REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY

CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE TWENTY-THREE (23) STOREY PHILIPPINE STATISTICS AUTHORITY (PSA) OFFICE BUILDING WITH COVERED ROOF DECK

PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY

DETAILED ARCHITECTURAL AND ENGINEERING DESIGN (DAED)

S T R U C T U R A L

NOTE:

PURSUANT TO SECTION 4 OF ANNEX "A"OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IES / STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

STRUCTURAL STEEL

S.1. THE CONTRACTOR SHALL CHECK AND VERIFY ALL THE DIMENSIONS, SLOPES OR ANGLES AND DETAILS IN STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS. DISCREPANCIES (IF ANY) SHALL BE BROUGHT TO THE ENGINEER NOTICE BEFORE FABRICATING THE STEELWORKS.

S.2. ALL STEELWORKS SHALL BE FABRICATED FROM NEW SECTIONS.

S.3. THE CONTRACTOR SHALL CONSIDER THE STABILITY AND SAFETY OF STEELWORK DURING ERECTION SEQUENCE. CONTRACTOR SHALL VERIFY ACCURACY OF FABRICATION AND ACCURACY OF ERECTED STEELWORK SHALL COMPLY WITH REQUIREMENTS OF AISC 303–10 CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES

S.4. ALL STEEL SHALL BE HOT–DIPPED GALVANIZED.

S.5. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS AND WITH THE ENGINEERS SPECIFICATIONS FOR STRUCTURAL STEELWORK. A COPY OF BOTH THESE DOCUMENTS SHALL BE KEPT ON SITE.

S.6. TWO COPIES OF SHOP DETAIL DRAWINGS ARE TO BE SUBMITTED TO THE CONSULTING ENGINEER AND APPROVAL OF SAME OBTAINED BEFORE COMMENCING FABRICATION. APPROVAL WILL NOT COVER DIMENSIONS OR LAYOUT.

S.7. UNLESS OTHERWISE NOTED, WELDS TO BE 6MM CONTINUOUS FILLET LAID DOWN WITH APPROVED COVERED ELECTRODE. BOLTS TO BE 20MM DIAMETER HIGH STRENGTH ASTM A325 IN 2MM CLEARANCE HOLES, GUSSET PLATES TO BE 10MM THICK.

S.8. CAMBER TO STRUCTURAL STEEL ROOF BEAMS, TRUSSES, PORTALS, ETC. TO BE 5MM FOR EVERY 2000MM OF SPAN UNLESS OTHERWISE NOTED.

S.9. WHERE SPECIFIED STRUCTURAL STEEL SHALL BE ENCASED IN CONCRETE WITH WSF A6 WIRE MESH PLACED 25MM CLEAR OF STEEL TO PROVIDE 50MM MINIMUM COVER OR 75MM WHERE EXPOSED TO EARTH.

S.10. ALL STRUCTURAL STEELWORK BELOW GROUND SHALL BE ENCASED BY 20.7 MPa CONCRETE, 75MM MINIMUM ALL AROUND.

S.11. UNLESS SHOWN ON THE DRAWINGS, THE ROOF STRUCTURE HAS BEEN DESIGNED FOR NORMAL ROOF LOADS ONLY AND DOES NOT ALLOW FOR ANY EXTRANEOUS LOADS SUCH AS HOISTS, MONORAILS, ETC.

S.12. ALL JOINTS USING HIGH STRENGTH FRICTION GRIP (HSFG) BOLTS ARE TO BE GIVEN A DISTINCTIVE COLOUR FLASH FOR READY IDENTIFICATION.

S.13. WHERE DENOTED AS HSFG BOLTS, CONTACT SURFACES MUST NOT BE PAINTED.

S.14. LOAD INDICATOR WASHERS SHALL BE USED WITH ALL HSFG BOLTS SO THAT THE PROTRUSIONS ON THE WASHERS, WHEN ASSEMBLED, WILL BEAR ON THE UNDERSIDE OF THE BOLT HEAD. THE NUT SHALL BE TIGHTENED UNTIL THE GAP BETWEEN THE WASHER AND THE BOLT HEAD IS BETWEEN 250 AND 125 MICRO METERS.

S.15. THE CONTRACTOR SHALL NOTE THAT ALL SERVICES, CEILINGS, FIXTURES, MAINTENANCE CATWALKS, ETC. SHALL BE SUSPENDED FROM MAIN BEAMS AND TRUSSES, AND NOT FROM SLABS OR PURLINS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

S.16. SECONDARY STEELWORK OR SUPPORTS, IF REQUIRED, SHALL BE DESIGNED AND INSTALLED BY THE CONTRACTOR'S OWN PROFESSIONAL ENGINEER. THE COST OF ALL SECONDARY STEELWORK SHALL DEEM TO BE INCLUDED IN THE CONTRACT PRICE.

S.17. THE CONTRACTOR SHALL SUBMIT DESIGN AND DETAILS OF ALL SAFETY BARRIERS (INCLUDING FIXINGS), TO THE ENGINEER FOR REVIEW AND APPROVAL.

S.18. SAFETY BARRIERS SHALL COMPLY WITH THE HORIZONTAL LOADING REQUIREMENTS OF THE NSCP AND/OR ASCE.

S.23 CONNECTION BOLT LENGTH: THE BOLT LENGTH SHALL BE CHOSEN SUCH THAT, AFTER TIGHTENING AT LEAST ONE THREAD PLUS THE THREAD RUN–OUT WILL BE CLEAR BETWEEN THE NUT AND THE UNTHREADED SHANK OF THE BOLT AND AT LEAST ONE THREAD SHALL SHOW ABOVE THE NUT.

S.24 ENDS OF HOLD DOWN BOLTS / ANCHOR BOLT SHALL PROTRUDE A MINIMUM OF 25mm ABOVE THE NUTS. WHEN BOLTS ARE PRE–SET INTO CONCRETE ELEMENT, PROVISION SHALL BE MADE TO THE NORMAL PROTRUSION NEEDED TO ACCOMMODATE THE NUTS, WASHERS PLUS A FURTHER TOLERANCE FOR THE CONCRETE ELEMENT.

S.25 UNLESS OTHERWISE SPECIFIED & NOTED ON PLANS, ALL STRUCTURAL STEEL AND ITS CONNECTIONS SHALL BE FIREPROOFED TO AT LEAST 2 HOURS RATING.

MATERIALS

SM.1. ALL STRUCTURAL STEEL MATERIAL SHALL BE GRADE 345 MPa TO ASTM A992 SPECIFICATIONS, WELDABLE STEEL, SOUND AND FREE FROM CRACKS, SURFACE FLAWS, LAMINATION AND OTHER DEFECTS.

SM.2. STRUCTURAL HOLLOW SECTIONS (HOT FINISHED) SHALL BE GRADE A55 CONFORMING TO ASTM A500 SPECIFICATIONS.

SM.3. ANCHOR BOLTS SHALL BE GRADE A36 CONFORMING TO ASTM 1554 SPECIFICATIONS.

SM.4. HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F3125 SPECIFICATIONS.

SM.5. ALL ELECTRODES SHALL BE AWS E70.

METHOD STATEMENT

SM.1. PROVIDE A DETAILED METHOD STATEMENT TO THE ENGINEER FOR ACCEPTANCE WITHIN DIRECTED TIME PRIOR TO COMMENCEMENT OF ANY WORKS. INCLUDE AT LEAST THE FOLLOWING INFORMATION:

a. SITE PLAN SHOWING THE WORK LAYOUT AREA, POSITION AND TYPE OF CRANES, ACCESS ROUTES, DATUM LEVEL, SETTING–OUT LINES, STORAGE AREA, ETC.
b. FABRICATION PROCEDURE/MANUAL, LOCATIONS (LOCAL AND/OR OVERSEAS), LIST OF SUBCONTRACTORS /SUPPLIERS AND THEIR SCOPE OF WORKS, QUALITY ASSURANCE SYSTEM, ETC.
c. STORAGE AND HANDLING
d. MAXIMUM SIZE OF STRUCTURAL STEEL COMPONENTS THAT CAN BE DELIVERED TO THE SITE
e. ASSEMBLY OF STRUCTURAL MEMBERS ON THE GROUND LEVEL BEFORE ERECTION, WHERE PARTIAL OR COMPLETE FABRICATION WORK IS REQUIRED ON SITE
f. SEQUENCE AND METHOD OF ERECTION AND ASSEMBLY OF STRUCTURAL MEMBERS TAKING INTO ACCOUNT THE SITE CONDITIONS, SITE CONSTRAINTS, SITE RESTRICTION AND INTERFACE WITH OTHER TRADES
g. DETAILED DRAWINGS AND CALCULATIONS FOR TEMPORARY WORKS

SM.2. PROVIDE DETAILS OF THE PROPOSALS TO THE ENGINEER FOR ACCEPTANCE WITHIN DIRECTED TIME FRAME PRIOR TO COMMENCEMENT OF THE WORKS. THE SUBMISSION IS TO INCLUDE AT LEAST INFORMATION ON THE FOLLOWING:

a. MATERIALS AND SYSTEM PROPOSED INCLUDING PRODUCT DATA, SCHEMES OF THE COATINGS, CERTIFICATES AND MANUFACTURER'S RECOMMENDATION INDICATING SUITABILITY WITH REGARDS TO THE SPECIFIED PERFORMANCE REQUIREMENTS.
b. METHOD OF TRANSPORTATION, STORAGE AND HANDLING
c. SURFACE PREPARATION
d. METHOD OF APPLICATION
e. SCHEDULE OF TESTS AND INSPECTION
f. SEQUENTIAL DETAILS OF ALL PROCEDURES INVOLVED
g. SUPERVISION
h. DETAILS OF THE PROPOSED METHOD OF REMEDIAL OR RECTIFICATION WORK INCLUDING SURFACE PREPARATION, MATERIALS TO BE USED AND METHOD OF APPLICATION
i. FABRICATION TECHNIQUES THAT HELP OR AFFECT APPLICATION
j. PAINTING OF AREAS THAT WILL BE MADE INACCESSIBLE AT A LATER STAGE

SM.3. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL THE FOLLOWING DOCUMENT:

a. SHOP DRAWINGS SHOWING DETAILS OF THE WORKS
b. FABRICATION METHOD STATEMENTS AND WELDING PROCEDURES
c. ERECTION METHOD STATEMENT & CONSTRUCTION SEQUENCES
d. CRANAGE DETAIL
e. CALCULATION OF HANDLING AND ERECTION STRESSES
f. TEMPORARY STEELWORKS / TOWERS, GUYS AND BRACING PROPOSED FOR USE DURING ERECTION

QUALITY CONTROL

SQ.1. DESTRUCTIVE AND NON–DESTRUCTIVE TESTS TO STRUCTURAL STEEL WORKS IS DEEMED INCLUDED IN THE STRUCTURAL STEEL FABRICATION SCHEDULE.

SQ.2. STEEL FABRICATOR SHALL SUBMIT QUALITY PLAN AND SHOP DRAWINGS TO THE CONSULTANT'S FOR APPROVAL / ACCEPTANCE.

