



STATE SECRETARIAT FOR INFRASTRUCTURE AND ENVIRONMENT

**ANNEX XV – GUIDELINES FOR INSTALLING THE SCIENTIFIC BREEDING CENTER –  
CECFAU-SP**

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This ANNEX refers to technical specifications required for carrying out and setting up the Scientific Breeding Center – CECFAU-SP, encompassing spaces for (I) birds; (II) mammals; (III) reptiles; and (IV) support areas, in accordance with specifications listed below.

**1.1. Birds**

**1.1.1. Ararajuba (Golden Parakeet)**

Six (6) enclosures with a minimum height of 03 (three) meters and a minimum space of 16 m<sup>2</sup> (sixteen square meters), each, shall be built, of which 08 m<sup>2</sup> (eight square meters) shall be the space of the enclosure area, 04 m<sup>2</sup> (four square meters) shall be the space of the feeding area, and 04 m<sup>2</sup> (four square meters) shall be the space of the safety area, amounting to a minimum space of 96 m<sup>2</sup> (ninety-six square meters), not including the circulation area.

**1.1.1.1. Premises, fences, and closures**

All premises, fences, and closures shall be provided in compliance with the following guidelines:

- I. the enclosure area shall be built in a metal frame comprised of galvanized fire steel tubes with electrostatic paint and finish, and a 1 1/2" 10 wire galvanized steel mesh to be installed and drilled to drawn steel profiles with welded frames, and which shall have a cement mortar concrete base and washable paint finish with a height of 30 (thirty) centimeters throughout the entire perimeter.
- II. double removable modules that allow for joining and integrating spaces shall be set up in the area dividing enclosures.
- III. double mesh screens, with little spacing between them, shall be installed in the area dividing enclosures.
- IV. the project shall plan for removable modules with access to outdoor spaces in order to enable integration with landscaping, such as tree trunks inside enclosures;
- V. proper foundations and structures shall be built following ABNT Standards;
- VI. feeding areas shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- VII. all feeding areas shall have steel mesh frames following the same specifications as those of enclosures, to be installed 30 (thirty) centimeters below the concrete slab to protect light fixtures and heaters. The space shall have sliding doors for purposes of accessing and upkeeping equipment;
- VIII. safety areas shall be built following the same specifications as those of enclosures;
- IX. the roof of the safety area shall be built in a metallic frame with 8 (eight) millimeter thick fiber cement roof tiles;
- X. all enclosures, safety areas, and feeding spaces shall be protected with an insect mesh. The mesh shall be installed in a separate frame spaced at least 15 centimeters from the galvanized wire mesh. This support mesh frame shall be made of white high-density polyethylene (HDPE) monofilament comprised of 5 threads/cm in the warp thread and 5 threads/cm in the weft thread, 1.5mm x 1.5mm mesh opening, minimum 720kg transverse tensile strength, and minimum 796kg/m longitudinal tensile strength, and anti-UV treatment, in white. The insect mesh shall be fastened with 2.10 mm steel

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springs fitted in aluminum sections. All-access doors and modules shall be planned with double removable doors, exactly as installed in the enclosure and safety areas.

**1.1.1.2. Access points, doors, and windows**

All-access points, doors, and windows shall be provided in compliance with the following guidelines:

- I. access points to management areas shall be provided for in all spaces. Doors in enclosures and safety areas are to have metal mesh frames following the same specifications as closure areas of enclosures, whereas doors in feeding areas shall have steel frames with metal plates and visors. Doors shall have 02 (two) panels with separate locking systems measuring approximately 1,20 in width x 2,10 in height;
- II. One (01) large suspended cage shall be installed in the safety area with access to the enclosure for purposes of placing meals for animals. Each large cage shall have a metal guillotine door for accessing the space;
- III. guillotine doors activated from the safety area shall be installed to allow animals to move from enclosures to feeding areas;
- IV. all guillotine doors shall have metal rails and plates activated by steel cable and pulley systems, except for the large cage, which shall have locking systems both for open and closed positions. All doors are to receive proper primer and electrostatic paint finish;
- V. double guillotine doors shall be installed, of which one shall be a mesh door and the other, a door with a metal frame, aimed at adjoining feeding areas. They shall be activated from the safety area through pulleys, steel cables, and locking systems in both open and closed positions.
- VI. pulleys and steel cables shall have metal protection frames to stop animals from entering; however, they shall also have the option of being opened for maintenance purposes.

**1.1.1.3. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (07) centimeter thick reinforced concrete foundation shall be installed with a regular 20 millimeter thick straightened and smoothed cement with a finish coat.
- II. the division of the enclosure space shall have a waterproof concrete decorative planter, drainage system, and washable acrylic paint finish.

**1.1.1.4. Enclosure Elements**

All Enclosure Elements shall be provided in compliance with the following guidelines:

- I. small concrete tanks shall be installed in all enclosures for purposes of bathing animals;
- II. wooden nests shall be set up in all enclosures and feeding areas;
- III. drinking and feeding troughs are to be made of stainless steel and have removable holders.

**1.1.1.5. Hydraulic Facilities**

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All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a granite worktop with a large stainless steel sink and articulating wall-mounted electric faucets shall be installed in the safety area;
- II. a water sprinkler system shall be installed in all enclosures, including water tanks, pumps, sprinkler lines, and control panels;
- III. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- IV. SABESP water and water reuse points with lever-actuated garden faucets shall be installed in safety areas.

**1.1.1.6. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed in feeding areas;
- II. LED IP66 floodlights shall be installed in safety areas;
- III. 220v infrared ceramic heaters shall be installed in all feeding areas with proper silicone wiring, with at least 02 (two) 1000w-capacity heaters per feeding area, and which shall have bird protection netting to avoid birds from coming into direct contact with them;
- IV. IP65 110v and 220v electrical power outlets shall be provided in safety areas;
- V. One (01) three-phase point shall be provided for each safety area;
- VI. a camera surveillance system shall be installed, of which at least 01 (one) shall be destined to the enclosure, and 01 (one) shall be destined to each nest;
- VII. Power panel and switchboard in the feeding area's outside area;

**1.1.1.7. Landscaping**

Enclosures shall be projected with landscaping invoking native Amazon vegetation to replicate the species' natural environment and to seek the animal's well-being. These spaces shall additionally have natural tree trunks for perches.

**1.1.2. Arara-azul-de-lear (Lear's Macaw)**

An overall number of 08 (eight) enclosures with at least 23 m<sup>2</sup> (twenty-three square meters), each, shall be built, of which 14 m<sup>2</sup> (fourteen square meters) shall be for the enclosure space, 05 m<sup>2</sup> (five square meters) shall be for feeding areas, and 04 m<sup>2</sup> (four square meters) shall be for the safety area, amounting to a minimum area of 184 m<sup>2</sup> (one hundred and eighty-four square meters), not including the circulation area;

Enclosures shall have a minimum height of 04 (four) meters.

**1.1.2.1. Premises, fences, and closures**

All premises, fences, and closures shall be provided in compliance with the following guidelines:

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- I. the enclosure area shall be made of a metal frame comprised of galvanized fire steel tubes with electrostatic paint and finish, and a 1" 10 wire galvanized steel mesh to be drilled to drawn steel profiles with welded frames, and which shall have a cement mortar concrete base and washable paint finish with a height of 30 (thirty) centimeters throughout the entire perimeter.
- II. removable modules that allow for joining and integrating enclosures shall be set up in the area dividing enclosures.
- III. double mesh screens shall be installed to divide enclosures, with little spacing between them;
- IV. the project shall plan for removable modules with access to outside areas that enable integration with landscaping, such as tree trunks inside enclosures;
- V. proper foundations and structures shall be built following ABNT Standards;
- VI. feeding areas shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- VII. a metal frame with a mesh screen following the same specifications as those of the enclosure shall be installed in feeding areas 30 (thirty) centimeters below the roof slab for protection of light fixtures and heaters. The frame shall have sliding doors for accessing and upkeeping equipment;
- VIII. all safety areas shall be built with the same specifications as those of enclosures;
- IX. the roof of the safety area shall be built in a metallic frame with 8 (eight) millimeter fiber cement roof tiles;
- X. all enclosures, safety, and feeding areas shall be protected with an additional safety wire mesh frame to have the same specifications as those of the enclosure, with regard to the insect mesh. The mesh shall be installed in a separate frame spaced at least 1.20 meters from the galvanized wire mesh. This support mesh frame shall be made of steel sections with electrostatic paint finishing, with a cement mortar concrete base with washable paint finish throughout the entire 30 (thirty) centimeter perimeter area. The insect mesh shall be made of white high-density polyethylene (HDPE) monofilament comprised of 5 threads/cm in the warp thread and 5 threads/cm in the weft thread, 1.5mm x 1.5mm mesh opening, minimum 720kg transverse tensile strength, and minimum 796kg/m longitudinal tensile strength, anti-UV treatment, in white. The insect mesh shall be fastened with 2.10 mm steel springs fitted in aluminum sections. All-access doors and modules shall be planned with double removable doors, exactly as installed in the enclosure and safety area.

