

ANNEX B

CONCEPTUAL DESIGN BRIEF

This Conceptual Design Brief refers to other design requirements which are outside the scope of applicable laws and standards, but which the Employer requires the Contractor to incorporate into its design.

1. DESIGN REQUIREMENTS

The Contractor shall integrate all design criteria listed in the Scope of Works into its design. The same shall satisfy, through the spatial forms, circulation flows, choice of fixtures, finishes, and equipment, and other details, the following principles: functionality, safety and security, comfort and convenience, and green building principles.

1.1 Functionality

The principle of functionality encapsulates the following concepts:

1. Workflow optimization. Facilities are planned and designed according to the intended use with optimization of workflows at its core.
2. Efficient space planning. Spaces are maximized considering existing facilities, systems, and other limitations, while satisfying all operational requirements stated by Employer.
3. Technology and innovation. Incorporation of smart building technologies, such as smart sensors, booking systems, digital signage, and IoT devices, that can further enhance functionality should be considered within the budgetary limits of the Project.
4. Flexible spaces. Variety and ease of reconfiguration for various uses, set-ups, and occupancies should be incorporated in the design.

1.2 Safety and Security

Safety and security should be integral to the building design, covering the following concepts:

1. Security zones. Workplaces and ancillary facilities are designed according to three categories:
 - a. Public: areas that the public have unimpeded access to during office hours.
 - b. Invited: areas that known visitors can access when escorted by an employee.
 - c. Private: areas that only employees can access.
2. Access control. Access control should be based on the security level or zone. Incorporation of electronic or physical security systems should be considered based on security requirements and identified risks.

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3. Surveillance and visibility. Dead end corridors and all types of spaces that lack visibility and where surveillance cannot be integrated should be avoided at all costs. Public zones with tables and seating should be designed as completely visible spaces, with provision for a surveillance system.
4. Accessibility. The concept of accessibility is associated with universal design, where facilities are usable for all, regardless of range of ability and with as few constraints as possible. Innovative ideas that go beyond compliance with applicable laws and regulations on this subject are highly encouraged.
5. Healthy environment. Facilities should be designed to optimize the built environment conditions to levels that are not only conducive to productivity but also enhance overall physical well-being of inhabitants. This includes various physical, chemical, and biological factors in the building.
6. Ease of evacuation and provision of refuge. Design must have adequate and accessible means of egress, which include exits, pathways to exit, exit discharge, and signage to allow occupants to safely evacuate the building during emergencies.
7. Accident prevention. Space configurations, elevation changes, placement of furniture and equipment, and choice of finishes should consider all possible sources of hazards and design accordingly to prevent their occurrence.

1.3 Comfort and Convenience

Comfort and convenience focus on enhancing employee well-being. There are several concepts under comfort and convenience which should be considered for incorporation to the design within the reasonable limits of the Project budget:

1. Biophilic design:
 - a. Maximized daylighting
 - b. Access to nature (plants or sources of water)
2. Ergonomic design:
 - a. Furniture design
 - b. Movement-friendly layout
3. Environment control:
 - a. Temperature
 - b. Noise levels and sound privacy
4. Workspace balance:
 - a. Personalization and 5S principles

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- b. Collaborative and private spaces
- 5. Mental health support:
 - a. Access to amenities
 - b. Breakout spaces

1.4 Green Building Design

The building design and construction shall be in accordance with green building principles set out in the Philippine Green Building Code, with a focus on the following concepts:

- 1. Water efficiency
- 6. Energy efficiency
- 7. Materials and resource efficiency
- 8. Indoor environmental quality

1.5 One SEC Design

The One SEC Design aims to provide a unified set of design standards focused on the exterior of SEC facilities including the building envelope and site development. The design standards under the One SEC Design are based on green building principles which enable all SEC facilities designed based on them ready for green building certification.

There are two major components of the One SEC Design: The Design Checklist and One SEC Design Types.

