DESIGN BRIEF

1.0 DESIGN APPROACH

1.1 The mission of HOB Sabah Seed Bank, Sepilok is to create a central facility and research associated to seed storage that has not been created in Malaysia. The vision is to store the seeds directly at the source of collection sites which will increase success in storage and future viability of the stored seeds when required. This is to aspire academic and research excellence to educate people about the importance of storing endangered seeds.

1.2 Design shall be a proactive approach through new innovative design, will be in a conducive environment and distinguished entity to portray self-unique images of tropical Malaysian heritage. The design should be tropical contemporary, progressive, responsive and technologically inclined.

1.3 The Design Master Plan and Report must ensure that the final development integrates into Tropical Rainforest setting and provides a unique experience. The master plan represents the broadest level of planning.

An illustrated report, containing plans and supporting written description document the design process including site analysis. This report should also identify specific design strategies which are to be incorporated later design phases.

1.5 A Conceptual Plan and Statement provides broad ideas and proposals that clearly communicate the design intent of the design proposal. The Conceptual Plan and Statement must include conceptual drawings, cross sections and initial sketches showing broad focus areas and brief design statement that provides evidence of the design process.

1.6 The design objectives and principles should be the basis for concept designs, allowing translation into appropriate design responses.

2.0 ARCHITECTURAL REQUIREMENTS

2.1 INTRODUCTION

2.1. The buildings shall not be lacking architectural interest. It shall a dignified effect relying upon skillful composition and the judicious employment of modern materials rather than upon the more elaborate decorative forms associated with past architectural periods.

2.1.2 The functions of space materials and technologies shall be integrated to induce a distinctive design and style i.e. the design concept. The buildings should be designed to be durable, functional, reliable, safe, easy of maintenance and adaptable (flexible) as new needs and requirements dictate.

2.1.3 Design shall provide a proactive approach through new innovative design and will be in a conducive environment to portray unique image of Malaysian multicultural heritage.
2.2 DESIGN PARAMETERS AND REQUIREMENTS

2.2.1 The design of the buildings must be flexible and it shall be taken into account of the need of future expansion.

2.2.2 The buildings shall be innovative and sensitive to the local surrounding and weather conditions. The local environmental characteristics such as heavy rainfall, excessive heat and plentiful sunlight etc shall be taken into consideration. The majority of the windows and openings will be facing the north-south direction.

2.2.3 The buildings will be compact and low rise, which will allow adequate natural ventilation and natural lighting to all the areas. All buildings have a minimum roof overhang of 1200mm for external wall protection and to reduce rain and heat penetration into buildings. External windows and doors have adequate canopies for weather protection. Exposed concrete canopies must be avoided.

2.2.4 Adequate solar protection by means of sun breakers, grilles or fins must be considered. The use of planting and vegetation to minimize the effects of solar heat gain and radiation must be considered and be integrated in the design. Also the building’s design must take into consideration of the maintenance requirements.

2.2.5 All buildings shall be in that site and must be within a ten (10) minutes walking distance to the other buildings via covered link ways line with the overall master plan and planning requirement.

2.2.6 The architecture of the building shall be designed to adequately allow for horizontal land space for future expansion of new departments and facilities. The expansion must not disrupt daily operations. The design considers future expansion in terms of annex blocks or extension of buildings blocks horizontally.

2.2.7 Access to the areas shall be classified into three groups, namely:

- Public-direct access for the public only
- Restricted access-closely linked to public access areas and incorporated areas of laboratories and research.
- Support services access comprising of major support services, engineering facilities, etc.

2.2.8 All recreational facilities must be accessible only by personnel. A certain degree of security is required in the surrounding complex. The perimeter fencing and gates at the entrance must be provided as required. Monitoring detection system, alarm system and Public Address system to specified areas may be required for security and fire alarms.

2.2.9 Allow spaces for a control room (if required) and any other facilities to facilitate the proposed security system.
2.2.10 All rooms and buildings must be numbered with proper stainless steel signage (either externally or internally with or without appropriate lighting).

2.2.11 Special attention must be given to hazardous materials storage and equipment such as X-ray generators. This is to for health and safety reasons. Common use and storage of toxic gases and vapors, unstable chemicals and hazardous solids, ionizing and nonionizing radiations and natural as well as artificially engineered biohazards must be provided. Ensure all the requirements of where planning and design concerns, are met with the compliance of relevant by-laws and regulatory bodies.

