



SCOPE OF WORK
COMPLETION OF ACADEMIC BUILDING II
OF
PHILIPPINE SCIENCE HIGH SCHOOL – ZAMBOANGA PENINSULA REGION CAMPUS
BRGY. COGON, DIPOLOG CITY
(DESIGN AND BUILD SCHEME)

I. BACKGROUND

The **PHILIPPINE SCIENCE HIGH SCHOOL-ZAMBOANGA PENINSULA REGION CAMPUS (PSHS-ZRC)** through the approved allocation for capital outlay under FY 2023 National Expenditure Program intends to apply the sum of **SEVEN MILLION PESOS (₱7,000,000.00)** being the indicated Approved Budget for the Contract (ABC) for the **COMPLETION ACADEMIC BUILDING II** project. This project will bring more benefits to the male and female students, employees, stakeholders and visitors of PSHS-ZRC. This is an Early Procurement Activity (EPA).

II. PROJECT DESCRIPTION AND LOCATION

The project will involve the Design and Build Scheme leading to the completion of the Academic Building II pursuant to the technical specifications indicated in this Scope of Work.

The project will have an Approved Budget for the Contract (ABC) of **SEVEN MILLION PESOS (₱7,000,000.00)** including all taxes and applicable permits, licenses and clearances.

Completion of Academic Building II project shall cover the:

- Improvement of Audio-Visual Room
- Architectural fixtures for clinic room
- Civil Works and Architectural Works
- Heat Protection Film for all Window except Comfort room Windows
- Frosted Films for Comfort Rooms
- Provision of Overhead Tank, 2000L Stainless Steel Cylindrical Water Storage Tank w/ Duplex Pressure Pump w/ Tank 2.0HP and 605 Liters Pressure Tank
- Architectural Rehabilitation

The project will have an Approved Budget for the Contract (ABC) of **SEVEN MILLION PESOS (₱7,000,000.00)**, including all taxes and applicable permits, licenses and clearances. **A maximum of 3% of the contract cost shall be allotted for the design and the balance shall be for the construction. The project duration is 180 calendar days.**

III. SCOPE OF WORK – CONCEPTUAL DESIGN

The bidder shall prepare and submit:

- ❖ Bill of Quantities (BOQ) and Detailed Cost Estimates of the scope of work for the whole project.

Note:

- The labor component of the cost estimates shall follow the ranges provided in the latest wage order of DOLE Region IX.
- The Contractor shall provide itemized breakdown of the units in lots/Lump sums given in the BOQ.

1. General Requirements

1.1. Mobilization and Demobilization

1.2. Project Billboard

1.3. Temporary Facilities

- The Contractor shall provide temporary office and bunkhouse/quarters with water, electricity and toilet facilities. Upon completion of this project, the structures made shall be torn down and the area has to be cleaned, the recovered usable materials shall be turned over to the procuring entity and the unusable ones shall be disposed of.
- The Contractor shall pay for the installation of/acquisition of separate connections for electricity and water and the monthly bills for these during the construction phase.

1.4. Construction Safety Health

- Personal Protective Equipment, Medicines, First Aid Kit, and others.

1.5. Design of Plans

2. Improvement of Audio-Visual Room

2.1. AVR Platform - Design and construction of platform and installation of theater chair to the platform.

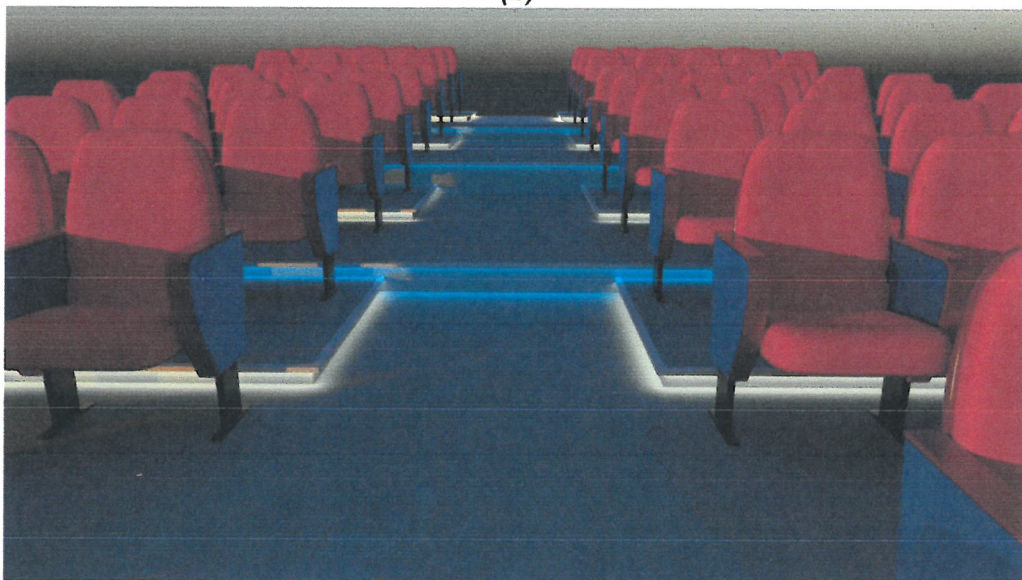
- Design the platform with an elevation that have a safe clearance from the floor line to ceiling line.
- Install in 11 rows of the existing theater chairs
- Elevation of each row should not exceed 5 inches.
- Step riser is $\pm 0.25m$.
- Material for flooring shall be 1" Marine Plywood (high quality), with floor carpet finish (color is upon approval) with LED Strip in each step.
- **See Annex A for layout reference**



(a) Actual site condition of audio visual room



(b)



(Example only)

2.2. Audio visual room sound proofing and installation of black out curtains

- Acoustic Sound Proofing Foam Wall, High Density Insulation Panel for sound proofing.
- Black out curtains to minimize the entry of sunlight in glass windows.

2.3. Air Conditioning Unit - The specifications should be presented to the procuring entity prior to procurement.

THREE (3) SETS of 3.0TR FLOOR MOUNTED AC, 30AMP Safety Breaker w/ ALL ACCESSORIES INCLUDED

- Install three (3) sets 3.0TR Floor Mounted AC (3) sets at Audio Visual Room on the 3rd Floor. Power supply is already existing in area
- Should have at least 1-year warranty
- **See Annex B for layout reference**

2.4 Desktop Computer - One (1) set desktop computer with two (2) LED server monitor. Supply, delivery, installation, and configuration of server. *The specifications should be presented to the procuring entity prior to purchasing.*

a) SYSTEM UNIT

- Core i7
- At least 6GB Dedicated Video Card
- Pre-installed 64-bit Operating System (Preferably Windows 10 Pro Operating System)
- At least 16GB DDR4 memory, Up to 32GB
- At least 256GB SSD with 1TB HDD
- Gigabit Ethernet 10/100/1000
- Front I/O ports: USB 3.1 Gen 1 and 2.0, USB Type C
- Rear I/O ports: USB 3.1 Gen 1 and 2.0, HDMI, DVI-I/DVI-D, VGA, RJ45, Speaker and Mic Jacks

b) KEYBOARD

- Keycaps: Round Edge
- Hotkeys: 12 FN Multimedia Hotkeys
- Character: Laser Engraving
- Adjustable Keyboard Legs: Yes
- Hardware Connectivity: USB

c) OPTICAL MOUSE

- Report Rate: 125 Hz
- Sensor Technology: Optical
- Resolution: 5000 DPI
- Buttons No.: 4
- Ergonomic Design: Symmetric
- Size: Middle / Big Hands
- Hardware Connectivity: USB

d) Two (2) units LED Monitor

- 24-inch Full HD monitor with 1ms (GTG) quick response time and 75Hz refresh rate for fast and smooth gaming
- Features Adaptive-Sync technology to eliminate screen tearing and choppy frame rates
- Extensive connectivity including HDMI and D-sub ports. Plus 1.5-Watt stereo speakers.

e) HEADPHONE

- Type: Over-the-ear Headphones
- Sensitivity: 112dB +/- 4dB
- Frequency Response: 12Hz - 28kHz
- Impedance: 50ohms
- Rated Input: 30mW
- Maximum Input: 100mW
- Plug: 3.5mm Straight Plug

f) Uninterruptible Power Supply (UPS)

- One (1) unit of UPS 1500 watts; Maintenance-free sealed Lead-Acid battery with suspended electrolyte: leak-proof