**1.1.2.2. Access points, doors, and windows**

All access points, doors, and windows shall be provided in compliance with the following guidelines:

- I. Access points to management areas shall be installed in all spaces. All enclosures and safety areas shall have mesh doors made with metal frames following the same specifications as those of closures, whereas doors made with metal frames, metal plates and visors shall be installed in the feeding area. Doors shall have 02 (two) independent locking sheets measuring approximately 1,20 in width x 2,10 in height;

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- II. 1 (one) large suspended cage shall be installed in the safety area accessing the enclosure for placing of meals for animals. Each large cage shall have a metal guillotine door for accessing the grounds;
- III. guillotine doors activated from the safety area shall be installed to allow animals to move from the enclosure to the feeding area;
- IV. all guillotine doors shall have metal rails and metal plates activated by steel cable and pulley systems, except for the large cage, which shall have lockings for both open and closed positions. All doors shall receive proper primer and an electrostatic paint finish.
- V. double guillotine doors shall be set up, of which one shall be a mesh door, and the other, a metal frame door, aimed at adjoining feeding areas. They shall be activated from the safety area through pulleys, steel cables and lockings in open and closed positions.
- VI. pulleys and steel cables shall have a metal protection frame to avoid animals from coming into contact with these devices; however, they shall also have the option of being opened for maintenance purposes.

**1.1.2.3. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (07) centimeter thick reinforced concrete foundation shall be installed with a regular 20 millimeter thick straightened and smoothed cement with a finish coat.
- II. the enclosure shall be divided by a waterproof concrete decorative planter, a drainage system and a washable acrylic finish.

**1.1.2.4. Enclosure Elements**

All Enclosure Elements shall be provided in compliance with the following guidelines:

- I. a small concrete tank shall be installed in all enclosures for purposes of bathing animals;
- II. tunnel-shaped wooden nests shall be installed in all enclosures and feeding areas;
- III. two (02) drinking and 02 (two) feeding troughs shall be installed in each enclosure. Drinking and feeding troughs shall be made of stainless steel and have removable holders.

**1.1.2.5. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a granite worktop with a large stainless steel sink and articulating wall-mounted electric faucets shall be installed in the safety area;
- II. a water sprinkler system shall be installed in all enclosures, including water tanks, pumps, sprinkler lines and control panel;
- III. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- IV. SABESP water and water reuse points with lever-actuated garden faucets shall be installed in safety areas.



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**1.1.2.6. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed in feeding areas;
- II. IP66 LED floodlights shall be installed in safety areas;
- III. 220v infrared ceramic heaters shall be installed in all feeding areas with proper wiring, with at least 02 (two) 1200w-capacity heaters per feeding area, and which shall have bird protection netting to avoid birds from coming into direct contact with them;
- IV. IP65 110v and 220v power outlets shall be provided in safety areas;
- V. one (01) three-phase power outlet shall be provided for each safety area;
- VI. a camera surveillance system shall be installed, with at least 01 (one) per enclosure, and 01 (one) for each nest;
- VII. switchboard and power panel in the feeding area's outdoor area;

**1.1.2.7. Landscaping**

Enclosures shall be projected with landscaping invoking native Caatinga (note: scrub vegetation typical of an arid region in Northeastern Brazil) vegetation to replicate the species' natural environment and to seek the animal's well-being. These spaces shall additionally have natural tree trunks for perches.

**1.1.2.8. Scenography**

Enclosures shall be projected with scenography made up of rocky walls with tunnel-shaped wooden nests connected by PVC pipes, with access doors leading to feeding areas.

**1.1.3. Jacutinga (Black-fronted Piping Guan)**

An overall number of 06 (six) enclosures with a minimum height of 03 (three) meters and minimum area of 28m<sup>2</sup> (twenty-eight square meters), each, shall be built, of which 20 m<sup>2</sup> (twenty square meters) shall be for the enclosure space, and 8 m<sup>2</sup> (eight square meters) for the safety area, amounting to a minimum space of 168 m<sup>2</sup> (one hundred and sixty-eight square meters), not including the circulation area;

**1.1.3.1. Premises, fences and closures**

All premises, fences and closures shall be provided in compliance with the following guidelines:

- I. the enclosure area shall be built in a metal frame comprised of galvanized fire steel tubes with electrostatic paint and finish, and a 1" 10 wire galvanized steel mesh to be installed and drilled to drawn steel profiles with welded frames, and which shall have a cement mortar concrete base and washable paint finish with a height of 30 (thirty) centimeters throughout the entire perimeter.
- II. double removable modules that allow for joining and integrating spaces shall be set up in areas that divide enclosures.
- III. the project shall plan for removable modules with access to outdoor areas that enable integration with landscaping, such as tree trunks inside enclosures;

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- IV. proper foundations and structures shall be built following ABNT Standards;
- V. safety areas shall be built following the same specifications as those of enclosures;
- VI. the roof of the safety area shall be made of a metal frame with 8 (eight) millimeter thick fiber cement roof tiles;
- VII. the entire enclosure and safety area shall be protected with a backing insect mesh frame. The mesh shall be installed in a separate frame spaced at least 15 centimeters from the galvanized wire mesh. This support wire mesh frame shall be made of white high-density polyethylene (HDPE) monofilament comprised of 5 threads/cm in the warp thread and 5 threads/cm in the weft thread, 1.5mm x 1.5mm mesh opening, minimum 720kg transverse tensile strength and minimum 796kg/m longitudinal tensile strength, anti-UV treatment, in white. The insect mesh shall be fastened with 2.10 mm steel springs fitted in aluminum sections. All access doors and modules shall be planned with double removable doors, exactly as installed in the enclosure and safety area.

**1.1.3.2. Access points, doors and windows**

All access points, doors and windows shall be provided in compliance with the following guidelines:

- I. access points to management areas shall be installed in all spaces. The project shall plan for mesh doors made with metal frames following the same specifications of enclosure area closures. Doors shall have 02 (two) independent locking sheets measuring approximately 1,20 in width x 2,10 in height;
- II. One (1) large suspended cage shall be installed in the safety area accessing the enclosure area for placing of meals for animals. Each large cage shall have a metal guillotine door for accessing the grounds;

**1.1.3.3. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation shall be installed with a regular 20 millimeter thick straightened and smoothed cement with a finish coat.
- II. The enclosure shall have a dirt floor.

**1.1.3.4. Enclosure Elements**

All Enclosure Elements shall be provided in compliance with the following guidelines:

- I. a small concrete tank shall be installed in all enclosures for purposes of bathing animals;
- II. basket-shaped nests made of natural materials like wicker, vine or straw shall be set up;
- III. two (02) drinking troughs and two (02) feeding troughs shall be installed in each enclosure. Drinking and eating troughs shall be made of stainless steel and have removable holders.

**1.1.3.5. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

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- I. a granite worktop with a large stainless steel tank and an articulating wall-mounted electric faucet shall be installed in the safety area;
- II. a water sprinkler system shall be installed in all enclosures, including water tanks, pumps, sprinkler lines and control panels;
- III. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- IV. SABESP water and water reuse points with lever-actuated garden faucets shall be installed in safety areas.

