 0.00742 Ohms

VOLTAGE DROP @ MDP
VOLTAGE DROP = IZ
= 238.63 x 0.00742
= 1.77 V
% VOLTAGE DROP = 0.805 %

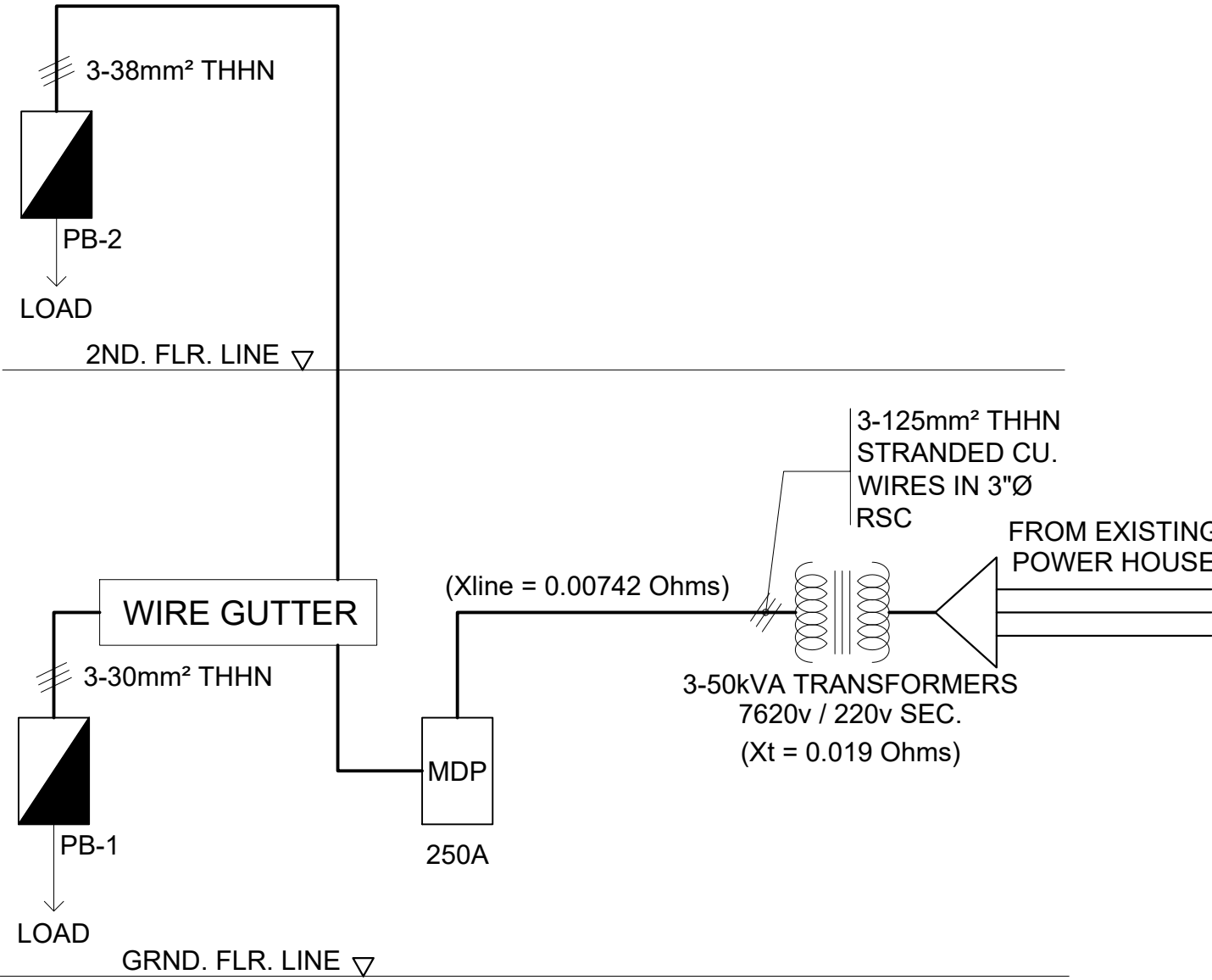
SHORT CIRCUIT CURRENT:
Distance from Tapping Pole: ± 30 meters

Transformer Capacity:
kVA = $\frac{I \times \text{Voltage} \times \sqrt{3}}{1000}$
= $\frac{238.63 \times 220 \times \sqrt{3}}{1000}$
= 90.93 kVA
USE: 3 - 50 kVA TRANSFORMER 7620v / 220v SEC.

$I_{SC} = \frac{I_{SEC}}{Z}$
I_{SC} = SHORT CIRCUIT CURRENT (SYMMETRICAL)
Z = TOTAL IMPEDANCE
= X_t + X_{LINE}
 $I_{SEC} = \frac{Kva \times 1000}{1.732 \times 220 v}$

FROM DIAGRAM :
 $I_{SC} = \frac{131.22 \text{ Amps}}{0.019 + 0.00742}$

I_{SC} = 4,966.69 A (RMS)
USE: 10 kAIC CIRCUIT BREAKERS



02 SCHEMATIC DIAGRAM
E-07 NTS



27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY ☎ No: 301-1917

MICHAEL T. ANG, uap
ARCHITECT

PRC: 8270
VALIDITY: 08 MAY 2018
IAPOA: 04440 141342 071615
O.R. | DATE: 141342 | 16JULY15
PTR: 7805115
DATE ISS: 04 JAN 2018
PLACE ISS: GSC
TIN: 123-875-856

SECTION 33 of RA 9266 | Drawing & specifications & other contract documents duly signed, stamp or sealed, as instruments of service, are the intellectual property and documents of the architect, whether the object for which they are made is executed or not it shall be unlawful for any person to duplicate or to make copies of said documents for use in the repetition of & for other projects or buildings, whether executed partly or in whole, without the written consent of architect or author of said documents.

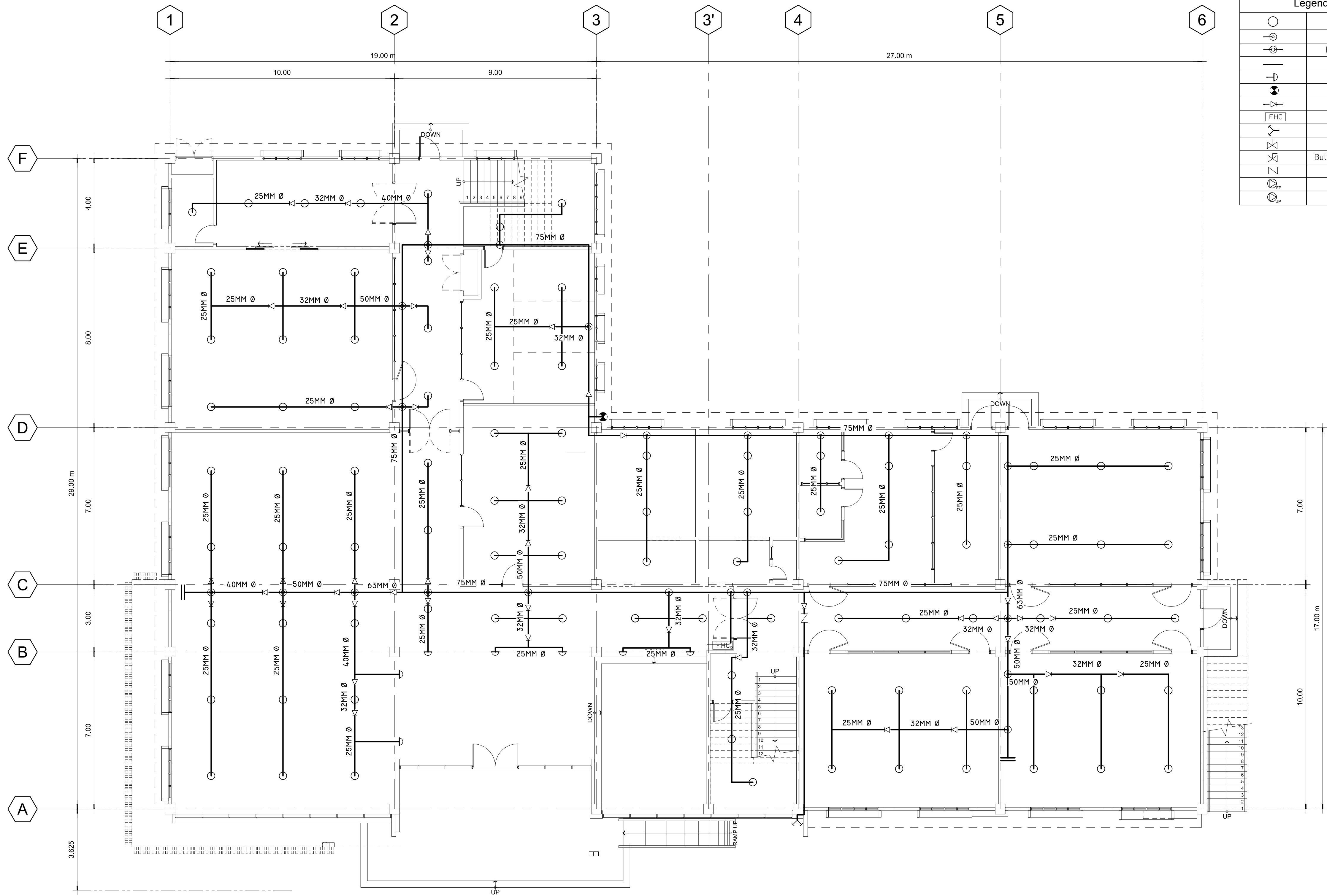
FERNANDO G. OCAT
PROF. ELECTRICAL ENGINEER
PRC Reg.No.: 2228 PTR No.: 7788029
TIN No.: 130-297-471 Date: 01/03/18 Iss.: GSC

PROJECT TITLE / LOCATION
PROPOSED RESEARCH HUB FOR AGRICULTURE & ALLIED SCIENCES
PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

APPROVED BY
CHUCHI P. GARGANERA, PH. D.
DIRECTOR III
ADDRESS: PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

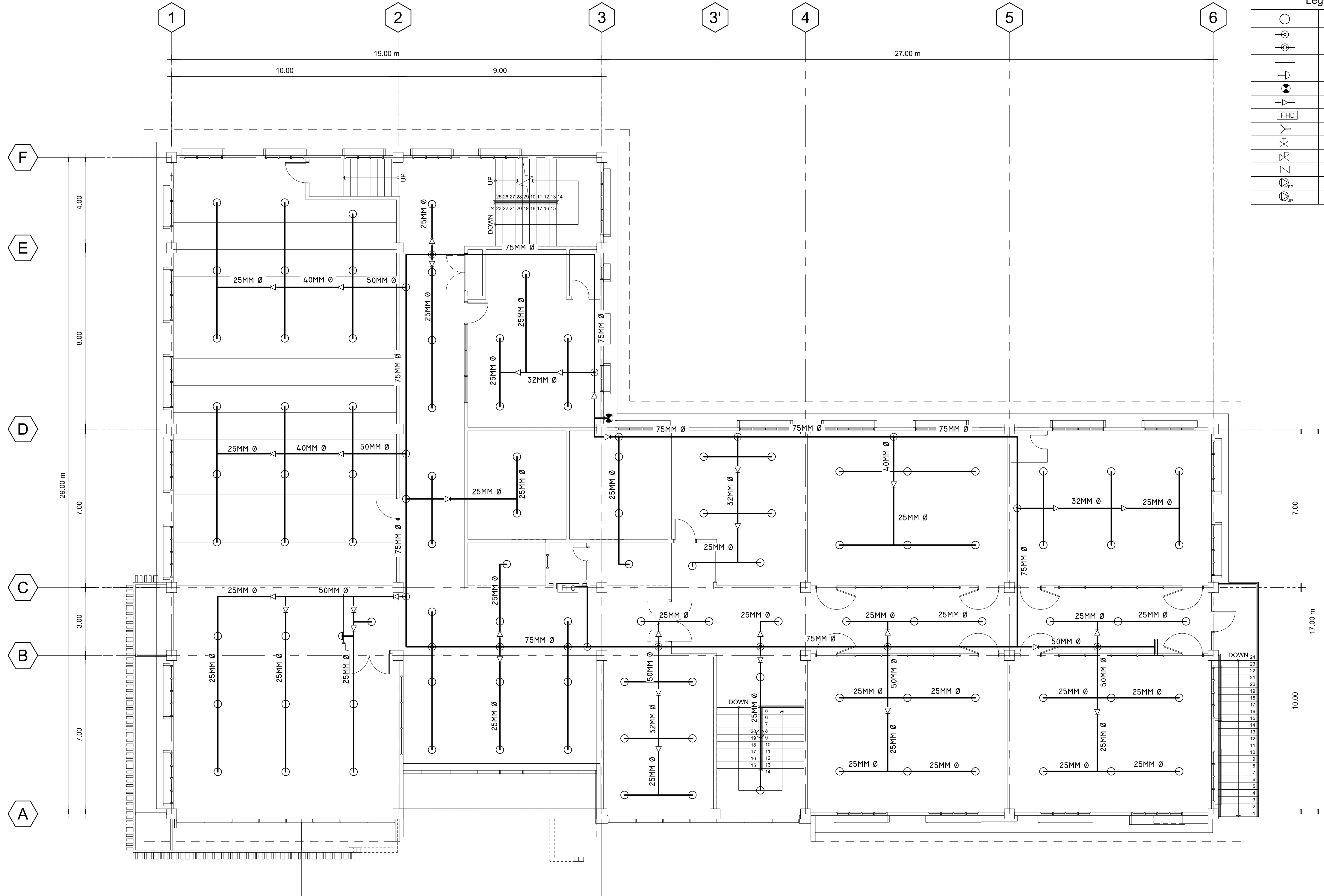
PREPARED BY:
RANILE ESPINA CORDOVA, uap
SENIOR DESIGN ARCHITECT
CHECKED BY :
RESIDENT ENGINEER