2.5 Facilities for Audio Visual Room - supply and installation of the following (*Note: The specifications should be presented to the procuring entity prior to procurement*):

a) MICROPHONE STAND

- Eight (8) units of Heavy duty die case aluminum base
- Quick rise or lower by pressure of non-slip clutch
- Metal clutch for the boom provide high durability
- Strong material tube size 25 & 19



- b) PROFESSIONAL WIRELESS MICROPHONE
 - One (1) set with four (4) mics per set of 4 channels UHF wireless microphone
 - Freq. range: at least 500-800MHz
 - Distance: at least 100ft
 - LCD Display
- c) PROFESSIONAL WIRED MICROPHONE
 - Four (4) units of wired cardioid dynamic vocal microphone.
 - Spherical Mesh Grille with Built-in Pop Filter, A25D Mic Clip

2.6 Sound System - supply and installation of the following (*Note: The specifications should be presented to the procuring entity prior to procurement*):

- a) PROFESSIONAL SPEAKERS
 - Six (6) units of 15" Two-Way Multipurpose
 - Max SPL Output 127Db
 - Frequency Range(-10dB) 39Hz – 20 kHz
 - Frequency Response (±3 dB) 50Hz – 20 kHz
 - Coverage Pattern 90° x 60°
 - Amplifier Design Class D
 - Power Rating 1000W Peak (700W LF + 300W HF), 500W Continuous (350W LF + 150W HF)
 - Dimension (H x W x D) 27.8 x 17.3 x 14.4 (inches)
 - Onboard EQ presets allow setting the system for various application
 - Bluetooth integration for convenient control of volume and EQ parameters.
- b) PROFESSIONAL AUDIO PROCESSOR
 - One (1) unit of professional audio processor with at least 6 months' warranty
 - Available Input Processing:
 - AFS™ (Advanced Feedback Suppression), Graphic EQ, 8-Band Parametric EQs (adjusted when using the AutoEQ), Subharmonic Synthesis
 - Available Output Processing:
 - Crossover (supports full range, 2-way, and 3-way system), 8-Band Parametric EQs (used for speaker turnings Driver Alignment Delays)
- c) Automatic Voltage Regulator (AVR)
 - One (1) unit of automatic voltage regulator (AVR) for sound system
 - Servo motor grade
 - Automatic Voltage Regulator: 10KVA
- d) SNAKE WIRE
 - One (1) unit of snake wire with 8 channels.

2.7 Projector w/ Laser Pointer - The specifications should be presented to the procuring entity prior to procurement. The contractor shall install and configure the unit connected to the server.

- a) One (1) unit of Smart 4K UHD DLP Laser Projector with specifications:
 - True 4K UHD(3840x2160)
 - HDR10HLG
 - Laser Light Source with life span up to 30,000 hours.
 - Bright 3,000 lumens and stable output, achieves 2,500,000: 1 Contrast.
 - Full 4K, 8 million pixel display, perfect pixel alignment and great contrast.
 - HDR 10 & HLG Supported for Brightest Whites, Deepest Darks, and Lifelike Colors
 - Auto detect and display Super Ultra Wide 21:9/32:9 screen for immersive panoramic view
- b) One (1) unit LASER POINTER

- 2.8 Server Table - Customized U-shape table with drawers at control room**
- Design and construct customized U-Table w/ drawer at the control room
 - See Annex B for layout reference



(Example only)

3. Architectural Fixtures for Clinic Room

- 3.1. Clinic Counter - Design, supply, and installation of customized Clinic Counter**
- Contractor should present shop drawings to the procuring entity prior to construction
 - See Annex D for layout reference



(Example only)

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3.2. Clinic Sofa Set - L-shape, size to fit in to intended area, gray color

- Customized or ready-made.
- Design should be presented to the procuring entity prior to procurement
- **See Annex D for layout reference**



(Example only)

3.3. Dental Chair - Supply and installation, including water and waste line connection, of FDA- and CE-approved, Dental Chair Unit, Floor Type, Dental Unit with Top Model-mounted or Down-mounted instrument tray, Built-in Tissue Box. The specifications should be presented to the procuring entity prior to procurement.

Specifications:

1. Controlled by air system 1 set.
 2. 24V D.C noiseless motor 1 set.
 3. Down-mounted instrument tray with air break (Option: change top mounted instrument tray) 1 set.
 4. High quality hand piece tubing (4 hole or 2 hole) 3 pcs.
 5. Adjustable LED sensor lamp 1 set.
 6. Multi-function foot controller 1 set.
 7. Foldable biarticular headrest 1 set.
 8. PU cushion and backrest 1 set.
 9. 90° rotatable spittoon 1 set.
 10. Automatic spittoon flush and cup filler control system 1 set.
 11. 9 memory position control systems 1 set.
 12. Water suction and air suction (normal suction system design) 1 set.
 13. Built-in water purified system 1 set.
 14. Floor fixed unit box 1 set.
 15. Low voltage AC water heater 1 pc.
 16. LED Film viewer 1 set.
 17. 3-way syringe (hot/cold water) 2 set.
 18. Assistance control system 1 set.
 19. Built-in floor box (can choose external floor box) 1 set.
 20. Built-in tissue box 1 set.
 21. Double armrests 1 set.
 22. Compensation chair frame 1 set.
 23. Doctor's stool 1 set.
- **See Annex D for layout reference**

L



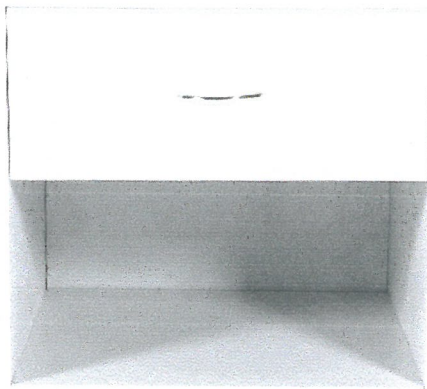
(Example only)

- 3.4. Clinic Privacy Curtain - Supply and installation of 2 sets curtains and curtain rods as Hospital Drape (Blue Curtains).**
- **See Annex D for layout reference**



(Example only)

3.5. Clinic Side Tables - Supply and delivery of 3 pcs minimalist side tables color white. The design should be presented to the procuring entity prior to procurement/fabrication.



(Example only)

3.6. Movable Table - Supply and delivery of 2 pcs movable Table.



(Example only)

3.7. Storage Cabinets - Design and installation of Hanging Cabinets and Under Sink Cabinets.
▪ See Annex D for the layout reference.

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4. CIVIL WORKS and ARCHITECTURAL WORKS

4.1. Storm Drainage System - Design and construction of the drainage system shall cover the FRONT, REAR, and LEFT side portions of the Academic Building 2.

- 150mm opening of trench drain.
- Steel grating will be used for the cover of the trench.
- **See annex E for the layout reference.**

4.2. Improvement of Building's Perimeter Area – for purposes of additional study areas within the building perimeter and for shorter and safe accesses to this building from the other buildings, design and construct the following around the Academic Building II:

- a) Steps, benches, walkways, stairs, covered pathway and softscape/ground improvement in between the Administration Building and the Academic Building 2.
- Sub-base preparation
 - Covered pathway between the Administration Building and the Academic Building 2.
 - 2.40 meters wide for the pathway
 - 1.00 meter for the roofing overlap
 - 2.60 meters for the roof apex, inclined roofing
 - Benches, Steps/Stairs and addition of aesthetics
 - **See Annex F for layout reference**
 - Planting of ideal trees, flowering plants, shrubs, and grass
 - Continuation of existing ramp from Administration Building to Academic Building 2



(a) Actual site condition of the area





(b)



(Design example of benches)

b) Study and Access Area:

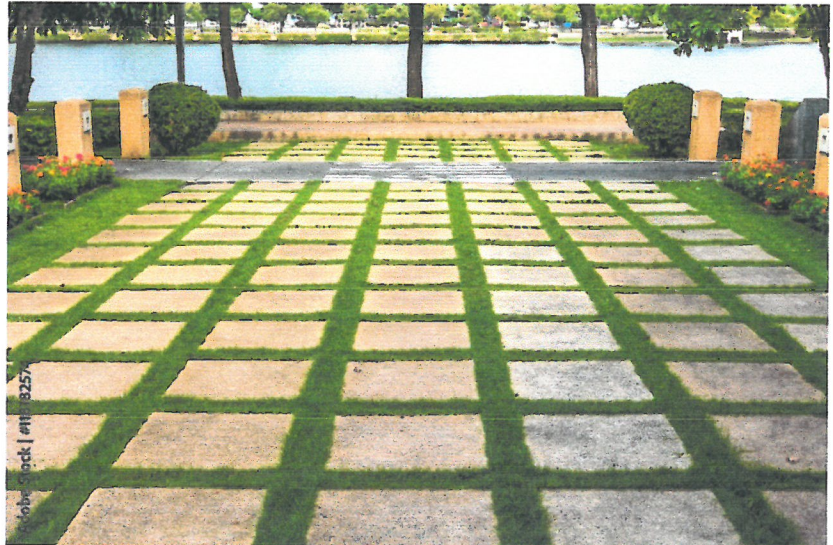
- Conduct survey and determine appropriate elevation
- Sub-base preparation for approximately 2,000 square meters area and well-compaction of sub-base
- Storm drainage going to sewer line
- 3 Flag Stainless Steel Pole in front of the building (towards the study area)
- Benches, steps/stairs and add aesthetics on one side of the area

—

- Grass pavers, pavers, concrete slab and frog grass for finish floor line. See samples.