**1.1.3.6. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. LED IP66 floodlights shall be installed in safety areas;
- II. 220v infrared ceramic heaters shall be installed in the enclosure with proper wiring, at least 02 (two) 1200w-capacity heaters per enclosure, and which shall have bird protection netting to avoid birds from coming into direct contact with them;
- III. 110v and 220v IP65 power outlets shall be provided in safety areas;
- IV. one (01) three-phase power outlet shall be provided for each safety area;
- V. a camera surveillance system shall be installed, of which at least 01 (one) shall be destined to the enclosure, and 01 (one) shall be destined to each nest;
- VI. power panel and switchboard in the feeding area's outdoor area;

**1.1.3.7. Landscaping**

Enclosures shall be projected with landscaping invoking native Rainforest vegetation to replicate the species' natural environment and to seek the animal's well-being. These spaces shall additionally have natural tree trunks for perches and sand-filled spaces.

**1.2. Mammals**

**1.2.1. Muriqui (Woolly Spider Monkey)**

An overall number of 02 (two) enclosures with a minimum height of 6.5 (six and a half) meters and minimum area of 170 m<sup>2</sup> (one hundred and seventy square meters), each, shall be built, of which 100 m<sup>2</sup> (one hundred square meters) shall be for the enclosure space, 25 m<sup>2</sup> (twenty-five square meters) for the feeding area, with 02 (two) feeding areas per enclosure, amounting to 04 (four) feeding areas; a safety area with 25m<sup>2</sup> (twenty-five square meters), each, with 01 (one) safety area per enclosure. All spaces add up to an overall area of 390m<sup>2</sup> (three hundred and ninety square meters), not including the circulation area.

**1.2.1.1. Premises, fences and closures**

All premises, fences and closures shall be provided in compliance with the following guidelines:

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- I. the enclosure area shall be made of a metal frame comprised of galvanized fire steel tubes with electrostatic paint and finish, and a 1 1/2" 10 wire galvanized steel mesh to be installed and drilled to drawn steel profiles with welded frames, and which shall have a cement mortar concrete base and washable paint finish with a height of 30 (thirty) centimeters throughout the entire perimeter.
- II. double removable modules that allow for joining and integrating spaces shall be set up in areas that divide enclosures.
- III. the project shall plan for removable modules with access to outdoor areas that enable integration with landscaping, such as tree trunks inside enclosures;
- IV. feeding areas shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- V. a metal frame with a galvanized 1" 10 wire mesh screen shall be installed in feeding areas 30 (thirty) centimeters below the roof slab for protection of light fixtures and heaters. The frame shall have sliding doors for accessing and upkeeping equipment;
- VI. all feeding areas shall have steel mesh frames following the same specifications as those of enclosures, to be installed 30 (thirty) centimeters below the concrete slab to protect light fixtures and heaters. The space shall have sliding doors for purposes of accessing and upkeeping equipment;
- VII. all safety areas shall be built with the same specifications as those of enclosures;
- VIII. the roof of the safety area shall be made of a metal frame with 8 (eight) millimeter thick fiber cement roof tiles;
- IX. proper foundations and structures shall be built following ABNT Standards;
- X. all spaces shall be protected with an additional insect wire mesh frame. The mesh shall be installed in a separate frame spaced at least 15 centimeters from the galvanized wire mesh. This support mesh frame shall be made of white high-density polyethylene (HDPE) monofilament comprised of 5 threads/cm in the warp thread and 5 threads/cm in the weft thread, 1.5mm x 1.5mm mesh opening, minimum 720kg transverse tensile strength and minimum 796kg/m longitudinal tensile strength, anti-UV treatment, in white. The insect mesh shall be fastened with 2.10 mm steel springs fitted in aluminum sections. All access doors and modules shall be planned with double removable doors, exactly as installed in the enclosure and safety area.
- XI. the mesh frame shall have an opening with a new frame and a **blood collection holder**.

**1.2.1.2. Access points, doors and windows**

All access points, doors and windows shall be provided in compliance with the following guidelines:

- I. management areas shall be installed in all spaces with mesh doors made with metal frames, and following the same specifications as those of enclosure and safety area closures; and with a metal frame and sheet with visors in feeding areas. Doors shall have 02 (two) independent locking sheets measuring approximately 1,20 in width x 2,10 in height;
- II. high guillotine style doors shall be installed in feeding areas to allow animals to move from enclosures to feeding areas. Doors shall be made with metal sheets and plates, featuring a steel cable and pulley system, which is to be protected by a metal plate. The activating mechanism shall be accessed from the safety area with open and closed locking positions;

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- III. feeding areas shall be divided by double guillotine doors, of which one shall be made of mesh, and the other, in sheets, enabling different feeding areas to be adjoined. This door system shall be activated from the safety area through the steel cable and pulley system;
- IV. the steel cable and pulley-activated system shall have a metal protection with an access door for upkeeping purposes;
- V. feeding areas shall have access doors with metal frames and sheets for access to management areas;

**1.2.1.3. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid in safety and feeding areas.
- II. The enclosure's floor shall be grass.

**1.2.1.4. Enclosure Elements**

All Enclosure Elements shall be provided in compliance with the following guidelines:

- I. wood nest boxes shall be set up in feeding areas;
- II. two (02) drinking troughs and two (02) feeding troughs shall be installed in each feeding area. Drinking and eating troughs are to be made of stainless steel and have removable holders.
- III. drinking fountains shall be automatic, made of cast iron with non-toxic electrostatic paint finish, floating system, protected by stainless steel plates and have a bottom drain for cleaning, in addition to a 7L capacity, and be 27 (twenty-seven) centimeters long and 30 (thirty) centimeters wide, in the enclosure's exposed area, feeding areas and solarium;
- IV. frames made with treated eucalyptus posts measuring 22 (twenty-two) centimeters shall be put up in all enclosures. All frames shall be built with autoclaved-treated eucalyptus posts finished with C.C.A solution (copper, chromium and arsenic). The treatment process shall follow ABNT standards. Posts shall be bolted into the ground, buried in a depth proportional to the height, connected to each other by 3/8" threaded bars, washers, nuts and welded to lock the nuts. Ends and burrs shall be sanded to ensure the safety of animals. Five (05) platforms shall be built per enclosure measuring approximately 1.5 m x1.5 m and with different heights (1.5m; 2.0m; and 3.0m). In addition to platforms, several poles shall be installed, with at least 06 (six) per enclosure, and with different heights (2.0m; 3.0m; 4.0m; and 5.0m);
- V. iron rings shall be built and installed in all enclosures, solariums and feeding areas, with 40 (forty) rings per enclosure, 10 (ten) rings per feeding area, and 15 (fifteen) rings per solarium, totaling 65 (sixty-five) rings. Rings shall be made of 10 centimeters 1/2" round cast iron bars with flat welded bars and drills. Rings shall be fastened to the masonry or attached to metal frames or to eucalyptus posts with 3/8" threaded bars, washers and nuts. Painting with proper primer and electrostatic paint finish shall be provided;
- VI. treated eucalyptus fence posts shall be set up to allow for the option of diving enclosures in half, with vertical angle bars and mesh modules being installed.

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**1.2.1.5. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a granite worktop with a large stainless steel tank and articulating wall-mounted electric faucets shall be installed in the safety area;
- II. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- V. SABESP water and water reuse points with lever-actuated garden faucets shall be installed in safety areas.

**1.2.1.6. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. LED IP66 floodlights shall be installed in safety areas;
- II. 1000w/220v power and capacity infrared electric resistance ceramic heaters with 245 mm x 60 mm hollow troughs shall be installed in feeding areas with a support frame to secure them, proper silicone wiring to stand high temperatures, and at least 04 (four) 1000w-capacity heaters per feeding area;
- III. 110v and 220v IP65 power outlets shall be provided in safety areas;
- IV. one (01) three-phase power outlet shall be provided for each safety area;
- V. power panel and switchboard in the feeding area's outdoor area;

**1.2.1.7. Landscaping**

Enclosures shall be projected with landscaping invoking native Rainforest vegetation to replicate the species' natural environment and to seek the animal's well-being.

