

***Appendix to Part I***  
***General Requirements***

## APPENDIX 101 EQUIPMENT FOR ENGINEER'S LABORATORY

### 101.1 Equipment for Engineer's Laboratory

The Contractor shall provide the all required equipment, tools, and consumables to perform laboratory test indicated below for the exclusive use for the Engineer's laboratory. Prior to the provision and installation of these equipment, tools and consumables, the Contractor shall submit catalogue, photos or other documents for the approval of the Engineer. The Contractor shall maintain all items in good condition throughout the whole period of the Contract and shall replace any items as necessary when the provided instruments are either under repair or are no longer usable.

- |   |                          |                              |
|---|--------------------------|------------------------------|
| • Grain size analysis by Sieving and by sedimentation | AASHTO T88-72            | or ASTM D422-63              |
| • Specific gravity of coarse and fine aggregate       | AASHTO T84-77 and T85-77 | or ASTM C127-77 and C 128-73 |
| • Liquid Limit  | AASHTO T89-76            | or ASTM D423-66              |
| • Plastic Limit and Plasticity Index                  | AASHTO T90-70            | or ASTM D424-59              |
| • Test for organic impurities                         | AASHTO T21-78            | or ASTM C40-73               |
| • Aggregate soundness test                            | AASHTO T104-77           | or ASTM C142-78              |
| • Test for clay lumps                                 | AASHTO T112-78           | or ASTM C-142-78             |
| • Sand equivalent                                     | AASHTO T176-73           | or ASTM C2419-74             |
| • Fineness modulus                                    |                          | or ASTM 125-99               |
| • Determination of aggregate elongation               | ASTM C-33-97             |                              |
| • Moisture-density relationship                       | AASHTO T180 or And T-99  | ASTM D698-78 and D1558-78    |
| • Density of soil in place                            | AASHTO Y191              | or ASTM D1556-64             |
| • California bearing Ratio (CBR)                      | AASHTO T193-72           | or ASTM D1883-73             |
| • Speedy Moisture Test                                | AASHTO T217-67           |                              |

### 101.2 Furniture, Equipment and Utensils for Engineer's Laboratory

#### 101.2.1 General

The Contractor shall provide the following items of furniture, equipment and utensils for the Engineer's laboratory to the satisfaction of the Engineer. Prior to the provision and installations, the Contractor shall submit catalogue, photos or other documents for the approval of the Engineer. The Contractor shall maintain all items in good condition throughout the whole period of the Contract and shall replace any items as necessary when the provided furniture, equipment or utensils are either under repair or are no longer usable.

#### 101.2.2 Computer Equipment for the Engineer's Laboratory

- Two (2) sets of Computer with a configuration of:
  - INTEL main board, central processor unit of INTEL Pentium micro-processor not les than 1.5 Giga Hertz, 256 MB of RAM expandable to 512 MB, 256 Kb Level 2 Integrated Cache, 200 Mhz Bus y System, and 20 GB Hard drive with UPS of 500VA.

- 3.5" floppy disk (1.44 mb)
- 15" monitor
- CDRW (24 X 10 X 40)
- 2 USB ports, one 56 Kb integrated modem, one network port of 100 BASE
- One (1) Unit of Laser Printers both for A4 and A3 size paper, printing speed not less than 20 ppm at normal, total memory of 16 MB, maximum resolution of 1,200 dpi, direct connection with network cable of 100 BASE.
- Two (2) sets of Telephone Handset (operational for direct line and intercom system).

#### **101.2.3 Software and Network connection**

Each of the computers for the laboratory shall be connected to the engineers main network located in the office building.

One of the lab computers shall have high speed internet access 128kb/s.

The contractor shall provided the following installed software and respective licenses for the computer in the laboratory:

Two (2) Microsoft Windows® XP or latest version approved by the engineer

Two (2) Microsoft Office® XP small office edition or latest version approved by the engineer

Two (2) Norton Antivirus® 2003 or latest version approved by the engineer, the contractor shall also provided the licenses for this particular software for the years 2004, 2005 and 2006.

