PHILIPPINE BIDDING DOCUMENTS

Procurement of INFRASTRUCTURE PROJECTS

Government of the Republic of the Philippines

"Upgrading of the IT Infrastructure of UP Tacloban College to Enhance the Teaching and Learning Experience through Acquisition, Installation, Configuration, and Test-Run of the UP Tacloban College Local Area Network with Fiber Optic Backbone, Wireless Interconnectivity, and Structured Cabling to Connect to Various Sites"
(UPTC IB NO. 2024-03)

Sixth Edition
July 2020

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Infrastructure Projects (hereinafter referred to also as the "Works") through Competitive Bidding have been prepared by the Government of the Philippines for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations, government financial institutions, state universities and colleges, local government units, and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

The PBDs are intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contract, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract; (ii) the eligibility requirements of Bidders; (iii) the expected contract duration; and (iv)the obligations, duties, and/or functions of the winning Bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Works to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.

b. Specific details, such as the "*name of the Procuring Entity*" and "*address for bid submission*," should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.

c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.

d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold

typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.

f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

TABLE OF CONTENTS

Glossary of
Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender*. (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

Contractor – is a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

Foreign-funded Procurement or Foreign-Assisted Project – Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term "related" or "analogous services" shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

UNIVERSITY OF THE PHILIPPINES
TACLOBAN COLLEGE
Magsaysay Boulevard cor. Sto. Niño Ext., Tacloban City 6500, Philippines

INVITATION TO BID FOR

"Upgrading of the IT Infrastructure of UP Tacloban College to Enhance the Teaching and Learning Experience through Acquisition, Installation, Configuration, and Test-Run of the UP Tacloban College Local Area Network with Fiber Optic Backbone, Wireless Interconnectivity, and Structured Cabling to Connect to Various Sites"

(UPTC IB NO. 2024-03)

1. The University of the Philippines Tacloban College, through the Fund 164 UP System Reprogrammed Funds (BOR #1356th EO/CO intends to apply the sum of Twelve Million Seven Hundred Fifty Thousand Pesos (₱12,750,000.00) being the Approved Budget for the Contract (ABC) to payments under the contract for Upgrading of the IT Infrastructure of UP Tacloban College to Enhance the Teaching and Learning Experience through Acquisition, Installation, Configuration, and Test-Run of the UP Tacloban College Local Area Network with Fiber Optic Backbone, Wireless Interconnectivity, and Structured Cabling to Connect to Various Sites (UPTC IB NO. 2024-03). Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The UP Tacloban College now invites bids for the above Procurement Project. Completion of the Works is required 210 calendar days from receipt of Notice to Proceed. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

3. Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

4. Interested bidders may obtain further information from UP Tacloban College and inspect the Bidding Documents at the address given below from Monday to Friday at 8:00 am to 5:00 pm.

5. A complete set of Bidding Documents may be acquired by interested bidders on 06 March 2024 to 26 March 2024 from given address below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of Fifteen Thousand Pesos Only (₱15,000.00). Prospective bidders may email the scanned copy of deposit slip or confirmation slip as proof of payment for the fees. Please see Annex 1 (last page) for bank details and further payment instructions.

6. The UP Tacloban College will hold a Pre-Bid Conference[1] on 14 March 2024 at 10:00 AM, Dean's Conference Room, which shall be open to prospective bidders.

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below on or before 26 March 2024 at 10:00 AM. Late bids shall not be accepted.

8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.

9. Bid opening shall be on 26 March 2024 at 10:00 AM at the given address below. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. The UP Tacloban College reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

11. For further information, please refer to:

    BAC Secretariat
    UP Tacloban College
    Magsaysay Boulevard, Tacloban City 6500
    bacsecretariat.uptacloban@up.edu.ph
    Telephone Nos. (053) 832-2897

06 March 2024

ARVIN L. DE VEYRA
BAC Chairperson

[1] May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a pre-bid conference.

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, UP Tacloban College invites Bids for the Upgrading of the IT Infrastructure of UP Tacloban College to Enhance the Teaching and Learning Experience through Acquisition, Installation, Configuration, and Test-Run of the UP Tacloban College Local Area Network with Fiber Optic Backbone, Wireless Interconnectivity, and Structured Cabling to Connect to Various Sites, with Project Identification Number UPTC IB NO. 2024-03.

[Note: The Project Identification Number is assigned by the Procuring Entity based on its own coding scheme and is not the same as the PhilGEPS reference number, which is generated after the posting of the bid opportunity on the PhilGEPS website.]

The Procurement Project (referred to herein as "Project") is for the construction of Works, as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for *FY 2020* in the amount of *Twelve Million Seven Hundred Fifty Thousand Pesos (₱12,750,000.00)*.

2.2. The source of funding is:

NGA, the General Appropriations Act or Special Appropriations.

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manual and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or invitation to bid by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the work; (b) climatic conditions; (c) transportation facilities; (c) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (d) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive

practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

5.2. The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the PSA's CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

A contract is considered to be "similar" to the contract to be bid if it has the major categories of work stated in the **BDS**.

5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.

5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. Origin of Associated Goods

There is no restriction on the origin of Goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN.

7. Subcontracts

7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than fifty percent (50%) of the Project.

The Procuring Entity has prescribed that:

a. Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the BDS, which shall not exceed fifty percent (50%) of the contracted Works.

7.1. *[If Procuring Entity has determined that subcontracting is allowed during the bidding , state:]* The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criterial stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.

7.2. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the

implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

7.3. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address as indicated in paragraph 6 of the **IB.**

9. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

10. Documents Comprising the Bid: Eligibility and Technical Components

10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

10.3. A valid special PCAB License in case of Joint Ventures, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.

10.5. A 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 the equipment lessor/vendor for the duration of

the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

11. Documents Comprising the Bid: Financial Component

11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Alternative Bids

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative Bids shall not be accepted.

13. Bid Prices

All bid prices for the given scope of work in the Project as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as determined by the NEDA and approved by the GPPB pursuant to the revised Guidelines for Contract Price Escalation guidelines.

14. Bid and Payment Currencies

14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

14.2. *Payment of the contract price shall be made in:*

Philippine Pesos.

15. Bid Security

15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

15.2. The Bid and bid security shall be valid until *120 days from the opening of bids.* Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission to the given website or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB.**

18. Opening and Preliminary Examination of Bids

18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

18.2. The preliminary examination of Bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

19. Detailed Evaluation and Comparison of Bids

19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.

19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 15 shall be submitted for each contract (lot) separately.

19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

20. Post Qualification

Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the **BDS**.

21. Signing of the Contract

The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Section III. Bid Data Sheet

Bid Data Sheet

ITB Clause	
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be: *Supply, delivery, and installation of fiber optic and structured cabling network equipment*
7.1	*Subcontracting is allowed for civil works only and should not exceed fifty percent of the contracted Works.*
10.3	PCAB license for Communication Facilities
10.4	The key personnel must meet the required minimum years of experience set below:
	Key Personnel At least one (1) Electronic communication or network engineer who is currently employed in the company for at least one year. *refer to TOR 4.1.5 Company Information
10.5	The minimum major equipment requirements are the following: 1 unit Excavator 1 unit Bagger mixer
12	*Not allowed.*
15.1	The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts: a. The amount of not less than Php255,000.00 if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; b. The amount of not less than Php67,500.00 if bid security is in Surety Bond.
19.2	Partial bids are not allowed.
20	No further instructions.
21	Construction schedule and S-Curve Manpower schedule Construction methods Construction safety and health program approved the Department of Labor and Employment

Section IV. General Conditions of Contract

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

2. Sectional Completion of Works

If sectional completion is specified in the **Special Conditions of Contract (SCC)**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date shall apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC,** which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.

3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

The Contractor shall employ the key personnel named in the Schedule of Key Personnel indicating their designation, in accordance with **ITB** Clause 10.3 and specified in the **BDS**, to carry out the supervision of the Works.

The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.

5. Performance Security

5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.

5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **SCC** supplemented by any information obtained by the Contractor.

7. Warranty

7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.

7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the **SCC**.

8. Liability of the Contractor

Subject to additional provisions, if any, set forth in the **SCC**, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Contractor is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

9. Termination for Other Causes

Contract termination shall be initiated in case it is determined *prima facie* by the Procuring Entity that the Contractor has engaged, before, or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to corrupt, fraudulent, collusive, coercive, and obstructive practices as stated in **ITB** Clause 4.

10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor's

Bid shall be used for small additional amounts of work only when the Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.

11. Program of Work

11.1. The Contractor shall submit to the Procuring Entity's Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC.**

11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC.** If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

12. Instructions, Inspections and Audits

The Contractor shall permit the GOP or the Procuring Entity to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors of the GOP or the Procuring Entity, as may be required.

13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex "E" of the 2016 revised IRR of RA No. 9184.

14. Progress Payments

The Contractor may submit a request for payment for Work accomplished. Such requests for payment shall be verified and certified by the Procuring Entity's Representative/Project Engineer. Except as otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

15. Operating and Maintenance Manuals

15.1. If required, the Contractor will provide "as built" Drawings and/or operating and maintenance manuals as specified in the **SCC.**

15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
2	Not applicable
4.1	Upon issuance of Notice to Proceed.
6	The site investigation reports are: *[list here the required site investigation reports.]*
7.2	a. At least five (5) years of product warranty from the cabling manufacturer for the fiber optic cables. b. At least two (2) years of product warranty from the cabling manufacturer for the CAT 6 cables. c. At least one (1) year warranty on network equipment (gateway console, network switches, and access points). d. At least one (1) year warranty on workmanship
10	No dayworks are applicable to the contract.
11.1	The Contractor shall submit the Work Plan and Detailed Implementation Schedule to the Procuring Entity's Representative within 10 working days of receipt of the Notice to Proceed. *refer to TOR provision VIII. Scope of Work, 1. Pre-installation
11.2	Not applicable
13	The amount of the advance payment *shall not exceed 15% of the total contract price.*
14	Not allowed.
15.1	Certificate of Inspection and Acceptance shall be issued within seven (7) working days after completing the Scope of Work and submission of the following documents: ▪ Certification of After Sales Support ▪ Brochures or Technical Data Sheet or equivalent document (for fiber optic cables, Cat6 UTP cables, network switches, access points, gateway console) ▪ Final documentation *refer to TOR provision IX. Project Acceptance and Final Deliverables
15.2	Release of Final Payment is subject to the compliance with all the requirements to be certified by UP Tacloban College's authorized representative/s.

Section VI. Specifications

Technical Specifications:

The project has four main components, as follows:

Component 1: Upgrading the fiber optic backbone of the network
1.1 Replacement of existing patch panel/ODF
1.2 New Inter-building fiber optic cabling

Component 2: Rehabilitating/Upgrading of structured cabling
Component 3: Expanding/Streamlining the wireless network
Component 4: Upgrading network switches

Component 1: Upgrading the fiber optic backbone of the network

Item No.	Description	Quantity
1	**Replacement of existing patch panel/ODF** *(please refer to Component 1.1)*	1 lot
2	**New Inter-building Fiber Optic Cabling** *3.1 Underground Fiber Optic Cable* • 12-core Single-armored Single-jacket Outdoor rated 9micron Single Mode Fiber Optic Cable • Supply other accessories and materials (head-end cap, coupler, fiber loop holder, fitting, etc.) *3.2 Interbuilding Fiber Optic Route* • CS Building to Library • REIS to Library • DM to Library • Dormitory Complex to Library • LSHC to Library • AS Rm 25 to Library • EH to Library	1500 m
3	**Planning, Design, and Installation of fiber optic cable, inclusive of labor and other materials**	1 lot
4	**Civil Works [Fiber Optic Manhole and Utility Trench]** • Site clearing, layout, and excavation (new utility trench and manhole) • Concrete manhole and utility trench line (5 new units) • Stainless steel manhole fabrication and replacement of existing and leaking manhole cover (19 units) • General Requirements	1 lot
5	**Network Racks/Data Cabinets/ODF Patch Panels**	
	ODF/patch panel with pigtails, couplers for 12 cores (CS Building, REIS, DM, Dormitory Complex, LSHC, AS, EH)	7 units
	ODF/patch panel with pigtails, couplers for 84 cores (Library-Main Cabinet)	1 unit

	Standard 19", 12U Network Rack, wall-mounted, black (CS Building, REIS, Dormitory Complex, LSHC, AS, EH) • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 6 Outlets	6 units
6	**Standard 19", 32U Network Rack, wall-mounted, black (Library-Main Cabinet, DM)** • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 8 Outlets	2 units
7	**Standard 19", 12U Network Rack, wall-mounted, black (Women's Dorm, CS Lab 1, 2, & 3, 1st and 3rd floor Library, 1st floor AS)** • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 6 Outlets	7 units
8	**Planning, Design, and Installation of Network Racks, inclusive of labor and other materials**	1 lot

Component 1.1: Replacement of existing patch panel/ODF

Item No.	Component	Quantity
1	**12 Port SC Multimode Duplex Fiber Optic Patch Panel With 12 Ports Populated, 1U, pull-type, with pigtails and couplers (AS, Executive House, DM, LSHC, CS Building Main ODF x 4)**	8 units
2	**Executive House Fiber Optic Cut Repair, inclusive of labor and materials**	1 lot
3	**Standard 19", 12U Network Rack, wall-mounted, black (for Executive House)** • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 6 Outlets	1 unit

4	**Standard 19", 32U Network Rack, wall-mounted, black (for CS Building)** • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 8 Outlets	1 unit
5	**Installation, Splicing, Testing, and Documentation, inclusive of labor and materials**	96 units
6	**Installation of Network Racks at the Executive House and CS Building, inclusive of labor and other materials**	1 lot

Component 2: Rehabilitating/Upgrading of Structured Cabling

Item No.	Component	Quantity
1	Dual Port Face Plate Wall Socket (Compatible with RJ-45 Keystone Jacks)	152 units
2	Supply of other accessories and materials (e.g., RJ-45 connectors, RJ-45 Keystone Jacks, Cat6 UTP cable, 24-port patch panels for Cat 6e, surface utility box, wire bundling materials, cable routing and conduits, cable sleeves, rack & cabinet cable manager, etc.)	1 lot
3	Planning, Design, Installation, Testing, and Documentation, inclusive of labor and other materials	1 lot

Component 3: Expanding/Streamlining the wireless network

Item No.	Component	Quantity
1	WiFi 6 Indoor Wireless Access Point (802.11ax, 4x4 MIMO), with mounting bracket, ceiling-mounted, 350+ connected devices, powered using PoE *(see Component 2.1 for the detailed specifications)*	77 units
2	All-in-one, enterprise-grade Gateway Console with a complete web-based application suite for network management, hotspot management functionality, and voucher generation features, consisting of 8 PoE/PoE+ port, (1) 10G SFP+, (1) 2.5 GbE RJ45 WAN ports, at least 128 GB SSD & 3.5" HDD bay, and at least 3.5+ Gbps routing *(see Component 2.1 for the detailed specifications)*	1 unit
3	Planning, Design, Installation, Testing, and Documentation, inclusive of labor and other materials	1 lot

Component 3.1: Detailed specifications for the items under Component 3 (Expanding/Streamlining the wireless network)

Item #1	**WiFi 6 Indoor Wireless Access Point (802.11ax, 4x4 MIMO), with mounting bracket, ceiling-mounted, 350+ connected devices, powered using PoE**
Quantity	77 units
Specifications	
WiFi Technology	• WiFi 6
AP Type	• Indoor, 5GHz and 2.4GHz 802.11ax 4x4 MIMO
Maximum Concurrent Connections	• Up to 350+ devices
BSSID	• 8 per radio
Form factor	• In-ceiling
Power Over Ethernet (PoE)	• PoE-capable
Network Band	• 2.4 GHz, 5 GHz
Networking Interface	• (1) GbE RJ45 port
Wireless LAN	• 802.11a/b/g WiFi 4/WiFi 5/WiFi 6
WiFi Security	• WPA-PSK, WPA-Enterprise (WPA/WPA2/WPA3)
Maximum Throughput	• 2.4 GHz: 573.5 Mbps • 5 GHz: 4.8 Gbps
Other Features	• Support for Multiple SSID broadcast
Inclusions	• With mounting bracket and AC/DC power adapter
Warranty	• At least 1 Year Warranty on Parts and Labor

Item #2	**All-in-one, enterprise-grade Gateway Console with a complete web-based application suite for network management, hotspot management functionality, and voucher generation features, consisting of 8 PoE/PoE+ port, (1) 10G SFP+, (1) 2.5 GbE RJ45 WAN ports, at least 128 GB SSD & 3.5" HDD bay, and at least 3.5+ Gbps routing**
Quantity	1 unit
Specifications	
Processor	• Quad-core ARM® Cortex®-A57 at 1.7 GHz
System Memory	• 4 GB DDR4
On-board storage	• 16 GB eMMC • Integrated 128 GB SSD

Networking interface	• 8) LAN: GbE RJ45 ports • (1) WAN: 2.5 GbE RJ45 port
SFP+ interface	• (1) LAN: 10G SFP+ • (1) WAN: 10G SFP+
Power Over Ethernet (PoE)	• PoE/PoE+-capable
Power Supply	• AC/DC, internal , 240W
Max. PoE wattage per port	• PoE: 15.4W • PoE+: 30W
Maximum Throughput	• 3.5+ Gbps routing
Other features	• Complete web-based application suite for network management • Hotspot management with voucher generation capability • Redundant WAN with failover and load balancing • QoS management for access points • Firewall • VLAN • Advanced networking features, such as VPN, DHCP, etc.
Warranty	• 1 Years Warranty on Parts and Labor

Component 4: Upgrading of network switches

Item No.	Component	Quantity
1	24-Port Gigabit and 2-Port 10G SFP+ L3 Managed Switch with PoE+ or PoE++ ports, and 2 SFP+ Transceiver Modules *(see Component 4.1 for the detailed specifications)*	35 units
2	Planning, Design, Installation, Testing, and Documentation of Network Switches, inclusive of labor and other materials	1 lot

Component 4.1: Detailed specifications for the items under Component 4 (Upgrading of network switches)

Item #1	**24-Port Gigabit and 2-Port 10G SFP+ L3 Managed Switch with PoE+ or PoE++ ports, and 2 SFP+ Transceiver Modules**
Quantity	35 units
Specifications	
Interface	• 24× 10/100/1000 Mbps RJ45 Ports, PoE+ or PoE++ • 2× 10G SFP+ Slots
Total Available PoE	• 400 watts
Power Supply	• 100-240 V AC~50/60 Hz • AC/DC, internal, 450W

Max PoE wattage per port	• PoE+: 32W PoE++: 64W
Mounting	• Rack Mountable
Switching Capacity	• 88 Gbps
Packet Forwarding Rate	• 65.472 Mpps
MAC Address Table	• 16 K
Software Features	• Quality of Service • L2 Features • L3 Features • VLAN • Web-based GUI or CLI management
SFP+ Transceiver Module	• 2 units
Warranty	• 1 Year Warranty on Parts and Labor

Section VII. Drawings

*refer to the attached Terms of Reference for the corresponding drawings

Sheet no.	Content
S2/2	**Site development plan**
S1/2	**Reinforced concrete wall detail** **Concrete trench layout**
3	**Logical diagram (existing fiber optic backbone)**
4	**Interbuilding fiber optic route (existing fiber optic backbone)**
5	**Logical diagram (new fiber optic backbone)**
6	**Interbuilding fiber optic and UTP route (new fiber optic backbone)**
7	**Library building (total information outlets)**
8	**Ground floor library**
9	**Second floor library**
10	**Third floor library**
11	**Leyte Samar Heritage Center (total information outlets)**
12	**Leyte Samar Heritage Center**
13	**Dormitory buildings (total information outlets)**
14	**Ladies' dormitory and Men's dormitory**
15	**Two storey dormitory**
16	**AS building (total information outlets)**
17	**AS building (ground floor and second floor)**
18	**Executive house (total information outlets)**
19	**Guesthouse/clinic & OSA office – ground floor**
22	**Guesthouse – second floor**
23	**Computer Science building (total information outlets)**
24	**Computer Science building**
25	**Regional Environmental Information System (total information outlets)**
26	**BL building 1 floor plan**
27	**DM building (total information outlets)**
28	**DM building/DM extension**

Section VIII. Bill of Quantities

Bill of Quantities

Item	Activity	Unit	Quantity	Unit Cost	Total Cost
	Component 1: Upgrading the fiber optic backbone of the network				
1	***Component 1.1 (Replacement of existing patch panel/Optical Distribution Frame (ODF)):*** a. Supply, delivery, installation, splicing, testing, and commissioning of multimode duplex fiber optic patch panels for the network cabinets located in the AS Building (1 unit), Executive House (1 unit), DM (1 unit), LSHC (1 unit), and the main ODF located in the CS Building (4 units). b. Restoration of the fiber optic cable and network rack at the Executive House. c. Relocation of the ODF and installation of a new network rack/network cabinet from the first floor to the second floor of the CS Building. d. Fiber optic testing, documentation of the test results, and tagging/labeling of the ODF ports.	lot	1		
	Component 1.2 (New Inter-Building Fiber Optic Cabling) a. Supply, delivery, installation, resplicing, testing, and commissioning of new underground 12-core single-armored single-jacket outdoor rated 9-micron single mode fiber optic cables to connect the seven (7) buildings to the library building, which will serve as the new main ODF (primary networking facility). b. Excavation and backfilling must be done in a manner so as not to disturb adjacent structures and furnish shoring as necessary. c. Excavation of trenches for underground conduits but be at least one (1) meter or of the same depth as the existing trenches. After excavating the trench and before the placement of the conduit, the bottom of the trench shall be filled with sand or gravel to form an even surface to place the conduit.	lot	1		

	d. After the conduit has been installed, but before backfilling, all trench work must be inspected. After inspection, the backfill of native soil must be placed in layers of 20 centimeters and adequately compacted, wetted, or flushed before the next layer of soil is placed. e. The backfill must be compacted to a density of 95%, and the procedure must be repeated until the trenches are filled. The backfill materials must be devoid of roots, large rocks, and foreign materials. The conduit must be covered by at least 90 centimeters of backfill materials. f. A warning tape with a metallic element must be placed 30 centimeters below the completed surface. g. Re-weatherproofing of all existing manholes. h. Construction of 5 new units of manhole and utility trench line i. Fabrication of 19 units of stainless-steel manholes for the new manholes and to replace existing and leaking manhole covers. j. Acquisition of Network Racks/Data Cabinets/ODF Patch Panels				
				Total cost for Component 1	
2	**Component 2: Rehabilitating/Upgrading of structured cabling** a. Supply, delivery, and installation of the required number of station outlets with two jacks each. b. Testing and commissioning of the station outlets**.**	lot	1		
3	**Component 3: Expanding/Streamlining the wireless network** a. Supply, delivery, and installation of the required number of Wi-Fi 6 (4 x 4 MIMO) access points and one (1) gateway console. b. Configuration, testing, and commissioning of the access points to the TSER or TER.	lot	1		

	c. Configuration, testing, and commissioning of the gateway console using the web-based application suite for network management, its hotspot management functionality, and voucher generation features.				
4	**Component 4: Upgrading of network switches** a. Supply, delivery, and installation of the required number of a 24-port, Layer 3 switch with GbE PoE+, GbE PoE++ ports, and at least two (2) 10G SFP+ ports and two (2) SFP+ Transceiver Modules b. Configuration, testing, and commissioning of the network switches.	lot	1		
				Total cost for components 1 to 4	

DETAILED ESTIMATES
PER ITEM NO. 1 of the BOQ
(Suggested Format)

PROJECT: _____
LOCATION: _____
ITEM NO.: _____
ITEM DESCRIPTION: _____

DETAILED COST ESTIMATES

	QUANTITY	UNIT	DESCRIPTION	UNIT COST/RATE	TOTAL AMOUNT
MATERIAL					
TOTAL MATERIALS COST					
EQUIPMENT					
TOTAL EQUIPMENT RENTAL COST (OPERATED)					
LABOR					
TOTAL LABOR COST					
TOTAL DIRECT COST:					

INDIRECT COST

OCM	_____	%
CONTRACTOR'S PROFIT (CP)	_____	%
VAT (5%)	_____	%

TOTAL INDIRECT COST	
TOTAL COST: DIRECT COST + INDIRECT COST	

I hereby certify that the statement of compliance to the foregoing are true and correct, otherwise, the same shall give rise to automatic disqualification of our bid.