**1.2.2. Raposinha (Small Fox)**

Four (04) enclosures with at least 125m<sup>2</sup> (one hundred and twenty-five square meters), each, shall be built, of which 50 m<sup>2</sup> (fifty square meters) shall be the space of the enclosure area, 15 m<sup>2</sup> (fifteen square meters) shall be the space of the feeding area, totaling 8 (eight) feeding areas, with 02 (two) feeding areas per enclosure; as well as 10 m<sup>2</sup> (ten square meters) safety areas, each, totaling 04 (four) safety areas; 15 m<sup>2</sup> (fifteen square meters) nursery room space, totaling 04 (four) nursery rooms; and 10 m<sup>2</sup> (ten square meters) solarium space, totaling 08 (eight) solariums. All spaces add up to an overall area of 500 m<sup>2</sup> (five hundred square meters), not including the circulation area.

All enclosures shall have a minimum height of 2.30 (two-point thirty) meters.

**1.2.2.1. Premises, fences and closures**

All premises, fences and closures shall be provided in compliance with the following guidelines:

- I. the enclosure area shall be made of a metal frame comprised of galvanized fire steel tubes with electrostatic paint and finish, and a 1 1/2" 12 wire galvanized steel mesh to be installed and drilled to drawn steel profiles with welded frames, and which shall have

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a cement mortar concrete base and washable paint finish with a height of 1.20 (one point twenty) centimeters throughout the entire perimeter.

- II. double removable modules that allow for joining and integrating spaces shall be set up in the area dividing enclosures.
- III. the project shall plan for removable modules with access to outdoor spaces in order to enable integration with landscaping, such as tree trunks inside enclosures;
- IV. feeding areas shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- V. safety areas shall be built following the same specifications as those of enclosures;
- VI. the roof of the safety area shall be made of a metal frame with 8 (eight) millimeter thick fiber cement roof tiles;
- VII. proper foundations and structures shall be built following ABNT Standards;
- VIII. management areas shall be installed in all spaces. Doors shall have 02 (two) independent locking sheets, padlock doors and measure approximately 1,20 in width x 2,10 in height;
- IX. high guillotine style doors shall be installed in feeding areas to allow animals to move from enclosures to feeding areas. Doors shall be made with metal sheets and plates, featuring a steel cable and pulley system, which is to be protected by a metal plate. The activating mechanism shall be accessed from the safety area with open and closed locking positions;
- X. feeding areas shall be divided by double guillotine doors, of which one shall be made of mesh, and the other, in sheets, enabling different feeding areas to be adjoined. This door system shall be activated from the safety area through the steel cable and pulley system;
- XI. the steel cable and pulley-activated system shall have a metal protection with an access door for maintenance purposes.
- XII. feeding areas shall have access doors with metal frames and sheets for access to management areas;

**1.2.2.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be installed in safety and feeding areas.
- II. the floor of the enclosure shall be grass. Nevertheless, a concrete floor built 30 cm below the ground shall be built, which shall be filled with earth and grass afterward since animals have the habit of digging the ground.

**1.2.2.3. Enclosure Elements**

All Enclosure Elements shall be provided in compliance with the following guidelines:



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- I. dens with concrete scenography with part of it buried beneath the ground and access to the space for handling animals shall be installed;
- II. two (02) drinking troughs and two (02) feeding troughs shall be installed in each enclosure, and 01 (one) feeding trough and 01 (one) drinking trough shall be installed in each feeding area. Drinking troughs shall be automatic and secured to the ground (dug down), whereas concrete feeding troughs shall also be secured to the ground (dug down);
- III. drinking troughs shall be automatic, made of cast iron with non-toxic electrostatic paint finish, floating system, protected by stainless steel plates and have a bottom drain for cleaning, in addition to a 7L capacity, and be 27 (twenty-seven) centimeters long and 30 (thirty) centimeters wide, in the enclosure's exposed area, feeding areas and solarium;
- IV. A 02 m<sup>2</sup> (two square meters) and 0.20 cm deep tank shall be installed in each enclosure with leveled ramp edges.

**1.2.2.4. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a granite worktop with a large stainless steel sink and articulating wall-mounted faucet shall be installed in the safety area;
- II. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- III. SABESP water and water reuse points with lever-actuated garden faucets shall be installed in safety areas;
- IV. water supply for the enclosure, feeding area and solarium drinking troughs shall be planned for, as well as sewer networks for drinking and feeding troughs;
- V. the project shall plan for tanks to be supplied with SABESP water, as well as water reuse and sewer network;

**1.2.2.5. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. LED IP66 floodlights shall be installed in safety areas;
- II. 1000w/220v power and capacity infrared electric resistance ceramic heaters with 245 mm x 60 mm hollow troughs shall be installed in feeding areas with a support frame to secure them, proper silicone wiring to stand high temperatures, and at least 02 (two) 1000w-capacity heaters per feeding area and two (02) 1000w-capacity heaters per nursery room;
- III. 110v and 220v IP65 power outlets shall be provided in safety areas;
- IV. one (01) three-phase power outlet shall be provided for each safety area;
- VII. power panel and switchboard in the feeding area's outdoor area;

**1.2.2.6. Landscaping**



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Enclosures shall be projected with landscaping invoking native Cerrado (Brazilian savannah) vegetation to replicate the species' natural environment and to seek the animal's well-being.

**1.2.2.7. Scenography**

Rocky-looking dens shall be built on the flooring with an entrance at floor level and their bottom end buried 20 (twenty) centimeters below the floor level. Dens shall be accessed by steel plate doors at the back of dens, thereby allowing for access and management of animals.

**1.2.3. Cachorro Vinagre (Bush Dog)**

Four (04) enclosures with a minimum height of 2.30 m (two-point thirty) meters and a minimum area of 125 m<sup>2</sup> (one hundred and twenty-five square meters), each, shall be built, of which the enclosure area shall have 50m<sup>2</sup> (fifty square meters), the changing room shall have 15m<sup>2</sup> (fifteen square meters), totaling 08 (eight) feeding areas, with 02 (two) feeding areas per room; a 10m<sup>2</sup> (ten square meters) safety area, each, totaling 04 (four) safety areas; 15m<sup>2</sup> (fifteen square meter) nursery room, amounting to 04 (four) nursery rooms; 10m<sup>2</sup> (ten square meters) solarium, totaling 08 solariums. All spaces add up to an overall area of 500m<sup>2</sup> (five hundred square meters), not including the circulation area.

**1.2.3.1. Premises, fences and closures**

All premises, fences and closures shall be provided in compliance with the following guidelines:

- I. the enclosure area shall be made of a metal frame comprised of galvanized fire steel tubes with electrostatic paint and finish, and a 1 1/2" 12 wire galvanized steel mesh to be installed and drilled to drawn steel profiles with welded frames, and which shall have a cement mortar concrete base and washable paint finish with a height of 1.20 (one point twenty) centimeters throughout the entire perimeter.
- II. double removable modules that allow for joining and integrating spaces shall be set up in the area dividing enclosures.
- III. the project shall plan for removable modules with access to outdoor areas that enable integration with landscaping, such as tree trunks inside enclosures;
- IV. feeding areas shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- V. safety areas shall be built following the same specifications as those of enclosures;
- VI. the roof of the safety area shall be made of a metal frame with 8 (eight) millimeter thick fiber cement roof tiles;
- VII. proper foundations and structures shall be built following ABNT Standards;
- VIII. access points to management areas shall be provided for in all spaces. Doors are to be made with metal sheets with visors and a metal frame. Doors shall have 02 (two) panels with independent locking systems and measure approximately 1,20 in width x 2,10 in height;
- IX. guillotine-style doors shall be installed in feeding areas to allow animals to move from enclosures to feeding areas. Doors shall be made with metal sheets and plates, featuring a steel cable and pulley system, which is to be protected by a metal plate. The activating

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mechanism shall be accessed from the safety area with open and closed locking positions;

- X. feeding areas shall be divided by double guillotine doors, of which one shall be made of mesh, and the other, in sheets, enabling different feeding areas to be adjoined. This door system shall be activated from the safety area through the steel cable and pulley system;
- XI. the steel cable and pulley-activated system shall have a metal protection with an access door for maintenance purposes.
- XII. feeding areas shall have access doors with metal frames and sheets for access to management areas;

**1.2.3.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be installed in safety and feeding areas.
- II. the floor of the enclosure shall be grass. Nevertheless, a concrete floor built 30 cm below the ground shall be built, which shall be filled with earth and grass afterward since animals have the habit of digging the ground.