SQ.3. WELDING WORKS SHALL BE CARRIED OUT BY QUALIFIED WELDERS.

SQ.4. CONTRACTOR / ITA SHALL ARRANGE FOR SAMPLES OF MATERIALS AND WELDS TO BE TESTED.

SQ.5. THE CONTRACTOR SHALL APPOINT AND INDEPENDENT INSPECTION AND TESTING AGENCY (ITA) ACCEPTED BY THE ENGINEER AND ACCREDITED BUILDING AUTHORITIES HAVING JURISDICTION OVER THE PROJECT.

PROTECTIVE TREATMENT

SP.1. SURFACE OF STEEL ELEMENTS PRIOR TO PAINTING SHALL BE PREPARED IN ACCORDANCE WITH AISC SPECIFICATIONS. FOUR (4) COATS SHALL BE AS FOLLOW:

PRIMER: ONE STOP COAT OF ZINC CHROMATE PRIMER OF 25 MICRONS DFT OR APPROVED EQUIVALENT
ONE SIMILAR COAT, BUT OF DIFFERENT COLOR SHALL BE APPLIED AT SITE
UNDERCOAT: ONE UNDERCOAT OF MICACEOUS IRON OXIDE PAINT OF 75 MICRON DFT OR APPROVED EQUIVALENT
FINISH COAT: ONE FINISH COAT OF MICACEOUS IRON OXIDE PAINT OF 50 MICRONS DFT OR APPROVED EQUIVALENT

SP.1. CORROSION PROTECTION SHALL BE AS PER SPECIFICATION FOR DETAILS OF PAINT TREATMENT. ALL STEEL WORK SHALL BE PAINTED UNLESS NOTED OTHERWISE ON THE DRAWINGS EXCEPT:

a. SURFACES WHICH ARE EMBEDDED IN CONCRETE BY MORE THAN 30MM, IN WHICH CASE THE STEEL SURFACES SHALL BE CLEANED AND FREE FROM LOOSE RUST AND SCALE AT THE TIME OF CONCRETING.
b. AT FRICTION GRIP BOLTED CONNECTIONS (DENOTED 'TF') THE CONTACT SURFACES SHALL BE PAINTED WITH INORGANIC ZINC SILICATE PRIMER ONLY, WITH CERTIFIED SLIP FACTOR OF NOT LESS THAN 0.4.
c. AT FIELD WELDED CONNECTIONS THE PAINT TREATMENT SHALL BE MADE GOOD TO THE SAME STANDARD AS OTHER PAINTWORK.
d. GALVANIZING, IF SPECIFIED, SHALL BE HOT–DIP GALVANIZING CONFORMING TO ASTM A153 SPECIFICATIONS

SP.1. GALVANIZING, IF SPECIFIED, SHALL BE HOT–DIP GALVANIZED IN AISC SPECIFICATIONS. MINIMUM AVERAGE ZINC COATING THICKNESS SHALL BE 85 MICRONS. THOROUGH WASHING OF STEELWORK WITH AN APPROVED ETCHING SOLUTION SHALL PRECEDE THE APPLICATION OF SURFACE COATINGS.

WELDING

SW.1. WELDING SHALL BE A METAL ARC PROCESS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY AWS SPECIFICATIONS

SW.2. CONSUMABLES FOR USE IN METAL ARC WELDING SHALL COMPLY WITH ASTM E70 SERIES.

SW.3. WELDING CONSUMABLES USED SHALL BE CHOSEN TO ENSURE THAT THE MECHANICAL PROPERTIES OF THE WELD METAL ARE NOT LESS THEN LOOSE REQUIRED FOR THE PARENT METAL.

SW.4. JOINTS SHALL BE PREPARED IN ACCORDANCE WITH AISC SPECIFICATIONS.

SW.5. WELDERS SHALL BE TESTED TO MEET THE REQUIREMENTS OF AWS AS APPROPRIATE. ONLY QUALIFIED WELDERS AS TESTED BY APPROVAL ACCREDITED AGENCIES SHALL PERFORM WELDING.

SW.6. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO BOTH THE ENGINEER & AN INDEPENDENT ACCREDITED INSPECTION & TESTING AGENCY FOR APPROVED, WELDING PROCEDURES IN ACCORDANCE WITH AWS.

SW.7. THE CONTRACTOR SHALL APPOINT AN APPROVED INDEPENDENT ACCREDITED INSPECTION & TESTING AGENCY TO CARRY–OUT ALL WELD QUALITY VISUAL NON–DESTRUCTIVE TESTING.

SW.8. ALL CONNECTION / JOINTS SHALL BE FULL PENETRATION BUTT WELD ALL AROUND (BOTH SIDES), REGARDLESS PIN / FIXED CONNECTIONS.

TEMPORARY WORKS

T.1. FOR THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL ENGINEER TO PERFORM DESIGN CHECK OF THE ADEQUACY OF STRUCTURE TO SUPPORT CONSTRUCTION OF FLAT SLABS/ FLAT PLATES OR TRANSFER BEAM TO ENSURE THAT THE COMPLETED PARTS OF THE STRUCTURE ARE STRUCTURALLY ADEQUATE IF THEY ARE TO BE USED TO SUPPORT THE CONSTRUCTION OF FLAT SLABS/PLATES OR TRANSFER BEAMS. THE DESIGN CHECK SHALL INCLUDE STRENGTH AND SERVICEABILITY (WITH EFFECTS ON LONG TERM DEFLECTION DUE TO EARLY LOADING TO CONCRETE FLOOR). THE PROFESSIONAL ENGINEER SHALL SUBMIT A COPY OF THE DESIGN CHECK CALCULATION TO TH ENGINEER, AND A COPY OF THE DESIGN CALCULATION SHALL BE KEPT AT THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE LOWER FLOOR/S SUPPORTING THE FALSE WORKS USED FOR CONCRETING THE UPPER FLOOR IS STRUCTURALLY ADEQUATE. THE CONTRACTOR MAY PROVIDE ADDITIONAL REINFORCEMENT TO STRUCTURAL ELEMENTS, IF HE CONSIDERS NECESSARY TO PERFORM THIS FUNCTION, AT HIS OWN COST.

T.2. ALL TRANSFER BEAMS SHALL NOT BE LOADED UNTIL 28 DAYS AFTER THEY ARE CONCRETED. IF THE CONTRACTOR INTENDS TO CONSTRUCT THE COLUMNS AND FLOORS OVER THESE BEAMS AT AN EARLIER TIME, THE CONTRACTOR SHALL BE RESPONSIBLE TO DESIGN THE NECESSARY TEMPORARY WORKS TO SUPPORT THE TRANSFER BEAMS AND THE LOADS IMPOSED FROM ABOVE.

PROTECTION

P.1 STARTER BARS AND OTHER STEEL BARS WHICH ARE EXPOSED TO THE ENVIRONMENT DUE TO DELAY IN CONCRETING OPERATION OR STAGED CONSTRUCTION THAT MY CAUSE CORROSION OF BARS SHALL BE COATED WITH GROUT TO PROTECT THEM AGAINST CORROSION PRIOR TO CASTING OF THE IN–SITU ELEMENT, DRIED CEMENT GROUT SHALL BE REMOVED BY VIGOROUS WIRE BRUSHING.

INSTRUMENTATION

I.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INSTRUMENTATION INSTALLATION, MONITORING AND REPORTING REQUIREMENTS REQUIRED UNDER THE CONTRACT AND/OR IMPOSED BY THE ENGINEER/AUTHORITIES AT ANY TIME DURING THE CONTRACT, AND SHALL SUBMIT THE NECESSARY REPORTS TO THE ENGINEER/AUTHORITIES AS REQUIRED FROM TIME TO TIME.

I.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUSLY MONITORING THE INSTRUMENTATION READINGS AND EFFECT NECESSARY REMEDIAL WORKS IMMEDIATELY, AS SOON AS THE GROUND MOVEMENTS EXCEED THE ACCEPTABLE LIMITS AND/OR POSE SAFETY RISKS TO THE CONTRACT WORKS AND/OR THE EXISTING STRUCTURES AND SERVICES. ALL SUCH MEASURES THAT MAY NEED TO BE IMPLEMENTED SHALL BE DEEMED TO BE INCLUDED IN THE CONTRACT PRICE AND TIME.

I.3. THROUGHOUT THE DURATION STIPULATED IN THE TENDER DOCUMENTS, THE CONTRACTOR IS REQUIRED TO MANAGE MONITORING OF INSTRUMENTS TO BE INSTALLED BY A SPECIALIST CONTRACTOR, INCLUDING THE NUMBER & FREQUENCY OF MONITORING INSTRUMENTS.

I.4. TAKE ALL NECESSARY ACTIONS TO ENSURE THE CONTROL OF POLLUTION FROM SITE ACTIVITIES. THE NOISE LEVEL (MAXIMUM ALLOWABLE EQUIVALENT CONTINUOUS NOISE LEVEL MEASURED OVER A PERIOD OF 5 MINUTES IN DB) AT THE NEAREST OCCUPIED BUILDING OUTSIDE THE SITE IS NOT TO EXCEED THE FOLLOWING MAXIMUM PERMISSIBLE NOISE LEVEL, OR SHALL HAVE MET THE NOISE CONTROL GUIDELINES IMPOSED BY THE RELEVANT AUTHORITIES HAVING JURISDICTION, WHICHEVER IS MORE STRINGENT.

NOTE:

PURSUANT TO SECTION 4 OF ANNEX "A"OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IES / STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

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PROJECT:
CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE TWENTY-THREE (23) STOREY PHILIPPINE STATISTICS AUTHORITY (PSA) OFFICE BUILDING WITH COVERED ROOF DECK
LOCATION: PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY

SHEET CONTENT
STRUCTURAL NOTES - 1

DESIGNER : E. OLONAN
CAD : AET / ADI
CHECKED : RIB / AET
DATE : MAY 2021

REVISIONS

SYMBOL	REMARK	DATE

SHEET NO.
S001

GENERAL NOTES

G.1. THE TERM "CONSULTING ENGINEER" SHALL MEAN "LyN CONSULTING STRUCTURAL ENGINEERS, CO." REPRESENTATIVE (CIVIL/ STRUCTURAL ENGINEER).

G.2. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND ANY SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED.

G.3. ANY DISCREPANCIES IN THE CONTRACT DOCUMENTS SHALL BE REFERRED TO THE ARCHITECT FOR DECISION BEFORE PROCEEDING WITH THE WORK.

G.4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METERS.

G.5. SETTING-OUT DIMENSIONS AND SIZES OF STRUCTURAL MEMBERS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.

G.6. ANY SETTING-OUT DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED ON SITE AND WITH ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS.

G.7. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION. CONSTRUCTION LOADS MUST NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME OF LOADING. REFER TO KEY PLANS FOR DESIGN LOADS.

