

# Technical Specifications

Item	Specification	Statement of Compliance
		<p><i>[Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. <b>Except for item 1.5, 1.6, 2.5, 2.6, 3.6, 3.7, 4.4, 4.5, 5.6,</b> a statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]</i></p>
1	<p><b>BLDG. 662 IP TELEPHONY REQUIREMENTS</b></p> <p><b><u>1.1 IP TELEPHONE (56) UNITS</u></b></p> <ul style="list-style-type: none"> <li>• Should employ Session Initiation Protocol (SIP) standards compliance</li> <li>• 8 buttons with LEDs</li> <li>• Hard buttons for conference/transfer/caller’s list/hold/redial/goodbye/end-call/drop/4-way navigation luster/headset/volume/mute/phone/messages/contacts/history/home</li> <li>• LEDs for speaker, mute, headset, and call</li> <li>• Wideband audio in handset and speakerphone/headset</li> <li>• Full duplex speakerphone</li> <li>• With ergonomic/non-ergonomic hearing aid compatible handset</li> <li>• Message waiting indicator</li> <li>• Mute function key with indicator/ with optional mute alerting</li> </ul>	

	<ul style="list-style-type: none"> <li>• Dual 10/100/1000 Mbps Ethernet ports (Gigabit)</li> <li>• PoE Class 1/ PoE Class 2</li> <li>• Extensive SIP standards compliance protocol with IETF SIP (RFC3261)/ H.323 support</li> <li>• Standards-based codec support: G.711<math>\mu</math>-law/A-law /G.729/G.729A/G.722/AMR-WB (G.722.2)/G.726/iLBC/BV32/ Opus/ L16</li> <li>• HTTPS configuration and management via web</li> <li>• Optional IC call alerting</li> <li>• Optional Zero touch deployment</li> <li>• Should be compatible to the existing Telephone/PABX System</li> <li>• Optional Wireless connectivity</li> <li>• Optional Bluetooth Connectivity</li> <li>• Optional User Interface personalization</li> </ul> <p><b><u>1.2 STRUCTURED CABLING SYSTEM (1 LOT)</u></b></p> <p><b>CABLE</b></p> <ul style="list-style-type: none"> <li>• Should be Unshielded Twisted-pair cable (U/UTP)</li> <li>• Category 6 4 pairs</li> <li>• With Transmission Standard ANSI/TIA-568.2-D, ISO/IEC 11801 Class E</li> <li>• 24 AWG Conductors</li> <li>• Solid Copper insulated with HPDE</li> <li>• PVC Cable Jacket Material</li> <li>• I/O / Jack Module Loaded</li> </ul> <p><b>PATCH PANEL</b></p> <ul style="list-style-type: none"> <li>• Distribution Module Panel CAT6</li> <li>• 48ports, 1RU</li> <li>• Mounts EIA 19 inches Rack Type</li> <li>• Unshielded</li> </ul> <p><b>INFORMATION OUTLET</b></p> <ul style="list-style-type: none"> <li>• Jack Module Category 6 24AWG compatibility</li> </ul> <p><b>FACEPLATE SIMPLEX</b></p> <ul style="list-style-type: none"> <li>• 1 port Single gang faceplate with label</li> </ul> <p><b>PATCH CORD 2 METER TO END-USER</b></p> <ul style="list-style-type: none"> <li>• RJ45 Patch Cord Category 6</li> <li>• Unshielded, Twisted Pair, Stranded</li> <li>• 2 meter in length</li> </ul> <p><b>PATCH CORD 1 METER TO IDF</b></p> <ul style="list-style-type: none"> <li>• RJ45 Patch Cord Category 6</li> <li>• Unshielded, Twisted Pair, Stranded</li> <li>• 1 meter in length</li> </ul> <p><b>CABLE MANAGER</b></p> <ul style="list-style-type: none"> <li>• Horizontal Cable Management Assembly 1U</li> </ul>	
--	--	--