2.2.12 Materials and finishes used for external wall claddings of the buildings must be easily maintained, durable and fungus-free.

2.3 HABITABLE SPACES

2.3.1 The administrative areas must adopt an open, modular design concept to achieve spaciousness, good cross ventilation and flexible usage of space. Any deep planning design must be punctuated with internal courtyards for ventilation and natural lighting.

2.3.2 Internalized rooms must be avoided. Should there be any internalized room, mechanical ventilation system must be provided.

2.3.3 Generally floor to ceiling height shall be a clear minimum height of 3.5m high for air-conditioned and non-air-conditioned areas, with the exception of specialized areas and other specified areas where a suitable height is required to accommodate the necessary items.

2.3.4 Rooms used for office administration purposes must not be less than 2.8m high (floor to ceiling height).

2.3.5 A basement floor must be provided. The basement must be well-ventilated and the structure and design must be conformity with the law.

2.3.6 The clear height of the basement room/vault must not be less than 2.5m height. Special approved waterproofing systems will be required to eliminate any seepage of moisture or dampness.

2.3.7 All accommodation areas must be preferably designed above the ground floor, while the ground floor can be used as a shared community.

2.3.8 In the case of dormitory units, cloth-drying stands must be provided either at ground level or at the balconies. The location of drying areas must be designed to avoid unwanted sight.

2.3.9 Special non-conductive floors and finishes must be designed for computer rooms. No steps are allowed in the computer room and the finished level must be flushed with surrounding floor finishes.

2.4 FACILITIES
2.4.1 Participants must take into consideration of any religious requirements such as the orientation of 'Kiblat' in the overall planning.

2.4.2 Ablution areas must be provided at all suraus. The segregation of male and female areas, as well as the segregation of dry and wet spaces is important in the design of suraus.

2.4.3 All public and staff toilets with two or more water closets must have an ante-room before entering the toilet proper. All toilets and showers must be compartmentalized with toilet cubicles of an approved system.

3.0 LANDSCAPE REQUIREMENTS

3.1 INTRODUCTION

3.1.1 Landscape design shall respond to the existing features and characteristics of the site.

3.1.2 Landscape design shall restore existing and surroundings habitats.

3.1.3 Landscape design shall increase the knowledge and enjoyment of the site and its settings.

3.1.4 Landscape design shall provide a range of ecosystem services appropriate to the site which is practical to manage.

3.1.5 Landscape design shall match the existing spatial sequence of the landscape and remnant vegetation communities, so as to integrate with and reinforce local vegetation patterns and enhance local landscape character.

3.1.6 Landscape design shall use of native species, particularly locally occurring species and remnant vegetation community types endemic to the area. The plant species selection must be prioritize as it is must be suited with the climate and environment of the area, viable for the growing conditions presented by the situation to which they are applied and are generally tolerant to local climate. Exotic species may only be used to complement existing, visually prominent specimens present locally.

3.1.7 Landscape design treatments must be easily recognized as belonging to a suite, or group of unified treatments that utilize a consistent palette of plant species, construction materials, and design treatments and detailing (i.e: colours, textures, patterns and finishes) that are consistently applied to the site. The palettes can reflect ambient conditions, local materials and character.

3.3 DESIGN PARAMETERS AND REQUIREMENTS

3.3.1 Design parameters and requirements shall minimize environmental disturbance and incorporate mitigation measures, with particular attention to environmentally sensitive areas and areas of high ecological, amenity and/or cultural value.
3.3.2 Design parameters and requirements shall be responsive to, complementary of and in scale with the existing characters of the natural and built environments.

3.3.3 Design parameters and requirements shall be developed in consideration of and integrated with adjoining sections of green corridor and interfaces with local society.

3.3.4 Design parameters and requirements shall create an identifiable character for the project, and contribute to the overall design integration.

3.3.5 Design parameters and requirements shall provide an attractive and well vegetated corridor with plantings appropriate for the function and visual significance of the project.

3.3.6 Design parameters and requirements shall retain and enhance connectivity of local communities and recreational through improvement of amenity, access and visibility throughout the project.

3.3.7 Design parameters and requirements shall provide treatments that are integrated respective to each other and the surrounding natural and built environment.

3.4 DESIGN FUNCTIONALITY

3.4.1 The design shall provide planting design incorporating of suitable mix of types (trees, shrubs, groundcovers and so on) species selection and densities. The design shall promote full area coverage at maturity to assist in weed control, earthwork stabilization and maintenance minimization.

