ANNEX B

TERMS OF REFERENCE

PROJECT: CONSTRUCTION OF ONE-STOREY WITH MEZZANINE LEARNER'S RESOURCE CENTER / MATATAG CENTER AT THE DEPED CENTRAL OFFICE GROUNDS

I. RATIONALE:

The Department of Education (DepEd) holds the mandate of ensuring that all Filipino learners receive quality basic education. Nonetheless, the effective execution of educational programs and policies faces a plethora of obstacles such as natural hazards, health crises, security risks, and other unforeseen circumstances that impede the delivery of educational services to learners, and DepEd personnel. Establishing the MATATAG Center will equip DepEd with the necessary tools to operate seamlessly amidst any disruptions that may occur.

As compared to other existing command centers from other government agencies, the MATATAG Center shall be established at DepEd with the aim of weaving frontline services under one hub during emergency and non-emergency periods. This is to ensure that necessary basic education services are provided to all public schools and DepEd offices accommodating more than 28 million learners and more than one million teaching and non-teaching personnel. Further, the establishment of the MATATAG Center is a key step for the necessary integration of services including those for learner protection and other Mental Health and Psychosocial Support (MHPSS).

II. PROJECT REQUIREMENTS

1. **Project Description**
   The project involves building a single-story structure with a mezzanine floor on the grounds of the DepEd Central Office and the provision of auxiliary systems.

2. **Project Scope**
   An existing building on the grounds of the DepEd central office will be extended to serve as the MATATAG Center.

3. **Functions of the DepEd Central Office MATATAG Center:**

   3.1 The DepEd MATATAG Center will function as the centralized hub for gathering, analyzing, and disseminating information from both internal and external sources on all education-related issues, incidents, and emergencies involving student, teachers, and non-teaching staff. Its primary objective is to provide timely and effective

responses to ensure the safety and protection of learners, teachers, education personnel, as well as school premises and infrastructure.

3.2 The DepEd MATATAG Center will facilitate the implementation of education programs and DepEd Information System for Operations, Management, and Administration of school activities and policies related to Learners, Teachers, and School Administrators at all levels. This will be accomplished by monitoring the progress and impact of various projects initiatives and interventions of the DepEd Central Office

3.3 As a central location of DepEd, the MATATAG Center will provide command, control, coordination, and decision-making to organizational functions and incident response. It will monitor day-to-day operations, focusing on learners and teachers' performance, incident/event monitoring, emergency response, and other services rendered by DepEd to all its stakeholders.

3.4 The MATATAG Center will promptly address issues and issues and concerns raised by all Philippine education stakeholders regarding the safety and protection of children, emergency response, and other services provided by DepEd.

3.5 The MATATAG Center will monitor the peace and order situation in all schools and surrounding communities nationwide and establish a direct link with the police and other law enforcement agencies to ensure the safety and protection of learners from criminal elements and terrorist organizations and from any kind of harm.

3.6 The MATATAG Center will function as the agency's information center or helpdesk during emergencies and natural hazards such as typhoons, earthquakes, volcanic eruptions, and landslides, as well as human-induced hazards such as crimes and terrorism with school premises and surrounding communities.

3.7 The MATATAG Center shall house a workstation of personnel from different Strands in the Department to operate and manage the facility 24/7.

3.8 The MATATAG Center must be able to maintain recordings of the ground operations at least sixty (60) calendar days.

3.9 The MATATAG Center shall have a war room / Conference Room for the DepEd EXECOM to enable command and control over ground operations, particularly in times of emergency.

3.10 The MATATAG Center shall have a structured cabling system.

3.11 The MATATAG Center shall have the following Auxiliary systems/works:

a. Structured Cabling
b. Videoconferencing Device - 2 years Warranty
c. w/ Videoconferencing Account for 1 Year"
d. IP PABX Set
e. Data cabinet
f. Enclosed Aisle
g. Precision Air Conditioning Unit
h. UPS System N+1
i. Fire Detection and Alarm System (FDAS)
j. CCTV System
k. Generator Works with Automatic Transfer Switch (ATS)
l. Power Distribution
m. 3TR Floor Mounted Inverter Airconditioning unit
n. 2.5 HP Split Type Air-conditioning Unit, Inverter Type

4. **Detailed Work Description for the Contractor**

4.1 Construction and Project Management Phase

The Administrative Service's Project Implementation Schedule will serve as a guide for the Contractor.

The scope of work for the Project Construction of DepEd Central Office MATATAG Center with Integration of auxiliary equipment / systems for Datacenter Standardization includes, but is not limited to, the following tasks:

4.1.1 Construction of MATATAG Center Building

a. Conduct Pre-Construction Meetings at the DepEd Central Office together with the Administrative Service Director and Administrative Service Engineering Team.

b. Construct a Temporary Office within the project site displaying the samples of approved materials that will be used for the construction, Construction Schedule, and the list of Personnel to be assigned for the specific project.

c. Responsible for hiring, supervising and, at times, firing employees who work on the specific project with the construction firm. Hiring of employees for the replacement of fired employees must have at least the same experience and qualification.

d. Entail the individual planning and carrying through any and all pertinent activities relating to the construction of the project. The firm carries out their duties by supervising employees, planning how the project will be carried out and completing the project

in a manner which coincides with all laws, rules and regulations which may be in existence and correlate with construction.

e. Conduct the necessary testing of materials and systems needed to be witnessed by the Administrative Service

4.1.2 The Contractor shall submit the following during the construction phase:

a. Construction schedule S-curve and Pert-CPM in A3 size paper and e-files (before start of the construction and in case of revision).

b. Progress reports with before-and-after pictures (monthly report and attachment to payment request).

c. Statement of Work Accomplishment (SWA) in the same format as the submitted POW, stating the cost and percentage of work (every progress billing).

d. Payment requests (depending on the accomplishment percentage stated in the contract).

e. Letter of request and detailed estimate for change order, in case of variation from the contract documents (as need arises), subject to approval pursuant to RA 9184

4.1.3. Provision of Building logo and signage

4.1.4. Supply, delivery and layout of cable tray or of assorted sizes of PVC pipes for the auxiliary cable pathways

4.1.5. Supply, delivery including installation of Auxiliary Equipment

a. Design and set up a Project MATATAG Center with the necessary infrastructure, including entrance facility, hardware, software, and communication systems.

b. Develop a monitoring and management framework for tracking project progress, milestones, and issues.

c. Establish a reporting mechanism for real-time and periodic updates to project stakeholders.

4.1.6. Auxiliary equipment Integration

a. The winning Bidder shall submit an Integration plan that conforms to the construction plan schedule of the project.

b. Provide and deliver all required auxiliary equipment, ensuring compatibility and compliance with industry standards.

c. Install and configure auxiliary equipment within the MATATAG Center.

d. Perform comprehensive testing to ensure the integrated systems meet DepEd's performance and reliability standards.

e. Document the integrated systems, including equipment specifications, configurations, and maintenance procedures.

f. Provide training materials and conduct training sessions for DepEd personnel.

5. ROLES AND RESPONSIBILITIES

5.1 DepEd – Administrative Service

5.1.1 Be responsible for the timely provision of all resources, access, information, and decision-making under its control which are necessary for the project. Any delays that are not within the control of the Contractor may result in an appropriate extension of the time for operational acceptance of accomplishments/conclusion of the project as agreed by both parties.

5.1.2 Ensure the accuracy of all information and/or data to be supplied to the Contractor, except when otherwise expressly stated in the Contract.

5.1.3 Provide sufficient, properly qualified operating and technical personnel, as required by the Contractor to properly carry out the project at or before the time specified in the Terms of Reference, and/or Updated Project Plan.

5.1.4 Designate appropriate staff for appropriate logistical arrangement, if necessary.

5.1.5 Assign persons to assume primary responsibility for the acceptance of deliverables or outputs.

5.1.6 Make prompt reviews and revision of the work produced and presented by the Contractor in the different phases of the works.

5.2 Contractor

5.2.1 Conduct all activities in accordance with the contract and with the skill and care expected of a competent provider of the services required.

5.2.2 Be responsible for the timely provision of all resources, information and decision making under its control that are necessary to reach a mutually agreed Updated Project Plan within the time schedule specified in the Terms of Reference. Failure to provide such resources, information and decision making may constitute grounds for termination.

5.2.3 Identify risk and problem during project implementation and submit to Administrative Service the report with proposed solutions.

5.2.4 Provide the operational modules and/or documents such as manufacturers manual, Brochures, and technical specifications to support the project, as applicable.

5.2.5 Abide by all the terms and conditions stipulated in the project contract.

- Progress report of the project as agreed.
- Submit to Administrative Service the final materials, reports and documents as specified in the contract and terms of reference.
- CAD files, 3D visualization files (3D max, sketchup, Vray, etc.), documentation and other outputs (soft copies) developed by the Contractor shall be the sole and exclusive property of the DepEd

5.2.6 For the purpose of review and approval of documents and other outputs by the DepEd, the following are the arrangement:

- The Contractor shall prepare and submit the materials or documents for the DepEd's approval or review through the DepEd-Administrative Service.
- The DepEd-Administrative Service shall review the materials or documents submitted by the Contractor within five (5) working days from the receipt of documents.
- Any part of the Project covered by or related to the documents to be approved by the DepEd shall be executed only after the approval of the documents. Likewise, all supporting documents for payment(s) shall have to go through the same process.
- Within three (3) working days after receipt by the DepEd-Administrative Service of any documents requiring DepEd's approval, he/she shall either return one copy to the Contractor with its approval endorsed on the output/document or shall notify the Contractor in writing of

its disapproval of the document and the reasons of disapproval and the modifications required, if any.