	<p><b><u>1.3 FIBER OPTIC CABLE INSIDE BUILDING UPLINK FROM MAIN DISTRIBUTION FRAME (MDF) TO INDIVIDUAL DISTRIBUTION FRAME (IDF) (1 LOT)</u></b></p> <ul style="list-style-type: none"> <li>• At least 4 Core Indoor fiber cable inside building connection with LC-LC 12 ports Fiber Patch Panel Duplex, LC-LC Fiber Patch Cord Single Mode, LC-LC Connectors, Fiber Pigtails, Fiber Termination Kit</li> </ul> <p><b><u>1.4 ACTIVE COMPONENTS (1 LOT)</u></b></p> <p><b>DISTRIBUTION SWITCH LAYER 3</b></p> <ul style="list-style-type: none"> <li>• At least 8 ports FOC Layer 3, IEEE 802.3af/at. PoE compliant to simplify deployment and installation</li> </ul> <p><i>Four (4) pieces 1GB SR transceiver Multimode Mode Fiber (MMF)</i>  <i>One (1) piece 10GB LR transceiver Single Mode Fiber (SMF)</i></p> <p><b>DISTRIBUTION SWITCH 48 PORTS POE</b></p> <ul style="list-style-type: none"> <li>• At least 48 Gigabit PoE ports 2SFP, IEEE 802.3af/at. PoE compliant to simplify deployment and installation</li> </ul> <p><b>DATA CABINET</b></p> <ul style="list-style-type: none"> <li>• 600mm x 600mm x 900mm Wall Mounted IDF Cabinet with Accessories (Exhaust fan at top panel, Power Strip, Flexi-glass front door with push lock key, Detachable Vented Side Panels with lock, Fix Tray, vertical cable tray at the back. Enamel Black</li> </ul> <p><b>1KVA UPS RACK MOUNTED WITH AVR AND DOUBLE CONVERSIONS</b></p> <p><b><u>1.5 ROUGHING-INS (1 LOT)</u></b></p> <ul style="list-style-type: none"> <li>• Cable Tray 200mm x 75mm 2100mm with Coupler and Connectors</li> <li>• Roughing-ins materials Such as PVC-pipe 1/2", Plastic Moulding and utility box. Including fittings and accessories.</li> <li>• Hanger and Support such as Threaded rod, C-channel, slotted bar including nuts, washer and etc.</li> <li>• Consumables</li> </ul> <p><b><u>1.6 SERVICES AND OTHER MATERIALS (1 LOT)</u></b></p>	
<p><b>2</b></p>	<p><b>BLDG. 255 IP TELEPHONY REQUIREMENTS</b></p> <p><b><u>2.1 IP TELEPHONE (198) UNITS</u></b></p>	

	<ul style="list-style-type: none"> <li>• Should employ Session Initiation Protocol (SIP) standards compliance</li> <li>• 8 buttons with LEDs</li> <li>• Hard buttons for conference/transfer/caller's list/hold/redial/goodbye/end-call/drop/4-way navigation</li> <li>• luster/headset/volume/mute/phone/messages/contacts/history/home</li> <li>• LEDs for speaker, mute, headset, and call</li> <li>• Wideband audio in handset and speakerphone/headset</li> <li>• Full duplex speakerphone</li> <li>• With ergonomic/non-ergonomic hearing aid compatible handset</li> <li>• Message waiting indicator</li> <li>• Mute function key with indicator/ with optional mute alerting</li> <li>• Dual 10/100/1000 Mbps Ethernet ports (Gigabit)</li> <li>• PoE Class 1/ PoE Class 2</li> <li>• Extensive SIP standards compliance protocol with IETF SIP (RFC3261)/ H.323 support</li> <li>• Standards-based codec support: G.711<math>\mu</math>-law/A-law /G.729/G.729A/G.722/AMR-WB (G.722.2)/G.726/iLBC/BV32/ Opus/ L16</li> <li>• HTTPS configuration and management via web</li> <li>• Optional IC call alerting</li> <li>• Optional Zero touch deployment</li> <li>• Should be compatible to the existing Telephone/PABX System</li> <li>• Optional Wireless connectivity</li> <li>• Optional Bluetooth Connectivity</li> <li>• Optional User Interface personalization</li> </ul> <p><b><u>2.2 STRUCTURED CABLING SYSTEM (1 LOT)</u></b></p> <p><b>CABLE</b></p> <ul style="list-style-type: none"> <li>• Should be Unshielded Twisted-pair cable (U/UTP)</li> <li>• Category 6 4 pairs</li> <li>• With Transmission Standard ANSI/TIA-568.2-D, ISO/IEC 11801 Class E</li> <li>• 24 AWG Conductors</li> <li>• Solid Copper insulated with HPDE</li> <li>• PVC Cable Jacket Material</li> <li>• I/O / Jack Module Loaded</li> </ul> <p><b>PATCH PANEL</b></p> <ul style="list-style-type: none"> <li>• Distribution Module Panel CAT6</li> <li>• 48ports, 1RU</li> <li>• Mounts EIA 19 inches Rack Type</li> <li>• Unshielded</li> </ul> <p><b>INFORMATION OUTLET</b></p> <ul style="list-style-type: none"> <li>• Jack Module Category 6 24AWG compatibility</li> </ul> <p><b>FACEPLATE SIMPLEX</b></p>	
--	--	--