#### **101.2.4 Furniture and Utensils for the Engineer's Laboratory**

Two (2) units of Whiteboard 1.2 X 0.90

One (1) unit of Pin-board 2.4 X 1.21

Four (4) units of Desk, double pedestal with lockable drawer 2.0 X 1.0

One (1) set of Working Table 5.0 m X 2.5 m with 8 units of ergonomic chairs

Four (4) units of chair with arm

One (1) unit of Lockable stationary, 0.70 m X 1.8 m

Five (5) units of Steel filing cabinet with four drawers and locks

Two (2) units of Bookcase with five shelves, 0.70 m X 1.8 m

Five (5) units of Waste paper bin

Two (2) units of Fire Extinguisher

One (1) sets of First Aid Kit

## APPENDIX 102 OFFICE EQUIPMENT FURNITURE AND UTENSILS FOR EMPLOYER/ENGINEER

### 102.1 Renovation of Employer's/Eng ineer's Office and Laboratory

The Contractor shall renovate the existing CEPA's building (Building 3 in contract drawing MS-00-001) for temporary use as Employer's/Engineer's office. Followings are supplemental instructions to the SECTION 11100 of the Specifications.

The Contractor shall arrange lighting fixture of the temporary office to ensure that the light intensity at the working level of the office in the entire building is as a minimum of 500 lux.

The Contractor shall replace and provide all the windows glass of the building with transparency type glass. All the building interiors surface shall be painted with lead and mercury free paint.

The Contractor shall construct cubicle type partitions for the office as instructed by the Engineer and additional wall with one door for each floor shall be installed for opening part of the building to keep all working area in good air condition and close security.

The Contractor shall install two (2) dual 120V electrical outlets in the perimeter wall at the mid point between columns. The Contractor shall ensure that the main electrical load center has enough capacity for the installation of a maximum of 30 computers with monitors, 10 printers, and the associated kitchen equipment in addition to the normal loads of lighting, air conditioning, etc.

The Contractor shall ensure that the entire electrical connection is properly grounded and shall make the provisions for backup power generator with a capacity of 100 KVA. of caterpillar brand or equivalent.

The Contractor shall provide and install six (6) units of split type air conditioning system for the entire building. Each unit shall have a capacity of at least 30,000 BTU.

The Contractor shall install 6 direct telephone lines and total of 20 sets of telephone sets for the office and laboratory shall be provided with appropriate inter-connection system through switching board.

### 102.2 Construction of Employer's/ Engineer's Office with Laboratory

The Contractor will build a two story reinforced concrete building of an area of 450 Sq. M. per floor for a total area of 900.Sq. M. The area for the location of the building is shown in contract drawing MS-00-001, and the floor layout is shown in Figure 102A.

The building design and construction shall consider the following Requirements:

- Anodized Aluminum Energy Efficient windows
- Fluorescent lighting to guarantee a min of 500 lux at working level.
- Ceramic tiled flooring except for the laboratory area which shall only be furnished concrete, the Contractor shall provide enough ceramic tiles and install then in the laboratory area upon completion of the project.
- The Contractor will submit all preliminary designs for the approval of the Engineer.
- The Contractor shall provide ten (10) electrical outlets, twenty (20) telephone

connections, and twenty-six (26) Lan connections.

- The Contractor shall ensure the potable water supply for the building, and upon completion of the project the building water supply system shall be connected to the port water supply system.
- The Contractor shall design and install a waste water treatment plant to treat all waste water from this office building to the same standards as the Waste Water Treatment Plant (WWTP) for the port Administration building.

The following fittings and furniture shall be installed in the building:

- Four (4) Sq. M. of ceramic tiled working surface in kitchen for preparation of food, beverages
- One (1) Sink for kitchen
- Two (2) WC
- Two (2) Individual urinal
- Two (2) Shower
- Two (2) Hand basin
- Two (2) Mirror (one for men's washroom and one for lady's washroom)
- Two (2) Towel rail

**102.3  
Furniture  
Equipment and  
Utensils for  
Employer's/Eng  
ineer's Office**

The Contractor shall provide and install the following items of furniture, equipment and utensils to the satisfaction of the Engineer. Prior to the provision and installation, the Contractor shall submit catalogue, photos or other documents for the approval of the Engineer. The Contractor shall maintain all items in good condition throughout the whole period of the Contract and shall replace any items as necessary when the provided instruments or goods are either under repair or are no longer usable.