SHEET NO.
E-07
32 47



Legends and Symbols	
	Pendent Type Sprinkler
	Riser Nipple w/ One Branch
	Riser Nipple w/ Two Branches
	Pipe Line
	Sidewall Sprinkler
	Standpipe Riser
	Concentric Reducer
	Fire Hose Cabinet
	Siamese Connection
	OS & Y Gate Valve
	Butterfly Valve w/ Supervisory Switch
	Check Valve
	Fire Pump
	Jockey Pump

01
M-01
GRND. FLR. FIRE PROTECTION LAYOUT PLAN
SCALE: 1:100

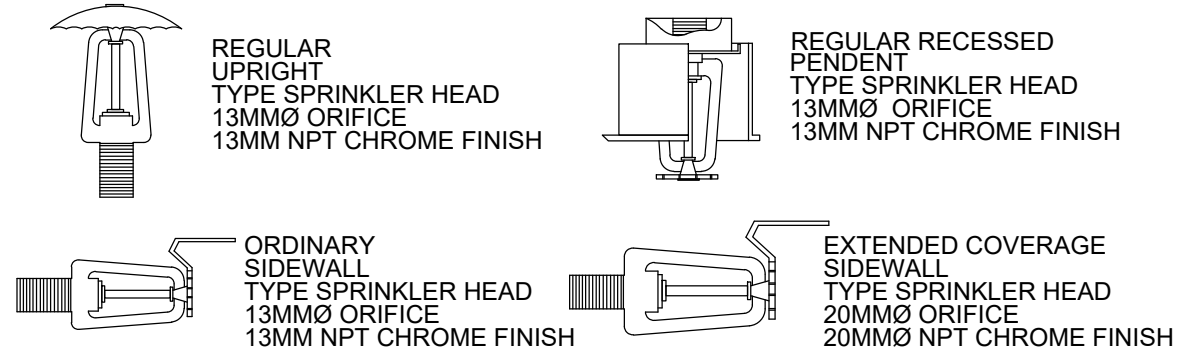


Legends and Symbols	
	Pendent Type Sprinkler
	Riser Nipple w/ One Branch
	Riser Nipple w/ Two Branches
	Pipe Line
	Sidewall Sprinkler
	Standpipe Riser
	Concentric Reducer
	Fire Hose Cabinet
	Siamese Connection
	OS & Y Gate Valve
	Butterfly Valve w/ Supervisory Switch
	Check Valve
	Fire Pump
	Jockey Pump

01 2ND FLOOR FIRE PROTECTION LAYOUT PLAN
M-02 SCALE: 1:100

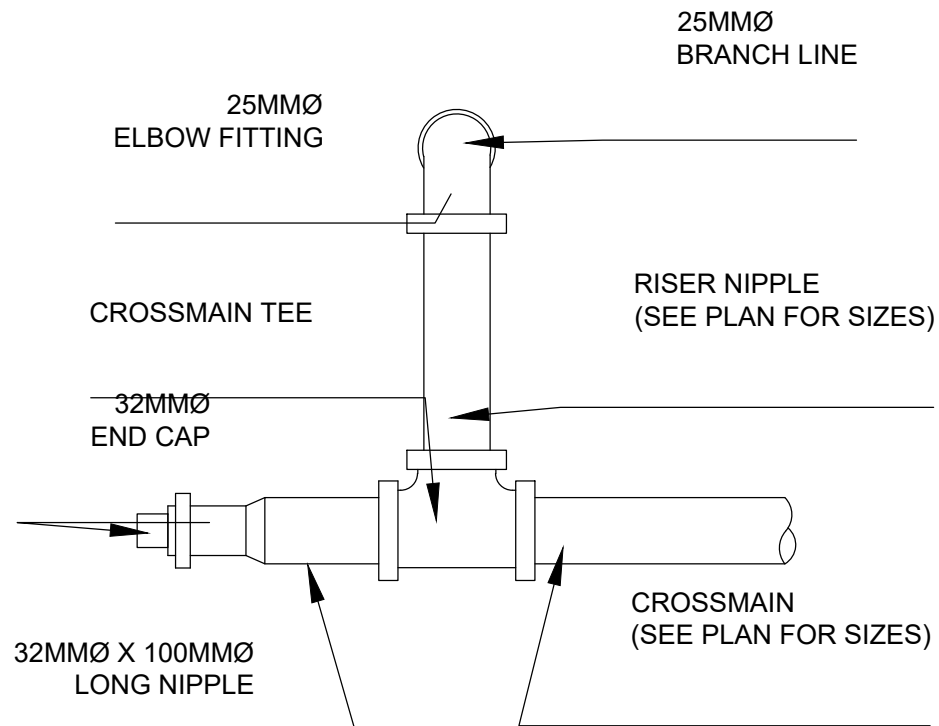
GENERAL NOTES & SPECIFICATIONS:

- ALL FIRE PROTECTION WORKS SHALL CONFORM WITH THE LATEST EDITIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES, THE PHILIPPINE SOCIETY OF MECHANICAL ENGINEERS (PSME) CODES AND STANDARDS, THE RULES & REGULATIONS OF THE LOCAL ENFORCING AUTHORITY OF THE LOCAL GOVERNMENT.
- THE CONTRACTOR SHALL BE I.S.O. CERTIFIED COMPANY WITH TECHNICAL EXPERTISE, AND PAST SIMILAR PROJECTS UNDERTAKEN AND SPECIALIZED IN WET-PIPE SPRINKLER SYSTEM DESIGN AND INSTALLATION DETERMINED AND APPROVED BY THE OWNER AND/OR ARCHITECT.
- CONSTRUCT AND INSTALL WET-PIPE SPRINKLER BASED ON PLANS, NOTES AND SPECIFICATIONS.
- THE CONTRACTOR SHALL VERIFY THE SITE PRIOR TO INSTALLATION, SHALL COORDINATE WITH OTHER TRADE AND AT ALL TIMES SHALL OBSERVE SAFETY AND ORDERLINESS ON SITE.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF SPRINKLERS IN ACCORDANCE WITH ARCHITECTURAL CEILING PLAN. ANY DEVIATION OR RELOCATION SHALL BE SUBJECT TO ARCHITECT AND ENGINEER'S APPROVAL.
- ALL B.I. PIPES FOR MAIN & BRANCH LINES WITH ADEQUATE HANGERS SHALL BE HYDROSTATICALLY TESTED AT MINIMUM 150 PSI FOR A DURATION OF TWO (2) HOURS AND SHOULD BE WITNESSED AND CERTIFIED BY ENGINEER OR HIS REPRESENTATIVE.
- ALL SPRINKLER HEADS IN ROOMS OR SPACES WITH CEILING SHALL BE RECESSED PENDENT TYPE COMPLETE WITH ESCUTHEON PLATE, 3" ORIFICE, AND RATED AT 155 DEG.F. EXCEPT FOR THE KITCHEN AT 235 DEG.F. THE SAME SPECIFICATIONS WITH HORIZONTAL SIDE WALLS SPRINKLER HEADS, 3" ORIFICE, RATED AT 135 DEG.F. WITH ESCUTHEON PLATE AND DEFLECTOR, MODEL F950,F948 OR ITS EQUIVALENT FOR BOTH TYPES.
- ALL PIPE MATERIALS SHALL BE BLACK IRON (B.I.) PIPE SCH 40, ASTM A53, NEW AND CLEAN INCLUDING BRACKETS, SUPPORTS AND HANGERS. THE SAME SHALL BE PRIMER PAINTED AND PIPES SHALL BE PAINTED WITH RED COLOR CODE.
- IT IS NOT INTENDED THAT THIS DRAWINGS SHALL SHOW ALL THE DETAILS OF THE ENTIRE SYSTEM AND THEREFORE, ANY ITEMS NOT FOUND THEREIN SUCH AS PIPES, FITTINGS, CONTROL, VALVES PARTS/COMPONENTS, ETC. BUT NEEDED TO COMPLETE THE PROJECT, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF THE CONTRACT BASED ON ITEM #1 AND IN FAVOR OF THE PROJECT.
- CONTRACTOR SHALL SUBMIT WARRANTY CERTIFICATE UPON COMPLETION OF THE PROJECT AFTER TESTING, COMMISSIONING AND FULL ACCEPTANCE BY THE OWNER AND/OR THE ARCHITECT.
- CONTRACTOR SHALL BE REQUIRED TO SUBMIT SHOP DRAWINGS PRIOR TO IMPLEMENTATION AND SHALL SUBMIT AS-BUILT PLANS AFTER COMPLETION DULY SIGNED AND SEALED BY A PROF. MECHANICAL ENGINEER (PME).
- ALL WORKS SHALL BE DONE UNDER THE IMMEDIATE SUPERVISION OF A DULY QUALIFIED & COMPETENT MECHANICAL ENGINEER.
- ALL PIPES SHALL BE PLUMB, PARALLEL TO THE BUILDING, AND ANCHORED AT A MAXIMUM DISTANCE OF 2.0 METERS WHILE, LINE PIPE HANGERS AND SUPPORTS AT CROSS MAIN AND BRANCHLINE PIPES SHALL BE INSTALLED @ 1.5 METERS APART.
- MINIMUM PIPE SIZE FOR ALL SPRINKLERS SHALL BE 25mm DIAMETER, UNLESS OTHERWISE NOTED.
- MAXIMUM INTERVAL BETWEEN PENDENT TYPE SPRINKLER HEADS SHALL BE 3.0m., WHILE SPRINKLER HEADS AND WALL IT SHALL BE 1.5m. MAXIMUM.
- HORIZONTAL SIDE WALL SPRINKLER HEADS SHALL BE INSTALLED WITH AN INTERVAL OF 2.0m. BETWEEN HEADS AT THE ATRIUM.
- MINIMUM DISTANCE BETWEEN SPRINKLER HEAD AND DIFFUSER OR ANY UTILITY (ELECTRICAL/MECHANICAL) SHALL BE 0.30m (300mm).
- PROVIDE SPRINKLER HEADS IN ALL ENCLOSED AREAS EXCEPT IN I.T. ROOM, POWER ROOM, LABORATORY AND RADIOLOGY ON SELECTED AREAS (REFER LAY-OUT PLANS).
- INSTALL 3" SWING CHECK VALVE (BUTTERFLY-STYLE) AND A 3" OUTSIDE SCREW & YOLK (OS&Y) GATE VALVE IN EVERY FLOOR LOOP OF WET-PIPE SPRINKLER SYSTEM.
- INSTALL 2 1/2" SWING CHECK VALVE (BUTTERFLY-STYLE) EVERY SIAMESE CONNECTION OF A WET-PIPE HYDRANT SYSTEM.
- ALL CONNECTIONS ON PIPELINES SHALL BE THREADED TYPE FOR 1in. & 1 1/2" PIPE DIA., WELDED TYPE FOR 2 1/2", 3" & 4" PIPE DIA. AND FLANGED TYPE CONNECTION FROM PIPE TO PUMPS, VALVES AND ACCESSORIES.
- ALL PROVISION FOR CONNECTIONS FROM FIRE DEPARTMENT/OTHER SOURCE AND TOWARDS FIRE HOSE CABINET INCLUDING ITS FITTINGS SHALL BE THREADED TYPE REGARDLESS OF SIZES BASED ON PLUMBING STANDARDS.
- INSTALL 38mm DIA. MAIN DRAIN AT THE PUMP HOUSE WITH BALL VALVE AND 25mm DIA. PIPE DRAIN WITH BALL VALVE AT THE END OF EVERY FLOOR LEVEL DOWN TO CATCH BASIN OR CANAL.
- ALL WELDING WORKS SHALL BE DONE ONLY BY A CERTIFIED TESDA CLASS-A WELDERS.
- APPLY TWO (2) COATS EPOXY PRIMER RED AND TWO (2) COATS EPOXY FIRE RED FOR PIPES, HANGERS, BRACKETS & ACCESSORIES. FINAL COLOR OF WALL FOR EXPOSED STEEL FRAMES, PLATFORM, BRACKETS AND SUPPORTS.



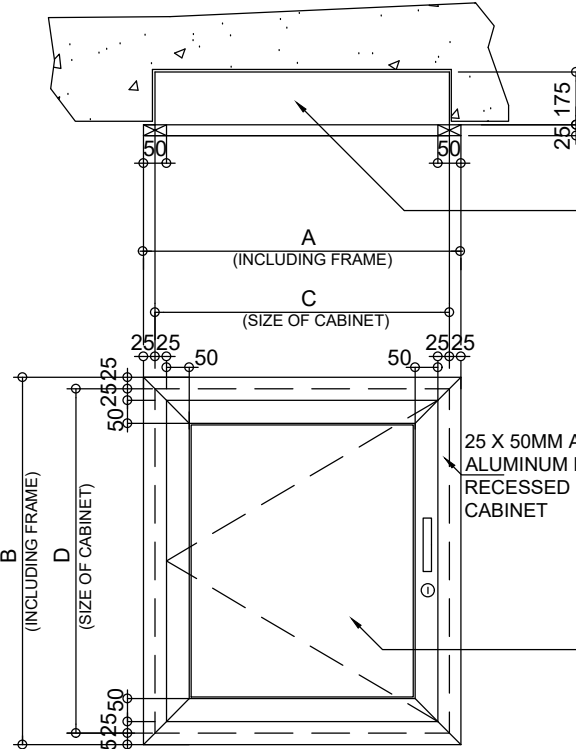
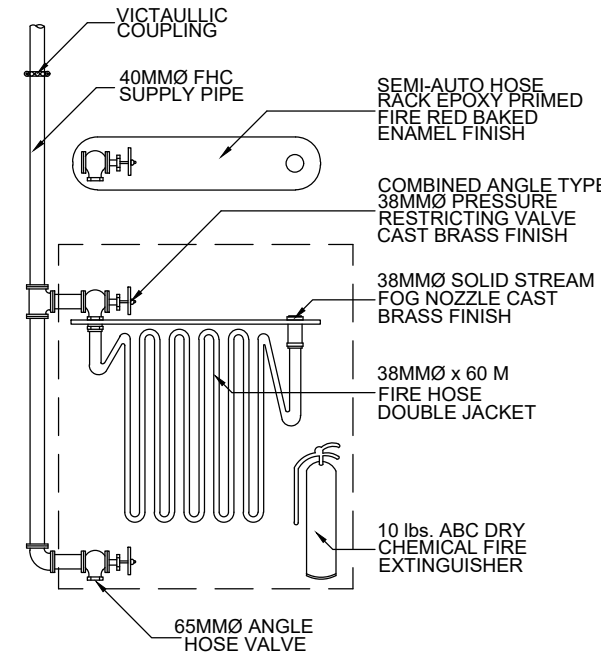
01 TYPE OF SPRINKLER HEAD