	<ul style="list-style-type: none"> <li>• 1 port Single gang faceplate with label</li> </ul> <p><b>PATCH CORD 2 METER TO END-USER</b></p> <ul style="list-style-type: none"> <li>• RJ45 Patch Cord Category 6</li> <li>• Unshielded, Twisted Pair, Stranded</li> <li>• 2 meter in length</li> </ul> <p><b>PATCH CORD 1 METER TO IDF</b></p> <ul style="list-style-type: none"> <li>• RJ45 Patch Cord Category 6</li> <li>• Unshielded, Twisted Pair, Stranded</li> <li>• 1 meter in length</li> </ul> <p><b>CABLE MANAGER</b></p> <ul style="list-style-type: none"> <li>• Horizontal Cable Management Assembly 1U</li> </ul> <p><b><u>2.3 FIBER OPTIC CABLE INSIDE BUILDING UPLINK FROM MAIN DISTRIBUTION FRAME (MDF) TO INDIVIDUAL DISTRIBUTION FRAME (IDF) (1 LOT)</u></b></p> <ul style="list-style-type: none"> <li>• At least 4 Core Indoor fiber cable inside building connection with LC-LC 12 ports Fiber Patch Panel Duplex, LC-LC Fiber Patch Cord Single Mode, LC-LC Connectors, Fiber Pigtails, Fiber Termination Kit</li> </ul> <p><b><u>2.4 ACTIVE COMPONENTS (1 LOT)</u></b></p> <p><b>DISTRIBUTION SWITCH LAYER 3</b></p> <ul style="list-style-type: none"> <li>• At least 8 ports FOC Layer 3, IEEE 802.3af/at. PoE compliant to simplify deployment and installation</li> </ul> <p><i>Fourteen (14) pieces 1GB SR transceiver Multimode Mode Fiber (MMF)</i>  <i>One (1) piece 10GB LR transceiver Single Mode Fiber (SMF)</i></p> <p><b>DISTRIBUTION SWITCH 48 PORTS POE</b></p> <ul style="list-style-type: none"> <li>• At least 48 Gigabit PoE ports 2SFP, IEEE 802.3af/at. PoE compliant to simplify deployment and installation</li> </ul> <p><b>DATA CABINET</b></p> <ul style="list-style-type: none"> <li>• 600mm x 600mm x 900mm Wall Mounted IDF Cabinet with Accessories (Exhaust fan at top panel, Power Strip, Flexi-glass front door with push lock key, Detachable Vented Side Panels with lock, Fix Tray, vertical cable tray at the back. Enamel Black</li> </ul> <p><b>1KVA UPS RACK MOUNTED WITH AVR AND DOUBLE CONVERSIONS</b></p> <p><b><u>2.5 ROUGHING-INS (1 LOT)</u></b></p> <ul style="list-style-type: none"> <li>• Cable Tray 200mm x 75mm 2100mm with Coupler and Connectors</li> </ul>	
--	---	--