- (1) Office Equipment for the Engineer
  - One (1) unit of copying machine, electro-magnetic or other suitable type, capable of rapid production of clean copies from non-transparent originals, A3 and A4 sizes, enlargement or reduction from 155% to 50% by 1% adjustment, copy speed not less than 40 sheets of letter size paper per minute with 10 bin sorter
  - Two (2) units of copying machine, electro-magnetic or other suitable type, A3 and A4 sizes, enlargement or reduction from 155% to 50% by 1% adjustment, copy speed not less than 28 sheets of letter size paper per minute
  - One (1) unit of facsimile machine with 50 pages memory and plain paper type plus a dedicated telephone line
  - One (1) set of Digital Video Tape recorder with waterproofing (-20 m) device and one (1) set of Video Monitor of 29 inch screen (Multi 15 system)
  - Three (3) units of Laser Printers both for A4 and A3 size paper, printing speed not less than 20ppm at normal, total memory of 16MB, maximum resolution of 1,200 dpi, direct connection with network cable of 100 BASE.
  - Two (2) sets of Color Printer for A4 and A3 size paper, inkjet type with

- separate 7 color cartridges, printing speed not less than 12ppm at normal, maximum resolution of 1,200 x 720 dpi
- Twenty (20) sets of Telephone Handset (operational for direct line and intercom system)
- One (1) unit of Telephone Switchboard for connection of 20 lines at least
- Ten (10) Portadle radios VHF-FM radios
- Two (2) sets of Binding Machine suitable for A4 report including binders
- One (1) unit of Electric Typewriter with A3 size paper carrier
- Three (3) sets of Computer with a configuration of,
  - INTEL main board, central processor unit of INTEL pentium micro-processor not less than 1.4 Giga Hertz, 256 MB of RAM expandable to 512 MB, 256 Kb Level 2 Integrated Cache, 200 Mhz Bus System, and 20 GB Hard drive with UPS of 500VA
  - 3.5" floppy disk (1.44.mb)
  - 17" monitor
  - CDRW (24 x 10 x 40)
  - 2 USB ports, one 56Kb modem, one network port of 100 BASE
- Fifteen (15) sets of Computer with a configuration of,
  - INTEL main board, central processor unit of INTEL pentium micro-processor not less than 1.4 Giga Hertz, 256 MB of RAM expandable to 512 MB, 256 Kb Level 2 Integrated Cache, 200 Mhz Bus System, and 20 GB Hard drive with UPS of 500VA
    - 3.5" floppy disk (1.44.mb)
    - 15" monitor
    - CDRW (24 x 10 x 40)
    - 2 USB ports, one 56Kb integrated modem, one network port of 100 BASE
- One (1) unit of Plotter HP 800ps (42 in) with 160MB memory and resolution of 2,880 dpi or equivalent approved by the Engineer
- Two (2) units of network cable hub of 24 ports
- One (1) sets of Server type Computer with a configuration of,
  - INTEL main board, INTEL Pentium® microprocessor not less than 1.7 Giga Hertz.
  - RAM memory 256MB/4 GB
  - Six PCI slots with USB support (Four 32-bit/33MHz slots and Two 64-bit/66 MHz slots)
  - Integrated controller, dual channel Ultra3 SCSI Controller
  - Eighth shelves for mass storage (one 3.5 inch flexible disk drive, on CDRW (24 x 10 x 40), one external open common tray removable media bay suit backup device, Five front-accessible hot swap hard disk drives)
  - 73GB Ultra3 SCSI Hard Drive (10K rpm)

- 3.5" floppy disk (1.44 mb)
- 15" monitor
- CDRW (24 X 10 X 40)
- 2 USB ports, one 56 Kb integrated modem, one network port of 100 BASE
- One (1) Unit of Laser Printers both for A4 and A3 size paper, printing speed not less than 20 ppm at normal, total memory of 16 MB, maximum resolution of 1,200 dpi, direct connection with network cable of 100 BASE.
- Two (2) sets of Telephone Handset (operational for direct line and intercom system).

#### **101.2.3 Software and Network connection**

Each of the computers for the laboratory shall be connected to the engineers main network located in the office building.

One of the lab computers shall have high speed internet access 128kb/s.

The contractor shall provided the following installed software and respective licenses for the computer in the laboratory:

Two (2) Microsoft Windows® XP or latest version approved by the engineer

Two (2) Microsoft Office® XP small office edition or latest version approved by the engineer

Two (2) Norton Antivirus® 2003 or latest version approved by the engineer, the contractor shall also provided the licenses for this particular software for the years 2004, 2005 and 2006.