Name of Company / Bidder	Signature Over Printed Name of Authorized Representative	Date

UNIVERSITY OF THE PHILIPPINES
TACLOBAN COLLEGE
Magsaysay Boulevard cor. Sto. Niño Ext., Tacloban City 6500, Philippines
Email: spmo.uptacloban@up.edu.ph

TERMS OF REFERENCE

One (1) Lot

Upgrading of the IT Infrastructure of UP Tacloban College to Enhance the Teaching and Learning Experience through Acquisition, Installation, Configuration, and Test-Run of the UP Tacloban College Local Area Network with Fiber Optic Backbone, Wireless Interconnectivity, and Structured Cabling to Connect to Various Sites

ABC = **Twelve Million Seven Hundred Fifty Thousand Pesos (Php 12,750,000.00)**

Duration: **210 calendar days**

March 2024

I. RATIONALE

The existing fiber optic network of UP Tacloban College was built in 2002 as part of the UP Visayas Net Project. The network core consists of 12-core OMl multi-mode fiber optic cables and is terminated at the endpoints (network switches) with l00Base FX transceiver modules. The configuration of the local area network of the college has not changed significantly since 2002. Although its network devices (e.g., switches, routers, firewall/gateway console) have been replaced at least once (the most recent replacement was in 2015 as part of eUP's infrastructure projects), the underlying fiber optic network that drives the local area network has remained the "same." The original network connects buildings on campus, including the AS Building ("Faculty Center"), Leyte Samar Heritage Center (LSHC), LRC Building, Executive House (EH) (including OSA and Clinic), and DM Building. The main optical distribution frame (ODF), which provides Internet connectivity to the rest of the campus, was originally located in the Computer Science faculty room at the LRC Building. After Typhoon Yolanda, it was moved to the faculty room on the second floor of the AS Building.

Currently, the main ODF is still located on the second floor of the AS Building. The AS Building is connected to the LRC Building, and the LRC Building is the one that connects other locations on the campus, including the DM Building, LSHC, Regional Environmental lnformation System (REIS) office (connected to LRC with STP cables), Library Building (connected to LSHC with a shielded twisted pair STP cable), and Executive House (connected to LSHC with an STP cable). The Student Lounge (SL) is connected to the AS Building with an STP cable.

However, because the fiber optic network has been in operation for more than 20 years, its performance has degraded over time. Moreover, the storm surge caused by Typhoon Yolanda destroyed most of the optical distribution frames (except for the ODF located in the faculty room on the second floor of the AS Building).

The increased bandwidth requirements of existing applications catering to the needs of various stakeholders, such as the University Information System (UIS), UP Mail (powered by Google), CRS, and SLAS Online, further reinforce the need to rehabilitate/upgrade the College's fiber optic network. The College also plans to implement several Intranet applications to assist with its daily operations soon. In addition, the College deployed a CCTV system with more than 70 cameras situated throughout campus. IP-enabled Digital Video Recorders (DVR) are linked to the cameras. The DVRs lack an independent network infrastructure and rely on the College's existing fiber optic line as its transmission backbone. DVRs have large bandwidth requirements. Hence, they consume a significant portion of the College's limited 100 Mbps local area network (LAN).

II. OBJECTIVES AND EXPECTED OUTCOMES

The purpose of this document, Terms of Reference (TOR), is to provide bidders with sufficient information for the upgrading of the IT Infrastructure of the University of the Philippines Tacloban College (UP Tacloban College) to enhance the teaching and learning experience through the acquisition, installation, configuration, and test-run of the fiber optic backbone, structured cabling system, access points, network switches, and gateway console to connect to various sites. The general objectives of this project are as follows:

1. To upgrade the fiber optic network of the college.
2. To rehabilitate/upgrade the structured cabling system of the college.
3. To expand and streamline the wireless network.
4. To acquire new network switches and a gateway console to enhance the delivery of ICT services.

It is essential to repair the damaged optical distribution frames of the current fiber optic network so that six pairs of fiber optic cores will be operational again, as opposed to the current situation in which only one pair of fiber optic cores is functional. Taking this step will ensure that network connectivity in various campus locations will not be readily disrupted.

On the other hand, installing a new single-mode fiber optic cable with a much higher bandwidth provision that runs parallel with the existing fiber optic network will allow us to expand our ICT services and cater to an increasing student population.

Rehabilitating and upgrading the structured cabling system of the college requires replacing old UTP cables and installing CAT 6 UTP cables in various buildings for high-speed network connectivity.

Expanding our wireless network entails installing new Wi-Fi 6 access points to decrease Wi-Fi dead spots while providing higher speed, greater capacity, and lower latency.

The acquisition of new network switches will enable us to maximize the bandwidth available through the new fiber optic network, and a new gateway console with a complete web-based application suite for network management, hotspot management functionality, and voucher generation that can handle multiple SSID-capable access points to allow for efficient allocation of available bandwidth.

This measure will improve the teaching and learning experience on campus and is consistent with the UP Board of Regents' recent decision to elevate UP Tacloban College to an autonomous unit.

In summary, this project aims to upgrade the IT infrastructure of UP Tacloban College, specifically the 20-year-old fiber optic network. The upgrading of the IT infrastructure involves repairing the damaged optical distribution frames of the existing fiber optic network, installing a new single-mode fiber optic cable with a much higher bandwidth provision that runs parallel with the existing fiber optic network, expanding the wireless network by deploying Wi-Fi 6 access points, and acquiring new network switches, and a gateway console. Hence, based on the technical specifications, the following are the expected project outcomes:

1. All current optical distribution frames are repaired, tested, and made operational.
2. A new fiber optic network is built, tested, and made operational.
3. The structured cabling system of the college is upgraded/rehabilitated, tested, and made operational.
4. New network switches, access points, and a gateway console have been installed, configured, tested, and made operational.

III. APPROVED BUDGET OF THE CONTRACT

The total ABC of the project is **twelve million seven hundred fifty thousand pesos (Php 12,750,000.00)**, including all applicable government taxes and service charges.

IV. PROJECT GUIDELINES AND SPECIFICATIONS

1. General Requirements

The bidder acknowledges that all bids for work specified in this document are for one (1) lot and include the cost of all materials and labor required to meet the specifications, including but not limited to inter-building fiber optic cables, intra-building Cat 6 UTP cables, cable conduits, sockets, digging, damaged wall and ceiling repair and repainting, tile replacement, terminating devices, network equipment, network

cabinets, racks, manholes, and trenching. Network cabinets, cables, network switches, access points, a gateway console, and other materials should be new.

The bidder is expected to meet or exceed all the requirements/specifications. The bidder shall be disqualified from the bidding process if the supplies/materials and/or services to be delivered do not meet the required specifications.

Subcontracting is strictly prohibited except for the Civil Works [Fiber Optic Manhole and Utility Trench] in Component 1 of this project. If the bidder engages a subcontractor, the contract is only binding between the winning bidder and the subcontractor. The bidder is responsible for paying for the services of the subcontractor.

The technical and financial proposals should be comprehensive and complete. The bidder with incomplete proposals will be immediately disqualified and will not be evaluated. Please see the attached maps and building layout for reference.

2. **Standards Compliance**

The bidder should supply and install materials following the applicable standards, including but not limited to:

- ANSI/TIA-942-A Telecommunications Infrastructure Standard for Data Centers
- ANSI/TIA-568.1-D Commercial Building Telecommunications Cabling Standard
- ITU-T Recommendation G.652d for Fiber Optic Cables
- IEEE Standard 1100-1999 Recommended Practice for Power and Grounding Sensitive Electronic Equipment
- IEEE Standard 446-1 995 IEEE Recommended Practice for Emergency and Standby Power for Industrial and Commercial Applications
- EIA/ECA-310 Cabinets, Racks, Panels, and Associated Equipment

3. **Project Duration, Completion, and Warranty**

The winning bidder shall complete all the required project guidelines and technical specifications, including the acquisition, installation, configuration, and test-run of the fiber optic backbone, structured cabling system, access points, network switches, and gateway console to connect to various sites, within **210 calendar days** from receipt of the Notice to Proceed.

Transfer of any network devices and other existing connections should be scheduled with minimal network disruption, preferably during weekends or outside office hours on weekdays, without extending the project completion.

The completion of the project may be extended under the following conditions:

a. Delays are caused by force majeure;
b. If the project was suspended due to delays caused by force majeure, the winning bidder must write a letter to the agency head requesting an extension. In all requests for extension, the period or the number of calendar days shall be agreed upon with the UP Tacloban College.
c. Request for extension of the contract period due to force majeure shall be subject to the approval of the UP Tacloban College.

Force majeure events include earthquakes, floods, typhoons, revolutions, wars, and other natural disasters beyond human foresight.

The bidder shall guarantee that the fiber optic backbone, wireless interconnectivity, and structured cabling system, including network equipment (gateway console, network switches, and access points), are free of all defective workmanship and materials and will continue to be so for the following period:

a. At least five (5) years of product warranty from the cabling manufacturer for the fiber optic cables.
b. At least two (2) years of product warranty from the cabling manufacturer for the CAT 6 cables.
c. At least one (1) year warranty on network equipment (gateway console, network switches, and access points).
d. At least one (1) year warranty on workmanship

The bidder is responsible and accountable for any damage caused solely by any of the bidder's personnel to any property of UP Tacloban College as a direct result of the installation, maintenance, and removal of any cabling components and devices.

The University of the Philippines Tacloban College shall not be held responsible for the bidder's failure to provide sufficient supplies and equipment. The bidder shall be solely responsible for assessing and reviewing the necessary materials and equipment to be supplied to UP Tacloban College, which shall become the property of UP Tacloban College upon project completion.

4. **Required Documents**

This TOR describes all the requirements for the whole project. Interested bidders must submit three sets of documents: (1) Company Information, (2) Technical Proposal, and (3) Financial Proposal. Before submitting the Financial Proposals, the first set of documents, which should include the Company Information (company's qualifications statement) and Technical Proposal, will be reviewed as part of the eligibility evaluation. Interested bidders are required to conduct an ocular inspection by coordinating with the BAC Secretariat (spmo.uptacloban@up.edu.ph) for the schedule of the visit.

The Financial Proposal will only be required from eligible bidders.

4.1 Company Information. This document should include two important sections that show that the bidder meets the following minimum qualifications for interested bidders:

1. Must have at least five (5) years of experience providing similar services (supply, delivery, and installation of fiber optic and structured cabling and network equipment) and should have verifiable proof/evidence of completing a project of this type in the past. The previous undertaking must have been completed within the last four years.
2. A list of completed projects within the last four years.
3. Must have the resources and ability to provide prompt maintenance services and technical support, particularly during the warranty period.
4. PCAB license for communications facilities.
5. Must have at least one (1) licensed electronic communication or network engineer who is currently employed in the company for at least one (1) year, trained and certified in the design and installation of cabling systems/data centers. One electronic communication or network engineer must be designated as the project supervisor. A certification must be attached to this document.

A. Experience and Qualifications	B. Financial Qualifications
• Total number of years in the industry	• Provide a narrative description of the company's financial capacity to undertake and complete the project.
• Total number of years in providing fiber optic installations and related services, general scope of services provided	• Provide copies of operating budgets and financial statements for the past three (3) years. If the interested bidder has not been in business for the past three (3) years, it should indicate so and provide financial statements for the years it has been in operation.
• Number of personnel and principal areas of expertise	• Provide any other information that the bidder deems necessary to prove its financial capacity.
• Description and organizational chart representing the company's management and its relationship to any larger entity.	
• Description of current operations, number, and scope of other ongoing projects or set to begin within the next twelve (12) months.	
• Description of technical support system, response, and problem resolution time and procedures.	
• Description of the company's materials/supplies purchase and distribution strategy, policies for warranty, and return of damaged or unsatisfactory products.	

4.2 Technical Proposal. This document must include the project's design, implementation plan, and work schedule. The technical specifications are discussed in detail in Section X. A certificate of site inspection issued by UP Tacloban College must be attached to this proposal. The technical proposal should include the following plans:

a. Cabling plan for the new fiber optic backbone
b. Restoration plan for the existing fiber optic backbone
c. Structured cabling plan for the different buildings with line diagram
d. Floor plans showing the exact locations of the network cabinets, network switches, the gateway console, and access points.

4.3. Financial Proposal. This document must contain the Bill of Quantities and the Total Project Cost. The financial proposal must include the project cost estimates.

V. DUTIES AND RESPONSIBILITIES OF UPTC

The following are the duties and responsibilities of the University of the Philippines Tacloban College

1. Assist interested bidders during the ocular inspection/on-site visit.
2. Review and approve the Work Plan submitted by the winning bidder within ten (10) working days.
3. Allow the winning bidder and its authorized representative access to its premises and facilities to perform its obligations, provided that such authorized representative is accompanied by the duly assigned UP Tacloban College personnel.

4. Reject any unit or component that fails any test and/or inspection or does not meet the specifications.
5. Pay the winning bidder according to the terms outlined in the Payment Scheme section.
6. Issue a Certificate of Inspection and Acceptance upon the determination of the UP Tacloban College team that any property damaged during project implementation has been restored to its original condition and that all delivered and installed fiber optic cables, structured cables, network equipment, and other devices are functional and usable.

VI. DUTIES AND RESPONSIBILITIES OF THE WINNING BIDDER

The following are the duties and responsibilities of the winning bidder.

1. Submit a technical proposal to the University of the Philippines Tacloban College that includes a complete installation and/or construction design that adheres to all the standards and other end-user design requirements in this document.
2. The winning bidder must submit a Work Plan and Detailed Implementation Schedule for the project covering the whole period within ten (10) working days of receipt of the Notice to Proceed.
3. Perform an ocular (on-site) inspection, field measurement, and survey of the installation site to determine the current condition of the affected locations, including pathways, the building entrance, and other possibly affected structures. The technical proposal must be supported by a certificate of site inspection issued by the University of the Philippines Tacloban College.
4. Facilitate all permits, bonds, and insurance required by the Campus Development and Maintenance Office.
5. Oversee purchasing of the needed supplies and materials and install them according to the approved design.
6. Ensure that all materials to be installed are weatherproof, theft-proof, and compliant with standard safety and structural procedures.
7. Plan and carry out mobilization and demobilization tasks.
8. Remove excess materials and debris from the campus at the end of the project.
9. Provide project management and on-site supervision for the duration of the project.
10. Replace, restore, and bring to its original condition at the winning bidder's expense any damage to the floors, ceilings, walls, furniture, grounds, pavements, etc., caused by the winning bidder's personnel and operations.
11. End-to-end testing must be performed on the existing and newly installed FOC.
12. Complete all activities indicated in the Work Plan and Scope of Work stipulated in this document.
13. Submit as-built documentation, including diagrams and drawings showing cable runs, signed and sealed by a licensed architect or civil engineer and a professional electrical engineer or registered electrical engineer.
14. Must have experience and expertise with initiatives of comparable nature and complexity to this project. Similar projects include the installation of direct-buried fiber optic cable backbone in a campus environment, designing and constructing data center facilities, and general building construction or renovation with associated civil works.

VII. PAYMENT SCHEME

Payment will be made on a turn-key basis and with the approval of UP Tacloban College. Payment will be subject to a 10% retention fee based on the project cost due to the bidder and will be released upon the issuance of the Certificate Inspection and Acceptance by UP Tacloban College. The following documents must be submitted to UP Tacloban College before processing payments to the bidder:

1. Progress Billing

2. Detailed Statement of Work Accomplished (SWA)
3. Request for payment by the bidder
4. Photographs of Works Accomplished

The payment schedule below shall be observed in the processing of payment.

Milestone Target	Cumulative Percent Accomplishment	Percentage of the Contract Price	Maximum Number of Calendar Days to Complete
1. Approval of work plan and detailed implementation schedule; complete installation, operationalization, and rigorous testing of fiber optic backbone; and submission of as-built plans for review.	39%	39%	90
2. Complete installation, operationalization, and rigorous testing of structured cabling and submission of as-built plans for review.	61%	22%	70
3. Complete delivery, installation, configuration, operationalization, and thorough testing of access points, gateway console, and network switches; project acceptance; and submission of the final documentation	100%	39%	50
TOTAL	**100%**	**100%**	**210**

VIII. SCOPE OF WORK

1. Pre-installation

The winning bidder must submit a Work Plan and Detailed Implementation Schedule for the project covering the whole period within ten (10) working days of receipt of the Notice to Proceed. A Gantt chart should be included showing the timeframe for each activity that must be accomplished for each of the project components.

2. Installation

The winning bidder must supply all labor, materials, tools, and equipment, as well as perform all operations necessary to complete the supply, delivery, installation, testing, and commissioning of the new fiber optic backbone, structured cabling system, gateway console, network switches, and access points, as detailed in the Work Plan, in accordance with the technical specifications of this TOR and the bidder's technical proposal that UP Tacloban College has approved.

The winning bidder must perform end-to-end tagging and labeling of the data ports, patch panel ports, cables, racks, network switches, the gateway console, and access points, in consultation with UP Tacloban College.

3. Post-installation

The bidder must perform the following post-installation activities:

a. Restore the damaged property caused by excavation, installation, maintenance, removal of cabling equipment, and other procedures conducted by the bidder to accomplish the project.
b. Conduct at least three (3) days of free demonstration and training for the IT personnel of UP Tacloban College on the configuration, operation, and management of network equipment (gateway console, network switches, and access points), operation, maintenance, and troubleshooting of the fiber optic cables and structured cables.
c. Provide at least one (1) copy of the technical manual/documentation (English) in printed hard copy and electronic (soft copy) formats. A manual on performing the basic operation, configuration, and testing of the fiber optic, structured cables, and network equipment (gateway console, network switches, and access points).
d. Submit the approved as-built plans showing the fiber optic backbone, structured cabling layout, and network equipment locations.
e. Provide warranty service during the warranty period and free upgrades and patches to be implemented within the warranty period. The winning bidder is liable for all costs associated with the warranty for hardware products.
f. Render technical support services to UP Tacloban College within the warranty period as follows:
    - Assign a focal person who will be directly responsible for providing technical support to UPTC.
    - Technical support should be provided through phone calls or email within regular working hours from Monday to Friday, 8:00 AM to 5:00 PM
    - If the supplied equipment is found defective and needs to be pulled out, the winning bidder shall provide a replacement with the same or higher specifications.
    - Rectify and or/replace any part that fails to pass any test/inspection or make alterations necessary to meet the specification.

4. Cabling Overview

The campus wiring system comprises three components: outside plant backbone, inside plant backbone, and horizontal.

The outside plant backbone cable system provides a connection between buildings. This cable system is typically installed in a star configuration between the primary networking facility and the Telecommunications Service Entrance Room (TSER) of each building. The manufacturer warrants that cables placed in the outside plant backbone are appropriate for use in an outdoor environment. The cables must be enclosed inside conduit systems. Single-mode fiber will be installed between the primary networking facility (located on the library's second floor) and the building's TSER (CS Building, REIS, DM, Dormitory complex, LSHC, AS Rm 25, EH). A 12-core single-armored single-jacket outdoor rated 9-micron cable must be installed between the primary networking facility and the TSER of the building.

All fiber optic cables must be manually installed; mechanical pulling or winching of fiber optic cables is prohibited. It is imperative to adhere to the manufacturer-specified pulling tension and bend radius. In addition, existing fiber optic cables must be handled carefully.

Slack loops are required when installing fiber optic cables. Each manhole requires a 10-meter slack. This slack must be coiled and placed within the manhole. Coils must be mounted to the wall inside the manholes if these manholes contain many fiber optic cables. All fiber must have a 20-meter slack near the termination point, which must be carefully coiled and mounted on the wall of the TSERs.

The inside plant cable system connects each Telecommunications Equipment Room (TER) in a building to the TSER. Typically, the inside plant backbone runs from the TSER to each TER in a star configuration. If the installed cable type incorporates a metallic shield or bonding element, it must be grounded at the TSER. Since the distance between the TSER and TER is less than 90 meters, the inside plant cabling system utilizes a Category 6 (Cat6) unshielded twisted pair. Between the TSER and the TER, three Category 6 cables must be installed and terminated.

The horizontal cable system connects each station outlet to its associated TER. The cables from the TER to each station outlet are organized in a star configuration. The cable length between the station outlet and the TER cannot exceed 90 meters. If the distance between a station outlet and an existing TER exceeds 90 meters, a new TER must be installed unless the technical specifications require a TER, even if the distance between the TER and the station outlet is less than 90 meters. The horizontal cabling system uses Category 6 unshielded twisted pair, requiring at least two 4-pair cable sheaths per station outlet, where each station outlet supports two jacks.

All cables installed within a building must be concealed in conduits, raceways, cable trays, above ceilings, within walls, below floors, or other similar concealed locations. Unless authorized in writing, exposed cabling is prohibited.

Each cable (fiber optic cables and Cat6 UTP cables) must be installed as a continuous conductor section between designated termination points, with no splices or couplers in between the termination points, except for splices performed inside the manholes, pull boxes, or TSERs.

Single-mode fiber optic cables must be terminated by hand polishing epoxy or hot melt (LC style) connectors or by fusion splicing factory terminated pigtails. Crimp and cleave connectors are not allowed.