- Any document shall not be disapproved except on the grounds that the document does not comply with specified provision of the contract or that it is contrary to good industry practice, such as, but not limited to:
    - Non-compliance with the Terms of Reference
    - Inconsistency(ies) with the provisions of the Contract
    - Practice/s that may endanger the lives of DepEd clientele and personnel.
    - Practice/s that may damage the facilities and property of the DepEd which are not included in the Contract.

5.2.7 If the DepEd disapproves the document/output, the Contractor shall modify the document/Output and resubmit it for approval.

5.2.8 If any dispute or difference occurs between the DepEd and the Contractor that cannot be settled between the parties within a reasonable period, then, such dispute may be referred to the heads of the End-user's office and the responsible Contractor's Adjudicator for determination. The End-user's approval, with or without modification of the document/output/material furnished by the Contractor, shall not relieve the Contractor of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the DepEd's Project In-Charge or inaccurate information furnished in writing to the Contractor by or on behalf of the DepEd.

5.2.9 The Contractor shall finish the project on or before the contract duration.

5.2.10 The Contractor must comply the approved plans and specifications.

6. QUALIFICATIONS OF CONTRACTOR

6.1 The Contractor shall have a valid Philippine Contractor's Accreditation Board (PCAB) license registration of at least Category B and a Single Largest Completed Contract consistent with the definition of the similar contract as stated in the Bidding Documents.

6.2 In case that the **bidder** enters into a Joint Venture Agreement (JVA) the participating contractor should have a Philippine Contractor's Accreditation Board (PCAB) license registration of SP-CF (Communication Facilities) and the principal contractor should also have a PCAB license registration of at least Category B.

6.3 The Contractor shall have a Project Management Professional assigned in the Project site.

6.4 The Contractor shall have a Registered Communications Distribution Designer (RCDD) Certified.

6.5 Contractor shall have competence and meaningful experience of minimum of Ten (10) years of General Engineering and/ or Building Construction.

6.6 At least one (1) similar project undertaken or managed with system rating or a certificate of satisfactory rating or certificate of satisfactory completion of the project issued by the owner of the previous completed project.

6.7 The Contractor shall have a Single Largest Contract with a similar project contract on Construction of Command Center or Construction of single or multi-storey building with Auxiliary System.

7. MINIMUM QUALIFICATIONS OF THE PROJECT TEAM

Key Staff, and Support Staff	Educational Qualification	Experience
One (1) Project Manager	Licensed Architect or Civil Engineer for at least ten (10) years of general experience	At least five (5) years' experience as a Project Manager of buildings and/or any vertical structures
One (1) Site/Construction Supervisor (Architect/ Engineer)	Licensed Architect or Civil Engineer for at least five (5) years of general experience.	At least three (3) years' experience as Site Engineer / Architect of buildings and/or any vertical structures.
One (1) Professional Electrical Engineer	Licensed Professional Electrical Engineer for at least four (4) years of general experience.	At least two (2) years' experience as Professional Electrical Engineer in construction of buildings and/or vertical structures.
One (1) Professional Electronics Engineer	Licensed Professional Electronics Engineer, at least seven (7) years of general experience.	At least two (2) years' experience with Design Configuration of Latest Network Technologies (Data, Voice & Video) and Enterprise Network Design including Wan and LAN Topologies.
One (1) Registered Communication Distribution Designer	Bachelor's degree in computer science, engineering or any related field to Information Technology.	At least two (2) years' experience, trained and certified Communication Distribution Designer.
One (1) Safety Officer	Must have a valid Construction and Occupational Safety and Health (COSH) Certificate	At least three (3) years' experience as Safety Officer in the construction of

	of Training issued by Department of Labor and Employment .(DOLE) or any DOLE accredited training center.	buildings and/or any vertical structures.
One (1) General Foreman	At least two (2) year' vocational courses preferably in line with construction and other relevant courses.	At least five (5) years' experience as General Foreman in the Construction buildings and/or any vertical structure.

For the purpose of Post Qualification:

For purpose of evaluation, Curriculum Vitae of key personnel mentioned above shall be submitted including Safety Training Certificates, Current RCDD Certifications, and PRC licenses, if applicable.

The non-key personnel shall consist of:

Steelmen, Electricians, Masons, Welders, Carpenters, Plumbers, Painters, Laborers, Cable Applicator

FACILITIES AND EQUIPMENT

Minimum Requirements for Tools and Equipment:

- Tools and Equipment must be in good conditions.

Total Number of Equipment required:

Quantity	Equipment
1	Bagger mixer
1	Cut-off (rebar cutter)
3	Grinder
2	Driller
1	Chipping gun
1	Welding machine
1	Circular Saw
1	Tile Cutter
1	Fusion machine

• Supporting documents to the List of contractor's major equipment units may be submitted/presented during post-qualification.

8. TECHNICAL AND FUNCTIONAL REQUIREMENTS

8.1 Construction of Building

General Requirements:

1. Permit to construct.
2. Permits (building permit, electrical permit, electronics permit, sanitary permit, Mechanical permit, zoning permit, fire safety permit, etc.)
3. Project billboard
4. Temporary facilities and facilities for the architect/engineer
5. Equipment and materials staging area
6. Electrical and water utilities
7. Safety and health requirements
8. Mobilization and demobilization
9. Site preparation works
10. Removal of obstructions that may affect the construction progress
11. Installation of safety fence, lighting, construction net, scaffolding, and other safety equipment

ITEM	FUNCTIONAL REQUIREMENTS	MINIMUM TECHNICAL SPECIFICATIONS / REQUIREMENTS	SCOPE OF WORK / WARRANTY
Removal of Works			
1. Roofing sheets, frames, ceiling, drainage, gutter and flashings	Conversion of RAGA Meeting Room II as a part of MATATAG Center facility.	To remove all roofing works including drainage, gutter and flashings to accommodate the conversion of RAGA Meeting Room II as a meeting room/conference room of MATATAG Center.	1. Removal of existing roofing sheets and frames of RAGA Meeting Room 2 2. Removal of existing ceiling and frames of RAGA Meeting Room 2 3. Removal of existing drainage (e.g. downspouts and existing catch basin) 4. Removal of existing gutter and flashing
Demolition of Works			
Concrete Hollow Blocks (CHB) of RAGA Meeting Room II	Conversion of RAGA Meeting Room II as a part of MATATAG Center facility.	To demolish front side wall of RAGA Meeting Room II as the connection for Workstations of MATATAG Center.	Demolition of concrete hollow blocks of RAGA Meeting Room 2 (1 side)

Clearing of Works			
Clearing and hauling of debris	Clearing and hauling of debris to allow the start of new construction.		Clearing and hauling of debris (usable and non-usable materials)
Earthworks			
Excavation		1. To excavate earthworks for new foundation and new layout of concrete hollow blocks (CHB) for MATATAG Center. 2. Soil poisoning for termite control.	1. Excavation works for new foundation 2. Excavation works for new layout of concrete hollow blocks 3. Soil poisoning
Concreting Works			
1. Concreting Works	Site work preparation	1. Cement to conform with ASTM C-150. 2. Concrete shall consist of Portland Cement, fine aggregates, water, and where specified, admixtures, proportioned mixed placed, cured and finished as hereinafter specified. 3. All provisions of the Specifications shall apply the seven (7) day compressive strength equal to the 28-day strength required for normal concrete. Admixture used in concrete shall be produced by a reputable manufacturer and used in accordance with the manufacturer's printed directions.	
Rebar Works			

Reinforcing Steel Bars (RSB)	Reinforcements for structural members	1. Must conform to the following codes: American Society for Testing and Materials (ASTM), The American Welding society (AWS), American Iron and steel Institute (AISI), National Association of Architectural Metal Manufacturers (NAAMM)-Metal Car Grating Manual and Aluminum Association (AA). 2. Must follow the American Society for Testing Materials ASTM Grade 70, Grade 60, and Grade 40.	Installation of reinforcing steel bars for footings, footing tie beams, columns, beams, slab on grade, suspended slab, and drop walls
Formworks			
1. Formworks	Preparation for concreting works	Support and hold the form of concrete works.	Installation of formworks prior to concreting of footings, footing tie beams, columns, beams, suspended slab, and drop walls
Masonry Works			
1. New masonry works		1. Conform with American Society for Testing Material (ASTM) C-129 for non-load bearing units, ASTM C-90 for hollow load bearing units and ASTM C-145 for solid load bearing units. 2. The concrete hollow block shall have a minimum compressive strength of 4.83	1. Installation of new masonry wall 2. Plastering of new masonry wall