	<ul style="list-style-type: none"> <li>• Roughing-ins materials Such as PVC-pipe 1/2", Plastic Moulding and utility box. Including fittings and accessories.</li> <li>• Hanger and Support such as Threaded rod, C-channel, slotted bar including nuts, washer and etc.</li> <li>• Consumables</li> </ul> <p><b><u>2.6 SERVICES AND OTHER MATERIALS (1 LOT)</u></b></p>	
<p>3</p>	<p><b>BLDG. 229 IP TELEPHONY REQUIREMENTS</b></p> <p><b><u>3.1 IP TELEPHONE (134) UNITS</u></b></p> <ul style="list-style-type: none"> <li>• Should employ Session Initiation Protocol (SIP) standards compliance</li> <li>• 8 buttons with LEDs</li> <li>• Hard buttons for conference/transfer/caller's list/hold/redial/goodbye/end-call/drop/4-way navigation luster/headset/volume/mute/phone/messages/contacts/history/home</li> <li>• LEDs for speaker, mute, headset, and call</li> <li>• Wideband audio in handset and speakerphone/headset</li> <li>• Full duplex speakerphone</li> <li>• With ergonomic/non-ergonomic hearing aid compatible handset</li> <li>• Message waiting indicator</li> <li>• Mute function key with indicator/ with optional mute alerting</li> <li>• Dual 10/100/1000 Mbps Ethernet ports (Gigabit)</li> <li>• PoE Class 1/ PoE Class 2</li> <li>• Extensive SIP standards compliance protocol with IETF SIP (RFC3261)/ H.323 support</li> <li>• Standards-based codec support: G.711<math>\mu</math>-law/A-law /G.729/G.729A/G.722/AMR-WB (G.722.2)/G.726/iLBC/BV32/ Opus/ L16</li> <li>• HTTPS configuration and management via web</li> <li>• Optional IC call alerting</li> <li>• Optional Zero touch deployment</li> <li>• Should be compatible to the existing Telephone/PABX System</li> <li>• Optional Wireless connectivity</li> <li>• Optional Bluetooth Connectivity</li> <li>• Optional User Interface personalization</li> </ul> <p><b><u>3.2 STRUCTURED CABLING SYSTEM (1 LOT)</u></b></p> <p><b>CABLE</b></p> <ul style="list-style-type: none"> <li>• Should be Unshielded Twisted-pair cable (U/UTP)</li> <li>• Category 6 4 pairs</li> <li>• With Transmission Standard ANSI/TIA-568.2-D, ISO/IEC 11801 Class E</li> <li>• 24 AWG Conductors</li> </ul>	

	<ul style="list-style-type: none"> <li>• Solid Copper insulated with HPDE</li> <li>• PVC Cable Jacket Material</li> <li>• I/O / Jack Module Loaded</li> </ul> <p><b>PATCH PANEL</b></p> <ul style="list-style-type: none"> <li>• Distribution Module Panel CAT6</li> <li>• 48ports, 1RU</li> <li>• Mounts EIA 19 inches Rack Type</li> <li>• Unshielded</li> </ul> <p><b>INFORMATION OUTLET</b></p> <ul style="list-style-type: none"> <li>• Jack Module Category 6 24AWG compatibility</li> </ul> <p><b>FACEPLATE SIMPLEX</b></p> <ul style="list-style-type: none"> <li>• 1 port Single gang faceplate with label</li> </ul> <p><b>PATCH CORD 2 METER TO END-USER</b></p> <ul style="list-style-type: none"> <li>• RJ45 Patch Cord Category 6</li> <li>• Unshielded, Twisted Pair, Stranded</li> <li>• 2 meter in length</li> </ul> <p><b>PATCH CORD 1 METER TO IDF</b></p> <ul style="list-style-type: none"> <li>• RJ45 Patch Cord Category 6</li> <li>• Unshielded, Twisted Pair, Stranded</li> <li>• 1 meter in length</li> </ul> <p><b>CABLE MANAGER</b></p> <ul style="list-style-type: none"> <li>• Horizontal Cable Management Assembly 1U</li> </ul> <p><b><u>3.3 FIBER OPTIC CABLE INSIDE BUILDING UPLINK FROM MAIN DISTRIBUTION FRAME (MDF) TO INDIVIDUAL DISTRIBUTION FRAME (IDF) (1 LOT)</u></b></p> <ul style="list-style-type: none"> <li>• At least 4 Core Indoor fiber cable inside building connection with LC-LC 12 ports Fiber Patch Panel Duplex (SM ODF Cassette Type). LC-LC Fiber Patch Cord Single Mode, LC-LC Connectors, Fiber Pigtails, Fiber Termination Kit</li> </ul> <p><b><u>3.4 OVERHEAD OUTDOOR FIBER INTER-BUILDING BACKBONE (FIBER CONNECTION FROM BLDG. 229 TO VARIOUS BUILDINGS (BLDG. 662, BLDG. 71, SEAPORT BUILDING)</u></b></p> <ul style="list-style-type: none"> <li>• At least 12 Core Fig. 8 Outdoor fiber cable for inter-building connection with LC-LC 12 ports Fiber Patch Panel Duplex (SM ODF Cassette Type). LC-LC Fiber Patch Cord, LC-LC Connectors, Fiber Pigtails, Fiber Termination Kit, Post Arm and Brackets, Post Clamp and Hanger</li> </ul> <p><b><u>3.5 ACTIVE COMPONENTS (1 LOT)</u></b></p> <p><b>CORE SWITCH</b></p> <ul style="list-style-type: none"> <li>• With Fiber modules, 16 Ports Fiber at least 10GB or higher 2x24 PoE ports dual PSU</li> </ul>	
--	---	--