5. Relay/Network Racks

TSERs and TERs will be equipped with either free-standing or wall-mounted relay racks. In the primary networking facility, TERs, and TSERs, the number and placement of standard 19" relay racks must be shown on the schematic diagrams. Installing earthquake reinforcement and support for all free-standing relay stations is necessary. The free-standing relay rack must be firmly fastened to the floor. Each side of each free-standing relay rack must be equipped with front-facing vertical cable management chases.

Wall mount relay racks must be firmly fastened to the walls with anchors suitable for supporting at least 50 kilograms.

All relay racks must be filled from left to right and top to bottom. No relay rack may contain more than three-quarters (3/4) of patch panels and cable management. The bottom portion of each relay rack is reserved for use by UPTC for the installation of switches and other equipment.

6. Electrical Requirements

The primary networking facility, TSERs, and TERs must have at least one receptacle on a separate circuit (not shared with any other receptacle) and a ground wire directly connected to the ground bus of

a nearby electrical panel or installation of grounding rods. The winning bidder must coordinate with the UPTC Campus Development and Maintenance Office for the electrical requirements.

7. Concrete Manhole, Utility Trench, Conduit, and Manhole Cover

The concrete manholes, utility trench lines, and manhole covers must be constructed according to the document's technical specifications. Water must not penetrate the concrete manhole or utility trench. Stainless steel must be used for every manhole cover.

The buried conduit must be constructed with black 4" SDR 11 HDPE pipes that are warranted for installation in underground locations by the manufacturer. All conduits serving the outside plant backbone must have a minimum sweep bend radius equal to ten times the conduit diameter. All installed conduits must be rated by the manufacturer for use in communication cabling. Conduits or pipes designed to carry water are not allowed.

Conduits must enter the buildings by turning and running up the exterior wall and transition into the building with a metallic weatherproof junction box that is at least 40 cm x 40 cm. The conduit must run up the exterior of the building and enter the bottom of the junction box. A conduit must be running from the back of the junction box to the building. All installed conduits must be left clean and dry with a pull line rated for at least 100 kilograms.

8. Network Switches, Gateway Console, and Access Points

Network switches, access points, and the gateway console should be of the same brand to reduce compatibility issues and simplify network management. The network switches must have Layer 3 features with GbE PoE+ or PoE++ ports and at least two 10G SFP+ ports. The gateway console must have a complete web-based application suite for network management, hotspot management functionality, and voucher generation that can handle SSID-capable access points to allow for efficient allocation of available bandwidth.

9. Testing

All fiber optic cables shall be certified by the installer. Certification must consist of loss testing in both directions on each fiber at the two wavelengths specified below. Loss tests shall be recorded for each direction on each fiber for each wavelength. These values will be used to perform the acceptance calculations described below.

- Single-mode fiber wavelength must operate at 1310 nm and 1550 nm.

The winning bidder must calculate the maximum allowable loss for each span at each wavelength by performing span loss calculations. The calculated span loss shall be compared to the measured performance. Span loss shall be computed based on the manufacturer-guaranteed performance at the measured wavelength, with the cable length considered. Add 0.5 dB for each mated connector and 0.2 dB for each fusion splice to this total. This is the utmost loss allowed at this wavelength for the cable's length. For instance, if the manufacturer guarantees that a cable has 0.4dB loss per kilometer at a particular wavelength and the installed cable is 1.5 kilometers long with one fusion splice, the maximum loss allowed would be the sum of:

- 0.5dB for the connector on the end
- 0.6dB for the 1.5km fiber span
- 0.2dB for the fusion splice

- 0.5dB for the connector on the other end

These figures would provide a maximum allowable loss at the specific wavelength of 1.8 dB.

The cable is accepted when the measured loss of all fiber strands in a fiber cable is less than the calculated span loss. The winning bidder will be responsible for removing and replacing any rejected cables. All test results must be neatly prepared and stored on a CD and in printed form.

All Category 6 (Cat6) cables must be verified and certified for gigabit ethernet connectivity. Cables that cannot be certified must be replaced and certified at the winning bidder's expense. Test results must be submitted for final approval and included in the cable inspection report alongside all as-built drawings upon completion. The winning bidder must guarantee 1000baseT Gigabit Ethernet performance on all installed Category 6 (Cat6) cables.

10. Tagging and Labeling

Each station outlet must be individually numbered in ink on the device plate. The winning bidder shall suggest a numbering scheme for the outlets and implement the suggested numbering scheme upon approval. The labeling is required to include both the TER and outlet designations. In the TSER, the terminated cables will be labeled on the patch panel's marker strips. The labeling will consist of the room number/name and the assigned station outlet number.

11. Scope of Work

<u>Component 1: Upgrading the fiber optic backbone of the network</u>

The scope of work for *Component 1.1 (Replacement of existing patch panel/Optical Distribution Frame (ODF))* includes the following tasks:

a. Supply, delivery, installation, splicing, testing, and commissioning of multimode duplex fiber optic patch panels for the network cabinets located in the AS Building (1 unit), Executive House (1 unit), DM (1 unit), LSHC (1 unit), and the main ODF located in the CS Building (4 units).
b. Restoration of the fiber optic cable and network rack at the Executive House.
c. Relocation of the ODF and installation of a new network rack/network cabinet from the first floor to the second floor of the CS Building.
d. Fiber optic testing, documentation of the test results, and tagging/labeling of the ODF ports.

The scope of work for *Component 1.2 (New Inter-building Fiber Optic Cabling)* includes the following tasks:

a. Supply, delivery, installation, resplicing, testing, and commissioning of new underground 12-core single-armored single-jacket outdoor rated 9-micron single mode fiber optic cables to connect the seven (7) buildings to the library building, which will serve as the new main ODF (primary networking facility).
b. Excavation and backfilling must be done in a manner so as not to disturb adjacent structures and furnish shoring as necessary.
c. Excavation of trenches for underground conduits but be at least one (1) meter or of the same depth as the existing trenches. After excavating the trench and before the placement of the conduit, the bottom of the trench shall be filled with sand or gravel to form an even surface to place the conduit.

d. After the conduit has been installed, but before backfilling, all trench work must be inspected. After inspection, the backfill of native soil must be placed in layers of 20 centimeters and adequately compacted, wetted, or flushed before the next layer of soil is placed.
e. The backfill must be compacted to a density of 95%, and the procedure must be repeated until the trenches are filled. The backfill materials must be devoid of roots, large rocks, and foreign materials. The conduit must be covered by at least 90 centimeters of backfill materials.
f. A warning tape with a metallic element must be placed 30 centimeters below the completed surface.
g. Re-weatherproofing of all existing manholes.
h. Construction of 5 new units of manhole and utility trench line
i. Fabrication of 19 units of stainless-steel manholes for the new manholes and to replace existing and leaking manhole covers.
j. Acquisition of Network Racks/Data Cabinets/ODF Patch Panels

Component 2: Rehabilitating/Upgrading of structured cabling

The scope of work for Component 2 includes the following tasks:

a. Supply, delivery, and installation of the required number of station outlets with two jacks each.
b. Testing and commissioning of the station outlets.

Component 3: Expanding/Streamlining the wireless network

The scope of work for Component 3 includes the following tasks:

a. Supply, delivery, and installation of the required number of Wi-Fi 6 (4 x 4 MIMO) access points and one (1) gateway console.
b. Configuration, testing, and commissioning of the access points to the TSER or TER.
c. Configuration, testing, and commissioning of the gateway console using the web-based application suite for network management, its hotspot management functionality, and voucher generation features.

Component 4: Upgrading of network switches

The scope of work for Component 4 includes the following tasks:

a. Supply, delivery, and installation of the required number of a 24-port, Layer 3 switch with GbE PoE+, GbE PoE++ ports, and at least two (2) 10G SFP+ ports and two (2) SFP+ Transceiver Modules
b. Configuration, testing, and commissioning of the network switches.

IX. PROJECT ACCEPTANCE AND FINAL DELIVERABLES

All cables, termination points, network switches, access points, and the gateway console must be tested to ensure their functionality. For each test conducted, a report should be generated.

Upon completion of the project, the following documents must be submitted to UP Tacloban College:

1. Certification of After Sales Support for the fiber optic cable, structured cable, network equipment (network switches, access points, and the gateway console), indicating the technical support services available and including the contact information of the person responsible for addressing issues encountered by UP Tacloban College during the warranty period.

2. Brochures or Technical Data Sheet or equivalent document for the following items/devices showing compliance with the required technical specifications:
    a. Fiber optic cables
    b. Cat6 UTP cables
    c. Network switches
    d. Access points
    e. Gateway console
3. Final Documentation
    a. Final Cabling Plan for the new fiber optic backbone cabling as built, including conduit runs, conduit size and count, pull boxes, manholes, and splice locations. A list of all fiber terminations at all locations corresponding to the labels on the individual fiber optic cables and the cables must also be included.
    b. Final Cabling Plan as built, including line diagrams for structured cabling with appropriate labeling. Station outlet locations must be shown on building floor plans. Drawings should indicate the jack number assigned to each location.
    c. Final Plan as built, showing the exact locations of network cabinets, network switches, gateway console, access points with the appropriate labels. (All TSER and TER locations shall be indicated on the drawings)
    d. Copies of the test results as indicated in this document.

A Certificate of Inspection and Acceptance shall be issued only after completing the Scope of Work and compliance with all the requirements.

X. TECHNICAL SPECIFICATIONS

The project has four main components, as follows:

Component 1: Upgrading the fiber optic backbone of the network
1.1 Replacement of existing patch panel/ODF
1.2 New Inter-building fiber optic cabling
Component 2: Rehabilitating/Upgrading of structured cabling
Component 3: Expanding/Streamlining the wireless network
Component 4: Upgrading network switches

Component 1: Upgrading the fiber optic backbone of the network

Item No.	Description	Quantity
1	**Replacement of existing patch panel/ODF** *(please refer to Component 1.1)*	1 lot
2	**New Inter-building Fiber Optic Cabling** *3.1 Underground Fiber Optic Cable* • 12-core Single-armored Single-jacket Outdoor rated 9-micron Single Mode Fiber Optic Cable • Supply other accessories and materials (head-end cap, coupler, fiber loop holder, fitting, etc.) *3.2 Interbuilding Fiber Optic Route* • CS Building to Library • REIS to Library • DM to Library • Dormitory Complex to Library • LSHC to Library • AS Rm 25 to Library	1500 m

	• EH to Library	
3	**Planning, Design, and Installation of fiber optic cable, inclusive of labor and other materials**	1 lot
4	**Civil Works [Fiber Optic Manhole and Utility Trench]** • Site clearing, layout, and excavation (new utility trench and manhole) • Concrete manhole and utility trench line (5 new units) • Stainless steel manhole fabrication and replacement of existing and leaking manhole cover (19 units) • General Requirements	1 lot
5	**Network Racks/Data Cabinets/ODF Patch Panels**	
	ODF/patch panel with pigtails, couplers for 12 cores (CS Building, REIS, DM, Dormitory Complex, LSHC, AS, EH)	7 units
	ODF/patch panel with pigtails, couplers for 84 cores (Library-Main Cabinet)	1 unit
	Standard 19", 12U Network Rack, wall-mounted, black (CS Building, REIS, Dormitory Complex, LSHC, AS, EH) • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 6 Outlets	6 units
6	**Standard 19", 32U Network Rack, wall-mounted, black (Library-Main Cabinet, DM)** • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 8 Outlets	2 units
7	**Standard 19", 12U Network Rack, wall-mounted, black (Women's Dorm, CS Lab 1, 2, & 3, 1st and 3rd floor Library, 1st floor AS)** • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 6 Outlets	7 units
8	**Planning, Design, and Installation of Network Racks, inclusive of labor and other materials**	1 lot

Component 1.1: Replacement of existing patch panel/ODF

Item No.	Component	Quantity
1	**12 Port SC Multimode Duplex Fiber Optic Patch Panel With 12 Ports Populated, 1U, pull-type, with pigtails and couplers (AS, Executive House, DM, LSHC, CS Building Main ODF x 4)**	8 units
2	**Executive House Fiber Optic Cut Repair, inclusive of labor and materials**	1 lot

3	**Standard 19", 12U Network Rack, wall-mounted, black (for Executive House)** • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 6 Outlets	1 unit
4	**Standard 19", 32U Network Rack, wall-mounted, black (for CS Building)** • Dimension: 600 mm (W)* 600 mm (D) • Front: Tempered Glass with a small lock • Two sides removable panel with a small lock • At least two fans • 1U PDU 8 Outlets	1 unit
5	**Installation, Splicing, Testing, and Documentation, inclusive of labor and materials**	96 units
6	**Installation of Network Racks at the Executive House and CS Building, inclusive of labor and other materials**	1 lot

Component 2: Rehabilitating/Upgrading of Structured Cabling

Item No.	Component	Quantity
1	Dual Port Face Plate Wall Socket (Compatible with RJ-45 Keystone Jacks)	152 units
2	Supply of other accessories and materials (e.g., RJ-45 connectors, RJ-45 Keystone Jacks, Cat6 UTP cable, 24-port patch panels for Cat 6e, surface utility box, wire bundling materials, cable routing and conduits, cable sleeves, rack & cabinet cable manager, etc.)	1 lot
3	Planning, Design, Installation, Testing, and Documentation, inclusive of labor and other materials	1 lot

Component 3: Expanding/Streamlining the wireless network

Item No.	Component	Quantity
1	WiFi 6 Indoor Wireless Access Point (802.11ax, 4x4 MIMO), with mounting bracket, ceiling-mounted, 350+ connected devices, powered using PoE *(see Component 2.1 for the detailed specifications)*	77 units
2	All-in-one, enterprise-grade Gateway Console with a complete web-based application suite for network management, hotspot management functionality, and voucher generation features, consisting of 8 PoE/PoE+ port, (1) 10G SFP+, (1) 2.5 GbE RJ45 WAN ports, at least 128 GB SSD & 3.5" HDD bay, and at least 3.5+ Gbps routing *(see Component 2.1 for the detailed specifications)*	1 unit
3	Planning, Design, Installation, Testing, and Documentation, inclusive of labor and other materials	1 lot

Component 3.1: Detailed specifications for the items under Component 3 (Expanding/Streamlining the wireless network)

Item #1	**WiFi 6 Indoor Wireless Access Point (802.11ax, 4x4 MIMO), with mounting bracket, ceiling-mounted, 350+ connected devices, powered using PoE**
Quantity	77 units
Specifications	
WiFi Technology	• WiFi 6
AP Type	• Indoor, 5GHz and 2.4GHz 802.11ax 4x4 MIMO
Maximum Concurrent Connections	• Up to 350+ devices
BSSID	• 8 per radio
Form factor	• In-ceiling
Power Over Ethernet (PoE)	• PoE-capable
Network Band	• 2.4 GHz, 5 GHz
Networking Interface	• (1) GbE RJ45 port
Wireless LAN	• 802.11a/b/g WiFi 4/WiFi 5/WiFi 6
WiFi Security	• WPA-PSK, WPA-Enterprise (WPA/WPA2/WPA3)
Maximum Throughput	• 2.4 GHz: 573.5 Mbps • 5 GHz: 4.8 Gbps
Other Features	• Support for Multiple SSID broadcast
Inclusions	• With mounting bracket and AC/DC power adapter
Warranty	• At least 1 Year Warranty on Parts and Labor

Item #2	**All-in-one, enterprise-grade Gateway Console with a complete web-based application suite for network management, hotspot management functionality, and voucher generation features, consisting of 8 PoE/PoE+ port, (1) 10G SFP+, (1) 2.5 GbE RJ45 WAN ports, at least 128 GB SSD & 3.5" HDD bay, and at least 3.5+ Gbps routing**
Quantity	1 unit
Specifications	
Processor	• Quad-core ARM® Cortex®-A57 at 1.7 GHz
System Memory	• 4 GB DDR4
On-board storage	• 16 GB eMMC • Integrated 128 GB SSD
Networking interface	• 8) LAN: GbE RJ45 ports • (1) WAN: 2.5 GbE RJ45 port
SFP+ interface	• (1) LAN: 10G SFP+ • (1) WAN: 10G SFP+
Power Over Ethernet (PoE)	• PoE/PoE+-capable
Power Supply	• AC/DC, internal, 240W
Max. PoE wattage per port	• PoE: 15.4W • PoE+: 30W
Maximum Throughput	• 3.5+ Gbps routing
Other features	• Complete web-based application suite for network management

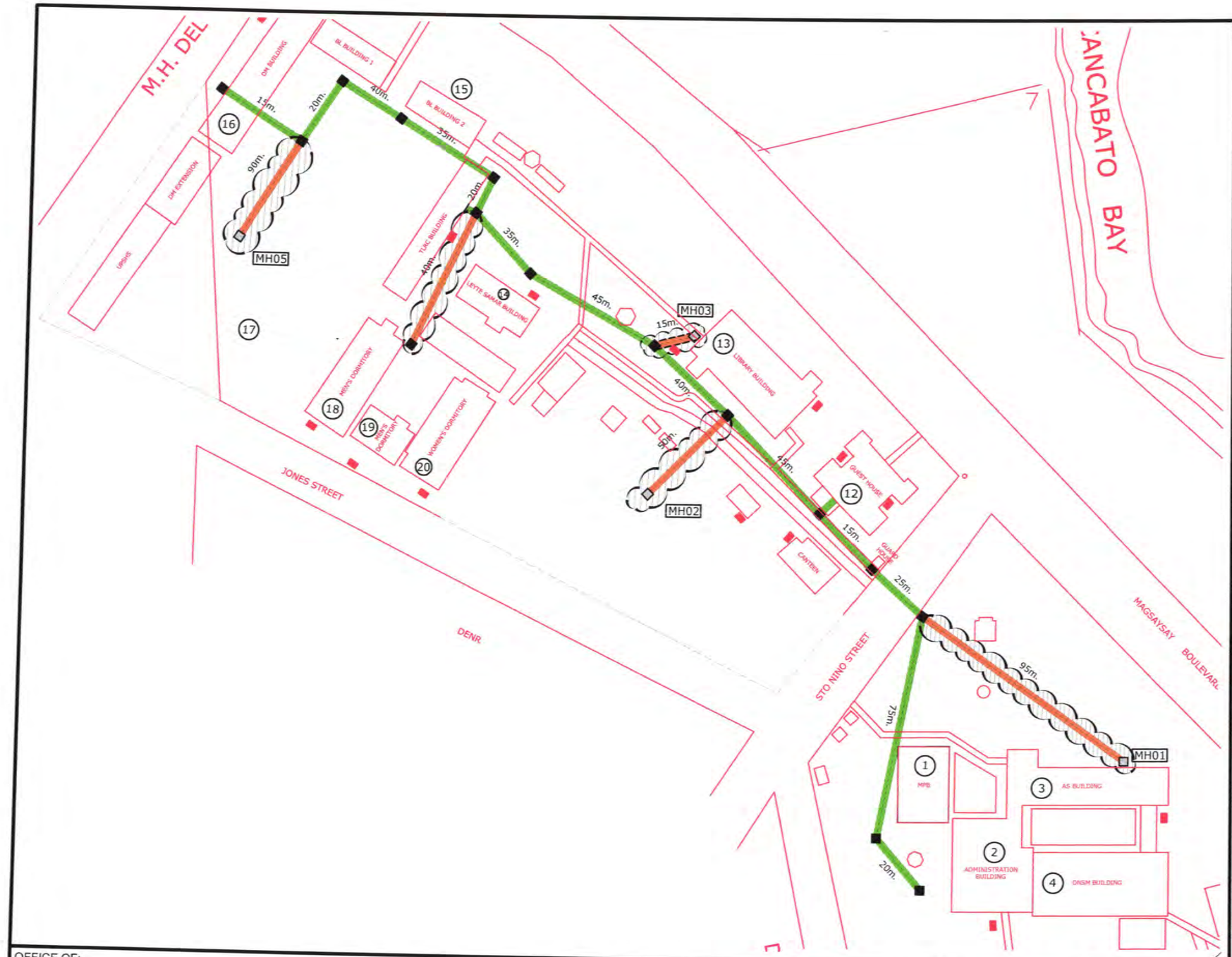
	• Hotspot management with voucher generation capability • Redundant WAN with failover and load balancing • QoS management for access points • Firewall • VLAN • Advanced networking features, such as VPN, DHCP, etc
Warranty	• 1 Years Warranty on Parts and Labor

Component 4: Upgrading of network switches

Item No.	Component	Quantity
1	24-Port Gigabit and 2-Port 10G SFP+ L3 Managed Switch with PoE+ or PoE++ ports, and 2 SFP+ Transceiver Modules *(see Component 4.1 for the detailed specifications)*	35 units
2	Planning, Design, Installation, Testing, and Documentation of Network Switches, inclusive of labor and other materials	1 lot

Component 4.1: Detailed specifications for the items under Component 4 (Upgrading of network switches)

Item #1	**24-Port Gigabit and 2-Port 10G SFP+ L3 Managed Switch with PoE+ or PoE++ ports, and 2 SFP+ Transceiver Modules**
Quantity	35 units
Specifications	
Interface	• 24× 10/100/1000 Mbps RJ45 Ports, PoE+ or PoE++ • 2× 10G SFP+ Slots
Total Available PoE	• 400 watts
Power Supply	• 100-240 V AC~50/60 Hz • AC/DC, internal, 450W
Max PoE wattage per port	• PoE+: 32W PoE++: 64W
Mounting	• Rack Mountable
Switching Capacity	• 88 Gbps
Packet Forwarding Rate	• 65.472 Mpps
MAC Address Table	• 16 K
Software Features	• Quality of Service • L2 Features • L3 Features • VLAN • Web-based GUI or CLI management
SFP+ Transceiver Module	• 2 units
Warranty	• 1 Year Warranty on Parts and Labor



FIBER OPTIC LEGEND:	
	PROPOSED MANHOLE AND TRENCH
	MANHOLE SYMBOLS
	TRENCH LAYOUT
MH01	MANHOLE TAG
	EXISTING MANHOLE

SITE DEVELOPMENT PLAN

LEGEND:

AS COMPLEX

1. MULTI PURPOSE BUILDING
2. ADMINISTRATION BUILDING
3. ARTS AND SCIENCES BUILDING
4. DIVISION OF NATURAL SCIENCES AND MATHEMATICS (DNSM)
5. BASKETBALL COURT
6. STUDENT LOUNGE (CONVERTED TO LITTLE THEATER)
7. CDMO WAREHOUSE
8. SPSO / CDMO BUILDING
9. SUN CELLULAR TOWER
10. PROPOSED PLANT NURSERY
11. MATERIAL REVOCERY FACILITY

DM COMPLEX

12. UP GUESTHOUSE, OSA AND HSU BUILDING
13. LIBRARY BUILDING
14. LEYTE SAMAR HERITAGE BUILDING
15. BL BUILDING 1&2
16. DIVISION OF MANAGEMENT BUILDING
17. SOCCER FIELD
18. MENS DORMITORY BUILDING
19. TWO-STOREY DORMITORY BUILDING
20. WOMENS DORMITORY BUILDING