1.5.1 Design Checklist

The Contractor shall consider the design checklist in Table 1 and ensure compliance with all listed measures and components.

1.5.2 OneSEC Design Types

The Contractor may also reference from the following sample designs shown in Figure 1, referred to as "OneSEC Design Types", for the New SEC ZAMEO.

Table 1. OneSEC Design Checklist

Performance Standards	#	Design Concepts	Components	Measures
A Site sustainability	1	Rainwater management	Stormwater collection and channeling	Use low-impact development (LID) and green infrastructure to collect and channel stormwater and manage surface run-off.
	2	Heat island reduction	Low parking footprint	Designate less than 40% of open space for paved / impervious / impermeable surface; or Place a minimum of 75% of parking space under cover.
			Provision of green open space	Designate more than 60% of open space as unpaved / pervious / permeable surface.
B Energy efficiency	3	Energy performance optimization	Building envelope, opaque: roof, walls, doors, etc.	Use a high-reflectance roof with an SRI value as recommended by the latest LEED requirements, with roof insulation meeting the average R-Value of R-8, per PGBC; or Use a vegetated roof/wall.
			Building envelope, glazing	Glazing to be used shall comply with the solar heat gain coefficient (SHGC) and visible light transmittance (VLT) ratios as indicated in the PGBC.
C Indoor environmental quality	4	Daylight	Maximized ambient daylight	Orient longer axis along east-west. Meet opening size requirements per PD 1096. Provide glare-control devices e.g., eaves, baffles, shades.
	5	Quality views	Provision of quality views	Provide view to flora, fauna, sky, or movement.

References: Leadership in Energy and Environmental Design (LEED), Philippine Green Building Code (PGBC), and National Building Code of the Philippines (NBCP).

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DESIGN 4
Open space with vegetation
Reduced surface parking that contributes to heat island effect
Use of light-colored finishes and smart windows
Solar panels incorporated into facade
Maximized daylight and quality views through window placement
Use of sun shading for glare protection



DESIGN 9
Open space with vegetation
Reduced surface parking that contributes to heat island effect
Maximized daylight and quality views through window placement
SEC identity (building ID)

Figure 1. OneSEC Design Types

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2. ARCHITECTURAL PROGRAM

The Contractor is expected to integrate the following parameters into one coherent architectural design that is responsive to the Design Requirements described in section 1 above and the Design Criteria indicated in section 5.2 of the Terms of Reference main document. A summary of the Architectural Program is provided in Table 4.

2.1 Space Requirements

The requirements include the types of spaces, their corresponding floor areas, and corresponding facility types. Please refer to **"Annex A"**. The facility types determine the general material finishes to be applied for each space (see section 2.2).

The Contractor is responsible for validating these requirements against applicable laws and standards, best industry practice, and green building principles, and proposes for Employer's approval appropriate changes or improvements.

2.2 Material Finishes

There are seven (7) basic facility types within SEC facilities. These are office, assembly, quarters, F&B, toilets, circulation, and utility/service. A standard set of general material finishes are established for each facility type, as shown in Table 3.

The Contractor is responsible for validating these requirements against applicable laws and standards, best industry practice, and green building principles, and propose for Employer's approval appropriate changes or improvements.

Table 3. Schedule of general finishes per facility type

Facility Type	Finishes			
	Ceiling	Wall	Floor	Lighting
Office	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	General office space: Homogeneous floor tiles	Color: Daylight
			Director's office: Carpet tiles	Standard height (2.4 – 3.0 m): Recessed LED panels High ceiling (>3.0 m): Suspended LED pendant
Assembly	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or	Carpet tiles For storage:	Color: Natural white

