

# ANNEX ( ) DESIGNS AND DRAWINGS.

PREPARED BY:

UNITED NATIONS OFFICE FOR PROJECT SERVICES

FUNDED BY:

PROJECT.

SUPPLY AND INSTALL OF HYBRID SOLAR SYSTEM FOR  
CHILDREN'S CENTER FOR AUTISM- ADEN

ADEN CITY - YEMEN

PROJECT REFERENCE NO.

IUS-OPS-ESC-ADN-049

OCTOBER, 2019

**REMARKS: -**

THE LAYOUT DRAWINGS DO NOT SHOW ALL THE SYSTEMS ITEMS, OR ACCESSORIES COVERED UNDER THE SCOPE OF ELECTRICAL WORKS TO BE EXECUTED THE LAYOUT DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT OR SPECIALIST DRAWINGS AND SPECIFICATIONS

2.DO NOT SCALE FROM THE LAYOUT DRAWINGS WORK ACCORDING TO ARCHITECTURAL OR ELECTRICAL DETAILS UNLESS OTHERWISE AUTHORIZED .

3.ALL EQUIPMENT LAYOUTS ARE PROVISIONAL . FINAL LAYOUT SHALL BE DETERMINED BY THE CONTRACTOR FROM THE CONSTRUCTION /SHOP DRAWINGS AND AFTER COORDINATION WITH OTHER TRADES .

4.THE SIZE OF CONDUITS AND/OR CABLE TRAYS IS IN GENERAL NOT SHOWN ON DRAWINGS . THE SIZE OF ALL CONDUITS AND/OR CABLE TRAYS SHALL BE SELECTED BY THE CONTRACTOR IN ACCORDANCE WITH BOQ , REGULATIONS AND /OR STANDARDS AND WILL BE FUNCTION OF THE NUMBER AND SIZE OF THE RESPECTIVE CONDUCTORS.

5.PERFORATED CABLE TRAY SHALL BE FIXED AND COVER PROPERLY AND SHALL NOT FIXED DIRECT TO ROOF SLAB .

6.EARTH CONTINUITY CONDUCTORS ARE NOT INDICATED ON THE DRAWINGS , BUT SHALL BE RUN WITH ALL CIRCUITS IN ACCORDANCE WITH SPECIFICATIONS , REGULATIONS AND/OR STANDARDS.

7.THE COLOR CODE FOR A FOUR WIRE CIRCUIT IS - ONE BLACK , -ONE RED , ONE BLUE AND ONE YELLOW ANY CONDUCTOR INTENDED FOR GROUNDING PURPOSE SHALL BE GREEN WITH YELLOW STRIPE .

8.CONTRACTOR RESPONSIBLE TO DISCONNECT ALL WIRING IN EXISTING DISTRIBUTION BOARD AND RECONNECTED IN NEW DISTRIBUTION BOARD AS PER SINGLE LINE DIAGRAM .

9.THE CONTROL AND /OR SWITCHBOARDS FOR THE DIFFERENT SYSTEMS SUCH AS THE AIR CONDITIONING EQUIPMENT MACHINES , ...ETC . WILL BE IN THE SCOPE OF SUPPLY OF THE SYSTEM SUPPLIER . THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR FURNISHING AND

INSTALLING THE CABLE FEEDERS TO THESE BOARDS , HOOKING UP OF EQUIPMENT WILL BE THE SYSTEM SUPPLIER RESPONSIBILITY.

.10 CONDUCTORS FOR SINGLE PHASE SOCKETS OUTLETS CIRCUITS SHALL BE 4MM COPPER CONDUCTORS AND PROTECTED BY 16A CIRCUIT BREAKERS UNLESS OTHERWISE INDICATED.

.11 IN THE ABSENCE OF ANY INDICATION ON THE DRAWINGS OR THE SPECIFICATIONS ,THE INSTALLATIONS SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER.

.12 THE CONTRACTOR SHALL PROVIDE ALL IRON ANGLES , AND FIXING ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION OF LIGHTING FIXTURES ,OUTLETS & ROUTES.

.13 FOR EXACT QUANTITY ,TYPE &LOCATION OF ELECTRICAL OUTLETS REFER TO INTERIOR DESIGN DOCUMENT.

.14 THE CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING THE NO .OF CIRCUIT BREAKERS ,RATING ,AND WIRING ACCORDING TO MANUFACTURER DATA WITHOUT ANY EXTRA COST.

.15 ALL DISCONNECT SWITCHES FOR A/C SHALL BE ADJACENT TO THE UNIT..

.16 UNLESS OTHERWISE INDICATED MINIMUM SIZE CONDUIT;

- FOR EXTERIOR INSTALLATION IS 25MM DIAMETER OR AS SHOWN IN PANEL SCHEDULE.

- FOR INTERIOR INSTALLATION IS 25MM DIAMETER OR AS SHOWN IN PANEL SCHEDULE.

.17 CONTRACTOR SHALL PROVIDE MATCHING PLUG IN FOR ALL SPECIAL OUTLETS.

.18 CONTRACTOR RESPONSIBLE FOR CHANGE ALL EXISTING FLORESCENT TUBE (T)8LIGHT BY LED TUBE (T)8 INCLUDE ALL OPERATION ACCESSORIES FOR ALL LIGHTING FIXTURES AS PER BOQ .

.19 LED LAMPS SHALL BE FURNISHED AND INSTALLED IN ALL LIGHTING FIXTURES.

.20 ALL OUTDOOR WIRING ACCESSORIES SHALL BE WEATHER PROOF TYPE.

.21 FOR GROUND-FAULT CIRCUIT INTERRUPT (GFCI )REFER TO PLANS AND PANEL SCHEDULES.

.22 THE MINIMUM SEPARATE DISTANCE BETWEEN LOW

CURRENT SYSTEMS &LOW VOLTAGE POWER CABLES IS 300MM.

.23 THE MAXIMUM FILLING RATIO FOR POWER & COMMUNICATION CONDUITS IN SITE WORK ARE:

- MIN50 .MMD FOR POWER CABLE WITH MAX 40% .OF CONDUIT CAPACITY.

- MIN50 .MMD FOR LOW CURRENT SYSTEMS WITH MAX 40% .OF CONDUIT CAPACITY.

.24 ALL C.BS WITH FRAME RATING LARGER THAN 100A SHOULD HAVE ADJUSTABLE THERMAL OVERLOAD SETTING.

.25 CONTRACTOR SHALL PROVIDE CONTROL CONDUIT & WIRING AS PER OPERATIONAL REQUIREMENTS SHOWN ON HVAC AND PLUMBING DRAWING.

.26 EXACT METHOD OF JOINING CABLE TRAYS,AND CABLE TRUNKING SHALL BE IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURERS RECOMMENDATION USING PROPER COMPONENT.

.27 GROUNDING TO LOW CURRENT SYSTEMS SHALL BE SEPARATE GROUNDING PIT AND CONNECTED TO BUILDING GROUNDING NETWORK.

.28 THE DISTANCE BETWEEN EARTH PIT SHALL BE DOUBLE OR MORE THAN LENGTH OF EARTHING ROD .

.29 THE CONTRACTOR SHOULD PROVIDE COMPLETE CENTRAL INTERFACE BETWEEN THE SOLAR GENERATION SYSTEM &GENERATOR SET.

.30 THE DIMENSION OF ELECTRICAL PANELS AND EQUIPMENT'S SHALL BE AS PER APPROVED FABRICATOR / SUPPLIER SHOP DRAWING.

.31 CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALL SUITABLE VENTILATION SYSTEM IN BATTERY ROOM TO ASSURING REFRESHING AIR FLOW INSIDE ROOM .