Actual site photo of Formation Area to be developed.



(Design example of formation area)



(Design example of benches to the side of Academic Building 1)

- 4.3. Ornamental Plants/Vegetation** - Planting of shrubs, flowering plants, and grass at Academic Building 2 Plant Boxes. **See Annex F for layout reference.**
- 4.4. Heat Protection Film** - Sun Control Window Film/Heat Protection Film for all windows, except for comfort room windows.
Contractor shall supply and install highly reflective films that:
- Are of commercial grade
 - Reject up to 79% of all solar energy
 - Help extend the life of furnishings by significantly reducing harmful UV rays (the largest cause of fading)
 - Specifications (size, material, color, and etc.) should be presented (with brochure/write-ups about the product) to the procuring entity prior to procurement.



Academic Building 2 (front)

A handwritten signature or mark in black ink, consisting of a stylized 'L' shape followed by a horizontal line.



Academic Building 2 (rear)

4.5. Frosted Films – install frosted film at comfort room windows.

4.6. Overhead Tank - Provision of one (1) Overhead Tank, 2000L Stainless Steel Cylindrical Water Storage Tank w/ at least Duplex Pressure Pump w/ Tank 2.0HP and 605 Liters Pressure Tank

- Supply and installation of Overhead Tank, including water tapping/water line connection/commissioning.
- **See annex G for layout and diagram** for the connections of pipes from water source to water supply of the building.

4.7. Architectural Rehabilitation

- a) Replace of twenty-five (25) units of damaged water closet covers in male and female comfort rooms. These should be compatible with the existing water closet brand.
- b) Repaint peeled-off paints on vertical slats and canopies of the building.
- c) Restoration/deep cleaning/polishing of Stainless Railings of the building.



(a) Damaged Water Closet Cover



(b.1.) Peeled-off Paints on Vertical Slats



(b.2.)

A handwritten signature or mark in black ink, consisting of a vertical line followed by a horizontal line that tapers to the right.



(a.1.) Stainless Steel Railings



(b.1.) Stainless Steel Railings

BILL OF QUANTITIES AND COST ESTIMATE GUIDE

| ITEM NO. | DESCRIPTION | UNIT | QTY | UNIT COST | AMOUNT |
|-------------|---|------|-----|-----------|--------|
| 1.0. | General Requirements | | | | |
| 1.1. | Mobilization and Demobilization | lot | | | |
| 1.2. | Project Billboard | lot | | | |
| 1.3. | Temporary Facilities | lot | | | |
| 1.4. | Construction Safety Health Program | lot | | | |
| 1.5. | Design Services | | | | |
| 2.0. | Improvement of Audio-Visual Room | | | | |
| 2.1. | AVR Platform | lot | | | |
| 2.2. | Audio visual room sound proofing and installation of black out curtains | lot | | | |
| 2.3. | Air Conditioning Unit | lot | | | |
| 2.4. | Desktop Computer | set | | | |
| 2.5. | Facilities for Audio Visual Room | lot | | | |
| 2.6. | Sound System | lot | | | |
| 2.7. | Projector w/ Laser Pointer | lot | | | |
| 2.8. | Server Table | lot | | | |
| 3.0. | Architectural Fixtures for Clinic Room | | | | |
| 3.1. | Clinic Counter | lot | | | |
| 3.2. | Clinic Sofa Set | lot | | | |
| 3.3. | Dental Chair | set | | | |
| 3.4. | Clinic Privacy Curtain | set | | | |
| 3.5. | Clinic Side Tables | pcs | | | |
| 3.6. | Movable Table | pcs | | | |
| 3.7. | Storage Cabinets | lot | | | |
| 4.0. | CIVIL WORKS and ARCHITECTURAL WORKS | | | | |
| 4.1. | Storm Drainage System | lot | | | |
| 4.2. | Improvement of Building's Perimeter Area | lot | | | |
| 4.3. | Ornamental Plantation/Vegetation | lot | | | |
| 4.4. | Heat Protection Film | area | | | |
| 4.5. | Frosted Films | lot | | | |
| 4.6. | Overhead Tank | lot | | | |
| 4.7. | Architectural Rehabilitation | lot | | | |
| | TOTAL | | | | |

Note:

- *The scope of work of this project is not limited to the items listed in the table. The Contractor may include items that are required in their proposed design.*
- *The Contractor is required to perform an actual site assessment for accurate quantification of materials and span of works. Any item deficiency on the bidding documents submitted as against the actual requirement in site will be to the account of the Contractor and not be subject for variation order.*

Completion of Academic Building 2 must comply with the minimum specifications and standards set forth by the National Building Code of the Philippines (R.A. 6541); Civil Engineering Law (R.A. 544); Fire Code of the Philippines and related safety, health, labor and sanitary laws.

IV. SELECTION OF DESIGN AND BUILD CONTRACTOR

The procurement and implementation of the project using the "Design and Build" scheme shall be in accordance with the provisions of RA 9184, specifically, its Annex G. Bidding shall be conducted by the Bids and Awards Committee (BAC) constituted to conduct the procurement of the project. The DBC and TWG shall prepare the design brief and performance specifications and parameters, review the detailed engineering design, and assist the BAC in the evaluation of technical proposals in accordance with the criteria set.

A. Eligibility Requirements

The eligibility requirements for Design and Build infrastructure projects shall comply with the applicable provisions of Section 23-25 of the IRR of RA9184.

a. Eligibility Documents

Class "A" Documents

- i. PhilGEPS Certificate of Registration and Membership (Platinum)
- ii. Mayor's/Business permit issued by the city or municipality where the principal place of business of the prospective bidders is located;
- iii. Registration Certificate from the Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives;
- iv. Tax clearance per E.O. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR)
- v. Statement of all on-going, completed, awarded but not yet started design/design and build related contracts
- vi. Single Largest Completed Contracts (SLCCs) similar to the project to be bid that must be at least fifty percent (50%) of the ABC to be bid (in a joint venture/consortia, one should have at least one similar project, both in design and construction, with at least 50% of the cost)
SLCC must be supported by any of the following documents:
 - Owner's Certificate of Final Acceptance issued by the project owner other than the contractor
 - Final rating of at least Satisfactory in the Constructors Performance Evaluation System (CPES). *In case of contracts with the private sector, an equivalent document shall be submitted.*
- vii. PCAB licenses and registration for the type and cost of the contract for this project;
(Classification: General Building; License Category: C&D; Size Range: Small B)

- viii. Audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission;
- ix. NFCC computation

$$\text{NFCC} = [(\text{Current assets minus current liabilities}) (15)] \text{ minus the value of all outstanding or uncompleted portions of the projects under ongoing contracts, including awarded contracts yet to be started, coinciding with the contract to be bid.}$$

Class "B" Documents

- i. Joint Venture agreement, if applicable.
- ii. Special PCAB license in case of a Joint Venture.

b. Technical Documents

- i. Bid Security (in any form)
- ii. Project Requirements
 - ii1. Organizational Chart
 - ii5. List of Contractor's Personnel (design and construction) with complete qualification and experience data (with valid licenses issued by the PRC)
 - ii6. List of Contractor's major equipment units, which are owned, leased and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from equipment lessor/vendor for the duration of the project.
- iii. Omnibus Sworn Statement
- iv. Preliminary Conceptual Design Plan (Schematic Drawings) in accordance with the degree of details specified under Section III SCOPE OF WORK – DESIGN

These drawings shall be scaled presentation comprising, but not limited to:

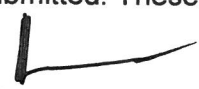
- necessary details on illustrating the size, dimensions, materials intended to be used and specifications indicated in the Scope of Work. These shall be printed on A3-sized sheets.
- Another complete set of the drawings should be printed on A4-sizes sheets bound and submitted together with the other technical documents.