OFFICE OF:

UNIVERSITY OF THE PHILIPPINES
TACLOBAN COLLEGE
CAMPUS DEVELOPMENT AND MAINTENANCE OFFICE
TACLOBAN CITY

PREPARED BY:	CHECKED BY:	RECOMMENDED BY:
MICHAEL Y. ABALOS	ROAN S. ABRAJANO	TELESFORO S. SALES
DRAFTSMAN	CMDF	CDMO HEAD

PROJECT NAME:

UPGRADING OF THE FIBER OPTIC NETWORK OF UP TACLOBAN COLLEGE

LOCATION:

UP TACLOBAN COLLEGE,TACLOBAN CITY

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:
JOHN PAUL T. YUSIONG	PROF. ARVIN DE VEYRA	DR. PATRICIA B. ARINTO
SYSTEM ADMINISTRATOR	ASSOCIATE DEAN FOR ADMIN.	UPTC – DEAN

SHEET CONTENT: AS INDICATED

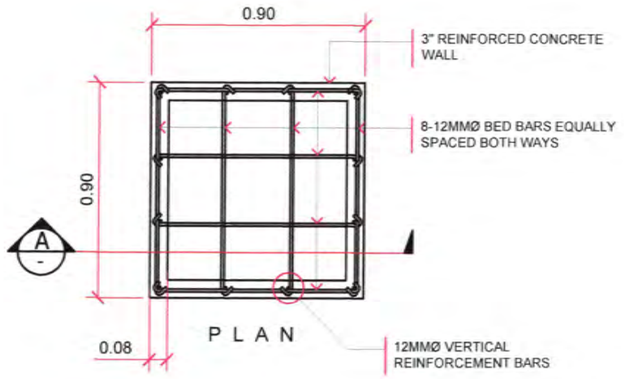
STATUS:

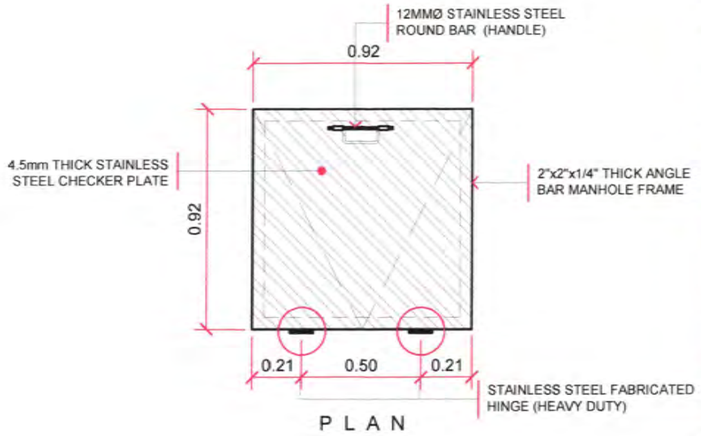
- ☐ APPROVED
- ☐ APPROVED AS NOTED
- ☐ FOR REVISION

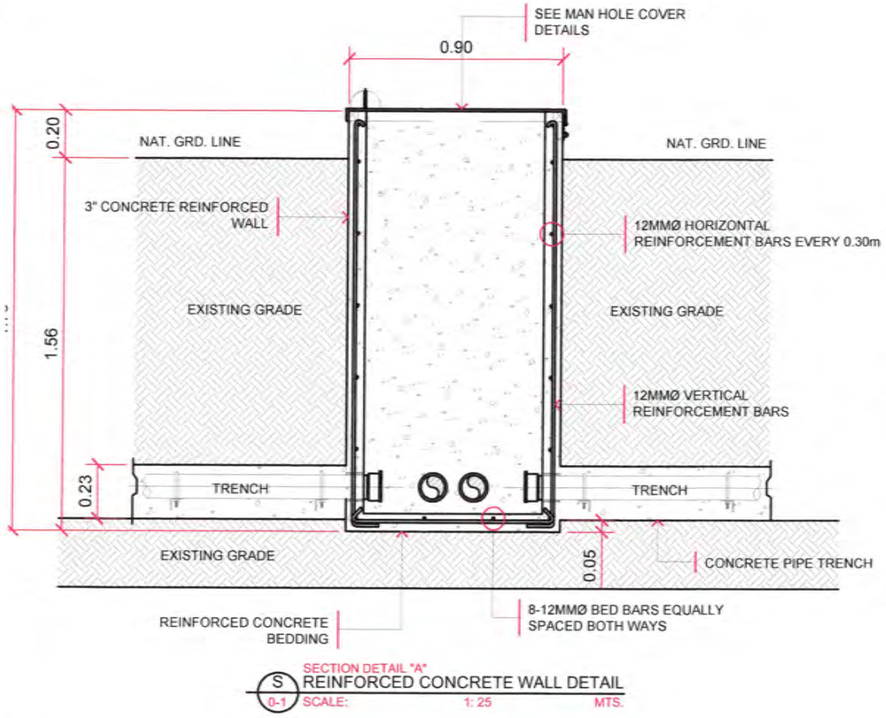
DATE:

SHEET NO. : S 2 2

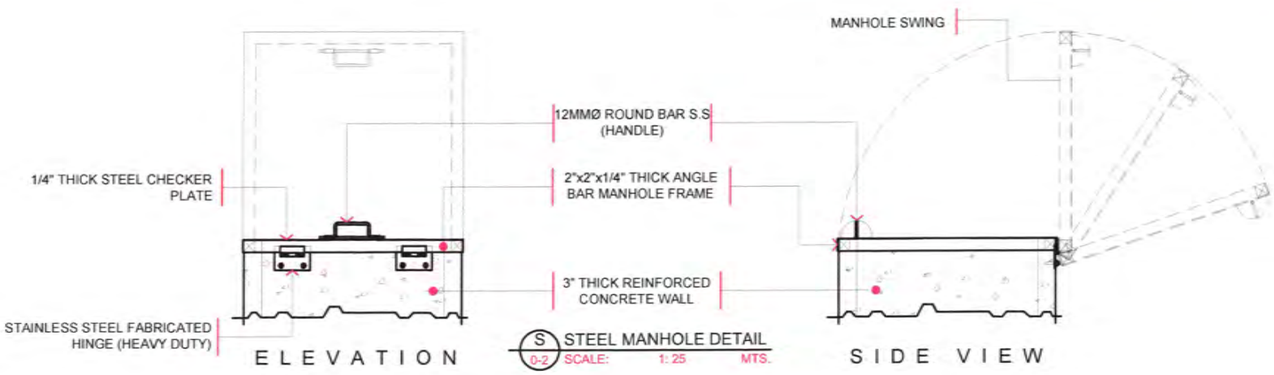
REVISION







S 0-1 SECTION DETAIL "A"
REINFORCED CONCRETE WALL DETAIL
SCALE: 1: 25 MTS.



S 0-2 STEEL MANHOLE DETAIL
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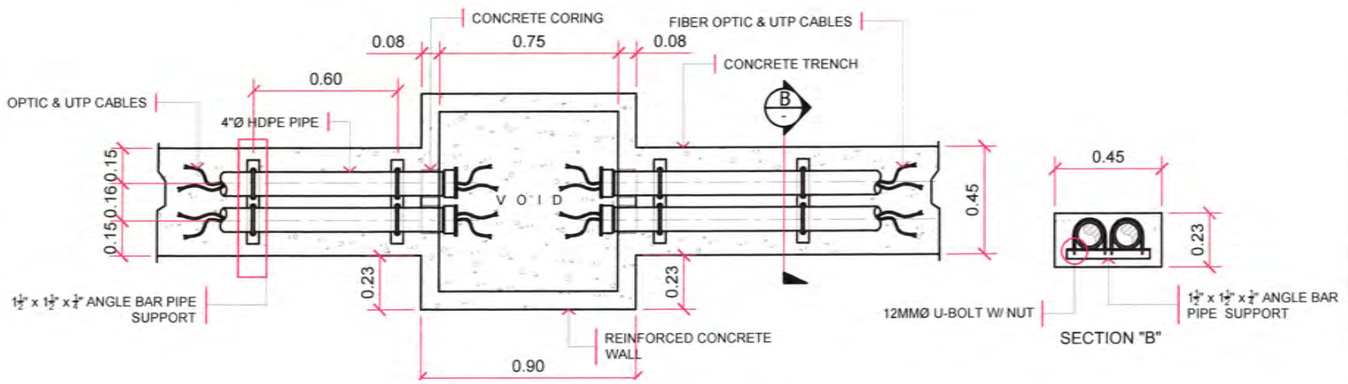


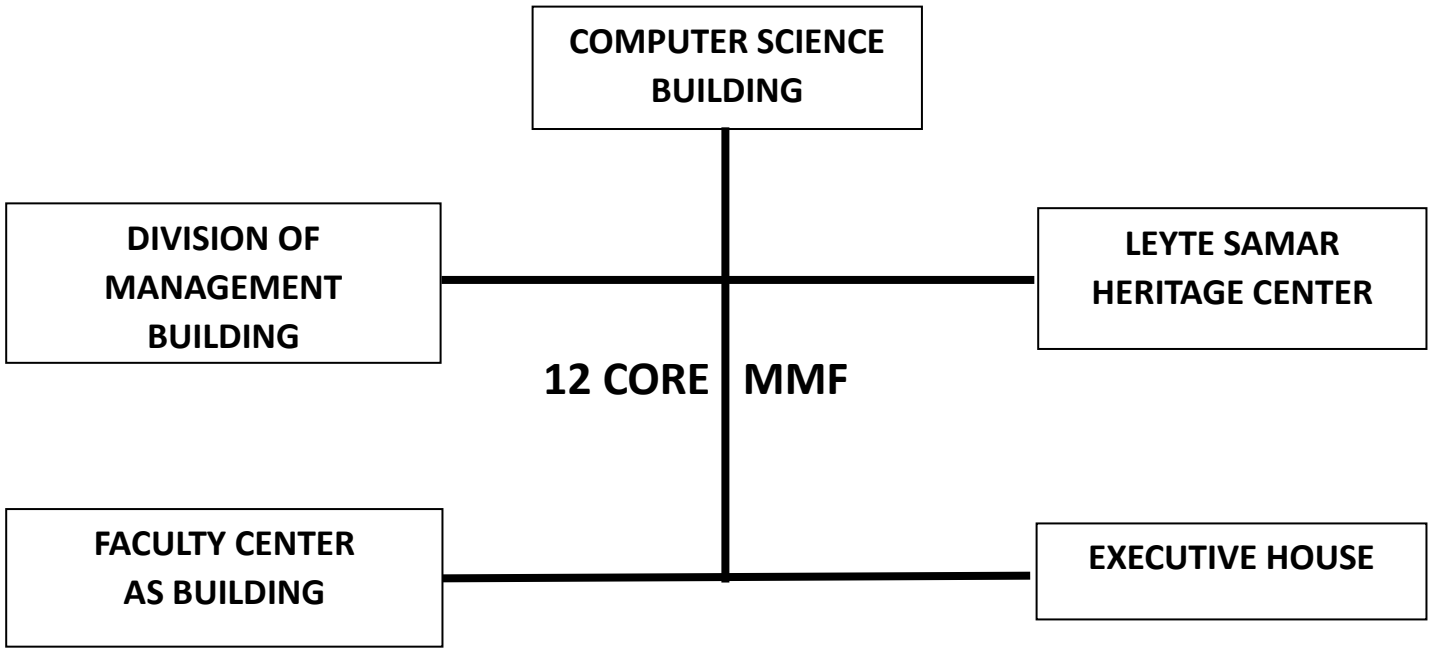
S 0-3 CONCRETE TRENCH LAYOUT
SCALE: 1: 25 MTS.

OFFICE OF:	PROJECT NAME:	RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	STATUS:	SHEET NO. :
UNIVERSITY OF THE PHILIPPINES TACLOBAN COLLEGE CAMPUS DEVELOPMENT AND MAINTENANCE OFFICE TACLOBAN CITY	UPGRADING OF THE FIBER OPTIC NETWORK OF UP TACLOBAN COLLEGE	JOHN PAUL T. YUSIONG SYSTEM ADMINISTRATOR	PROF. ARVIN DE VEYRA ASSOCIATE DEAN FOR ADMIN.	DR. PATRICIA B. ARINTO UPTC – DEAN	AS INDICATED	☐ APPROVED ☐ APPROVED AS NOTED ☐ FOR REVISION	S 1 2 REVISION

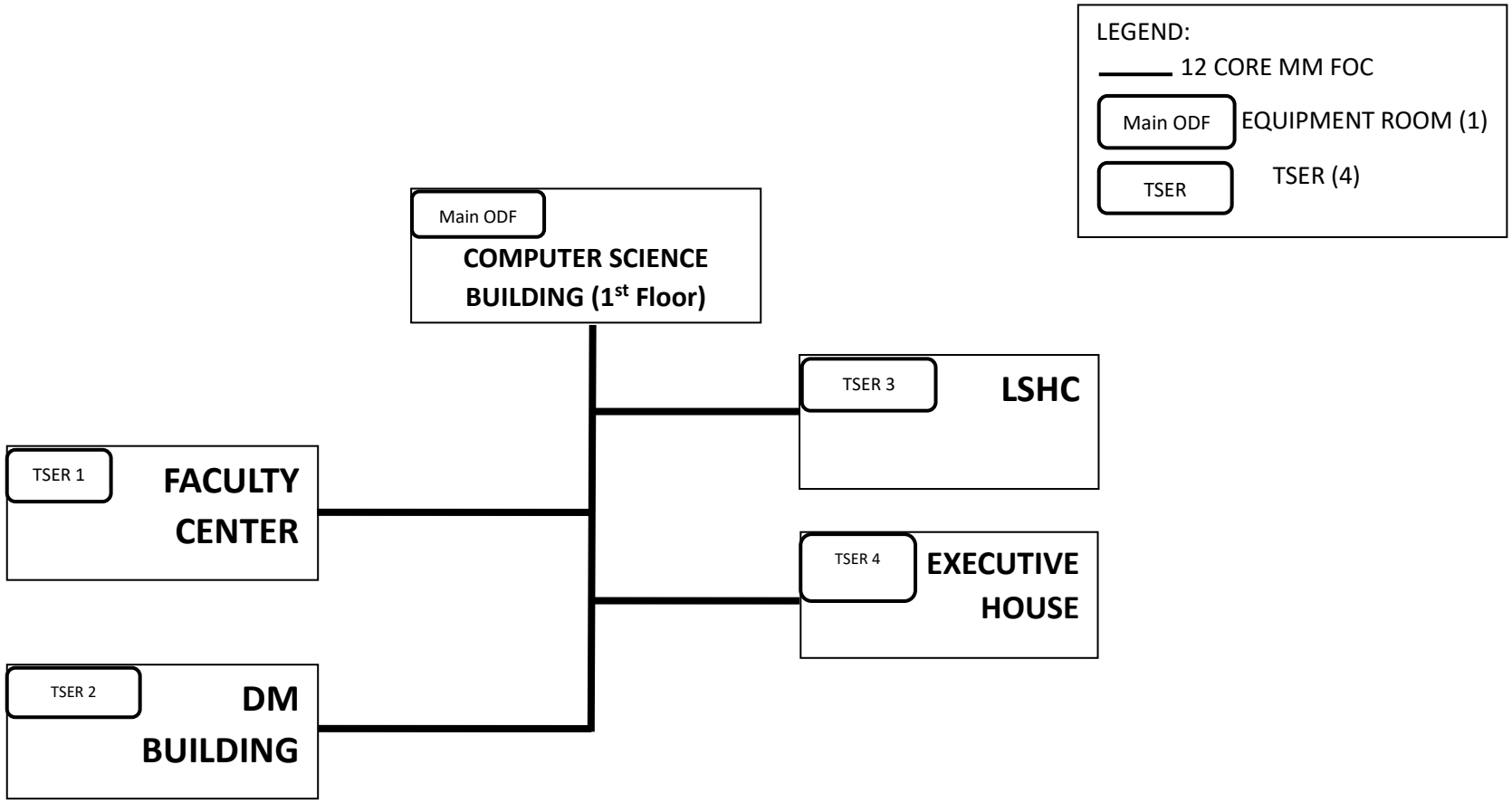
PREPARED BY: MICHAEL Y. ABALOS, DRAFTSMAN
CHECKED BY: ROAN S. ABRAJANO, CMDF
RECOMMENDED BY: TELESFORO S. SALES, CDMO HEAD

LOCATION: UP TACLOBAN COLLEGE,TACLOBAN CITY

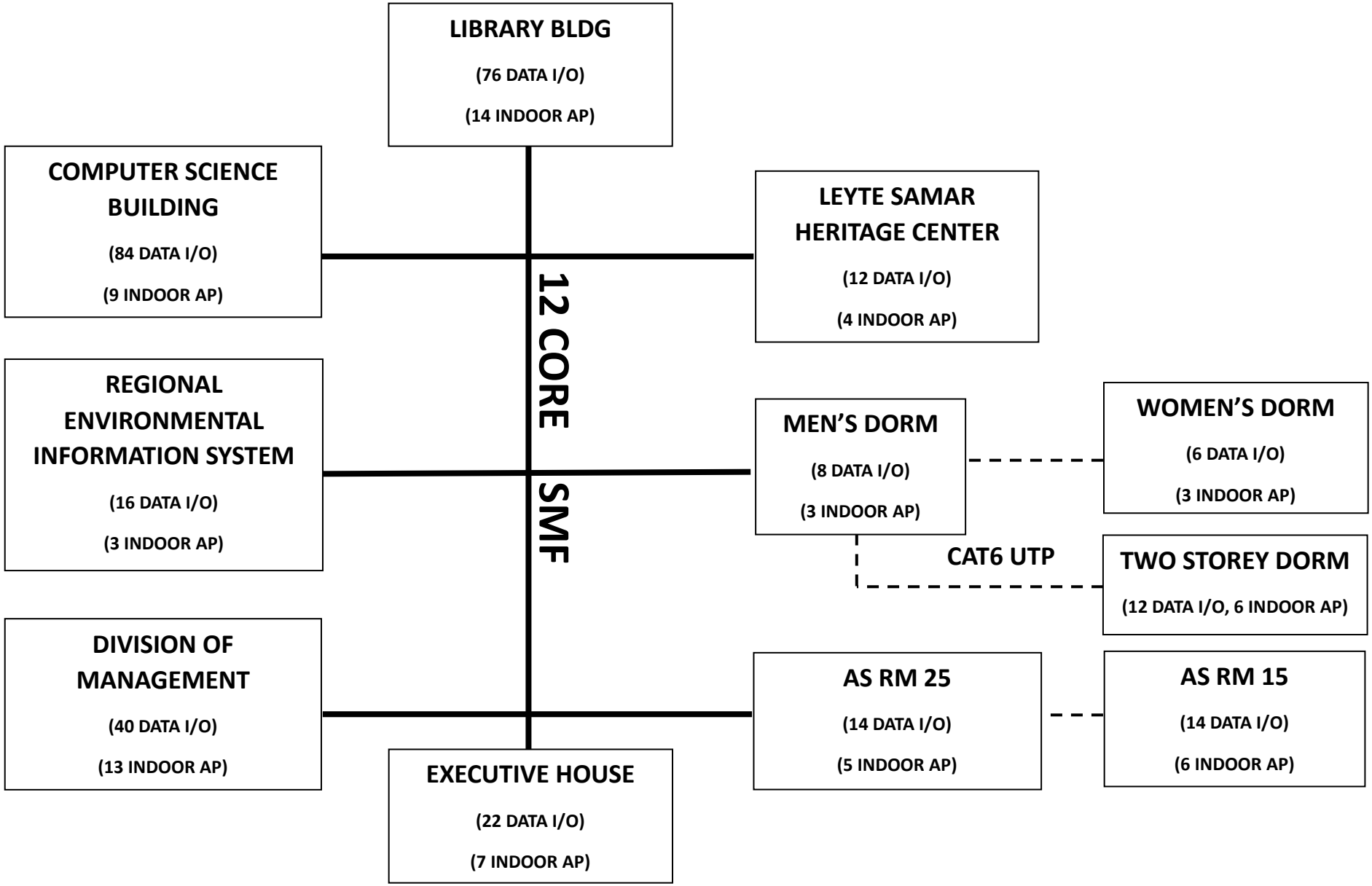
LOGICAL DIAGRAM (EXISTING FIBER OPTIC BACKBONE)



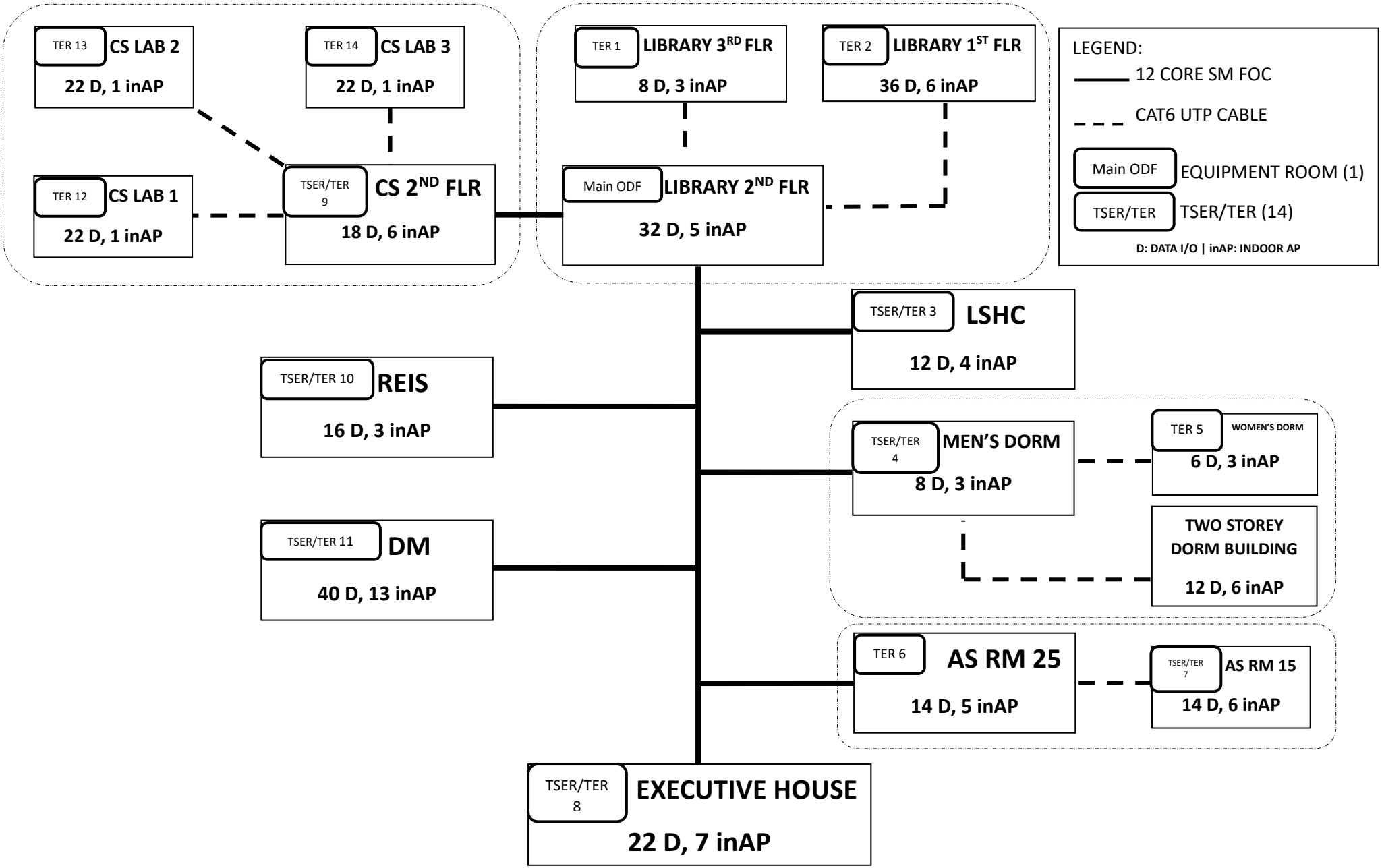
INTERBUILDING FIBER OPTIC ROUTE (EXISTING FIBER OPTIC BACKBONE)