#### **101.2.4 Furniture and Utensils for the Engineer's Laboratory**

Two (2) units of Whiteboard 1.2 X 0.90

One (1) unit of Pin-board 2.4 X 1.21

Four (4) units of Desk, double pedestal with lockable drawer 2.0 X 1.0

One (1) set of Working Table 5.0 m X 2.5 m with 8 units of ergonomic chas

Four (4) units of chair with arm

One (1) unit of Lockable stationary, 0.70 m X 1.8 m

Five (5) units of Steel filing cabinet with four drawers and locks

Two (2) units of Bookcase with five shelves, 0.70 m X 1.8 m

Five (5) units of Waste paper bin

Two (2) units of Fire Extinguisher

One (1) sets of First Aid Kit

## APPENDIX 102 OFFICE EQUIPMENT FURNITURE AND UTENSILS FOR EMPLOYER/ENGINEER

### 102.1 Renovation of Employer's/Eng ineer's Office and Laboratory

The Contractor shall renovate the existing CEPA's building (Building 3 in contract drawing MS-00-001) for temporary use as Employer's/Engineer's office. Followings are supplemental instructions to the SECTION 11100 of the Specifications.

The Contractor shall arrange lighting fixture of the temporary office to ensure that the light intensity at the working level of the office in the entire building is as a minimum of 500 lux.

The Contractor shall replace and provide all the windows glass of the building with transparency type glass. All the building interiors surface shall be painted with lead and mercury free paint.

The Contractor shall construct cubicle type partitions for the office as instructed by the Engineer and additional wall with one door for each floor shall be installed for opening part of the building to keep all working area in good air condition and close security.

The Contractor shall install two (2) dual 120V electrical outlets in the perimeter wall at the mid point between columns. The Contractor shall ensure that the main electrical load center has enough capacity for the installation of a maximum of 30 computers with monitors, 10 printers, and the associated kitchen equipment in addition to the normal loads of lighting, air conditioning, etc.

The Contractor shall ensure that the entire electrical connection is properly grounded and shall make the provisions for backup power generator with a capacity of 100 KVA. of caterpillar brand or equivalent.

The Contractor shall provide and install six (6) units of split type air conditioning system for the entire building. Each unit shall have a capacity of at least 30,000 BTU.

The Contractor shall install 6 direct telephone lines and total of 20 sets of telephone sets for the office and laboratory shall be provided with appropriate inter-connection system through switching board.

### 102.2 Construction of Employer's/ Engineer's Office with Laboratory

The Contractor will build a two story reinforced concrete building of an area of 450 Sq. M. per floor for a total area of 900.Sq. M. The area for the location of the building is shown in contract drawing MS-00-001, and the floor layout is shown in Figure 102A.

The building design and construction shall consider the following Requirements:

- Anodized Aluminum Energy Efficient windows
- Fluorescent lighting to guarantee a min of 500 lux at working level.
- Ceramic tiled flooring except for the laboratory area which shall only be furnished concrete, the Contractor shall provide enough ceramic tiles and install them in the laboratory area upon completion of the project.
- The Contractor will submit all preliminary designs for the approval of the Engineer.
- The Contractor shall provide ten (10) electrical outlets, twenty (20) telephone



connections, and twenty-six (26) Lan connections.

- The Contractor shall ensure the potable water supply for the building, and upon completion of the project the building water supply system shall be connected to the port water supply system.
- The Contractor shall design and install a waste water treatment plant to treat all waste water from this office building to the same standards as the Waste Water Treatment Plant (WWTP) for the port Administration building.

The following fittings and furniture shall be installed in the building:

- Four (4) Sq. M. of ceramic tiled working surface in kitchen for preparation of food, beverages
- One (1) Sink for kitchen
- Two (2) WC
- Two (2) Individual urinal
- Two (2) Shower
- Two (2) Hand basin
- Two (2) Mirror (one for men's washroom and one for lady's washroom)
- Two (2) Towel rail

**102.3  
Furniture  
Equipment and  
Utensils for  
Employer's/Eng  
ineer's Office**

The Contractor shall provide and install the following items of furniture, equipment and utensils to the satisfaction of the Engineer. Prior to the provision and installation, the Contractor shall submit catalogue, photos or other documents for the approval of the Engineer. The Contractor shall maintain all items in good condition throughout the whole period of the Contract and shall replace any items as necessary when the provided instruments or goods are either under repair or are no longer usable.

(1) Office Equipment for the Engineer

- One (1) unit of copying machine, electro-magnetic or other suitable type, capable of rapid production of clean copies from non-transparent originals, A3 and A4 sizes, enlargement or reduction from 155% to 50% by 1% adjustment, copy speed not less than 40 sheets of letter size paper per minute with 10 bin sorter
- Two (2) units of copying machine, electro-magnetic or other suitable type, A3 and A4 sizes, enlargement or reduction from 155% to 50% by 1% adjustment, copy speed not less than 28 sheets of letter size paper per minute
- One (1) unit of facsimile machine with 50 pages memory and plain paper type plus a dedicated telephone line
- One (1) set of Digital Video Tape recorder with waterproofing (-20 m) device and one (1) set of Video Monitor of 29 inch screen (Multi 15 system)
- Three (3) units of Laser Printers both for A4 and A3 size paper, printing speed not less than 20ppm at normal, total memory of 16MB, maximum resolution of 1,200 dpi, direct connection with network cable of 100 BASE.
- Two (2) sets of Color Printer for A4 and A3 size paper, inkjet type with

separate 7 color cartridges, printing speed not less than 12ppm at normal, maximum resolution of 1,200 x 720 dpi