	<p><b>DISTRIBUTION SWITCH 24 PORTS POE</b></p> <ul style="list-style-type: none"> <li>• At least 24 Gigabit PoE ports 2SFP, IEEE 802.3af/at. PoE compliant to simplify deployment and installation</li> </ul> <p><b>DISTRIBUTION SWITCH 48 PORTS POE</b></p> <ul style="list-style-type: none"> <li>• At least 48 Gigabit PoE ports 2SFP, IEEE 802.3af/at. PoE compliant to simplify deployment and installation</li> </ul> <p><i>Eight (8) pieces 1GB SR transceiver Multimode Mode Fiber (MMF)</i></p> <p><i>Four (4) pieces 10GB LR transceiver Single Mode Fiber (SMF)</i></p> <p><b>DATA CABINETS</b></p> <ul style="list-style-type: none"> <li>• 600mm x 600mm x 900mm Wall Mounted IDF Cabinet with Accessories (Exhaust fan at top panel, Power Strip, Flexi-glass front door with push lock key, Detachable Vented Side Panels with lock, Fix Tray, vertical cable tray at the back. Enamel Black</li> <li>• 800mm x 800mm x 2100mm 7ft MDF Cabinet with Accessories (Exhaust fan at top panel, Power Strip, Flexi-glass front door with push lock key, Detachable Vented Side Panels with lock, Fix Tray, vertical cable tray at the back. Enamel Black</li> </ul> <p><b>1KVA UPS RACK MOUNTED WITH AVR AND DOUBLE CONVERSIONS</b></p> <p><b>3KVA UPS WITH BACK-UP TIME</b></p> <p><b><u>3.6 ROUGHING-INS (1 LOT)</u></b></p> <ul style="list-style-type: none"> <li>• Cable Tray 200mm x 75mm 2100mm with Coupler and Connectors</li> <li>• Roughing-ins materials Such as PVC-pipe 1/2", Plastic Moulding and utility box. Including fittings and accessories.</li> <li>• Hanger and Support such as Threaded rod, C-channel, slotted bar including nuts, washer and etc.</li> <li>• Consumables</li> </ul> <p><b><u>3.7 SERVICES AND OTHER MATERIALS (1 LOT)</u></b></p>	
4	<p><b>BLDG. 71 IP TELEPHONY REQUIREMENTS</b></p> <p><b><u>4.1 IP TELEPHONE (11) UNITS</u></b></p> <ul style="list-style-type: none"> <li>• Should employ Session Initiation Protocol (SIP) standards compliance</li> <li>• 8 buttons with LEDs</li> <li>• Hard buttons for conference/transfer/caller's list/hold/redial/goodbye/end-call/drop/4-way</li> </ul>	



