

LIST OF SOURCES



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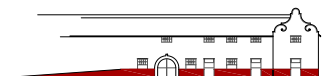
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APPENDIX_A



a legal context - **CONTRACTUAL AGREEMENT**

The following is an extract from a standard UP contracting document adapted for the Wildlife Research and Rehabilitation Facility (Research Contracting University of Pretoria).

CLIENT: University of Pretoria

SPONSOR: Pharmaceutical Company X

The *University of Pretoria*, a public education institution and a juristic person in terms of the Higher Education Act 01 of 1997 as amended by Section 25 of Act 23 of 2001, enters into contractual agreement with *Company X*, regarding the founding, development and administration of a research and educational facility, as an institute of excellence and higher learning.

identification - **SITE**

Two sites were identified as possibilities for the development of the project.

SITE ONE: Onderstepoort

Onderstepoort is the satellite Veterinary campus of the University of Pretoria. It is situated 20km north northwest of the University Main Campus in Onderstepoort. The campus is accessed by a main route but is surrounded by rural land and far from the main campus. It is conveniently close for students attending class at Onderstepoort, although not easily accessible to the general public. A large portion of the campus is visible from the main road that passes right in front of it and the campus itself can be seen as an identifiable node. An existing infrastructure allows for access to established services. Buildings on this campus are all in full use, which present a problem with regard to the incorporation of an existing structure into project development.

SITE TWO: University of Pretoria Experimental Farm

The Experimental Farm is used by the University for research and academic purposes. It is situated in Hatfield, close to the University main campus. The farm is a large portion of land around which a suburb has developed. Central placement of the site makes it easily accessible to staff, students and the public, although existing security hinders the free movement of visitors. Surrounded by an extensive network of roads, it is set just off Lynwood and borders on the N1. Publicly accessed through the University sports grounds, entry into the Farm is inconvenient but an entrance to the east end of the Farm, off the N1 highway, is currently under construction. There is an existing infrastructure to provide certain established services. An area of land has been identified with an existing building and surrounding structures that has fallen into a state of derelict and is almost entirely disused. The Farm is visible from the N1 but the area identified for possible development is not.

SITE TWO was selected for the development of the project, as it meets more of the pertinent and influential criteria. The unique outcrop of agricultural holding, surrounded by extensive urban development makes the Experimental Farm ideally situated for the intended purpose of the facility. The revitalization of an almost idle building and neglected structures would re-establish the usefulness of the site, adding value to Farm itself.



UP STAFF AND STUDENTS

Access to all facilities and private work areas as required and cleared by the Centre. Connection to visitors' educational and recreational areas, private employee social areas and personal storage.

PHARMACEUTICAL EMPLOYEES

Access to concerned research facilities, visitors' educational and recreational areas, and private employee social areas and personal storage. Possible clearance to remaining private work facilities.

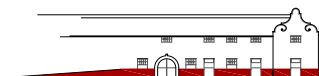
LABOUR FORCE

Access to public areas, private work areas and storage as cleared by the Centre with regard to individual employment. Access to employee social areas and personal storage.

VISITORS

Public facilities - Access to educational and recreational facilities open to public use. These facilities include an informative exhibition on the Facility, the work it does and how it operates with glimpses into work areas. There is access to holdings of tame wildlife unsuited for rehabilitation and a children's educational recreation area.

Semi-private - Restricted access, for use by paying customers. The educational program includes group lectures on environmental and wildlife topics and special guided tours through wildlife holdings and facilities usually restricted from the public.



APPENDIX_B



It is imperative for people to realize the importance of introducing sustainability into the way we work and live. Human activity is depleting non-renewable resources and constantly damaging the environment. A development project can support sustainability by encouraging informed design decisions that considers the extended impact of the project both short term and long term. The design of the Wildlife Research and Rehabilitation Facility is to be based on the following criteria set up with regards to the context of the project and a sustainable approach. The baseline study sets out the design principles that the project is striving to achieve with regard to economic, social and environmental issues.

occupant comfort - SOCIAL CRITERIA

All aspects relevant to the comfort of the users of the facility are to be addressed as full as possible considering the limited flexibility and restrictions posed by the use of existing structures. Issues attended to will include trying to maximise the penetration of natural light and control of the light ray penetration and glare as the existing architecture has few and small windows. An effort will be made at increasing natural ventilation in existing structures and means of natural ventilation will be included in the design of any new structures. Decibel levels are to be controlled through segregation of various tasks and the combination of similar activities. Appropriate use of materials for construction and finishing are considered to help contain noise. Making full use of external views of the natural surroundings is important, as well as easy access to the outside due to the nature of the facility where movement between inside and outside is constant.

