Appendix D: Specialist Reports

- *"Proposed Activities at Kirstenbosch National Botanical Garden"* (VMA Architects, 2014);
- "Stage 1 Report: Proposed Feasibility Study for a new Administration Building, Parking Facility and Refurbishments of the Fynbos Lodge at Kirstenbosch National Botanical Garden"

(VMA Architects, 2014);

• "Botanical Assessment of the Proposed Development Area at Kirstenbosch Botanical Garden"

(Nicholas Helme, 2014);

- "Notification of Intent to Develop" (Jayson Orton, 2014);
- "Notification of Intent to Develop- Supporting Documents" (Jayson Orton, 2014);
- "Visual Statement: SANBI New Buildings at the Kirstenbosch Botanical Gardens, Cape Town"

(Megan Anderson, 2015);

- "Freshwater Ecological Assessment for the Proposed Establishment of a new Administration Building at Kirstenbosch National Botanical Garden" (Dean Ollis, 2014).
- *"Annexures for the Freshwater Ecological Assessment"* (Dean Ollis, 2014)
- "Stormwater Management Plan" (Orrie, Welby & Associates, 2014)





KIRSTENBOSCH NATIONAL BOTANICAL GARDEN

VMA Architects



APPOINTMENT OF A MULTI-DISCIPLINARY TEAM WITH A PROFESSIONAL ARCHITECT AS THE PRINCIPAL AGENT FOR THE FEASIBILITY STUDY, DESIGN AND CONSTRUCTION MANAGEMENT OF A NEW ADMINISTRATION BUILDING AT KIRSTENBOSCH NATIONAL BOTANICAL GARDEN.

Bid Number: G174/2013

14th May 2014



OBJECTIVE OF WORKSHOPS



VMA Architects

1. Confirm Accommodation Schedule and Brief for the Administration Building comprising of the HR Department, Finance and I.T Department.

2. Confirmation of Additional Activity viz . Upgrade of Fynbos Lodge

3. Confirmation of Parking Facility

4. Additional space required for EDRR program including marketing & communication staff

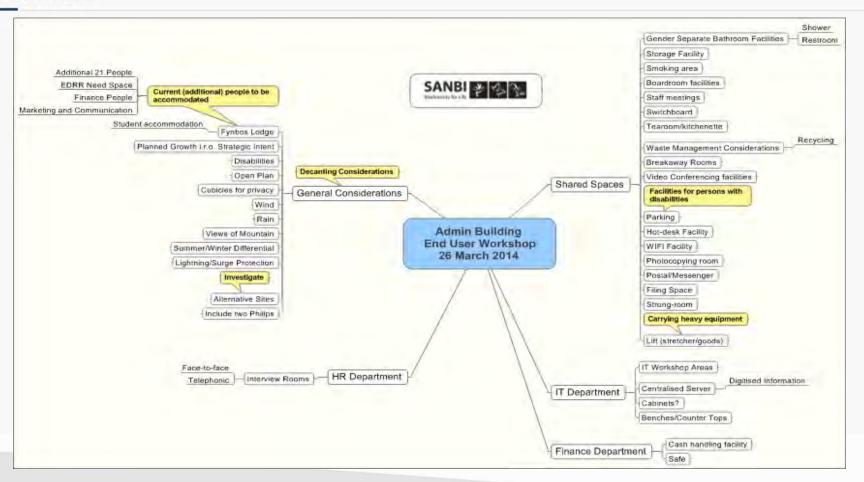
- 5. Confirmation of Additional Consultants.
- 6. Preferred Site