- Twenty (20) sets of Telephone Handset (operational for direct line and intercom system)
- One (1) unit of Telephone Switchboard for connection of 20 lines at least
- Ten (10) Portadle radios VHF-FM radios
- Two (2) sets of Binding Machine suitable for A4 report including binders
- One (1) unit of Electric Typewriter with A3 size paper carrier
- Three (3) sets of Computer with a configuration of,
  - INTEL main board, central processor unit of INTEL pentium micro-processor not less than 1.4 Giga Hertz, 256 MB of RAM expandable to 512 MB, 256 Kb Level 2 Integrated Cache, 200 Mhz Bus System, and 20 GB Hard drive with UPS of 500VA
  - 3.5" floppy disk (1.44.mb)
  - 17" monitor
  - CDRW (24 x 10 x 40)
  - 2 USB ports, one 56Kb modem, one network port of 100 BASE
- Fifteen (15) sets of Computer with a configuration of,
  - INTEL main board, central processor unit of INTEL pentium micro-processor not less than 1.4 Giga Hertz, 256 MB of RAM expandable to 512 MB, 256 Kb Level 2 Integrated Cache, 200 Mhz Bus System, and 20 GB Hard drive with UPS of 500VA
    - 3.5" floppy disk (1.44.mb)
    - 15" monitor
    - CDRW (24 x 10 x 40)
    - 2 USB ports, one 56Kb integrated modem, one network port of 100 BASE
- One (1) unit of Plotter HP 800ps (42 in) with 160MB memory and resolution of 2,880 dpi or equivalent approved by the Engineer
- Two (2) units of network cable hub of 24 ports
- One (1) sets of Server type Computer with a configuration of,
  - INTEL main board, INTEL Pentium® microprocessor not less than 1.7 Giga Hertz.
  - RAM memory 256MB/4 GB
  - Six PCI slots with USB support (Four 32-bit/33MHz slots and Two 64-bit/66 MHz slots)
  - Integrated controller, dual channel Ultra3 SCSI Controller
  - Eighth shelves for mass storage (one 3.5 inch flexible disk drive, on CDRW (24 x 10 x 40), one external open common tray removable media bay suit backup device, Five front-accessible hot swap hard disk drives)
  - 73GB Ultra3 SCSI Hard Drive (10K rpm)

- Embedde 10/100TX Ethernet NIC
  - 17" non interlace high resolution low radiation energy compliant monitor.
  - 2 USB Ports, One vide port SVGA, One mini-Din Keyboard, One mini-Din Mouse, One external SCSI knockout port, One 25-pin parallel port, two 9-pin RS-232 serial ports.
  - All other standard peripherals
- (2) Installed licensed Computer Software
- Eight (8) licenses of AutoCAD® 2000 or latest version approved by the engineer
  - Eighteen (18) licenses of Microsoft Windows® XP or latest version approved by the engineer
  - Fourteen (14) licenses of Microsoft Windows® XP small business edition or latest version approved by the engineer
  - Four (4) licenses of Microsoft Windows® XP professional edition or latest version approved by the engineer.
  - Eighteen (19) licenses of Norton Antivirus® 2003, the contractor shall also provide the continues update of this software for years 2004, 2005 and 2006.
  - One (1) license of Microsoft® Windows® 2000 Server or latest edition as approved by engineer.
  - Four (4) licenses of Microsoft® Project® 2000 or latest edition as approved by the engineer.
- (3) Survey Equipment for the Engineer
- Three (3) units of Portable Turbidity Meter
  - Five (5) units of GPS
  - One (1) unit of Theodolite with direct readings to 1 second of arc, complete with tripod
  - Two (2) units of Theodolite with direct readings to 20 seconds of arc or better, complete with tripod
  - Two (2) units of Automatic Level, complete with tripod
  - One (1) unit of Electric Distance Measuring Device suitable for mounting on a theodolite and giving direct readings to an accuracy of 1cm over 1 km
  - Three (3) units of Reflectors for above distance measuring device, complete tripod
  - Four (4) nos. of 4 m long Metric Staffs graduated to 1 cm
  - Twenty (20) nos. of 3 m long Ranging Poles
  - Two (2) nos. of 100 m long graduated Steel Measuring Band
  - Two (2) nos. of 30 m long graduated Steel Measuring Tapes
  - Three (3) nos. of 30 m long graduated Vinyl Measuring Tapes
  - One (1) unit of dual frequency (210KHZ and 30 KHZ) Echo Sounder

with outboard transducer and recording unit with GPS system (horizontal accuracy of 20m) suitable for operating from Engineer's boat, complete with sufficient number of recording paper for three years operation