participation and control- SOCIAL CRITERIA

The use of existing structures again limits adaptation of the building and design for full flexibility. The user will be considered at all times and an effort made to design for adaptation and control of personal environments and flexibility. Social areas and easy access to refreshment and sanitary facilities will be ensured. The encouragement of community involvement through educational sessions forms part of the development strategy.

inclusive environments - SOCIAL CRITERIA

Public access is for most part limited and design of the facility should foremost consider the wildlife and functions personnel are to perform. For this reason designing for the disabled does not take priority but will be addressed as extensively as possible regarding both wheelchair users and the visually impaired.

access to facilities - SOCIAL CRITERIA

The site is situated in an urban environment, close to both residential and business districts and in short distance of a range of services.

education, health and safety - SOCIAL CRITERIA

At an educational facility of this nature, there is constant and efficient educational support and stimulation. Security is already provided for on the Experimental Farm but sufficient external lighting is needed around the buildings and along walkways that connect the buildings and animal holdings. All buildings on site are to comply with all necessary health and safety requirements and address smoking laws.



Local Constructors, manufacturers and material suppliers are to be used in the construction and maintenance of the facility where possible and sources within close distance. The facility also opens itself up to any outsourcing opportunities created in the development of the facility.

With only an approximate 20% of the structures on the site currently in use, the new establishment has the potential of improving the current efficiency of use by 80%. A conscious effort will be made to design the facilities to efficiently maximise use of space all-round with the design of shared spaces to establish a high occupancy ratio within all sectors of the facility.

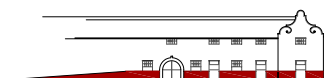
Making use of existing structures it is difficult to control the adaptability and flexibility of the building with regard to vertical dimensions, existing non-load bearing inside partitioning and ease of access to existing services or modification of them without extensive cost implications. The approach taken in this project is the consideration of these aspects when adding to a structure or making viable adjustments when refurbishing. New construction shall make use of an external support structure and non-load bearing partitions that can easily be removed in the future.

Where possible, while keeping with the design context, maintenance and cleaning costs are to be kept to a minimum through selection of materials that are low in cost to maintain and do not need regular cleaning. Consumption of water and energy is to be regulated. The heating, ventilation and air-conditioning system and related plantroom is to be made easily accessible for maintenance purposes.

Capital costs are reduced though having project development costs shared between parties. The use of existing buildings is hugely cost beneficial and several groups of people will be sharing use of facility. Construction and material choices will be considered to lower initial capital costs.

Rainwater is to be harvested and grey water recycled, using the water from basins for watering vegetation and flushing toilets. Water efficiency devices are to be introduced to reduce water consumption. Exotic plant species are to be replaced with indigenous vegetation and hard landscaping kept to a minimum.

The urban placement of the facility makes use of public transport possible. Heating and cooling, passive ventilation, and passive ventilation principles will be incorporated as extensively into the existing structure as possible. Energy efficient light fittings are to be used wherever appropriate and solar panels installed to produce energy for electrical and heating purposes.



recycling and reuse - ENVIRONMENTAL ISSUES

Appropriate arrangements are to be made to dispose of hazardous waste. Recycled organic wastes could possibly be used on the Farm. Construction waste should be accumulated on site and disposed of. The use of environmentally friendly toilets or on site drainage systems will be explored.

site - ENVIRONMENTAL ISSUES

The chosen site is a brownfield site and use of existing structures is suggested with limited additions that will increase the existing footprint. The structures on site and the surrounding buildings are positioned far apart, currently having no adverse effects on one another. The site consists mainly of kukuyu grass for cattle grazing. Kukuyu is an invasive, exotic grass species that is not appropriate for use around wildlife. The grass also requires more water than local grasses and should be removed. Natural habitats will be formed for the retained wildlife that should need little artificial input.

materials and components - ENVIRONMENTAL ISSUES

A sustainable approach will minimise the environmental effect of construction. Design choices will consider the embodied energy of materials and whether materials are obtained from a renewable source and could be reused or recycled. The use of materials removed from the existing structures should be incorporated into the new construction or donated for use in underprivileged community development.