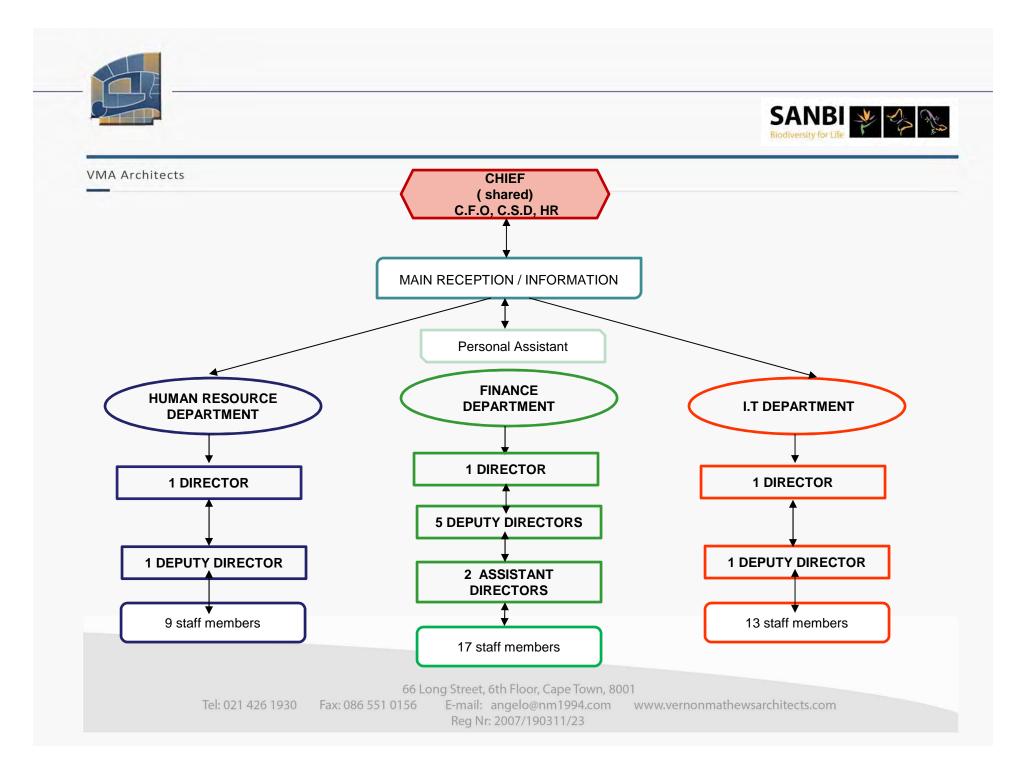


MIND MAP



VMA Architects









VMA Architects

ACCOMMODATION SCHEDULE



H.R DEPARTMENT



VMA Architects

No.	Item	Assigned s.q.m	General Comment
Departm	ent of HR		
1 Director	of HR	25	Kaashiefa Bassier
2 Deputy D	Director of Training	20	Training Unit (Rene Du Toit)
3 HR/ Dedi	cated Printer Stations	6	One bulk Printer / 6 Desktop Printer
4 Archive /	' Store Room / Stationery room	12	Stationery + Equipment
5 1 meetin	g / Seminar room (5 people)	12	Small Meeting / Discussion Rooms
6 Open pla	n Office (8 staff members)	51	Open plan office Space
7 1 new sta	aff member (To be Appointed)	10	New staff member post filled this financial year
8 Ablutions	5	10	Male / Female
9 Drinking I	Fountain	-	Spring Water to be supplied by Kirstenbosch Botanical
Sub Tota	l (excluding parking)	146	
146 s.q.m	n x 1.2 s.q.m (Structure & Circulation)	175	
Add 10 %	6 Growth	18	Future projection
TOTAL		193	



FINANCE DEPARTMENT



VMA Architects

No. Item	Assigned s.q.m	General Comment
Finance Department	, teel Bried erdinin	
1 Waiting Area	25	
2 Director of Finance	25	A. Smith (Office / Private)
3 Personal Assistant	12	Goelood
4 Deputy Director (Income)	20	Office / Private
5 Deputy Director (Finance)	20	Office / Private
6 Deputy Director (Payroll)	20	Office / Private
7 Deputy Director (Assets)	20	Office / Private
8 Deputy Director (Projects)	20	Office / Private
9 Offices ASD (Salaries)	15	Office Screened / Private
10 Offices ASD (Creditors)	15	Office Private
12 Printing Photocopy Area	10	Printing Station / Closest Staff does most of the Printing
13 3 Seminar Room @ 16 s.q.m	48	For Breakaway Meetings
15 1 Filing Room (Finance)	16	Records
16 1 Filing Room (Payroll)	10	Records
17 9 General Staff @ 7s.q.m in Open Plan	63	Open Plan Offices / Located close to natural ventilation
18 Temporary 3 year Projects / Staff	30	3 Staff Member on contract
19 1 Cleaning (payroll) Staff	10	
20 Ablutions	15	Male & Female
21 Drinking Fountain	-	Spring Water to be supplied by Kirstenbosch Botanical
Sub Total (excluding parking)	394	
394 s.q.m x 1.2 s.q.m (Structure & Circulation)	472	
		Future projection
Add 10 % Growth	47	
TOTAL	519	



I.T DEPARTMENT



VMA Architects

No.	ltem	Assigned s.q.m	General Comment
I.T Department			
1 Director		25	Private Office
2 Deputy Directo	r	20	Private Office
3 Office (open pl	an)	65	Staff located near natural light & ventilation
4 Office (Consult	ants)	15	Visiting / Outside Assistance
5 Helpdesk		30	Space for 3 Staff Members (Call Centre)
6 Video Conferer	ncing Room	50	Also use for Training / Presentations
7 Workshop		50	Repairs
8 Store Room		10	General
9 Printing Facility	/	10	For 2 Copiers
10 Special Storage	e Facility (Steel Secure boxes)	38	New Computers / Distribution
11 Ablutions		15	Male & Female
12 Server Room		12	
13 Drinking Fount	ain	-	Spring Water to be supplied by Kirstenbosch Botanical
Sub Total (exclu	uding parking)	340	
340 s.q.m x 1.2	s.q.m (Structure & Circulation)	408	
Add 10 % Grow	/th	40	
TOTAL		448	



SHARED FACILITIES



VMA Architects

No. Item	Assigned s.q.m	General Comment
Shared / Communal Facility		
1 Main Reception / Waiting Area	35	Central Reception with Switchboard
2 Information Desk	15	General Information & Reception
3 Entrance Foyer	50	Pre - Assembly Space
4 Canteen (65 people) / Recreation	130	Staff / Guest
5 Kitchen	30	Staff & General use
6 Refuse / Recycling Facility	15	Central Facility
7 Store Rooms	15	
8 Prayer Rooms / Cubicles	18	Staff / Guest
9 Seminar Rooms	25	
10 Strong Room	18	3 Cubicles
11 Sickbay	12	
12 Boardroom	100	Can be subdivided with partition to create two spaces at 50 s.q.m each
13 Stretcher Lift	6	
Sub Total (excluding parking)	469	
469 s.q.m x 1.2 s.q.m (Structure & Circulation)	562	
Add 10 % Growth	56	
TOTAL	618	



SUMMARY



VMA Architects

No.	ltem	Assigned s.q.m	General Comment
	Summary		
	HR Department Total Area	193	(excluding parking)
	Finance Department Total Area	519	(excluding parking)
	I.T Department Total Area	448	(excluding parking)
	Shared Facilities	618	
	TOTAL (excluding parking)	1778	
	Footprint of existing Administration building (Site Option 2)	850	
	Bulk Factor	2,2	



ADDITIONAL ACTIVITIES



VMA Architects

1. Fynbos Lodge	 Upgrade & Removal Asbestos Roof & Provision of parking. Stabilization of River Bank with Gabions (Stones banks)
2. Parking	- 50 cars , 3 Mini buses & 1 Loading Zone.
3. Additional Space	- E.D.R.R (Marketing and Communication) – 21 staff members