		MPa (700 psi) at 28 days for individual unit.	
2. Plastering		1. Portland cement shall conform with the standard specifications of the ASTM 1-150, type-1, latest edition. 2. Hydrated lime shall conform with the standard specifications of the ASTM C-6, latest edition. 3. Sand shall be hard, sharp, well washed, siliceous, clean and free from deleterious material. 4. Water shall be fresh, clean and free from organic matter, acids and alkalai. 4. Brown coat – shall be applied with sufficient pressure to fill the grooves in hollow block or concrete to prevent air pockets and secure a good bond. 5. Finish coat – shall not be applied until after the brown coat has seasoned for 7 days. a. Dust before the application of the finish coat. b. The brown coat shall again be evenly moistened with a fog spray. c. The finish coat shall be floated first to a true and even surface then troweled in a manner that will force the sand	

		particles down into the plaster. d. Plastered surfaces shall be smooth and free from rough areas, troweled marks, checks and blemishes. e. Thickness of the plaster shall be 10mm (3/8") to 12mm (1/2") on vertical concrete and on masonry.	
Doors and Windows			
New doors and windows		1. Flush Hollow core steel door: Gauge 18 steel door with honeycomb hollow core insulation and gauge 16 metal frame. 2. Aluminum alloy shall consist of extruded shapes and sheet materials complying with ASTM B221, alloy 6063-T5 and alloy 6063-T6. 3. Aluminum sheets and strips shall comply with ASTM B209. 4. Other specifications refer to Doors and windows schedule.	1. Installation of new doors 2. Installation of new windows
Steel Works			
1. Steel stairs to Mezzanine	Access from Ground Floor to Mezzanine Floor	1. Must conform to the following codes: American Society for Testing and Materials (ASTM), The American	1. Fabrication and installation of steel stairs to Mezzanine 2. Fabrication and installation of steel
2. Steel stairs to Fire Exit Door	Escape route for emergency		

3. Ladder Rung	Access to Roof	Welding society (AWS), American Iron and steel Institute (AISI), National Association of Architectural Metal Manufacturers (NAAMM)-Metal Car Grating Manual and Aluminum Association (AA). 2. Must follow the American Society for Testing Materials ASTM Grade 60, Grade 40.	stairs to Fire Exit Door 3. Fabrication and installation of ladder rung (access to roof) 4. Fabrication and installation of trench cover
4. Trench Drain	Provision for drainage		
Carpentry Works			
1. Ceiling and frames	Support and hold other ceiling accessories and roofing members	Durability conforming to American Society for Testing and Materials (ASTM); Fire resistant conforming to American Society for Testing and Materials (ASTM), Flame spread minimum of 25 minutes; Thermal Resistant conforming to American Society for Testing and Materials (ASTM); Acoustics conforming to American Society for Testing and Materials (ASTM); Noise Reduction Coefficient (NRC) Range conforming to American Society for Testing and Materials (ASTM); Ceiling Sound Transmission Coefficient (CSTC) ot Ceiling Attenuation Class (CAC)	1. Installation of interior and exterior ceiling and frames 2. Installation of acoustic ceiling panel board 3. Installation of drywall partitions insulated with rockwool 4. Installation of low wall drywall partition to workstation 5. Installation of roof insulation 6. Installation of sound insulation 7. Installation of baseboards
2. Drywall partitions	Separation of areas		
3. Roof insulation and Sound insulation	Soundproofing quality		

		conforming to American Society for Testing and Materials (ASTM).	
Electrical Works			
1. New conduits, boxes and fittings		Refer to plans for technical specifications.	1. Installation of new conduit, boxes and fittings 2. Installation of wires and wiring devices 3. Installation of lighting fixture/fixture
2. Wires and wiring devices			
3. lighting fixture			
Plumbing and Sanitary works			
1. Drainage (downspout, trench drain, catch basin)	Collect surface water and/or ground water.	Refer to plans for technical specifications.	**Plumbing Works** 1. Installation of new water line 2. Installation of new sanitary fixtures (e.g. water closet, urinal, slop sink etc.) **Sanitary Works** Installation of new sewer line
2. Water line and sanitary fixture	Distributes water to water outlets.		
3. Sewer line	Protect water quality and public health.		
Painting Works			
1. Interior and Exterior painting		1. All paint materials shall meet the requirements of the Standard Specifications of the Standardization Committee on supplies. 2. All paint materials shall be delivered on the job-site in their original containers with labels and seals unbroken. 3. Manufacture or brand of painting materials to be used shall either be Dutch Boy, Davies, Boysen or any equivalent approved by the designing Architect.	1. Painting of exterior and interior walls 2. Painting of ceiling of Vacant Room, Common Comfort Room, Hallway, Office, Radio Room, and Conference Room 3. Painting of ceiling eaves 4. Painting of edge flashing 5. Application of primer to steel members 6. Assemble/Disassemble of scaffoldings
2. Ceiling eaves and edge flashing			
3. Primer to Steel members			

Tile Works			
1. Floor tiles and wall tiles at Common Toilets		Refer to plans for technical specifications.	1. Installation of floor tiles and wall tiles at common comfort rooms (ground and second floor) 2. Installation of rubber tile at workstations, entrance, hallway, office, radio room, vacant room, balcony and conference room 3. Installation of anti-static vinyl tile to Data Center and Server Room
2. Rubber Tiles		Material shall be non-skid, rubber tile from high-grade natural and synthetic rubber with extra-resilient rubber compound. Materials shall conform to ASTM F1344.	
3. Anti-static vinyl tile		Refer to plans for technical specifications.	
Waterproofing Works			
Flexible Cementitious Waterproofing Membrane	Precautionary measures for leakages	Refer to plans for technical specifications.	Application of waterproofing at roof deck including parapet walls
Finishing Works			
Acoustic wall panel boards and accent walls	Soundproofing quality	Refer to plans for technical specifications.	1. Installation of acoustic wall panel board (fabric wrapped acoustic panel) 2. Installation of accent wall (acoustic panel with wood slats)
Specialties			
1. Building logo and signages		1. **DepEd Logo** 2. **Building Identification** "LEARNERS' RESILIENCE CENTER – MATATAG Center**"** 3. **Building Marker**	Fabrication and installation of building logo and signages

		4. **Fire Safety Signs** Refer to technical specifications / design *Annex A-1)	
2. Raised Floring System	Workstations and Data Center and Server Room flooring shall be raised for ease of access on maintenance	1. Must cover the entire Server Room and workstation area. 2. Must cover the workstation area to make it easier to run cables to all PCs and other auxiliary and ICT equipment / devices. 3. Must be bonded and anti-static high-pressure laminate. Steel Cement Panel that can suitable both static and dynamic loads 4. Must have a steel flat-topped sheet, with epoxy painted finish. 5. Must be non-combustible and flame retarding. 6. Must be lightweight and able to be lifted with a standard suction lifter. 7. Must have a galvanized steel pedestal base and a bolt-on stringer under structure system. 8. Must have galvanized steel pedestal head. 9. Must have a floor height of	• Installation of raised flooring system to workstations, entrance, hallway, office, radio room and data center and server room

		150mm for the workstation and 400mm for the server room.	
3. Lighting System	Provide and install adequate normal branch circuits for Lighting System to all areas using the standard Lighting Design Analysis.	Please refer to the attached plan	Utilize the standard Illumination requirements per area of concern using the preferred particular type of luminaires.
4. Power System	Provide and install adequate normal branch circuits for the Power System.	Please refer to the attached plan	Please refer to the attached plan

B. AUXILIARY WORKS / SYSTEM

AUXILIARY EQUIPMENT	FUNCTIONAL REQUIREMENTS	TECHNICAL SPECIFICATIONS	SCOPE OF WORK
Structured Cabling System	1. Complete system of cabling that provides a comprehensive telecommunication infrastructure. 2. The Supplier shall furnish all labor, materials, tools and equipment, and perform all operations necessary to complete the supply, delivery, installation, testing and commissioning of Structured	1. Must use at least 24-port CAT6 patch panels. 2. Must use at least 2-port Faceplates with Information Outlet 3. Must use a CAT6 cable that is rated for 350MHz and confirming to TIA/ETA-568B standard. 4. Must have 8 conductors with a spacer in between and an outer protective PVC installation.	1. Supply of labor, materials and engineering services required for satisfactory project implementation. 2. Installation / layout of cable tray & of assorted sizes of PVC pipes for the auxiliary cable pathways from the proposed sever room to the proposed locations of Data

	Cabling for a minimum of fifty-two (52) distribution nodes for the project DepEd CO MATATAG Center as follows: 3. All LAN shall be capable of supporting Integrated Voice/Data Local Area Network (IVD LAN) 4. Allows a number of independent integrated voice/data devices to communicate with one another. 5. Shall support the connection of various data devices, such as: a. Hosts and Servers b. Personal Computers and Workstations Mass Storage Devices c. Printers d. Monitoring and Control Equipment e. Routers and other Networks f. shall support applications, processes, and services such as: 6. File Transfer and Access Protocols	5. Must be of an Unshielded Twisted Pair CAT6 Copper Cabling System sourced from one manufacturer only. 6. Must be UL listed cables ad pipes 7. Must be concealed in walls, finished ceiling, or under floor. Cables should be housed in conduit, metal wire trough, or wire mold wherein cables are reasonably protected from damage by rodents. Liquids and day-to-day activity 8. All cabling and termination points must be 100% tested, verified, and certified to allow for manufacturer's warranty of the cabling system. 9. There must be no splices for any cable involved in transmitting data. 10. All horizontal cabling must be terminated to a patch panel on one side and an information outlet on other side unless a patch panel is required on both ends. 11. All pipes and fittings must be at least of the Electrical metallic tubing (EMT) type and secured by metal clips.	information outlets. These installation of standard supports, boxes, fittings, & consumable materials required in the proposed installations. 3. Must not be installed and/or mounted near high voltage power lines nor share the same conduit/channel /sleeve with high voltage power line. 4. Must be installed in accordance with the Philippine Electrical Code 5. Must use matched components from a single manufacturer to ensure compatibility and conformance to the TIA/EIA-568 CAT6 standard. 6. Must be housed in a cable tray / cable duct / or other such system wherein all cables are elevated from the ground and reasonable protected from damage by rodents, liquids and other