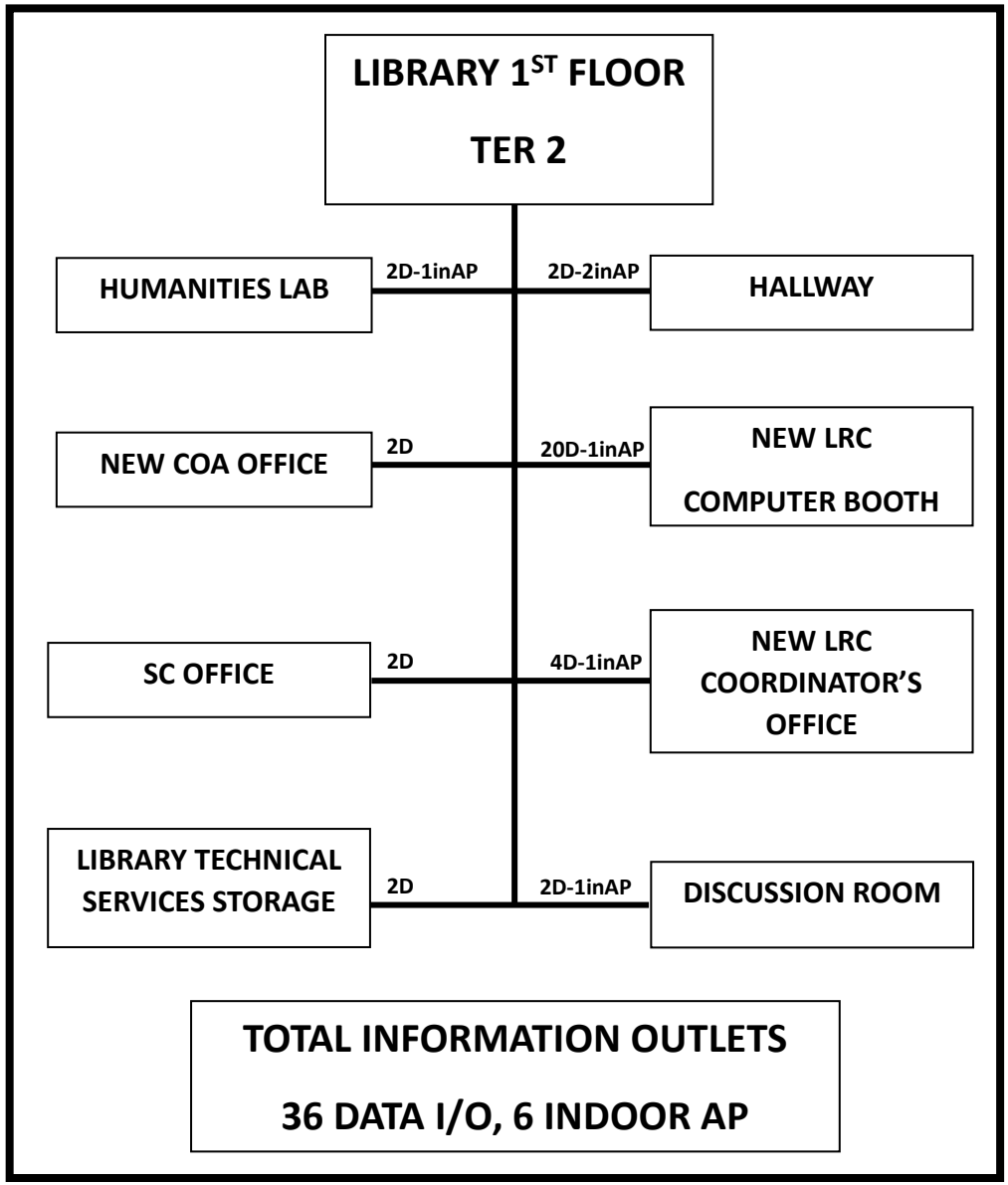
LOGICAL DIAGRAM (NEW FIBER OPTIC BACKBONE)

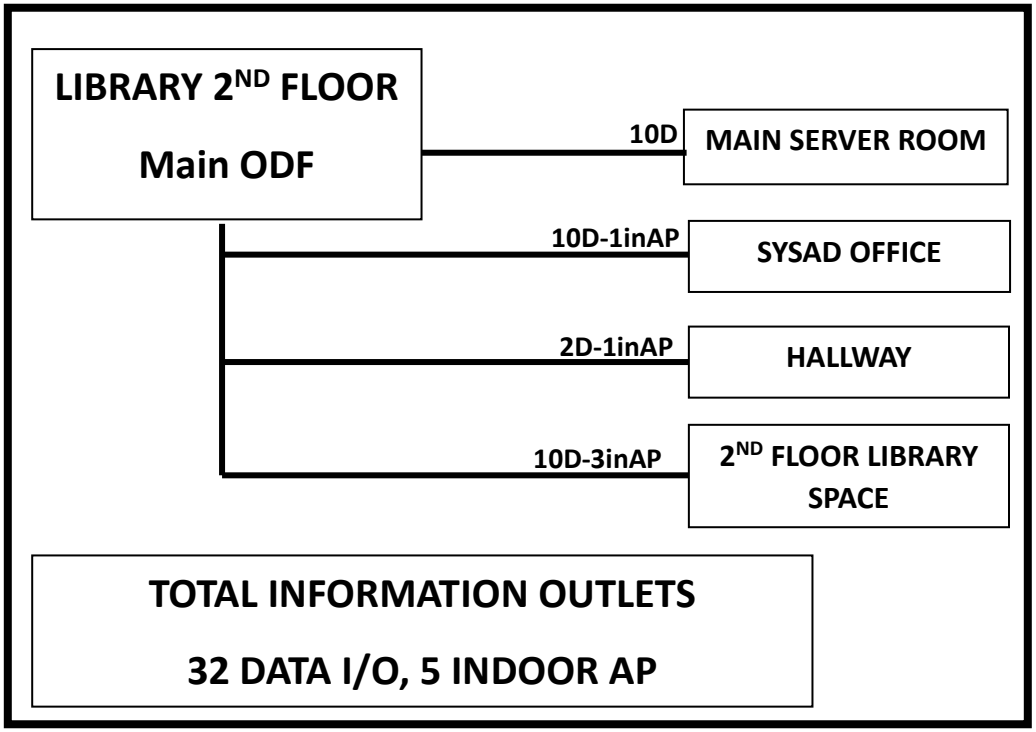


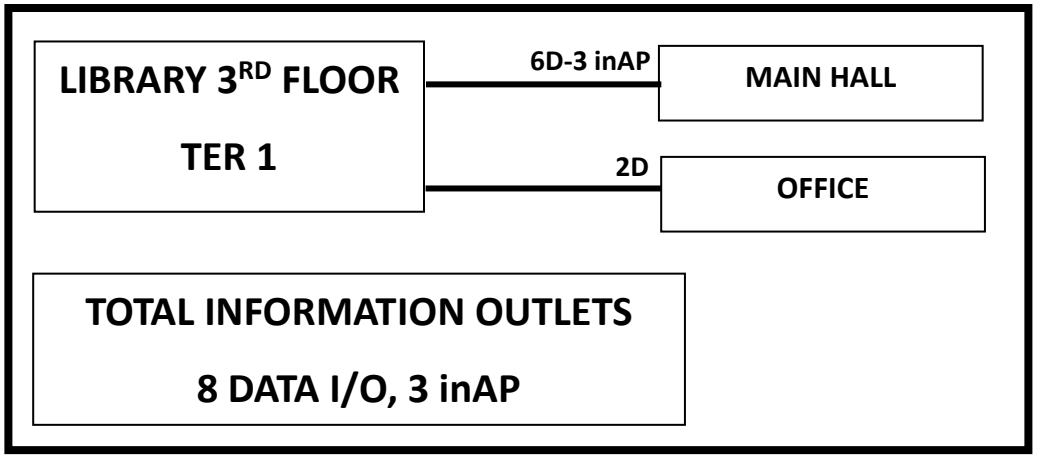
INTERBUILDING FIBER OPTIC & UTP ROUTE (NEW FIBER OPTIC BACKBONE)