LOCALITY



VMA Architects





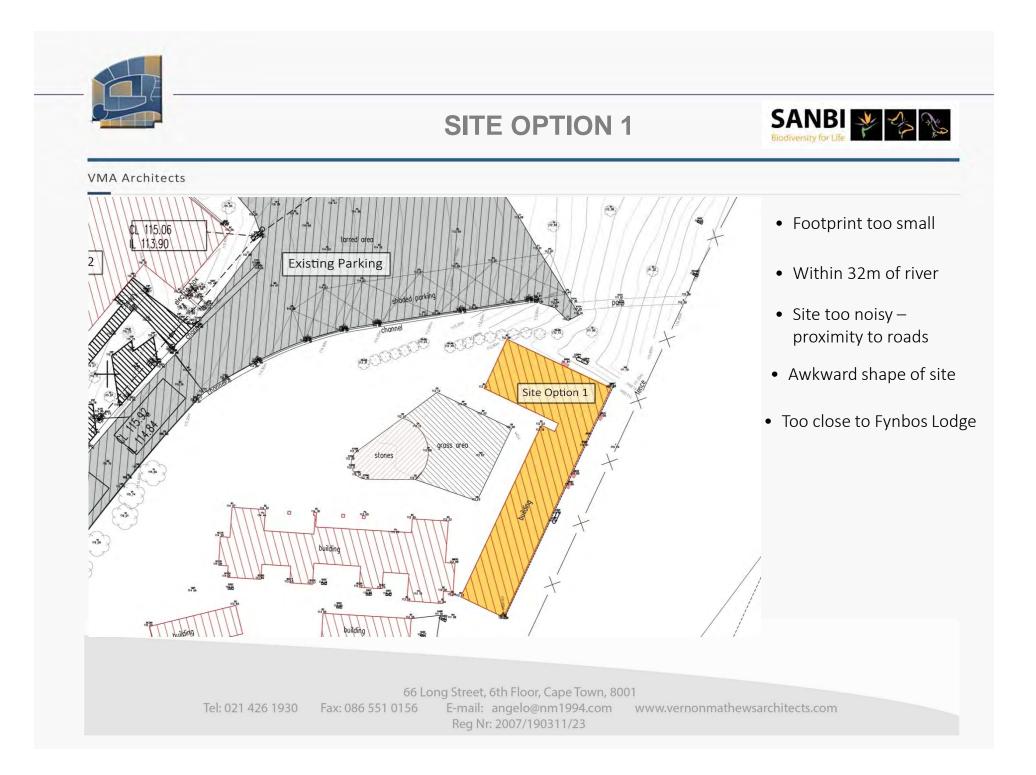
WHOLE AREA OF STUDY



VMA Architects



Tel: 021 426 1930 Fax: 086 551 0156 E-mail: angelo@nm1994.com www.vernonmathewsarchitects.com Reg Nr: 2007/190311/23