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Facility Type	Finishes			
	Ceiling	Wall	Floor	Lighting
		Drywall partition or CHB wall in paint finish Or Operable partitions with soundproofing	Homogeneous floor tiles	Recessed LED panels
Quarters	Acoustic ceiling board on metal frame	CHB wall in paint finish	Homogeneous tiles	Color: Natural white Recessed LED downlight
	For toilet and bath:			
	Moisture resistant gypsum board in metal framing system	CHB wall in ceramic tile finish	Homogeneous floor tiles	Color: Natural white Recessed LED downlight
	For pantry:			
	Moisture resistant gypsum board in metal framing system	Drywall partition or CHB wall in ceramic tile finish	Homogeneous floor tiles	Color: Natural white Recessed LED downlight
F&B	For dining areas within Office setting: Acoustic ceiling board on metal frame	For dining areas: Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	For dining areas: Homogeneous floor tiles	Color (Dining): Natural white Color (Kitchens): Daylight
	For dedicated dining areas, e.g., canteen: Exposed slab and beam soffit in paint finish with suspended acoustic baffles			Standard height (2.4 – 3.0 m): Recessed LED panels High ceiling (>3.0 m): Suspended LED pendant
	For kitchens: Moisture resistant gypsum board in metal framing system	For kitchens: Drywall partition or CHB wall in ceramic tile finish	For kitchens: Epoxy finish	

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Facility Type	Finishes			
	Ceiling	Wall	Floor	Lighting
Toilets	Moisture resistant gypsum board in metal framing system	Drywall partition or CHB wall in ceramic tile finish	Homogeneous floor tiles	Color: Natural white Recessed LED downlight
Circulation	Acoustic ceiling board on metal frame	Drywall partition or CHB wall in paint finish	Homogeneous floor tiles	Color: Natural white
				Standard height (2.4 – 3.0 m): Recessed LED panels High ceiling (>3.0 m): Suspended LED pendant
Utility/ Service	Exposed slab and beam soffit in paint finish	Drywall partition or CHB wall in paint finish	Ceramic floor tiles Or Plain cement smooth finish	Color: Daylight
				Standard height (2.4 – 3.0 m): Recessed LED panels High ceiling (>3.0 m): Suspended LED pendant

2.3 Floor Finish Levels

All floor finish levels of spaces within a single floor shall be uniform, except for toilets which should be lower by no more than 50 mm to contiguous areas, or as required for accessibility purposes.

2.4 Ceiling Heights

All spaces shall be designed with standard height, in accordance with applicable laws and standards. Larger spaces are preferred to have higher ceiling heights that are proportionate to the floor area.

2.5 Textures, Colors, and Accents

General finishes, textures and colors of the interiors are to be determined based on applicable laws and standards, best industry practices, and in accordance with Design Requirements indicated in section 1 of this document. The use of neutral colors is preferred, combined with the appropriate use of accents that are variations of, or harmonize with, the color scheme of the

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SEC logo. Harmonization with the exterior color palette, in accordance with OneSEC Design, should also be considered.

2.6 Soundproofing

The design of partitions shall consider the acoustic and noise reduction requirements of spaces and their contiguous areas. Acoustic or soundproofing panels should be installed where required.

2.7 Waterproofing

New toilets and other wet areas shall be provided with appropriate waterproofing installations.

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Table 4. Architectural Program for the Project

No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
PUBLIC AREAS						
1	Reception/ Lobby/ Security Post	● Security post ● Reception counter	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	Homogeneous floor tiles	The Contractor is responsible for validating these requirements against applicable laws and standards, best industry practice, and green building principles, and propose for Employer’s approval appropriate changes or improvements.
2	Frontline counters	● Transaction counters with chairs for employee and visitor. Provide dual height counter in accordance with requirements under the revised IRR of BP 344.				
3	Waiting area	● Gang chair ● Provide space for wheelchair in accordance with requirements under the revised IRR of BP 344.				
4	Hearing room	The hearing room will be designed as in a court room with the following furniture:	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or	Carpet tiles	

