Applicants.

IN THE HIGH COURT OF ZIMBABWE
HELD AT HARARE
In the matter between:

CASE NO. HC 3797/22

LAWRENCE BENJAMIN NORTON — 1ST APPLICANT

And

AFRICA MAJONI SILINGANISO JUBANE — 2nd APPLICANT

And

ALBERTO DE LEO — 3RD APPLICANT

And

JOHN DAVID GLYNN — 4th APPLICANT

And

TRYMORE NDOLO — 5th APPLICANT

And

EPHIAS MAMBUME — 6th APPLICANT

And

JOANNA CRAIG — 7TH APPLICANT

And

TRAVOLTA TENDAYI CHATYOKA — 8th APPLICANT

And

GAIL CHRISTINE VAN JAARSVELT — 9TH APPLICANT

And

BISHOP DUBE — 10th APPLICANT

And

RECEIVED
M. LEODRINA
07 JUL 2022
14:15
WHATMAN & STEWART
Legal Practitioners
7 Shannon Road, Alexandra Park
Harare

ADAGE SUCCESS (PVT) LTD	1ST RESPONDENT
And	
SCANNER INVESTMENTS (PVT) LTD	2nd RESPONDENT
And	
PARKS AND WILDLIFE MANAGEMENT AUTHORITY	3rd RESPONDNET
And	
ENVIRONMENTAL MANAGEMENT AGENCY	4th RESPONDENT
And	
PROCUREMENT REGULATORY AUTHORITY OF ZIMBABWE	5th RESPONDENT

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DATED AT HARARE THIS 4th DAY OF JULY 2022.

.....

MAGUCHU & MUCHADA
2nd Respondent's Legal Practitioners
Smatsatsa Office Park
Block B, Ground Floor
Borrowdale
HARARE (AKM/DP/yz)

TO: **THE REGISTRAR**
High Court of Zimbabwe
HARARE

To: **WHATMAN & STEWART**
Applicants' Legal Practitioners
7 Shannon Road, Alex Park
HARARE (RS)

AND

TO: SCANLEN & HOLDERNESS
1ST Respondent's Legal Practitioners
13th Floor, Cabs Centre
HARARE (Ms Tiyago)

AND

TO: MHISHI NKOMO
3rd Respondent's Legal Practitioners
86 McChlery Avenue
Eastlea
HARARE(Mr Nkomo)

AND

TO: ENVIRONMENTAL MANAGEMENT AGENCY
4TH Respondent,
Bluffhill
HARARE

AND

TO: PROCUREMENT REGULATORY AUTHORITY OF ZIMBABWE
5TH Respondent
76 Samora Machel Avenue
HARARE

IN THE HIGH COURT OF ZIMBABWE
HELD AT HARARE

CASE NO. HC 3576/22

In the matter between:

LAWRENCE BENJAMIN NORTON — 1ST APPLICANT

And

AFRICA MAJONI SILINGANISO JUBANE — 2nd APPLICANT

And

ALBERTO DE LEO — 3RD APPLICANT

And

JOHN DAVID GLYNN — 4th APPLICANT

And

TRYMORE NDOLO — 5th APPLICANT

And

EPHIAS MAMBUME — 6th APPLICANT

And

JOANNA CRAIG — 7TH APPLICANT

And

TRAVOLTA TENDAYI CHATYOKA — 8th APPLICANT

And

GAIL CHRISTINE VAN JAARSVELT — 9TH APPLICANT

And

BISHOP DUBE — 10th APPLICANT

And

ADAGE SUCCESS (PVT) LTD — 1ST RESPONDENT

And

REGISTRAR OF THE HIGH COURT
CIVIL DIVISION
04 JUL 2022
P.O. BOX 275, CAUSEWAY
ZIMBABWE

SCANNER INVESTMENTS (PVT) LTD 2nd RESPONDENT

And

PARKS AND WILDLIFE MANAGEMENT AUTHORITY 3rd RESPONDNET

And

ENVIRONMENTAL MANAGEMENT AGENCY 4th RESPONDENT

And

PROCUREMENT REGULATORY AUTHORITY OF ZIMBABWE 5th RESPONDENT

REGISTRAR OF THE HIGH COURT OF ZIMBABWE CIVIL DIVISION 04 JUL 2022 P.O. BOX 176, CAUSEWAY ZIMBABWE

2nd RESPONDENT'S NOTICE OF OPPOSITION

TAKE NOTICE that the Respondent intends to oppose the application on the grounds set out in the Affidavit annexed on this notice, and that it address for service is specified below.