M-03

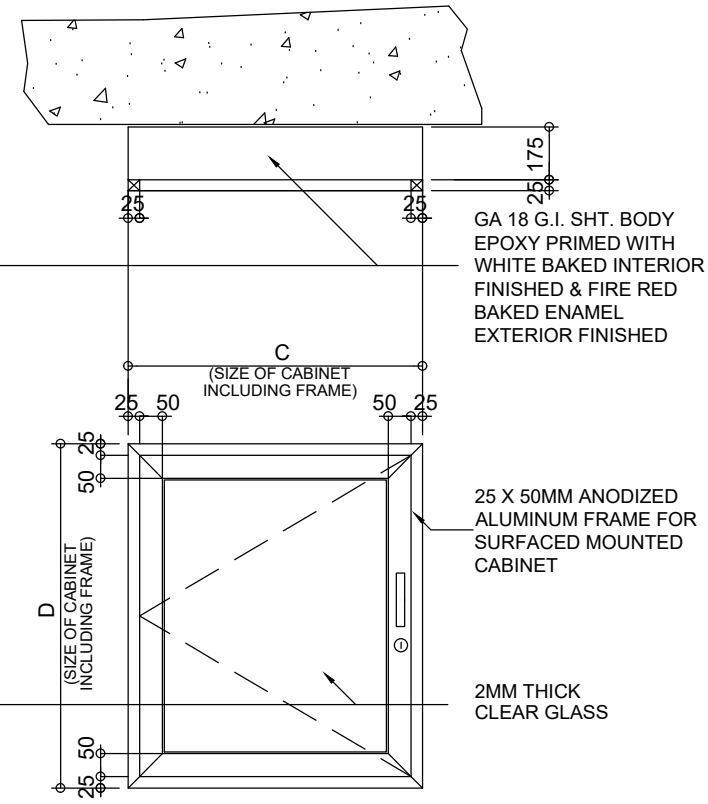


02 FLUSHING CONNECTION DETAIL

M-03



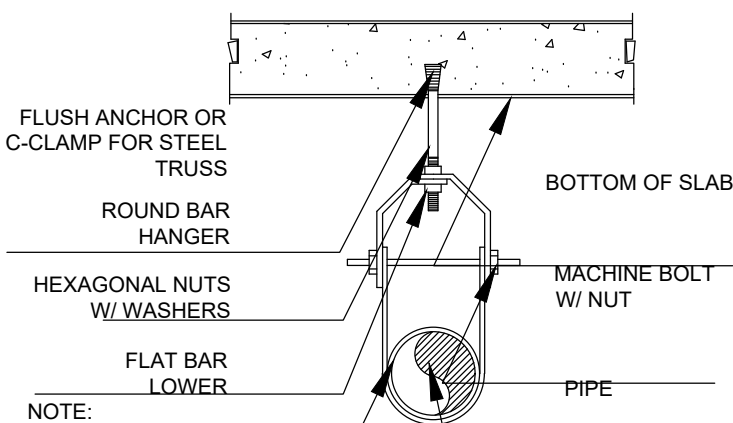
RECESSED MOUNTED	INCLUDING FRAME		SIZE OF CABINET	
	A	B	C	D
60 METERS FIRE HOSE	950mm	1050mm	900mm	1000mm
30 METERS FIRE HOSE	850mm	950mm	800mm	900mm
23 METERS FIRE HOSE	750mm	850mm	700mm	800mm



SURFACED MOUNTED	SIZE OF CABINET INCLUDING FRAME	
	C	D
60 METERS FIRE HOSE	900mm	1000mm
30 METERS FIRE HOSE	800mm	900mm
23 METERS FIRE HOSE	700mm	800mm

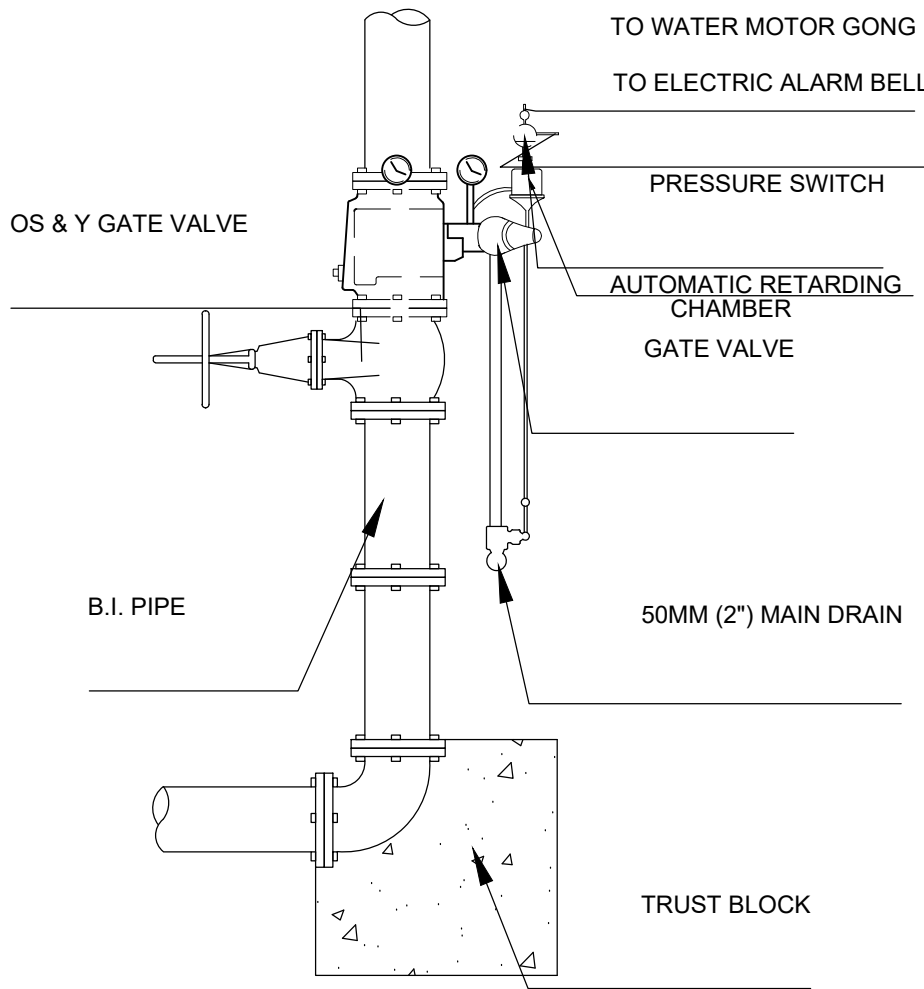
05 FIRE HOSE CABINET AND ACCESSORIES DETAIL