G.8. WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH RELEVANT CODES OF PRACTICE AND THE LOCAL STATUTORY AUTHORITIES REGULATIONS INCLUDING ALL AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS. THE BUILDING STRUCTURE SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING MODEL CODES AND IN COMPLIANCE WITH THE LOCAL REGULATIONS AND STANDARDS:

- NATIONAL STRUCTURAL CODE OF THE PHILIPPINES, NSCP 2015
- UNIFORM BUILDING CODE (UBC) 1997 EDITION, INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
- AMERICAN CONCRETE INSTITUTE (ACI 318-14): BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
- DETAILS AND DETAILING OF REINFORCEMENT FOR CONCRETE
- AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE 7-16)
- SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS – AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360-2010)
- SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS – AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 341-2010)
- FOUNDATION ANALYSIS AND DESIGN, FIFTH EDITION, BY JOSEPH E. BOWLES
- PILE DESIGN AND CONSTRUCTION PRACTICE 4TH EDITION, BY MJ TOMLINSON

G.9. REFER TO ARCHITECTURAL DRAWINGS FOR PARTITION WALL WALL THICKNESS, FOR FALLS IN SLABS, EXTRA PACKING, WATER-PROOFING MEMBRANES, CONTRACTION JOINT FILLING MATERIALS AND ALL ARCHITECTURAL FEATURES SUCH AS DRIP GROOVES, POUR BREAKS IN OFF-FORM CONCRETE, FILLETS, CHAMFERS ETC. WHERE NOT MENTIONED ON THESE DRAWINGS.

G.10. ALL SHAFT OPENINGS SHALL BE SLABBED OVER AS PER ARCHITECTURAL DRAWING WHERE INDICATE WITH THE SAME THICKNESS AS THAT SLAB ADJACENT TO IT OR A MINIMUM THICKNESS OF 125MM. REINFORCEMENT SHALL BE THE SAME AS THOSE COMING FROM ADJACENT SLABS OR A MINIMUM OF Ø10-150 TOP & BOTTOM THROUGHOUT AND ANCHORED INTO SUPPORTING BEAM / WALL.

G.11. SHOP DRAWINGS: THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR REVIEW SHOP DRAWINGS FOR BOTH CONCRETE AND STRUCTURAL STEEL WORKS PRIOR TO COMMENCEMENT OF POUR/FABRICATION. THE CONTRACTOR SHALL COORDINATE THE STRUCTURAL, M&E AND ARCHITECTURAL REQUIREMENTS IN THE SHOP DRAWINGS. WHERE REQUIRED AND AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL COORDINATE AND INCLUDE IN HIS SHOP DRAWINGS THE REQUIREMENTS OF SPECIALIST TRADES SUCH AS CLADDING, ROOFING ETC.

G.12. DISCREPANCIES IF ANY, BETWEEN STRUCTURAL DRAWINGS AND OTHER TRADE DRAWINGS ARE TO BE RESOLVED DURING DEVELOPMENT-CONSTRUCTION STAGES TO THE FULL SATISFACTION OF THE ENGINEER.

G.13. THE CONTRACTOR IS RESPONSIBLE TO CARRY OUT A BUILDING DAMAGE ASSESSMENT ON THE EFFECTS OF GROUND MOVEMENT TO THE NEIGHBORING PROPERTIES DUE TO THE WORKS, FOR THE PURPOSE OF ESTABLISHING SUITABLE VALUES FOR 'ALERT' AND 'WORK SUSPENSION' LEVELS FOR MONITORING. THE PROPOSED VALUES ARE INDICATED IN THE CONTRACT DRAWINGS. ALSO, TAKE INTO ACCOUNT OF SITE ACCESS, SPACE OCCUPATION, SAFETY AND SAFEGUARDING OF ADJOINING PROPERTIES AND EACH OTHER'S WORKS. SUBMIT TO ENGINEER WITH ENDORSEMENT FROM A QUALIFIED PROFESSIONAL ENGINEER, PE.

G.14. THE CONTRACTOR SHALL SATISFY HIMSELF REGARDING SUBSOIL CONDITIONS, THE UNDERGROUND WATER TABLE, POTENTIAL OBSTRUCTIONS AND THE PRESENCE OF VARYING CONDITIONS BELOW THE SITE. THE SOIL INFORMATION INCLUDED IN THIS CONTRACT IS FOR THE REFERENCE OF THE CONTRACTOR ONLY. NEITHER THE CONSULTANTS NOR THE CLIENT ACCEPT RESPONSIBILITY FOR ITS ACCURACY OR IMPLICATIONS, IF ACTUAL SOIL CONDITIONS ARE FOUND TO BE DIFFERENT DURING PROGRESS OF WORKS.

G.15. THE CONTRACTOR SHALL CARRY OUT AN UNDERGROUND SERVICES DETECTION WORKS PRIOR TO THE COMMENCEMENT OF DEMOLITION WORKS. THE CONTRACTOR SHALL ARRANGE WITH THE RELEVANT AUTHORITIES TO DISCONNECT, TERMINATE, CAPPING OFF OR DIVERSION OF ALL UTILITY SERVICES. THE CONTRACTOR SHALL ENSURE SUCH TERMINATION OR DIVERSION WILL NOT CAUSE ANY DAMAGE OR DISRUPTION TO THE PUBLIC SERVICES OR THE SERVICES IN THE NEIGHBORING PROPERTIES.

G.16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INSTRUMENTATION INSTALLATION, MONITORING AND REPORTING REQUIREMENTS REQUIRED UNDER THE CONTRACT AND/OR IMPOSED BY THE ENGINEER/AUTHORITIES AT ANY TIME DURING THE CONTRACT, AND SHALL SUBMIT THE NECESSARY REPORTS TO THE ENGINEER/AUTHORITIES AS REQUIRED FROM TIME TO TIME.

G.17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUSLY MONITORING THE INSTRUMENTATION READINGS AND EFFECT NECESSARY REMEDIAL WORKS IMMEDIATELY, AS SOON AS THE GROUND MOVEMENTS EXCEED THE ACCEPTABLE LIMITS AND/OR POSE SAFETY RISKS TO THE CONTRACT WORKS AND/OR THE EXISTING STRUCTURES AND SERVICES. ALL SUCH MEASURES THAT MAY NEED TO BE IMPLEMENTED SHALL BE DEEMED TO BE INCLUDED IN THE CONTRACT PRICE AND TIME.

G.18. THE STRUCTURES ARE DESIGNED TO SUPPORT SUPERIMPOSED LOADS AS INDICATED ON THE FLOOR PLANS. IN THE EVENT THE CONTRACTOR REQUIRES CERTAIN PART OF THE STRUCTURE TO BE USED AS WORK AREA WHICH MAY BE REQUIRED TO SUPPORT HEAVIER LOADING, THE CONTRACTOR SHALL DESIGNATE SUCH AREAS AT THE TIME OF TENDER FOR ENGINEER'S APPROVAL. THE STRENGTHENING OF THE DESIGNATED AREAS SHALL BE UNDERTAKEN BASED ON THE ENGINEER'S DESIGN AT THE CONTRACTOR'S EXPENSE AND TIME, INCLUDING THE REDESIGN COST.

G.19. BEFORE CONSTRUCTION WORKS COMMENCE ON SITE, THE CONTRACTOR SHALL ENGAGE A QUALIFIED CIVIL ENGINEERING PROFESSIONAL QECP TO PLAN AND DESIGN THE EARTH CONTROL MEASURE, ECM, AND HE SHALL INSTALL THE ECM ACCORDING TO THE QECP'S DESIGN. THE ECM PLAN AND DESIGN SHALL BE SUBMITTED 1 WEEK AFTER THE AWARD OF THE CONTRACT. DURING THE COURSE OF THE CONSTRUCTION WORKS, THE CONTRACTOR TOGETHER WITH HIS QECP SHALL REVIEW THE ECM PROPOSAL REGULARLY TO MEET THE CHANGING NEEDS OF THE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL IMPROVE THE ECM AS ADVISED BY HIS QECP. THE PLANNING AND DESIGN OF THE ECM SHALL MEET THE MINIMUM REQUIREMENTS STIPULATED AND IN ACCORDANCE WITH THE REQUIREMENT OF DEPARTMENT OF NATURAL RESOURCES AND LOCAL AUTHORITIES FOR DISCHARGE INTO PUBLIC DRAINS

G.20. THE CONTRACTOR SHALL MAINTAIN THE ECM FOR THE WHOLE DURATION OF THE CONTRACT TO ENSURE THAT IT IS EFFECTIVE AT ALL TIMES. PROPER RECORDS DETAILING THE MAINTENANCE WORKS, SUPPORTED BY DATED PHOTOGRAPHS, SHALL BE KEPT BY THE CONTRACTOR FOR VERIFICATION.

G.21. THE CONTRACTOR SHALL NOT REMOVE THE ECM UNTIL ALL WORKS ARE COMPLETED AND UPON THE ADVICE OF HIS QECP.

G.22. THE CONTRACTOR SHALL CARRY OUT A VERTICALITY AND LEVEL SURVEY OF EACH COMPLETED FLOOR AND SHALL SUBMIT THESE RECORDS TO THE ENGINEER PROGRESSIVELY AT NO MORE THAN 2 WEEKS INTERVAL. THE VERTICALITY OF ALL THE VERTICAL ELEMENTS SHALL BE MONITORED AND RECORDED AFTER COMPLETION OF EACH FLOOR. ANY DEVIATION FROM PLUMB BEYOND SPECIFIED TOLERANCES SHALL BE RECTIFIED IMMEDIATELY.

G.23. THE CONTRACTOR SHALL ALLOW FOR CONTINUOUSLY MONITOR (MINIMUM 10 LOCATIONS AT EACH BLOCK) THE FLOOR LEVELS AS COMPLETED FOR ALL BLOCKS AND ANY SETTLEMENT ARISING FROM THE FOUNDATION SETTLEMENT AND/OR SHRINKAGE/CREEP SHORTENING OF THE VERTICAL ELEMENT. THESE READINGS SHALL BE TAKEN AFTER COMPLETION OF EACH TWO FLOORS. PERMANENT MARKERS WILL BE INSTALLED AROUND THE PERIMETER OF EACH BUILDING FACADE. SIMILARLY, PERMANENT MARKERS WILL ALSO BE INSTALLED AT THE 1ST FLOOR LEVEL ON THE CENTRAL CORE AND ITS SETTLEMENT AND/OR SHRINKAGE/CREEP SHORTENING RECORDED. ALL THESE READINGS SHALL BE TAKEN THROUGHOUT THE CONSTRUCTION PERIOD, UNTIL SIX (6) MONTHS AFTER COMPLETION OF THE STRUCTURE AND SUBMITTED TO THE ENGINEER PROGRESSIVELY AT NO MORE THAN 2 WEEKS PER MONTH INTERVALS. THE DIFFERENTIAL SETTLEMENT/SHORTENING BETWEEN THE CORE AND PERIMETER COLUMNS SHALL BE TABULATED AND SUBMITTED TO THE ENGINEER.