- v. Design and Construction Methods
- vi. Value Engineering analysis of design and construction method
 Prospective bidders shall prepare a value engineering analysis report of their proposed design and construction method to be applied for the project. Importance shall be made on the following criteria:
 - Cost-saving, measured on a per square meter average figure
 - Time-saving in design and construction duration, measured using the HOPE and approved PERT-CPM of the project.
 - Operational efficiency

c. Financial Component

- i. Financial Bid Form
- ii. Bill of Quantities
- iii. Detailed Cost Estimates
- iv. Summary Sheet indicating the unit prices of materials, labor rates and equipment rental
- v. Payment Schedule

Three (3) sets of documents [i.e., one (1) original and two (2) photocopies] – each set containing the eligibility, technical and financial components shall be submitted. These sets of



documents should be hard-bound or soft-bound or ring-bound, provided with bookmarks on the side corresponding to the table of contents.

B. Eligibility Criteria

- a. The eligibility of design and build contractors shall be based on the legal, technical and financial requirements above-mentioned. In the technical requirements, the design and build contractor (as solo or in joint venture/consortia) should be able to comply with the experience requirements under the IRR of RA 9184, where one of the parties (in a joint venture/consortia) should have at least one similar project, both in design and construction, with at least 50% of the cost of the Approved Budget for the Contract (ABC).
- b. If the bidder has no experience in design and build projects on its own, it may enter into subcontracting, partnerships or joint venture with design or engineering firms for the design portion of the contract.
- c. The relevant provisions under Section 23.5. of the IRR of RA 9184 on eligibility criteria shall be observed.

V. SELECTION OF DESIGN AND BUILD CONTRACTOR

The key professionals and the respective qualification of the **DESIGN / CONSTRUCTION PERSONNEL** shall be follows:

1. Project Engineer

The Project Engineer shall be a licensed civil engineer with at least two (2) years of experience in building construction and civil works.

2. Foreman

The Foreman must be duly accredited with at least two (2) years of experience in building construction and civil works.

3. Safety Officer

The Safety Officer must be an accredited safety practitioner by the Department of Labor and Employment (DOLE) and has undergone the prescribed 40-hour Construction Safety and Health Training (COSH).

4. Electrical Engineer

The Electrical Engineer must be a registered Professional Electrical Engineer with at least five (3) years of experience in the design of lighting, power distribution and preferably knowledgeable in developments in emergent efficient lighting technologies and energy management.

5. Master Plumber

The Sanitary Engineer or Master Plumber must be duly-licensed with at least three (3) years of experience in similar and comparable projects in Drainage Systems and Waste Water Management Systems and preferably knowledgeable in emergent, alternative effluent collection and treatment systems.

6. Mechanical Engineer

The Mechanical Engineer must be a Professional Mechanical Engineer with at least three (3) years of experience in HVAC and fire protection systems and preferably knowledgeable in emergent, alternative energy-efficient HVAC technologies.

The above key personnel listed are required. The CONTRACTOR may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Construction Services, as stipulated in this Scope of Work, for the PROJECT. Prospective



bidders shall attach each individual's resume and PRC license (if applicable), proof of qualifications, and related documents as necessary.

VI. DETAILED ENGINEERING REQUIREMENT

1. Upon award of the design and build contract, the winning bidder shall be responsible for the preparation and submission of all necessary detailed engineering investigations, surveys and designs in accordance with the provisions of Annex "A" of this IRR (with the exception of the Bidding Documents and the ABC).
2. The procuring entity shall ensure that all necessary schedules with regards to the submission, confirmation and approval of the detailed engineering design and the details of the construction methods and procedures shall be included in the contract documents.
3. The procuring entity shall review, order rectifications, and approved or disapprove – for implementation only – the submitted plans within these schedules. All instructions for rectification shall be in writing stating the reasons for such rectification. The design and build contractor shall be solely responsible for the integrity of the detailed engineering design and the performance of the structure irrespective of the approval/confirmation by the procuring entity.

VII. PROJECT IMPLEMENTATION

As a rule, contract implementation guidelines for the procurement of infrastructure projects shall comply with Annex "E" of the IRR of RA 9184.

In compliance with the design and build Terms of Reference, the DESIGN AND BUILD CONTRACTOR shall submit a detailed program of work within ten (10) calendar days after the issuance of the Notice to Proceed for approval by the procuring entity that shall include, among others:

- a. The order in which it intends to carry out the work including anticipated timing for each stage of construction;
- b. Periods for review of specific outputs and any other submissions and approvals;
- c. Sequence of timing for inspections and tests as specified in the contract documents;
- d. General description of the construction methods to be adopted;
- e. Number and names of personnel to be assigned for each stage of the work;
- f. List of equipment required on site for each major stage of the work;
- g. Description of the quality control system to be utilized for the project.
- h. Provide value engineering analysis on all prepared construction documents.
- i. Prepare from the approved schematic design documents, the complete construction drawings and detailed technical specifications, cost estimates and the bill of quantities, setting forth in detail the work required for the architectural, structural, electrical, plumbing/sanitary, mechanical and other service-connected equipment, utilities, site planning aspects and related works, electronic and communications and the site development plan of the PROJECT's immediate environs.
- k. Prepare the scope of work for construction based on the prepared bill of quantities and cost estimates while fitting within the approved budget.
- l. Coordinate with all offices and agencies concerned; within and outside the Campus regarding utility connections, permits and other requirements needed.
- m. Periodically coordinate and present the status of the design phase to the Head of Procuring Entity and the PSHS Design & Build Committee.

All drawings included in the contract documents should be plotted on 20" x 30" sheets. All other textual submittals shall be printed and ring-bound on A4-sized sheets.



Where required, design components shall be designed in coordination with the agencies concerned (e.g., coordinate with electric company for power lines and concerned company/agency for water and sewage lines).

Partial and earlier submission of the construction drawings, such as those affecting the preliminary stages of construction (site works, foundation works, etc.) shall be allowed. The DESIGN & BUILD CONTRACTOR may only proceed with the CONSTRUCTION PHASE after the approval of PSHS Design & Build (D&B) Committee of the drawings, designs and bill of estimates as recommended by the Technical Working Group (TWG) and upon accomplishing all necessary PRE-CONSTRUCTION tasks.

A. Pre-Construction

- a) Secures all necessary building permits prior to construction. All incidental fees shall be included in the cost estimate of the building.
- b) Prepares of the PERT-CPM of the construction phase.
- c) Provides all other necessary documents that shall be required by the Design & Build Committee.

B. Construction Phase

- a) Implement all works indicated in the approved construction drawings and specifications.
- b) Preparation of shop-drawings for construction guide.
- c) Report and coordinate with the D&B Committee regarding scheduling of inspection, mock-ups and construction issues.
- d) Conduct all necessary tests (to be required by D&B Committee) and issue reports of results.
- e) Rectification of punch-listing works issued by the TWG/Inspectorate Team.
- f) Provide all other necessary documents that shall be required by the D&B Committee.

C. Post Construction Phase

- a) Final Inspection to be conducted by TWG-Infrastructure and the Contractor's Representative/Project Engineer.
- a) Turn-over of all manuals, certificates and warranties of installed items.
- b) Secures building certificate of occupancy and fire safety inspection certificate.

D. Variation Orders

Any errors, omissions, inconsistencies, inadequacies or failure submitted by the Contractor that do not comply with the requirements shall be rectified, resubmitted and reviewed at the Contractor's cost. If the Contractor wishes to modify any design or document which has been previously submitted, reviewed and approved, the Contractor shall notify the procuring entity within a reasonable period of time and shall shoulder the cost of such changes.

As a rule, changes in design and construction requirements shall be limited only to those that have not been anticipated in the contract documents prior to contract signing and approval. The following guidelines shall govern approval for change or variation orders:

- i. Change Orders resulting from design errors, omissions or non-conformance with the performance specifications and parameters and the contract documents by the Contractor shall be implemented by the Contractor at no additional cost to the procuring entity.