M-03



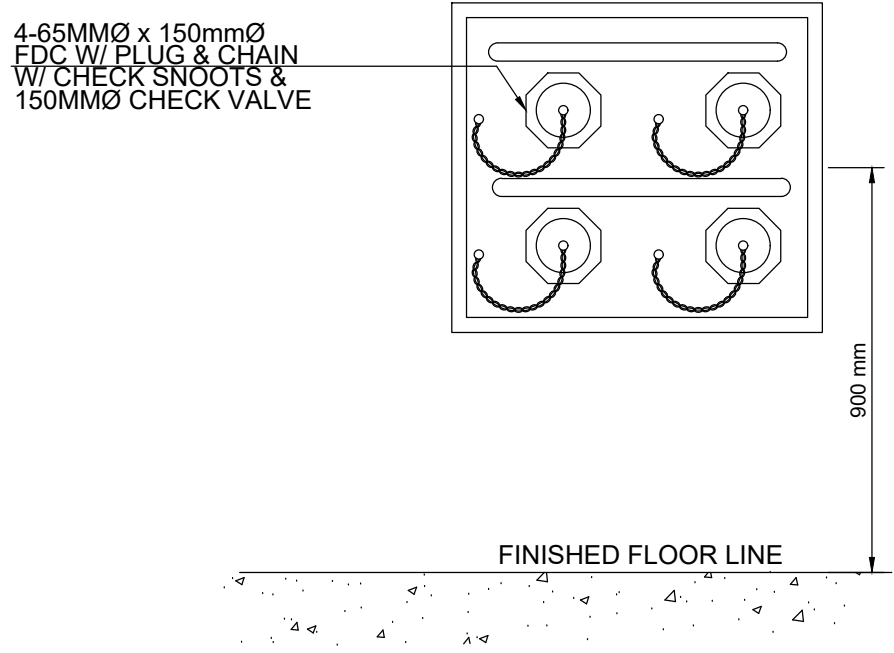
03 ADJUSTABLE TYPE CLEVIS HANGER

M-03



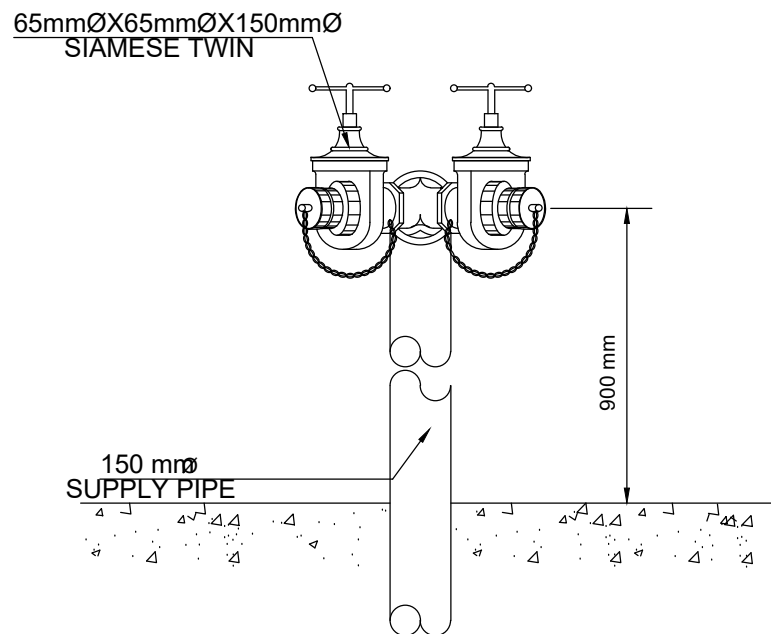
04 ALARM CHECK VALVE ASSEMBLY

M-03



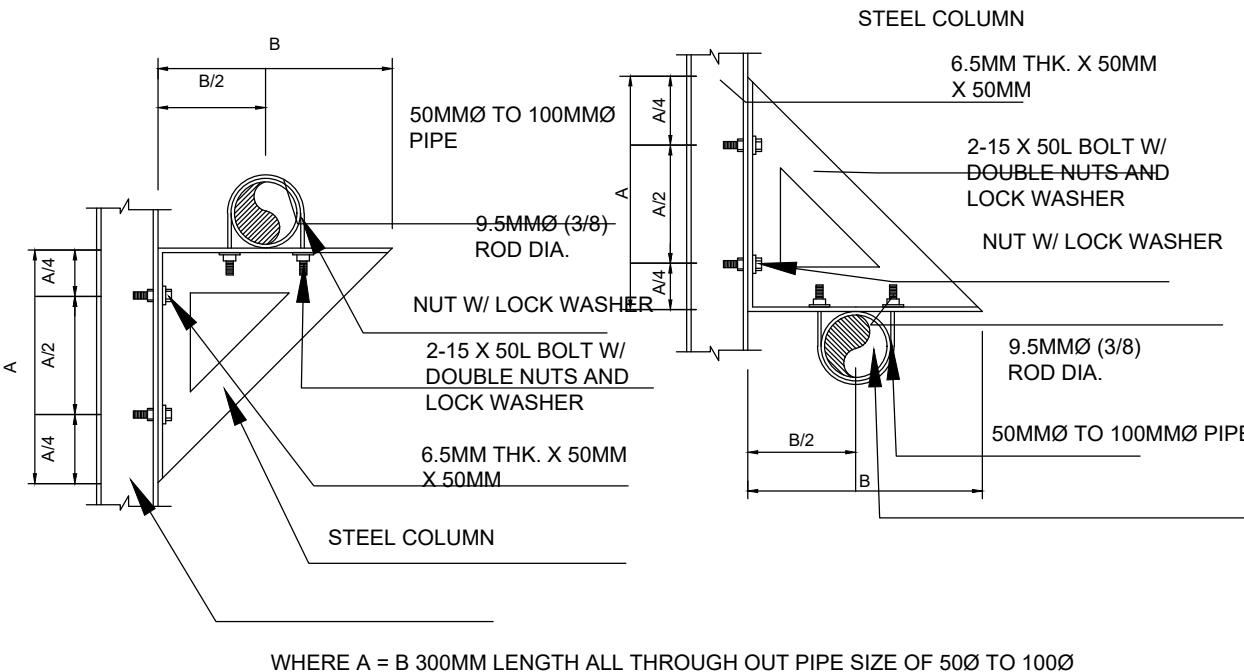
06 FIRE DEPARTMENT CONNECTION

M-03



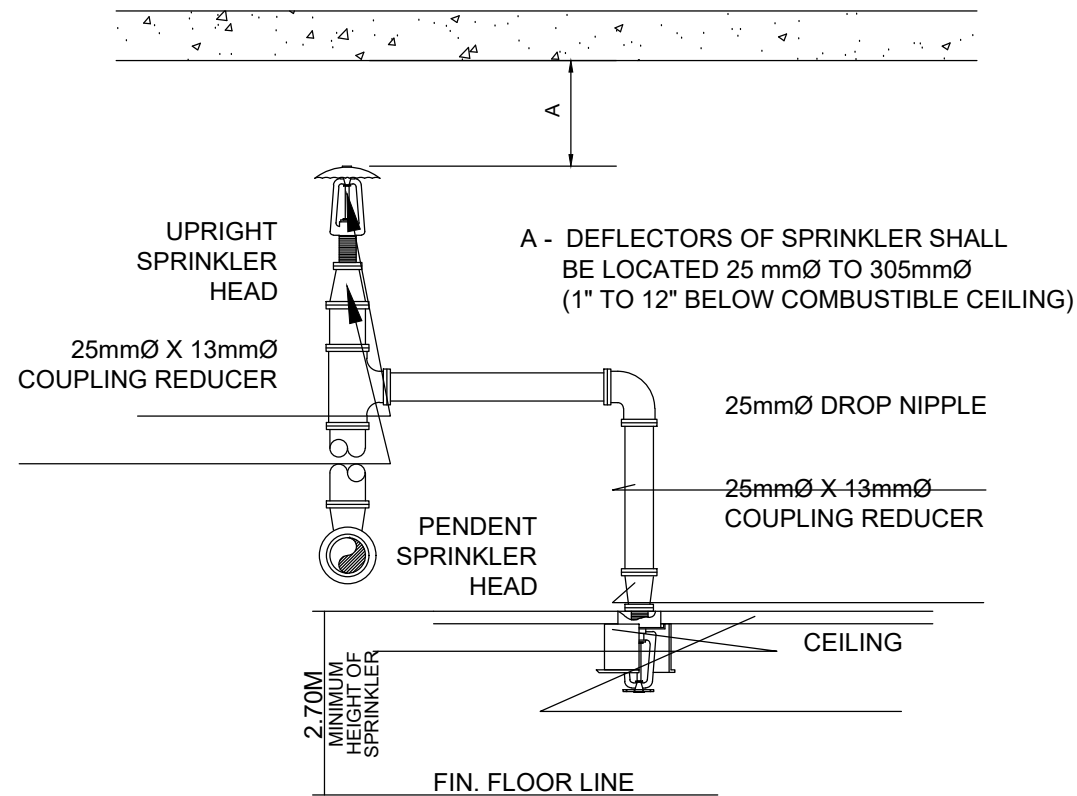
07 ROOF MANIFOLD

M-03



08 WALL PIPE HANGER DETAIL

M-03



09 COMBINATION SPRINKLER HEADS DETAIL

M-03



PLANS • DESIGNS • ESTIMATES • CONSTRUCTION MANAGEMENT •
DESIGNS BUILT • PLUMBING DESIGN

27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY ☎ No: 301-1917

MICHAEL T. ANG, uap
ARCHITECT

PRC: 8270
VALIDITY: 08 MAY 2018
IAPOA: 04440 141342 071615
O.R. | DATE: 141342 | 16JULY15
PTR: 7805115
DATE ISS: 04 JAN 2018
PLACE ISS: GSC
TIN: 123-875-856

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FELIX R. CAÑIZARES
PROF. MECHANICAL ENGINEER

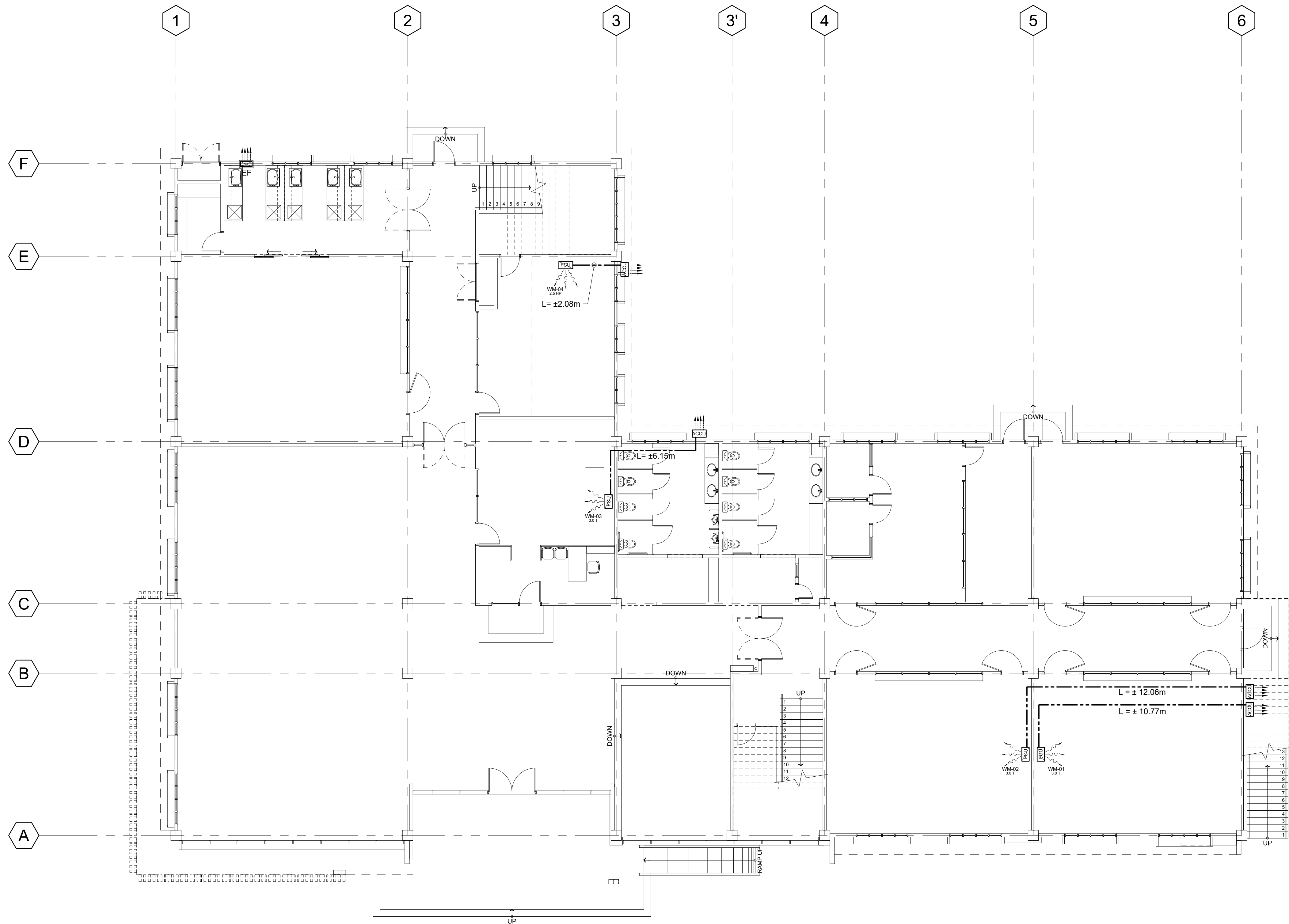
PRC Reg.No.: 3129 PTR No.: 7818015
T I N No.: 144-954-544 Date: 01/06/18 Iss.: GSC

PROJECT TITLE / LOCATION
PROPOSED RESEARCH HUB FOR AGRICULTURE & ALLIED SCIENCES
PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

APPROVED BY
CHUCHI P. GARGANERA, PH. D.
DIRECTOR III
ADDRESS: PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

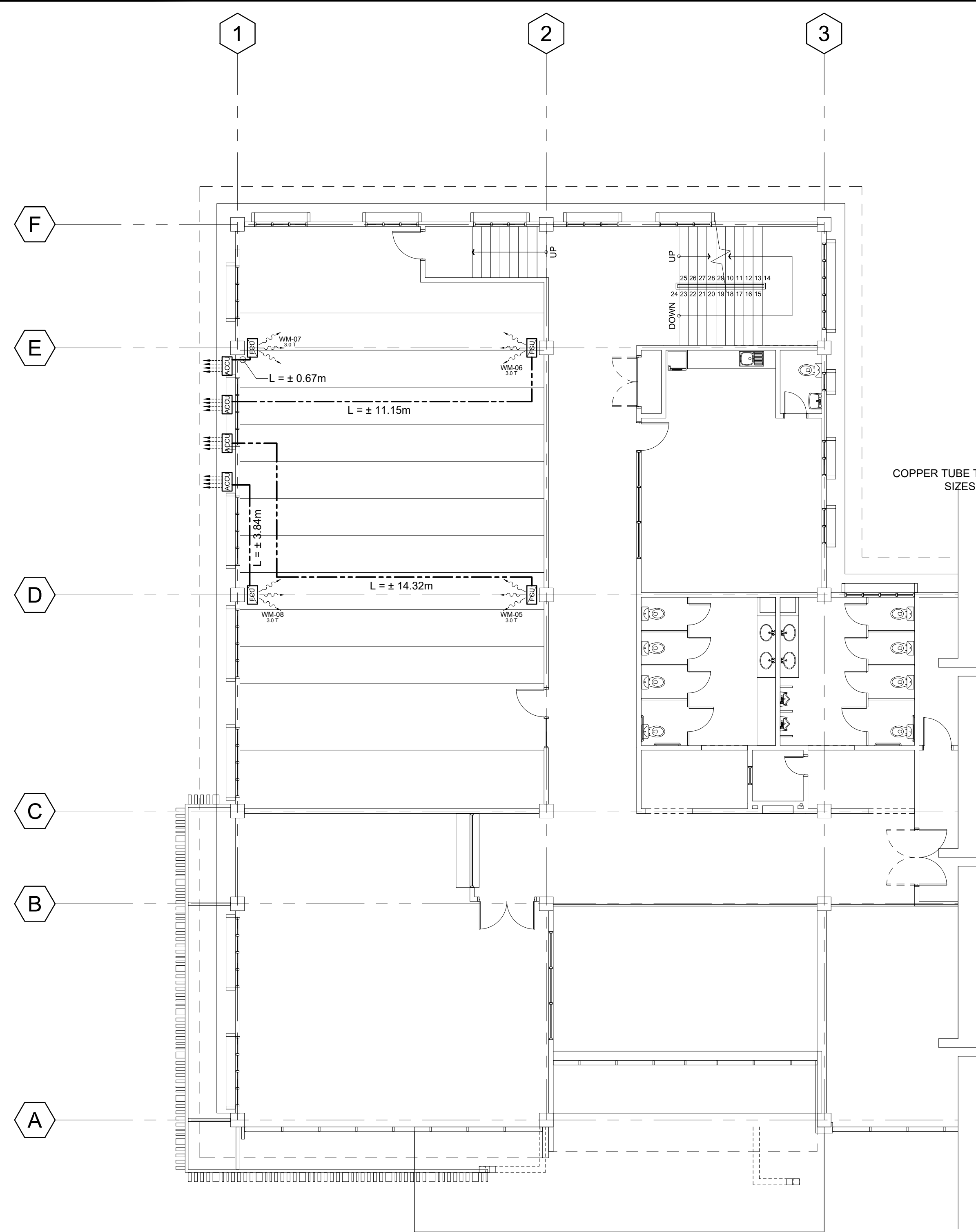
PREPARED BY:
RANILE ESPINA CORDOVA, uap
SENIOR DESIGN ARCHITECT
CHECKED BY :
RESIDENT ENGINEER

SHEET NO.
M-03
35 47



LEGEND :	
	WINDOW TYPE (NUMBER INDICATES CAPACITY) (HP - HORSE POWER, T = TONS)
	WALL MOUNTED SPLIT TYPE (NUMBER INDICATES CAPACITY) (HP - HORSE POWER, T = TONS)
	FLOOR MOUNTED SPLIT TYPE (NUMBER INDICATES CAPACITY) (HP - HORSE POWER, T = TONS)
	AIRCON. CONDENSING UNIT (OUTDOOR UNIT)
	INSULATED REFRIGERANT PIPE LINE
	EXHAUST FAN

01 GROUND FLOOR A/C LAYOUT PLAN
M-04 SCALE: 1:100

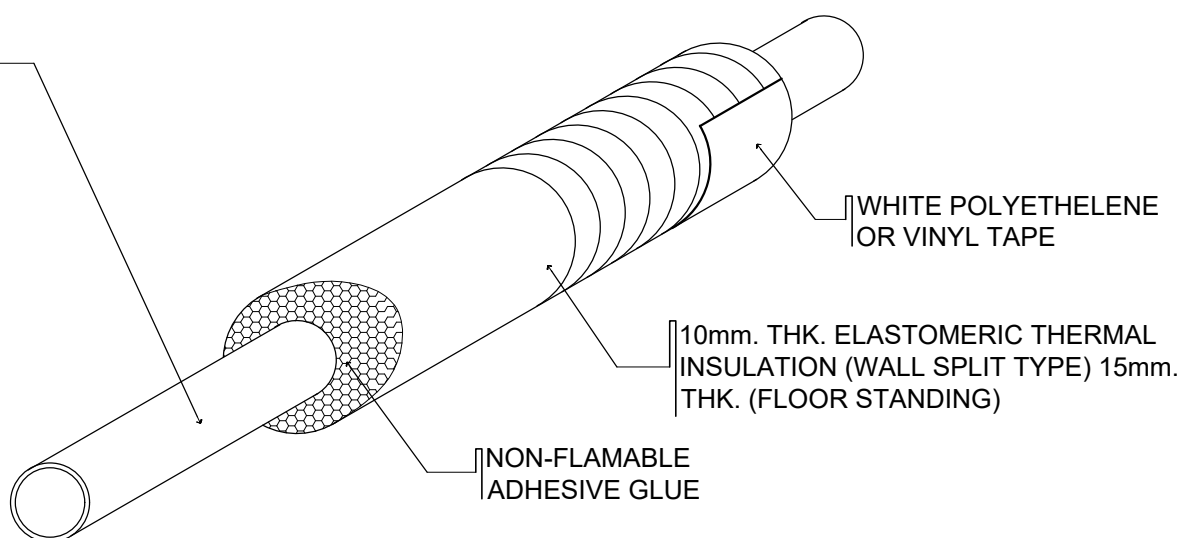


01 **SECOND FLOOR A/C LAYOUT PLAN**
M-05 SCALE: 1:100

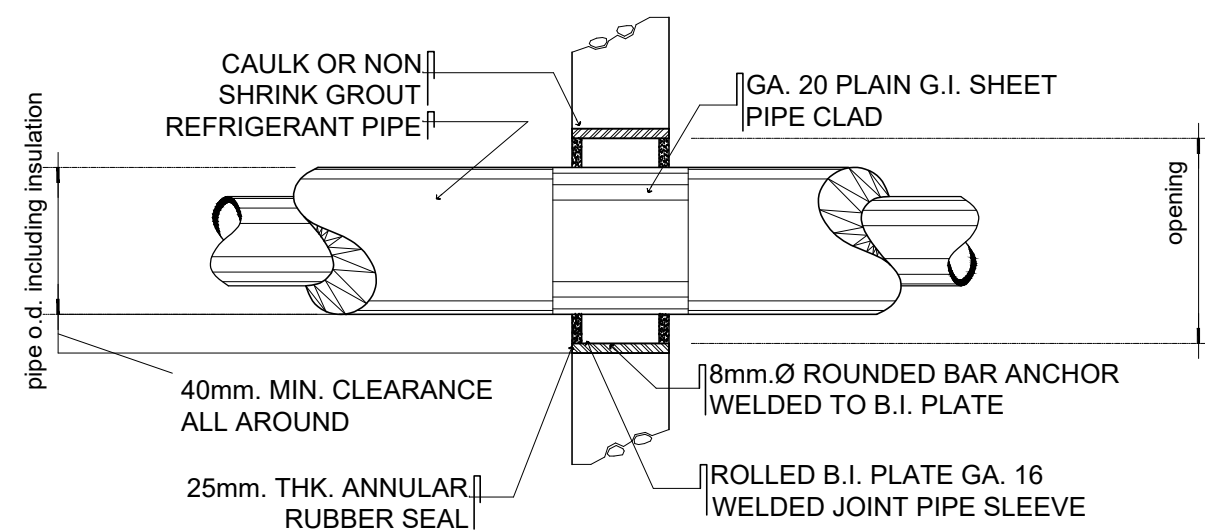
GENERAL NOTES:

1. VERIFY ALL DIMENSION LOCATION OF THE EQUIPMENT ON THE DRAWING OF RELATED AND OTHER TRADES AND INVESTIGATE ALL POSSIBLE INTERFERENCE AND CONDITION AFFECTING THE MECHANICAL WORKS.
2. THE CONTRACTOR SHALL SUBMIT WARRANTY CERTIFICATE UPON COMPLETION OF THE PROJECT.
3. IT IS NOT INTENDED THAT THIS DRAWINGS SHALL SHOW EVERY REFRIGERANT PIPES, FITTINGS, CONTROLS AND VALVES. ALL SUCH ITEMS WHETHER SPECIFICALLY INDICATED OR NOT ON THE DRAWING, SHALL BE FURNISHED AND INSTALLED IF NECESSARY TO COMPLETE THE SYSTEM TO THE SATISFACTION OF THE OWNER.
4. ALL WORKS SHALL BE DONE UNDER THE IMMEDIATE SUPERVISION OF THE DULY QUALIFIED & COMPETENT MECHANICAL ENGINEER.
5. ALL WORK PERFORMED SHALL COMPLY WITH THE LATEST REGULATION OF PHILIPPINE SOCIETY OF MECHANICAL ENGINEERS CODE.
6. EXHAUST FANS SHALL BE DUCTED TYPE, PREFERRED BRAND SHALL BE KDK OR APPROVED EQUAL.

LEGEND :	
	WINDOW TYPE (NUMBER INDICATES CAPACITY) (HP - HORSE POWER, T = TONS)
	WALL MOUNTED SPLIT TYPE (NUMBER INDICATES CAPACITY) (HP - HORSE POWER, T = TONS)
	FLOOR MOUNTED SPLIT TYPE (NUMBER INDICATES CAPACITY) (HP - HORSE POWER, T = TONS)
	AIRCON. CONDENSING UNIT (OUTDOOR UNIT)
	INSULATED REFRIGERANT PIPE LINE
	EXHAUST FAN



02 **REFRIGERANT PIPE INSULATION DETAILS**
M-05 NTS



03 **PIPE THRU' WALL DETAILS**
M-05 NTS

TABULATION OF EQUIPMENTS

	TYPE OF AIRCON	COOLING CAP.		EER	ELECTRICAL SUPPLY			
		HP / TR	KJ/hr		WATTAGE	VOLTAGE	PHASE	CYCLE
GRND. FLR	WM-1	3 TR	38,000	12.30	3,100	220	1	60
	WM-2	3 TR	38,000	12.30	3,100	220	1	60
	WM-3	3 TR	38,000	12.30	3,100	220	1	60
	WM-4	2.5 HP	23,150	13.75	1,685	220	1	60
2nd FLR.	WM-5	3 TR	38,000	12.30	3,100	220	1	60
	WM-6	3 TR	38,000	12.30	3,100	220	1	60
	WM-7	3 TR	38,000	12.30	3,100	220	1	60
	WM-8	3 TR	38,000	12.30	3,100	220	1	60

M.T. Ang
architectural designs

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27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY ☎ No: 301-1917

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APPROVED BY

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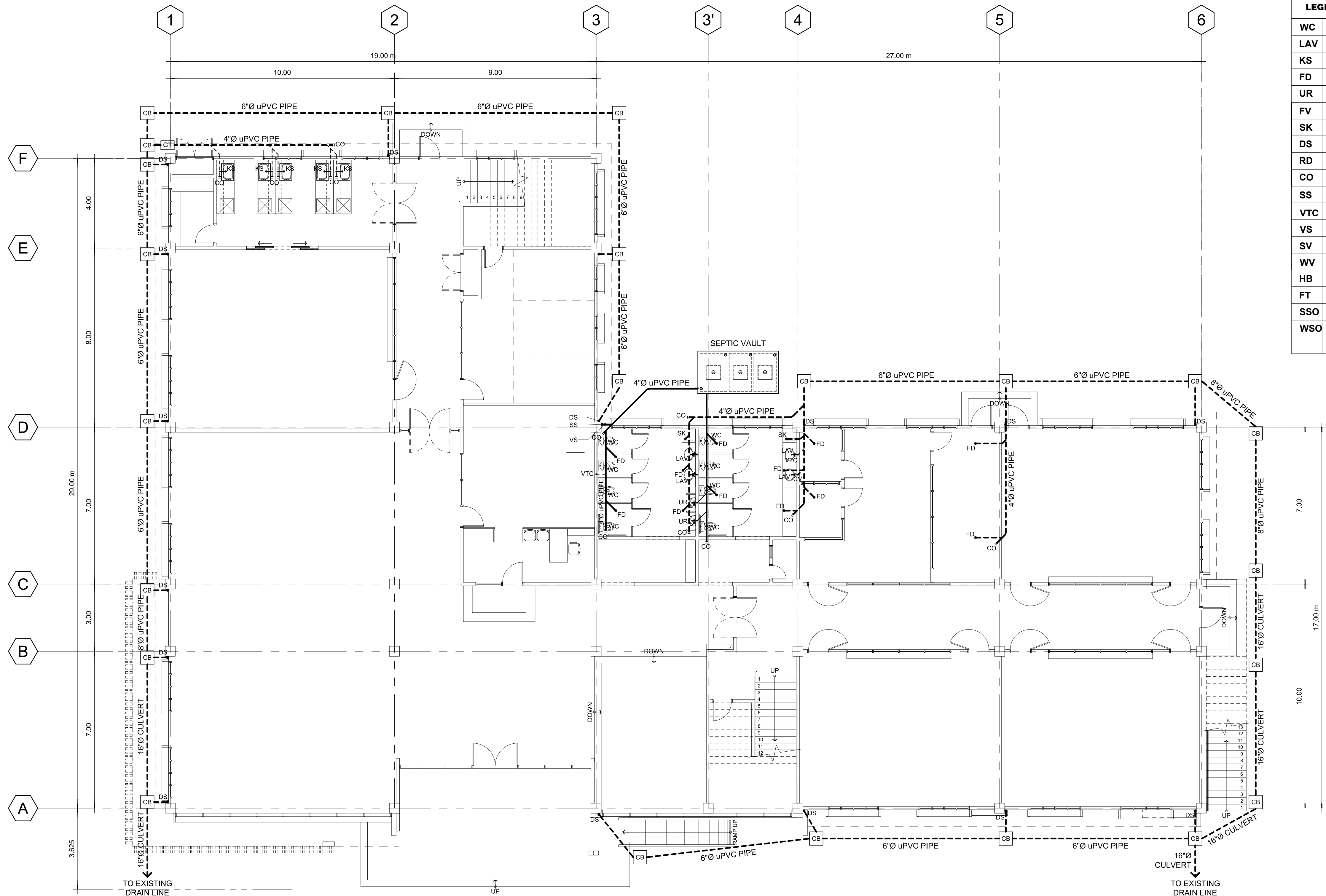
PREPARED BY:

RANILE ESPINA CORDOVA, uap
SENIOR DESIGN ARCHITECT

CHECKED BY :

RESIDENT ENGINEER

SHEET NO.	
M-05	
37	47

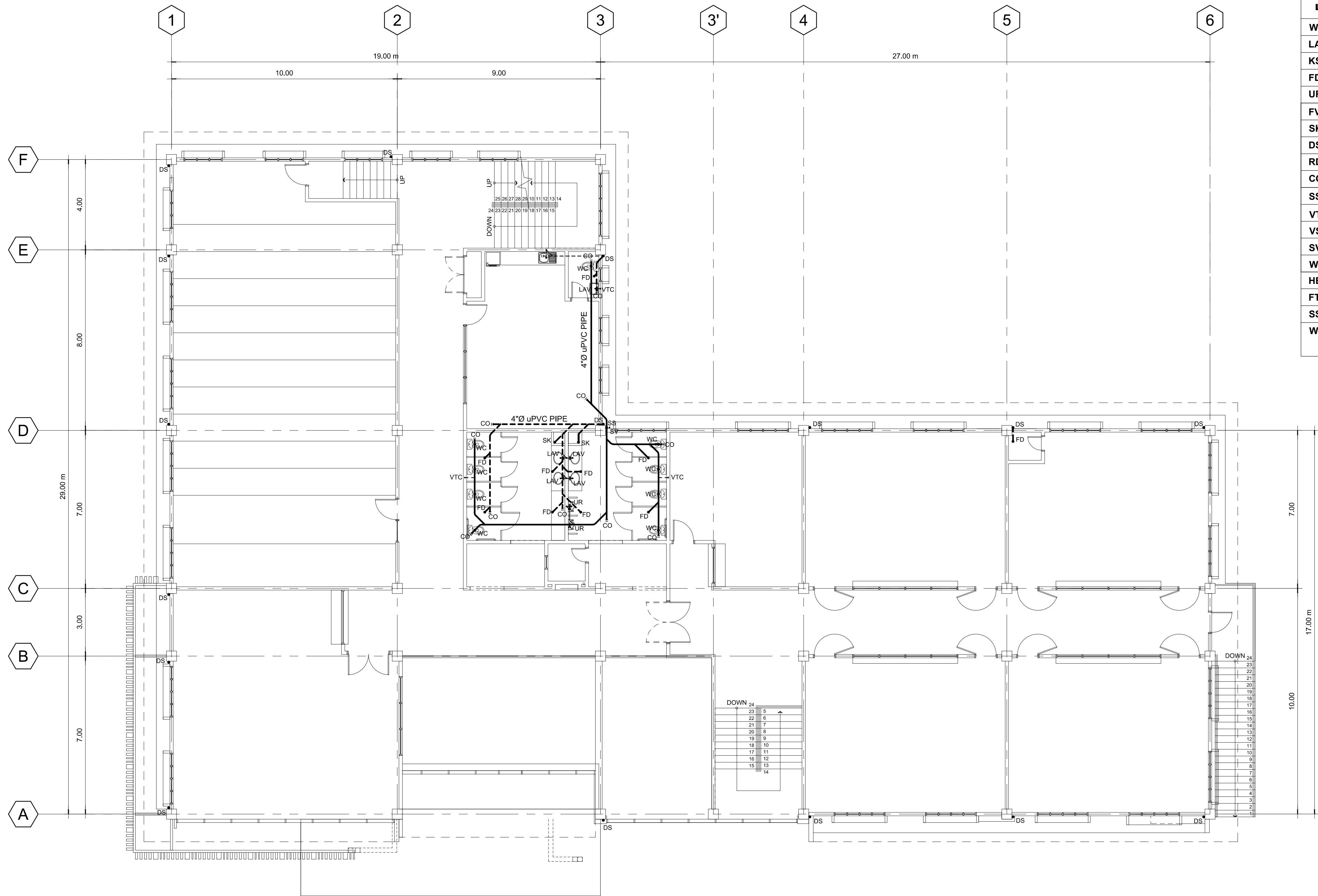


LEGEND :	
WC	WATER CLOSET
LAV	LAVATORY
KS	KITCHEN SINK
FD	FLOOR DRAIN
UR	URINAL
FV	FIXTURE VENT
SK	SLOP SINK
DS	DOWN SPOUTS
RD	ROOF DRAIN
CO	CLEAN OUT
SS	SOIL STACK
VTC	VENT. THRU' CEILING
VS	VENT. STACK
SV	STACK VENT.
WV	WET VENT
HB	HOSE BIB
FT	FAUCET
SSO	SEWER STUB-OUT
WSO	WATER SUPPLY STUB-OUT

01
P-01

GROUND FLOOR SEWER LINE LAYOUT PLAN

SCALE: 1:100



LEGEND :	
WC	WATER CLOSET
LAV	LAVATORY
KS	KITCHEN SINK
FD	FLOOR DRAIN
UR	URINAL
FV	FIXTURE VENT
SK	SLOP SINK
DS	DOWN SPOUTS
RD	ROOF DRAIN
CO	CLEAN OUT
SS	SOIL STACK
VTC	VENT. THRU' CEILING
VS	VENT. STACK
SV	STACK VENT.
WV	WET VENT
HB	HOSE BIB
FT	FAUCET
SSO	SEWER STUB-OUT
WSO	WATER SUPPLY STUB-OUT