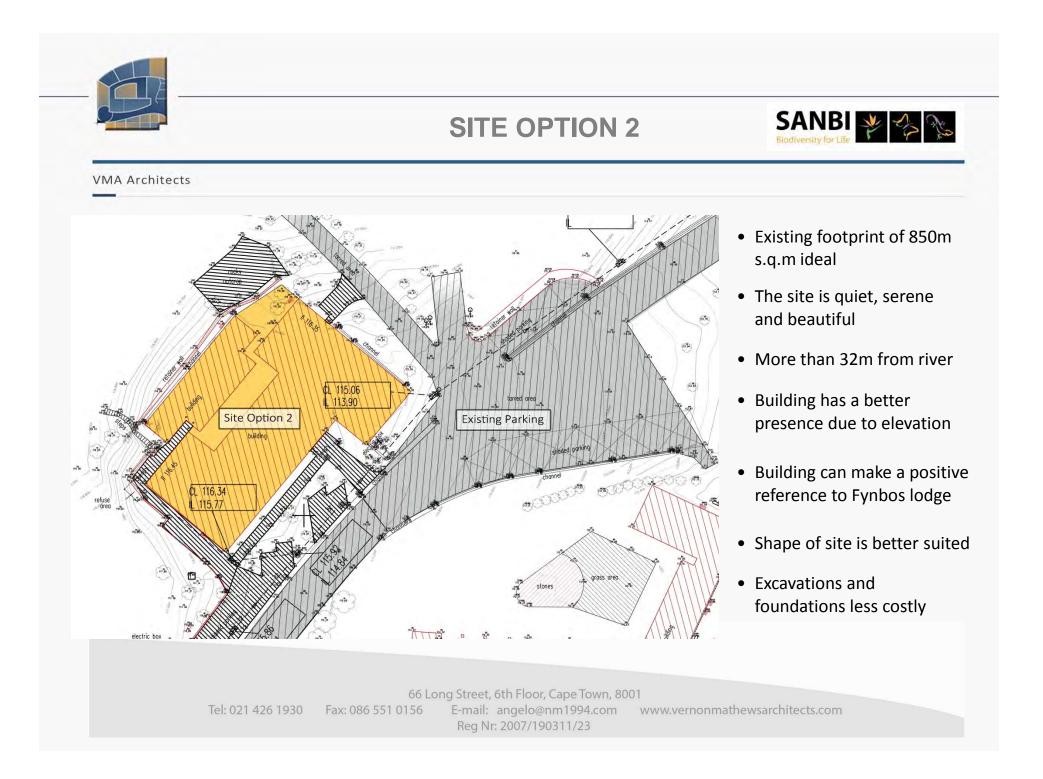


SITE 1 PHOTO'S



VMA Architects



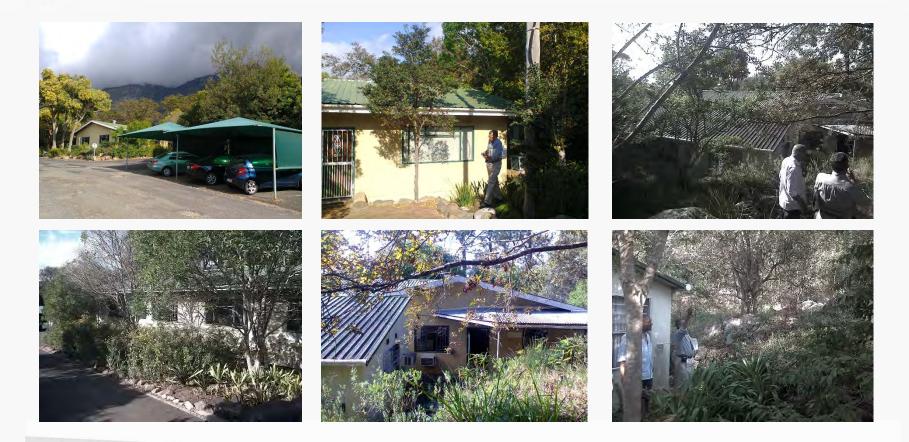




SITE 2 PHOTO'S



VMA Architects

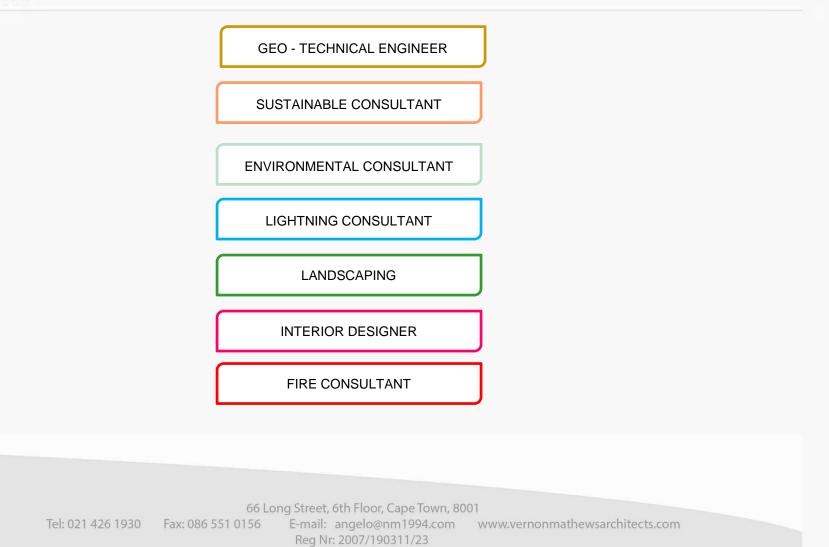




ADDITIONAL REQUIRED CONSULTANTS



VMA Architects







VMA Architects

THANK YOU / DANKIE / ENKOSI





VMA Architects

DISCUSSION



4

PROPOSED FEASIBILITY STUDY FOR A NEW ADMINISTRATION BUILDING, PARKING FACILITY AND REFURBISHMENT OF THE FYNBOS LODGE AT KIRSTENBOSCH NATIONAL BOTANICAL GARDEN

Project Number: G174/2013





aurecon





ARVIND N BHAWAN Protessian Lond Barregote I and Sorrays Servicial Trie Practicanter Engineers in Statuter

Contents

i.

1.	Introduction	Page 2
2.	Executive Summary	Page 3 - 4

3. Site Information / Context	Page 5
3.1 Aerial Photo / Locality Map	Page 5
3.2 Site Cadastral Extent	Page 6
3.3 Survey Drawing	Page 7
3.4 Photographic Study of Site Option 1 & 2	Page 8 - 9
3.5 Tabular Comparison of Site Options / Identification	Page 10

4. Climatic Data / Geographical Characteristics	Page 11
4.1 Introduction	Page 11
4.2 Climatic Data	Page 12-15

5. Accommodation Schedule	Page <u>16</u>
5.1 Building Classification	Page 16-17
5.2 Table 1 – Consultation Workshops with End User	Page 18
5.3 Mind Map – By: Aurecon	Page 19
5.4 Outcomes and Final Accommodation Schedule	Page 20 -25
5.5 Designation of Building in terms of SANS 10400 Edition 3	Page 26
5.6 Organogram – Lines of reporting	Page 27
5.7 Contractual Matters	Page 28

1. Introduction:

A tender was advertised by SANBI requiring a multi-disciplinary team with a professional architect as the lead consultant for the feasibility study, design & construction management of a new administration building at the Kirstenbosch National Botanical Garden (KNBG): On Farm 875, a portion of the precinct. ie. KNBG.

The tender was advertised during November 2013. A clarification meeting was held on the 28th November 2013, with a closing date being 6th December 2013. VMA Architects (VMA) was awarded the tender on the 12th February 2014 and duly accepted the award on the 14th February 2014.

VMA recognises the status of KNBG as a world class destination at the foot of Table Mountain National Park, a World Heritage Site and recently declared one of the seven natural wonders in the world. The site is also situated closer to the origins of the Liesbeek River. VMA recognises that the design of the building will incorporate State of the Art Technology, complete with Wi-Fi, Access Control, and CCTV surveillance cameras, completely embracing green and sustainable principles in the design.

2. Executive Summary:

VMA embarked on an intensive consultation process with the End-Users of the Administration Department of KNBG. This process took the form of workshops, meetings and *in loco* inspections.

The first objective was to develop a brief in the form of an accommodation schedule with assignable square meters that incorporated future growth of approximately 10%.