G.24. THE CONTRACTOR SHALL PROGRESSIVELY CARRY OUT AN AS-BUILT SURVEY OF ALL THE STRUCTURAL ELEMENTS AFTER COMPLETION OF EACH FLOOR AND SUBMIT TO THE ENGINEER NO LATER THAN A MONTH FROM THE COMPLETION OF THE FLOOR. THE PLANS SHALL SHOW THE AS-BUILT POSITION, DIMENSIONS AND LEVELS OF ALL HORIZONTAL AND VERTICAL ELEMENTS INCLUDING THEIR SIZES AND FINAL DEFLECTIONS. THESE PLANS SHALL BE SUBMITTED TO THE ENGINEER PROGRESSIVELY AND A FINAL SET UPON COMPLETION OF THE ENTIRE STRUCTURE. THE SUBMISSION SHALL BE AFFECTED BOTH IN PAPER AS WELL AS DVD-ROM.

G.25. THE CONTRACTOR SHALL NOTE THAT ALL REINFORCEMENT SCHEDULES, INCLUDING BEAM SCHEDULES, ISSUED AS WORKING DRAWINGS BY THE ENGINEER ARE FOR THE PURPOSE OF ILLUSTRATING THE DESIGN AND DETAILING REQUIREMENTS AND FOR THE PREPARATION OF SHOP DRAWINGS BY THE CONTRACTOR.

G.26. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE DETAILED REINFORCEMENT SHOP DRAWINGS SHOWING SLAB REINFORCEMENT PLANS, BEAM ELEVATIONS AND RELEVANT SECTIONS FOR HIS CONSTRUCTION PURPOSE. THE REINFORCEMENT SHOP DRAWINGS SHALL INCLUDE BUT NOT BE LIMITED TO CONCRETE PROFILES, REBAR ARRANGEMENT, ANCHORAGES, CURTAILMENT, LAP LENGTHS, SPLICING, LINK SPACING, PENETRATIONS, BEAM HAUNCHING, TENDON PROFILES, ETC.

G.27. ALL REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE PREPARATION OF REINFORCEMENT SCHEDULE AND FABRICATION.

G.28. ALL TECHNICAL PROPOSALS AND METHOD STATEMENTS REQUIRED TO BE SUBMITTED BY THE CONTRACTOR SHALL BE PREPARED AND CERTIFIED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER. THE COST OF PREPARATION AND SUBMISSION OF ALL TECHNICAL PROPOSALS AND METHOD STATEMENTS SHALL DEEM INCLUDED IN THE CONTRACT PRICE.

G.29. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO COORDINATE ALL STRUCTURAL CAST-INS PARTICULARLY FOR FACADE FIXINGS, DURING THE CONSTRUCTION OF THE STRUCTURAL ELEMENTS. ALL CAST-INS SHALL BE INDICATED ON THE GENERAL ARRANGEMENT STRUCTURAL SHOP DRAWINGS AND SUBMITTED TO THE CONSULTANT TEAM FOR REVIEW PRIOR TO THE CARRYING OUT OF THE WORKS ON SITE. THE PROVISION AND POSITIONS OF ALL CAST-INS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.

G.30. THE CONTRACTOR SHALL ENGAGE A REGISTERED LOSS ADJUSTOR TO CARRY OUT A PRE-CONSTRUCTION SURVEY OF THE NEIGHBORING PROPERTIES. THE CONTRACTOR IS REQUIRED TO GIVE TO EACH NEIGHBORING OWNER THE PORTION OF THE REPORT RELEVANT TO HIS PROPERTY BEFORE WORK COMMENCES. A COMPLETE COPY OF THE REPORT IS TO BE KEPT AT SITE BY THE CONTRACTOR. THE CONTRACTOR IS ALSO ADVISED TO HAVE A DIALOGUE CONCERNING THE CONSTRUCTION ACTIVITIES WITH THE OWNERS OF THE NEIGHBORING PROPERTIES BEFORE WORK COMMENCES.

G.31. THE CONTRACTOR SHALL ENGAGE A REGISTERED SURVEYOR TO CARRY OUT A PRE-COMMENCEMENT AND POST-CONSTRUCTION SPOT LEVEL SURVEY OF THE SITE PLATFORM AT 5M GRIDS BASED ON AGREED BENCHMARK.

G.32. IF IN DOUBT, ASK

CONCRETE

C.1. CONCRETE STRENGTH, CLASS, AND QUALITY – UNLESS NOTED OTHERWISE, MINIMUM SLUMP TO BE 80mm; AGGREGATE SIZE TO BE 20MM. MINIMUM CONCRETE STRENGTHS, Fc', ARE AS PER TABLE C.1.

C.2. SAMPLING AND TESTING CONCRETE IN ACCORDANCE WITH THE LATEST & CURRENT EDITION OF APPLICABLE CODES ACI-318/NSCP 2015 AND ALL CODES AND STANDARDS REFERENCED THEREIN, UNLESS NOTED OTHERWISE ON DRAWINGS.

C.3. CONCRETE SHALL BE CONSOLIDATED BY VIBRATION. CURE ALL CONCRETE SURFACES AS DIRECTED BY THE SPECIFICATION.

C.4. ALL CONCRETE SIZES AND LEVELS ARE STRUCTURAL UNLESS OTHERWISE NOTED.

C.5. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.

C.6. BEAM WITHDS ARE WRITTEN FIRST FOLLOWED BY BEAM DEPTHS, AND INCLUDE SLAB THICKNESS WHERE SLAB IS PLACED INTEGRALLY WITH THE BEAM.

C.7. CONSTRUCTION JOINTS OR POUR BREAKS WHERE NOT SHOWN ON PLANS OR DETAILS SHALL BE LOCATED AND FORMED TO THE APPROVAL OF THE CONSULTING ENGINEER.

C.8. A BOND BREAKING MATERIAL IS TO BE PLACED BETWEEN SURFACES IN CONTACT WITH PERMANENT JOINTS UNLESS NOTED OTHERWISE.

C.9. NO PENETRATIONS, RECESSES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE CONSULTING ENGINEER.

C.10. CAMBER TO SUSPENDED SLABS AND BEAMS TO BE 5MM FOR EVERY 2M OF SPAN UNLESS NOTED OTHERWISE. ALL CANTILEVERS SHALL BE CAMBERED 10MM FOR EVERY 2M OF SPAN.

C.11. ALL OPENINGS FOR PIPING AND CONVEYANCE SHALL BE FORMED IN POSITION BEFORE CASTING CONCRETE. ALL GAPS, EXCESSES TO OPENINGS SHALL BE REINSTATED/ PRESSURE-GROUTED WITH NON-SHRINK GROUT (MINIMUM COMPRESSIVE STRENGTH 41.4 N/mm2).

C.12. BLOCKWALLS MUST NOT BE BUILT ON CONCRETE SLABS OR BEAMS UNTIL FORMWORK SUPPORTING SAME HAS BEEN REMOVED.

C.13. ALL NON-LOADBEARING WALLS SHALL BE KEPT CLEAR OF THE UNDERSIDE OF SLABS AND BEAMS BY 20MM, UNLESS NOTED OTHERWISE. THE GAP SHALL BE APPROPRIATELY FILLED WITH A COMPRESSIBLE FILLER AND SEALED TO ENGINEER'S SATISFACTION. SIMILARLY, VERTICAL INTERFACES BETWEEN RC COLUMN/WALLS AND NON-LOADBEARING WALLS SHALL BE TREATED WITH APPROPRIATE JOINT DETAILS/SEALANTS TO ENGINEER'S SATISFACTION. SUFFICIENT TIES TO ARCHITECT'S DETAILS MUST BE USED ACROSS THESE JOINTS TO PROVIDE RESTRAINT TO NON-LOADBEARING WALLS.

C.14. WATERSTOPS SHALL BE PROVIDED IN ALL CONSTRUCTION JOINTS IN WALLS OR SLABS EXPOSED TO GROUND, WEATHER OR WATER SUCH AS RETAINING WALLS, WATER RETAINING STRUCTURES, WATER FEATURES, OPEN DECK AREAS AND MECHANICAL FLOORS, ETC. WHETHER SHOWN ON DRAWINGS OR NOT. THE CONTRACTOR SHALL PROVIDE GROUT HOLES FOR WATERPROOFING GROUTING TO ENSURE WATER TIGHTNESS AT THESE JOINTS.

C.15. UNLESS OTHERWISE NOTED, A MINIMUM 50MM THICK LEAN CONCRETE LAYER SHALL BE PROVIDED ON ALL SOIL SURFACES FORMING THE UNDERSIDE OF ANY REINFORCED CONCRETE BEAMS, SLABS, RAFTS, SUMP PITS, PILE CAPS, FOOTINGS, ETC.

C.16. HEAVY DUTY POLYETHYLENE SHEET, 300 MICRONS, SHALL BE INCORPORATED ABOVE THE LEAN CONCRETE FOR ALL GROUND SLABS.

C.17. ALL STRUCTURAL ELEMENTS WHERE THE FINISHED FLOOR LEVELS ARE INDICATED AS FALLS IN THE ARCHITECTURAL DRAWINGS SHALL BE CAST TO FALL IN THE SAM GRADIENT. THICKENING OF FINISHES TO FORM THE FALL IS NOT PERMITTED WITHOUT THE ARCHITECT'S AND ENGINEER'S APPROVAL.

C.18. THERE SHALL BE NO LEFT-IN FORM WORK AFTER THE CONCRETING OF ANY STRUCTURAL ELEMENT.

TABLE C.1. CONCRETE STRENGTH AND CLASSES U.N.O.

STRUCTURAL ELEMENTS	LEVELS	CYLINDER fc' MPa (psi)	EXPOSURE CLASS	
GENERAL				
NON-STRUCTURAL	ALL LEVELS	20.7 (3000)	W0	C0
LEAN CONCRETE	FOUNDATION	12.0 (1700)	W0	C0
WITHIN BUILDING FOOTPRINT				
PEDESTAL	FOUNDATION	27.4 (4000)	W0	C0
FOUNDATION	FOUNDATION	20.7 (3000)	W1	C1
STRAP BEAMS	FOUNDATION	20.7 (3000)	W1	C1
STEEL DECK FILL	2F – 5F	20.7 (3000)	W0	C0

REINFORCEMENT

R.1. UNLESS OTHERWISE SPECIFIED ON PLANS, ALL REINFORCING BARS SHALL BE DEFORMED WITH A MINIMUM YIELD STRENGTH, FY = 414 MPa (ø16 AND LARGER) OR FY = 276 MPa (ø12 AND SMALLER) TO ASTM A615 OR A706.

R.2. ALL REINFORCING BARS SHALL BE CLEANED OF RUST, GREASE OR OTHER MATERIALS WHICH TEND TO IMPAIR BOND.

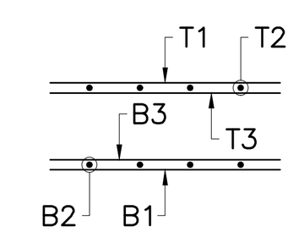
R.3. ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE OR APPLYING MORTAR OR GROUT.

R.4. LAPPED SPLICES SHALL BE STAGGERED WHERE POSSIBLE.