The chamber application was served on the Respondent on 9th of June 2022.

DATED AT HARARE THIS 4th DAY OF JULY 2022.

.....

MAGUCHU & MUCHADA
2nd Respondent's Legal Practitioners
Smatsatsa Office Park
Block B, Ground Floor
Borrowdale
HARARE (AKM/DP/yz)

TO: THE REGISTRAR
High Court of Zimbabwe
HARARE

To: **WHATMAN & STEWART**
Applicants' Legal Practitioners
7 Shannon Road, Alex Park
HARARE (RS)

AND

TO: **SCANLEN & HOLDERNESS**
1ST Respondent's Legal Practitioners
13th Floor, Cabs Centre
HARARE (Ms Tiyago)

AND

TO: **MHISHI NKOMO**
3rd Respondent's Legal Practitioners
86 McChlery Avenue
Eastlea
HARARE(Mr Nkomo)

AND

TO: **ENVIRONMENTAL MANAGEMENT AGENCY**
4TH Respondent,
Bluffhill
HARARE

AND

TO: **PROCUREMENT REGULATORY AUTHORITY OF ZIMBABWE**

5TH Respondent

Old Reserve Bank Building

76 Samora Machel Avenue

HARARE

ADAGE SUCCESS (PVT) LTD 1ST RESPONDENT

And

SCANNER INVESTMENTS (PVT) LTD 2nd RESPONDENT

And

PARKS AND WILDLIFE MANAGEMENT AUTHORITY 3rd RESPONDNET

And

ENVIRONMENTAL MANAGEMENT AGENCY 4th RESPONDENT

And

PROCUREMENT REGULATORY AUTHORITY OF ZIMBABWE 5th RESPONDENT

REGISTRAR OF THE HIGH COURT
04 JUL 2022
ZIMBABWE

2nd RESPONDNET'S OPPOSING AFFIDAVIT

I **ANDREW LANE** do hereby make oath and state as follows;

1. What I depose to hereunder is both true and correct to the best of my knowledge and belief. I am the Managing Director of the 2nd respondent and in that capacity I am duly authorised to depose to this affidavit for and on behalf of the 2nd respondent

2. I have read the application herein and all the annexures, more especially the affidavit of Lawrence Benjamin Norton. I wish to state that the application is opposed and the 2nd Respondent vehemently denies all the material averments which seek to move for the success of the application, save for those specifically admitted.

3. I proceed as follows;

IN LIMINE

The Application is based on a wrong provision

4. The application herein is brought in terms of Section 3 of the Administrative Justice Act. I am advised that this is a wrong premise of the law and on this basis alone, the application is fatally defective.

5. The provisions of Section 3 of the Administrative Justice Act explain the duties of an administrative authority. There is nowhere within this provision were one is granted latitude to approach a court for relief.

6. I am advised that founding an application on a wrong provision is fatal and superior courts have pronounced themselves sufficiently on this point.

7. To the extent that the foundation of the entire application is defective, the application must fail with costs on a legal practitioner and client scale.

Founding Affidavit is fatally defective

8. The founding affidavit is fatally defective.

9. The affidavit states that it was signed in Victoria Falls. However, same was commissioned before Mr Robertson Chinyengetere of Number 8 Downie Avenue, Alexandra Park, Harare.

10. I have been advised that Mr Chinyengetere practices his law in Harare and the said address on his stamp identifies where he is located.

11. What is therefore clear is that the affidavit was not signed before a commissioner of oaths. The variance of the places cannot be overlooked.

12. There is therefore no proper affidavit before the court. In the absence of a proper affidavit founding the application, the application is therefore fatally defective.

13. The application must fail with costs on a legal practitioner and client scale on this basis alone.

Applicants have no locus standi

14. Applicants herein purport to be acting in the public interest.

15. I am advised that Applicants cannot act in the public interest unless the application is a constitutional one.

16. On the other hand, applicants cannot found their locus standi on the basis of some financial interest. Such is insufficient to found a person's interest for purposes of a cause of a cause of action.