.32 CONTRACTOR RESPONSIBLE TO DISTRIBUTE ALL DISTANCE BETWEEN ALL SYSTEM COMPONENTS INSIDE BATTERY ROOM AS PER MANUFACTURE INSTALLATION INSTRUCTION .

PREPARED BY:  
  
**UNOPS**  
 OPERATIONAL EXCELLENCE  
 FOR RESULTS THAT MATTER.  
 SANA'A - YEMEN.

FUNED BY:  
  
**WORLD BANK GROUP**  
 WORLD BANK GROUP.

PROJECT TITLE:  
 CHILDREN'S CENTER FOR  
 AUTISM -ADEN  
 PROJECT LOCATION:  
 ADEN - YEMEN

DRAWING TITLE:  
 GENERAL LAYOUT  
 DRAWING TYPE:  
 STRUCTURAL PLANS.

DESIGN-BY:  
 ENG: AHMED AHMED NASSER  
 CHECKED BY:  
 ENG: MARWAN SARHAN  
 ENG :MUEEN ALMAS

STATUS:  
 STATUS  
 PROJECT NO:  
 IUS-OPS-ESC-ADN-049  
 DATE:  
 OCT,27TH,2019  
 PAPER SIZE:  
 A3  
 SCALE:  
 SCALE



DRAWING NO:  
**S1-02**

coordination is 12°48'11.61"N,45°02'18.16"E.



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PROJECT TITLE:  
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PROJECT LOCATION:  
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DRAWING TITLE:  
**GOOGLE EARTH IMAGE**

DRAWING TYPE:  
**STRUCTURAL PLANS.**

DESIGN-BY:  
**ENG: AHMED AHMED NASSER**

CHECKED BY:  
**ENG: MARWAN SARHAN  
ENG :MUBEN ALMAS**

STATUS:  
**STATUS**

PROJECT NO:  
**IUS-OPS-ESC-ADN-049**

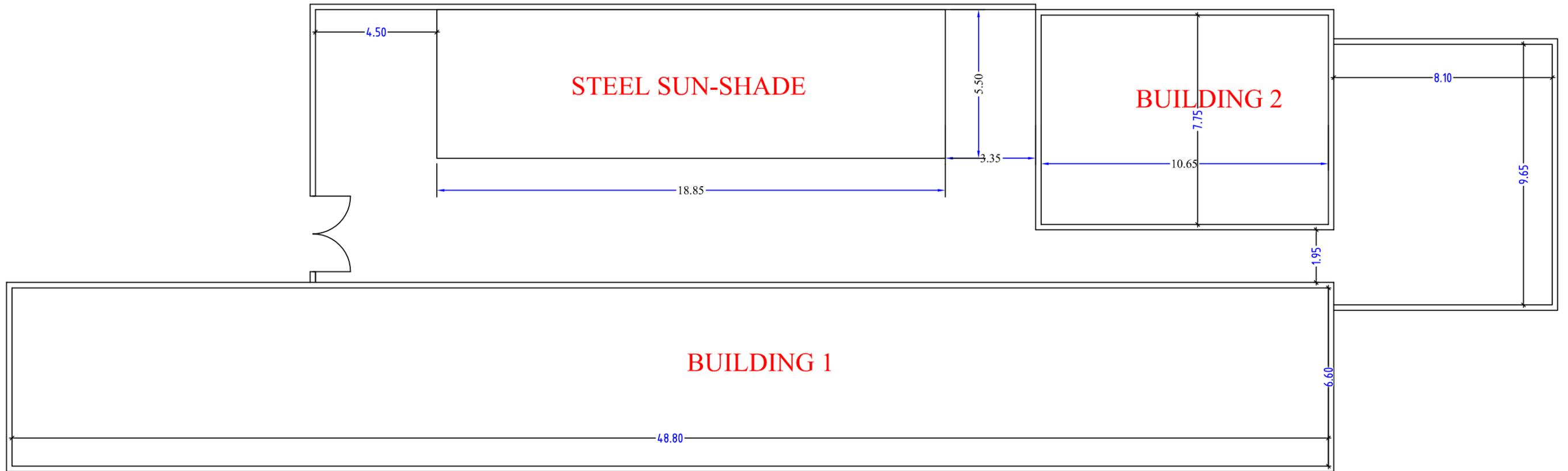
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**S1-03**



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GENERAL EXISITING LAYOUT

DRAWING TYPE:  
STRUCTURAL PLANS.

DESIGN-BY:  
ENG: AHMED AHMED NASSER  
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ENG: MARWAN SARHAN  
ENG :MUBEN ALMAS

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STATUS

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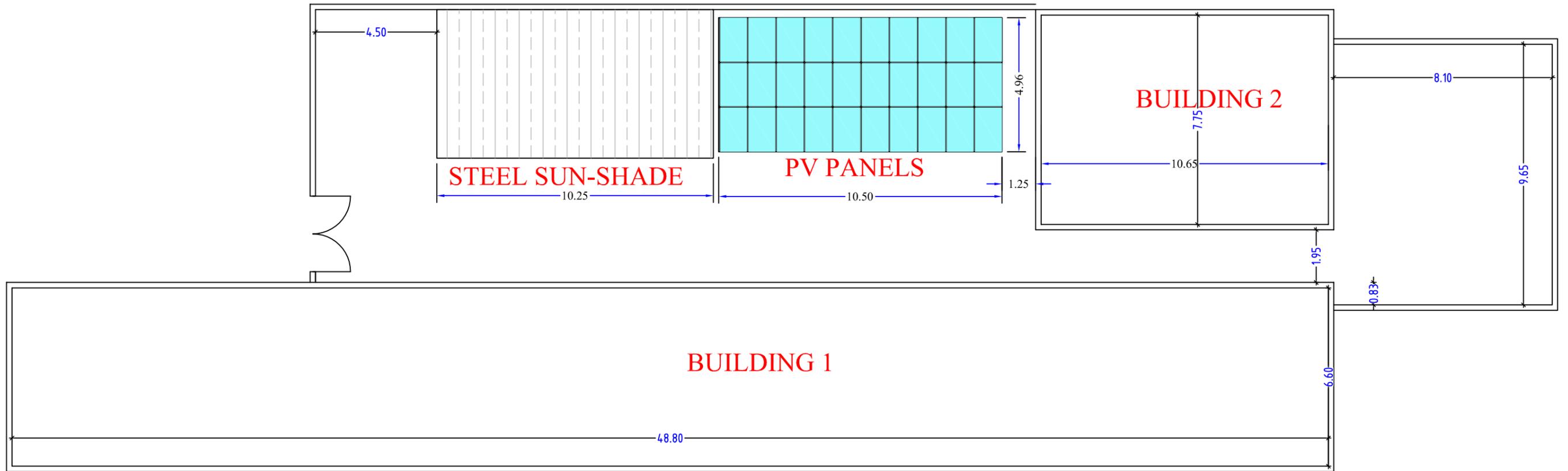
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**S1-04**