**1.2.3.3. Enclosure Elements**

All Enclosure Elements shall be provided in compliance with the following guidelines:

- I. dens with concrete scenography with part of it buried beneath the ground and access to the management area shall be installed;
- II. two (02) feeding troughs and two (02) drinking troughs shall be installed in each enclosure, and 01 (one) feeding trough and 01 (one) drinking trough shall be installed in each feeding area. Drinking troughs shall be automatic and secured to the ground (dug down), whereas concrete feeding troughs shall also be secured to the ground (dug down);
- III. drinking fountains shall be automatic, made of cast iron with non-toxic electrostatic paint finish, floating system, protected by stainless steel plates and have a bottom drain for cleaning, in addition to a 7L capacity, and be 27 (twenty-seven) centimeters long and 30 (thirty) centimeters wide, in the enclosure's exposed area, feeding areas and solarium;
- IV. A 04 m<sup>2</sup> (four square meters) and 0.50 cm deep tank shall be installed in each enclosure with leveled ramp edges.

**1.2.3.4. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a granite worktop with a large stainless steel sink and an articulating wall-mounted electric faucet shall be installed in the safety area;
- II. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;

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- III. SABESP water and water reuse points with lever-actuated garden faucets shall be installed in safety areas.
- IV. a water supply point with a drinking fountain shall be set up in the safety area;
- V. water supply for the enclosure, feeding area and solarium drinking troughs shall be planned for, as well as sewer networks for drinking and feeding troughs;
- VI. the project shall plan for tanks to be supplied with SABESP water, as well as water reuse and sewer network;

**1.2.3.5. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. LED IP66 floodlights shall be installed in safety areas;
- II. 1000w/220v power and capacity infrared electric resistance ceramic heaters with 245 mm x 60 mm hollow troughs shall be installed in feeding areas with a support frame to secure them, proper silicone wiring to withstand high temperatures, and at least 02 (two) 1000w-capacity heaters per feeding area and 02 (two) 1000w-capacity heaters per nursery room;
- III. 110v and 220v IP65 power outlets shall be provided in safety areas;
- IV. one (01) three-phase power outlet shall be provided for each safety area;
- V. power panel and switchboard in the feeding area's outdoor area;

**1.2.3.6. Landscaping**

Enclosures shall be projected with landscaping invoking native Rainforest vegetation to replicate the species' natural environment and to seek the animal's well-being.

**1.2.3.7. Scenography**

Rocky-looking dens shall be built on the flooring with an entrance at floor level with their bottom end buried 20 (twenty) centimeters below the floor level. Dens shall be accessed by steel plate doors installed at the back of dens, thereby allowing for access and management of animals.

**1.3. Reptiles**

**1.3.1. Cágado (Tortoise)**

Four (04) rooms shall be built, of which 02 (two) shall have 140 m<sup>2</sup> (one hundred and forty square meters), each, and two shall have 70 m<sup>2</sup> (seventy square meters), each. All spaces add up to an overall area of 420 m<sup>2</sup> (four hundred and twenty square meters), including a management area, though not including the outside circulation area.

A 6 m<sup>2</sup> (six square meters) incubation room shall be built adjoining management areas;

All spaces shall have a minimum height of 2.30 (two-point thirty) meters.

**1.3.1.1. Premises, fences and closures**

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All premises, fences and closures shall be provided in compliance with the following guidelines:

- I. the enclosure area shall be made of a metal frame comprised of galvanized fire steel tubes with electrostatic paint and finish, and a 1 1/2" 12 wire galvanized steel mesh to be installed and drilled to drawn steel profiles with welded frames, and which shall have a cement mortar concrete base and washable paint finish with a height of 80 (eighty) centimeters throughout the entire perimeter.
- II. the project shall plan for removable modules with access to outdoor spaces in order to enable integration with landscaping, such as tree trunks inside enclosures;
- III. proper foundations and structures shall be built following ABNT Standards;
- IV. management areas with an access point to enclosures shall be built. Doors are to be made with metal sheets with visors and a metal frame. Doors shall have 02 (two) panels with independent locking systems and measure approximately 1,20 in width x 2,10 in height;
- V. a sheet guillotine door shall be installed between enclosures to adjoin them. They shall be activated from the management area through a steel cable and pulley system;
- VI. the steel cable and pulley-activated system shall have a metal protection with an access door for maintenance purposes;
- VII. roofs of enclosures' shall have closures following the same specifications as those of side closures;
- VIII. the management area shall be covered with a roof made with a metal frame and fiber cement roof files;
- IX. the incubator room shall have a waterproof roof slab suited to drain rainwater;

**1.3.1.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be installed in safety and feeding areas.
- II. the room shall be laid with non-slip monolithic sheet vinyl flooring with rounded corners and integrated base trims.
- III. the floor of the enclosure shall be half dirt and half sand.

**1.3.1.3. Enclosure Elements**

All Enclosure Elements shall be provided in compliance with the following guidelines:

- I. 35 m<sup>2</sup> (thirty-five square meter) tanks are to be set up in 140 m<sup>2</sup> (one hundred and forty square meters) enclosures; 17 m<sup>2</sup> (seventeen square meters) tanks shall be set up in 70m<sup>2</sup> (seventy square meters) enclosures.
- II. tanks shall be 40 (forty) centimeters deep and be accessed by ramps.

**1.3.1.4. Hydraulic Facilities**

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All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a granite worktop with a large stainless steel sink and an articulating wall-mounted electric faucet shall be installed in the management area and incubator room;
- II. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- I. SABESP water and water reuse points with lever-actuated garden faucets shall be installed in safety areas.
- III. the project shall plan for tanks to be supplied with SABESP water, as well as water reuse and sewer network;
- IV. circulation pumps and filters shall be provided for tanks.

**1.3.1.5. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. LED IP66 floodlights shall be installed in management areas. A shielded tubular LED light fixture shall be installed in the incubator room;
- II. specific tank heating resistances shall be installed in all tanks in sufficient and adequate numbers to heat tanks in winter;
- III. resistances installed to heat tanks shall be shielded; additionally, protection shall be provided to avoid animals from coming into contact with the heating system;
- IV. automatic thermostats and contactors shall be installed to heat tanks;
- V. 110v and 220v IP65 power outlets shall be provided for in management areas;
- VI. four (04) 110v and two (02) 220v power outlets shall be provided in the incubator room;
- VII. one (01) three-phase power outlet shall be provided for each management area;
- VIII. a Hi-Wall inverter hot/cold air conditioning unit shall be installed in the incubator room;
- VIII. power panel and switchboard in the incubator room's outside area;

**1.3.1.6. Landscaping**

Enclosures shall be projected with landscaping invoking native Rainforest vegetation to replicate the species' natural environment and to seek the animal's well-being. The tank shall replicate traits of the animal's natural environment with natural rocks.

**1.3.2. Jararaca (Snake)**

Two (02) terrarium rooms, each one having 20 m<sup>2</sup> (twenty square meters) spaces, and 02 (two) clean rooms with 5m<sup>2</sup> (five square meters), each, shall be built. All areas add up to an overall space of 50 m<sup>2</sup> (fifty) square meters.

All spaces shall have a height of at least 2.50 (two-point fifty) meters.