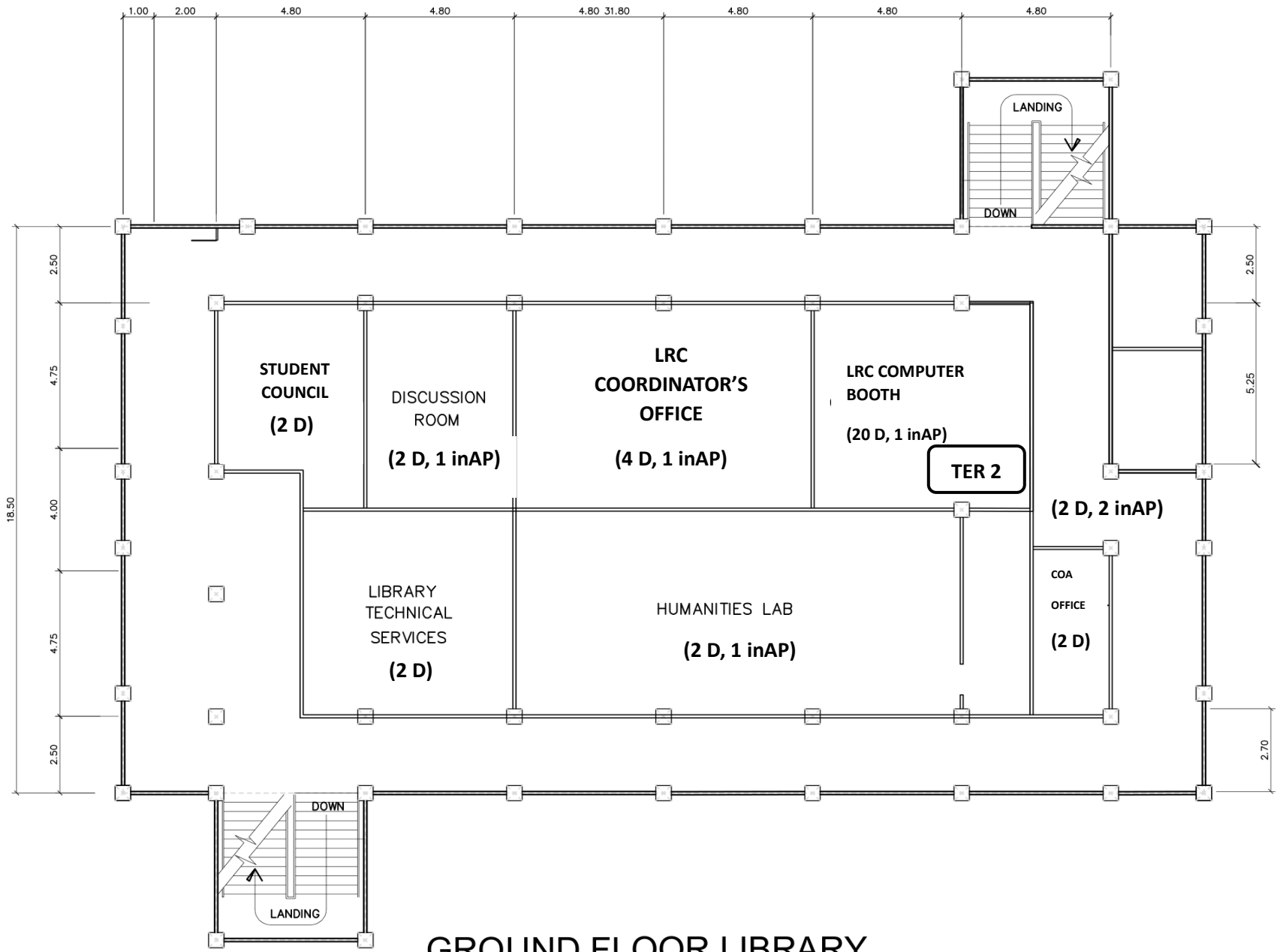


LIBRARY BUILDING







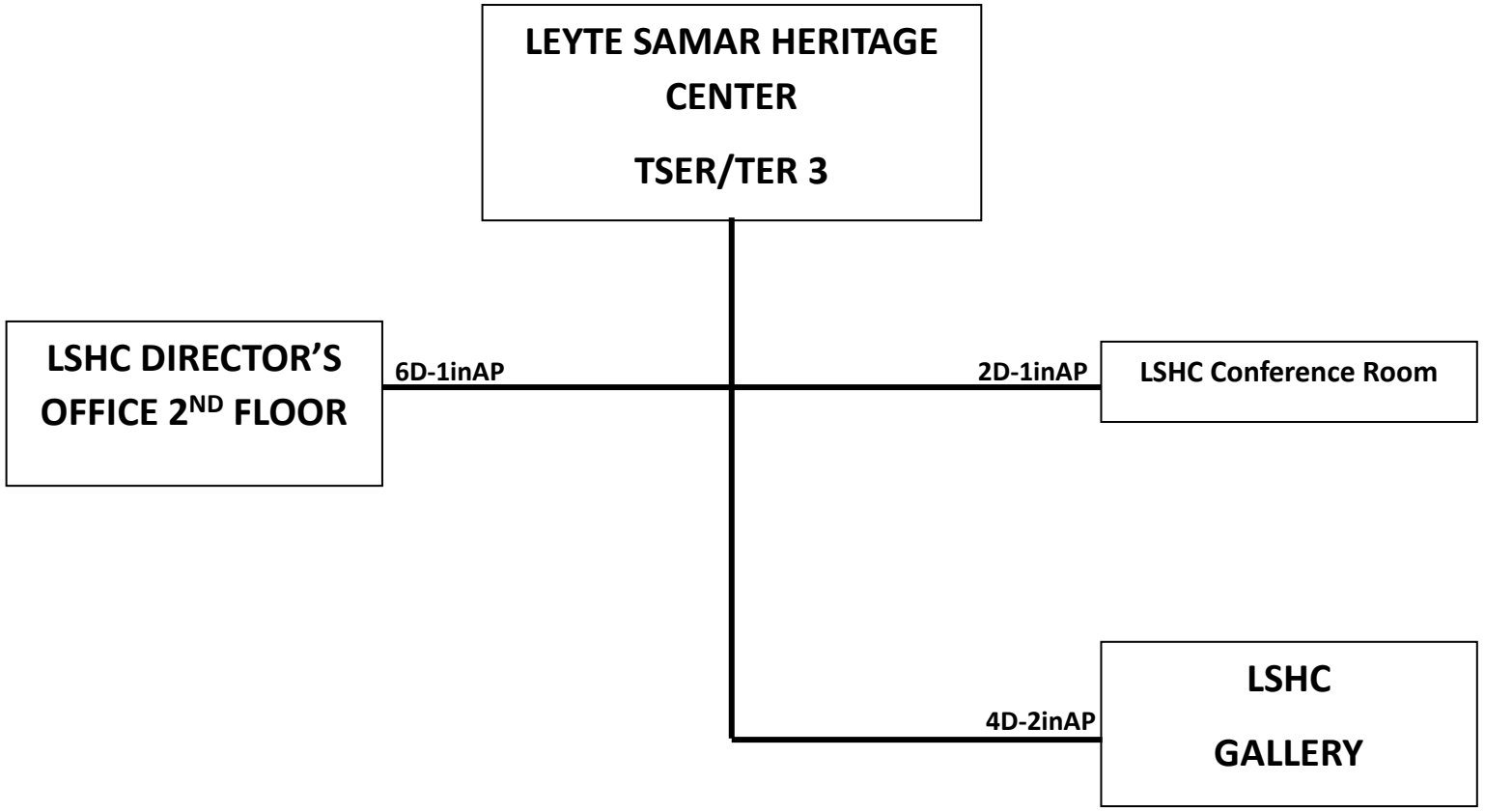


GROUND FLOOR LIBRARY

SECOND FLOOR LIBRARY

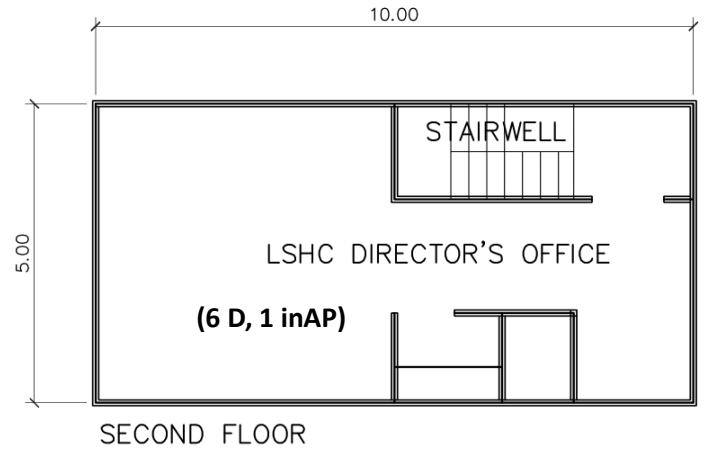
THIRD FLOOR LIBRARY

LEYTE SAMAR HERITAGE CENTER

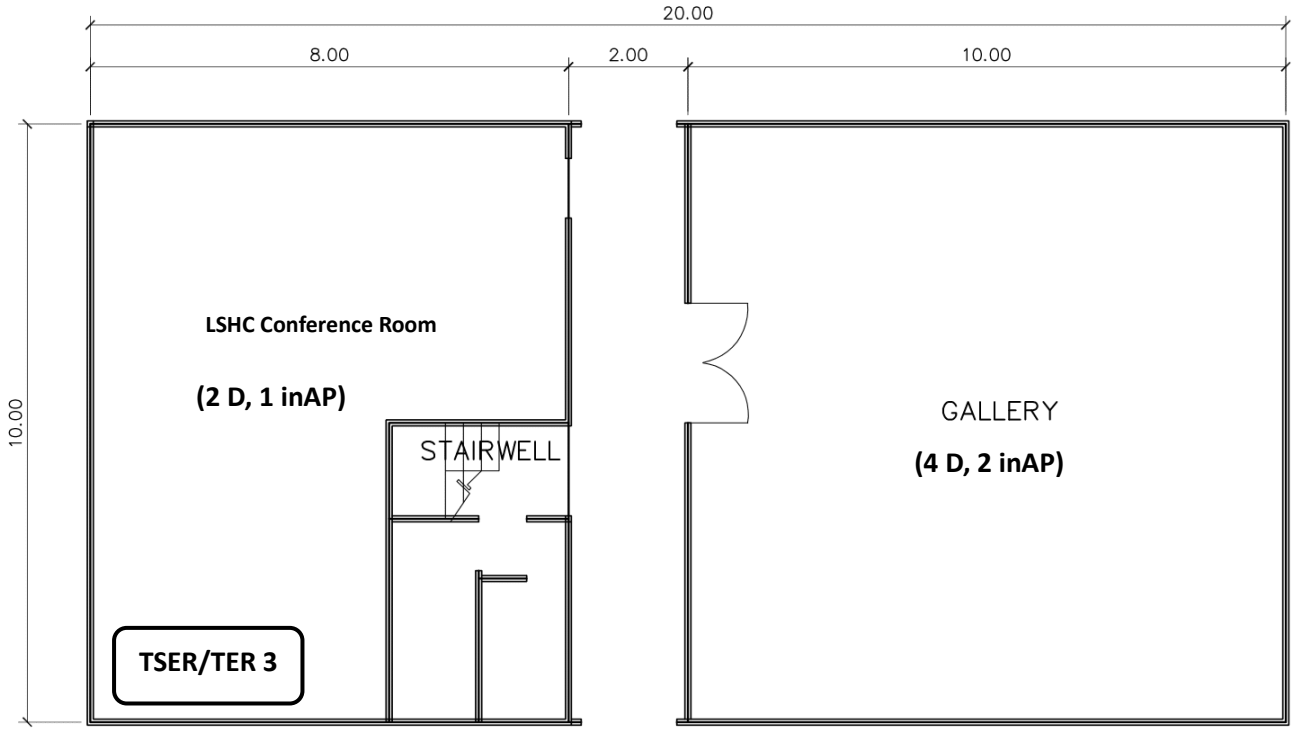


TOTAL INFORMATION OUTLETS

12 DATA I/O, 4 INDOOR AP



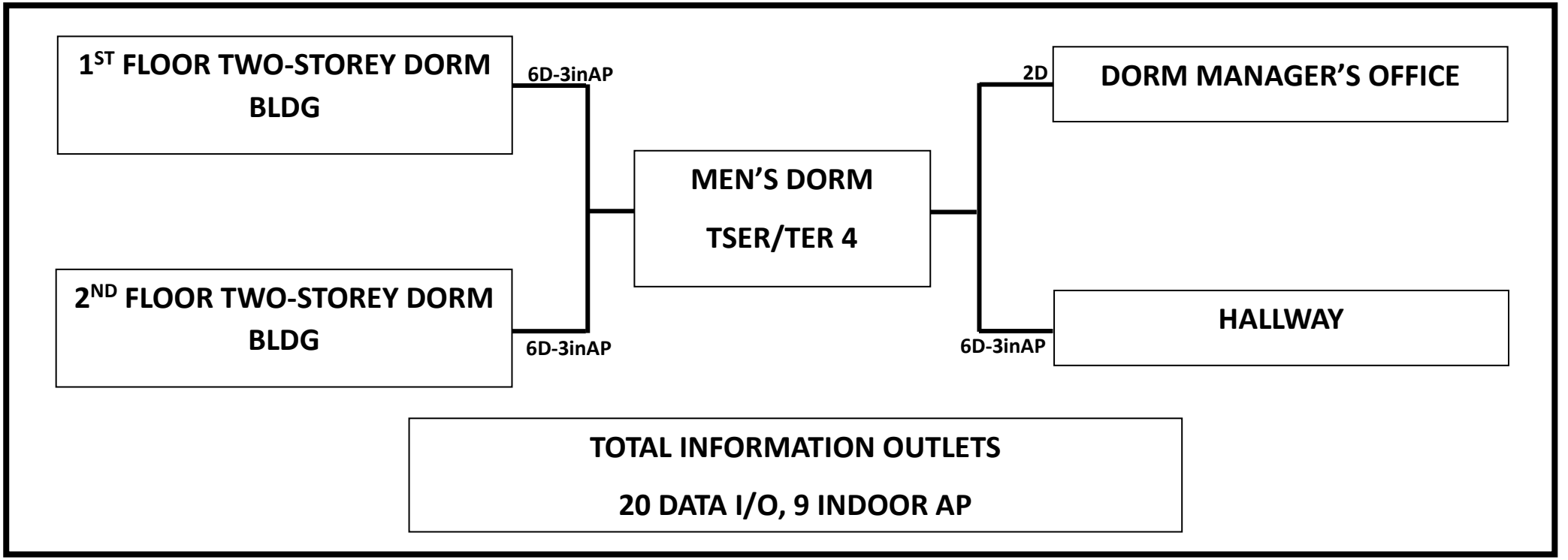
SECOND FLOOR

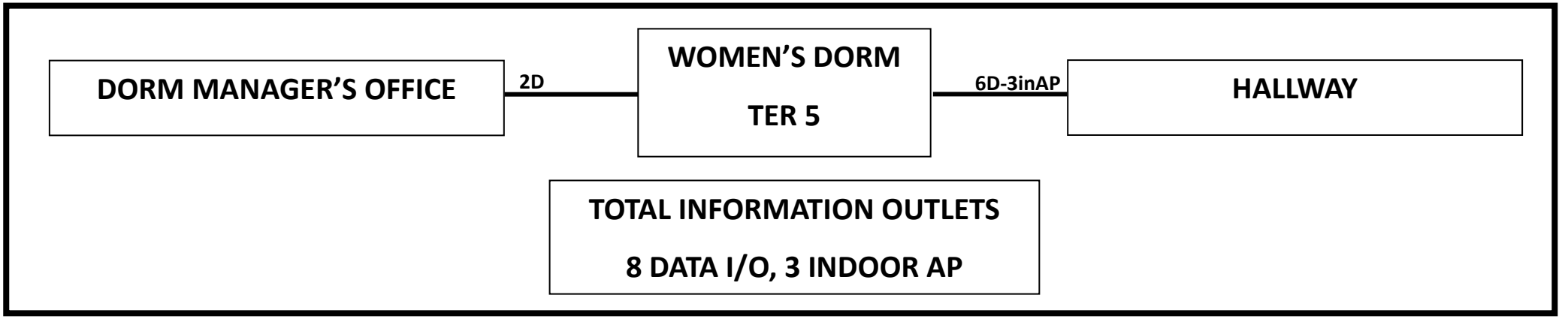


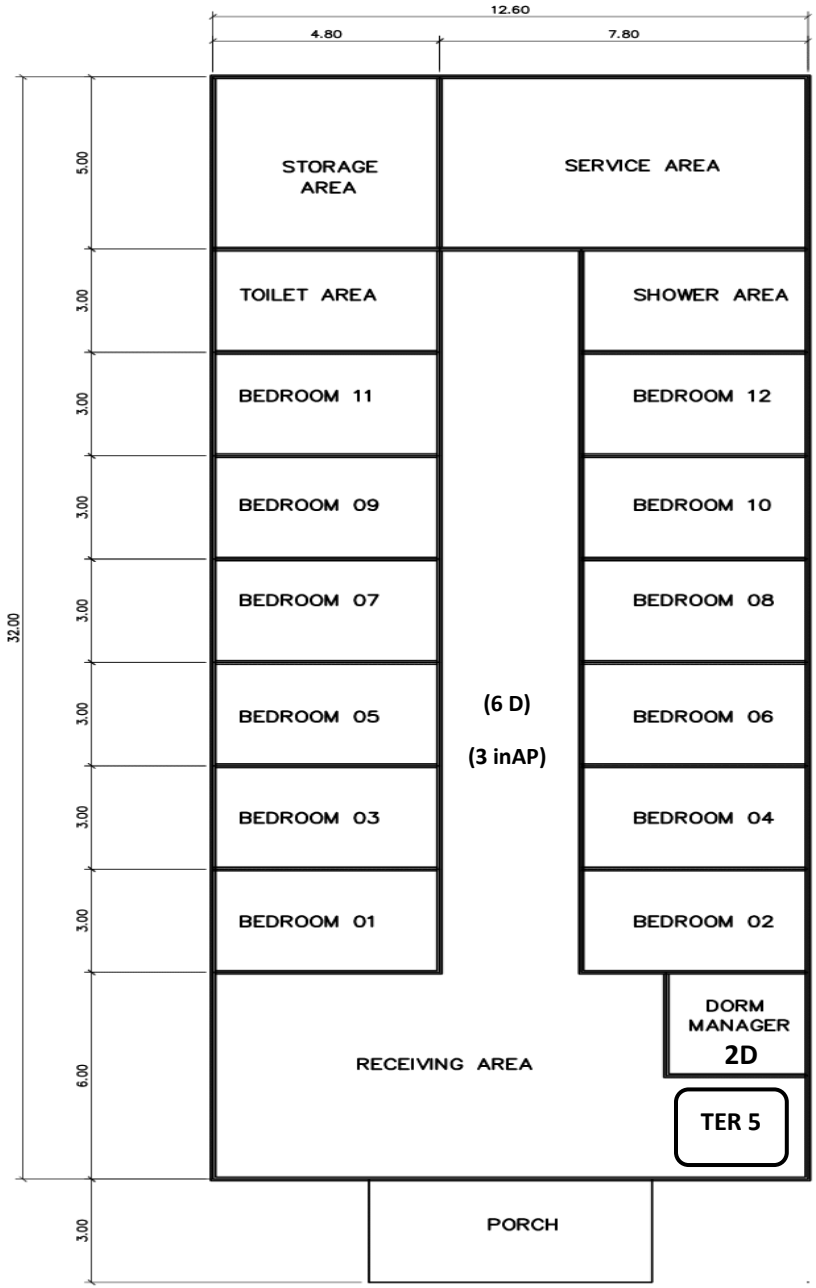
GROUND FLOOR

LEYTE SAMAR HERITAGE CENTER

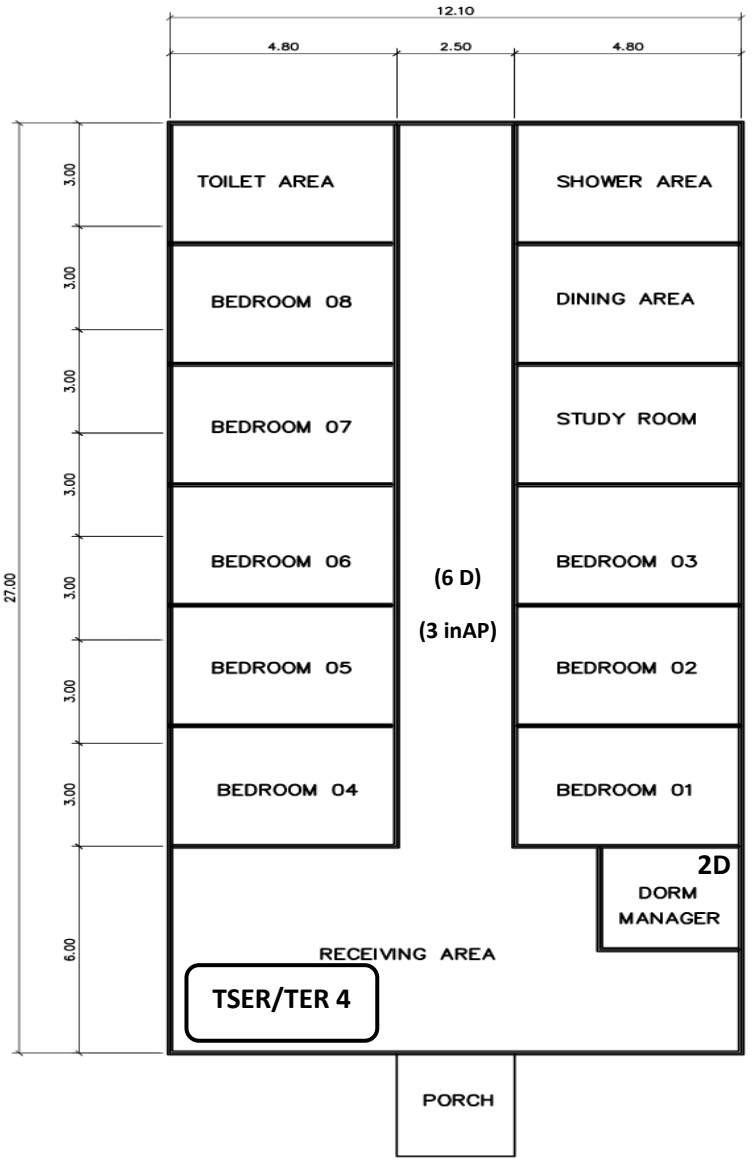
DORMITORY BUILDINGS



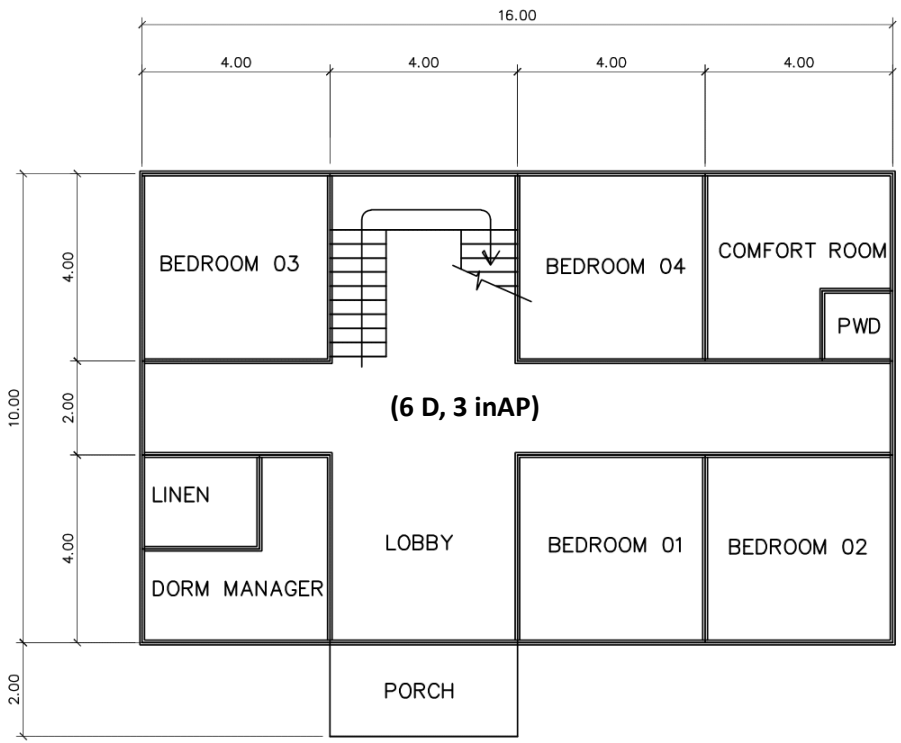




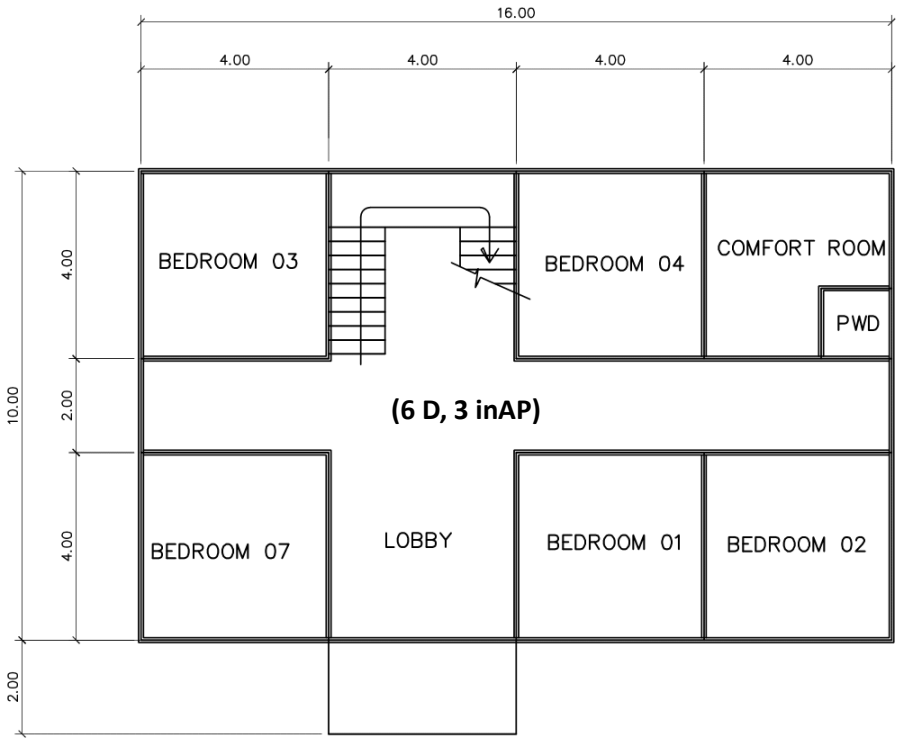
LADIES' DORMITORY



MENS DORMITORY



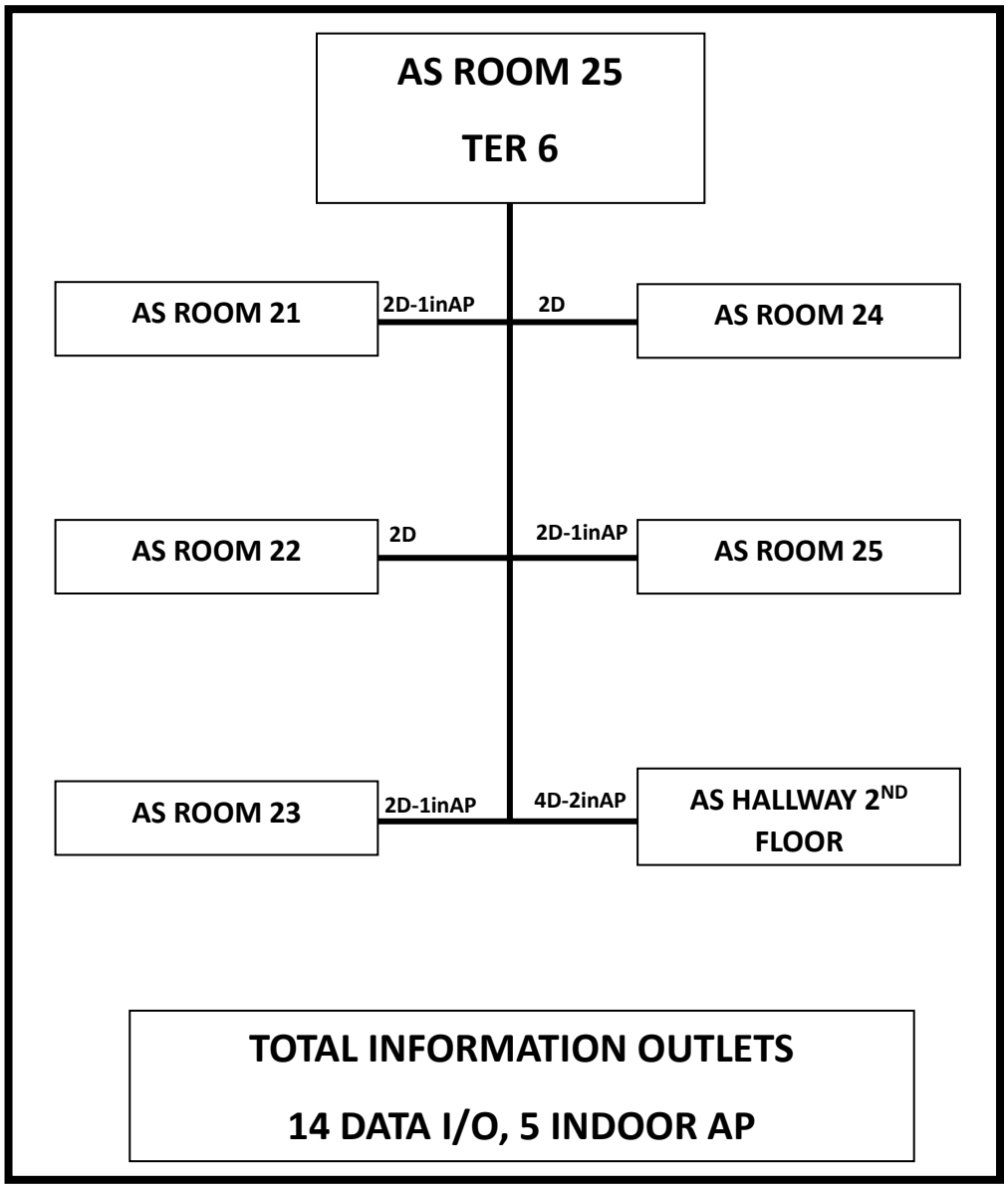
GROUND FLOOR

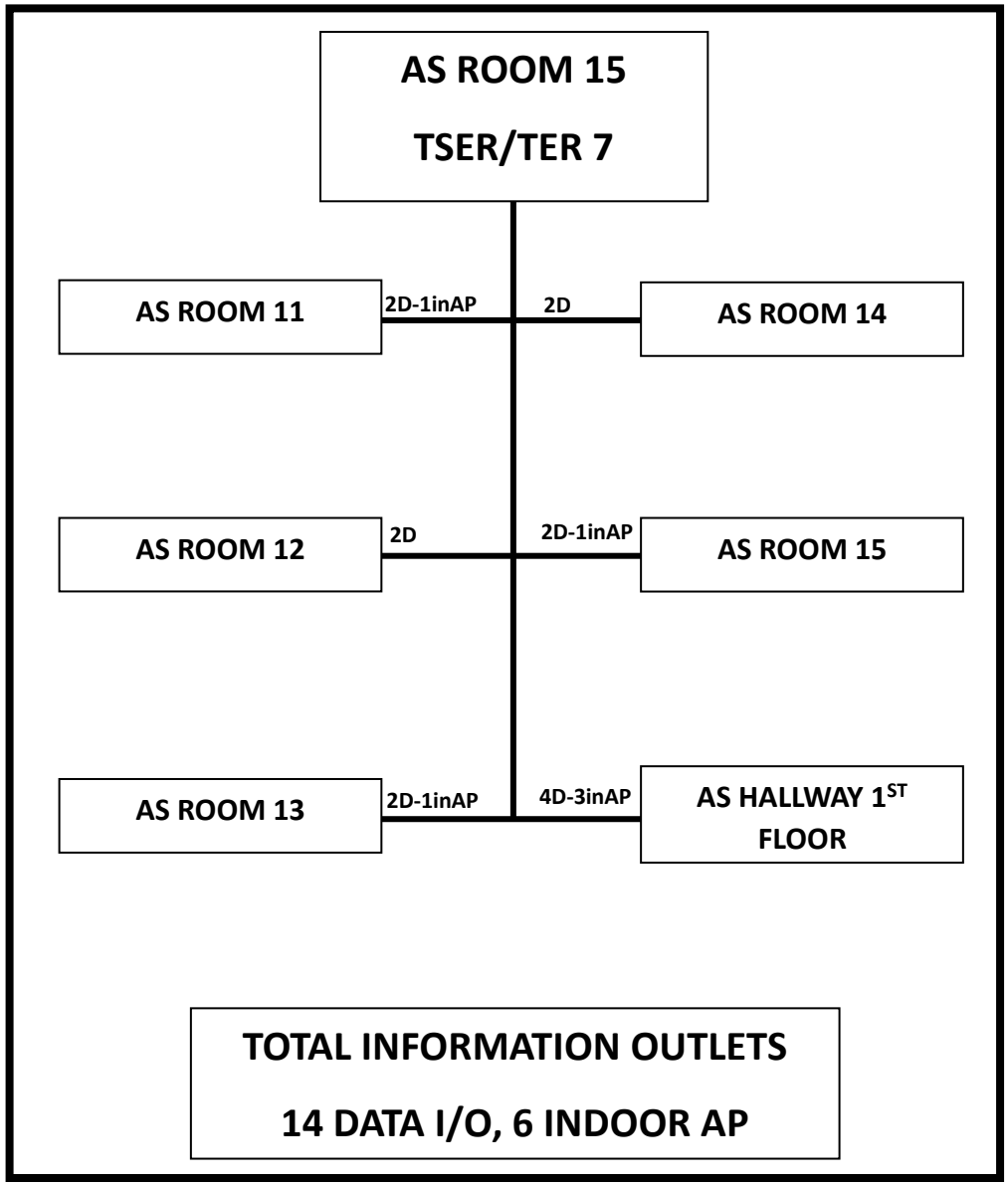


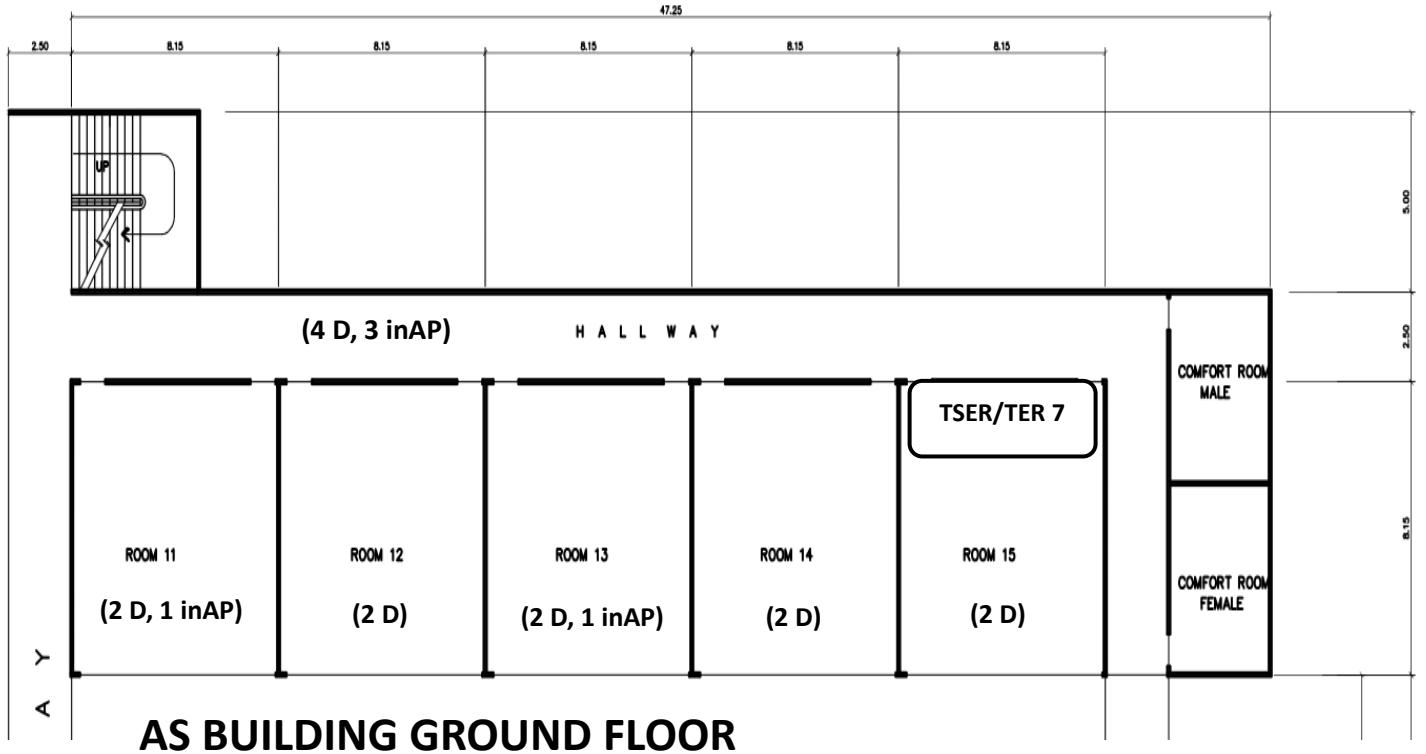