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GENERAL LAYOUT

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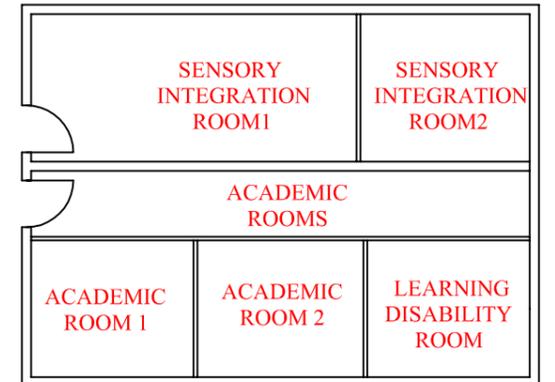
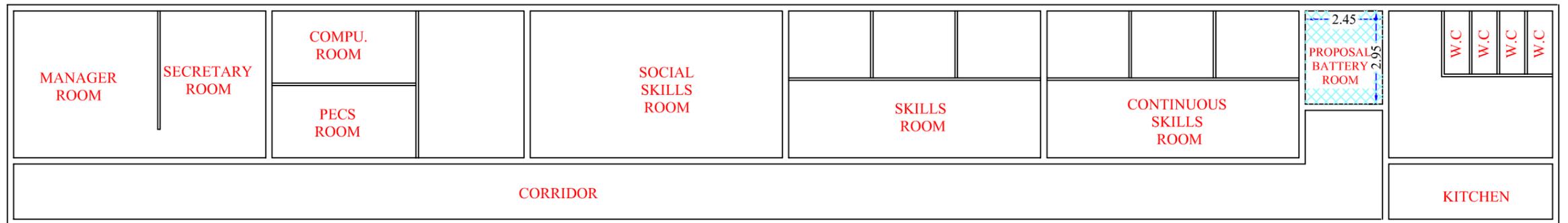
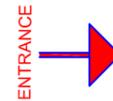
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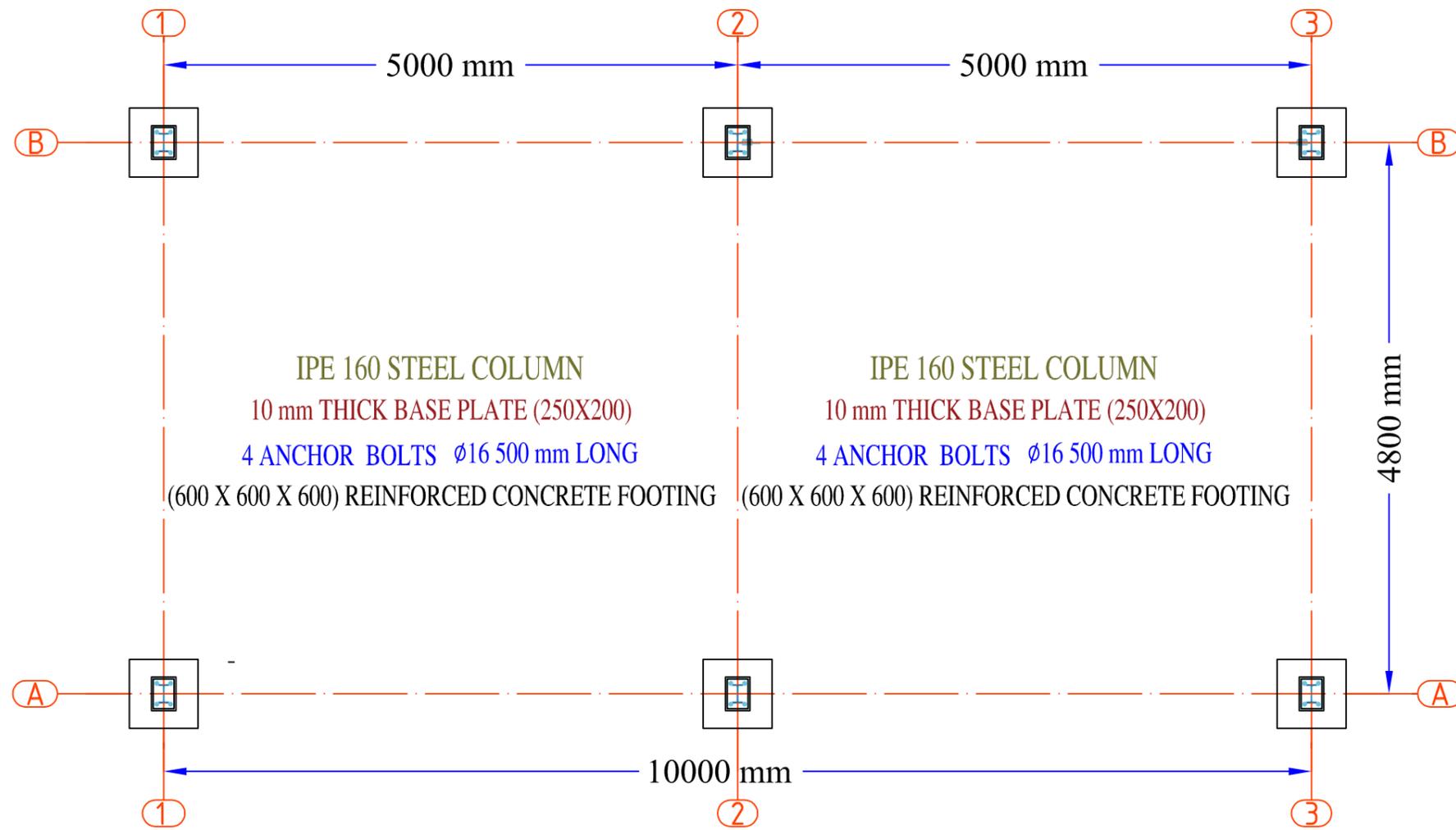
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DRAWING TYPE:  
STRUCTURAL PLANS.