- ii. Provided that the Contractor suffers delay and/or incurs costs due to changes or errors in the procuring entity's performance specifications and parameters, he shall be entitled to either one of the following:
 - a. an extension of time for any such delays under Section 10 of Annex "E"; or
 - b. payment for such costs as specified in the contract documents, provided, that the cumulative amount of the variation order does not exceed ten percent (10%) of the original contract.

E. Defects and Liability

- a. All design and build projects shall have a minimum Defects Liability Period of one (1) year after contract completion or as provided for in the contract documents. This is without prejudice, however, to the liabilities imposed upon the engineer/architect who drew up the plans and specification for a building sanctioned under Section 1723 of the New Civil Code of the Philippines.
- b. The Contractor shall be held liable for design and structural defects and/or failure of the completed project within the warranty periods specified in Section 62.2.3.217 of the IRR.

VIII. OVERALL PROJECT TIME SCHEDULE

The DESIGN & BUILD CONTRACTOR shall propose the most reasonable time schedule for the completion of the project. **It is expected that this period will not exceed one hundred eighty (180) calendar days from the date of the issuance of the Notice to Proceed (NTP): Twenty (20) calendar days for the Design Phase, and One Hundred Sixty (160) calendar days for the Construction Phase.**

IX. THE IMPLEMENTING AGENCY'S GENERAL RESPONSIBILITY

The implementing agency for the project is the Campus Director of PSHS-ZRC with final approval for all decisions and actions from the PSHS System Office of the Executive Director through the Build and Design Committee. The B&D Committee shall:

- a) Prepare the design brief for the project in accordance with PSHS Systems' policies, existing codes, traditions, standards, and the conditions and design criteria enumerated in the SCOPE OF WORK.
- b) Coordinate with DESIGN & BUILD CONTRACTOR pertaining to issues during the construction.
- c) Assist in the coordination of the DESIGN & BUILD CONTRACTOR with various utility agencies during the detailed design and implementation phases of the project.
- d) Conduct regular coordination meetings between the DESIGN & BUILD CONTRACTOR and the end-user to facilitate the implementation of the project.

X. THE DESIGN & BUILD CONTRACTOR'S GENERAL RESPONSIBILITY

- a) The DESIGN & BUILD CONTRACTOR shall certify that he has, at his own expense, inspected and examined the proposed project site, its surroundings and existing infrastructure and facilities related to the execution of the work and has obtained all the pieces of information that are considered necessary for the proper execution of the work covered under these Terms of Reference.
- b) The DESIGN & BUILD CONTRACTOR shall ensure that all works at the stages of design, construction, restoration of affected areas, and testing and commissioning shall be carried out efficiently and effectively.
- c) The DESIGN & BUILD CONTRACTOR shall provide the school with complete reports such as technical analysis and details regarding the existing conditions and proposed improvements within the site.
- d) The DESIGN & BUILD CONTRACTOR shall consider the academic calendar and critical dates and occasions within the School, in order to align his work schedule with the academic calendar of the school to avoid unnecessary disruption of school

activities due to construction activities such as closure of water and power supply and non-usage of the existing roads.

- e) The DESIGN & BUILD CONTRACTOR shall inform the school of critical events during construction, especially when such events can potentially disrupt school activities.
- f) The DESIGN & BUILD CONTRACTOR shall be PCAB-accredited and shall have a Construction Safety and Health Program approved by DOLE and designed specifically for this project.
- g) The DESIGN & BUILD CONTRACTOR will be held accountable for accidents that might occur during the execution of the project. The DESIGN & BUILD CONTRACTOR is required to install warning signs and barriers for the safety of the general public and the avoidance of any accidents and provide appropriate and approved type personal protective equipment for their construction personnel.
- h) The DESIGN & BUILD CONTRACTOR shall be professionally liable for the design and shall submit a signed and sealed copy of the approved construction documents to form part of the Contract Documents.
- i) Only the plans approved by the Head of Procuring Entity (HOPE) shall be signed and sealed by the DESIGN & BUILD CONTRACTOR, and thereafter shall be the plans used for construction.
- j) All works designed and constructed should be guaranteed to seamlessly fit into the overall system general design standards of the PSHS System.

XI. PROJECTED SUBMITTALS DURING THE PROJECT

The following submittals and accomplished documents shall be duly completed and turned-over by the CONTRACTOR for the project:

- a) Building Permit
- b) Technical specifications (3 sets hard copy and soft copy)
- c) Detailed cost estimate (3 sets hard copy and soft copy)
- d) Bill of quantities (3 sets hard copy and soft copy)
- e) Shop Drawing (hard copy and soft copy)
- f) PERT-CPM
- g) As-built plans (signed and sealed in one (1) original and two (2) reproducible copies) Electronic copies shall also be submitted in native files Autodesk software and pdf.
- h) Guarantees, warranties and other certificates
- i) Operation and Maintenance Manual if applicable

XII. CODES AND STANDARDS

The project shall be designed, engineered, installed, tested and handed over in conformity with the Building and Design Standards of the PSHS System and with the latest editions of the National Building Code of the Philippines, the National Structural Code of the Philippines, the Philippine Electrical Code, Philippine Mechanical Code, the National Plumbing Code of the Philippines, National Fire Code of the Philippines and other relevant codes and standards.

XIII. INSTALLATION AND WORKMANSHIP

Personnel of the DESIGN & BUILD CONTRACTOR should be specialists highly skilled in their respective trades, performing all labor according to first-class standards. A full time Project Engineer/Civil Engineer and Construction Safety Engineer shall be assigned by the DESIGN & BUILD CONTRACTOR at the job site during the construction of the project.

All works to be subcontracted shall be declared by the DESIGN & BUILD CONTRACTOR and shall be approved by the Campus Director of PSHS-ZRC and its respective technical offices.

Any errors, omissions, inconsistencies, inadequacies or failure submitted by the DESIGN & BUILD CONTRACTOR that do not comply with the requirements shall be rectified, resubmitted and reviewed at the DESIGN & BUILD CONTRACTOR'S cost. If the DESIGN & BUILD CONTRACTOR



wishes to modify any design or document which has been previously submitted, reviewed and approved, the DESIGN & BUILD CONTRACTOR shall notify the procuring entity within a reasonable period of time and shall shoulder the cost of such changes.

XIV. MATERIALS

All materials and equipment shall be standard products of manufacturers engaged in the production of such materials and equipment and shall be the manufacturer's latest standard design.

The materials and workmanship supplied shall be of the best grade and constructed and/or installed in a practical and first class manner. It will be completed in operation, nothing being omitted in the way of labor and materials required and it will be delivered and turned over in good condition, complete and perfect in every respect.

All materials shall be in conformance with the latest standards and with inspection and approval from B&D Committee.

XV. MODE OF PAYMENT

- a) The PSHS-ZRC shall pay the winning DESIGN & BUILD CONTRACTOR progress payments based on billings for actual works accomplished, as certified by B&D Committee of the PSHS System. In no case shall progress billing be made more than once every thirty (30) calendar days. Materials or equipment delivered on the site but not completely put in place or used in the project shall not be included for payment.
- b) All progress payment shall be subject to retention of ten percent (10%) based on the amount due to the winning DESIGN & BUILD CONTRACTOR prior to any deduction. The total retention money shall be released only upon Final Acceptance of the Project. The winning DESIGN & BUILD CONTRACTOR may, however, request for its release prior to Final Acceptance subject to the guidelines set forth in R.A. 9184 and its Implementing Rules and Regulations.
- c) The DESIGN & BUILD CONTRACTOR may request in writing which must be submitted to form part of the Contract Documents, for an advance payment equivalent to fifteen percent (15%) of the total Contract Price. The advance payment shall be made once the DESIGN & BUILD CONTRACTOR issues its irrevocable standby letter of credit from a reputable bank acceptable to the PSHS System, or GSIS Surety Bond of equivalent value, within fifteen (15) days from the signing of the Contract Agreement to cover said advance payment.
- d) First Payment/Billing shall have an accomplishment of at least 20%.
- e) The following documents must be submitted to the B&D Committee before processing of payments to the DESIGN & BUILD CONTRACTOR can be made:
 - i. Progress Billing
 - ii. Request for payment by the DESIGN & BUILD CONTRACTOR
 - iii. Pictures/photographs of original site conditions (for First Billing only)
 - iv. Pictures/photographs of work accomplished
 - v. Accomplishment Report
 - vi. Material Testing Results
 - vii. Payment of utilities (power and water consumption)
 - viii. DESIGN & BUILD CONTRACTOR's affidavit (if accomplishment is more than 60%)