R.5. UNLESS INDICATED OTHERWISE, SPLICING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI 318-2014

R.6. THE NOTATION 30Ø16-200 MEANS 30 BARS OF 16MM DIA. EACH SPACED AT 200 CENTRES. THE NOTATION 2D10-300 MEANS D10 LINKS (SETS OF TWO LEGS) AT 300 CENTRES. THE NOTATION 4x2D12-250 MEANS 4 SETS OF D12 BARS (SETS OF TWO) AT 250 CENTRES. IN SLABS, THE SUBSEQUENT LAYERS OF REINFORCEMENT ARE NOTED AS FOLLOW:

B1 = BOTTOM LAYER LAID FIRST
B2 = BOTTOM LAYER LAID SECOND
B3 = BOTTOM LAYER LAID THIRD
T1 = TOP LAYER LAID LAST
T2 = TOP LAYER LAID SECOND LAST
T3 = TOP LAYER LAID THIRD LAST



R.7. PROVIDE BAR SUPPORTS OR SPACERS TO ACHIEVE CONCRETE COVER AS PER TABLE R.7. UNLESS NOTED OTHERWISE ON DRAWINGS.

R.8. ALL REINFORCEMENT TO BE FIRMLY SUPPORTED ON APPROVED CHAIRS GENERALLY AT NOT GREATER THAN 750MM CENTERS BOTH WAYS. BARS ARE TO BE TIED AT ALTERNATE INTERSECTIONS.

R.9. BARS SHOWN STAGGERED ON PLAN SHALL BE PLACED ALTERNATELY.

R.10. BARS SHOULD BE EVENLY DISTRIBUTED OVER THE EXTENT INDICATED, UNLESS NOTED OTHERWISE. DISTRIBUTION REINFORCEMENT AT RIGHT ANGLE TO MAIN REINFORCEMENT SHALL BE AS SHOWN BELOW, UNLESS NOTED OTHERWISE ON PLANS. THE MAIN REINFORCEMENT SHALL NOT BE LESS THAN DISTRIBUTION REINFORCEMENT.

R.11. REINFORCEMENT SHALL NOT BE CUT ON SITE FOR ANY PURPOSES UNLESS PERMITTED BY THE CONSULTING ENGINEER. BARS CONFLICTING WITH SMALL HOLES OR OTHER MINOR COMPLICATIONS SHALL BE DISPLACED AS DIRECTED ON SITE.

R.12. LENGTH OF REINFORCING BARS INDICATED ON THE DRAWING ARE STRAIGHT LENGTH ONLY ANCHORAGE AND LAPS ARE NOT INCLUDED.

R.13. SPLICING SHALL CONFORM TO REQUIREMENTS AS FOLLOW.

a. LAP SPLICING

- SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION AS SHOWN.
- NO SPLICE SHALL BE MADE AT POINTS OF MAXIMUM STRESS.
- SPLICE SHALL BE STAGGERED WHEREVER POSSIBLE.
- WHERE LAP LENGTH IS NOT SHOWN, PROVIDE FULL TENSILE LAP LENGTH (62 TIMES BAR DIAMETER) ACCORDING TO THE CODE OF PRACTICE.

b. MECHANICAL SPLICING

- WELDED OR LAP SPLICES FOR VERTICAL REINFORCING STEEL IN COLUMNS AND WALLS SHALL NOT BE PERMITTED FOR BARS LARGER THAN Ø32 IN SIZE. FOR BARS GREATER THAN T32, MECHANICAL COUPLERS MEETING TYPE 2 SPLICE REQUIREMENTS IN ACCORDANCE WITH ACI 318-2002, ICBO EVALUATION SERVICE ACCEPTANCE CRITERIA AC 133 MECHANICAL CONNECTORS FOR STEEL BAR REINFORCEMENT (EFFECTIVE 1 OCTOBER 2002), AND ICC EVALUATION SERVICE, INC. SHALL BE PERMITTED.
- MECHANICAL SPLICING SHALL BE WITH NMB SPLICE SLEEVES OR APPROVED EQUIVALENT TYPES OF COUPLERS SHALL BE SELECTED SUITABLE FOR THE BAR CONFIGURATION AT EACH LOCATION.
- SPLICING SHALL BE CARRIED OUT DIRECTLY BY PERSONS FULLY TRAINED BY THE SUPPLIER AND IN STRICT COMPLIANCE WITH THE SUPPLIER'S SPECIFICATION.
- SPACING FOR BARS TO BE SPLICED SHALL BE CHECKED TO ENSURE THAT IT IS SUFFICIENT FOR PROPER SPLICING.
- MECHANICAL SPLICES SHALL BE DESIGNED TO EFFECTUATE FULL CONTINUITY AND MONOLITHIC ACTION IN THE JOINTS TO EMULATE CONTINUOUS IN-SITU CONSTRUCTION EQUIVALENT IN STRUCTURAL STRENGTH AND DUCTILITY.

R.15. ALL RODS IN TRIMMER ROD GROUPS ARE TO BE OF THE SAME LENGTH (ONE ROD IS ONLY SHOWN FULL LENGTH ON PLAN). PLACE RODS AT APPROXIMATELY 75MM ON CENTERS.

R.16. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER.

R.17. REINFORCEMENT MUST NOT BE CONTINUOUS THROUGH CONTRACTION /EXPANSION JOINTS.

R.18. IN CASE OF POST-TENSIONED WORK, THE PLACING OF REINFORCEMENT SHALL BE COORDINATED TO SUIT PLACING OF TENDONS.

R.19. THE FACE OF ALL CONCRETE AGAINST NEW CONCRETE WHICH IS TO BE CAST IS TO BE THOROUGHLY MECHANICALLY SCRABBLED, FULLY EXPOSING THE AGGREGATE.

R.20. FIRST SLAB BAR IS TO BE POSITIONED MAXIMUM 100MM FROM FACE OF BEAMS, R.C. WALLS AND SLAB THICKENINGS PARALLEL TO BAR. FIRST BEAM LINK TO BE PLACED MAXIMUM 50MM FROM FACE OF COLUMN OR SUPPORTING WALL UNDER.

R.21. MAXIMUM AMOUNT OF REINFORCEMENT IN A PARTICULAR LAYER INCLUDING TENSION LAPS SHALL NOT EXCEED 40% OF THE BREADTH OF THE SECTION AT THAT LEVEL.

R.22. WHERE THE WIDTH OF ANY BEAM IS LARGER THAN THE WIDTH OF THE SUPPORTING COLUMNa OR WALL, THE LINKS OF THE BEAM SHALL CONTINUE THROUGHOUT AND OVER THE COLUMN OR WALL. IN THE CASE OF CONTINUOUS BEAMS, THE SIDE OF THE BEAM HAVING HIGHER SHEAR REINFORCEMENT SHALL PREDOMINATE AND CONTINUE THROUGHOUT AND OVER THE COLUMN OR WALL.

R.23. STARTER BARS FROM THE FLOOR STRUCTURAL SYSTEM FOR R.C. WALLS AND COLUMNS SHALL CORRESPOND IN NUMBER AND SIZE TO THE REINFORCEMENT IN THE WALL OR COLUMN IN WHICH THEY ARE TO BE EMBEDDED. ALL STARTER BARS TO CONCRETE WORKS NOT CARRIED OUT WITHIN ONE MONTH SHALL BE PROTECTED WITH TWO COATS OF NEAT CEMENT WASH. THE COATING SHALL BE MAINTAINED PERIODICALLY TO ENSURE THE EFFICIENT PROTECTION TO THE REINFORCEMENT.

R.24. VERTICAL CLEARANCE BETWEEN EACH LAYER OF REINFORCEMENT SHALL NOT BE LESS THAN 25mm. SPACER BARS SHALL BE 25mm MIN OR BAR DIAMETER WHICHEVER IS GREATER.

R.25. CRANKING OF COLUMN BARS SHOULD NOT EXCEED 1 IN 6. NOT MORE THAN 50% OF COLUMN BARS SHOULD BE SPLICED AT ONE SECTION. FOR COLUMN WITH MORE THAN 4% REINFORCEMENT, SPLICES SHALL BE STAGGERED AND APPROVED MECHANICAL COUPLERS SHALL BE USED. MAXIMUM STEEL RATIO AT LAP LOCATION SHALL BE 8%.

R.26. ANTI-SPALLING MESH OF A6 WELDED STEEL FABRIC SHALL BE PROVIDED TO ALL CONCRETE SURFACES WHERE THE COVER EXCEEDS 40mm. THIS MESH SHALL BE PLACED 20mm FROM THE SURFACE OF THE CONCRETE.

R.27. FOR ANY POST-FIX DRILLED IN STARTER/DOWEL BARS, USE HILTI HY150 OR HILTI RE 500 OR EQUIVALENT. THE DRILLED IN SYSTEM ADOPTED SHALL PROVIDE LONG-TERM PULL-OUT STRENGTH INCLUDING EFFECTS OF CREEP AND CONCRETE CRACKS, WITH RECORD OF THE TESTS AND PAST PROJECTS TRACK RECORD.

TABLE R.7. CONCRETE COVER REQUIREMENTS

CASTING LOCATION AND CONDITION	DURABILITY		
	TYP	FIRE RATING	
		2 HOURS	4 HOURS
1. CONCRETE EXPOSED TO EARTH (VERY SEVERE)	75	–	–
2. BORED PILE	75	–	–
3. CONTACT WITH LEAN CONCRETE OR WATERPROOFING	50	–	–
4. CONCRETE EXPOSED TO WEATHER AND NOT IN CONTACT WITH GROUND (MODERATE EXPOSURE)			
A. RC SLABS / STAIR FLIGHTS	35	35	45
B. RC WALLS	30	30	30
C. RC BEAMS – SIMPLY SUPPORTED	40	40	70
D. RC BEAMS – CONTINUOUS SPAN	35	35	50
E. RC COLUMNS	30	30	30

PREFABRICATED REINFORCEMENT

J.1. THE CONTRACTOR, IF REQUIRED, SHALL PREFABRICATE ALL STEEL REINFORCEMENT FOR WALL, COLUMN, BEAM AND SLAB. ALL WALL AND COLUMN REINFORCEMENT, SLAB REINFORCEMENT AND BEAM CAGES SHALL BE PREFABRICATED IN A FACTORY APPROVED BY THE ENGINEER.

J.2. THE CONTRACTOR SHALL SUBMIT TOGETHER WITH HIS TENDER, THE NAME/S OF THE FACTORY PREFABRICATING THE CAGE REINFORCEMENT. THE CONTRACTOR SHALL OBTAIN THE WRITTEN APPROVAL OF THE ENGINEER IF HE WISHES TO CHANGE TO ANOTHER FACTORY.

J.3. THE CONTRACTOR MAY PROPOSE ALTERNATIVE BAR SIZES AND SPACING TO SUIT THE PREFABRICATING PROCESS, SUBJECT TO THE APPROVAL OF THE ENGINEER. THE ALTERNATIVE PROPOSAL SHALL NOT COMPROMISE THE ORIGINAL AREA OF STEEL REINFORCEMENT SHOWN ON THE ENGINEER'S DRAWINGS.