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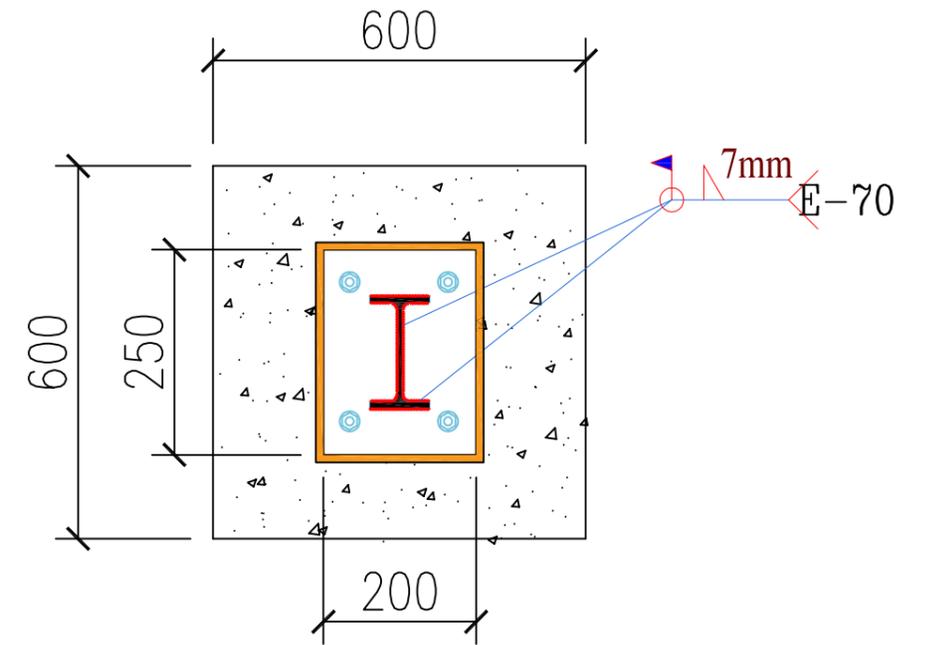
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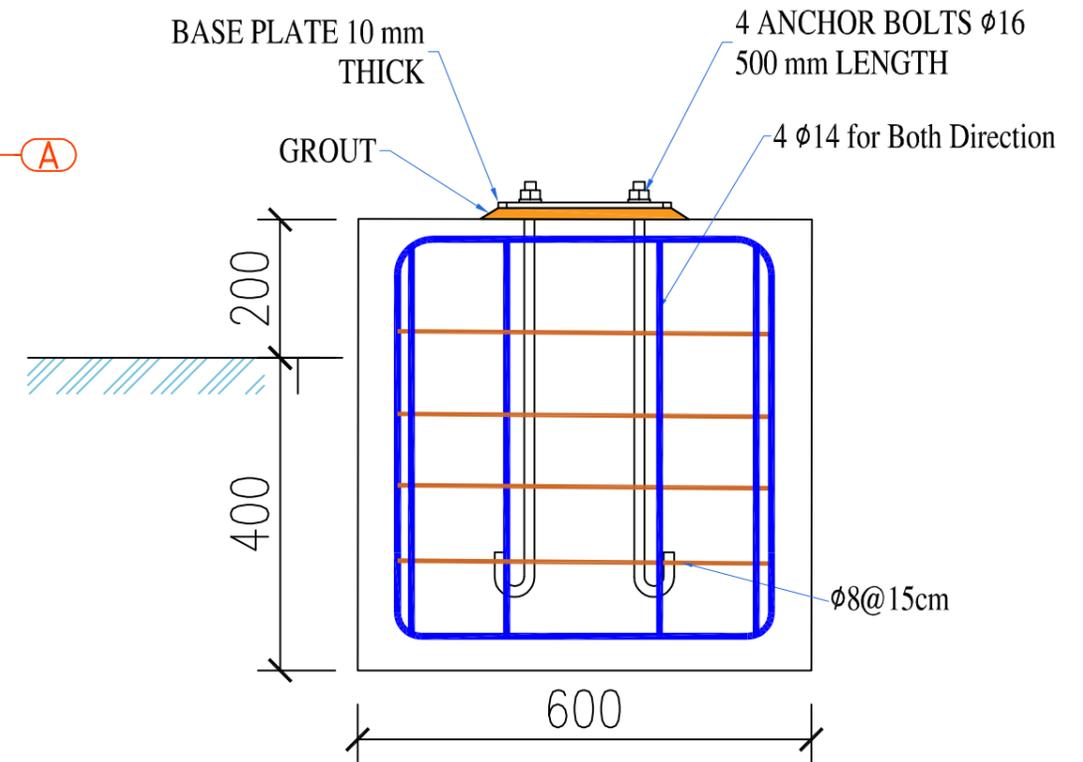
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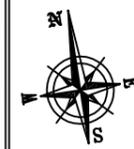
1 FULL FRAMING PLAN  
STRUCTURE DETAILS

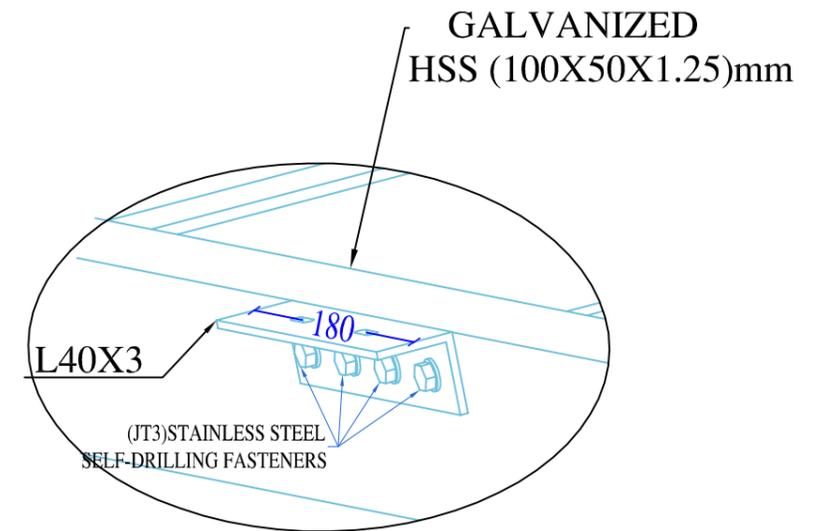
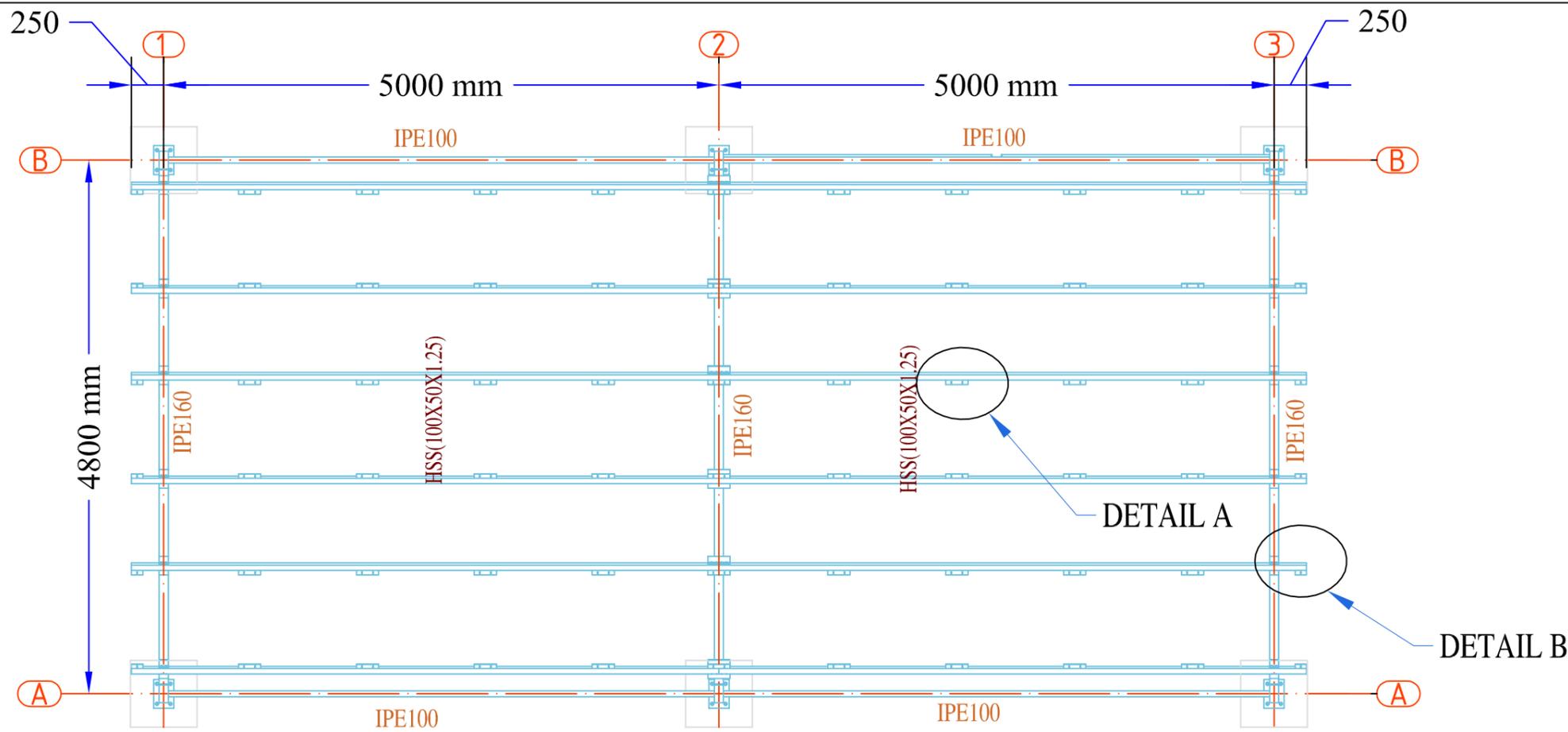