**1.3.2.1. Premises, fences and closures**

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All premises, fences and closures shall be provided in compliance with the following guidelines:

- I. feeding areas shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- II. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- III. proper foundations and structures shall be built following ABNT Standards;
- IV. all rooms shall have partitions in masonry for aquariums, with concrete workbenches supporting them installed 80 (eighty) centimeters from the floor;
- V. ten (10) centimeter thick concrete bases shall be installed below the aquarium stand, as well as side closures with cement-mortar covered masonry, epoxy paint coating and aluminum door closures;
- VI. the project shall provide for partitions to have a dedicated area for adjoining aquariums, with tempered, laminated guillotine-style glass doors;
- VII. the front part of the terrarium shall have tempered, laminated glass closures with an access door to management areas;
- VIII. the upper closure of the terrarium shall be made of a steel insect mesh and metal frame, and an upper-level access door shall be provided for management areas;
- IX. access doors to the room and between the terrarium room and the clean room shall be in aluminum white. Doors shall have 02 (two) panels with separate locking systems, locks and measure approximately 1.20 in width x 2.10 in height;
- X. workbenches and enclosed cabinets shall be installed in the terrarium and clean rooms.

**1.3.2.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid in rooms.
- II. rooms shall be laid with non-slip monolithic sheet vinyl flooring with rounded corners and integrated base trims.

**1.3.2.3. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a granite worktop with a large stainless steel sink and an articulating wall-mounted electric faucet shall be installed in the terrarium and clean room;
- II. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- III. SABESP water points with water filters shall be installed in all terrariums;
- IV. a water supply point with a drinking fountain shall be set up in the clean area;

#### **1.3.2.4. Electrical Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed in all rooms;
- II. UVB light tubes shall be installed in terrariums;
- III. four (04) 110v and two (02) 220v power outlets shall be provided in the terrarium room; and one (01) 110v, 01 (one) 220v in the clean room;
- IV. a Hi-Wall inverter hot/cold air conditioning unit shall be installed in the terrarium room;
- V. power panel and switchboard in the outdoor area;

#### **1.3.2.5. Landscaping**

Terrariums shall be projected with landscaping invoking native Rainforest vegetation to replicate the species' natural environment and to seek the animal's well-being.

#### **1.3.3. Perereca (Tree Frog)**

Two (02) aquarium rooms, each one having 15m<sup>2</sup> (fifteen square meters) spaces, 02 (two) clean rooms with 05m<sup>2</sup> (five square meters), each, and 01 (one) support room with 15m<sup>2</sup> (fifteen square meters) shall be built. All areas add up to an overall space of 55m<sup>2</sup> (fifty-five) square meters.

All spaces shall have a minimum height of 2.50 (two-point fifty) meters.

#### **1.3.3.1. Premises, fences and closures**

All premises, fences and closures shall be provided in compliance with the following guidelines:

I. rooms shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;

- I. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- II. proper foundations and structures shall be built following ABNT Standards;
- III. all rooms shall have partitions in masonry for aquariums, with concrete workbenches supporting them installed 80 (eighty) centimeters from the floor;
- IV. ten (10) centimeter thick concrete bases shall be installed below the aquarium stand, as well as side closures with cement-mortar covered masonry, epoxy paint coating and aluminum door closures;
- V. the project shall provide for partitions to have a dedicated area for adjoining aquariums, with tempered, laminated guillotine-style glass doors;
- VI. the front part of the terrarium shall have tempered, laminated glass closures with an access door to management areas;
- VII. the upper closure of the terrarium shall be made of a steel insect mesh and metal frame, and an upper-level access door shall be provided for management areas;



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- VIII. access doors to the aquarium room, the clean room and the support room shall be in aluminum white. Doors shall have 02 (two) panels with separate locking systems, locks and measure approximately 1.20 in width x 2.10 in height;
- IX. worktops and enclosed cabinets shall be installed in all rooms.

**1.3.3.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid in rooms.
- II. rooms shall be laid with non-slip monolithic sheet vinyl flooring with rounded corners and integrated base trims.

**1.3.3.3. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a stainless steel worktop with large integrated stainless steel sinks and wall-mounted articulating electric faucets shall be installed in the room;
- II. linear drains for sewer drainage, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- III. SABESP water points with water filters shall be installed in all aquariums.

**1.3.3.4. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed in all rooms;
- II. UVB light tubes shall be installed in aquariums;
- III. four (04) 110v and two (02) 220v power outlets shall be provided in the aquarium room; 01 (one) 110v and 01 (one) 220v in the cleaning room; four (04) 110v and two (02) 220v power outlets in the support room;
- IV. a Hi-Wall inverter hot/cold air conditioning unit shall be installed in the aquarium room;
- V. power panel and switchboard in outdoor areas;

**1.3.3.5. Landscaping**

Aquariums shall be projected with landscaping invoking native Rainforest vegetation to replicate the species' natural environment and to seek the animal's well-being.

**1.4. Support**

**1.4.1. First Aid Station**



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One (one) 20 m<sup>2</sup> (twenty square meters) room shall be built.

The space shall have a minimum height of 2.50 (two-point fifty) meters.

**1.4.1.1. Premises, fences, closures and elements**

All premises, fences, closures and elements shall be provided in compliance with the following guidelines:

- I. spaces shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- II. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- III. proper foundations and structures shall be built following ABNT Standards;
- IV. the room shall have a white aluminum frame sliding window with a 1" 10 wire protection steel insect mesh;
- V. the insect mesh shall be made of an aluminum frame and installed in such a way that it is possible to remove it for cleaning; the insect mesh shall be fitted to allow removing it for cleaning;
- VI. access doors shall be sliding doors in aluminum white, measuring 1.50m x 2,10m. The door shall be finished to not allow any gaps between the door and masonry, and the gap between the door and the floor shall not exceed 0.5 millimeters. The door shall have both inside and outside handles and a lock;
- VII. worktops and stainless steel enclosed cabinets shall be installed;
- VIII. a front desk shall be installed.

**1.4.1.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid in rooms.
- II. rooms shall be laid with non-slip monolithic sheet vinyl flooring with rounded corners and integrated base trims.

**1.4.1.3. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a stainless steel worktop with large integrated stainless steel sinks and wall-mounted articulating electric faucets shall be installed in the room;
- II. linear drains for drainage of rainwater and sewer, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- III. SABESP water points shall be installed.

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**1.4.1.4. Electrical Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines

- I. shielded tubular LED light fixtures shall be installed in the room;
- II. six (06) 110v power outlets and 2 (two) 220v power outlets shall be provided in the room;
- III. a Hi-Wall inverter hot/cold air conditioning unit shall be installed in the room;
- VI. power panel and switchboard in the outdoor area;

**1.4.2. Kitchen**

One (01) 33m<sup>2</sup> (thirty-three square meter) kitchen shall be built, of which the food preparation area shall have 20m<sup>2</sup> (twenty square meters), the **DML** shall have 05m<sup>2</sup> (five square meters), and the changing room shall have 8 m<sup>2</sup> (eight square meters);

The space shall have a minimum height of 2.50 (two-point fifty) meters.

**1.4.2.1. Premises, fences, closures and elements**

All premises, fences, closures and elements shall be provided in compliance with the following guidelines:

- I. the space shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- II. proper foundations and structures shall be built following ABNT Standards;
- III. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- IV. the kitchen shall have windows with white tilting frames and steel aluminum frame insect meshes. The insect mesh shall be fitted to allow removing it for cleaning;
- V. the access door shall be a sliding door in aluminum white, measuring 1.50mx 2,10m. The door shall be finished to not allow any gaps between doors and masonry;
- VI. access doors to the **DML** and to the changing room shall be in aluminum white, measuring 0,90mx2,10m;
- VII. stainless steel worktops shall be installed in the food preparation area. The dedicated butcher block countertop shall be separate from all other countertops;
- VIII. the butcher block countertop shall be set up with grating to collect and store blood from meats;
- IX. fruits and vegetables shall have a dedicated stainless steel worktop;
- X. the food preparation area shall be set up with open shelves for storage of trays, open shelves for storage of vegetable cleaning products, and open shelves for food storage;
- XI. stainless steel enclosed cabinets shall be installed in the food preparation area;

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- XII. spots for installing freezers, refrigerators, ovens and microwave ovens shall be planned for and installed;
- XIII. stainless steel shelves shall be installed in the **DML** for storage of cleaning products;
- XIV. a metal key locker and benches shall be installed in the changing room.