SECOND FLOOR

TWO STOREY DORMITORY

AS BUILDING

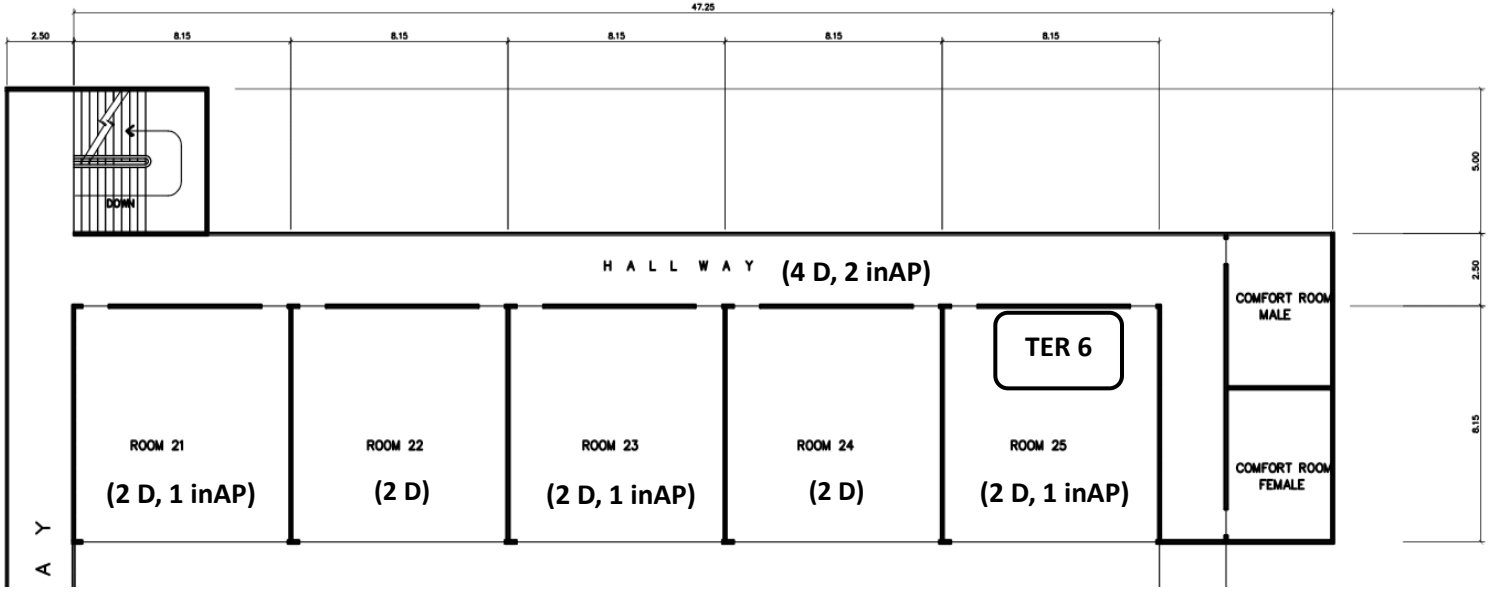

AS ROOM 25
TER 6
AS ROOM 21
2D-1inAP
2D
AS ROOM 24
AS ROOM 22
2D
2D-1inAP
AS ROOM 25
AS ROOM 23
2D-1inAP
4D-2inAP
AS HALLWAY 2ND FLOOR
TOTAL INFORMATION OUTLETS
14 DATA I/O, 5 INDOOR AP


AS ROOM 15
TSER/TER 7
AS ROOM 11
2D-1inAP
2D
AS ROOM 14
AS ROOM 12
2D
2D-1inAP
AS ROOM 15
AS ROOM 13
2D-1inAP
4D-3inAP
AS HALLWAY 1ST FLOOR
TOTAL INFORMATION OUTLETS
14 DATA I/O, 6 INDOOR AP



CENTENNIAL GROUNDS

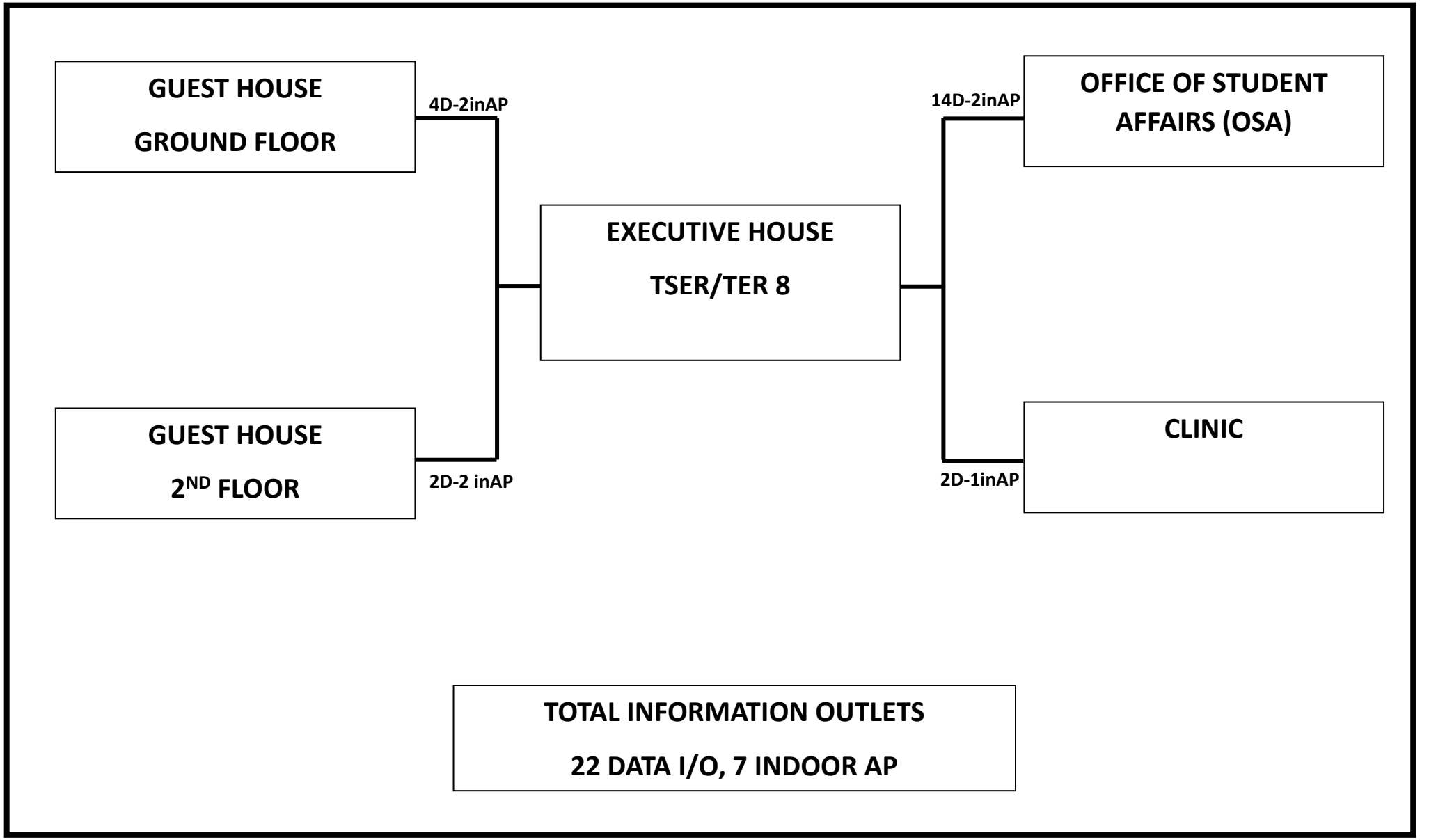
AS BUILDING GROUND FLOOR

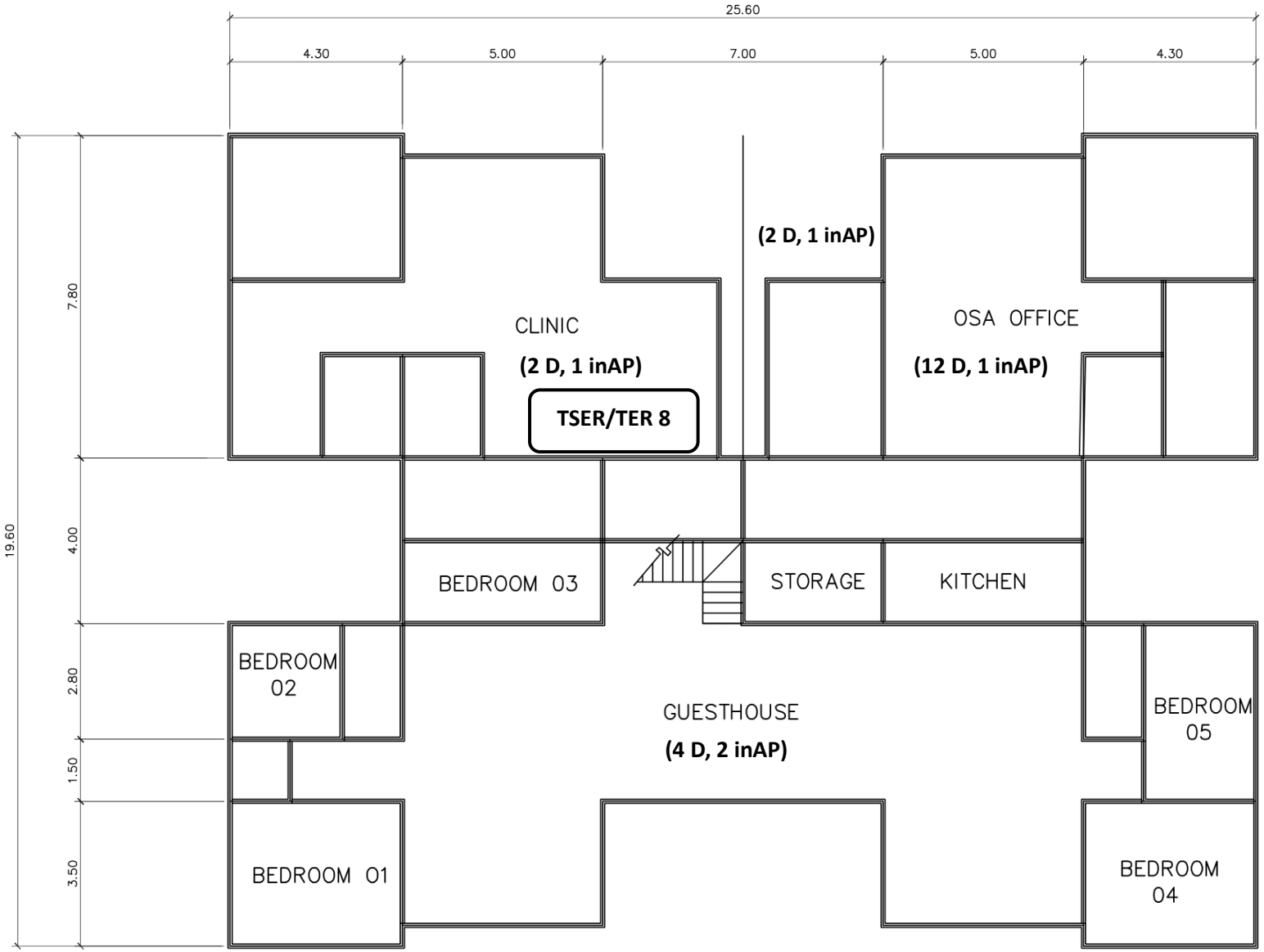


CENTENNIAL GROUNDS

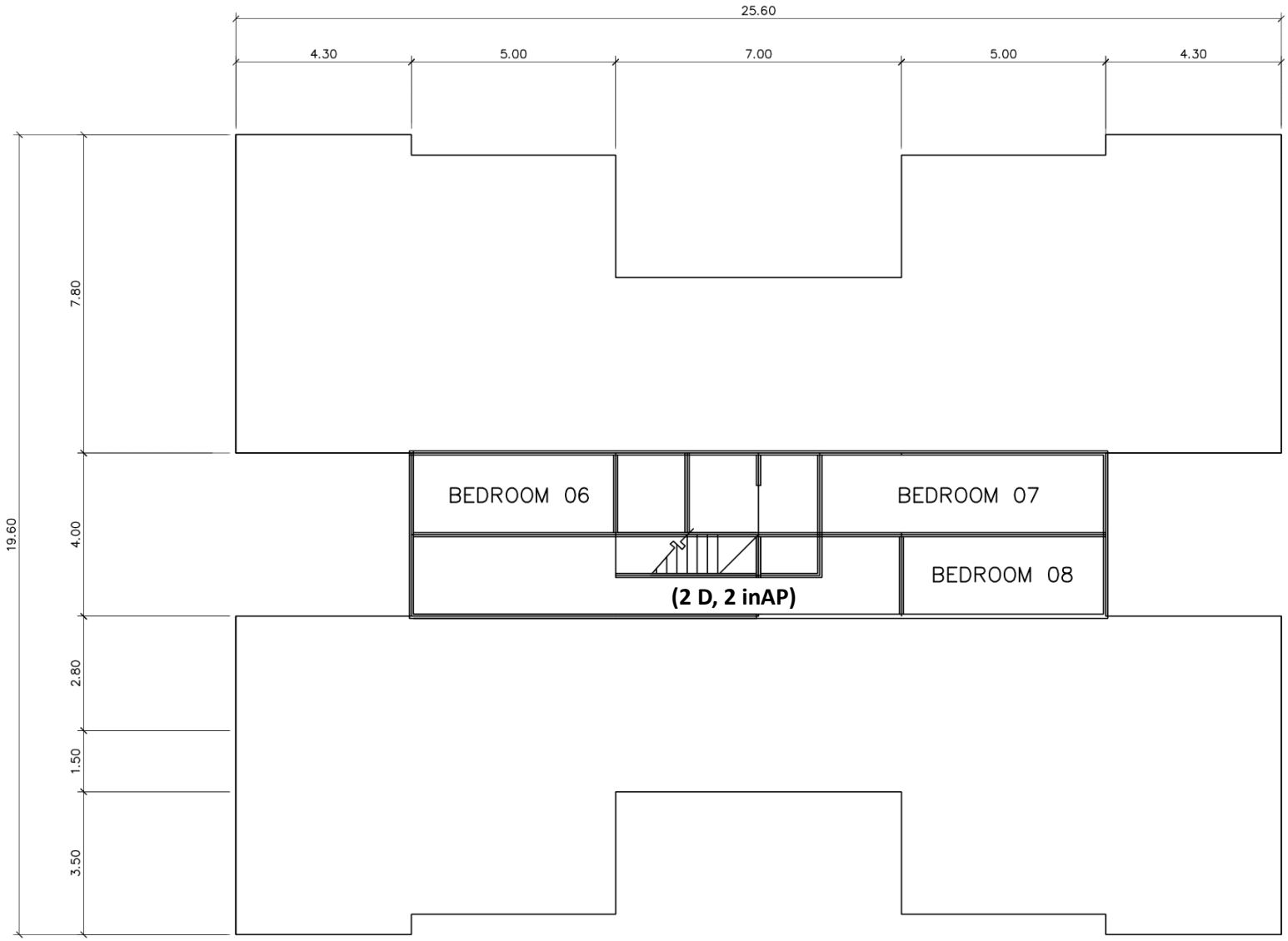
AS BUILDING SECOND FLOOR

EXECUTIVE HOUSE



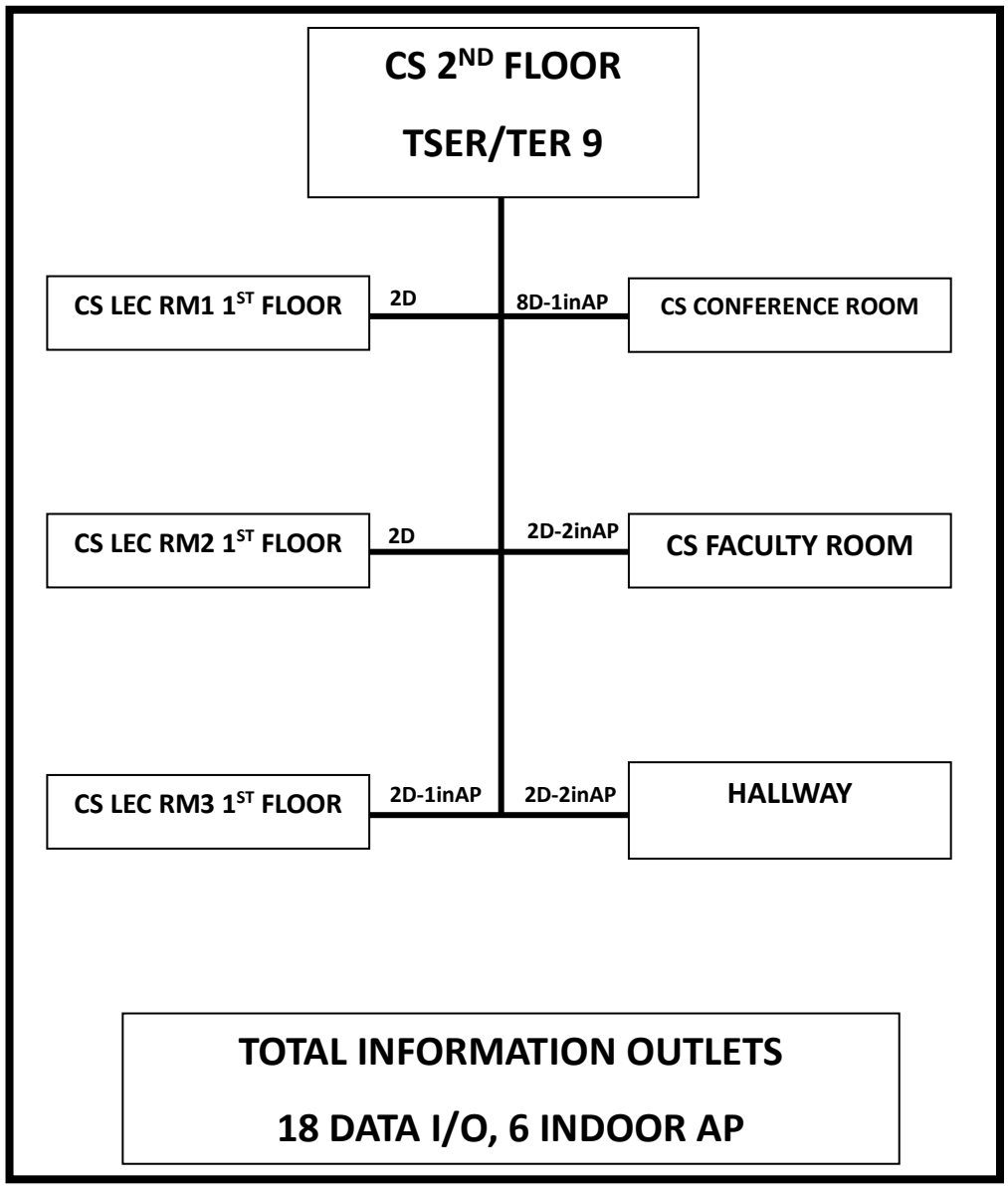


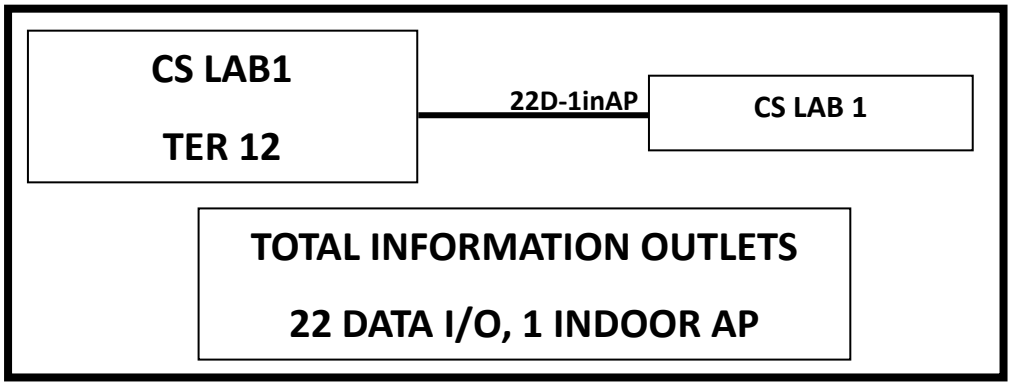
GUESTHOUSE/CLINIC & OSA OFFICE - GROUND FLOOR