2 BASE PLATE - DETAIL A  
STRUCTURE DETAILS



3 CONCRETE FOOTING - DETAIL A  
STRUCTURE DETAILS

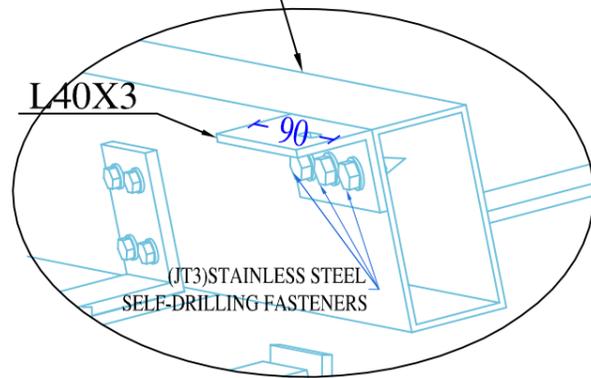




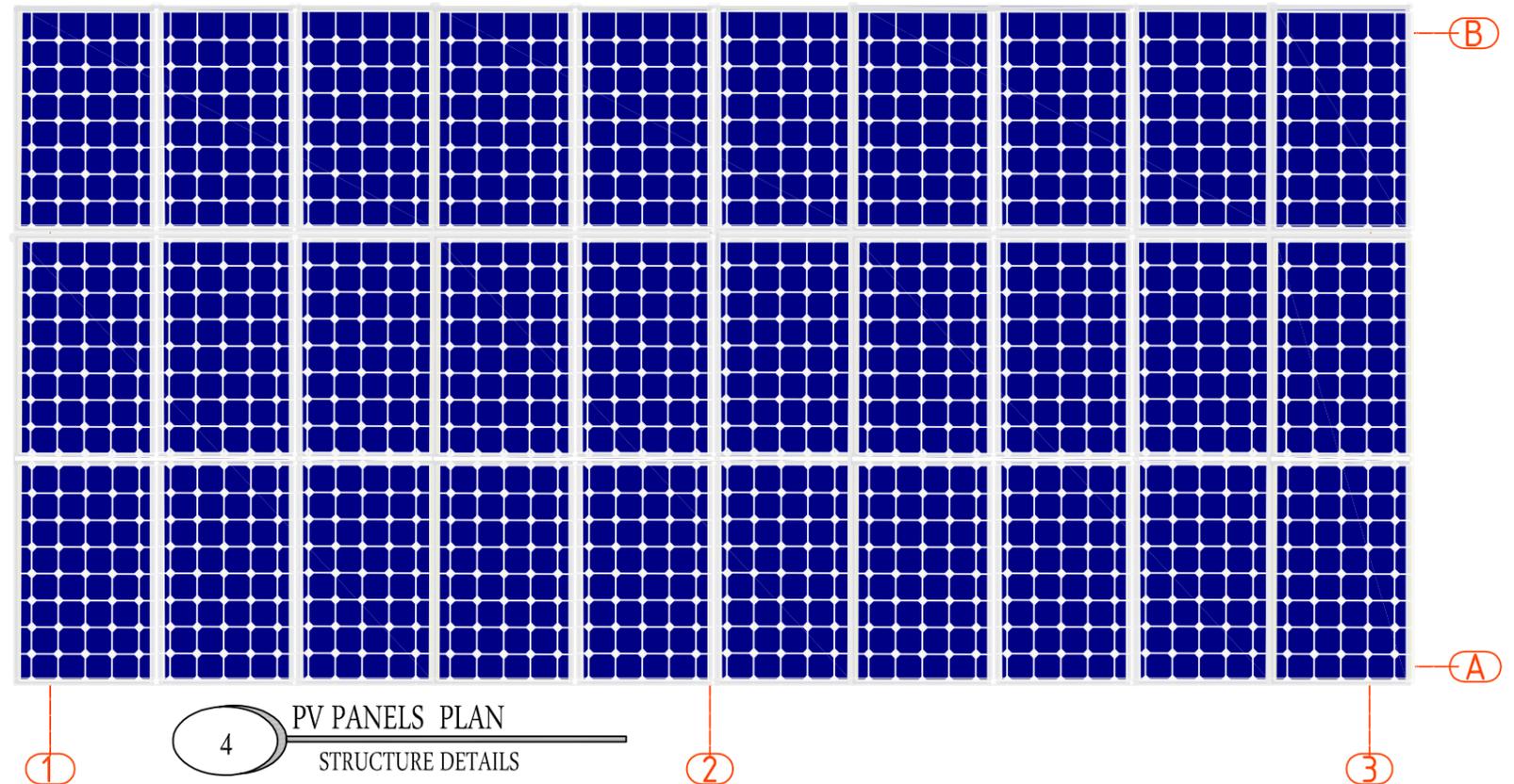
2 PV JOINT - DETAIL A  
STRUCTURE DETAILS