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
		● Judge's bench (1 pax) ● Clerk desk ● Bar table ● Seating for spectators (10 pax)		Drywall partition or CHB wall in paint finish Or Operable partitions with soundproofing		
5	Public female toilet	● Water closet ● For the accessible toilet only: ○ L-type grab bar ○ Swivel-type grab bar ● Handheld bidet sprayer ● Tissue holder ● Trash bin with cover ● Lavatory with counter and mirror ● Paper towel dispenser ● Soap dispenser	Moisture resistant gypsum board in metal framing system	Drywall partition or CHB wall in ceramic tile finish	Homogeneous floor tiles	
6	Public male toilet					
7	Public accessible toilet					

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
8	Lactation room	● Armchair (2) ● Side table (2) ● Curtains	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	Homogeneous floor tiles	
9	Circulation	● Wayfinding signage				
A	SUBTOTAL – PUBLIC AREAS					
B	OFFICES					
1	Frontline administrative staff	● L-type, modular workstation with pedestal cabinet (3) ● Office chair (3) ● Modular file cabinet (3)	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	Homogeneous floor tiles	The Contractor is responsible for validating these requirements against applicable laws and standards, best industry practice, and green building principles, and propose for Employer’s approval appropriate changes or improvements.
2	Records					
2.1	Records room	● Storage racks				
2.2	Records staff	● L-type, modular workstation with pedestal cabinet (3) ● Office chair (3)				

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
		● Modular file cabinet (3)				
3	Investigation and enforcement					
3.1	Investigator's room	● L-type, modular workstation with pedestal cabinet (2) ● Office chair (2) ● Modular file cabinet (2) ● Visitor chair (2)				
3.2	Staff	● L-type, modular workstation with pedestal cabinet (1) ● Office chair (1) ● Modular file cabinet (1)				
4	Legal					
4.1	Lawyer's room	● L-type, modular workstation with pedestal cabinet (3) ● Office chair (3)				

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
		● Modular file cabinet (3) ● Visitor chair (3)				
4.2	Staff	● L-type, modular workstation with pedestal cabinet (2) ● Office chair (2) ● Modular file cabinet (2)				
5	Monitoring	● L-type, modular workstation with pedestal cabinet (3) ● Office chair (3) ● Modular file cabinet (3)				
6	Processing	● L-type, modular workstation with pedestal cabinet (3) ● Office chair (3) ● Modular file cabinet (3)				

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
7	Media room	● Modular rectangular tables ● Chairs, stackable (30)				
8	Director's office					
8.1	Director's room	● Executive table (1) ● Office chair (1) ● Armchair (2) ● Printer (1) ● Modular file cabinet	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	Carpet tiles	
8.2	Staff	-	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	Homogeneous floor tiles	
8.3	Director's conference room	● Conference table, 6-seater (1) ● Chairs (6)	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish Or	Carpet tiles	

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
				Operable partitions with soundproofing		
8.4	Director's comfort room	● Water closet ● Handheld bidet sprayer ● Tissue holder ● Trash bin with cover ● Lavatory with counter and mirror ● Paper towel dispenser ● Soap dispenser	Moisture resistant gypsum board in metal framing system	Drywall partition or CHB wall in ceramic tile finish	Homogeneous floor tiles	
8.5	Director's pantry	● Countertop ● Built-in cabinets with appliances (microwave oven, undercounter refrigerator, water dispenser) ● Sink with grease trap	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	Homogeneous floor tiles	
9	Security office	● Office table (1) ● Office chair (1)	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker	Homogeneous floor tiles	

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
		● Surveillance camera screen ● Armory ● Lockers		Or Drywall partition or CHB wall in paint finish		
10	COA office	● L-type, modular workstation with pedestal cabinet (4) ● Office chair (4) ● Modular file cabinet (4)				
11	Circulation	● Wayfinding signage				
B	SUBTOTAL - OFFICES					
C	AUXILIARY AREAS					
1	Pantry	● Dining table, 6-seater (1) ● Dining chair (6) ● Built-in cabinets with appliances (microwave oven, refrigerator, water dispenser, dish drying rack)	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	Homogeneous floor tiles	The Contractor is responsible for validating these requirements against applicable laws and standards, best industry practice, and green building principles, and propose for Employer’s approval appropriate