- One (1) no. of 20 m long Sounding Chain with 0.5 m diameter flat plate for sounding
- Two (2) nos. of 3kg Hammers
- Three (3) nos. of 7 x 50 mm Binoculars

(4) Furniture for the Engineer

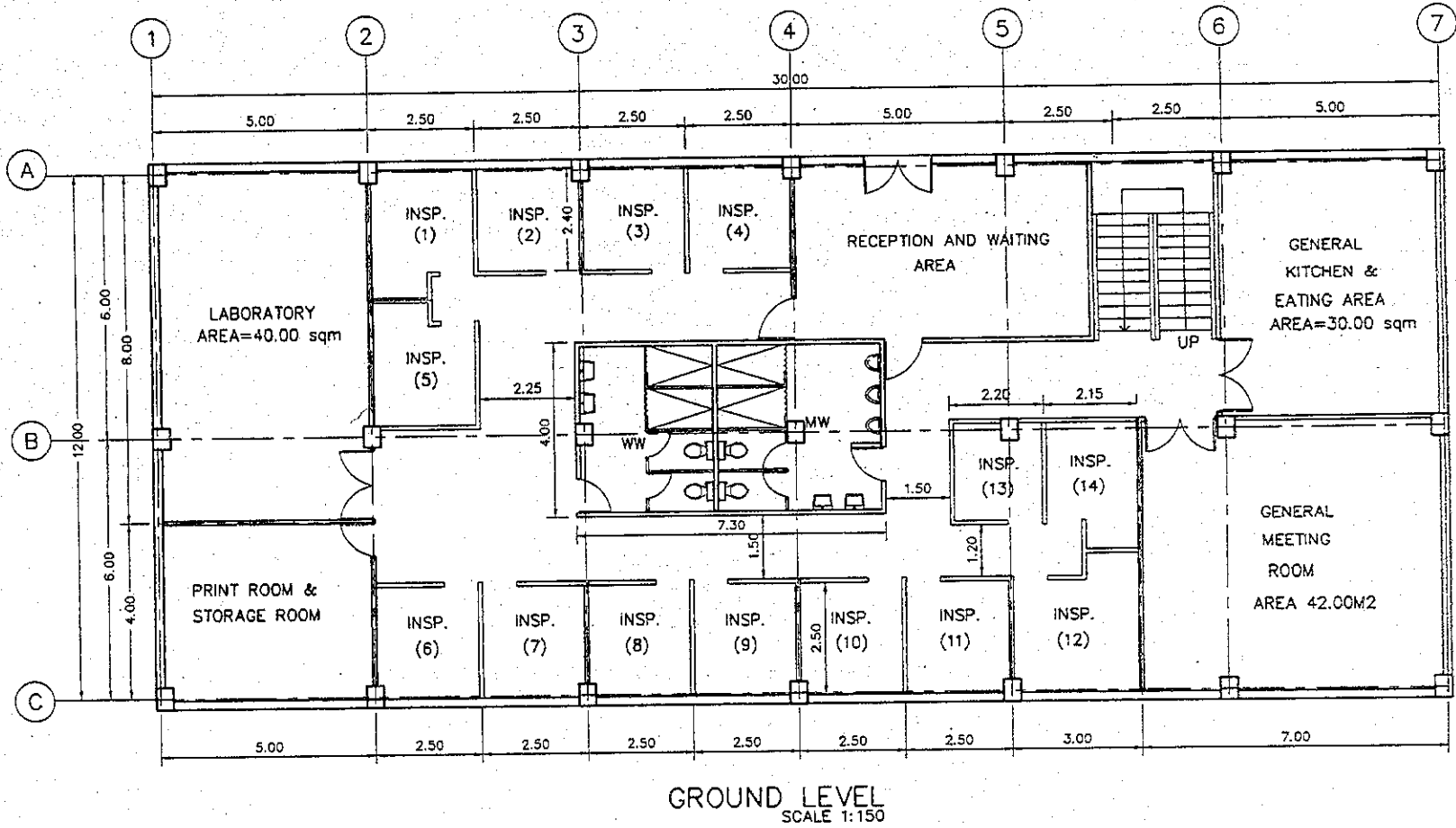
- Four (4) units of Whiteboard 1.2x0.90
- Two (2) units of Pin-board 2.4x1.2
- Two (2) units of Plan Chest, with 6 or more drawer
- Four (4) units of Plan Hanger Racks
- Ten (10) units of Table lamps, 20Watt
- One (1) Sofa set, good for 7 persons with center table
- Seven (7) units of Desk, double pedestal with lockable drawer 2.0x1.0
- Twenty four (24) units of Desk, double pedestal with lockable drawer 1.5x0.90
- One (1) unit of Desk for secretary with typewriter stand
- Two (2) units of Desk for Cad operator with typewriter stand
- One (1) set of Conference Table good for 20 persons with ergonomic chars
- One (1) set of Conference Table good for 10 persons with ergonomic chairs
- Ten (10) units of High back arm chair
- Twelve (12) units of Chair with arm
- Twenty four (24) units of Chair
- Five (5) units of Lockable stationary, 0.70m x 1.8m
- Fifty (50) units of Steel filing cabinet with four drawers and locks
- Ten (10) units of Bookcase with three shelves and lockable glass door
- Thirty (30) units of Bookcase with five shelves, 0.70m x 1.8m
- Forty (40) units of Waste paper bin