1 FULL FRAMING PLAN  
STRUCTURE DETAILS

GALVANIZED HSS (100X50X1.25)mm



3 PV JOINT - DETAIL B  
STRUCTURE DETAILS



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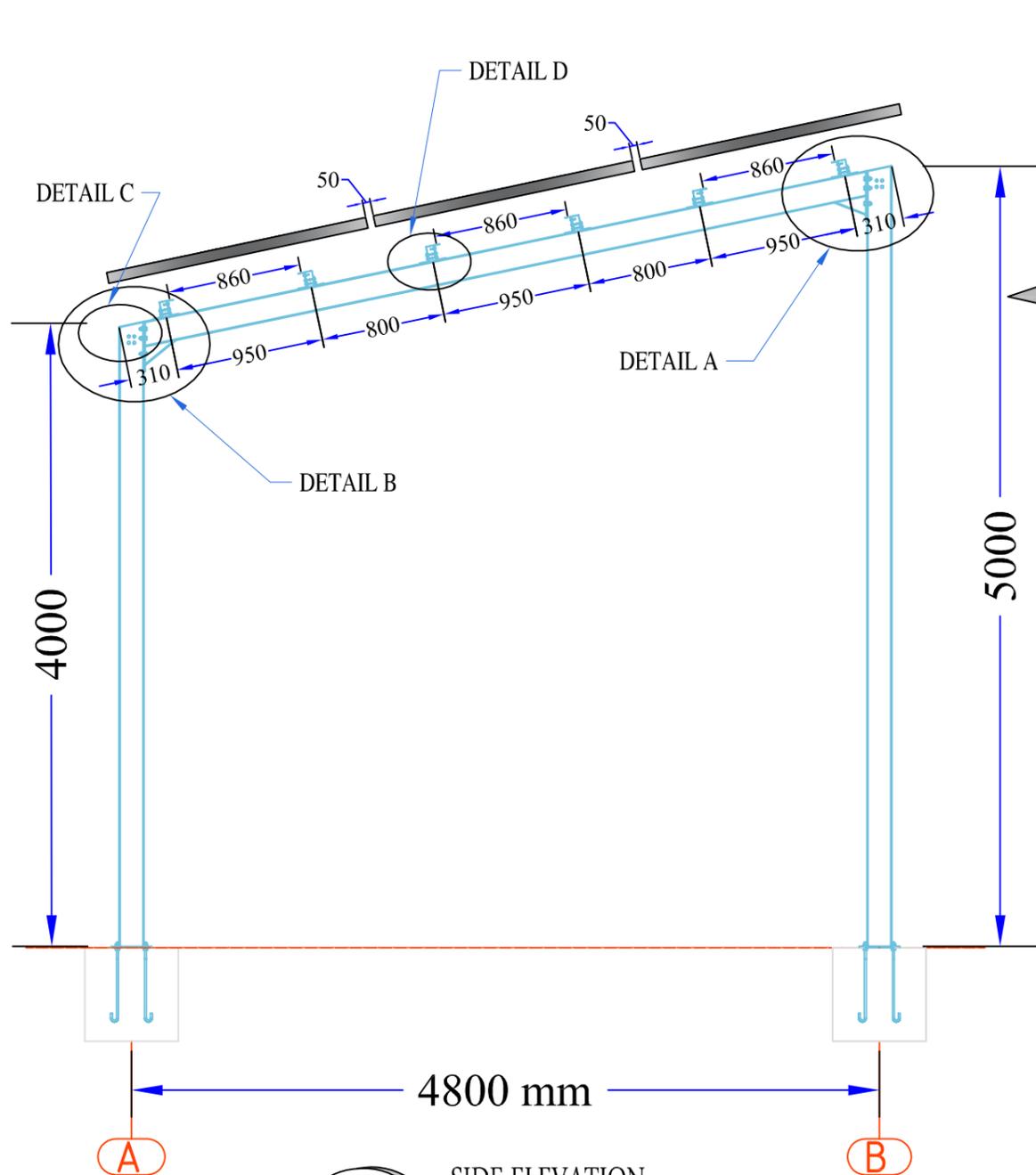
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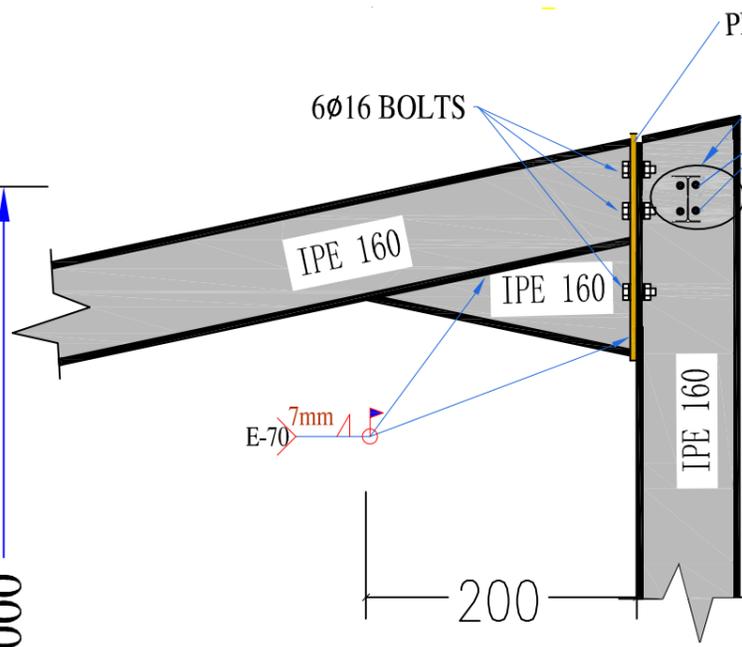
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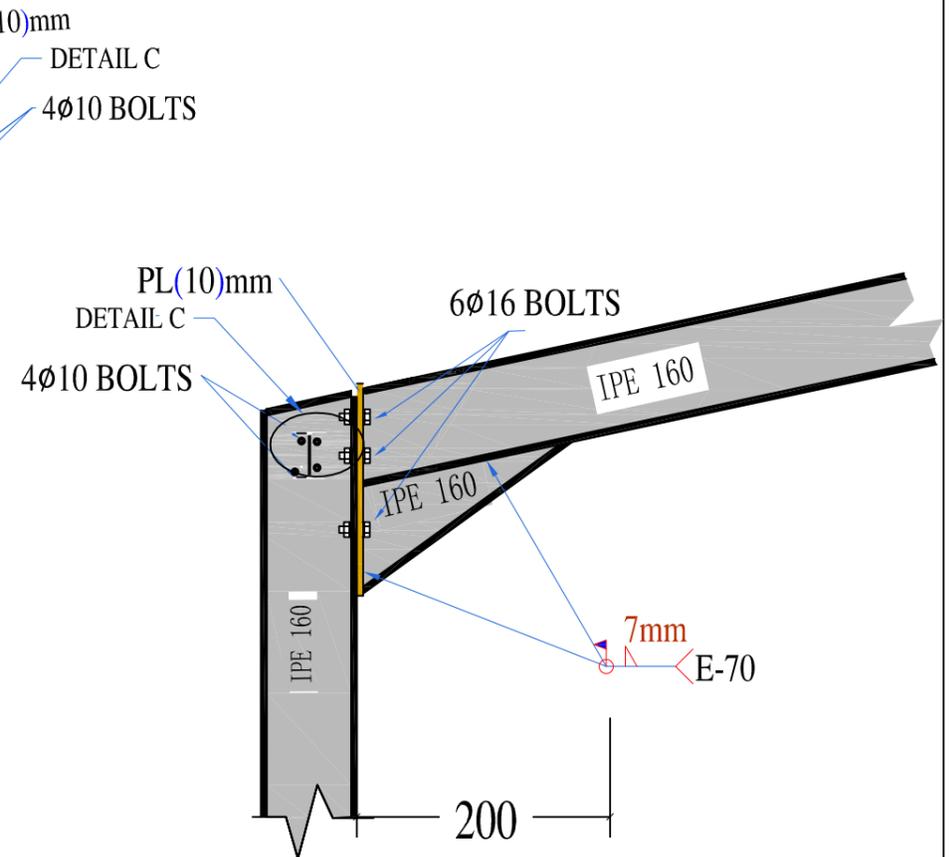
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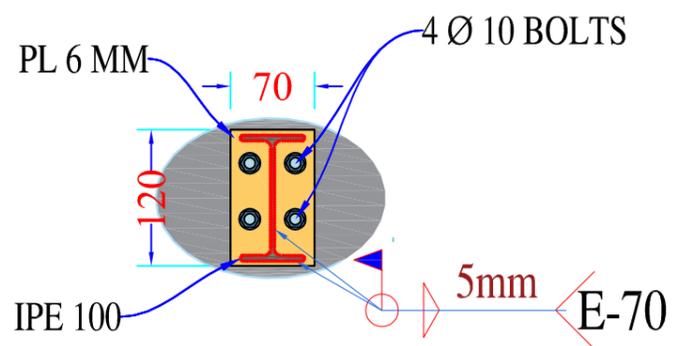
1 SIDE ELEVATION  
STRUCTURE DETAILS