Prepared by:

THE TECHNICAL WORKING GROUP


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ENGR. JUNE CARLO F. REYES
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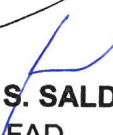

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Member, Resident Engineer


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Member, Resident Engineer

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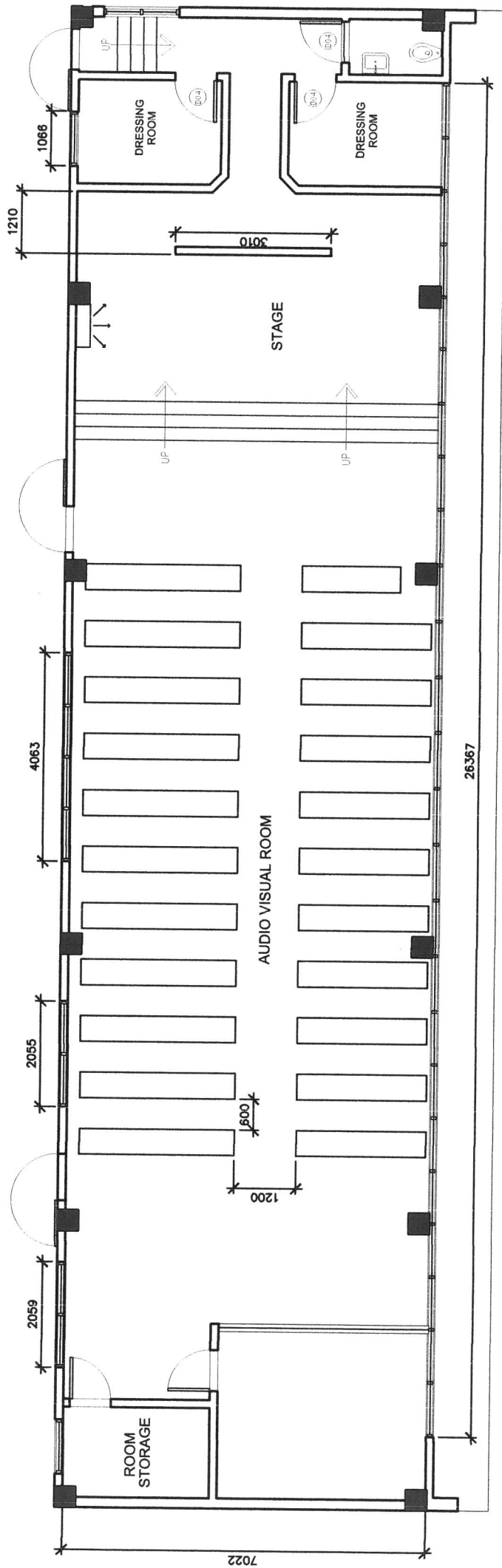

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Chief, SSD


MILO S. SALDON
Chief, FAD

Approved by:

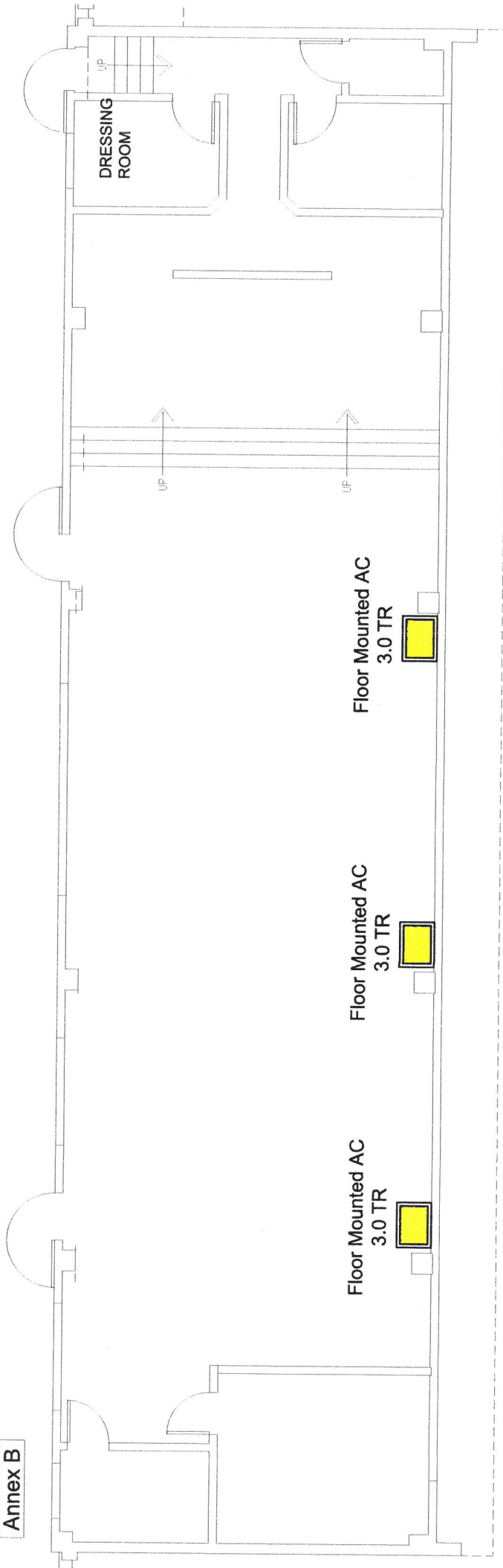

ENGR. LOUIE C. JAMORA
Campus Director

Annex A



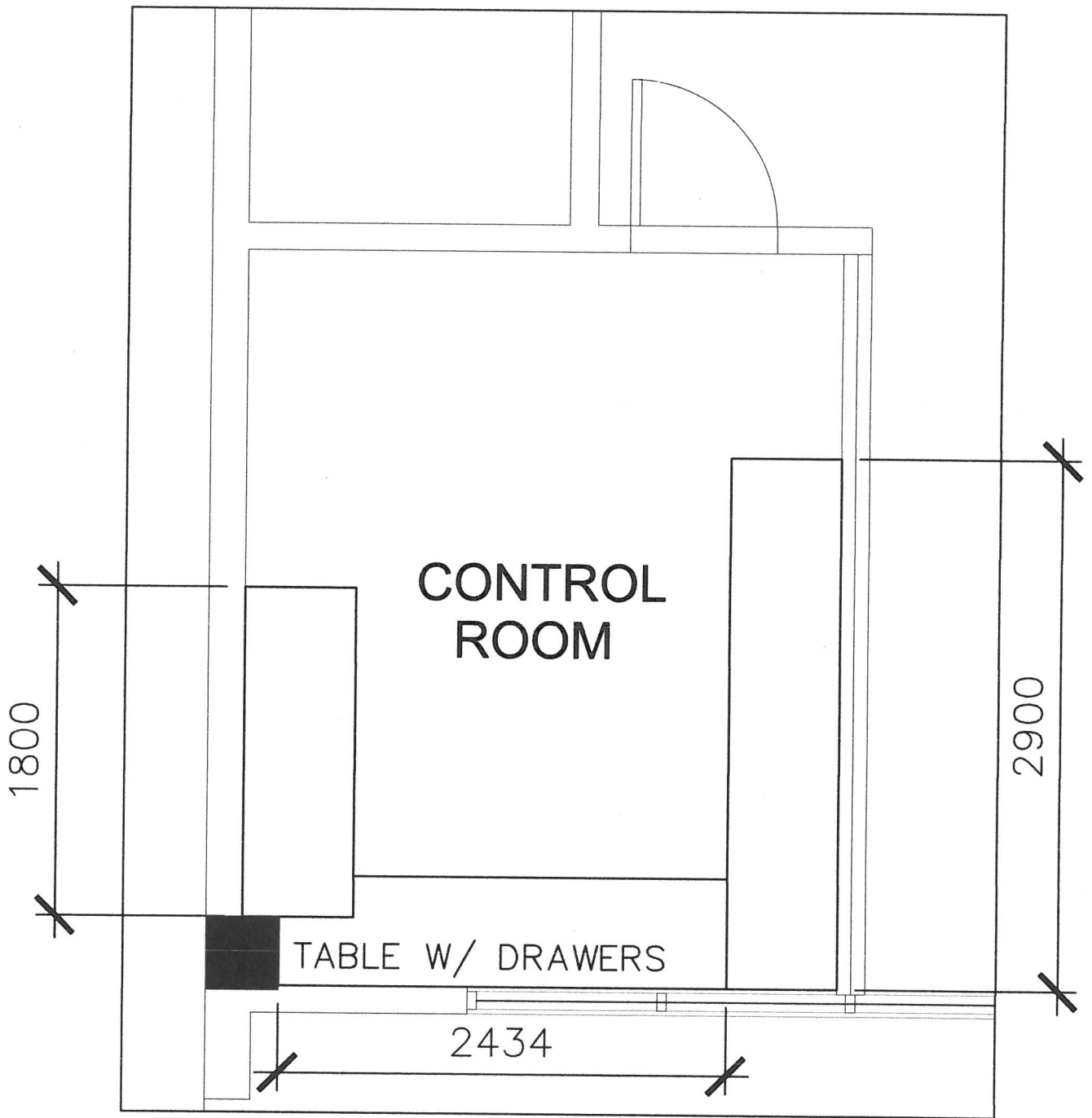
THIRD FLOOR

Annex B



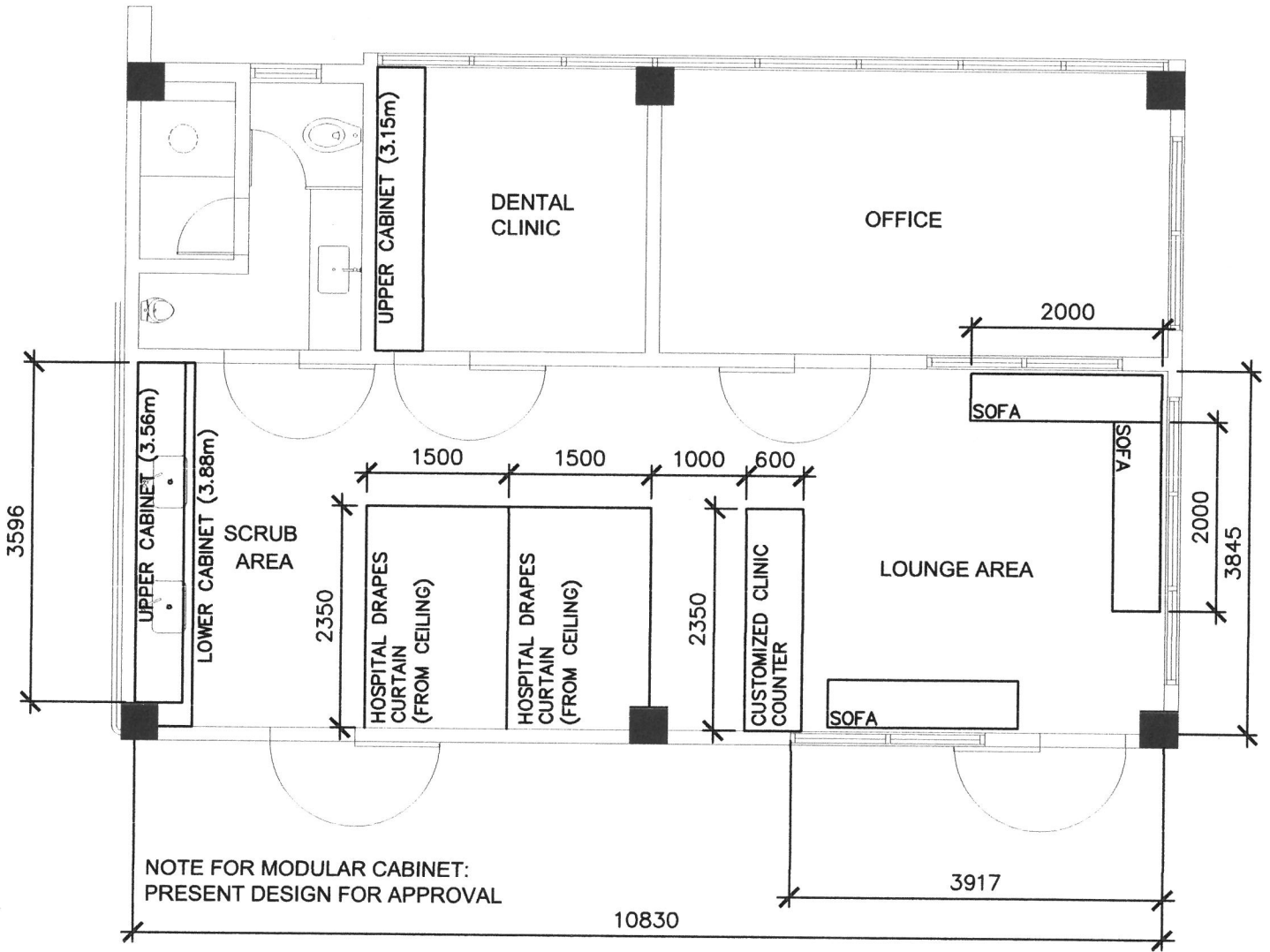
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Annex C