**1.4.2.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. seven (7) centimeter thick reinforced concrete foundations with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid in all areas.
- II. spaces shall be laid with non-slip monolithic sheet vinyl flooring with rounded corners and integrated base trims specifically made for industrial kitchens.

**1.4.2.3. Hydraulic Facilities and Gas**

All hydraulic facilities and gas shall be provided in compliance with the following guidelines:

- I. stainless steel worktops with 3 (three) large, deep stainless steel sinks, as well as articulating wall-mounted faucets, shall be installed in the food preparation area for washing of trays and food;
- II. stainless steel washing countertops shall provide for a space to dry trays;
- III. in addition to tanks specifically for washing trays, each food preparation countertop shall have a stainless steel tank with articulating wall-mounted electric faucets;
- IV. linear drains for sewer drainage, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- V. all drains shall have a protection mesh to keep animals out;
- VI. gas facilities for supplying stoves shall be installed, with masonry cover and metal doors on the outside kitchen area;
- VII. a white porcelain tank with a wall-mounted electric faucet shall be installed in the **DML**;
- VIII. the changing room shall be set up with a granite worktop with basin and tap timer.

**1.4.2.4. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed in all spaces;
- II. six (06) 110v and four (04) 220v power outlets shall be provided for in the food preparation area, in addition to specific use power outlets;
- III. specific use power outlets for ovens, microwave ovens, freezers and refrigerators shall be installed in the food preparation area;
- IV. a generator shall be provided for the food preparation area;
- V. power panel and switchboard in the outdoor area;

### **1.4.3. Nursery Room**

Two (02) 15 m<sup>2</sup> (fifteen square meters) rooms, each, shall be built with 05 m<sup>2</sup> (five square meters) solariums, each, adjoined to the room, and 04 (four) 05 m<sup>2</sup> (five square meters) safety areas, amounting to an overall area of 80 m<sup>2</sup> (eighty square meters), not including circulations in these spaces.

Two (02) enclosures with a solarium and a safety area with approximately 05 m<sup>2</sup> (five square meters) for both enclosures shall be built, 5 m<sup>2</sup> (five square meters) for each solarium and safety area in the entire grounds.

All spaces shall have a minimum height of 2.50 (two-point fifty) meters.

#### **1.4.3.1. Premises, fences, closures and elements**

All premises, fences, closures and elements shall be provided in compliance with the following guidelines:

- I. room and enclosure spaces shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- II. proper foundations and structures shall be built following ABNT Standards;
- III. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- IV. metal frames with 1" 10 wire mesh screens shall be installed in all enclosures 30 (thirty) centimeters below the concrete slab to protect light fixtures and heaters. The frame shall have sliding doors for purposes of accessing and upkeeping equipment;
- V. all rooms shall have ventilation windows and natural lighting with 1" and 10 wire protection meshes, as well as aluminum frame steel insect meshes. The insect mesh shall be fitted to allow removing it for cleaning;
- VI. solariums and safety areas shall be built in a metal frame comprised of galvanized fire steel tubes with electrostatic paint and finish, and a 1" 10 wire galvanized steel mesh to be installed and drilled to drawn steel profiles with, and whose frames are to be welded, and which shall have a cement mortar concrete base and washable paint finish with a height of 30 (thirty) centimeters throughout the entire perimeter.
- VII. all solarium and safety spaces shall be protected with an additional insect wire mesh frame. The wire mesh shall be installed in a separate frame spaced at least 15 (fifteen) centimeters from the galvanized wire mesh. This support mesh frame shall be made of white high-density polyethylene (HDPE) monofilament comprised of 5 threads/cm in the warp thread and 5 threads/cm in the weft thread, 1.5mm x 1.5mm mesh opening, minimum 720kg transverse tensile strength and minimum 796kg/m longitudinal tensile strength, anti-UV treatment, in white. The insect mesh shall be fastened with 2.10 mm steel springs fitted in aluminum sections. All access points shall be planned with double removable doors and modules;
- VIII. the access door shall be a sliding door in aluminum white, measuring 1.20m x 2,10m. The door shall be finished to not allow any gaps between the door and masonry; and the gap between the door and the floor shall not exceed 0.5 millimeters;

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- IX. granite worktops are to be installed in 02 (two) different levels with a minimum depth of 80 cm, stainless steel shelves and enclosed cabinets;
- X. a granite worktop with a height of 95 (ninety-five) centimeters shall be installed, with its bottom part to be closed with a metal frame following the same specifications as those of the solarium, and with an access door to the management area built with the same material;
- XI. a bathtub shall be built in masonry with rounded edges and a smooth and epoxy paint finish for purposes of cleaning the traps;
- XII. eight (08) 1.10 m x 0.60 m tanks, each, shall be built in concrete with smooth epoxy paint finishing and ramp access.

**1.4.3.2. Flooring**

The floor shall be laid in compliance with the guidelines:

- I. a seven (7) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid in rooms.
- II. rooms shall be laid with non-slip monolithic sheet vinyl flooring with rounded corners and integrated base trims.

**1.4.3.3. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a stainless steel worktop with two (02) large, deep stainless steel sinks, and articulating wall-mounted electric faucets shall be installed in the room;
- II. linear drains for sewer drainage, including manholes and which shall be connected to existing grids, shall be planned for and installed;
- III. SABESP water points shall be installed;
- IV. filters shall be installed in tanks;
- V. supply points for tanks shall be installed, in addition to a drainage system and connection to the sewer system;
- VI. automatic drinking fountains shall be installed in enclosures and solariums, amounting to 04 (four) drinking fountains as well as drainage system connected to the sewer system;
- VII. drinking fountains shall be automatic, made of cast iron with non-toxic electrostatic paint finish, floating system, protected by stainless steel plates and have a bottom drain for cleaning, in addition to a 7L capacity, and be 27 (twenty-seven) centimeters long and 30 (thirty) centimeters wide.

**1.4.3.4. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed in all rooms;
- II. heating with shielded resistance shall be installed for room tanks;

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- III. 1000w/220v power and capacity infrared electric resistance ceramic heaters with 245 mm x 60 mm hollow troughs shall be installed in feeding areas with a support frame to secure them, proper silicone wiring to stand high temperatures, and at least 02 (two) 1000w-capacity heaters per enclosure;
- IV. 110v and 220v IP65 power outlets shall be provided for in safety areas;
- V. UVB lamps for each tank;
- VI. six (06) 110v power outlets and 4 (four) 220v power outlets shall be provided in the room;
- VII. a Hi-Wall inverter hot/cold air conditioning unit shall be installed;
- VI. power panel and switchboard in the outdoor area;
- VII. a generator shall be provided.

**1.4.3.5. Incubator Room**

One (01) 15 m<sup>2</sup> (fifteen square meter) room shall be built.

The space shall have a minimum height of 2.50 (two-point fifty) meters.

**1.4.3.6. Premises, fences, closures and elements**

All premises, fences, closures and elements shall be provided in compliance with the following guidelines:

- I. the room's grounds shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- II. proper foundations and structures shall be built following ABNT Standards;
- III. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- IV. all rooms shall have ventilation windows and natural lighting with 1" 10 wire protection meshes, as well as aluminum frame steel insect meshes. The insect mesh shall be fitted to allow removing it for cleaning;
- V. all windows shall have blackout shades;
- VI. the access door shall be a sliding door in aluminum white, measuring 1.20m x 2,10m. The door shall be finished to not allow any gaps between doors and masonry; doors and floors.
- VIII. granite worktops are to be installed in 02 (two) different levels with a minimum depth of 80 cm, stainless steel shelves and enclosed cabinets;

**1.4.3.7. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (07) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid down in the room.

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- II. the room shall be laid with non-slip monolithic sheet vinyl flooring with rounded corners and integrated base trims.

**1.4.3.8. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a stainless steel worktop with 02 (two) large, deep stainless steel sinks and articulating wall-mounted electric faucets shall be installed in the room;
- II. linear drains for sewer drainage, including grease traps and which shall be connected to existing grids, shall be planned for and installed;
- III. SABESP water points shall be installed.