NOTE:

PURSUANT TO SECTION 4 OF ANNEX "A"OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IES / STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

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CONSULTANT: LOUIECHITO S. NIÑO, CIVIL/STRUCTURAL ENGINEER
PRC NO. : 0056216 | DATE : AUG. 15, 1989
PTR NO. : MFC4152243 | DATE : JAN. 17, 2022
PLACE : MUNTINLUPA CITY | TIN NO. : 102-804-749-000

CHECKED: JOSE MANUEL AGUINALDO, PROJECT MANAGER III, BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER, UNIFIED PROJECT MANAGEMENT OFFICE, DPWH

REVIEWED: ATTY. JOHNSON V. DOMINGO, PROJECT DIRECTOR, BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER, UNIFIED PROJECT MANAGEMENT OFFICE, DPWH

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SOCRATES L. RAMORES, DIRECTOR IV, ASSITANT NATIONAL STATISTICIAN, FINANCE AND ADMINISTRATIVE SERVICE, HEAD, PSA-BCOM
LEO B. MALAGAR, ASSISTANT SECRETARY, DEPUTY NATIONAL STATISTICIAN, CIVIL REGISTRATION & CENTRAL SUPPORT OFFICE

APPROVED: USEC. CLAIRE DENNIS S. MAPA, PH. D., NATIONAL STATISTICIAN AND CIVIL REGISTRAR GENERAL, PHILIPPINE STATISTICS AUTHORITY

PROJECT: CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE TWENTY-THREE (23) STOREY PHILIPPINE STATISTICS AUTHORITY (PSA) OFFICE BUILDING WITH COVERED ROOF DECK

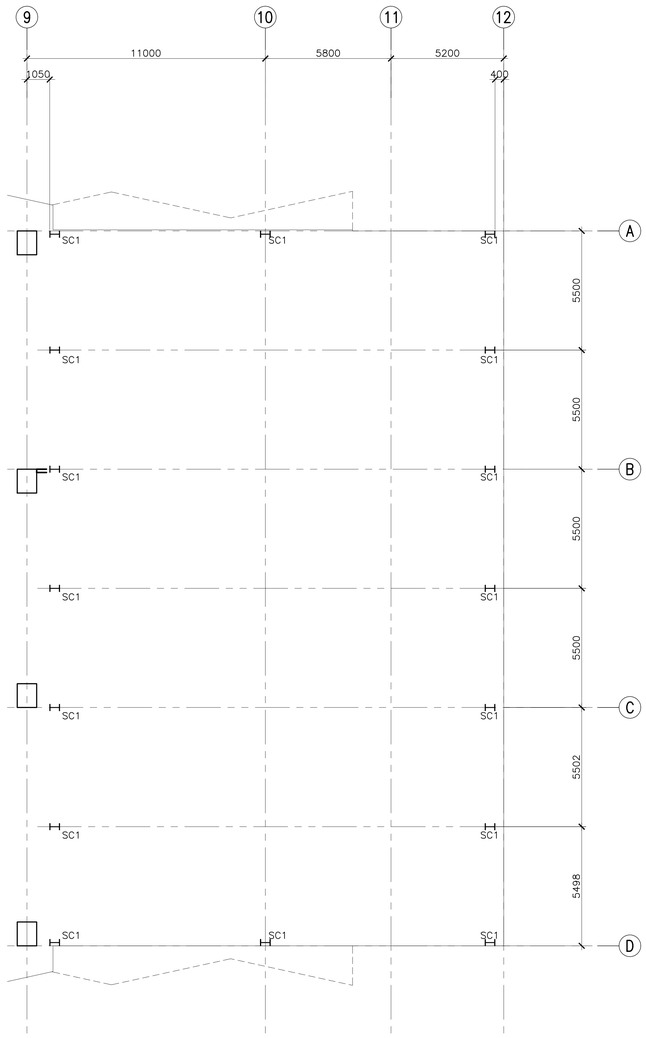
LOCATION: PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY

SHEET CONTENT: STRUCTURAL NOTES - 2

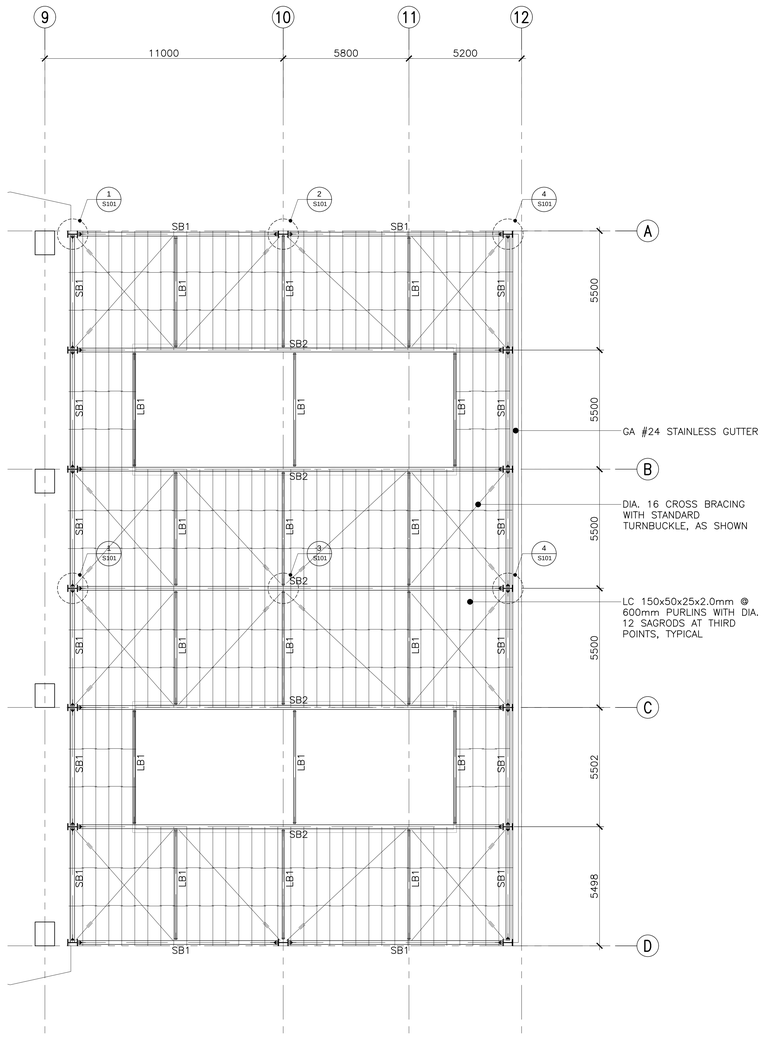
DESIGNER :	E. OLONAN
CAD :	AET / ADI
CHECKED :	RIB / AET
DATE :	MAY 2021

REVISIONS: SYMBOL | REMARK | DATE

SHEET NO. S002

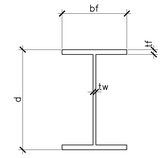


1 S100 — 7/F - BASKETBALL COURT
FLOOR FRAMING PLAN
SCALE: 1:100M



2 S100 — 7/F - BASKETBALL COURT
ROOF FRAMING PLAN
SCALE: 1:100M

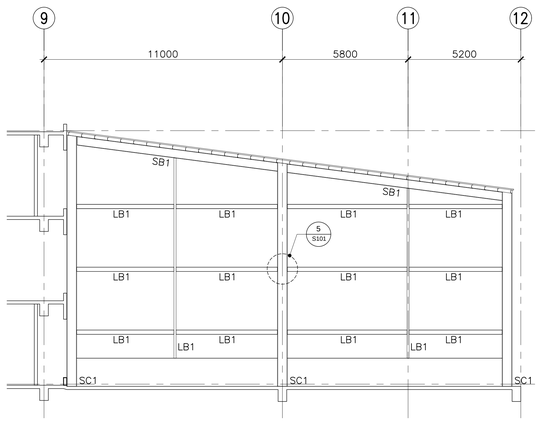
STEEL COLUMN / BEAM / GIRT



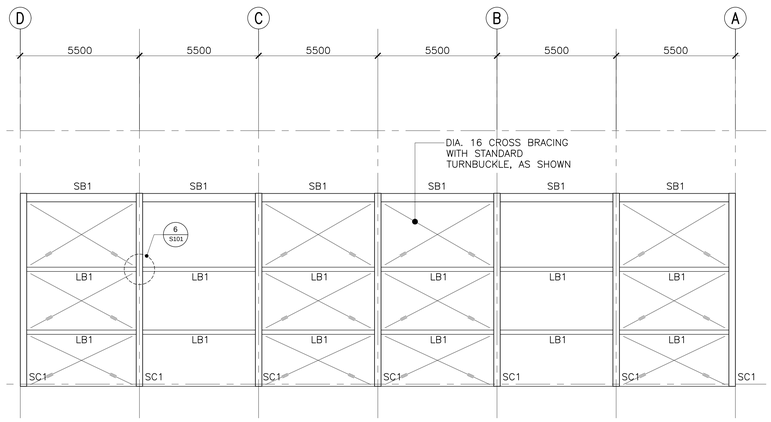
WIDE FLANGE (WF)

MARK/DESIGNATION	d	bf	tf	tw	REMARKS
	mm	mm	mm	mm	
SC1 (W18x96)	462	299	22	13	WIDE FLANGE
SB1 (W16x58)	403	215	17	11	WIDE FLANGE
SB2 (W16x78)	415	219	23	14	WIDE FLANGE
LB1 (W8x15)	206	102	8	6	WIDE FLANGE

NOTE:
ALUMINUM LOUVER AND SKYLIGHT SUB FRAMES BY SUPPLIER/SPECIALTY CONTRACTOR



3 S100 — 7/F - BASKETBALL COURT
FRAME ELEVATION AT GRID A & D
SCALE: 1:100M



4 S100 — 7/F - BASKETBALL COURT
FRAME ELEVATION AT GRID 12
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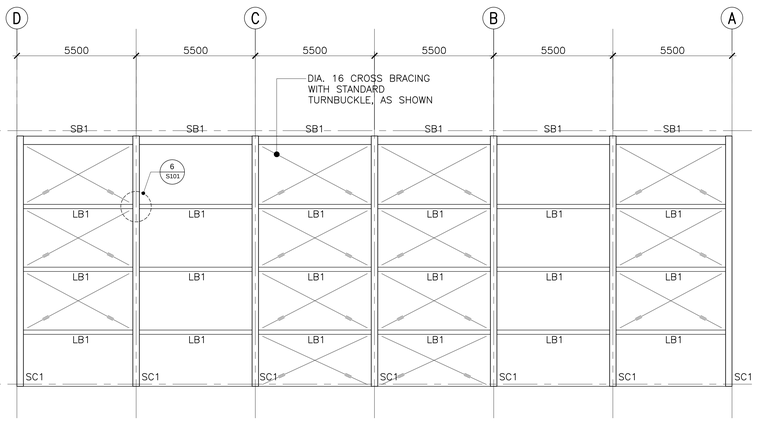