	7. Graphical Applications 8. Electronic Messaging 9. Industrial Automation 10. Remote Data Base Access 11. Digitized Voice Applications	12. All pipes must be UL listed. 13. All outlets, boxes and fittings must have a cover installed to prevent accidental damage by rodents and to avoid insect ingress as much as possible. 14. Must use CAT-6 Unshielded Twisted Pai cables, information outlets, patch cords, and patch panels that meet TIA/EIA-568 CAT8 standards. 15. Must have a maximum of 90-meters from Information Outlet to a patch panel with a reserve of 5-meters patch cord for each end. 16. All cables and termination hardware must be 100% tested for defects in installation and verify cabling system performance under installed conditions according to the requirements of TIA/EIA-568B.	chemical substances that may damage the cables. 7. Testing and Commissioning of installed components 8. Continuity Testing 9. End to end Tagging and Labeling **Warranty** 1. Must submit proof of warranty support from the cabling system manufacturer stating that the cabling installation of the bidder must be supported by at least 20-years manufacturer's warranty. 2. Any defect in the cabling system including but not but not limited to cable, connectors, couplers, patch panels and connection blocks must be repaired or replaced to ensure 100% operational performance of the cabling system. **List of Reports** 1. Level Agreement (Warranties for Workmanship and Product)

			2. Project Documentation indicating the following: 2.1 Floor Plans with the Location of Nodes 2.2 Test Results 2.3Nodes Mapping (Switch-Patch Panel Location) 2.4 Installation Pictures

Location	**Distribution of Nodes**						
	IP-PABX	Data Comm	Wireless Access Point (WAPs)	**FDAS**		CCTV (CAM)	TOTAL
				Smoke Detector (SD)	Strobe		
GROUND FLR							
Workstation	12	12	1	2	1		28
Hallway	1		1	1		4	7
Server Room	1			1		2	4
Radio Room	1	1		1	1		4
Perimeter						6	6
Office	1			1			2
MEZZANINE							
CONFERENCE ROOM	3		1	1	1		6
BALCONY	1		1	1		2	5
TOTAL	20	13	4	8	3	14	**62**

Note: Distribution nodes provide the type of device, quantity, and location of devices.

Video-conferencing Device w/ Video-conferencing Account	1. To establish a video-conferencing equipment that is fully integrated with each other and that the functional services are accessible via an	1. The proposed system must support PAL with a PTZ camera with mount, microphone array with mute button on the mic, wireless remote control, etc. The codec must be based on industry standards wherever	The Video Conferencing System shall be delivered and installed in DepEd MATATAG Center. The project includes design, acquisition, delivery, installation, configuration and

	integrated touch screen or a simple control panel in order to establish user-friendly conference facilities at an affordable cost. 2. To provide video conference capability in the MATATAG Center for collaboration to promptly act on issues and concerns related to safety and protection of children, emergency response and other services provided by DepEd. 3. Video Conferencing units should be interoperable with all technology solution that are part of MATATAG Center Service, 4. The quality of the video conferencing for system should not be compromised in case of the following : a) online meetings / conferences b) Video streaming	possible such as the H.323 and SIP standards for IP-based video conference. 2. Video Conferencing system should be capable of working over IP networks with a minimum of 4 Mbps connecting speeds. 3. HD/HDX unit for teleconferencing and video conferencing equipment 4. All equipment should support minimum 720p from day one without requirement of any additional hardware or software. 5. The sound system should be fully integrated with the video conferencing system, desktop webcam/ microphone solution and the teleconferencing equipment or solution. 6. Required Equipment/ports (Minimum) **a. Web Cam** - HD Web Cam - allows for a slower shutter speed, more light, and better exposure of each frame maximum	product handover of Video Conferencing Infrastructure. Scope of work covers design, supply, installation, implementation, commissioning, and training of complete set of video and audio equipment systems for the MATATAG Center's conference rooms. Warranty/ Maintenance Warranty: 2 years Warranty w/ Videoconferencing Account for 1 Year

	c) Combination of above two
	
	5. The system should be able to support external high quality audio system.
		imaging system is 4K at 30 fps
		
		- supports zoom, tilt, and pan settings
		
		- Sensor Resolution (minimum): 13 megapixels
		
		- System Connection
		  ○ USB-C 2.0
		  ○ 1 x USB-A
		  ○ 1 x USB-C
		  ○ 1 x RJ45
		- Auto Focus Type
		- Power Source: AC Adapter
		- AC Input Power: Autovolt/ Auto sensing frequency
		- OS Compatibility:
		  • Windows
		  • macOS
		
		b. Speakers
		- Built-In Speakers: at least 4
		- Speaker: covered with suitable fabric for better sound quality and a softer aesthetic
		-
		c. Microphones
		- Microphone: 8 units
		- Frequency Range:100 Hz to 8 kHz	

		- Sensitivity: -37 dB or better - IP64-rated (protection from dust and water) **d. Attachment Method** - Wall Mounted - Cable Length at least 2.0 m long **f. Power Source** - AC Adapter - AC Input Power Autovolt/ Auto sensing frequency **7. Room Feature / Configurations** a. Wireless Presentation & AV b. Teleconference c. In-room audio system for integrated web-desktop conferencing (Skype and WebEx – both audio and video). d. Able to use cloud-based conferencing tools (i.e. ZOOM & Microsoft Teams) e. A room audio system that integrates video and audio conferencing f. Wireless Sharing of PPT Content via Video Conference **8. System Integration** a. A fully integrated audio/video system that	

		provides high-quality sound through speakers, microphones, and an HD/HDX video unit. b. The conference room sound system is integrated with the presentation PC. c. Flexible inputs and equipment setup (Link laptop and PC in the room for PowerPoint). d. With features of Echo cancellation 9. Control / Programming a. Full device connectivity integrated into the conference table b. All devices can be operated via a central control panel or an integrated touch screen. 10. Finishing a. Cables should be installed neatly. b. A suitable rack to secure the equipment. 11. Sound System a. clear, distortion-free audio	

		b. Audio system integrated with the HD Phone, speakers and microphones.	
IP PABX	1. Connectivity for simultaneous digital transmission of voice, video, data, and other network services 2. has voice communication capabilities via the internet to desk phones inside the Command Center. 3. shall manages incoming and outgoing calls over its phone network. 4. 3rd party communication resources can be integrated with the offered solution	IP PABX (with operator panel) 1. **IP-PBX equipment**, wired, minimum of 500 IP Phone Ports a. Must have a single ISDN PRI Trunk Interface for the Service Provider (TELCO Connectivity). b. Scalability: The system should be able to accommodate at least 500 users without requiring a change in the equipment model. c. Each appliance card should have an LED indication that shows the card's current condition. d. The system must have a battery backup that can run the entire system continuously for at least an hour. e. The SYSTEM must be able to support integrated mobility solutions, which allow users to be	1. Scope of work covers design, supply, installation, implementation, commissioning, and training of the IP Telephony System. 2. The scope of Work also includes all related work at controlling office at all the locations. 3. Shall provide user manual and warranty for the total solution including all hardware, software, materials, services, and support, etc. 4. All necessary cabling/wiring/sockets and allied infrastructure conforming to respective quality/standard norms are also included. Warranty: 3 years Warranty

		reached at all times using the same office number, whether they are in the office or not, to prevent callers from identifying mobile members. f. MDF and other installation and/ or terminating accessories shall be provided. g. All appliances, systems, and equipment that are supplied must have perpetual operating licenses. h. Supplier shall submit manufacturer's installation and testing procedure plus two (2) sets of operation and maintenance manuals of the suppled equipment system. i. Installation shall be done only by trained and skilled personnel certified by the proposed brand supplier under the close supervision of DepEd licensed Professional Electronics Engineer.	