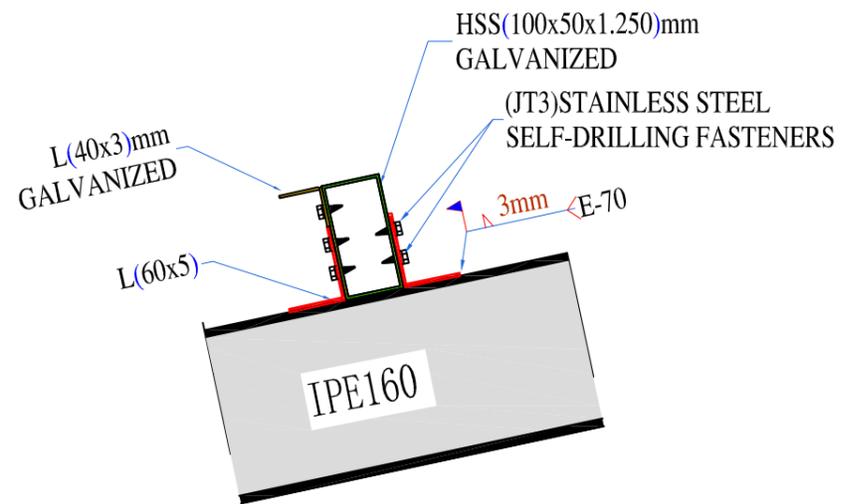
2 JOINT - DETAIL A  
STRUCTURE DETAILS



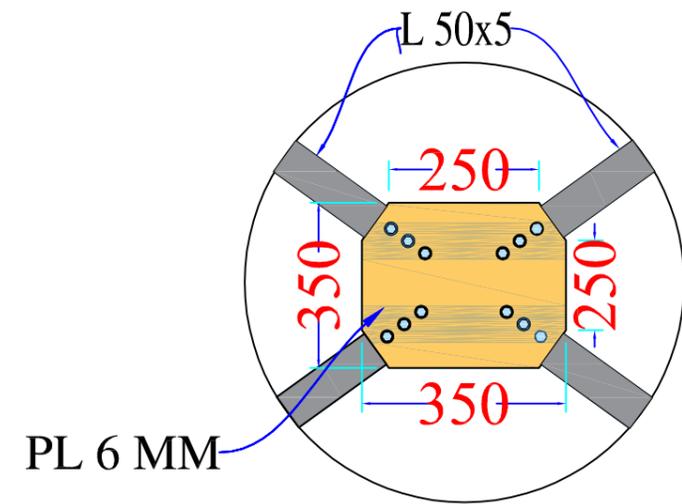
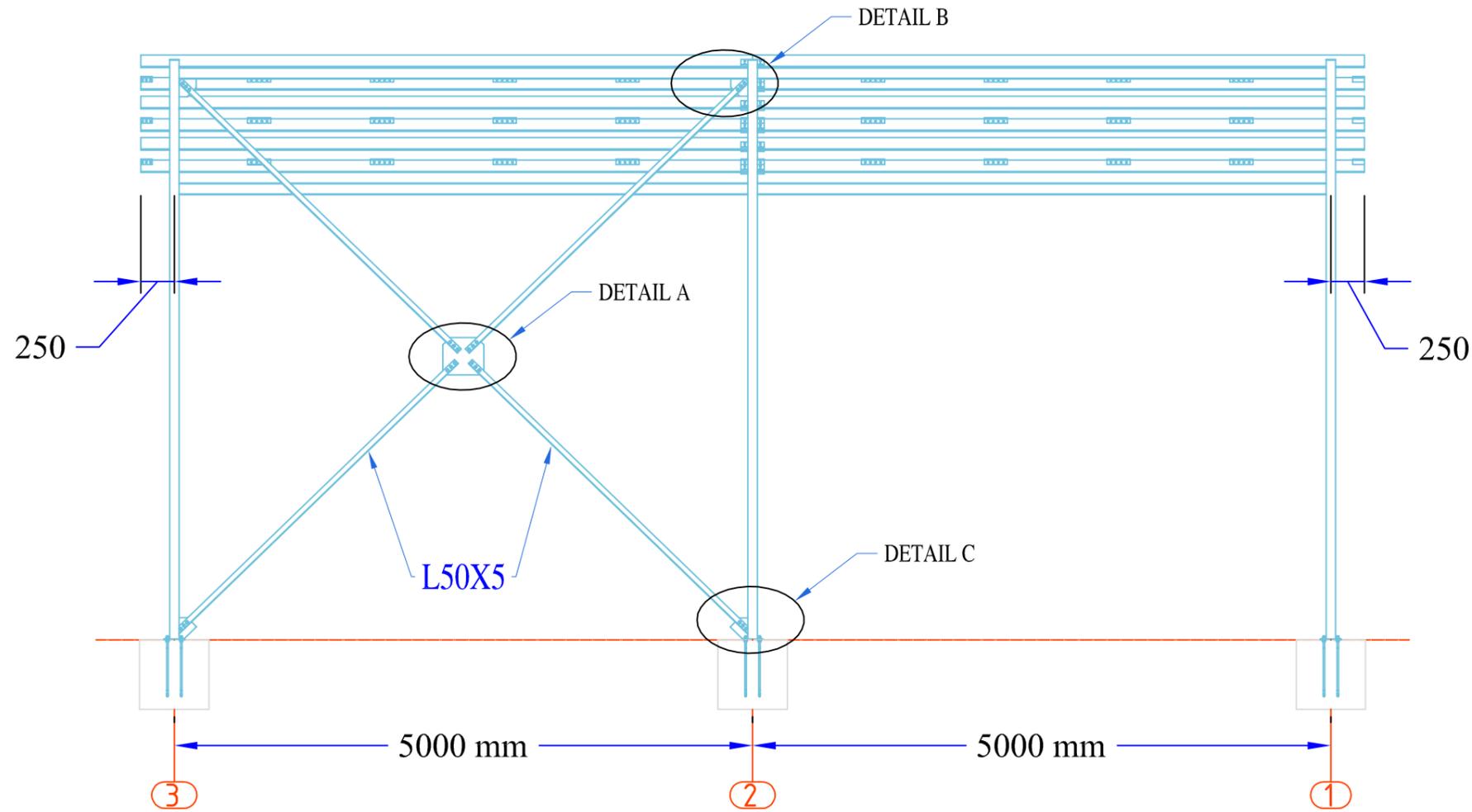
3 JOINT - DETAIL B  
STRUCTURE DETAILS



5 JOINT - DETAIL C  
STRUCTURE DETAILS

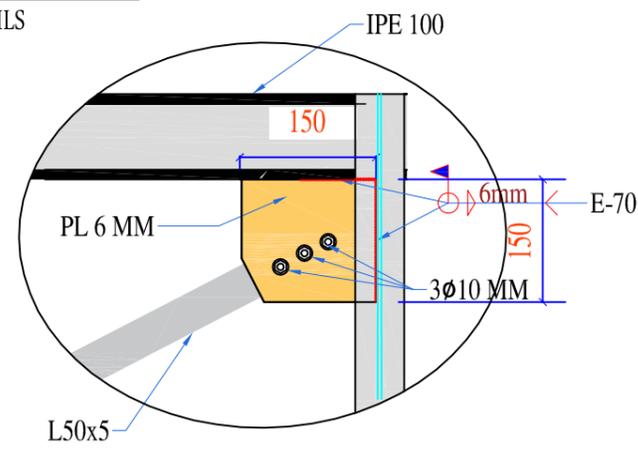


4 JOINT - DETAIL D  
STRUCTURE DETAILS

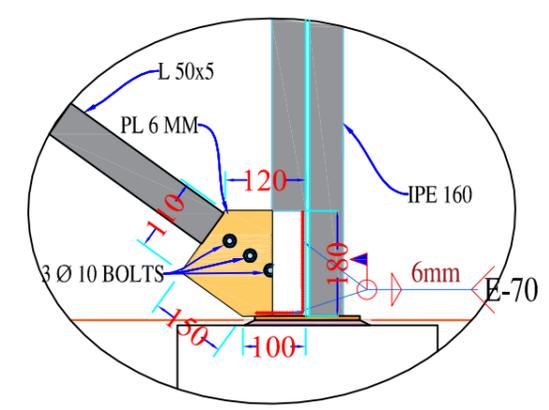


2 JOINT - DETAIL A  
STRUCTURE DETAILS

1 BACK ELEVATION  
STRUCTURE DETAILS



3 JOINT - DETAIL B  
STRUCTURE DETAILS



4 JOINT - DETAIL C  
STRUCTURE DETAILS

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PROJECT LOCATION:  
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DRAWING TITLE:  
**BACK ELEVATION & DETAILS**