17. To the extent that Applicants have no locus standi on both rungs, their application is ill-taken.

MERITS

Background

18. Third Respondent through an Act of Parliament, Parks and Wildlife Act [Chapter 20:21] is mandated to conduct sustainable wildlife in Zimbabwe. Wildlife in the Act includes flora and fauna on Terrestrial and aquatic ecosystems including gazetted Protected Areas, communal, alienated and private lands.

19. Victoria Falls National Park which houses the piece of land in issue is one of the gazetted protected areas wholly under 3rd Respondent's custody.

20. In carrying out its mandate, the Zimparks' operations are guided by the Joint Integrated Management Plan 2016 – 2021 (hereinafter *"the plan"*). This is an agreement entered into between the two countries who share the Victoria Falls namely, Zimbabwe and Zambia. The purpose of the agreement is to regulate the sustainable management of the Victoria Falls. The plan is a framework offering **guidelines** as regards what each member state can do to ensure maximum conservation of the Victoria Falls. While the life of the document ended in December 2021, 2nd Respondent acquired the rights in contention prior to the expiry of the plan.

21. Within its framework, the plan demarcates various zones. The three zones are the (i) Highly ecologically sensitive (red zone) (ii) Medium ecologically sensitive (yellow zone) and (iii) Low ecologically sensitive. The rationale for the aforesaid zoning plan is based on the understanding that certain activities and management practices are

more ecologically appropriate within specific areas of the world heritage property than in others.

22. The Joint Integrated Management Plan has its roots in the **UNESCO** World Heritage Convention. This is a multi-state initiative, which is meant to preserve natural and cultural sites. This is however not a legally binding.

23. In line with its conservation mandate, 3rd Respondent conferred certain rights to the 2nd Respondent on a portion of the property. The conferment of these rights is the source of the current proceedings.

Response Brief

24. To pre-empt this application, I propose to start by sifting through the application and exposing its convoluted basis before addressing the application *ad seriatim;*

25. Even if the application surpasses this hurdle, the way in which it is founded leaves a lot to be desired.

26. The first cause for concern with this application is that it is so convoluted such that it is difficult to comprehend what exactly the Applicants are seeking.

27. On paragraph 8 of the founding affidavit, the basis of the application is stated as an enquiry on;

    a) *whether or not the 2nd Respondent was granted a lawful permit to operate on its site;*
    b) *depending on the answer to the first question, Applicants want reasons for the decision;*
    c) *Applicants also want to confirm if due process was complied with in granting of the permits.*

28. The application is therefore an enquiry by persons who do not have knowledge and seeking such knowledge. The thinking is that it is from that knowledge that the Applicants will formulate a position of whether or not there is need to challenge the decision.

29. However, fast forward two paragraphs later, on paragraph 10 of the same founding affidavit Applicants are now seeking the setting aside of the permits granted on the basis that due process was not followed. It is this relief that is carried to the draft order on page 258 of the record.

30. It is difficult to understand how the two causes of action are reconcilable. I shudder to think how one who does not know whether or not there is a permit in one breath is seeking an order nullifying the same permit that he is unsure of. This is just to demonstrate the confusion that afflicts the application.

31. A reading of the rest of the application bears testimony that the application is based on speculation over what may not have been done and what ought to have been done. The rest of it is premised on misconceptions over the character of the allocated land.

32. Applicants plead that they do not know whether public consultations were done. They assume not and seek proof of same. This is speculative on their part. This notwithstanding, the fact is that 2nd Respondent conducted the requisite public consultations as shall be demonstrated.

33. Applicants further plead that they do not know whether an environmental impact assessment was conducted. They assume not and seek proof of same. Again same is equally speculative to found a cause of action. The answer nonetheless in the affirmative that an Environmental Impact Assessment was conducted. In a nutshell Applicants purport to be unsure how the process was conducted. They cannot ask that a decision of an administrative that they have no knowledge of be set aside. It is ludicrous!

34. The most fundamental of misconceptions in founding the cause of action by the Applicants is however that the Rainforest Site is situate in a High Sensitive Ecological Zone. This is incorrect. The fact is that the Rainforest site is situate in the "Medium Ecologically Sensitive Zone".

35. What follows the above exposition is that the core of the application in so far as it seeks setting aside of the permits, is based on incorrect speculative averments. All the rumbling averments that follow are informed by the above erroneous speculations.