3.4.2 Design functionality shall adopt innovative approaches where more intensive design is applied such as:

- Landscape design and detailing
- Creating visual interest through varied use of plant setting
- Use of visually distinctive color scheme and varied textured
- Incorporation of sculptural features and forms within structures; and
- Consideration of nighttime presence (lighting effects)

3.4.3 Design functionality shall incorporate current best practice design methodology in relevant design fields (for example, water sensitive urban design, ecologically sustainable design and so on).

3.4.4 Design functionality shall promote self-sustaining landscape treatments which contribute to the overall reduction of ‘whole of life’ inputs for the Project Works requiring minimal ongoing maintenance.

3.4.5 Design functionality shall promote landscape treatments and structural design which functions to enhance ecological value including:
• Water quality of drainage and sediment control devices (marginal aquatic planting)
• Fauna habitat and bio-flow corridors (inclusive of culverts, bridge underpasses and fencing)
• Soil retention and embankment stabilization
• Biodiversity

3.4.6 Structure design, placement, arrangement and treatment/finishing must generally:
• Be simple, refined and without unnecessary embellishment;
• Enhance the physical, functional, safety and aesthetic aspects of the structure, in lieu of being merely ornamental.

4.0 DESIGN COLLABORATION

4.1 Design collaboration shall be engaged and committed from the design phases and process stages inclusive of but not limited to:
• Safety in design
• Risk management
• Maintenance minimization and access strategies
• Maintenance access

4.2 Design collaboration shall ensure the integrated design outcomes for all visible areas and components are inclusive of but not limited to:
• Structures and design finishes/treatment
• Pedestrian facilities
• Drainage devices
• Lightings
• Road furniture and fencing
• Signage
• Road circulation
• ICT
5.0 JUDGING CRITERIA

5.1 Judging criteria shall be on contemporary design ideas inspired by creativity and innovation.

5.2 Judging criteria shall respond to the features and existing character of the site.

5.3 Judging criteria shall be provided an appropriate ecosystem services that are practical to be managed.

5.4 Judging criteria shall focus on the quality of the design process, as being a balanced integration of inherent elements including aesthetics, environmental considerations, feasible cost solution, social and technical considerations.

5.5 Judging criteria shall be focusing on design excellence, taking into account of the architectural form and landscape context that respond to skillful resolution of project-specific constraints, innovative use of materials and/or technology, and solutions which demonstrate cost-effectiveness of design responses.

6.0 SCHEDULE OF AREAS (SoA)

6.1 EXTERNAL AREAS

6.1.1 PUBLIC/COMMON AREA

a. Parking

b. Open space

c. Viewing tower

6.1.2 RESTRICTED AREA

STAFF

a. Greenhouse

b. Assembly Area

c. Trial Plot

d. Storage Area

e. Seed Collection Area

SECURITY

a. Perimeter fencing
b. Guard house c/w toilet

c. Gensethouse/generator room

d. Refuse chamber

e. TNB substation

6.2 GROUND FLOOR

6.2.1 PUBLIC/COMMON AREA

a. Corridors

b. Ramp

c. Foyers

d. Reception

e. Lobby/waiting area

f. Library

g. Toilets (M)

h. Toilets (F)

i. Surau (M/F)

j. Cafeteria

k. Gallery/showcase/exhibition area

l. Book store/merchandise outlet

m. Courtyard

n. Garden

o. Lifts

p. Stairs

6.2.2 RESTRICTED AREA

STAFF

a. Pantry
b. Office/administration

c. Meeting rooms

d. Dormitories

SECURITY

a. Security room

b. Control room

WORKING AREA

STORES

a. Chemical storeroom

b. Seed processing room

b. Seed processing room

c. Seed storage area

d. Store room

PREPARATION AREA

a. Loading area

b. Raw material preparation area

c. Packaging room

LABORATORY

a. Laboratory

b. Herbarium

c. Seed morphologist room

d. Cryopreservation lab/room

e. Tissue culture lab/room

6.3 1st FLOOR

6.3.1 RESTRICTED AREA

STAFF
a. Corridor

b. Lifts

c. Stairs

d. Toilets (M)

e. Toilets (F)

f. Pantry

g. Office/administration

h. Store room

6.4 BASEMENT

6.4.1 FULLY RESTRICTED AREAS

a. Seed X-raystorageroom and library

b. Cold room/vault

c. Seed bankdatabasearea (SBD)