	<p>navigation luster/headset/volume/mute/phone/messages/ contacts/history/home</p> <ul style="list-style-type: none"> <li>• LEDs for speaker, mute, headset, and call</li> <li>• Wideband audio in handset and speakerphone/headset</li> <li>• Full duplex speakerphone</li> <li>• With ergonomic/non-ergonomic hearing aid compatible handset</li> <li>• Message waiting indicator</li> <li>• Mute function key with indicator/ with optional mute alerting</li> <li>• Dual 10/100/1000 Mbps Ethernet ports (Gigabit)</li> <li>• PoE Class 1/ PoE Class 2</li> <li>• Extensive SIP standards compliance protocol with IETF SIP (RFC3261)/ H.323 support</li> <li>• Standards-based codec support: G.711<math>\mu</math>-law/A-law /G.729/G.729A/G.722/AMR-WB (G.722.2)/G.726/iLBC/BV32/ Opus/ L16</li> <li>• HTTPS configuration and management via web</li> <li>• Optional IC call alerting</li> <li>• Optional Zero touch deployment</li> <li>• Should be compatible to the existing Telephone/PABX System</li> <li>• Optional Wireless connectivity</li> <li>• Optional Bluetooth Connectivity</li> <li>• Optional User Interface personalization</li> </ul> <p><b>4.2 STRUCTURED CABLING INSIDE BUILDING UPLINK FROM MAIN DISTRIBUTION FRAME (MDF) TO INDIVIDUAL DISTRIBUTION FRAME (IDF) (1 LOT)</b></p> <ul style="list-style-type: none"> <li>• LC-LC 12 ports Fiber Patch Panel Duplex, LC-LC Fiber Patch Cord Single Mode, LC-LC Connectors, Fiber Pigtails, Fiber Termination Kit</li> </ul> <p><b>CABLE</b></p> <ul style="list-style-type: none"> <li>• Should be Unshielded Twisted-pair cable (U/UTP)</li> <li>• Category 6 4 pairs</li> <li>• With Transmission Standard ANSI/TIA-568.2-D, ISO/IEC 11801 Class E</li> <li>• 24 AWG Conductors</li> <li>• Solid Copper insulated with HPDE</li> <li>• PVC Cable Jacket Material</li> <li>• I/O / Jack Module Loaded</li> </ul> <p><b>PATCH CORD 2 METER TO END-USER</b></p> <ul style="list-style-type: none"> <li>• RJ45 Patch Cord Category 6</li> <li>• Unshielded, Twisted Pair, Stranded</li> <li>• 2 meter in length</li> </ul> <p><b>PATCH CORD 1 METER TO IDF</b></p> <ul style="list-style-type: none"> <li>• RJ45 Patch Cord Category 6</li> <li>• Unshielded, Twisted Pair, Stranded</li> <li>• 1 meter in length</li> </ul> <p><b>CABLE MANAGER</b></p>	
--	--	--

	<ul style="list-style-type: none"> <li>• Horizontal Cable Management Assembly 1U</li> </ul> <p><b>PATCH PANEL</b></p> <ul style="list-style-type: none"> <li>• Distribution Module Panel CAT6</li> <li>• 48ports, 2RU</li> <li>• Mounts EIA 19 inches Rack Type</li> <li>• Unshielded</li> <li>• I/O / Jack Module Loaded</li> </ul> <p><b>MESSENGER WIRE, POST ARMS AND BRACKETS, POST CLAMP AND HANGER</b></p> <p><b><u>4.3 ACTIVE COMPONENTS (1 LOT)</u></b></p> <p><b>DISTRIBUTION SWITCH 24 PORTS POE</b></p> <ul style="list-style-type: none"> <li>• At least 24 Gigabit PoE ports 2SFP, IEEE 802.3af/at. PoE compliant to simplify deployment and installation</li> </ul> <p><i>One (1) piece 10GB LR transceiver Single Mode Fiber (SMF)</i></p> <p><b>1KVA UPS RACK MOUNTED WITH AVR AND DOUBLE CONVERSIONS</b></p> <p><b><u>4.4 ROUGHING-INS (1 LOT)</u></b></p> <ul style="list-style-type: none"> <li>• Cable Tray 200mm x 75mm 2100mm with Coupler and Connectors</li> <li>• Roughing-ins materials Such as PVC-pipe 1/2", Plastic Moulding and utility box. Including fittings and accessories.</li> <li>• Hanger and Support such as Threaded rod, C-channel, slotted bar including nuts, washer and etc.</li> <li>• Consumables</li> </ul> <p><b><u>4.5 SERVICES AND OTHER MATERIALS (1 LOT)</u></b></p>	
5	<p><b>OTHER DELIVERABLES</b></p> <p><b><u>5.1 IP TELEPHONE (25) SPARE UNITS</u></b></p> <ul style="list-style-type: none"> <li>• Should employ Session Initiation Protocol (SIP) standards compliance</li> <li>• 8 buttons with LEDs</li> <li>• Hard buttons for conference/transfer/caller's list/hold/redial/goodbye/end-call/drop/4-way navigation luster/headset/volume/mute/phone/messages/contacts/history/home</li> <li>• LEDs for speaker, mute, headset, and call</li> <li>• Wideband audio in handset and speakerphone/headset</li> <li>• Full duplex speakerphone</li> </ul>	