**1.4.3.9. Electrical Facilities**

All electrical facilities shall comply with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed in the room;
- II. Fifteen (15) 110v and five (05) 220v power outlets shall be provided;
- III. a Hi-Wall inverter hot/cold air conditioning unit shall be installed in the incubator room;
- VII. power panel and switchboard in the outside area;
- IV. a generator and a no-break shall be provided.

**1.4.4. Isolation Room**

Two (02) 10 m<sup>2</sup> (ten square meters) rooms, each, shall be built.

Spaces shall have a minimum height of 2.50 (two-point fifty) meters.

**1.4.4.1. Premises, fences, closures and elements**

All premises, fences, closures and elements shall be provided in compliance with the following guidelines:

- I. room spaces shall be built in masonry with concrete slabs, covered with cement-based mortar, and finished in epoxy paint on inside spaces, and washable acrylic paint on outside spaces;
- II. proper foundations and structures shall be built following ABNT Standards;
- III. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- IV. all rooms shall have ventilation windows and natural lighting with 1" and 10 wire protection meshes, as well as aluminum frame steel insect meshes. The insect mesh shall be fitted to allow removing it for cleaning;
- V. the access door shall be a sliding door in aluminum white, measuring 1.20m x 2,10m. The door shall be finished to not allow any gaps between doors and masonry; doors and floors.

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- VI. stainless steel worktops are to be installed;
- VII. stainless steel cabinets shall be installed.

**1.4.4.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. seven (7) centimeter thick reinforced concrete foundations with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid in rooms.
- II. rooms shall be laid with non-slip monolithic sheet vinyl flooring with rounded corners and integrated base trims.

**1.4.4.3. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a stainless steel worktop with 01 (one) large and deep stainless steel sink, and articulating wall-mounted electric faucets shall be installed in all rooms;
- II. linear drains for sewer drainage, including grease traps and which shall be connected to existing grids, shall be planned for and installed;
- III. SABESP water points shall be installed.

**1.4.4.4. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed in all rooms;
- II. Four (04) 110v and four (04) 220v power outlets shall be provided;
- III. Hi-Wall inverter hot/cold air conditioning units shall be installed in each room;
- IV. ceramic resistance heaters shall be installed;
- V. power panel and switchboard in the outdoor area;

**1.4.5. Restrooms with integrated dressing rooms**

Two (02) restrooms with each one having integrated 35m<sup>2</sup> (thirty-five square meters) dressing rooms shall be built, amounting to a minimum area of 70 m<sup>2</sup> (seventy square meters), of which 01 (one) shall be a women's restroom, and the other 01 (one), a men's restroom.

Restrooms and dressing rooms shall have accessible features following NBR 9050 Standards.

Adjoined separate areas with restroom areas containing toilets, urinals (for men's restrooms), worktops with washbasins and mirrors, shower area with shower booths and a changing area designed with benches, lockers and worktops with washbasins and mirrors, shall be built.

Spaces shall have a minimum height of 2.50 (two-point fifty) meters.

**1.4.5.1. Premises, fences, closures and elements**



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All premises, fences, closures and elements shall be provided in compliance with the following guidelines:

- I. all spaces shall be built in masonry with cement-mortar coating and ceramic-base laying on all inside building walls, measuring approximately 30x60 centimeters and finished in washable acrylic paint on outside building areas;
- II. proper foundations and structures shall be built following ABNT Standards;
- III. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- IV. all rooms shall have ventilation windows and natural lighting provided by tilting colorless glass windows, as well as outside aluminum-framed protective steel insect mesh. The insect mesh shall be fitted to allow removing it for cleaning;
- V. restroom doors shall be sliding doors in aluminum white and measuring 1.0mx2,10m for the entrance door, and 0,80mx1,80m for shower booths;
- VI. granite partitions shall be installed to divide shower booths and toilets;
- VII. benches and metal key lock lockers are to be installed in the dressing room area;
- VIII. mirrors shall be installed in restroom countertops;
- IX. all accessories and equipment shall be installed following NBR 9050 standards.

**1.4.5.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (07) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement shall be laid down in all spaces.
- II. all spaces shall have adjusted, non slip porcelain tiles measuring approximately 0.60mx0.60m, and suitable for wet high transit areas with cementitious grout.

**1.4.5.3. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

- I. a water tank with the necessary capacity to handle the site's flow rate shall be installed;
- II. faucet timers shall be installed;
- III. electric showers shall be installed;
- IV. hydra flush valve tanks able to process both liquids and solids shall be installed;
- V. linear drains for sewer drainage, including grease traps inspection and which shall be connected to existing grids, shall be planned for and installed;
- VI. SABESP water points shall be installed;
- VII. all supply and sewer facilities shall be taken care of and connected to the current grid.

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**1.4.5.4. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed;
- II. four (04) 110v power outlets and 2 (two) 220v power outlets shall be provided;
- III. power panel and switchboard in the outdoor area;

**1.4.6. Pantry Room**

A 10m<sup>2</sup> (ten square meters) pantry room shall be built;

The space should have a minimum height of 2.50 (two-point fifty) meters.

**1.4.6.1. Premises, fences, closures and elements**

All premises, fences, closures and elements shall be provided in compliance with the following guidelines:

- I. all spaces shall be built in masonry with cement-mortar coating and ceramic-base laying on all inside building walls, measuring approximately 30x60 centimeters and finished in washable acrylic paint on outside building areas;
- II. proper foundations and structures shall be built following ABNT Standards;
- III. a roof slab with proper waterproofing and drainage of rainwater shall be built;
- IV. all spaces shall have ventilation windows and natural lighting provided by tilting colorless glass windows, as well as outside aluminum-framed protective steel insect mesh. The insect mesh shall be fitted to allow removing it for cleaning;
- V. the access door shall be a sliding door in aluminum white, measuring 1.0mx2,10m;
- VI. a granite countertop with a stainless steel tank shall be installed;
- VII. enclosed cabinets and shelves;
- VIII. a dining space shall be provided for;
- IX. spots for installing refrigerators, drinking fountains and microwave ovens shall be planned for and installed.

**1.4.6.2. Flooring**

The floor shall be laid in compliance with the following guidelines:

- I. a seven (07) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat shall be laid down in all spaces.
- II. all spaces shall have adjusted, non-slip porcelain tiles measuring approximately 0.60mx0.60m, and suitable for wet high transit areas with cementitious grout.

**1.4.6.3. Hydraulic Facilities**

All hydraulic facilities shall be provided in compliance with the following guidelines:

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- I. wall-mounted electric faucets shall be installed;
- II. running water spots shall be installed for drinking troughs;
- III. linear drains for sewer drainage, including grease traps and which shall be connected to existing grids, shall be planned for and installed;
- IV. SABESP water points shall be installed;
- V. All supply and sewer facilities, which shall be connected to the current grid, shall be installed.

**1.4.6.4. Electrical Facilities**

All electrical facilities shall be provided in compliance with the following guidelines:

- I. shielded tubular LED light fixtures shall be installed;
- II. four (04) 110v power outlets and 2 (two) 220v power outlets shall be provided;
- III. power panel and switchboard in the outdoor area;

**1.4.7. (LVDB) Low Voltage Distribution Board**

The installed LVDB shall be set up to the electrical enclosure and scaled in accordance with the overall added load of all spaces mentioned herein, as well as a setback load with a backup circuit breaker;

The LVDB shall be connected to each space's power panel and switchboard.

**1.4.8. Circulation and integration of spaces**

Circulation and integration of spaces shall be provided in compliance with the following guidelines:

- I. circulation areas to integrate related spaces shall be laid with a 07 (seven) centimeter thick reinforced concrete foundation with a regular 20 millimeter thick straightened and smoothed cement with a finish coat.
- II. support areas shall have covered outdoor circulation areas to adjoin different spaces;
- III. covered circulation areas shall have water supply points with drinking fountains;
- IV. landscaping shall be provided to adjoin different spaces.