36. It follows therefore that once a finding is made that the three critical founding averments by the Applicant are erroneous, the cause of action which is translating to their relief will be premised on an erroneous foundation. This should settle the matter in so far as its dismissal is concerned.

37. In a nutshell, the application ill thought, resulting in an incompetent relief sought.

38. For completeness however, I respond to the merits as follows:

Ad Paras 1- 7

39. No issues arise save to say that the 2nd Respondent's address of service is care of their legal practitioners of record, Messrs Maguchu and Muchada Business Attorneys of Ground Floor, Block B, Smatsatsa Office Park, Borrowdale, Harare.

Ad Para 8

40. It is confirmed that the 2nd Respondent has been permitted to operate a restaurant in Victoria Falls and all due process was followed accordingly as per the law. I annex hereto the lease agreement entered between the 3rd Respondent and the 2nd Respondent as **Annexure Q1.**

Ad para 9

41. As confirmed on para 30 herein, 2nd Respondent was permitted to operate a restaurant in the rainforest area.

42. It is denied that no public enquiries or comments were sought. As a matter of fact such enquiries were done.

43. It is further denied that that the restaurant site is in a highly sensitive zone. On the contrary, the restaurant site allocated to the 2nd Respondent is in a medium sensitive ecological zone. The lease agreement to operate on the site is supported by a valid environmental impact assessment report and certificate and evidence of consultations with all the requisite and relevant bodies.

44. I deny that there is any endeavour to jeopardise the World Heritage Status of Victoria Falls or compromise the aesthetic worth of the mentioned sites.

45. I further categorically state that the Strategic Environmental and Social Impact Assessment Report to which the Applicants place reliance upon is a draft and is not signed by the two countries. To this end, nothing can authoritative can stem from this document.

Ad para 10

46. This is denied. The permission granted to the 2nd Respondent to operate a restaurant at the site in question was in accordance with the law, in terms of due process. There is thus no basis to nullify same, especially pursuant to an application by persons who admit that they do not have any knowledge of how the permission was acquired.

Ad para 11

47. I wish to categorically state that the 2nd Respondent has not been issued with permits in the "Highly Sensitive Zone". Quite the contrary.

48. The attached Joint Integrated Management Agreement between Zambia and Zimbabwe referred to herein as **Annexure Q2** is instructive. The referred document and guidelines contained therein address in detail what a Medium Ecologically Sensitive Zone entails under paragraph 5.3.1.

49. In terms of this paragraph, the following activities and structures were considered and allowed to be conducted and constructed in a Medium Ecologically Sensitive Zone. For convenience I state activities allowed herein as follows;

- *Game viewing and Game Drives*
- *Camp Sites*
- *Lodging*
- *Art Painting*
- *Photographing*
- *Tour Guiding*
- *Traditional Rites*
- *Lion Walks and Nature Walks*

- *Bush Dinners*
- *Aerial Viewing*
- *Hiking*
- *Picnicking*
- *Moonlight viewing*

(iii) Permitted Facilities/ Infrastructure

- *Semi-Permanent Facilities*
- *Camping Sites*
- *Picnic Sites*
- *Facilities such as Toilets and Garbage Bins*

50. A reading of the above is instructive that the 2nd Respondent's activities are well within the contemplation of the referred document. The permission to operate and/or clear the ground for a semi-permanent structure was in compliance with internationally agreed standards.

51. I move on to the contention that no Environmental Impact Assessment (*hereinafter "EIA"*) was conducted pursuant to the issuance of the permits in casu. This is incorrect.

52. The 2nd Respondent carried out a **FULL** Environment Impact Assessment which involved public consultation. See **Annexure Q3**, which is a 171-page Environmental Impact Assessment with all the relevant information, public consultations and the certificate. This was pursuant to authorization from the 3rd Respondent to conduct such exercise. See **Annexure Q33** hereto

53. Furthermore as per **Annexure Q4** hereto shows, which are Minutes of Meeting regarding the proposed developments, the 2nd Respondent consulted "Victoria Falls Enviro Watch" on the 1st of July 2021. This is a legally registered Trust, with a board of Trustees who represent the community of Victoria Falls on Environment issues. To suggest that no public consultations were made is therefore mischievous and misguided. Even at the stakeholders meeting on the 9th of May 2022, there were no issues on this project that remained outstanding as all questions were satisfactorily answered by the authorities.