		j. All required Electronics plans (in standard format) relative to the installation and commissioning of the SYSTEM shall be signed and sealed by a DepEd Professional Electronics Engineer. 2. **IP-PBX Hardware** a. The system shall be equipped with at least one (1) Integrated Services Digital Network (ISDN) ISDN PRI Trunk Interface for Service Provider (TELCO) Connectivity. b. The IP-PBX equipment shall be typed-approved by the National Telecommunicatio ns Commission (NTC) and by ISDN trunk provider (TELCO). c. Submit type-approval certificate (PHONE), if any. (PLDT is the existing TELCO service provider of DepEd) d. The main IP-PBX equipment shall	

		be rack mountable. e. The system must be able expand to a minimum of 500 users without requiring a change in the primary equipment or its model. f. The equipment must be able to accommodate third-party session initiation protocol (SIP) phones. g. The design of the IP-PBX equipment must be solid-state and appliance-based; and shall not be based on server or line card technology h. The IP-PBX's voice hardware shall have 10/100/1000 Mbps Ethernet Interface i. The main IP-PBX and its branch gateway shall function as a single image system under centralized management. j. The system must be able to	

		maintain standard local survivability on the branch gateway in the event of a WAN outage. k. In the event that the main server fails, the voice gateway must be able to continue operating (e.g. connectivity to outside line using trunk) l. Continued trunk or extension connections cannot be disconnected or dropped off in the event of a SYSTEM server failure until the active connections are closed. m. The telephony software, IP phones, gateways, and other devices connected to the system, along with all IP-PBX hardware and accessories, must all be of the same brand. n. The N-1 system redundancy must be supported by the system. 3. **IP-PBX SOFTWARE** a. The licenses of the IP-PBX	

		equipment and IP phones shall be perpetual in nature, meaning no recurring license rental. b. Phone licenses shall be applicable for either IP or analog telephone devices. c. SYSTEM licenses must have an international licensing program that allows them to be transferred to any location where the system is deployed. d. During the warranty period, the DepEd will not be responsible for any costs associated with major software upgrades, software patches, bug fixes, or repairs. e. The IP-PBX software must be able to be installed in virtual environments like VMware and HyperV. f. In any site of the telephony deployment, the IP-PBX	

		management system must be able display the connectivity and service status for all IP-PBX hardware and IP phones. g. A single application window on the IP-PBX management system must be able to monitor a minimum of 50 sites. h. The administration and monitoring IP-PBX management system must support both on-site and remote access modes. i. The configuration of the IP-PBX management system can be accessed through Internet Explorer, Firefox, Chrome, and Safari. j. The remote branches will automatically replicate the SYSTEM software configuration, which includes management and reporting configurations made from a central location or at the main site.	

		k. In the event that a minor or major system failure occurs, the SYSTEM will be able to send an email to DepEd. l. The system must be able to manage and control the bandwidth used for voice calls processed by the main office and any remote branches (including Metro Manila). m. The SYSTEM must be able to track the status of every PSTN trunk in real time. n. The IP phones' System Directory must be able to be managed by the IP-PBX server. Every modification made to the SYSYEM directory automatically shows up on every IP phone. o. For the SYSTEM to run the following applications, a single server deployment is required:	

		• IP-PBX management portal • Audio Attendant • Voice Mail application and storage • Automatic Call Distribution (ACD) • Call Detail or Call Accounting Reports with minimum of six (6) months retention • Unified Communication 4. **IP-PBX FEATURES** The system shall have but not limited to the following features: a. Account codes or pin codes b. Automated Attendants (AA) • Minimum of 50 channels to support all TELCO trunks and for future expansion • A minimum of 200 submenus • Backup auto attendant in the event that the primary AA source fails • Equipped with a name dialing feature	

		• Capable of sending out Scheduled Greetings (Holidays, On and Off Hours) • Historical reports for Automatic Call Distribution (ACD): - Individual User Report - Group Report - Abandoned Call Report - Service Level Report c. Call Detail or Call Accounting Report (CDR) for all users to include: • Trunk Traffic Report • Account or PIN Code Reports • LAN / WAN Reports • User Activity Report d. Call Quality reports to include the following: • Packet Loss • Delay • IP Route e. Call Forwarding f. Call Pickup g. Call Waiting h. Conferencing (3-party) phone but with option for 6 party	

		conferencing capability i. Last Number Dial j. Music on Hold k. Paging l. Transfer m. Intercom n. Voice Mail for • A minimum of 50 voice mail ports • A minimum of 20 hours of voice mail storage o. Voicemail to E-mail Capability p. Unified Communication for a minimum of 50 users • Presence Information • Softphone • Skype for Business Integration • Google Chrome Integration • E-mail Integration • Web Dialer 5. **IP PHONES (Entry Level)** a. Quantity: 15 units b. The Entry Level IP phone must meet	

		the following specifications. a. Monochrome or colored graphics display b. Minimum of 1-line key c. Shall support industry standard protocol such as SIP protocol d. Must have built-in 10/100 Ethernet Switch c. Speakerphone Capability Feature buttons • Mute • Volume • Hold • Conference • Voicemail • Transfer • Call History d. Ring tone selection e. Caller ID number and name display f. Indicator for Message Waiting g. Supports VLAN configuration h. Time and Date Synchronization with a Network Time Protocol (NTP) Server	

		6. **Executive IP Phones** a. Quantity: 5 units b. The executive level IP phones must meet the following specifications • Colored graphic display • Minimum of 4-line key • Must support industry standard protocol such as SIP protocol • Must have built-in 10/100 Ethernet Switch • Speakerphone Capability • Feature buttons - Mute - Volume - Hold - Conference - Voicemail - Transfer - Call History • Ring tone selection • Caller ID name display and number • Message Waiting Indicator • Supports VLAN configuration • Must have at least 6 programmable buttons	

		• Synchronization of Time and Date to a Network Time Protocol (NTP) Server 7. **OPERATOR CONSOLE** a. Quantity: 1 unit b. The operator console must meet the following specifications: • colored graphic display • Minimum of 20 programmable buttons • Different colored LEDs for call appearances should be integrated into programmable buttons. 8. **PAGING CONSOLE** • Android Phone • Quantity: 1 Unit 9. **GSM MODULE** • 900/1800/1900 (Globe, Smart and DITO) • Quantity: 3 units 10. **GSM GATEWAY** • Quantity: 1 unit • 4 Ports Connects to 4 SIMs • Caller ID • Open Line (any SIM) • with External Antenna	

		11. **POE SWITCHES** Quantity: 1 unit a. 8-port POE switch: 2 units b. 16-port POE switch: 1 unit c. POE Injector: 30 pcs	
Data Cabinet	The data cabinet ensures that servers, network switches, cables, and other IT equipment are stored, organized, and given the best protection possible by keeping them all intact.	1. Dimensions: 600*1200*2000mm 2. (Excluding casters) 3. Front mesh door: Single-open 4. Back door: high-density hexagonal holes with high-quality 5. It has a good ventilation and heat dissipation structure that is compatible with the air supply mode of the air conditioning in the computer rooms. 6. The cabinet frame is made of 2.0mm high-quality cold-rolled steel plate, and the other parts are made of 1.0mm~1.5mm high-quality cold-rolled steel plate. 7. Installation angle gauges with silk screen U number" - 3pcs 8. 2 Cabinet side panel Suitable for 1200 deep 42U cabinet -	Scope of work covers supply, installation, implementation. Warranty: 1 year Warranty

		4pcs 9. 3 Vertical help line board - 6pcs 10. Channel accessories Installation materials and other auxiliary materials - 1set	
Enclosed Aisle	Separating the cold supply air from the heated exhaust air from IT equipment is known as data center containment, and it can save operating costs, improve the efficiency of power use, and boost cooling capacity. IT equipment can be supplied with air that is consistently warm and stable via containment systems, and cooling infrastructure can receive return air that is warmer and drier.	1. **600 fixed sunroof** 600 wide * 1200 long, non-reversible, cold aisle top cover part 1.2 meters, functional sunroof, install smoke sensor, temperature and humidity sensor, camera - 2 pcs 2. **300 fixed sunroof** 300 wide * 1200 long, non-reversible, 1.2 meters of cold aisle top cover, with tempered - 1 pc. 3. **600 flip sunroof** 600 wide * 1200 long, reversible, 1.2 meters of cold aisle top cover, with tempered glass and magnetic lock - 2 pcs 4. **Skylight lighting** LED lights, 5 – pcs 5. **Electric track sliding door** (covered type) 1200 wide passages, including glass doors, rails, and	Scope of work covers supply, installation, implementation. Warranty: 1 year Warranty

		cladding panels, 2 – sets 6. **Fire control components**. Each cold aisle needs to be equipped with a set of fire protection components, 1 – sets 7. **600 strong and weak wiring trough 600 wide**, M type - 8 pcs 8. **300 strong and weak wiring trough 300 wide**, M type - 2 pcs 9. **Enclosure**, 300*600*20, the peripheral shielding baffle on the top of the cabinet of the overall modular computer room, equipped with 4 M6 screws, 4 M6 nuts, material SPCC1.2, 8 – pcs 10. **Enclosure** 300*300*20, the peripheral shielding baffle on the top of the cabinet of the overall modular computer room, equipped with 4 M6 screws, 4 M6 nuts, material SPCC1.2 - 2pcs 11. **Modular wiring ladder Customized**,	