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Annex D



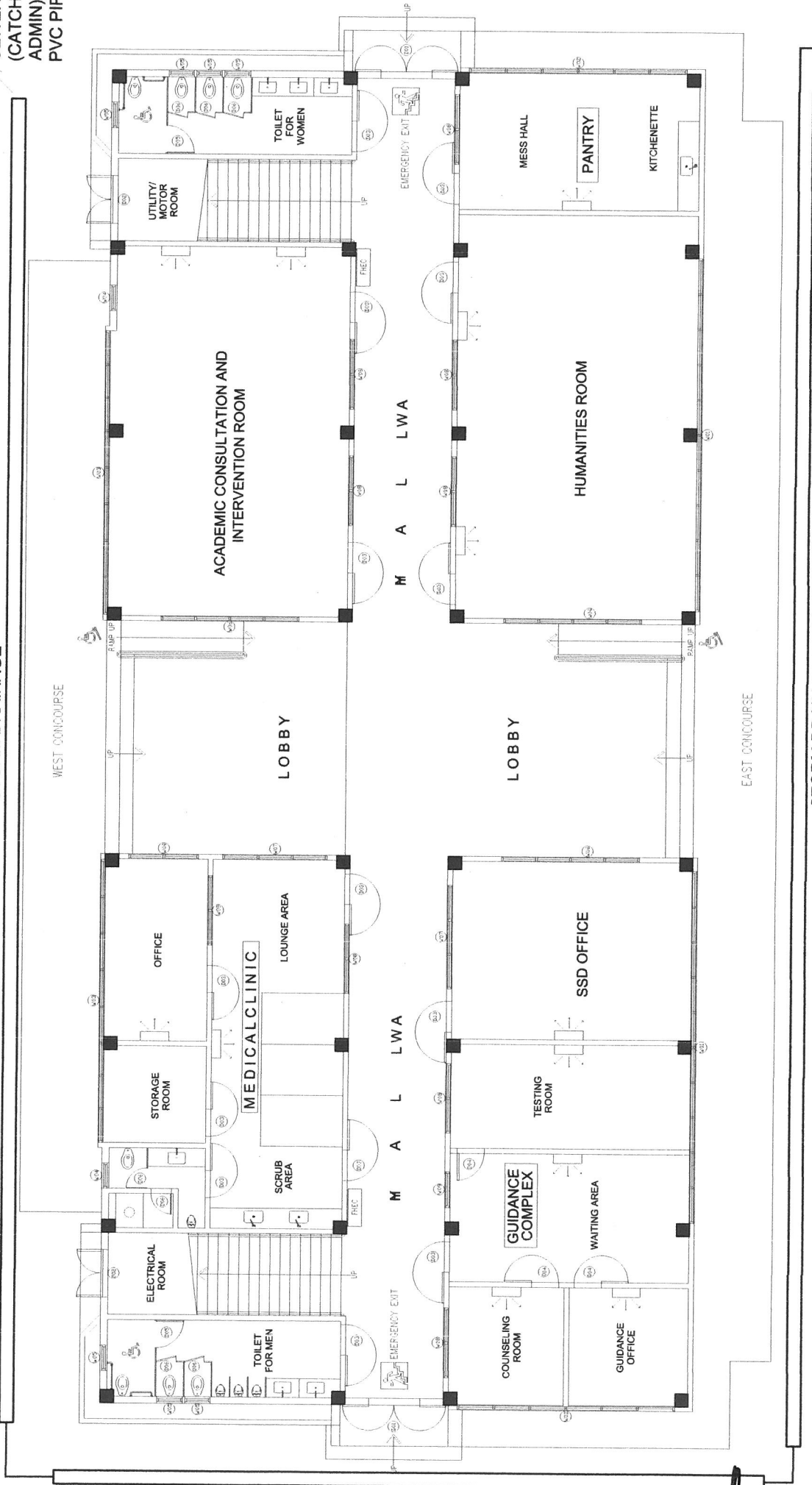
MEDICAL CLINIC



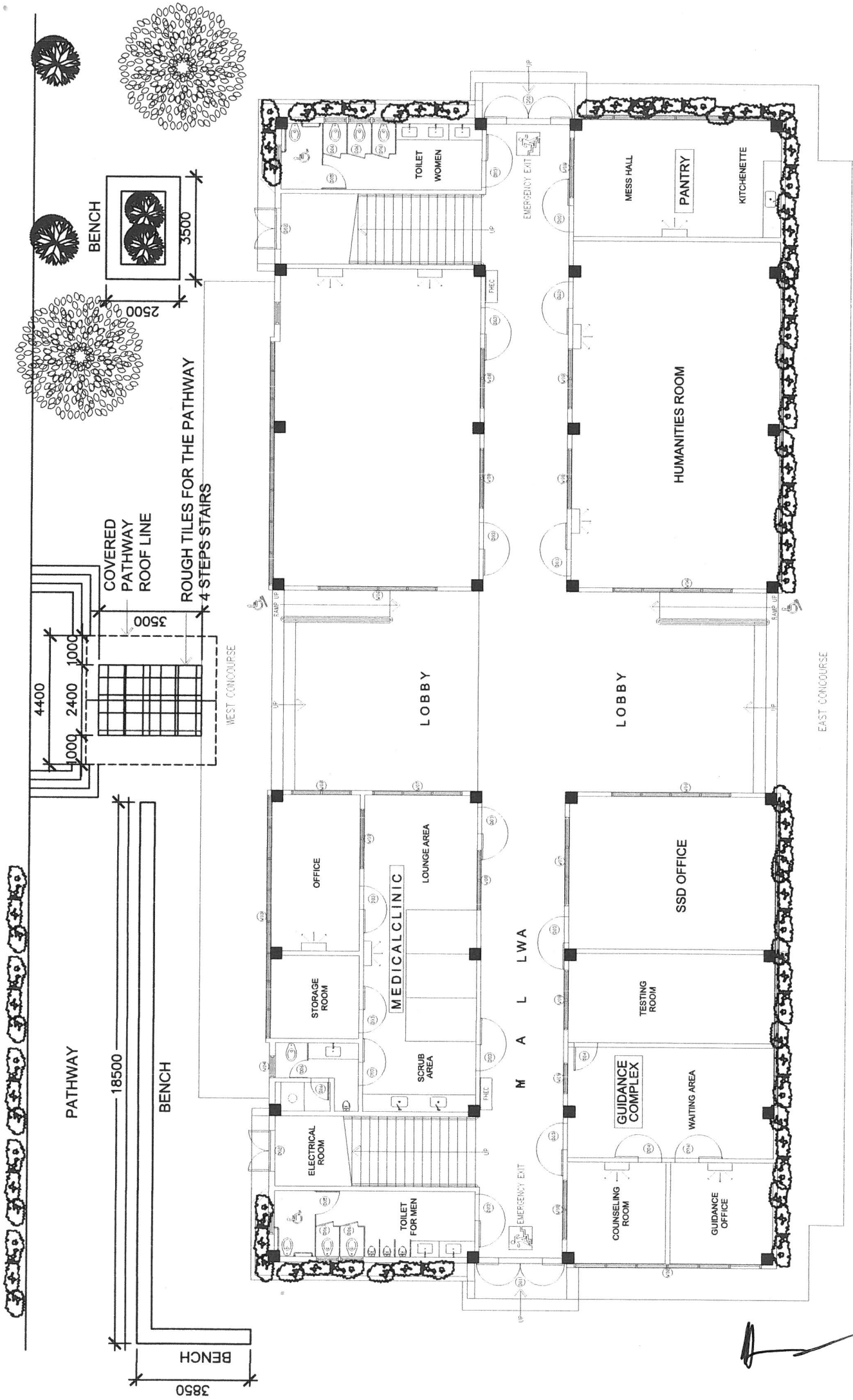
Annex E

TAP TO THE NEAREST SEWER LINE (CATCH BASIN OF ADMIN) - USED 6" PVC PIPE

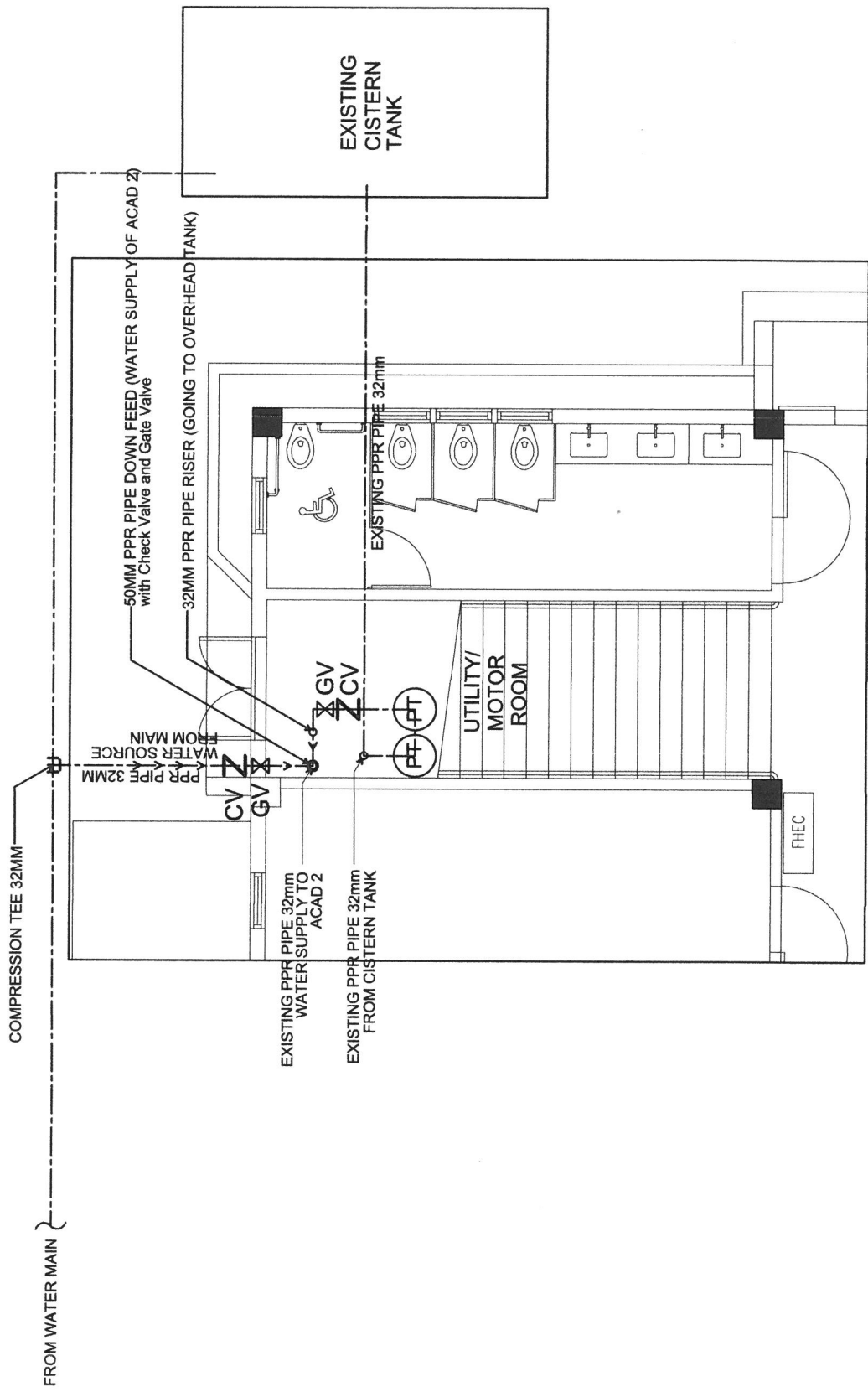
STORM DRAINAGE



STORM DRAINAGE



Annex G



PLUMBING SYSTEM LAYOUT



Annex H