54. The issue with the ten Applicants is that none of them is directly involved in the environmental issues of Victoria Falls at

organizational level, such that they could not be identified for consultation during the Environmental Impact Assessment.

55. Their absence for consultation is not however synonymous with their proposition that no consultation took place. That is factually incorrect.

56. Applicant's allegations that the 2nd Respondent's venture jeopardizes the World Heritage Status of Victoria Falls and results in unquantifiable loss to Zimbabweans are again misinformed. If anything, the ventures will fundamentally benefit Zimbabwe's tourism sector in so far as revenue is concerned and equally creating jobs. I attach hereto a letter from the Zimbabwe Tourism Authority showing its full support for the project. See **Annexure Q5** hereto.

57. More so, Annexure Q2 is instructive that the 2nd respondent is fully within UNESCO guidelines set out.

58. I further make reference to **Annexure Q6** which is communication from the 3rd Respondent confirming the construction of a semi-permanent structure within the Medium Ecologically Sensitive Zone. This is within the contemplation of the same UNESCO document that the Applicants purportedly seek to rely on.

59. The Applicants' averments are therefore flawed from the onset specifically due to categorization of the areas under which the 2nd Respondent's permit was issued as Medium Ecologically Sensitive as opposed to the perceived High Ecologically Sensitive Zone.

60. Given this proposition and compliance with the law, reference to the Constitution and the various statutes under paragraph 11.8 is entirely irrelevant, as the 2nd Respondent's permission to operate was pursuant to a valid lease agreement.

61. With efforts made to blend the facility with the environment and carefully avoid disturbing the ecologically system, I believe a good product and service for the visitors to Victoria Falls will enhance their experience and viewing of the Zambezi River and Victoria Falls as they can enjoy the views whilst dining out.

62. I stress categorically that the restaurant will **NOT** be visible from the viewing points within the Victoria Falls. To enhance perspective by way of an example, "The Lookout Café" is a prime example of

enhancing a visitors experience and awe of Victoria Falls within the ecological environment.

63. Suffice to state that the argument under para 11.11 is inconsistent with the relief sought in that the Applicants deny the existence of the permits yet the main relief is to set aside the order granting the permits.

Ad Para 12

64. While the submissions of the importance of the Victoria Falls under this header are not in dispute, the relevance of same in view of the 2nd Respondent's valid lease agreement with the 3rd Respondent is unknown. No rights are being violated in casu and everything done is above board, not only nationally but is even informed by an agreement by the two countries that claim rights over the Victoria Falls, Zambia and Zimbabwe as demonstrated.

Ad Para 13

65. Again Applicant shifts the purpose of this application, to stopping the developments by the 2nd Respondent. This is a departure from what is the premise of the application under para 8.

66. The proposition by the 1st Applicant under this paragraph is clear that his views are based on his subjective perspective as opposed to taking an objective approach. 1st Applicant makes averments on what he believes tourists want or don't want to see. Such an opinion is exactly what it is, a mere opinion.

67. Same cannot frustrate the implementation of a project, on a piece of land which was scientifically classified as capable of housing a proposed structure.

68. Furthermore, it is incorrect that the 2nd Respondent's operations will create a destruction from viewing the Victoria Falls. On the contrary, the 2nd respondent will not be seen from the Victoria Falls viewing points and has designed the restaurant to blend in with the natural environment as per UNESCO and 3rd Respondents regulations. See Annexure **Q7** hereto being the architect drawings using a topographic

survey and **Annexure Q8** showing the building within the natural environment.

69. To further demonstrate that the restaurant is not in the High Ecological Sensitive Zone, I make reference to **Annexure Q9, Q10 and Q11** being the maps provided by the 3rd Respondent being the lessor of the property in question. As appears clearly, the restaurant site is out of the High Ecological Zone.

70. The averments herein are thus of no moment in the circumstances.

Ad Para 12 (the second one)

71. The purported sincerity in the application under this paragraph is denied.

72. The applicants do not know what they really want. The entire application is speculative. For them to be able to properly set out a case for the setting aside of the permits, they should have first stuck to the cause of action under para 8. The entire application should be based on the applicants seeking the truth of the matter before making a case for setting aside what they do not know even exists.