DRAWING TYPE:  
**STRUCTURAL DETAILS**

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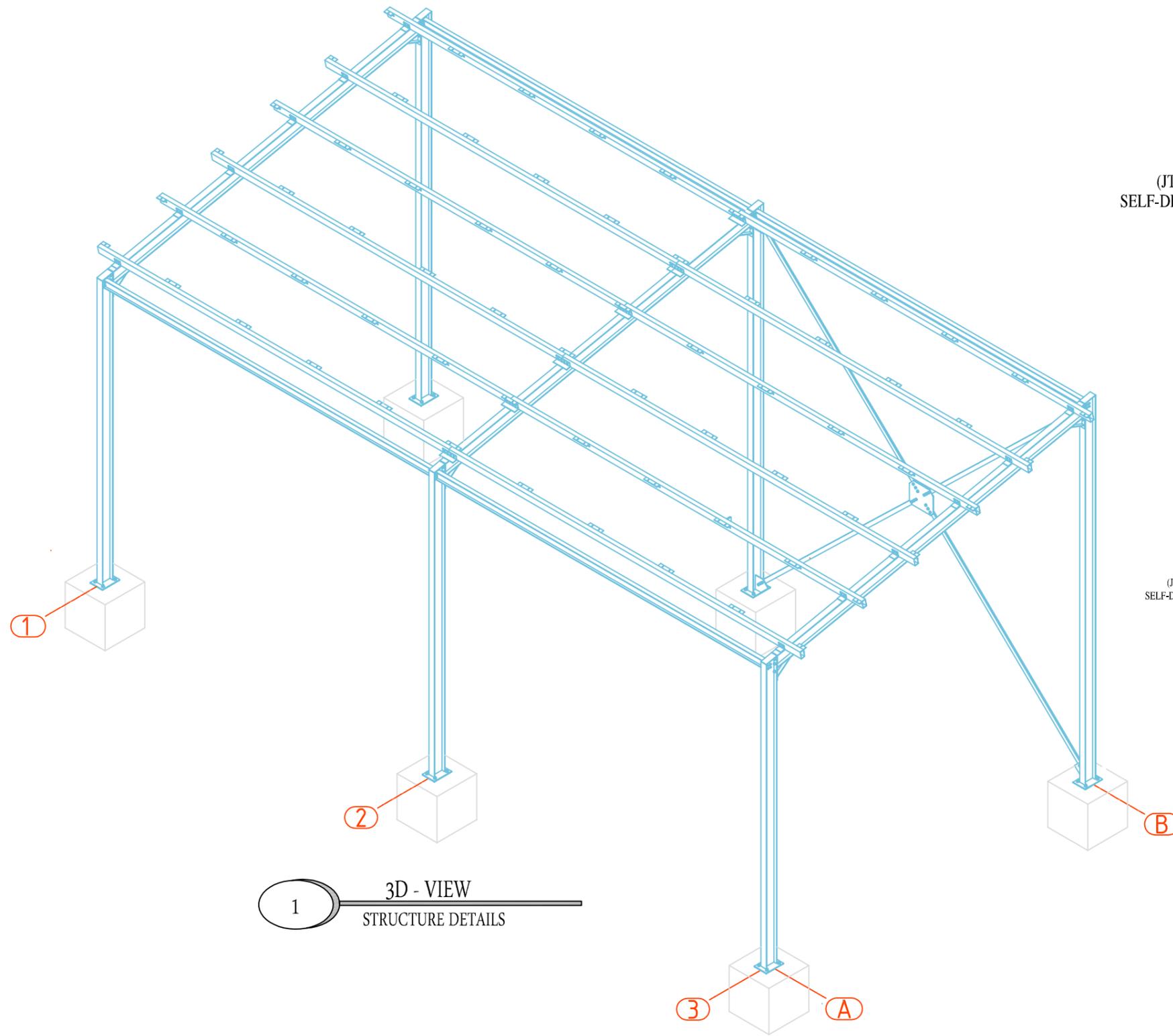
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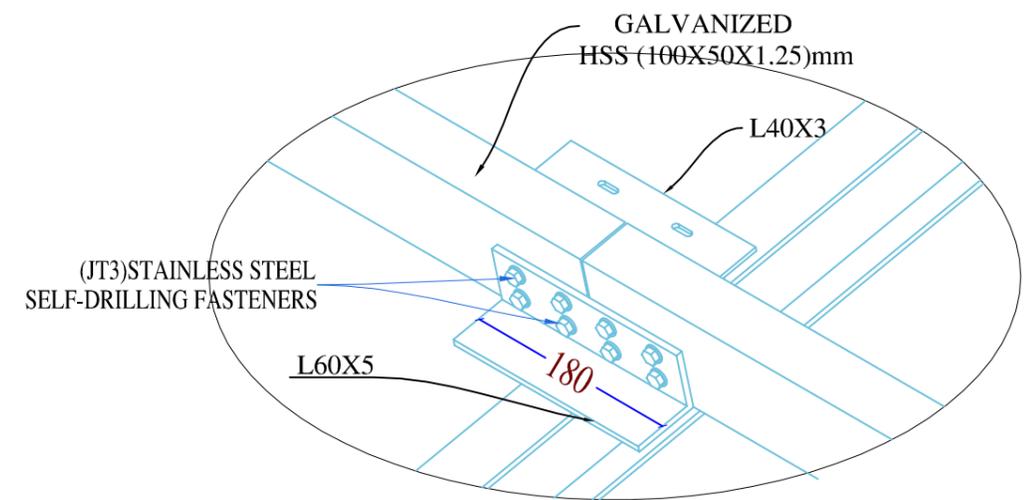
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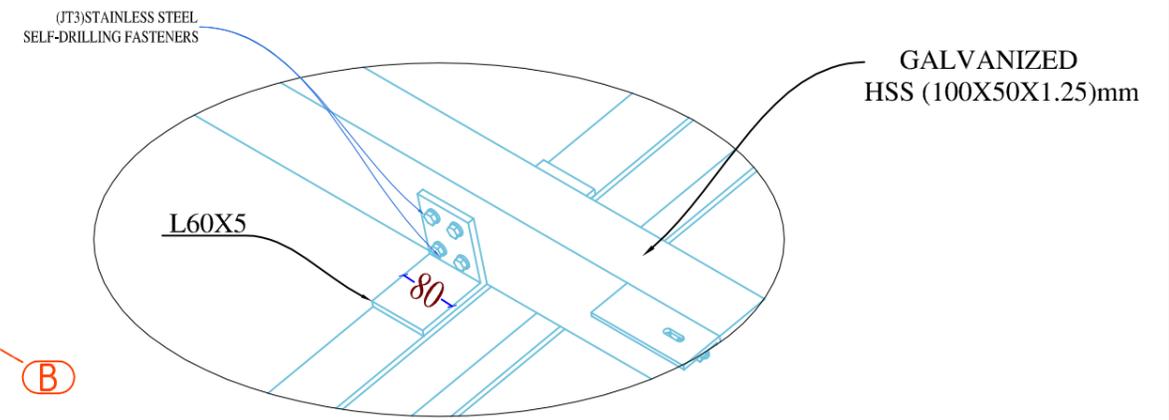
DRAWING NO:  
**S2-04**



1 3D - VIEW  
STRUCTURE DETAILS



2 JOINT - DETAIL A  
STRUCTURE DETAILS



3 JOINT - DETAIL B  
STRUCTURE DETAILS

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