01
P-02
SCALE: 1:100

SECOND FLOOR SEWER LINE LAYOUT PLAN



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DESIGNS BUILT • PLUMBING DESIGN

27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY ☎ No: 301-1917

Michael T. Ang
MICHAEL T. ANG, fuap
ARCHITECT

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MICHAEL T. ANG
MASTER PLUMBER

PRC Reg.No.: 2174 PTR No.: 7805117
TIN No.: 123-875-856 Date: 01/04/18

PROJECT TITLE / LOCATION

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APPROVED BY

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DIRECTOR III

ADDRESS: PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

PREPARED BY:

RANILE ESPINA CORDOVA, uap
SENIOR DESIGN ARCHITECT

CHECKED BY:

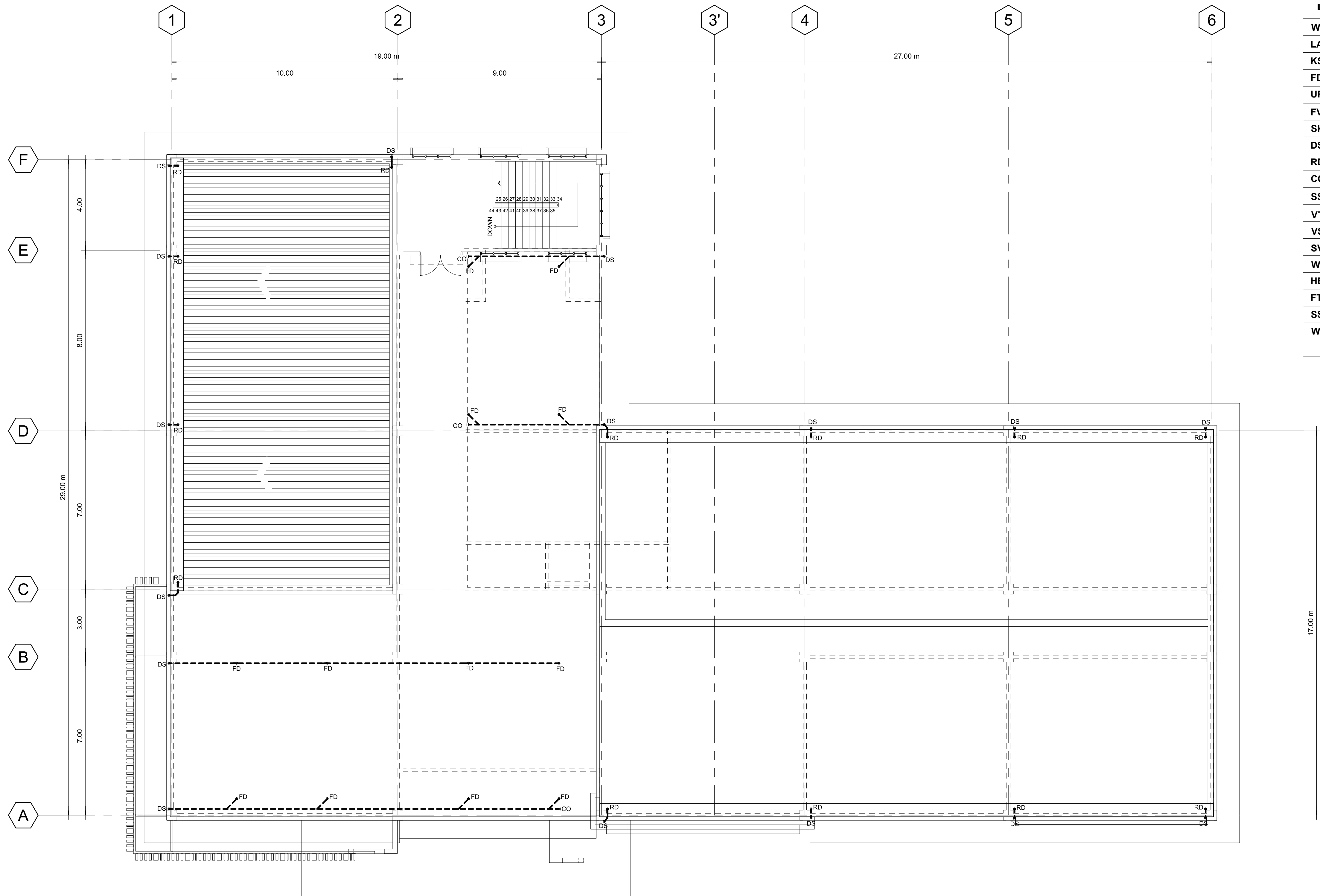
RESIDENT ENGINEER

SHEET NO.

P-02

39

47



LEGEND :	
WC	WATER CLOSET
LAV	LAVATORY
KS	KITCHEN SINK
FD	FLOOR DRAIN
UR	URINAL
FV	FIXTURE VENT
SK	SLOP SINK
DS	DOWN SPOUTS
RD	ROOF DRAIN
CO	CLEAN OUT
SS	SOIL STACK
VTC	VENT. THRU' CEILING
VS	VENT. STACK
SV	STACK VENT.
WV	WET VENT
HB	HOSE BIB
FT	FAUCET
SSO	SEWER STUB-OUT
WSO	WATER SUPPLY STUB-OUT

01
P-03
SCALE: 1:100
ROOF DRAIN LAYOUT PLAN



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RANILE ESPINA CORDOVA, uap
SENIOR DESIGN ARCHITECT

CHECKED BY :

RESIDENT ENGINEER

SHEET NO.

P-03

40 47

SPECIFICATIONS:

ALL PLUMBING WORKS AND INSTALLATIONS SHALL CONFORM WITH THE LATEST EDITION OF NATIONAL PLUMBING CODE RULES AND REGULATION OF THE ENFORCING AUTHORITY CONCERNED AND CITY.

ALL HORIZONTAL PIPINGS SHALL RUN IN PRACTICAL ALIGNMENT AND SHALL BE PROVIDED WITH SLOPE OF NOT LESS THAN 1 SLOPE AND SUPPORTED OF ANCHORD EVERY 3.00M. INTERVALS.

ALL MATERIALS SHALL BE NEW AND APPROVED TYPES:

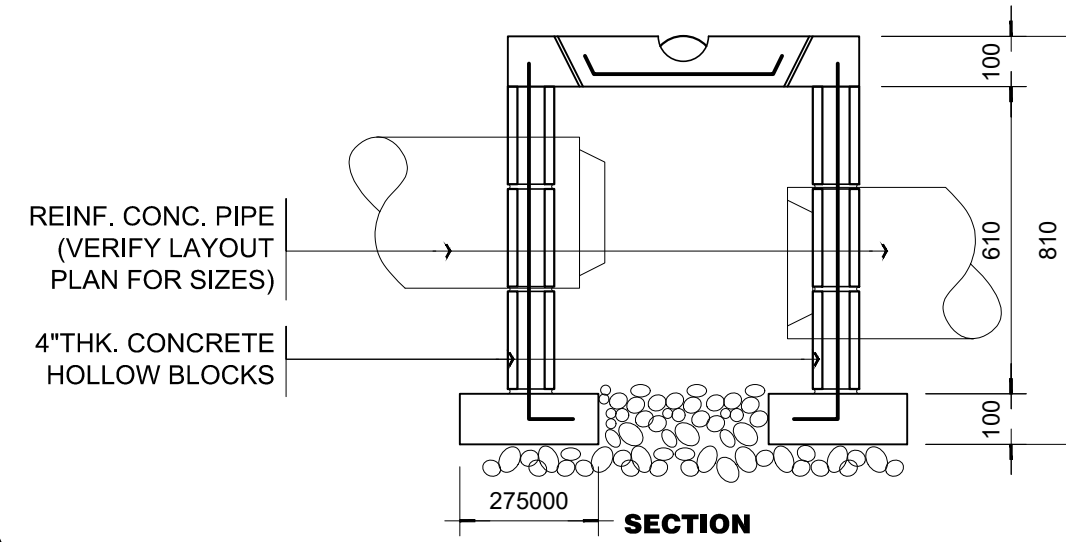
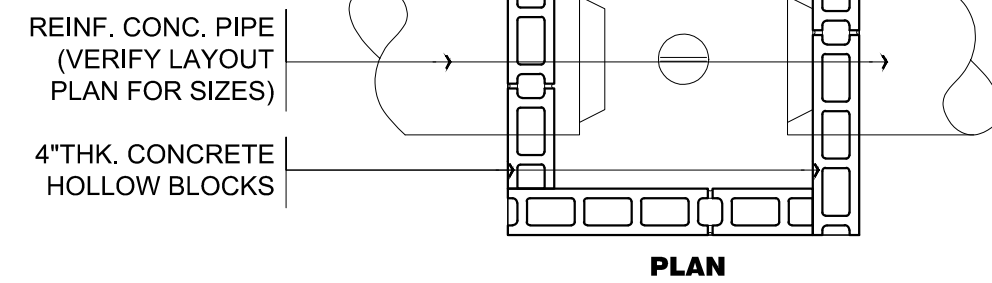
A.] FOR SANITARY LINES:

- 2" PVC PIPES FOR VENTS AND FIXTURES
- 4" PVC PIPES FOR WC, FD, CO.

B.] FOR WATER LINES:

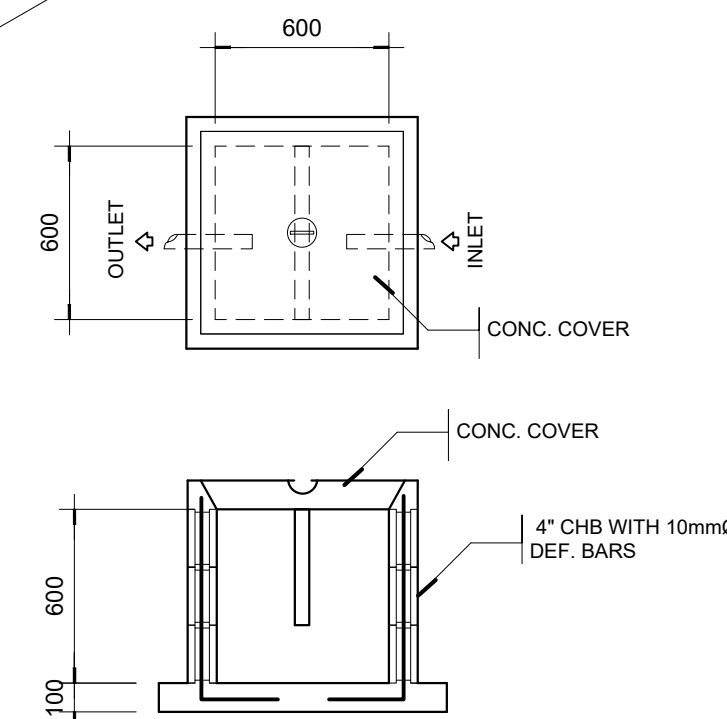
- 1/2" PPR PIPE FOR FIXTURES
- 3/4" PPR PIPE FOR BRANCHES
- 1" & 1 1/2" PPR PIPE FOR MAIN SUPPLY LINE

ALL PLUMBING WORKS AND INSTALLATIONS SHALL BE STRICTLY SUPERVISED BY A DULY REGISTERED MASTER PLUMBER.



02 **CATCH BASIN DETAILS**
P-04 SCALE: 1:15

LEGEND :	
WC	WATER CLOSET
LAV	LAVATORY
KS	KITCHEN SINK
FD	FLOOR DRAIN
UR	URINAL
FV	FIXTURE VENT
SK	SLOP SINK
DS	DOWN SPOUTS
RD	ROOF DRAIN
CO	CLEAN OUT
SS	SOIL STACK
VTC	VENT. THRU' CEILING
VS	VENT. STACK
SV	STACK VENT.
WV	WET VENT
HB	HOSE BIB
FT	FAUCET
SSO	SEWER STUB-OUT
WSO	WATER SUPPLY STUB-OUT



03 **GREASE TRAP DETAILS**
P-04 SCALE: 1:20

01 **SEWER LINE ISOMETRIC VIEW**
P-04 SCALE: 1:100

M.T. Ang
architectural designs
PLANS • DESIGNS • ESTIMATES • CONSTRUCTION MANAGEMENT •
DESIGNS BUILT • PLUMBING DESIGN
27 P. ACHARON BOULEVARD, BRGY. DAD. SOUTH, GEN. SANTOS CITY ☎ No: 301-1917