		2.5m, with 4 outriggers (height 400 mm) and accessories - 1 sets 12. **Auxiliary material Including lightin**g, sunroof magnetic lock power cord; lighting switch; wiring terminals, - 1 batch	
Precision Air Conditioning Unit	Capable for 24 x 7, 365 days continuous operation.	1. Cooling capacity: 25kW-26KW 2. Air volume: 5200m3/h (min) 3. External dimension: 300*1200*2000mm (max)	Includes supply, installation and commissioning of the split type aircon and electrical requirements needed to function in the assigned. Warranty: 3 years warranty"
UPS System N+1	A UPS is added to the Network design as part redundancy to give a minimum level of resilience in the event of a failure. The additional system assumes the load of the offline system.	1. UPS host RACK type high frequency UPS host 20Kva Online UPS - 3sets 2. Battery 12V75AH Battery - 40pcs 3. Cabinet Battery cabinet - 1set 4. Switch Box Including DC160A DC air switch and cabinet - 1pc 5. Connection Line 5 Battery connection line - 1set	Includes supply, installation and commissioning of UPS System N+1 Warranty: 3 years Warranty
Fire Detection and Alarm System (FDAS)	The installation of Fire Detection and Alarm System (FDAS) is necessary in compliance with the requirements of RA 9514 otherwise	**FIRE SUPPRESSION SYSTEM** 1. The work included in this project must comply with all standard codes,	**Scope of work**: • The Supplier shall furnish all materials, equipment, tools, labor and services necessary for the

	known as Fire Code of the Philippines and findings of the Bureau of Fire Protection specifically on the provision of FDAS.	ordinances, and specifications issued by the regulating bodies / authorities. 2. **FDAS Component**: For the duration of the project, all fire detection and alarm instruments, devices, and equipment shall be of the same manufacturer. Fire alarm equipment needs to be FM approved, UL listed, and addressable. 3. **FDAS Pipes and Conduits.** Roughing-ins must be included on wiring connections. When constructing conduits, use Intermediate Metal Conduit (IMC). completely supplied with all local materials, fittings, and accessories required for the system connections. Outlet/Junction boxes must be made of cast metal or hot-dip galvanized, as needed. Pressed steel boxes must have a minimum thickness of gage #16. 4. **Fire Alarm Control Panel**. Must be an analog addressable fire alarm control panel made of steel enclosure that is FM	complete installation, testing, commissioning and rehabilitation of Fire Detection Alarm System (FDAS) and Fire Protection System in strict accordance with the technical specifications, complete and ready for use. This includes all necessary test approved by Agency Having Jurisdiction prior to commissioning of the system. • Covers design, supply, installation, implementation, commissioning, and training of the Fire Detection and Alarm System (FDAS). • Shall provide user manual and warranty for the total solution including all hardware, software, materials, services, and support, etc. • Shall provide all related work at controlling office at all the locations. All necessary cabling/wiring/sockets and allied infrastructure conforming to respective

		approved and UL 864 listed. It must have at least two (2) zones and a backup power system that runs on an alternate power supply including batteries and a charger. 5. **Optical Smoke Detector.** Shall be a UL-approved, 100 mm in diameter by 37 mm addressable optical smoke detector with two (2) LEDs that enable an alarm to be observed from any angle. It also has an IR LED and a photodiode, and it has an operating temperature range of -10 to +50 degrees Celsius. To prevent unwanted head removal, it has a locking grub screw. 6. **Heat Detector.** Shall be UL-approved, 100 mm in diameter by 48 mm addressable fixed heat detectors that use a thermistor arrangement to sense a rapid rise in temperature; the alarm condition will be a fixed heat trigger or rate of rise of 57°C, and the	quality/standard norms are also included. Warranty: 3 years Warranty

		thermistor arrangement will give an alarm at 90°C with a coverage area of 50 m² and a start-up time of 10 seconds, in compliance with EN54 part 5. 7. **Detector Bases.** Shall be UL approved, relay base type detector bases. 8. **Manual Pull Station/Call Point**. The manual call point muss be UL approved, measuring 111 x 100 x 35 mm. It can be reset and signals a red alarm LED. The flush mounted, alarm activation shall be break “snaplatch” lift Perspex cover or push in then pull down handle in red color casing. 9. **Fire Alarm Bell.** Shall be surface mounted, UL approved, and have a 150mm diameter. It should have a matching mounting back box and produce a high sound output at 24V DC with low current consumption, and a normal output of 95dB(A) in one (1) meter.	

		10. **FDAS Wires and Cables.** Must be either standard stranded wire of the same size, 3.5mm² THHN Wire (black, red, and green), #16 twisted TF wire (red and white), or #18 twisted TF wire (white and black). The installer is responsible for examining the terms under which construction is to occur and notifying in writing any conditions that are deemed unacceptable. Before installing any conduits or conductors, the installer must work with the supplier to arrange proper wiring procedures. All conductors and wiring must be installed in accordance with the manufacturer's recommendations. 11. The required type of **circuit breaker** is thermal magnetic, featuring a trip-free operating mechanism with contact for both quick make and quick break. 12. Improper grounding and short circuits must not exist throughout the entire installation.	

		13. **Cabinet for Firehoses.** Shall be full flush mounting door, frame and box No. 18 gauge steel with interior and red exterior baked enamel finishes over primer. 40mm diameter, 30.0m double jacket hose that is rubber lined, has a combination fog and solid stream nozzle with adjustable shut-off, and is mounted on a chrome-plated steel hose rack with a polished chrome finish. The hose rack can be either stationary or swivel and fastened with pins. An angle-type pressure-reducing valve with a 40mm diameter, brass finished or chrome plated polished trim, nipple and union patent. Two universal spanner wrenches and a chrome-plated hose nipple are required. The valve and hose assembly needs to be FM approved and UL listed. The installation must be checked to fit the actual site conditions. 14. QUANTITY • Smoke Detector 8 units	

		• Detector Base: 8 units • Wall Mount Horn/Strobe: 3 units • Pull Station for Fire Suppression Release: –1 unit • Motor bell (UL) :1unit • Abort Switch :1unit • Disable Switch: 1unit • Battery Backup: 2 pcs • Nozzle 360 2 Inch (50mm) Brass :2 pcs • Cylinder complete with Accessories (Fill Range162-423KG) 368L - FM200 AGENT: 1 set • Agent HFC227ea (Kg): 150 kgs • Pipes, Fittings, Wires and Other Accessories – 1 lot	
CCTV System	• Capable of running 24/7 operation central video management system	Network Video Recorder (NVR) • Quantity: One (1) Unit • 32-Channel IP Video Input • 4 SATA interface for 4 Hard Disk Drive • At least 8 TB Capacity per Hard Disk • Hard Disk Health Monitoring • Up to 4K resolution HDMI video output	**Scope of work**: • The Supplier shall furnish all materials, equipment, tools, labor and services necessary for the complete installation, testing, and commissioning of CCTV System in strict accordance with the technical specifications, complete and ready for use.

		• Support H.265+ Recording and Compression • 16 Independent PoE Network Interface • Up to 300m network transmission via PoE • Support multiple Video Content Analytics events • 160Mbps Incoming Bandwidth • Up to 16 Channel Synchronous Playback @ 1080p • Video Storage must be one (1) month upgradable up to 3 months **Temporary Storage** • Quantity: One (1) pc • 4 SATA interface for 4 Hard Disk Drive • At least 8 TB Capacity per Hard Disk **Bullet IP Camera** • Quantity: fourteen (14) units • ½.8" Progressive Scan CMOS • 1920 x 1080 @30 fps • 2.8 to 12mm motorized varifocal lens	• Covers design, supply, installation, implementation, commissioning, and training of the CCTV System. • Shall provide user manual and warranty for the total solution including all hardware, software, materials, services, and support, etc. • Shall provide all related work at controlling office at all the locations. All necessary cabling/wiring/sockets and allied infrastructure conforming to respective quality/standard norms are also included. Warranty: 3 years Warranty

		● H.265+, H.265, H.264+, H.264 ● 4 Behavior Analyses ● 120 dB WDR ● IP range up to 50m ● BLC/3D DNR / ROI / HLC ● IP66, IK10 ● Built-in MicroSD/SDHC/SDXC / card slot up to 128 GB ● Color: 0.005 lux@ (F.1.2, AGC ON), 0.068 lux@ (F1.4, AGC ON), 0 lux with IR ● Audio Support **CCTV MONITOR** ● Quantity: One (1) unit ● Panel Size: 32'' ● Display Ratio: 16:9 ● Maximum Resolution: 1366×768 ● Brightness (nits): 180cd/m² ● Viewing Angle: 178°/178° ● Response Time: 8ms ● Backlight: LED ● Wall-mount: 100×100mm	

		• Interface: HDMI, VGA, USB, AV-In, Audio Out, Speakers	
Generator Works with Automatic Transfer Switch (ATS)	• To provide continuous service to DepEd's MATATAG Center in case of power outage. • Provide and install adequate equipment, life safety and critical emergency branch circuits for lighting and utilization equipment connected to the alternate power source	**Generator Set with Automatic Transfer Switch** a. Control type: Manually & Electrically operated w/ Mechanical Interlock b. Must support Time Delay on transfer & re-transfer. c. Must have Selector switch auto-off-manual. d. Must have NR-Normal relay, ER-Emergency relay. e. 3 Phase, 220-440v, 60KVA, Silent Type Generator 1. **Diesel Generator: Digital Control** a. Certificate: CE b. Brand new Diesel Genset c. 8 - 10 hours continuous supply tank d. ISO Certificate 2. **Engine**: a. OEM with Certificate	a. Supply and installation of Generator Set with Automatic Transfer Switch (ATS) as shown on the plan. b. Electrical wiring system from Generator Set to ATS and from ATS to existing electrical main panel shall be overhead installation. THHN wire in IMC/RSC conduit pipe shall be used for installation. c. If any has been omitted for any items of work or materials usually furnished, which are necessary for the completion of entire work as outlined herein before, then such items must be and hereby included to complete the standard installation. d. Complete testing and commissioning of all electrical power distribution systems, testing of power shall be done for normal and emergency power supply. Testing and