73. Clearly from the submissions, it is answers that are being sought, yet the relief and averments suggest otherwise.

Ad Para 13(second one)

74. This is denied. Applicants are not seeking transparency and clarification as they allege. Parties who seek clarification do not seek the setting aside of permits that they do not know whether or not they exist. This further demonstrates that Applicants do not know what they really want and their conduct can properly be described as that of busy bodies who are in court just to litigate. The application is so disjointed that it baffles how Applicants think they can get a relief.

75. 2nd Respondent will suffer prejudice if this application is allowed. It will be a gross miscarriage of justice for its permit to be set aside on the basis of an application by parties who do not even know what they want.

76. 2nd Respondent conducted all the requisite procedures required prior to the conclusion of the lease agreement. It has already entered into

contracts with contractors who are already on the ground for this development. To suddenly halt developments based on Applicants' speculative exercise would cause irreparable harm to the 2nd Respondent in damages to contractors and loss of income in its projections.

77. Moreover, the prejudice would be occasioned by an application which is based on an erroneous position of the allocated land.

78. The purport concern over the position of Zambia does not even arise since the categorization of the zone and what is permitted is exactly what Zimbabwe and Zambia agreed to. The averment is therefore clutching on straws.

79. In any event, both the Zambian representatives for UNESCO and National Museum and Monuments were contacted for comment during the 2nd Respondents Environmental Impact Assessment. See attached **Annexure Q12** the response from National Museum and Monuments.

80. I further attach **Annexure Q13** being a guideline from National parks and wildlife, the land owners, who are the 3rd Respondent, outlining the full guidance for development of our restaurant site within the UNESCO Medium Ecologically Sensitive Zone. **Annexure Q14** hereto are the special conditions for the developer to adhere to during the development of the restaurant with National Parks and Wildlife.

81. The above is adduced simply to demonstrate the extent to which the 2nd Respondent in conjunction with all the relevant stakeholders have attempted to ensure that the development does not negatively impact the environment. The Applicants' assumptions must therefore not be taken seriously.

82. In view of this evidence, for the Applicants to still persist with the application would be mischievous.

Ad Para 14

83. This is not disputed and logically ought to be the thrust of the entire application. It is the convolution of causes of action which taints the application.

Ad Paras 15

84. The issue of an alternative remedy is irrelevant to the cause of action herein.

Ad Para 16

85. This is strongly disputed. There is no basis that has been placed before the court to move for the setting aside of the permit granted to the 2nd Respondent. The 2nd Respondent's permit which Applicants concede do not know about cannot be set aside over speculation as to what was or was not done. Moreso, 2nd Respondent cannot be stopped permanently form developing reasons by an application which is seeking reasons and confirming how the permit came into being. The application is simply ill-thought.

86. In view of the submissions above, the application can only be dismissed with costs on a legal practitioner and client scale. It is ill advised and misguided. Applicants have simply made it a goal to disturb the 2nd Respondent, even in the absence of any lawful basis. The application is an unnecessary impediment on the 2nd Respondent's rights accorded by law.

Ad Para 17

87. For the Applicants, unmerited in their submissions, to seek to debar opposition by inviting costs on a higher scale is mischievous.

88. If anything, costs on a higher scale must be visited on the Applicants for failing to ascertain the facts on the land concerned before approaching this court.

89. Due to the absence of diligence on the part of the Applicants in ascertaining facts before properly acting and unnecessarily interfering with the 2nd Respondent's rights, costs must be visited on the Applicants on a legal practitioner and client basis.

THUS SWORN TO AT Victoria Falls **ON THIS** 4th **DAY OF JULY 2022**

ANDREW LANE

Before me:

COMMISSIONER OF OATHS

TIC LAW NKALA LLB (Hons) UZ
LEGAL PRACTITIONER
CONVEYANCER, NOTARY PUBLIC
& COMMISSIONER OF OATHS

Annexure Q 1

18

MEMORANDUM OF A LEASE AGREEMENT

ENTERED INTO BY AND BETWEEN

PARKS AND WILDLIFE MANAGEMENT AUTHORITY

[Hereinafter referred to as "the Authority"]

Represented herein by **DR FULTON UPENYU MANGWANYA** in his capacity as the Director-General of the **PARKS AND WILDLIFE MANAGEMENT AUTHORITY**, duly authorised, of the one part;

AND

SCANNER INVESTMENTS [PVT] LTD

[Herein referred to as 'Scanner Investments']

A company duly registered in terms of the laws of Zimbabwe under company registration number 831/ 2017 represented herein by **ANDREW LANE, National Identity Number 08-2113554-M-00** in his capacity as Director of **Scanner Investments** duly authorised, of the other part.