MICHAEL T. ANG, fuap
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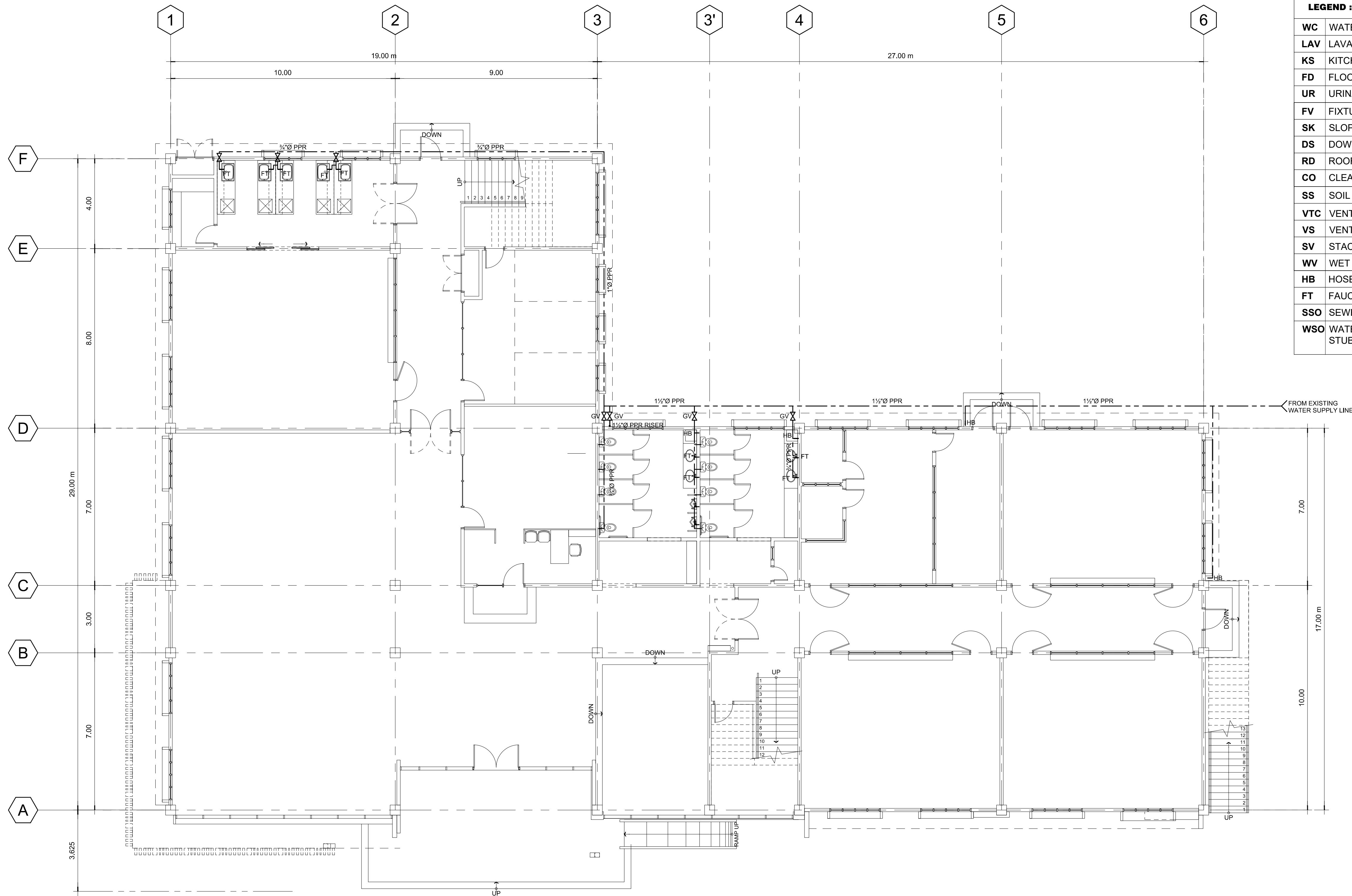
MICHAEL T. ANG	
MASTER PLUMBER	
PRC Reg.No.: 2174	PTR No.: 7805117
TIN No.: 123-875-856	Date: 01/04/18

PROJECT TITLE / LOCATION
PROPOSED RESEARCH HUB FOR AGRICULTURE & ALLIED SCIENCES
PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

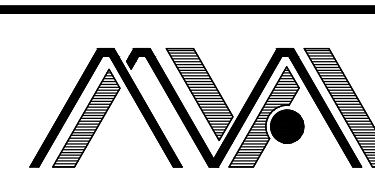
APPROVED BY
CHUCHI P. GARGANERA, PH. D.
DIRECTOR III
ADDRESS: PSHS-SOCCSKSARGEN Campus, Brgy. Paraiso, Koronadal City

PREPARED BY:
RANILE ESPINA CORDOVA, uap
SENIOR DESIGN ARCHITECT
CHECKED BY:
RESIDENT ENGINEER

SHEET NO.
P-04
41 47



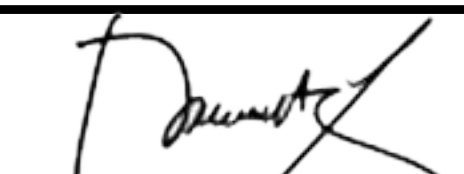
01 GROUND FLOOR WATER SUPPLY LINE LAYOUT PLAN
P-05 SCALE: 1:100



M.T. Ang
architectural designs

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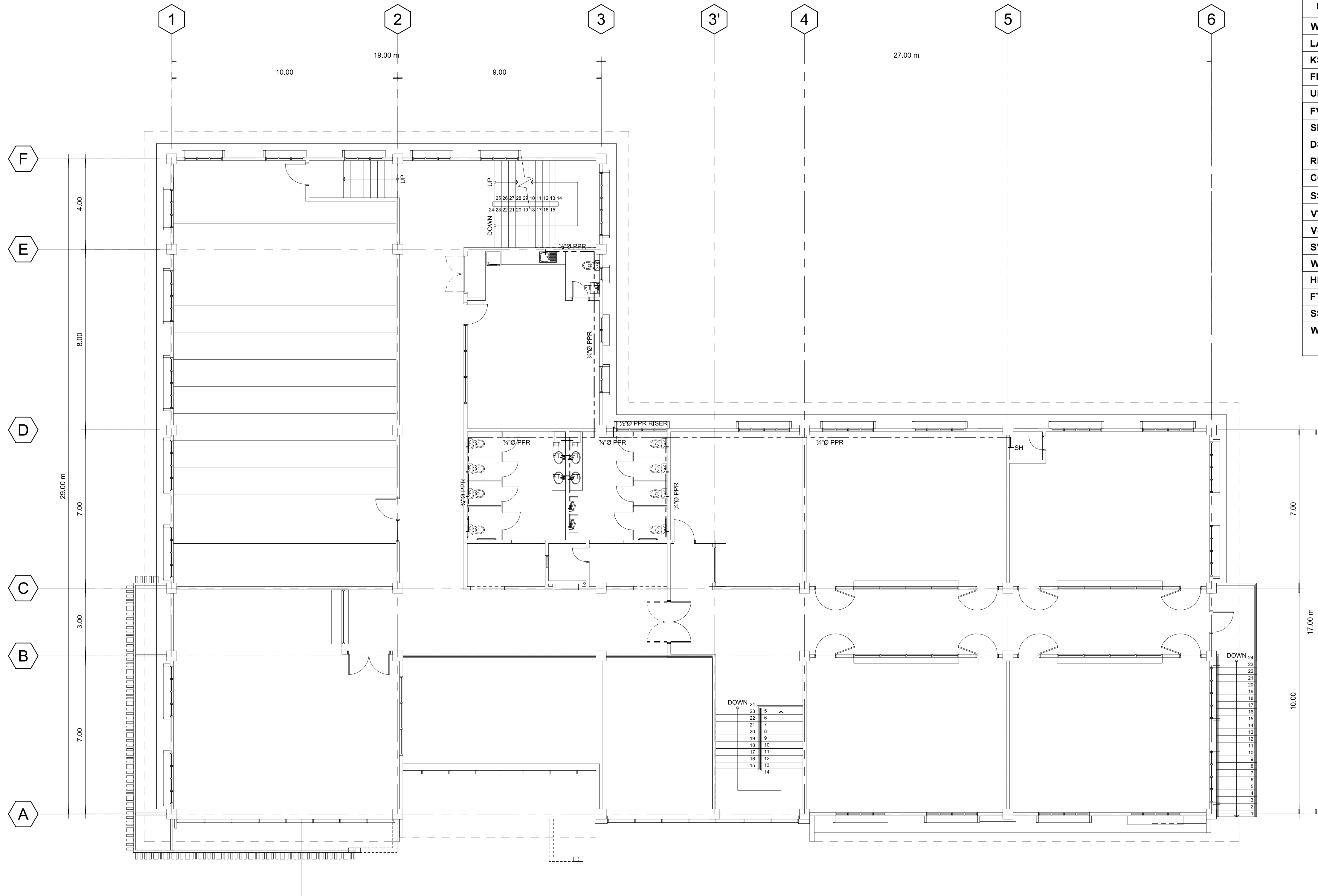
RANILE ESPINA CORDOVA, uap
SENIOR DESIGN ARCHITECT

CHECKED BY: _____
RESIDENT ENGINEER

SHEET NO.

P-05

42 47



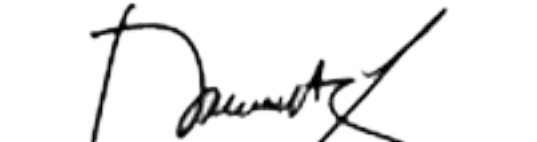
LEGEND :	
WC	WATER CLOSET
LAV	LAVATORY
KS	KITCHEN SINK
FD	FLOOR DRAIN
UR	URINAL
FV	FIXTURE VENT
SK	SLOP SINK
DS	DOWN SPOUTS
RD	ROOF DRAIN
CO	CLEAN OUT
SS	SOIL STACK
VTC	VENT. THRU' CEILING
VS	VENT. STACK
SV	STACK VENT.
WV	WET VENT
HB	HOSE BIB
FT	FAUCET
SSO	SEWER STUB-OUT
WSO	WATER SUPPLY STUB-OUT

01
P-06
SECOND FLOOR WATER SUPPLY LINE LAYOUT PLAN
SCALE: 1:100



PLANS • DESIGNS • ESTIMATES • CONSTRUCTION MANAGEMENT •
DESIGNS BUILT • PLUMBING DESIGN

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MASTER PLUMBER	
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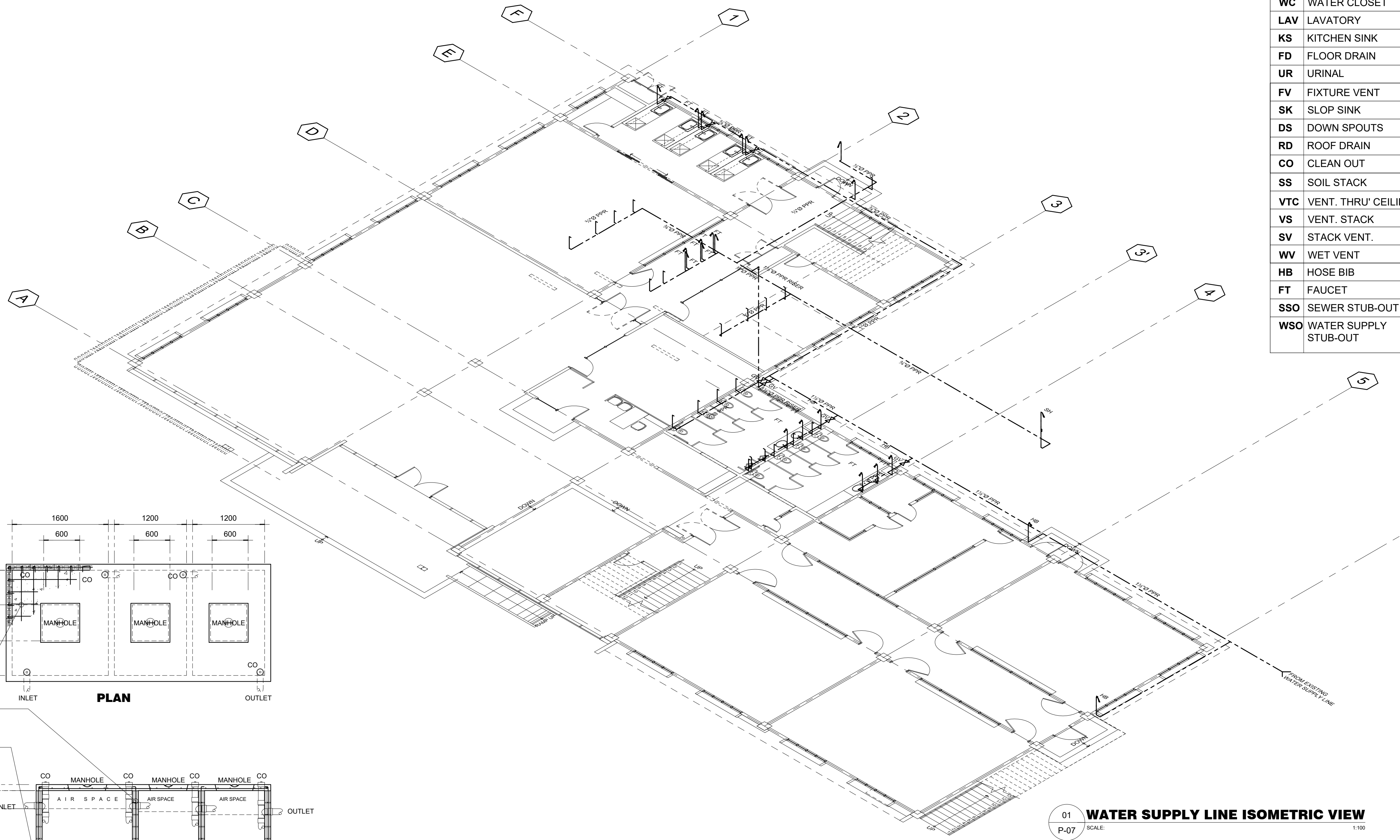
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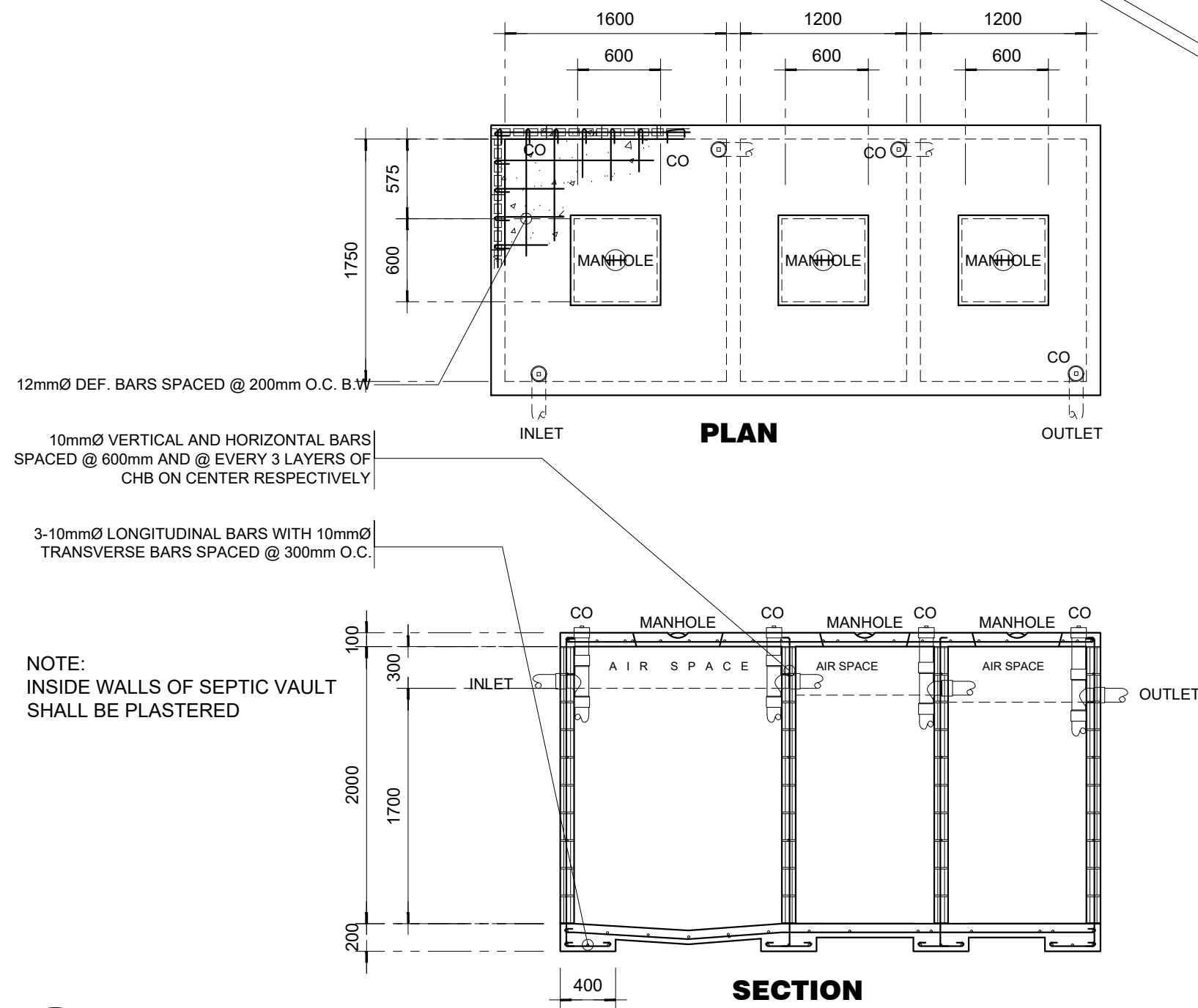
RESIDENT ENGINEER