The second objective was to identify a suitable site that could accommodate a building with a footprint of 2500m² within a double storeyed structure. A decision was taken by the client to utilise one of the two existing building sites viz. Information Technology building site or the Human Resources/Finance building site. VMA also took into account a further guiding principle that no trees would be removed in the precinct and subsequently recommend the following:

- 1. The site of the existing Finance/HR building, referred to later in the document as site option 2, is the preferred site for the New Administration Building.
- 2. The site of the old information & Technology building & its surroundings is recommended as the preferred site for the parking facility.
- 3. Fynbos Lodge will be restored & modified as per heritage guidelines, as a student accommodation facility.
- 4. Banks to the south of Fynbos Lodge on the Liesbeek River will be stabilized using gabions.

m²
172.92
520
465
654
657

The outcome of the workshop / consultation process regarding the assignable square meters is as follows:

VMA will essentially undertake and provide the documentation and statutory approval process in Year 1; the construction of the Administration Building in Year 2 and the refurbishment and modification of Fynbos Lodge in Year 3. The construction of the Administration Building will result in the decanting of the HR Division & Finance staff to alternative accommodation (either on or off site) for a period of approximately 10 -12 months. The scheduling & timing of the parking facility will commence once the IT Directorate has successfully been relocated & setup in the new building. Care and diligence will be exercised to ensure that the IT Directorate's operations will not be interrupted.

The banks of the Liesbeek River to the south of Fynbos Lodge, a building with significant heritage status, must be stabilised with gabions, utilizing Table Mountain sandstone as a material.

A parking facility will accommodate 50 cars and a shelter at the bus terminus will also be provided for the employees of SANBI.

VMA confirms that upon approval of the Stage 1 report and in particular the Identification of the Site and Accommodation Schedule, the Professional Team will proceed to stage 2 viz. Conceptual Design and Development and Cost Estimates.

The following persons were consulted:

Christopher Willis Rory Baker Dirk Linde Alan Smith Kasshiefa Bassier Beryl-Lynne Pekeur Rene Du Toit Philip le Roux Philip Ivy

VMA wishes to expresses its sincere gratitude and appreciation for the valuable inputs and insights received. A special thank you to Amjad Hendricks from Aurecon, for his professional engagement on this project.

3. Site Information / Context:

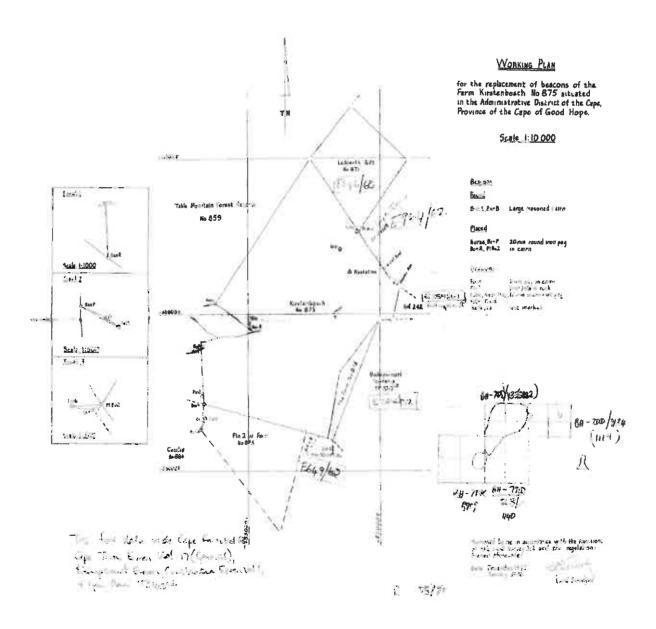
3.1 Aerial Photo / Locality Map



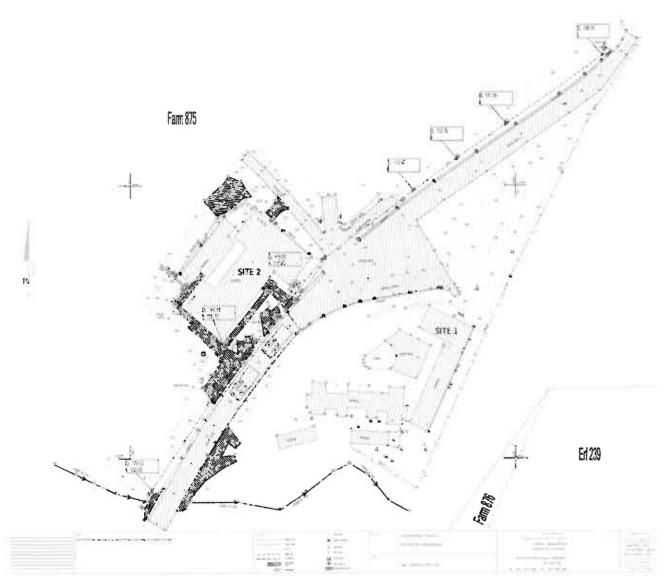
GPS Co-ordinates: 33'59'12.07" S 18' 26'07.78" E by: Google Earth

3.2 Site Cadastral Extent:

Over Farm Erf 875 (Kirstenbosch) (T12630/1961)