	<ul style="list-style-type: none"> <li>• With ergonomic/non-ergonomic hearing aid compatible handset</li> <li>• Message waiting indicator</li> <li>• Mute function key with indicator/ with optional mute alerting</li> <li>• Dual 10/100/1000 Mbps Ethernet ports (Gigabit)</li> <li>• PoE Class 1/ PoE Class 2</li> <li>• Extensive SIP standards compliance protocol with IETF SIP (RFC3261)/ H.323 support</li> <li>• Standards-based codec support: G.711μ-law/A-law /G.729/G.729A/G.722/AMR-WB (G.722.2)/G.726/iLBC/BV32/ Opus/ L16</li> <li>• HTTPS configuration and management via web</li> <li>• Optional IC call alerting</li> <li>• Optional Zero touch deployment</li> <li>• Should be compatible to the existing Telephone/PABX System</li> <li>• Optional Wireless connectivity</li> <li>• Optional Bluetooth Connectivity</li> <li>• Optional User Interface personalization</li> </ul> <p><b><u>5.2 FUSION MACHINE FIBER CONNECTION LOW CAPACITY AT LEAST 24-CORE WITH BATTERY PACK INCLUDING COMPREHENSIVE TRAINING (1 LOT)</u></b></p> <p><b><u>5.3 DISTRIBUTION SWITCH 48 PORTS POE (2 UNITS)</u></b></p> <ul style="list-style-type: none"> <li>• At least 48 Gigabit PoE ports 2SFP, IEEE 802.3af/at. PoE compliant to simplify deployment and installation</li> <li>• Two (2) units to be used for the Fiber Link between Seaport Building and Bldg. 229. One (1) for Bldg. 229 and One (1) for Seaport Building</li> <li>• Two (2) <b>1GB LR TRANSCEIVER SINGLE MODE FIBER (SMF)</b></li> </ul> <p><b><i>5.4 Four (4) additional 1GB LR TRANSCEIVER SINGLE MODE FIBER (SMF)</i></b></p> <p><b><i>One (1) additional 1GB SR TRANSCEIVER SINGLE MODE FIBER (MMF)</i></b></p> <p><b><u>5.5 1KVA UPS RACK MOUNTED WITH AVR AND DOUBLE CONVERSIONS</u></b></p> <p><b><u>5.6 SERVICES AND OTHER MATERIALS (1 LOT)</u></b></p>	
<p>6</p>	<p><b>DOCUMENTARY REQUIREMENTS</b></p> <ul style="list-style-type: none"> <li>• Avaya System Programming Certification <b><u>or other related IP Telephony System</u></b> and curriculum vitae showing relevant experience on Avaya System Programming of at least two (2) Certified Technical Experts.</li> <li>• Network Set-up Certification and curriculum vitae showing relevant experience on Network Set-up of at least two (2) Certified Technical Experts.</li> </ul>	

	<ul style="list-style-type: none"><li>• License PRC of one (1) Registered Electronics Engineer with curriculum vitae showing experience on similar projects</li><li>• Authorized Distributor/Reseller Certificate from the Manufacturer of <b><u>the IP Telephone brand being offered.</u></b></li><li>• Proof stating that the Service Provider have at least twenty (20) years in the industry.</li></ul>	
<b>NOTHING FOLLOWS</b>		

**I hereby certify that the statement of compliance to the foregoing technical specifications as well as concurrence to the entirety of this documents are true and correct, otherwise, if found to be false either during bid evaluation or post-qualification, the same shall give rise to automatic disqualification of our bid.**

\_\_\_\_\_  
*[Signature over Printed Name]*

\_\_\_\_\_  
*[in the capacity of/Position/Designation]*

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_  
*[Service Provider's Company Name]*