SHEET NO.	
P-06	
43	47

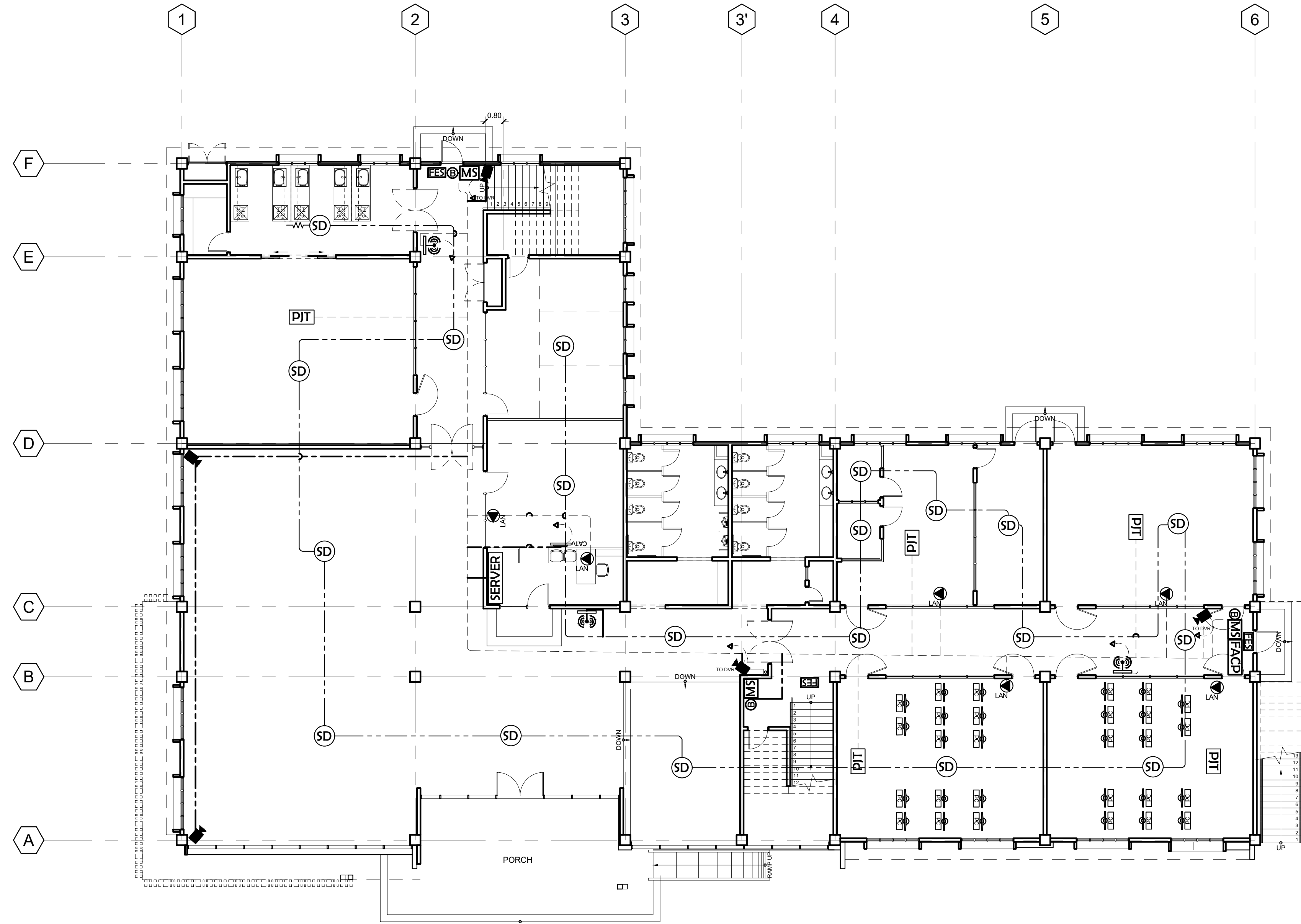
LEGEND :	
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LAV	LAVATORY
KS	KITCHEN SINK
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SSO	SEWER STUB-OUT
WSO	WATER SUPPLY STUB-OUT



01 WATER SUPPLY LINE ISOMETRIC VIEW
P-07 SCALE: 1:100



02 SEPTIC VAULT "01" DETAILS
P-07 SCALE: 1:40



GROUND FLOOR FIRE DETECTION & ALARM SYSTEM LAYOUT

SCALE: 1:100

LEGEND/SYMBOLS/ABBREVIATIONS:	
	CCTV CAMERA
	LAN OUTLET
	WIFI ROUTER (ACCESS POINT)
	FIRE ALARM CONTROL PANEL
	COMPUTER
	FIRE DETECTION & ALARM SYSTEM
	LOCAL AREA NETWORK
	SMOKE DETECTOR
	END OF LINE RESISTOR
	FIRE ALARM BELL
	FIRE EXIT SIGN
	CABLE TV
	WALL-MOUNTED/SUSPENDED SPEAKER
	FLOOR-MOUNTED SPEAKER
	PRINTER

GENERAL SPECIFICATIONS:

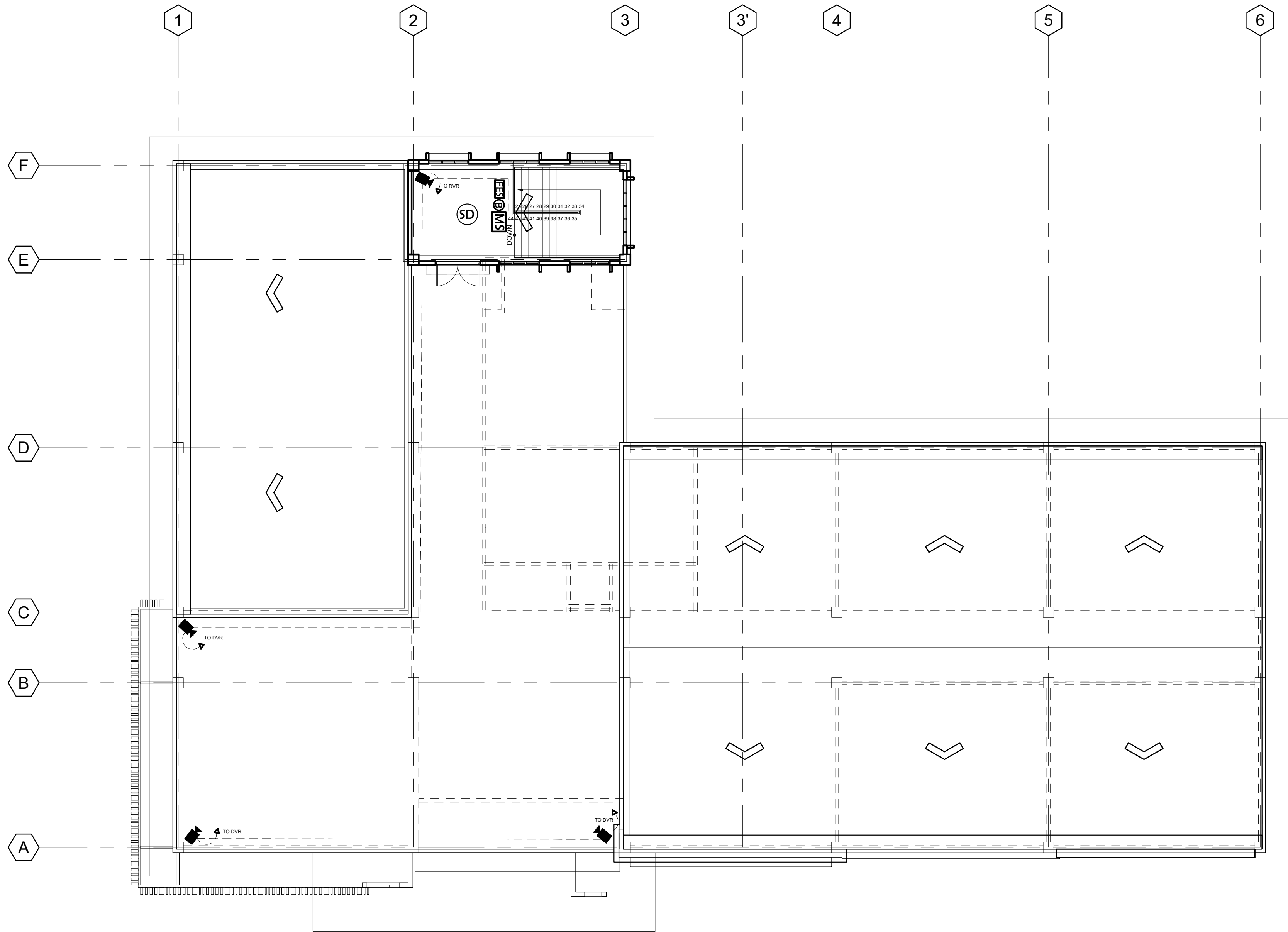
- THIS DRAWING IS SCHEMATIC REPRESENTATION OF SYSTEM ONLY. TENDERS TO DETAIL COMPLIANT OFFER BASED ON MANUFACTURER'S SYSTEM AND WIRING METHODS RECOMMENDATION.
- SMOKE DETECTORS SHALL BE STAND ALONE BATTERY-OPERATED ONLY.
- WIRING INSTALLATION (CEILING CONCEALED, EMBEDDED, EXPOSED OR SURFACED) SHALL BE USED RSC OR EMT, 15mmØ MINIMUM.
- WIRING METHODS SHALL BE AS FOLLOWS:
 - LAN/TEL CABLE – #24 AWG 4 PAIRS TUP CABLE/CAT5–E/CAT6
 - CCTV CABLE – RG–59/6 COAX CABLE
- CONDUIT SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED.
- THIS ARRANGEMENT IS LIMITED TO DROP WERE ATTACHMENT OF UP TO 5 LINES.
- SPAN TO FIXTURE SHALL BE NOT EXCEED 45.7m.
- SERVICE SHALL BE SUFFICIENTLY HIGH TO PROVIDE PROPER DROP WIRE CLEARANCE OVER SIDE, STREETS OR ROADWAYS IN COMPLIANCE WITH THE CODES AND REGULATIONS.

NOTES AND SPECIFICATIONS

- ALL ELECTRONIC WORKS AND INSULATIONS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF PHILELEC. CODE AS PER RA 9292 FIRE AND RULES AND REGULATION OF THE NATIONAL AND LOCAL AUTHORITY CONCERNS.
- ALL ELECTRONIC WORKS AND INSTALLATION SHALL BE PERFORMED UNDER THE STRICT SUPERVISION OF A DULY LICENSED PROFESSIONAL ELECTRICAL ENGINEER AS PER RA 9292 LINE.
- TELEPHONE UNIT MUST BE SEPARATED OF AT LEAST 300MM FROM ANY ELECTRICAL LINE.
- CAT 5 CABLE MUST BE USED.
- SMOKE DETECTORS, ALARM FIRE & AC LINE MUST BE SEPARATED AT LEAST 600MM.
- SMOKE AND CONTROL PANEL MUST BE LISTED.
- BACK UP BATTERY SHOULD BE ABLE TO SUPPORT FOR AT LOADS 24 HOURS.
- DETECTORS MAY BE PLACED NO CLOSE THAN 10 MM FROM THE WALL.
- FOR FIELD CONDITION WHICH REQUIRED DEVIATION IN THE PLAN OR AND ANY SUGGESTED CHANGES, THESE SHALL FIRST BE CONSULTED TO THE DESIGNER CONSULTANT FOR APPROVAL.

[illegible]

FILE NAME: ECE.dwg | May 2, 2018



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	FLOOR-MOUNTED SPEAKER
	PRINTER

ROOF DECK FIRE DETECTION & ALARM SYSTEM LAYOUT

SCALE: 1:100