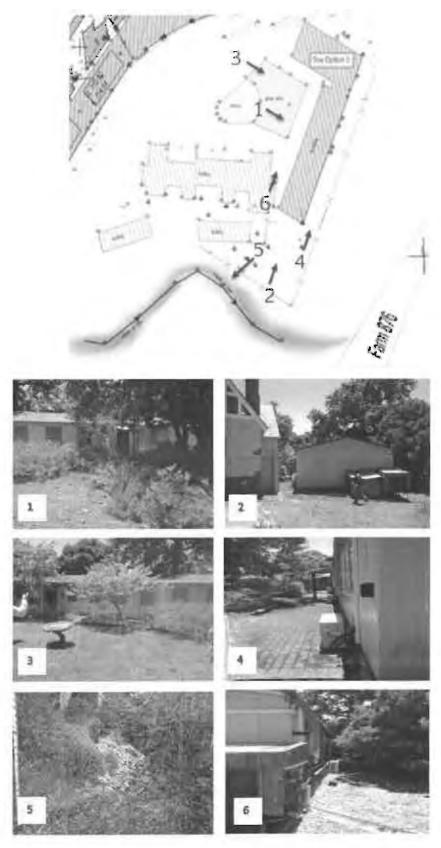


3.3 Survey Drawing

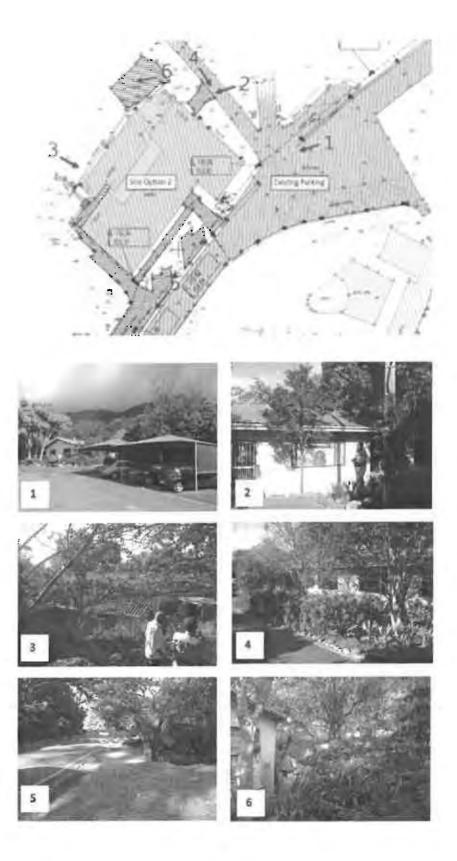


Survey Drawing: Prepared by Arvind Bhawan .29/05/2014

3.4 Photographic Study of Site Option 1 & 2



Site Option 1



3.5 Tabular Comparison of Site Options / Identification

	Site Option 1		Site Option 2
1.	Site shape awkward.	1.	Site shape more geometrically regula
2.	Too close to the Liesbeek River and within the 32m building development line	2.	More than 32m from the centre line of the Liesbeek River
3.	Too close to Rhodes Drive & too noisy	3.	Site is situated in a quieter location
4.	Existing footprint (ca 274 m ²) too small for the proposed new Administration Building (incorporating EDRR, IT Directorate, Marketing & Communications Directorate, Shared Facilities)	4.	Existing footprint of the Finance/H Building is 850 m ²
5.	Existing Building Site more suitable as parking facility.	5.	It is more suitable as Corner Buildin and has a better orientation.
6.	Building Site too close to the Fynbos Lodge	6.	Existing building site allows for minimal impact on the existin Fynbos Lodge

VMA is engaging with Mr Ben Mars of Land Affairs to determine if any land claims have been registered against the relevant portions of Kirstenbosch. A report will be submitted to VMA in due course.

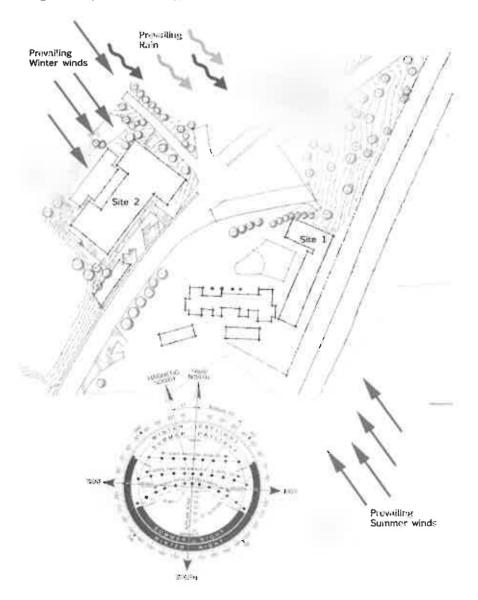
VMA recommends Site Option 2 over Site Option 1 as the preferred site for the new Administration Building and a bulk of 2.2 will apply with a maximum height of 12m. The Building will consist of approximately two and a half storeys. It is endeavoured that no trees will be removed. Site Option 1 will be utilized as the parking site, with the Fynbos Lodge being modified and redesigned as a student lodge. The river bank will be stabilized with gabions.

4. Climatic Data / Geographical Characteristics:

4.1 Introduction

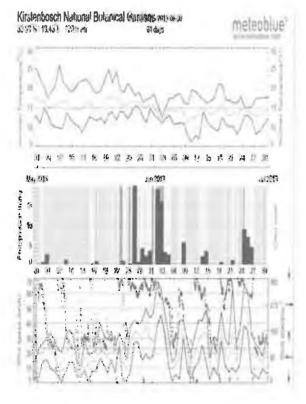
Kirstenbosch is situated at the foot of Table Mountain and this falls within the Mediterranean Climatic Belt.

The proximity of the mountain has a major impact on the microclimate, resulting in hot summers, cold and very wet winters. It is a known fact that Kirstenbosch/Newlands have recorded the highest rainfall in South Africa. Furthermore, very high wind speeds have been recorded, registering up to 45km/h during winter (north-westerly).