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
		● Countertop ● Sink with grease trap				changes or improvements.
2	Employees' female toilets	● Water closet ● For the accessible toilet only: ○ L-type grab bar ○ Swivel-type grab bar ● Handheld bidet sprayer ● Tissue holder ● Trash bin with cover ● Lavatory with counter and mirror ● Paper towel dispenser ● Soap dispenser	Moisture resistant gypsum board in metal framing system	Drywall partition or CHB wall in ceramic tile finish	Homogeneous floor tiles	
3	Employees' male toilets					
4	Employees' PWD toilet/s					
5	First aid room	● First aid signage (including emergency hotlines)	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or	Homogeneous floor tiles	

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
		● Sink (hot and cold water) ● Drinking water dispenser ● Store for first aid materials, including first aid cabinet ● Hazardous waste container ● Examination/medical couch ● Writing table		Drywall partition or CHB wall in paint finish		
6	Quarters					
6.1	Double room with T&B	There will be two rooms, one for females and another for males. Each room to contain the following: ● Twin bed (2) or bunk bed (1) ● Built-in closet (2) ● Writing desk (2) ● Chair (2) ● Toilet and bath	Acoustic ceiling board on metal frame For T&B: Moisture resistant gypsum board in metal framing system	CHB wall in paint finish CHB wall in ceramic tile finish	Homogeneous tiles Homogeneous floor tiles	

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
6.2	Pantry	● Dining table, 4-seater (1) ● Dining chair (4) ● Built-in cabinets with appliances (microwave oven, refrigerator, water dispenser, dish drying rack) ● Countertop ● Sink with grease trap	Moisture resistant gypsum board in metal framing system	Drywall partition or CHB wall in ceramic tile finish	Homogeneous floor tiles	
6.3	Lounge	● Sofa and armchairs ● Coffee table	Acoustic ceiling board on metal frame	CHB wall in paint finish	Homogeneous tiles	
7	Conference room	There will be two smaller rooms divided by an operable partition. Each room to contain the following: ● Conference table, 6-seater (1) ● Chairs (6) ● Mobile digital screen	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish Or Operable partitions with soundproofing	Carpet tiles	

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
8	Function room	The function room shall be designed for flexibility to be arranged in different set-ups: ● Conference (rectangular table and chairs, or chairs only all facing a stage) ● Social function (circular tables with chairs for dining) In any set-up, provide: ● Space for a stage ● The following spaces may be programmed as outside the function room area provision: 1. Service area for catering, with provision				

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
		for sink with grease trap 2. Storage for chairs/tables/stage				
9	Maintenance personnel rooms	● Lockers ● Storage cabinets for files ● Dining table, 2 or 4-seater ● Chairs (2-4)	Exposed slab and beam soffit in paint finish	Drywall partition or CHB wall in paint finish	Ceramic floor tiles	
10	Circulation	● Wayfinding signage	Acoustic ceiling board on metal frame	Glass partitions with frosted sticker Or Drywall partition or CHB wall in paint finish	Homogeneous floor tiles	
C	SUBTOTAL – AUXILIARY AREAS					
D	UTILITIES AND SERVICES					

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
1	Storage room/s	● Storage racks, where applicable	Exposed slab and beam soffit in paint finish	Drywall partition or CHB wall in paint finish	Ceramic floor tiles	The Contractor is responsible for validating these requirements against applicable laws and standards, best industry practice, and green building principles, and propose for Employer's approval appropriate changes or improvements.
2	Janitorial supplies room					
3	Server room	● Per system requirements, in compliance with applicable laws and standards.	Exposed slab and beam soffit in paint finish	CHB wall in paint finish	Plain cement smooth finish	
4	Electrical room					
5	Genset room					
6	Fire pump room					
7	Water pump room					
8	Material recovery facility					
9	Workshop					
10	Machine room (if applicable)					
11	Utility deck	The utility deck shall be programmed as the minimum required to house the following utilities: ● HVAC outdoor units ● Water tank and pumps ● Lightning rod ● Others, as required.	N/A	CHB wall in paint finish	Ceramic floor tiles	