		b. Heavy duty diesel engine c. Four stroke, water cooled d. 24V starter and charge alternator e. Cooling radiator and fan f. Free maintenance type battery including rack and cable g. Flexible fuel connection hoses and drain valve ***Special type flexible fuel connection exhaust silencer 3. **Alternator:** a. OEM with Certificate b. Brushless, Single bearing, flexible disc c. Insulation class: H d. Protection class; IP22 e. Self-executing and self-regulation **4. Control Monitor & Protect the Generator Set** Including: a. OEM WITH CERTIFICATE	commissioning of generator set shall be one (1) hour. The cost of fuel shall be at the account of the contractor. e. Submit as-built plan of electrical power distribution system to the owner after completion of project and final acceptance. f. Provide brochure showing the generator set offered. **Civil Works** a. Provision of concrete platform/Genset Pad. b. Supply and installation of engine exhaust (exhaust system shall be minimum of three meters from the ground) **Warranty:** 3 years Warranty

		b. Over & under speed c. Low oil pressure d. Under/over generator voltage e. Low and high battery volt f. Emergency stop g. Overcurrent h. High engine temperature i. Start/stop failure j. Charge fail 6. **ACCESSORIES** included are: a. Set–mounted tropical radiator b. Set-mounted circuit breaker c. Skid-base diesel tank d. Digital generator set control with meters and alerts e. Exhaust silencer f. Lead acid batteries with cable g. Auto Battery charger h. Engine operation and maintenance manual 7. **Other Requirements**: a. 24/7 on call services	

		b. Warranty 1 year or 1000 running hours 8. The ATS shall comply with IEC 60947 or equivalent international standard. The separately mounted generator control cubicle and ATS panel shall be of sheet steel vermin proof with lockable hinged front doors. 9. A three-pole circuit breaker and auto transfer switch should be provided rated for full load of the current (+ 10% overload). 10. The ATS equipment shall be of 3 attempt type and capable of sensing single phase and three phase failure of main supply or any variation in main supply voltage. The main supply and generator supply contactors or solenoid/motor operated change over switch shall be of fool proof design with mechanical and electrical interlock. 11. Code and Standards The automatic transfer switch and accessories shall	

		conform to the requirements of: a. UL 1008 - Standard for Automatic Transfer Switches b. PD1096 (PEC) – Philippine Electrical Code c. International Standards Organization ISO 9001:2000 d. NEMA Standard ICS2-447 - AC Automatic Transfer Switches **Conduit Pipe** 1. Conduit shall be hot dip galvanized mild steel IMC pipe (standard IMC pipe with inside wall epoxy coating) or polyethylene coated (PE Coated) IMC in 3.0 M length. UL. listed. Fittings shall be threaded type as required. 2. Stainless Conduit Pipe/ PE Coated IMC Pipe — All exposed & embedded conduit pipes for power, control circuits, feeders & sub-feeders inside anodizing and/or corrosive areas to be installed by the electrical, mechanical, process and fit-out	

		contractors for the refrigeration systems shall comply with this requirement. Likewise, all installation hardware and materials including clamps, hangers and bolts shall be of the same material as the required stainless conduit pipe or PE Coated IMC pipe. 3. Stainless Conduit Pipe/ PE Coated IMC Pipe — All exposed & embedded conduit pipes for power, control circuits, feeders & sub-feeders inside anodizing and/or corrosive areas to be installed by the electrical, mechanical, process and fit-out contractors for the refrigeration systems shall comply with this requirement. Likewise, all installation hardware and materials including clamps, hangers and bolts shall be of the same material as the required stainless conduit pipe or PE Coated IMC pipe. 4. Metallic conduits for interior and exterior systems shall be standard weight, mild steel, hot dip galvanized with an interior coating. PVC	

		non-metallic embedded in the concrete slabs, concrete walls and partitions shall be approved of manufacturing standard. 5. Schedule 40 PVC is acceptable in installations embedded in the concrete wall partitions or concrete slab, no installation of PVC in any exposed layout. 6. No conduit shall be used in any system smaller than 15mm dia. Electric trade size, nor shall have more than four 90-degree bends in any one run and when necessary, pull boxes gauge 16 shall be provided as directed. Location and sizes of pull boxes shall be cleared to the engineer prior to fabrication and installation. 7. No wires shall be pulled into any conduit unless the conduit system is complete in all details. In the case of concealed work, no wires shall be pulled until all rough plastering or masonry has been completed and in the case of exposed work, until	

		the conduit has been completed in every detail. 8. The ends of all conduits shall be tightly plugged to include plaster, dust and moisture while the project is in the process of construction. **Wires and Cables** 1. All wires shall be copper, soft-drawn and annealed, shall be of 99% conductivity, shall be smooth and true and of the cylindrical form and shall be within +/-1% variation of the actual size called for. 2. Wires and cables shall be plastic insulated for 600 volts working pressure, type THHN/THWN unless otherwise noted. 3. All wires and cables shall be color coded, color-coding of wires are as follows: (a) Line 1 – red (b) Line 2 – yellow (c) Line 3 – blue (d) Neutral - White **Junction and Pull Boxes** 1. Junction and pull boxes, per code gauge steel, shall be	

		provided as indicated or as required for facilitating the pulling of wires and cables. Pull boxes in finished places shall be located and installed with the permission of and to the satisfaction of the architect and engineer. Sizes shall be subject to the approval of the engineer. 2. Pull boxes shall be fabricated with hinged type, demountable and lockable covers if necessary. Knockouts shall be maintained for straight pull installation along two opposite side of the box only. 3. Pull boxes for straight pulls shall have the length of the box not less than forty-eight times the outside diameter of the largest non-shielded conductor or cable. **Circuit Breakers** 1. Circuit breaker shall be thermal magnetic type with quick make, quick break trip free operating mechanism with contacts. 2. Circuit breaker shall be molded case bolt-	

		on type complying with NEMA and UL or IEC standards. 3. All main circuit breaker shall be bolt-on, molded case and industrial type circuit breaker located at center complying with NEMA and UL standards. 4. The thermal magnetic trip unit shall provide time-delayed for overload protection and instantaneous for short circuit in any on pole. 5. Multi-pole breaker shall operate on a common internal trip which will open all poles in case of overload or short circuit in any on pole. 6. Breaker minimum interrupting capacity shall be as specified in plans. 7. Circuit breakers with GFCI are to be rated for the voltage applied and with sensitivity setting of 300 milliamps. 8. All feeder circuit breakers of the main switchgear (LVSG) shall be Draw-out type unless otherwise specified	

		or indicated but should have shunt trip mechanism and accessories for future additional protection relays that should be field mountable.	
Power Distribution		1. Precision column head cabinet 600*1200*200 mm, total air switch 160A/3P*2; output 32A/1P*42, monitor the power information of main and branch circuits, equipped with full-color touch screen Quantity: 1set 2. PDU Input 32A, output 10A national standard 20 digits, 16A national standard 4 digits, with junction box, total indicator light, installed on the left side of the cabinet Quantity: 6 pcs 3. PDU Input 32A, output 10A national standard 20 digits, 16A national standard 4 digits, with junction box, total indicator light, installed on the right side of the rear of the cabinet Quantity: 6 pcs	
3TR Floor Mounted Airconditioning unit		1. 3TR 2. Floor Mounted 3. Inverter 4. System Configuration b. 220-230V	The work of the Supplier shall consist of furnishes, labor, supervision, equipment and

		c. 60Hz d. 1P 5. Cooling Capacity: 38,000-40,000 kJ/Hr 6. System Power Input: • 2500-4000W • EER 9-15 KJ/W-Hr	materials for the following works: 1. Supply, delivery, installation and commissioning of) brand new inverter Split-Type Floor Mounted 3Ton air conditioning unit. 2. Brand new and appropriate refrigerant pipes, fittings, clamps, brackets and other mechanical accessories. 3. The supplier shall flush the system (new refrigerant pipes and fittings) with Nitrogen; ensure that the refrigerant oil is sufficient considering the refrigerant pipe lengths; vacuum the system; and charge with the appropriate refrigerant and quantity. 4. The supplier shall leak test PVC pipe drainage. 5. The supplier must fill up the attached Start Up Data Sheet with the temperature reading at 0.30m from the supply grills shall be
Split Type Airconditioning Unit		1. 2.5 HP 2. Split Type 3. Inverter Type 4. System Configuration • 220-230V • 60Hz • 1P 5. Cooling Capacity 20,000 kJHr, 6. System Power Input • 1500-2000W • EER 9-15 KJ/W-Hr	

			taken and recorded on all units after one (1) hour of operation. 6. The supplier shall close / restore all openings to its original condition all affected areas during the installation and commissioning of the air conditioning units. **Warranty and After-Sales Service Requirements** 1. Following the issuance of the Certificate of Acceptance by the DepEd, a one (1) year warranty period for parts and services for the completed project will commence. 2. All units and components offered under these specifications shall be covered by the manufacturer's standard warranty. The bidder must be capable of offering back-to-back maintenance services for the DepEd-purchased ACU during the warranty period. 3. The supplier shall ensure that the Manufacturer will

			warrant that the ACU to be supplied are free from any manufacturing defects. Any hidden defects during the one (1) year warranty period shall be fixed free of charge.

III. SCHEDULE OF REQUIREMENTS: Contract Duration / Delivery Schedule

The Contract duration of the projects shall be within **One Hundred Twenty (120) calendar days** from receipt of Notice to Proceed.

IV. TERMS OF PAYMENT

1. Progress Billing:
   - Minimum of 20% work accomplishment (contract amount)
   - 10% retention money shall be deducted for every progress payment

2. Progress payment for each milestone may be paid provided that at least 20% percent of the work has been accomplished and as certified by the DepEd Inspectorate Team.