5 S100 — 7/F - BASKETBALL COURT
FRAME ELEVATION AT GRID 9
SCALE: 1:100M

NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A"OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IES / STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

TOKWING CONSTRUCTION CORPORATION
Lot 35, Rodriguez Drive, Rodriguez Subdivision, Baesa, Quezon City
Tel No.: (632) 8961 6069 Email: tokwingconst@yahoo.com.ph

ENRIQUE O. OLONAN & ASSOCIATES
ARCHITECTS ENGINEERS CONSULTANTS
Suite 305, Xavierville Square Condominium, No.38 Xavierville Ave. Loyola Heights, Quezon City
Tel No.: (632) 7917 5358 Email: eolonandesign@gmail.com

CONSULTANT:
LOUIECHITO S. NIÑO
CIVIL/STRUCTURAL ENGINEER
PRC NO. : 0056216 DATE : AUG. 15, 1989
PTR NO. : MFC4152243 DATE : JAN. 17, 2022
PLACE : MUNTINLUPA CITY TIN NO. : 102-804-749-000

CHECKED:
JOSE MANUEL AGUINALDO
PROJECT MANAGER III
BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER
UNIFIED PROJECT MANAGEMENT OFFICE, DPWH

REVIEWED:
ATTY. JOHNSON V. DOMINGO
PROJECT DIRECTOR
BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER
UNIFIED PROJECT MANAGEMENT OFFICE, DPWH

RECOMMENDING APPROVAL:
REYNOR R. IMPERIAL
DIRECTOR II
PLANNING AND MANAGEMENT SERVICE
CO-HEAD, PSA-BCOM

SOCRATES L. RAMORES
DIRECTOR V
ASSTANT NATIONAL STATISTICIAN
FINANCE AND ADMINISTRATIVE SERVICE
HEAD, PSA-BCOM

LEO B. MALAGAR
ASSISTANT SECRETARY
DEPUTY NATIONAL STATISTICIAN
CIVIL REGISTRATION & CENTRAL SUPPORT OFFICE

APPROVED:
USEC. CLAIRE DENNIS S. MAPA, PH. D.
NATIONAL STATISTICIAN AND CIVIL REGISTRAR GENERAL
PHILIPPINE STATISTICS AUTHORITY

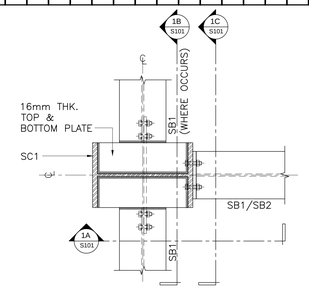
PROJECT:
CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE TWENTY-THREE (23) STOREY PHILIPPINE STATISTICS AUTHORITY (PSA) OFFICE BUILDING WITH COVERED ROOF DECK
LOCATION: PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY

SHEET CONTENT
7/F - BASKETBALL COURT FRAMING PLANS AND FRAME ELEVATIONS

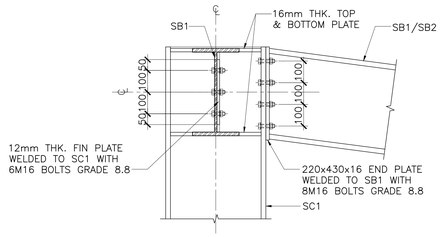
DESIGNER :	E. OLONAN
CAD :	AET / ADI
CHECKED :	RIB / AET
DATE :	MAY 2021

REVISIONS		
SYMBOL	REMARK	DATE

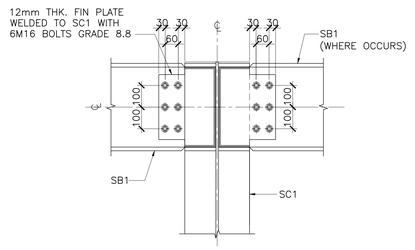
SHEET NO.
S100



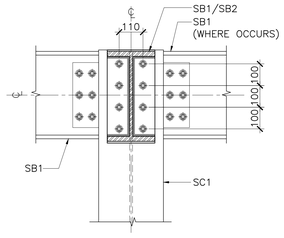
PLAN VIEW



SECTION – 1A

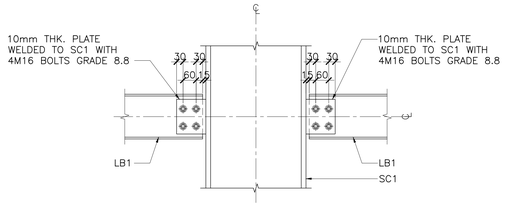


SECTION – 1B

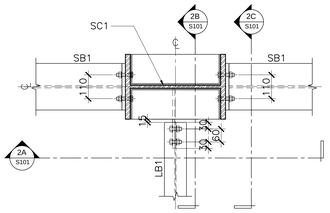


SECTION – 1C

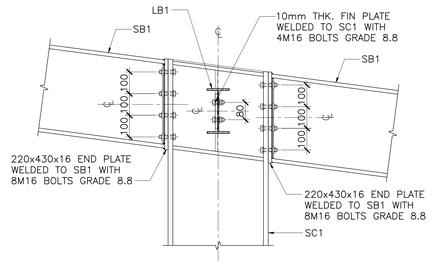
1 S101 — SB1 & SB2 TO SC1 CONNECTION DETAIL
SCALE: 1:10M



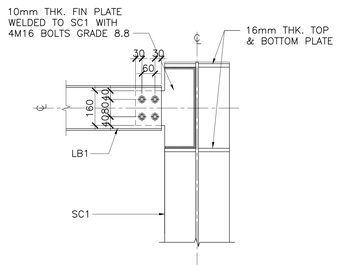
5 S101 — LB1 TO SC1 CONNECTION DETAIL
SCALE: 1:10M



PLAN VIEW



SECTION – 2A



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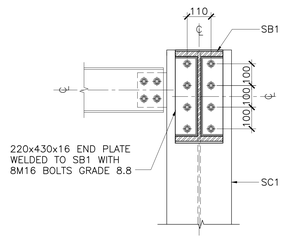
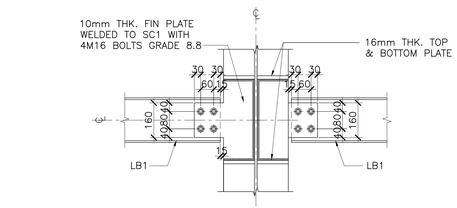
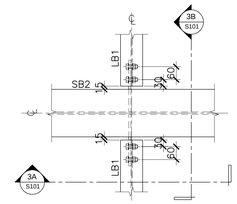


SECTION – 2C

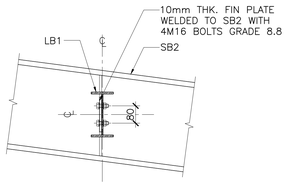
2 S101 — SB1 & LB1 TO SC1 CONNECTION DETAIL
SCALE: 1:10M



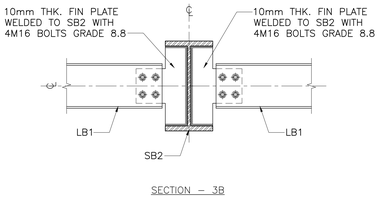
6 S101 — LB1 TO SC1 CONNECTION DETAIL
SCALE: 1:10M



PLAN VIEW

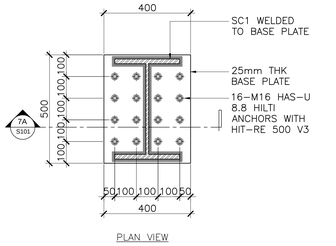


SECTION – 3A

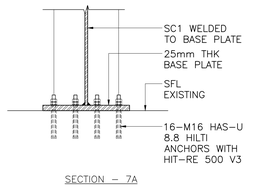


SECTION – 3B

3 S101 — LB1 TO SB2 CONNECTION DETAIL
SCALE: 1:10M

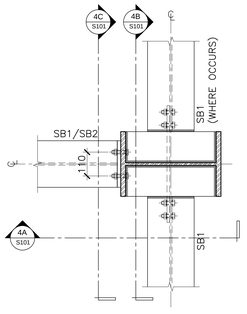


PLAN VIEW

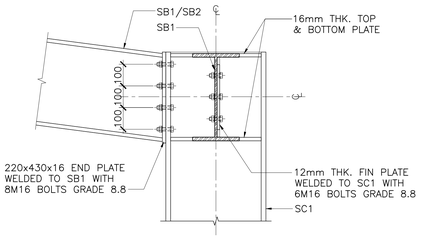


SECTION – 7A

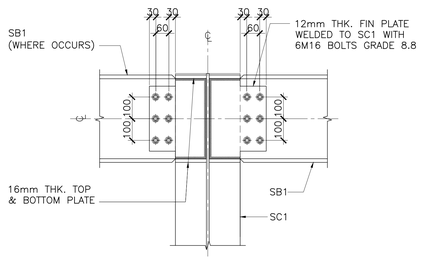
7 S101 — BASE PLATE DETAIL
SCALE: 1:10M



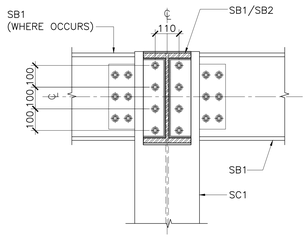
PLAN VIEW



SECTION – 4A



SECTION – 4B



SECTION – 4C

4 S101 — SB1 & SB2 TO SC1 CONNECTION DETAIL
SCALE: 1:10M

NOTE:

PURSUANT TO SECTION 4 OF ANNEX "A"OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

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Tel No.: (632) 7917 5358 Email: eolonandesign@gmail.com

CONSULTANT:			
LOUIECHITO S. NIÑO CIVIL/STRUCTURAL ENGINEER			
PRC NO. : 0056216	DATE : AUG. 15, 1989		
PTR NO. : MFC4152243	DATE : JAN. 17, 2022		
PLACE : MUNTINLUPA CITY	TIN NO. : 102–804–749–000		

CHECKED:	REVIEWED:	RECOMMENDING APPROVAL:			APPROVED:
JOSE MANUEL AGUINALDO PROJECT MANAGER III BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER UNIFIED PROJECT MANAGEMENT OFFICE, DPWH	ATTY. JOHNSON V. DOMINGO PROJECT DIRECTOR BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER UNIFIED PROJECT MANAGEMENT OFFICE, DPWH	REYNOR R. IMPERIAL DIRECTOR II PLANNING AND MANAGEMENT SERVICE CO–HEAD, PSA–BCOM	SOCRATES L. RAMORES DIRECTOR IV ASSITANT NATIONAL STATISTICIAN FINANCE AND ADMINISTRATIVE SERVICE HEAD, PSA–BCOM	LEO B. MALAGAR ASSISTANT SECRETARY DEPUTY NATIONAL STATISTICIAN CIVIL REGISTRATION & CENTRAL SUPPORT OFFICE	USEC. CLAIRE DENNIS S. MAPA, PH. D. NATIONAL STATISTICIAN AND CIVIL REGISTRAR GENERAL PHILIPPINE STATISTICS AUTHORITY