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No.	Space	Furniture / Fixtures / Equipment (Qty)	Finishes			Remarks
			Ceiling	Wall	Floor	
12	Provide circulation	● Wayfinding signage	Exposed slab and beam soffit in paint finish	Drywall partition or CHB wall in paint finish	Ceramic floor tiles	
D	SUBTOTAL – UTILITIE S AND SERVICE S					
	TOTAL GROSS FLOOR AREA (A+B+C+D)					
	GROSS FLOOR AREA (A+B+C)					
	Area per personnel (GFA/pax; 24 personnel)					

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3. BUILDING SYSTEM REQUIREMENTS

The Project requires the design of new building systems that include civil, structural, mechanical, electrical, electronics, plumbing and sanitary, and fire protection. The specific requirements for these building systems are described in this section.

3.1 Site Development and Civil Works

The site development and civil works scope shall be compliant with applicable laws and standards, including the zoning ordinance in force in the Project Site locality; and in accordance with One SEC Design requirements on site occupancy and ratio of permeable to impermeable surfaces.

A. Site Development

Site development shall include facilities with minimum requirements as follows:

1. Bicycle facilities. Bicycle parking and repair facilities shall be provided in an accessible location from the Site entrance. The design, specifications, and quantity of such facilities shall be in accordance with applicable laws and standards and best industry practices.
2. Prioritization of pedestrian safety and accessibility. Facilities that will enhance pedestrian safety and accessibility shall be provided wherever possible. Such facilities may include continuous and protected pedestrian paths (separated from vehicular traffic), protection from weather elements, traffic signage, among others.
3. Surface parking. All surface parking shall be located at the rear or side of the Site, in accordance with the concept of pedestrian safety and accessibility.
4. Landscaping. Landscaping elements shall be provided in accordance with One SEC Design requirements, with emphasis on effective rainwater management, heat island reduction, and utilizing water-efficient plant species as a means for reducing the water footprint due to irrigation.

B. Civil Works

Civil works shall include facilities with minimum requirements as follows:

1. Perimeter fence. Where not yet existing, a permanent perimeter fence shall be provided to fully enclose the Project Site, with the following specifications:
 - a. Material: Concrete footing, 400 mm high concrete hollow block zocalo, steel body;
 - b. Height: 2.40 meters from sidewalk level or landscape finish grade of the Project Site, whichever is higher; and

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- c. Color: Dark Green for the steel portion (adopted from the SEC logo color palette), and White for the concrete zocalo.
2. Site drainage. In accordance with One SEC Design requirements, alternatives to grey stormwater drainage infrastructure (culverts, pipes, trench drains, etc.) are preferred, wherever possible. Such low-impact, green infrastructure shall be designed to effectively collect stormwater surface run-off and channel the same to the designated stormwater tank. Measures to prevent undesirable water stagnation that could pose health hazards (e.g., potential breeding site of mosquitoes) should be adequately provided.
3. Irrigation. Irrigation systems shall be designed to reduce the overall water footprint of the system, which includes tapping supply from non-potable sources and applying passive irrigation techniques/systems which are related or integrated to the site drainage.

3.2 Structural

The structural design shall take into account the Design Requirements in section 1 of this Annex A, and all Project Requirements indicated in the Terms of Reference (section 3). The Contractor shall identify the appropriate structural system, foundation type, roofing, building envelope design, soil improvement provisions, and other structural interventions for the project.

Detailed design requirements shall be discussed with, and subject to, approval by Employer.

3.3 Mechanical

The Project Components require the design of new air conditioning and ventilation systems. All mechanical systems design and installation shall be compliant with applicable laws and standards, including the Philippine Green Building Code (PGBC).