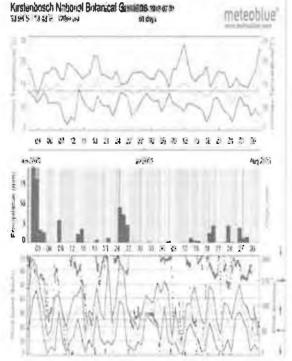


4.2 Climatic Data: June 2013 – June 2014

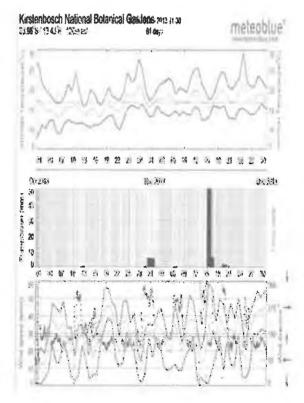
June 2013



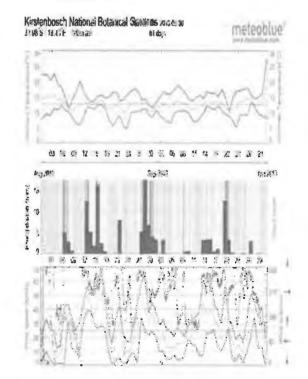
July 2013



August 2013

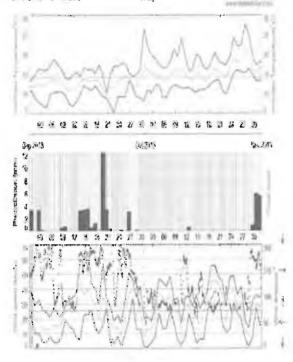


September 2013

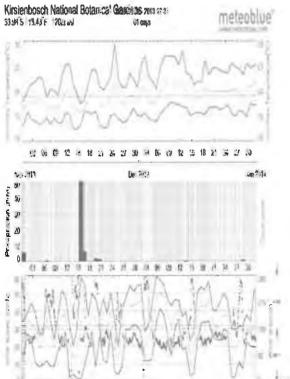


October 2013

Kirstenbosch National Botanical Cordons 2013 10:38

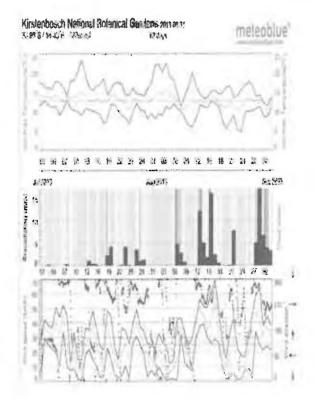


December 2013



November 2013

meleoblue

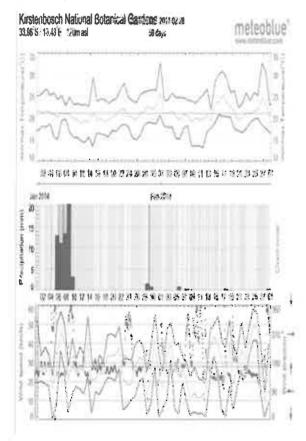


January 2014

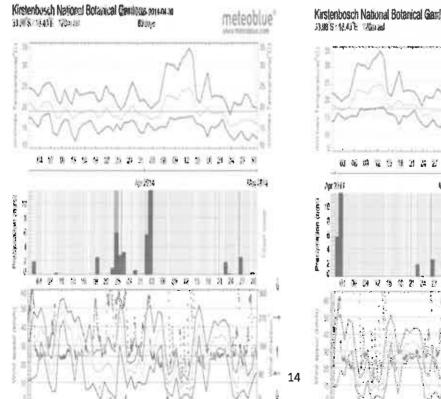
Kristenbosch National Bolanical Gaarlans miserai and statistic transal Ordens meteoblue 6'days . 用目出 性的 医梅兰氏剂 化配服用 化有限 医植名素 [1]"治 11/34 151 - 100 14 3, 94,2462 * ales, Water and a 18 ŝ . ы 0.0.5 x N 22 2 31 11 11 06 W 1 1 1 1 1 1 1 1 .

13

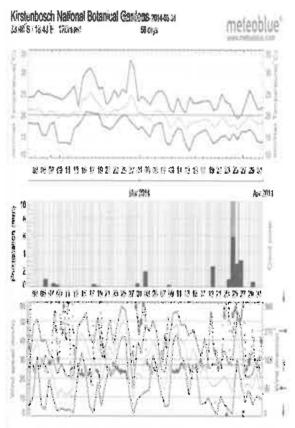
February 2014



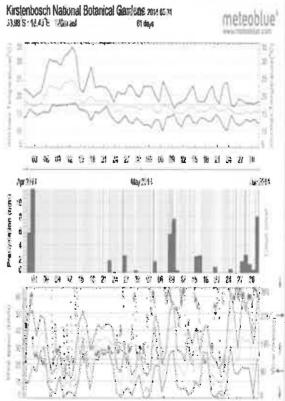
April 2014



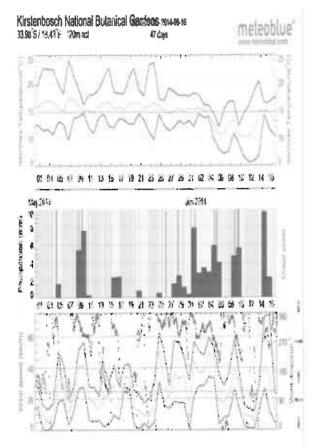
March 2014



May 2014



June 2014



Climatic Data sourced from: moteoblue

2

5. Accommodation Schedule

Workshops were held with various Divisional/Directorate Heads & Project Managers, with the objective to draw up a detailed brief and accommodation schedule. Refer to Table 1 below.

The New Administration Building will accommodate the following departments:

- Finance (F)
- Human Resources (HR)
- Information and Technology (IT)
- Early Detection and Rapid Response Programme (EDRR)
- Marketing & Communications (M&C)

5.1 Building Classification: G1 SANS 10400 Edition 3

SANS 10400-A:2010 Edition 3

Table 1 (concluded)