(5) Utensil for the Engineer

- One (1) unit of Refrigerator, 2 doors type, 21 cubic feet storage capacity
- One (1) unit of Microwave, 1000W
- One (1) unit of Electric Stove, two ranges type
- Two (2) sets of Electric Kettles
- Two (2) sets of Water Heater
- One (1) set of Kitchen cupboard lockable 1.8x0.9x0.6
- Ten (10) units of Ash Tray

- Two (2) Sets general cleaning equipment
- Four (4) units of Fire Extinguisher
- One (1) sets of First Aid Kit

Japan International Cooperation Agency (JICA) Detailed Design on Port Reactivation Project in La Union Province of the Republic of El Salvador	Figure 102.A (1/2)	TITLE FLOOR LAYOUT OF THE ENGINEER'S OFFICE AND LABORATORY
--	--------------------------	---

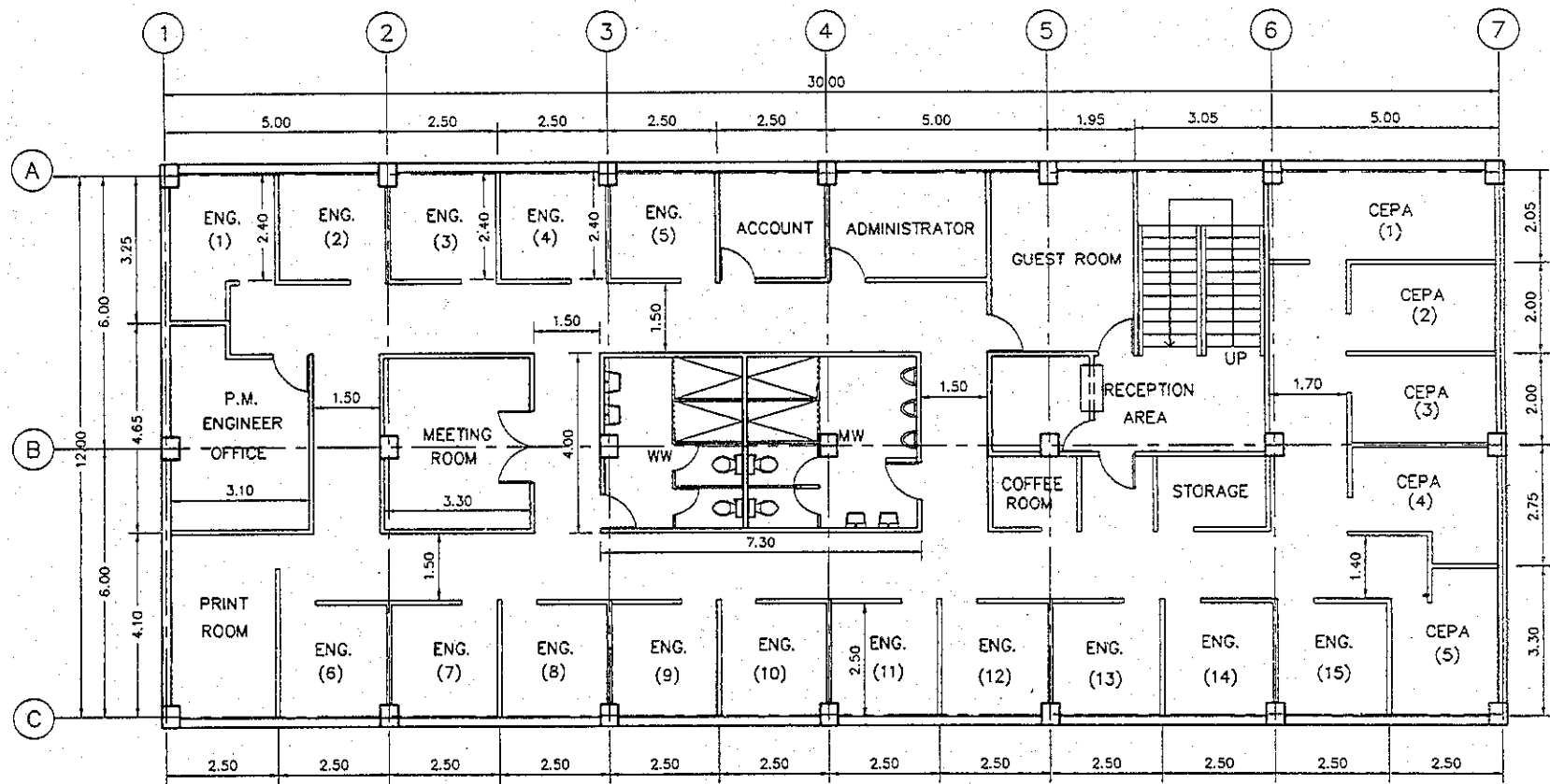


Japan International Cooperation Agency (JICA)  
 Detailed Design on Port Reactivation Project  
 In La Unión Province  
 of the Republic of El Salvador

Figure 102.A (2/2)

Tile

FLOOR LAYOUT OF THE ENGINEER'S OFFICE AND LABORATORY



SECOND LEVEL  
 SCALE 1:150

## APPENDIX 103 ENGINEERS LIVING QUARTERS

### 103.1 Characteristics common to all units

All the units provided by the contractor shall have the following characteristics and items regardless of the type of unit:

Bedroom air conditioner  
water service  
electrical service  
One (1) fix telephone line  
One (1) 21" television set with remote control.  
electrical range stove with oven  
14.5 cu.ft. frost free refrigerator  
50 cu.ft of kitchen pantry space  
1.5 sq.m. of food counter preparation area.  
Stainless steel kitchen sink with double wash basins  
24 hr. security.  
Drop ceiling.  
Ceramic tile flooring.  
Concrete finished painted walls.  
weather proof windows.  
Horizontal blinds for all the windows.  
One bottled water dispenser for cold and hot water  
Close car garage for two cars.  