A. Air Conditioning

8. Special consideration shall be given to these factors when estimating cooling load design:
 - a. Nature of application;
 - b. Type of building construction;
 - c. Floor area and height;
 - d. Internal and outdoor conditions;
 - e. Heat gains (solar, conduction, internal, etc.); and
 - f. Other factors necessary.
9. The air conditioning system and equipment shall be sized as close as possible to the space and system loads calculated.

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10. The designer shall consider the use of individual air conditioning units and systems that will result in an optimum cooling capacity and efficient power consumption. The individual energy efficiency ratio (EER) of such units shall follow the minimum efficiency requirements set by the PGBC.

B. Ventilation

1. Natural ventilation shall be provided by means of windows, skylights, fanlights, doors, louvers or similar ventilation openings, in accordance with applicable laws and standards.
2. If site conditions dictate that normal requirements for natural ventilation cannot be met, mechanical ventilation should be provided in accordance with applicable laws and standards.

C. Vertical Transportation

Vertical transportation systems, including elevators, mechanical lifts, or escalators, as required, shall be provided with standard features that are compliant with the applicable laws and standards, and appropriate safety devices for passenger protection.

3.4 Electrical

The Project Components require the design of new electrical systems to attain the Project Objectives. All electrical cable installation and equipment protection for MEPFS systems shall be compliant with applicable laws and standards, including roughing-ins.

Special consideration shall be given to the following:

1. Integration of receptacles into workstations to reduce and minimize exposed cords;
2. Electrical requirements for the installation of a solar photovoltaic system;
3. Other necessary components or systems to attain the design requirements.

3.5 Electronics

The Project Components require the design of new electronic and communication systems to attain the Project Objectives, including the following:

1. Solar photovoltaic (PV) system (subject to feasibility of installing a solar PV system in the Site);
2. Fire detection and alarm systems (FDAS). These include systems such as smoke and fire detectors, heat detectors, notification and alarm systems, as required by applicable laws and standards;
4. Telephone and data cabling systems;

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5. Access control system (biometrics or RFID);
6. CCTV system;
7. Public address system (optional or as needed);
8. Sound system (optional, for the Function Rooms);
9. Incorporation of motion sensor systems and dynamic switching and controls for lighting circuits, where reasonably within Project constraints; and
10. Other necessary components or systems to attain the design requirements in section 1 of this Annex A.

3.6 Plumbing and Sanitary

The Project Components require the design of new plumbing and sanitary systems to attain the Project Objectives, including the following:

A. Potable Water Supply

All potable water supply system components shall be designed in compliance with applicable laws and standards and in consideration of the following:

1. Pipes: Use polypropylene random copolymer (PPR) pipe.
2. Water pressure: Maintain water pressure within limits as required by applicable laws and standards, to ensure proper fixture operation.
3. Faucets and taps: Use low-flow faucets (≤ 4.8 L/min at 60 psi) with aerators to reduce water consumption.
4. Water fixtures
 - a. Water closets (WC): Use dual-flush WC (≤ 6 L full flush; 3 L low flush) or water-efficient single flush toilets (≤ 4.9 L per flush).
 - b. Shower: Use ≤ 9 L/min at 80 psi.
 - c. Urinals: Use low-flow urinals (≤ 1 L per flush) or waterless urinals.
 - d. Lavatory taps/ kitchen faucets/ handheld bidet sprays: Use ≤ 4.8 L/min at 60 psi.
5. Leak Detection Systems: Incorporate automated leak detection systems to promptly identify and address leaks, reducing water waste.