Class of						
occupancy of building	Occupancy					
E4	Health care Occupancy which is a common place of long term or transient living for a number of unrelated persons consisting of a single unit on its own site who, due to varying degrees of incapacity, are provided with personal care services or are undergoing medical treatment.					
F1	Large shop Occupancy where marchandise is displayed and offered for sale to the public and th area exceeds 250 m ² .					
F2	Small shop Occupancy where merchandise is displayed and offered for sale to the public and the area does not exceed 250 m^2 .					
F3	Wholesalers' store Occupancy where guods are displayed and storud and where only a limited soluci group of persons is present at any one time.					
G1	Offices Occupancy comonsing offices, banks, consulting rooms and other similar usage.					
H1	Hotel Occupancy where persons rent furnished rooms, not being dwelling units.					
H2	Dormitory Occupancy where groups of neople are accommodated in one room.					
нз	Domestic residence Occupancy consisting of two or more divelling units on a single site					
H4	Dwelling house Occupancy consisting of a dwelling unit on its own site, including a garage and other domestic outbuildings, if any.					
H5	Hospitality Occupancy where unrelated persons ront furnished rooms on a transient basis within a dweiling house or domestic residence with steeping accommodation for not more than 16 persons within a dweiling unit.					
1 ل	High risk storage Occupancy where material is stored and where the stored material is liable. In the event fire, to cause combustion with extreme rapidity or give rise to poisonous fames, or cause explications.					
J2	Moderate risk storage Occupancy where metorial is stored and where the stored material is liable, in the event fire, to cause combustion with moderate rapidity but is not likely to give rise to poisonol fumes, or cause explosions.					
J3	Low risk storage Occupancy where the material stored does not fail into the high or moderate risk dategory.					
J4	Parking garage Occupancy used for storing or parking of more than 10 motor vahicles.					

Table 2 - Design Population

.

1	2				
Class of occupancy of room or storey or portion thereof	Population Number of fixed seats or 1 person per m ² if there are no fixed seats				
A1, A2, A4, A5					
E1, E3, H1, H3, H4	2 persons per bedroom				
E4	16 persons provided that the total number of persons per room is not more than 4				
H5	16 persons per dwelling unit provided that the total number persons per room is not more than 4				
G1	1 person per 15 m				
J1, J2, J3, J4	1 person per 50 m ²				
C1, E2, F1, F2	1 person per 10 m ²				
B1, B2, B3, D1, D2, D3	1 person per 15 m ²				
C2, F3	1 person per 20 m ²				
A3, H2	1 porson per 5 m ²				

Table 5 - Provision of sanitary fintures in residential accommodation

2	3	4	5	6	1	8	
Number of sanitary fixtures to be installed							
Nales				Females			
Toilet pans	Urinals	Wash- hand basins	Baths	Toilet pans	Wash- hand basins	Baths	
1	1	1	1	2	1	1	
1	2	2	2	3	2	2	
2	3	3	3	4	3	3	
3	4	4	4	6	4	4	
4		5	5	9	5	5	
4	8	6	6	12	6	6	
5	. 9	6	6	14	7	7	
5		1	7	15	8	8	
5	44	a l	8	16	8	8	
	Toilet pans 1 2 3 4 4 5	Nu Ma Toilet pans Urinals 1 1 2 3 3 4 4 6 4 8 5 9	Number of san Males Wash-hand basins 1 1 1 1 2 2 2 3 3 3 4 4 4 6 5 4 8 6 5 9 6	Number of sanitary fixtures Males Wash- hand basins Baths 1 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 6 5 5 4 8 6 6 5 9 6 6	Number of sanitary fixture: to be instal Males Toilet pans Wash-hand basins Baths Toilet pans 1 1 1 1 2 3 3 4 4 6 5 9 9 6 6 12 5 9 6 6 14 15 12 14 14 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 17 15 16 16 16 16 16 16 16 17 15 16	Number of sanitary fixtures to be installed Males Females Toilet pans Urinals Wash-hand basins Baths Toilet pans Wash-hand basins 1 1 1 1 2 1 1 2 2 3 3 4 3 3 4 4 4 6 4 4 6 5 9 5 9 5 4 8 6 6 12 6 5 9 5 5 9 6 6 14 7 5 10 7 15 8	

Table 6 - Provision of sanitary fixtures for personnal

1	2	3	4	1 1	6		
Fopulation ¹	Number of sanitary fixtures to be installed						
		Males	Female				
number of people	Tollet pare,	Urinale	Wash-hand basins	Tollet pans	Wath-hand busins		
15 530 560 590	1 1 2 3	1 2 3 5	1 2 3 4	2 3 5 7	1 2 3 4		
- 120	Add 1 sanitary factors to the above for rivery 100 persons			Add 1 sanitary fixture to the above for every 60 persons	Add 1 Funitary fixture to the above for every 100 persons		

NOTE If the facilities provided in a shopping complex can be conveniently situated so that they are evaluable to the periodnet and the public and visitors, it might not be necessary to provide expanding facilities for the periodnet in individual shops. The minimum number of helities provide expanding the total required in accordance with this table for the total number of periodnet is the total number of periodnet with in the follities, the number of periodnet with the total number of periodnet is the number of periodnet with the total number of periodnet with in accordance with the total population obtained from Regulation A21, the public and visitors being very few in number, to other easer, the proportion of periodnets to the public and visitors being very few in number, to other easer, the proportion of periodnets of the public and visitors being very few in number, to other easer, the proportion of periodnets, or the public and visitors being very few in number, to other easer, the proportion of periodnets, or the public and visitors being very few in number. In other neaser, the proportion of periodnets, or the public and visitors being very few in number. In other easer, the proportion of periodnets, or the public and visitors with the extenses and the total population for such complex or the problem of total number of periodnets.

5.2 Table 1 – Consultation Workshop with End Users

 $\sim 10^{-10}$

Process with End User Workshop				
DATE	ΑCTIVITY			
6 March 2014	Briefing session was held with the Aurecon Proje Manager & Client Representative (SANBI Building Wor Director).			
26 March 2014	End User Workshop was held with the SANBI Team, Aurecon and principles to refine accommodation schedu & brief.			
14 April 2014	Site Meeting was held with Aurecon, Land Surveyor, EIA Consultant, Kirstenbosch Garden Curator, SANBI Building Works Director			
23 April 2014	Meeting held with DEA & Aurecon			
14 May 2014	End User Workshop was held with SANBI Team, Aurecon and principles to refine accommodation schedule.			
	Next Steps			
Accommodation schedule an	d Site confirmation meeting with SANBI end users & approval o			

18