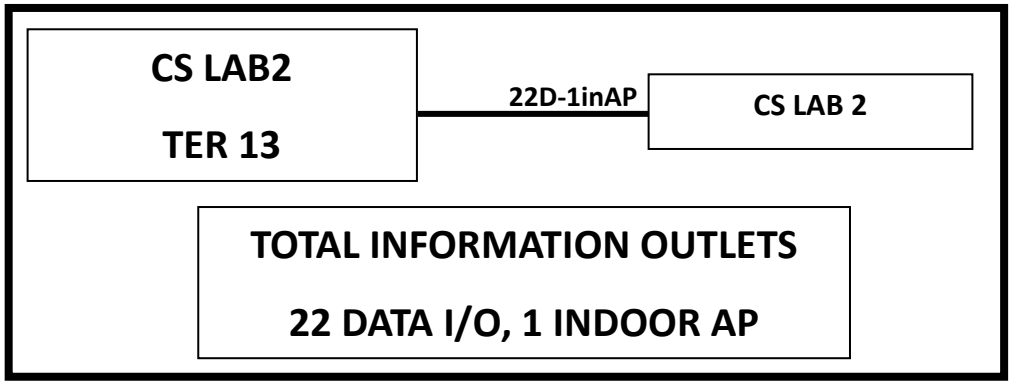


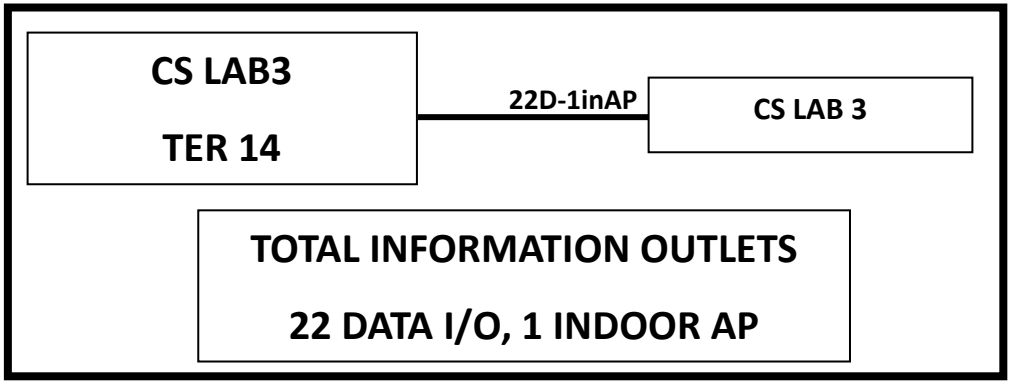
GUESTHOUSE - SECOND FLOOR

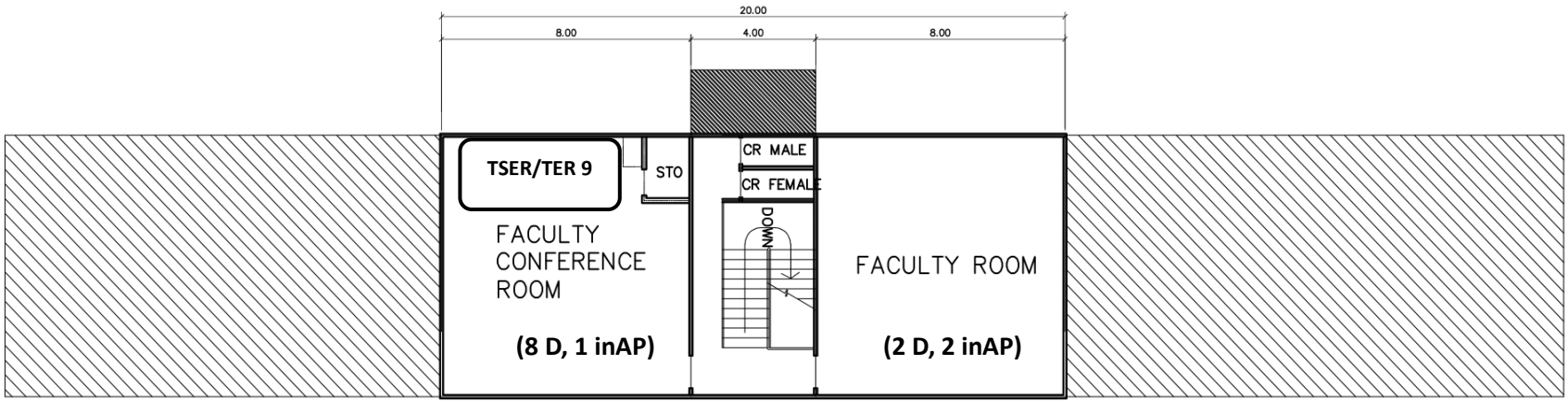
COMPUTER SCIENCE BUILDING

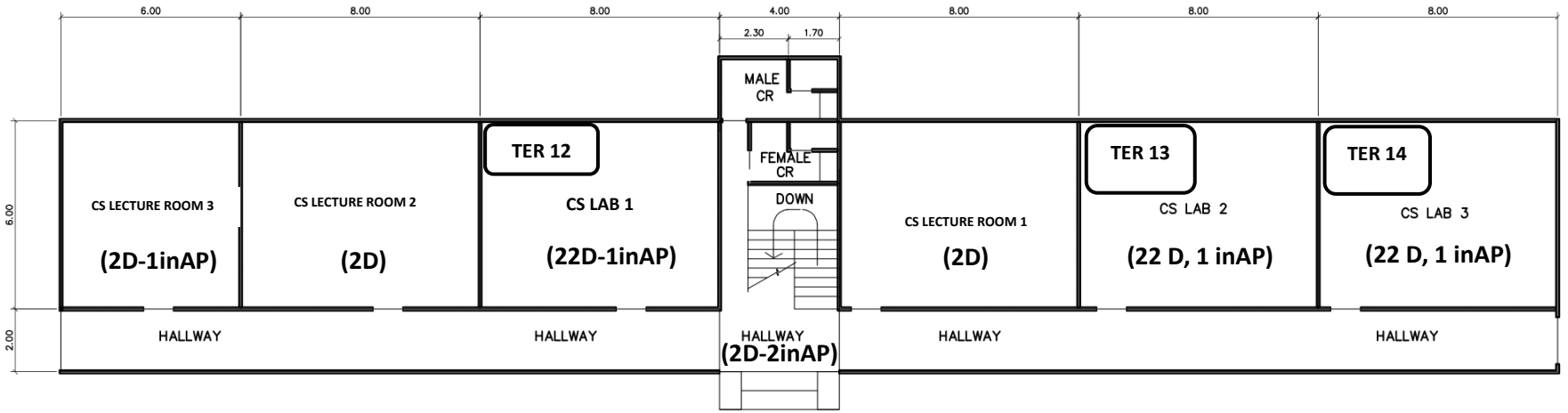






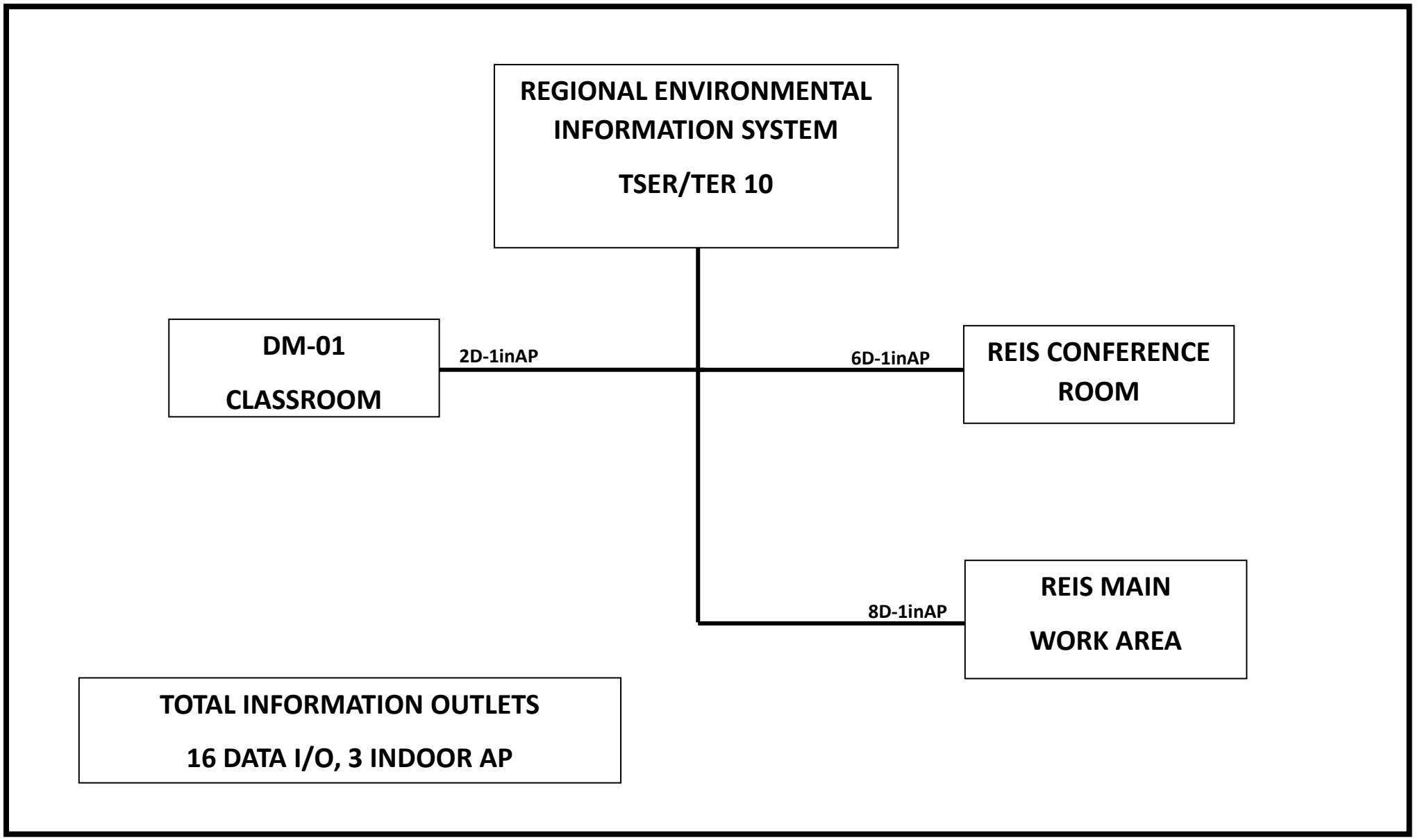


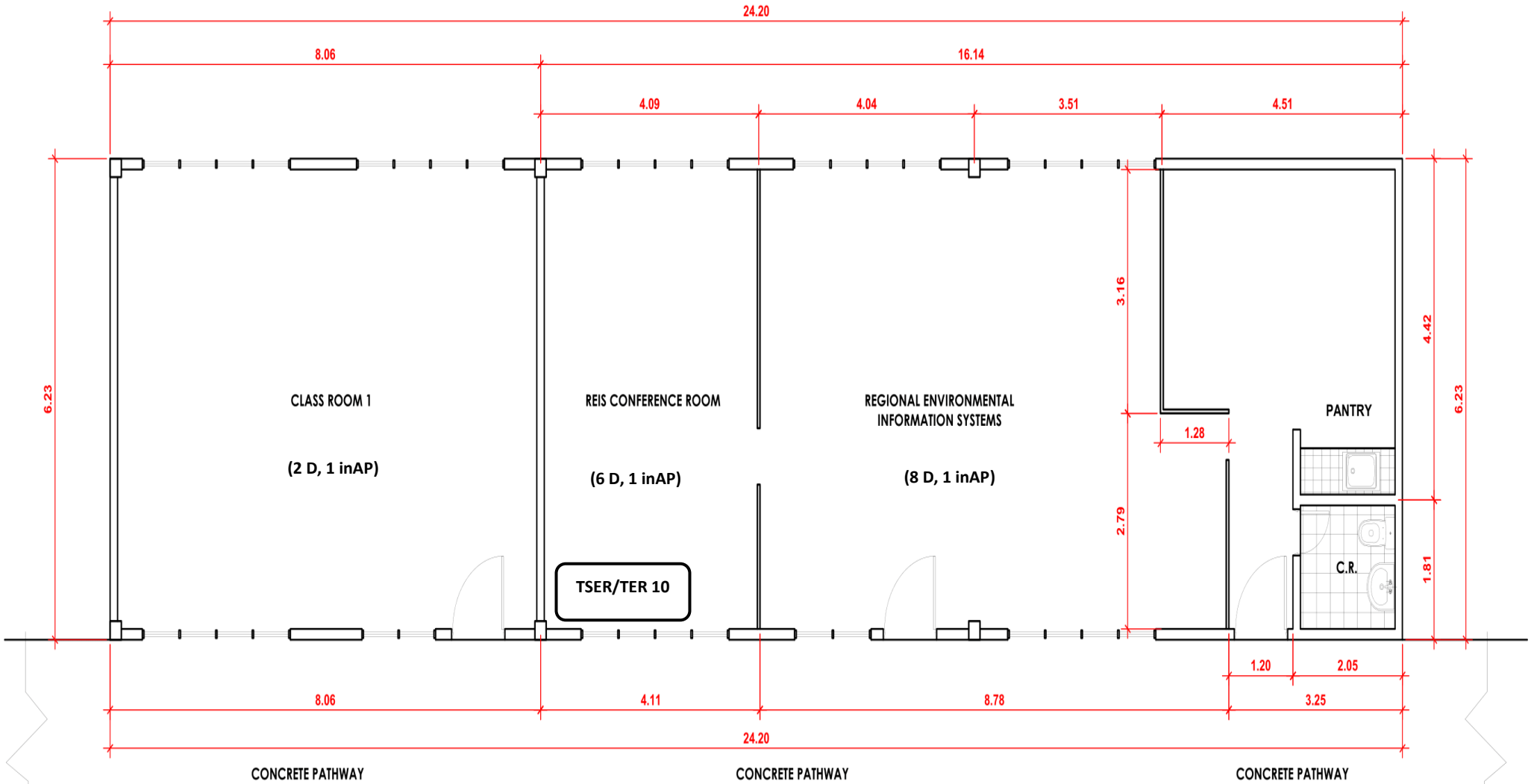




COMPUTER SCIENCE BUILDING

REGIONAL ENVIRONMENTAL INFORMATION SYSTEM



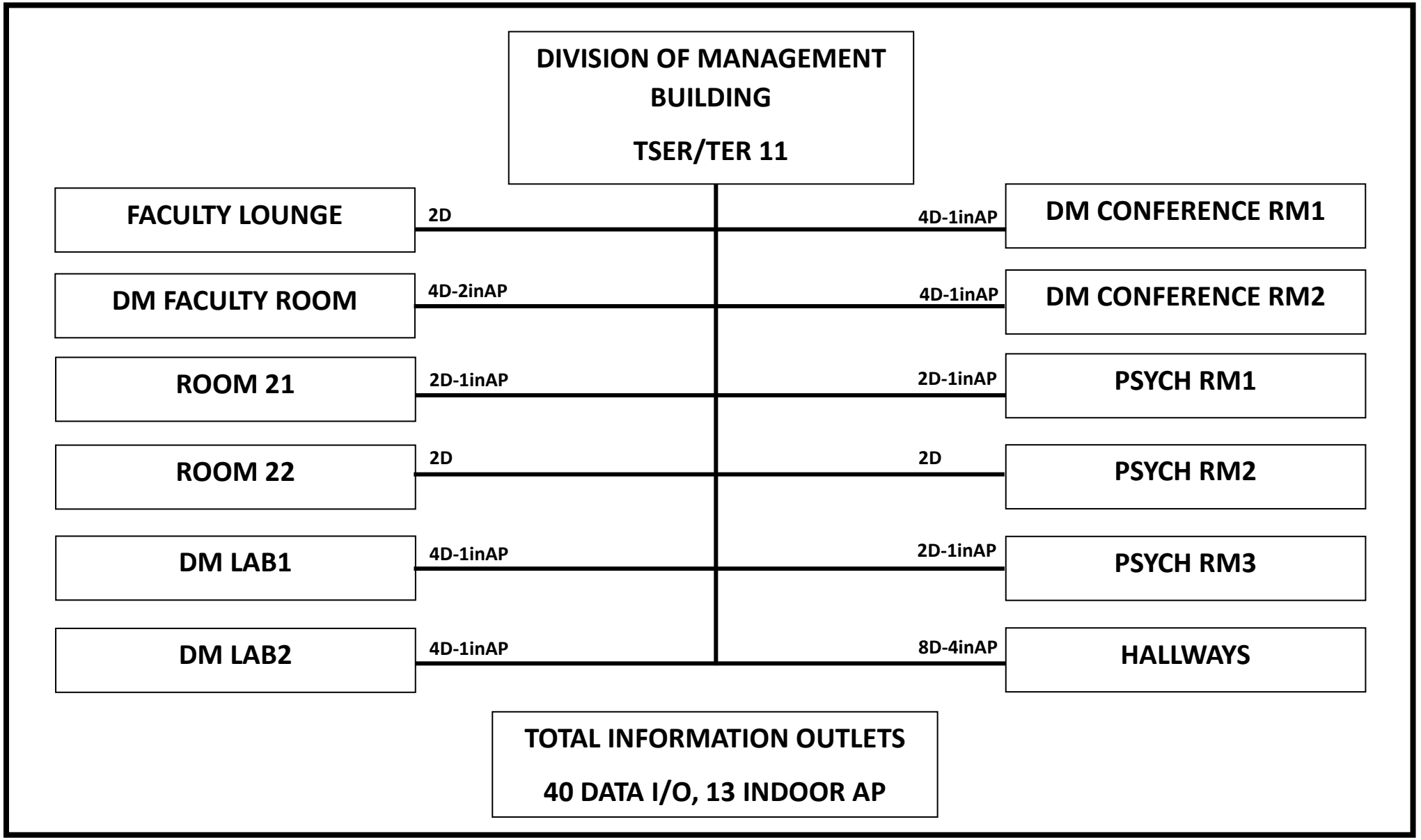


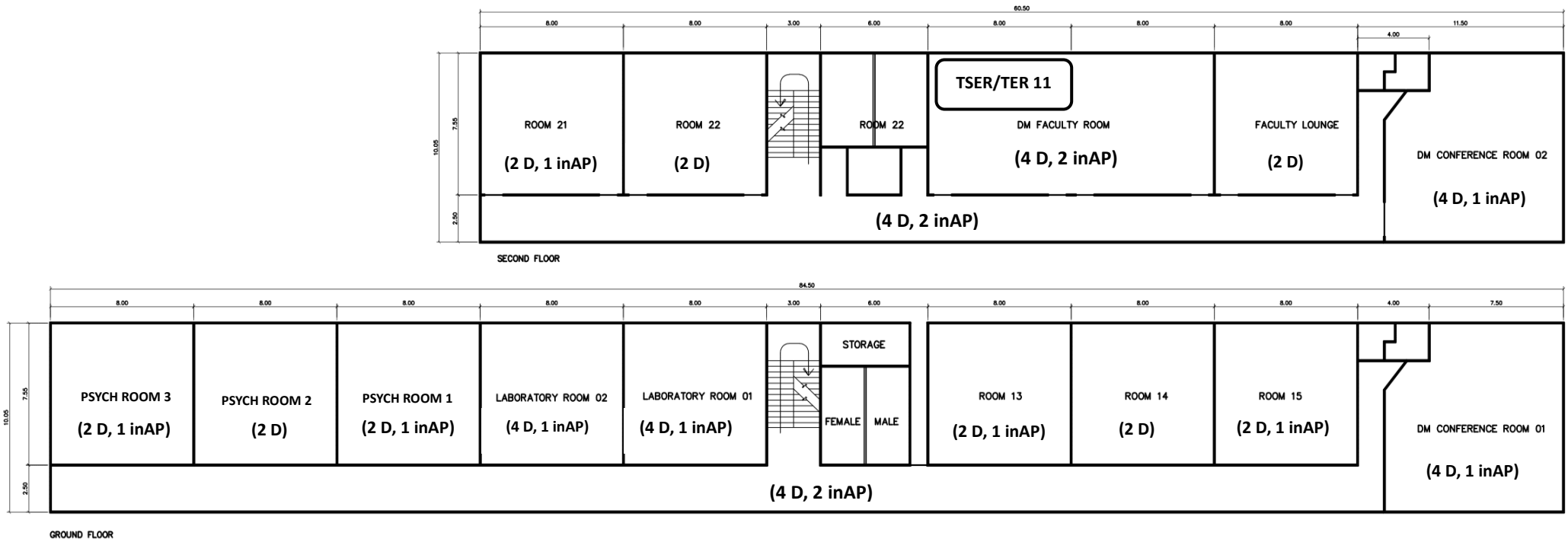
REIS OFFICE AND 1 CLASS ROOM

BL BUILDING 1 FLOOR PLAN

SCALE: 1 : 80 MTS.

DIVISION OF MANAGEMENT BUILDING





DM BUILDING / DM EXTENSION

Section IX. Checklist of Technical and Financial Documents

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages) in accordance with Section 8.5.2 of the IRR;

Technical Documents

☐ (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**

☐ (c) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; **and**

☐ (d) Special PCAB License in case of Joint Ventures **and** registration for the type and cost of the contract to be bid; **and**

☐ (e) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission **or** original copy of Notarized Bid Securing Declaration; **and**

(f) Project Requirements, which shall include the following:

☐ a. Organizational chart for the contract to be bid;

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;

☐ c. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**

☐ (g) Original duly signed Omnibus Sworn Statement (OSS) **and** if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

☐ (h) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

☐ (i) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence **or**

duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE

☐ (j) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

☐ (k) Original of duly signed Bid Prices in the Bill of Quantities; **and**

☐ (l) Duly accomplished Detailed Estimates Form, including a summary shee indicating the unit prices of construction materials, labor rates, and equipmen rentals used in coming up with the Bid; **and**

☐ (m) Cash Flow by Quarter.

Annex 1

For the purchase of the bidding documents for the said project, please see details below:

Bank Name: **Land Bank of the Philippines**
Sagkahan, Tacloban City Branch
Bank Account Name: **UP Tacloban College**
Bank Account Number: **0182-1056-19**

Please take note of the following:

1. LBP to LBP fund transfer and Over-the-Counter Cash Deposit - **amount is credited on the next banking day**
2. Other banks to LBP - **amount is credited within 3-5 banking days** (except when the transfer is done via *Instapay*)

Bidders may email the scanned copy of deposit slip or confirmation slip as proof of payment together with the list of items they are intending to bid to **bacsecretariat.uptacloban@up.edu.ph**

Bids will be declared officially received by the BAC Secretariat only upon validation of the proof of payment by the UPTC Cash Office. If payment is credited beyond the validation period and the deadline of submission, bids will automatically be declared late and therefore will not be accepted.

For guidance and information of all concerned.


Republic of the Philippines
gppb
Government Procurement Policy Board