B. Sewerage

1. Pipes: Use PVC Schedule 40 for drainage systems.
2. Grease Traps: Provide grease traps in kitchen sinks.

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3. P-Traps
 - a. Prove P-traps under sinks, floor drains, and lavatories to prevent foul odors and gases from escaping into the building.
 - b. All toilets, urinals, and lavatories must be equipped with integrated or separate P-traps to prevent sewer gas leakage.
 4. Cleanouts: Provide accessible cleanout points as required by applicable laws and standards, including at the base of vertical stacks and near toilet clusters.
 5. Floor Drains: Use standard stainless steel or PVC drains.
- C. Stormwater Drainage
1. Gutter System
 - a. Use standard galvanized steel or PVC gutters for water collection.
 - b. Provide leaf filters and debris traps for cleaner rainwater collection.
 2. Pipes: Use PVC Schedule 40 for drainage systems.
 3. P-Traps:
 - a. Provide P-traps at inlet pipes to prevent odor issues in storage tanks.
 - b. Provide odor-trapping P-traps on storage tank overflow pipes to prevent unpleasant smells.
 4. Cleanouts: Provide cleanout access for storage tanks and piping to facilitate removal of sediment buildup.
 5. Non-potable water supply (rainwater harvesting):
 - a. Storage Tanks:
 - i. Use concrete or high-capacity polyethylene or fiberglass tanks with UV protection to prevent algae growth.
 - ii. Provide integrated access ports in tanks and pipes for easy cleaning.
 - iii. Minimum storage tank in cubic meters (cum) should be calculated by dividing the building footprint area by 75.
 - iv. Provide an overflow outlet in case the tank gets full during heavy downpour. Direct overflow to the municipal stormwater drainage system.
 - b. Filtration System: Provide sediment filters for debris removal and multi-stage filters (sand, carbon, UV purification) for improved water quality.
 - c. Distribution System:
 - i. Separate piping network for non-potable water supply.
 - ii. Provide a designated pressure pump for the non-potable water supply.
 - iii. Use PVC Schedule 40.

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3.7 Fire Protection

The design of fire protection systems aims to ensure the safety of occupants in the building, especially in the event of fire or other emergencies. The Contractor shall incorporate the following requirements:

1. Fire Suppression. Appropriate fire suppression systems shall be provided for each Project Component, in accordance with applicable laws and standards.
 - a. Systems required
 - i. Automatic Sprinklers (for buildings 15 m or more in height); and
 - ii. Portable Fire Extinguishers.
 - b. Protection guidelines based on building areas. The fire protection system shall be designed according to the function of specific building areas.

Area	Fire Protection ¹	Guidelines
Office spaces	Smoke detectors, portable fire extinguishers or sprinkler systems as required, emergency exit signs	Ensure clear emergency exits and fire escape routes. Maintain fire extinguishers every 6 months. Avoid overloading electrical outlets.
Storage	Fire hydrants, portable fire extinguishers or sprinkler systems as required, fire alarm, fire-rated walls	Use fireproof storage for flammable materials. Maintain accessible fire extinguishers. Separate combustible and non-combustible materials.
Electrical room	Heat detectors, CO2 fire extinguishers, emergency lighting	Fire extinguishers must be CO2-type to prevent electrical damage. Room must be free of combustible storage. Maintain adequate ventilation to prevent overheating.
Server room	Fire suppression system (FM-200 or inert gas) or CO2 fire extinguishers as required, smoke detectors	No water-based suppression systems. Keep the room free of combustible materials.
Kitchen/ Pantry	Fire suppression system or fire extinguishers (Class K for grease fires), as required	Install exhaust hoods with fire suppression systems. Ensure proper maintenance of cooking equipment. Keep flammable materials away from heat sources.

¹Detection, alarm, and communication, and suppression system

2. Fire-Resistant Construction. Fire-resistant materials and construction methods shall be utilized to prevent the spread of fire and limit damage to the Project and its occupants.

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3. Fire Separation and Compartmentation. Design must incorporate, wherever reasonably required, fire separation and compartmentation components, such as fire shutters, fire doors, etc., to contain fire and smoke within specific areas of the building. This will also prevent its spread to other areas, allowing safe evacuation.
4. Emergency Lighting. Installation of emergency lighting systems to provide illumination in the event of power failure and to ensure safe egress routes to be lit during evacuations.