V. LIQUIDATED DAMAGES

Failure to comply with the Terms and Conditions of the Contract will result in the payment of corresponding penalties/liquidated damages in the amount equal to 1/10 of 1% of the cost for every day of delay of the unperformed portion. Once the cumulative amount of liquidated damages reaches 10% of the amount of the Contract, DepEd shall rescind the Contract, without prejudice to other courses of action and remedies.

VI. GENERAL CONDITIONS

1. The work under this project shall consist of the materials, equipment, tools, labor and supervision and all other items necessary to properly complete the work in a safe, effective, and efficient manner to complete the construction of the project.

2. Materials deemed necessary to complete the works but not specifically mentioned in the Specifications, Working Drawing, or in the Contract Document shall be supplied and installed by the Contractor. Such materials shall be of the highest quality and kind and installed or applied

in a right manner at prescribed or appropriate locations following the Standard Practice of Architectural, Civil and Electrical Engineering, National Building Code of the Philippines, and Construction Procedures.

3. The Contractor shall be held liable for damage/s during the construction period and shall be repaired and/or replaced at no additional cost to the DepEd.

4. It shall be the responsibility of the Prospective Bidders to inspect the site before submission of bids. No plea of ignorance by the Bidder of conditions that exist or that may hereafter exist as a result of failure to fulfill the requirements of this Contract will be accepted in accordance with Annex E of the IRR of RA 9184.

5. The Bidders / Contractors shall include in his bid all related expenses and obligations, including VAT, E-VAT, as well as the carrying out of the services and supply of all necessary requirements in handling over the work to DepEd, in accordance with relevant conditions, rules and regulations.

6. The Contractor shall closely coordinate with Office of the Director-Administrative Service to ensure proper phasing or schedule of works.

7. The Contractor shall submit a daily / weekly / monthly activity report. Thereport shall contain the daily activities in the site, including weather condition, delivery, manpower and other matter pertaining to the condition of the project. This will also serve as data for Contractor and the DepEd Inspector.

8. Employees of the Contractor shall at all times be wearing uniforms that clearly identify them as an employee of the Contractor.

9. The Contractor shall conduct site monitoring for the effective implementation of the project. Any discrepancies on plans and actual site conditions shall be properly coordinated with DepEd for verification.

10. The Contractor shall pay their electric and water consumption bills. Sub meters shall be installed at the expense of the Contractor to determine their actual consumption. Billings of utilities consumption will be sent in writing by the DepEd to the Contractor. Payment of bills shall be made thru the Cashiers Office every month until the completion of the project.

11. The contractor shall process and secure all the necessary permits as required by the National Building Code for the preparation, execution and upon completion of the contract. The Contractor shall coordinate with other agencies and pay the corresponding fees incidental to the acquisition of the required permits.

VII. QUALITY CONTROL

1. The plans and specifications shall form part as one. Anything mentioned on plans and not mentioned on the scope of work and specifications and vice versa shall be properly consulted to DepEd Project-In-Charge for clarification.

2. Any work or materials not in accordance with the drawings or specifications shall be rejected.

3. In the case of any conflict between the technical requirement and specifications of this contract and the reference documents, or among the reference documents, the order of precedence is: 1) Scope of Work 2) Basic Engineering Drawings 3) Technical Specifications 4) National Standards for Building Construction 5) International Codes and Standards. The Contractor shall notify any discrepancy found in the documentation to DepEd in writing for clarification. DepEd will respond to such requests in writing.

4. No alteration or additional work shall be implemented without prior approval by DepEd. The Contractor shall secure written authority from DepEd for any change or variation of woks.

5. Prior to installation of any item / construction materials, the Contractor isrequired to submit product sample / catalogue / brochures and result of testing of materials with complete specifications to DepEd for evaluationand approval.

6. The Contractor shall request to Office of the Director-Administrative Service for any inspection.

7. Punch Listing. The Contractor shall request a joint punch listing works prior to 95% completion to DepEd Project In-Charge. Rectification works shall be done within 15 calendar days.

VIII. SAFETY MEASURES AND WORK PROTECTION

1. The Contractor shall comply with DepEd service and operational requirements regarding occasional and reasonable work stoppage due to dust and noise problems.

2. Initial indoctrination regarding security, safety, DepEd house rules, plans for maintaining continued job clean up, access and egress for the Supplier's employees.

3. Prohibitions:

a. Smoking shall not be allowed within DepEd Central Office premises, work and storage areas.

b. Drinking of liquor shall not be allowed within the site.

c. Gambling of any type is strictly prohibited within the site.

d. Carrying of items determined by PCBP as “deadly instrument” is strictly prohibited within the site.

e. Sleeping quarters are not allowed in the project site without prior approval Director of the Administrative Service.

f. Workers are not allowed to eat within the project work area.

4. Wearing of Personal Protective Equipment or safety gadgets (i.e., belt, goggles, hard hat, working uniform and safety shoes) for all workers shall be observed at all times including provision of first aid kit, as well as the provision of necessary safety signages on site.

5. All employees of the Contractor at the jobsite shall wear T-shirts marked with Contractor’s company name and valid company I.D., washing area (to be determined by DepEd and facilities/utilities shall be maintained for sanitation purposes.

6. The Contractor shall provide a warning sign, including barricades, temporary facilities, temporary fences, warning lights and similar safeguards as they are required for protection of his manpower and othersduring the construction life of this project.

7. Good housekeeping shall be observed at all times at the construction premises. The Contractor shall clear the area from all obstruction or as affected by the construction works, except those structures indicated on the drawings or designated by Architect/Engineer to be left standing.

8. The Contractor shall protect existing buildings and other structures such as ceilings, rooms, and hallways, which are indicated to remain, from damage and repair damage caused by this work at no additional cost to the DepEd.

9. Existing utility lines indicated or locations of which are made known to theContractor prior to execution of works, and that which are indicated to beretained, as well as utility lines constructed during operations, shall be protected from damage during execution of the work, and if damaged, shall be repaired at no extra cost. Site survey shall be conducted by the Contractor to acquaint with existing utility lines. Proper measures shall be taken, and immediate information forwarded to the Architect / Engineer when utility lines are encountered within the area of operation.

10. Where utility lines are encountered within the area of operations, the Contractor shall notify the DepED in ample time for the necessary measures to be taken if there is an interruption of the service.

IX. PROJECT MEETINGS

1. Pre-construction Conference / Coordination Meeting - Immediately after the Notice to Proceed, a Pre-construction Conference/ Meeting / Kick off meeting shall be held between DepEd and Contractor.

2. Pre-construction Safety Conference / meeting – A preconstruction Safety Conference / meeting shall be held to review and discuss the contractor's safety program to achieve a mutual understanding of the contractor's Accident Prevention Plan APP.

3. Progress Meeting – The Contractor and Office of the Director-Administrative Service shall meet as need arises.

X. SUBMITTALS

1. The Contractor shall submit the Construction Schedule to the DepEd Administrative Service before covering up any work so that proper inspection may be made.

2. The Contractor shall prepare a Network Analysis Schedules / Bar Chart Construction Schedule to indicate all activities necessary to complete the project.

3. Monthly accomplishment report in narrative form shall be submitted to DepEd complete with pictures of on-going project.

4. Shop Drawings, Product Data and Samples
   a. The Contractor shall review, stamp with his approval, and submit shop drawings and submittals for approval of the Office of the Director-Administrative Service for conformance of the design concept and information given in the Contract Documents. The work shall bein accordance with the Drawings and Specifications.

   b. Where specified or required, the Contractor shall submit samplesto the Office of the Director-Administrative Service together with specification material, affidavits and other documentation as may be required by the DepEd. It is the Contractor's specific responsibility to ascertain that the samples submitted have been checked and approved by him. The cost of the samples together with the transportation, delivery and any other costs shall be borne by the Contractor.

   c. The contractor shall submit three (3) copies of the approved plans and permits to construct respective Lot(s) of the above projects at

DepEd Central Office.

5. The Contractor shall submit three (3) copies of certified final as-built drawings, 20" x 30", and all documents related to the projectto the DepEd.

6. Where samples are specifically required to be submitted for approval, no work involving the samples / materials shall proceed until written approval has been obtained from the DepEd.

7. Monthly accomplishment report shall be submitted to DepEd.
   a. Narrative Report
   b. Progress photographs
   c. Materials Test Result
   d. Construction Schedule
   e. Highlights of Events and Activities

XI. DEMOBILIZATION AND CLEAN-UP

1. The Contractor shall be responsible for the general cleaning and demobilization of all tools, surplus materials and equipment used in the execution of the work.

2. The Contractor shall turn-over and transfer any salvaged construction materials to a designated location as directed by DepEd.

3. Disposal of Cleared and Grubbed Materials – Logs, stumps, roots, bush, rotten wood, and other refuse resulting from the clearing and grubbing, operations shall be disposed of by removing from the site at the Contractor's expense.

XII. MANNER OF EVALUATION

The Project shall be awarded and evaluated as one lot.

XIII. GUARANTEE

The Contractor shall guarantee all works under this Contract to be free from anytechnical defects and shall replace and repair to the satisfaction of the DepEd which may fall within a period of **One (1) year** after the final acceptance of the project provided such failure is due to defects in the material or workmanship.

XIV TRAINING AND DOCUMENTATION

The Contractor shall provide to the DepEd the As-built Plans/Drawings and Warranty Certificates of the goods included in after the project, once completed.