PROJECT:
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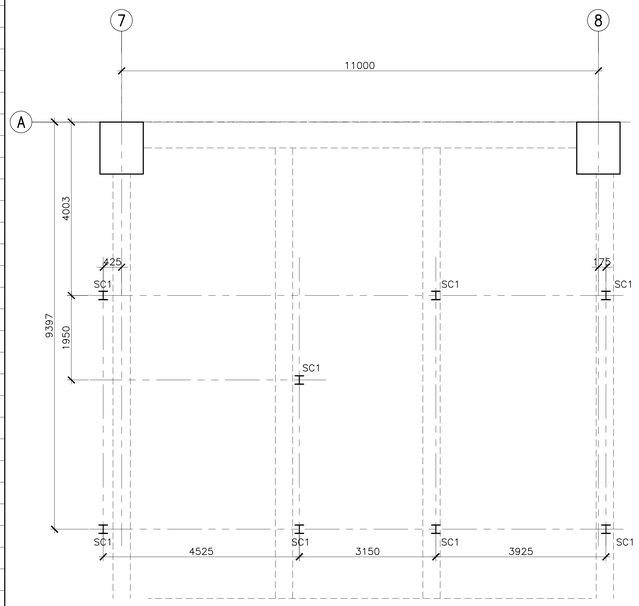
LOCATION: PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY

SHEET CONTENT:
CONNECTION DETAILS

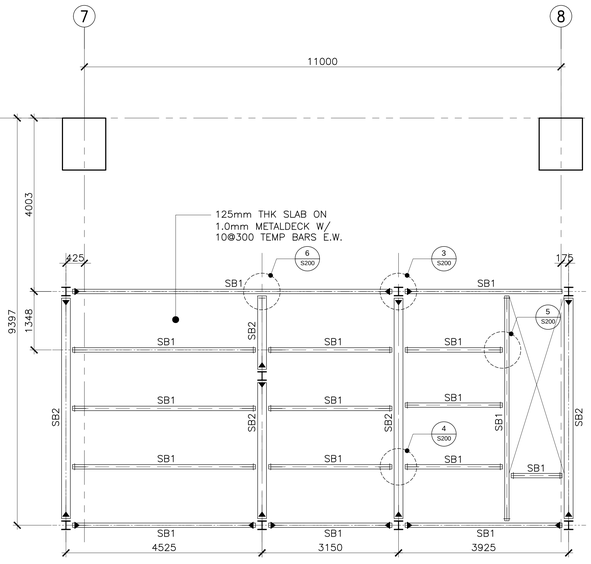
DESIGNER :	E. OLONAN
CAD :	AET / ADI
CHECKED :	RIB / AET
DATE :	MAY 2021

REVISIONS		
SYMBOL	REMARK	DATE

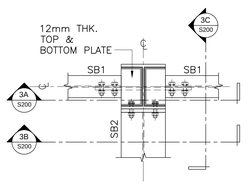
SHEET NO.
S101



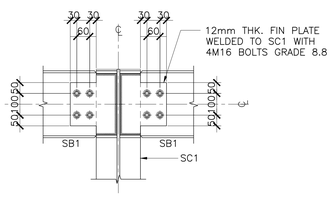
1 G/F - ARCH & ENGG UNIT
FRAMING PLAN PLAN
S200 SCALE: 1:50M



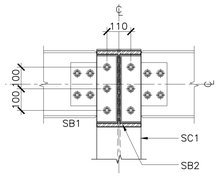
2 G/F - BMS MEZZANINE
FRAMING PLAN
S200 SCALE: 1:50M



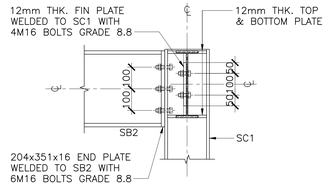
PLAN VIEW



SECTION – 3A

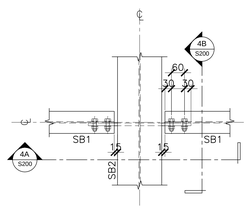


SECTION – 3B

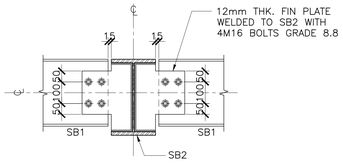


SECTION – 3C

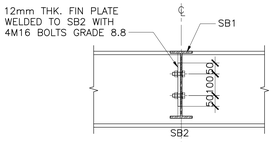
3 S200 SB1 & SB2 TO SC1
CONNECTION DETAIL
SCALE: 1:10M



PLAN VIEW

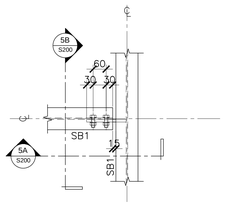


SECTION – 4A

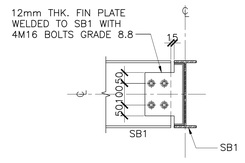


SECTION – 4B

4 S200 SB1 TO SB2
CONNECTION DETAIL
SCALE: 1:10M



PLAN VIEW



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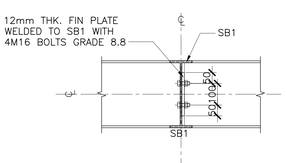
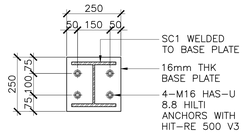
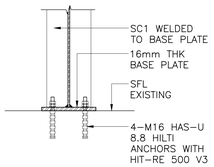


SECTION – 5B



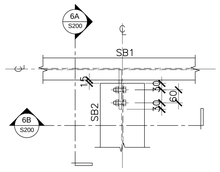
PLAN VIEW



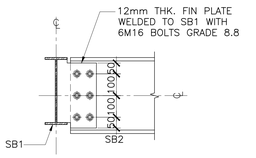
SECTION – 7A

5 S200 SB1 TO SB1
CONNECTION DETAIL
SCALE: 1:10M

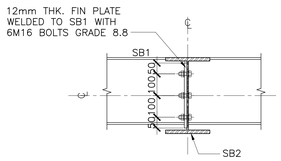
7 S200 BASE PLATE DETAIL
SCALE: 1:10M



PLAN VIEW



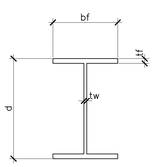
SECTION – 6A



SECTION – 6B

6 S200 SB2 TO SB1
CONNECTION DETAIL
SCALE: 1:10M

STEEL COLUMN / STEEL BEAM



WIDE FLANGE (WF)

MARK/DESIGNATION	d	bf	tf	tw	REMARKS
	mm	mm	mm	mm	
SC1 (W8x35)	206	204	13	8	WIDE FLANGE
SB1 (W12x19)	309	102	9	7	WIDE FLANGE
SB2 (W14x48)	351	204	16	7	WIDE FLANGE

NOTE:

PURSUANT TO SECTION 4 OF ANNEX "A"OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

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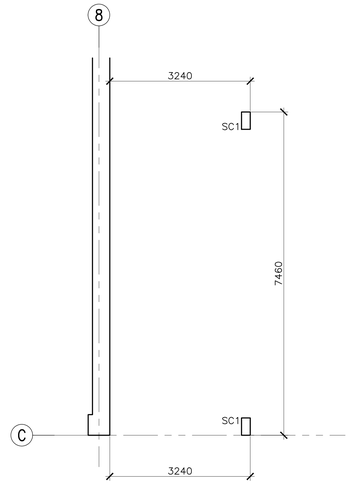
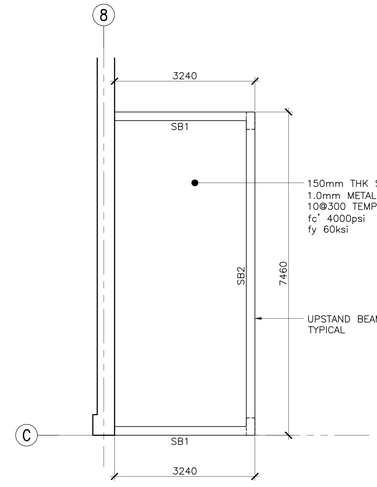
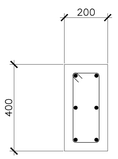


8 S200 RD ELECTRICAL PANEL ROOM
FRAMING PLAN
SCALE: 1:50M

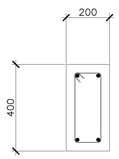


9 S200 RD ELECTRICAL PANEL ROOM
ROOF FRAMING PLAN
SCALE: 1:50M



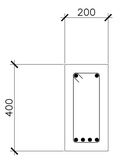
MAIN BARS: 6–ø16
TIES: ø10, 1@50, 8@100, REST@200mm OC

10 S200 RD ELECTRICAL PANEL ROOM
COLUMN DETAIL (SC1)
SCALE: 1:10M



TOP BARS: 2–ø16
BOT. BARS: 2–ø16
STIRRUPS: ø10, 1@50, 4@100, REST@250mm OC

11 S200 RD ELECTRICAL PANEL ROOM
BEAM DETAIL (SB1)
SCALE: 1:10M



TOP BARS: 2–ø16
BOT. BARS: 4–ø16
STIRRUPS: ø10, 1@50, 4@100, REST@250mm OC

12 S200 RD ELECTRICAL PANEL ROOM
BEAM DETAIL (SB2)
SCALE: 1:10M

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CONSULTANT: LOUIECHITO S. NIÑO, CIVIL/STRUCTURAL ENGINEER
PRC NO. : 0056216 DATE : AUG. 15, 1989
PTR NO. : MFC4152243 DATE : JAN. 17, 2022
PLACE : MUNTINLUPA CITY TIN NO. : 102–804–749–000

CHECKED: JOSE MANUEL AGUINALDO, PROJECT MANAGER III, BUILDING & SPECIAL PROJECTS MANAGEMENT CLUSTER, UNIFIED PROJECT MANAGEMENT OFFICE, DPWH

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APPROVED: USEC. CLAIRE DENNIS S. MAPA, PH. D., NATIONAL STATISTICIAN AND CIVIL REGISTRAR GENERAL, PHILIPPINE STATISTICS AUTHORITY

PROJECT: CONSTRUCTION OF FIT-OUT AND LANDSCAPE WORKS FOR THE TWENTY-THREE (23) STOREY PHILIPPINE STATISTICS AUTHORITY (PSA) OFFICE BUILDING WITH COVERED ROOF DECK
LOCATION: PSA COMPLEX, EAST AVENUE, DILIMAN, QUEZON CITY

SHEET CONTENT: G/F - ARCH & ENGG UNIT FRAMING PLAN; G/F - BMS MEZZANINE FRAMING PLAN & CONNECTION DETAILS; RD ELECTRICAL PANEL ROOM FRAMING PLAN, ROOF FRAMING PLAN AND DETAILS

DESIGNER : E. OLONAN
CAD : AET / ADI
CHECKED : RIB / AET
DATE : MAY 2021

REVISIONS			
SYMBOL	REMARK	DATE	

SHEET NO. S200