APPENDIX_C



APPLICATION (Reference)	ZONE	OCCUPANCY (SABS 0400)		AREA (SABS 0400)	LIGHTING	AIR REQUIREMENTS (SABS 0400)
VISITORS CENTRE	Public/ Semi-Private	Occupancy Class	Maximum No Of People	Area in m ²	Illumination In lux	Minimum In l/s
EXHIBITION	Public	C1	48	480	200	3.5
AUDITORIUM	Semi-private	A3	60	92	200	7.5
LECTURE ROOM	Semi-private	A3	14	85	300	7.5
STUDENT STUDIO	Semi-private	A3	16	80	300	7.5
INFORMATION SECTOR	Public/Semi-private			94		
Wildlife drop and information	Public	GI	3	40	200	5.0
Reference library	Semi-private	A3	18	90	300	6.5
VETERINARY CLINIC	Semi-private	B3	6	94	300	7.5
ADMINISTRATION	Semi-private	G1		65		
Office - Manager	Semi-private	G1	1	16	300	5.0
Office - Research liaison	Semi-private	G1	1	14	300	5.0
work station - Public relations officer	Semi-private	G1	1	10	300	5.0
Boardroom	Semi-private	G1	8	25	300	5.0
COFFEE SHOP	Public			194		
Reating area	Public	A1	100	100	200	5.0
Kitchen & Wash-up	Private	B3	6	94	500	17.5
WATER CLOSET FACILITIES	Public	X	120	18 toilets	100	



PART M - stairways

- MM2.1 The stairway leading from the lecture room to the circulation area on first floor level has headroom provided no less than 2,1 m as measured vertically from the pitch line, and the width of the stairway is no less than 75mm.
- MM2.2 The vertical rise between the ground floor and the landing on the first floor does not exceed 3m.
- MM2.3 The risers of the steps are 165mm and do not exceed the maximum 200mm.
- MM2.4 The widths of the treads are 260mm, more than the required 250mm
- MM3 (a) The stairs are protected on both sides at all times. The balustrade on the side is not less than 1m in height.
(b) A continuous handrail extends the full length of the staircase and securely fixed at a height no less than 850mm and not higher than 1m as measured vertically from the pitch line to the upper surface of the rail.
(c) The width of the flight of stairs is more than 1,1m wide and thus has two handrail, one on either side.
- MM4 The stairway is compliant with all fire requirements contained in Section T Of the SABS 0400

PART S – Facilities for disabled persons

SS2 Ramps

The ramp providing movement between the ground floor of the old farm building and the first floor is designed to fulfill all the deemed-to-satisfy rules of part S – Facilities for disabled persons, p152-p153.

The gradient measured along the centreline of the ramp is 1:12 and can be used by persons in wheelchairs.

The trafficable surface is clear and more than 1,1m wide and constructed out of epoxy with a textured finish for slip resistance.

Landings are provided within every 1,5m of vertical rise and are not less than that of the ramp. The landing at the top of the ramp is more than 1,2m in length while the landings that provide a range in direction between two straight sections of ramp have a length more than 1,2m as measured along the centerline.

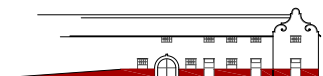
Handrails are provided for the entire length of the ramp, the top surface of which is between 850mm and 1000mm above the surface of the ramp. The handrail is finished off as not to present a hazard to users and follows the gradient of the ramp for its full length.

SS4 Doors

The leaf of all single doors and at least one of a double door when open at 90degrees provides a clear opening more than 750mm wide at a right angle to the direction of travel.

All handles, fitted to door levels of emergency and feeder routes, and the disabled toilet facilities are lever type handles installed at a heights not more than 1,2m above floor level.

Any difference in surface levels of floors at thresholds is not more than 15mm.



SS5 Toilet Facilities

There are two WC pans suitable for persons in wheelchair, suited to a population of up to 120 people. The placements of the WC pans are such that disabled persons travel less than 200m from any point inside the building to a WC pan.

The doors to the compartments designed for the disabled, containing a WC pan, opens outwards and the door leafs are fitted with locking devices but still openable from the outside by a suitable device.

The WC compartments suitable for use by disabled persons have a minimum area of 2,9m² and a minimum plan dimension of 1,6m. The distance between the centreline of the WC pan and the nearest wall is between 450mm and 500mm with grab rails fixed to the nearest wall and rear wall. The distance from the rear wall to the edge of the WC pan is not less than 160mm and the top surface of the seat of the pan is between 460mm and 480mm above the floor level. The pan flushing control and toilet paper holder are easily accessible.

The washbasin in the compartment is mounted to the wall without legs or a pedestal. The top surface is less than 830mm high and the vertical clearance under the basin is 650 from the floor finish (measured at no less than 160mm from the front of and under the basin). The basins are fitted with lever handles and the cold tap within reach of the WC pan while sitting.