(Jointly referred to as the Parties)

PREAMBLE

WHEREAS the Parks and Wildlife Management Authority of Zimbabwe is established in terms of the Parks and Wildlife Act [*Chapter 20:14*].

WHEREAS the Parks and Wildlife Management Authority of Zimbabwe is responsible for the management of all wildlife in Zimbabwe and has the mandate to manage and control all protected areas and National Parks in Zimbabwe;

WHEREAS Scanner Investments is a company in the business of tourism operations and property development whose business address is 231 Sopers Crescent, Victoria Falls.

WHEREAS Scanner Investments has expressed interest in leasing an area in Victoria Falls National Park for the purposes of establishing a semi-permanent structure for the purpose of operating a restaurant business.

WHEREAS the Authority has agreed to grant the Lessee the right to lease an area within Victoria Falls National Park and is desirous to enter into a lease agreement with the said Lessee for the purposes of operating restaurant facilities.

WHEREAS the Parties have agreed to be bound by this Agreement as per the terms and conditions stated hereunder;

WHEREAS this preamble forms an integral part of this agreement;

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

1. DEFINITIONS AND INTERPRETATION:

1.1 The headings in this Agreement are for convenience only and shall not be deemed part thereof or be taken into consideration in the interpretation or construction thereof.

1.2 Words importing the singular only, also include the plural and vice versa where the context requires.

1.3 In this Agreement the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires:

1.3.1. 'Act' shall refer to the Parks and Wildlife Act [Chapter 20:14]

1.3.2. 'Parties' shall mean Parks and Wildlife Management Authority and Scanner Investments.

1.3.3. "Effective date" shall mean the date of the last signature on this agreement;

1.3.4. "Dispute" shall mean any dispute, difference of view, disagreements, controversy or claim arising out of or relating to this Agreement, or the interpretation or performance of this Agreement or the breach, termination or validity thereof, which the Parties are unable to resolve by mutual agreement within a reasonable time

2. SITE OF LEASE

2.1 The Authority hereby leases an area 7,282m2 in size within the Victoria Falls National Park whose coordinates are as stated on the table below:

Scanner Investments - Site of Lease (clause 2) UTM			
	X	Y	
A	35 K 377930	8018250	
B	35 K 377906	8018124	
C	35 K 377868	8018122	
D	35 K 377856	8018255	

3 BEACONS

The Lessee at its own cost shall constantly keep and maintain the beacons of the Leased area on the land in proper repair and in their original true positions.

4 NO OPTION

No option to purchase the leased area shall accrue to the Lessee by virtue of this agreement.

5 USE

5.1 The leased area shall be used exclusively by the Lessee at its own costs for the purpose of establishing and operating a semi-permanent restaurant whose maximum occupancy capacity shall not exceed 150 (one hundred and fifty) guests. Provided that before any construction of buildings is carried out, the Lessee shall;

5.1.1 obtain an Environmental Impact Assessment (EIA) Report ("the Report") from the Environmental Management Agency. The Report should be submitted to the Lessor before construction of the buildings commences; and

5.1.2 Obtain written approval of the plans and value for any construction work to be carried out from the Director General of the Lessor.

5.2 Where Lessee intends to conduct any other related activities, the Lessee shall seek prior written consent from the Director General in writing.

5.3 These rights are granted to the Lessee in terms of this Agreement and shall be exercised in terms of this agreement only unless the prior written consent of the Authority is otherwise obtained. The leased premises shall be exclusive to the Lessee and no other operator shall interfere with the operations of the Lessee.

5.4 The Lessee's operating hours shall be from 06:00 hours to 21:30 hours.

6 CESSION, ASSIGNMENT, SUBLEASE

6.1 The Lessee shall not cede, assign or make over any right or obligation under this Agreement, or sublet, or part with the possession of, or grant any form of right of occupation in respect of the leased area, or any part thereof, or hypothecate or otherwise encumber the leased area or any part thereof without the prior written consent of the Authority

6.2 The Lessee shall not transfer any of its shares to any person without the prior written consent of the Authority, or appoint new directors without the Authority's prior written approval, for purposes of continuance with this Agreement.