Maid service area with its own service toilet, washroom and sink  
Washer and Dryer  
Back yard area of 25 sq.m minimum

### 103.2 Housing types, location and quantities

Kitchen area  
One (1) 1,000 watts microwave unit with cabinet  
Type A – San Miguel City – five units (5)  
80 sq.m of construction  
One (1) master bedroom (16 sq.m) with internal washroom with toilet, sink and shower and one new king size bed with head board and two (2) side night tables with two (2) night lamps  
2 bedrooms (9 sq.m/room) with shared washroom with toilet, sink and shower and two new full size beds with head boards and one (1) side night table with night lamp.  
living room area with New living room furniture for 4 people  
dinning area with new dinning room set for 6 people.  
  
Type B – San Miguel City – one unit (1)  
80 sq.m of construction  
Four (4) master bedrooms (16 sq.m) with internal washroom with toilet, sink and shower and four (4) new Queen size beds with head board and two (2) side night tables with two (2) night lamps



living room area with New living room furniture for 6 people  
dinning area with new dinning room set for 6 people

Type C – San Miguel City– two units (2)

130 sq.m of construction

Four (4) master bedrooms (12 sq.m) with internal washroom with toilet, sink and shower and Four (4) new full size beds with head board and one (1) side night tables with one (1) night lamp.

living room area with New living room furniture for 8 people

dinning area with new dinning room set for 8 people

Type D – La Union City– one unit (1)

160 sq.m of construction

Eight (8) master bedrooms (12 sq.m) with internal washroom with toilet, sink and shower and Eight (8) new full size beds with head board and one (1) side night tables with one (1) night lamp.

living room area with New living room furniture for 8 people

dinning area with new dinning room set for 8 people