7 PERIOD

Notwithstanding the date of signature hereof, this lease shall be deemed to have commenced on 1st August 2021 for twenty-five (25) years ending 31st July 2046 unless sooner terminated as herein stipulated, and shall be reviewed every five years

8 REVIEW

8.1 The Lessor shall have the right to review and amend the terms and conditions of this agreement within the tenure of the agreement;

8.2 On good cause shown either party may give notice to the other party requesting review of any clause within this Agreement prior to the five-year period.

9 RENT AND OTHER PAYMENTS

9.1 The following shall be payable by the Lessee in consideration of the grant of the lease

9.1.1 Annual lease fees of **USD $48 000.00 (Forty-Eight Thousand United States Dollars)** shall be paid on or before the 31st of August of each year. The annual lease fees shall be paid into the Authority's bank account, and a copy of the deposit advice slip shall be sent to the Director General of the Authority within twenty-four [24] hours of such payment by the Lessee.

9.1.2 In In the event that the Lessee has failed, neglected or refused to pay rent or any amount payable as agreed in terms of this lease Agreement. The Lessor shall give the Lessee 14 days' notice to make payment failure of which the Lessor reserves the right to terminate this Agreement forthwith.

9.1.3 In the event that the Lessee has failed, neglected or refused to pay lease rentals or any amount payable as agreed in terms of this lease agreement, all the Directors of the Lessee shall be jointly and severally liable to pay the amount owed by the Lessee to the Lessor in their personal capacity the one paying and the other to be absolved and shall sign surety bonds as an undertaking to pay on behalf of the Lessee.

9.1.4 In the event that a Party fails to make due and timeous payment of any agreed amount under this Agreement and fails to remedy this breach within 14 (fourteen) days of receipt

of written notice by the other party, the amount outstanding shall immediately become due and payable, together with interest thereon at the prime rate calculated from the due date thereof until date that payment thereof has been received by the Lessor in full. For the purposes of this Agreement, the prime rate shall mean the prime bank overdraft rate as charged by ZB bank in Zimbabwe to its corporate customers in respect of overdraft facilities, calculated and compounded monthly in arrears, as certified by any branch manager of the bank.

9.1.5 The Lessor/lessee shall have the right to review the rental amount on an annual basis in line with economic indicators.

9.1.6 All rental amounts payable shall be exclusive of Value Added Tax (V.A.T) and all applicable bank charges.

10 CONSERVATION SUPPORT

10.1 The Lessor shall provide 200 litres of diesel on a monthly basis as conservation support.

10.2 The Lessee shall construct a semi-permanent public picnic site at Rock Pool with ablutions, braai area, under roof cover eating area, natural car park, built in dust bin and controlled entrance and exit area.

The coordinates for Rock Pool public picnic site are stated below;

35K	377765	8018675
35K	377842	8018508
35K	377792	8018494
35K	377728	8018658

10.3 The parties shall patrol of the area between the public picnic site and the restaurant for purposes of law enforcement and the area shall be the buffer zone between the restaurant and the Zambezi Rock Pool site

The buffer zone coordinates are stated below;

35K	377792	8018492
35k	377842	8018508
35k	377930	8018250
35K	377856	8018255

11 AUDITED FINANCIAL ACCOUNTS

The Lessor shall submit its audited financial accounts within four months of the conclusion of such audit.

12 SECURITY

12.1 The Lessee shall provide a performance bond payable to the Lessor as a security deposit equivalent to the annual lease fees of $48,000 (Forty Eight United States Dollars Only).The performance bond shall cover any amounts that will accrue to the Authority in future in the event of rent default or to cover any possible damage to the leased area and to cover any other loss sustained by the Authority in removing or clearing any improvements made on the leased area inorder to restore/rehabilitate the leased area back to its original position.

12.2 The performance bond shall be renewed annually and submitted together with the proof of payment.

13 RATES AND TAXES

The Lessee shall be liable for any taxes, fees, levies or certification requirements from time to time and shall pay all rates or other charges, or imposts which are levied upon the leased area, or any part thereof, by a competent authority.

14 NATURAL RESOURCES

14.1 The Lessee acknowledges that in terms of the Environmental Management Act (Chapter 20:27) it is deemed to be the 'occupier' of the leased area and subject to any order which the Environmental Management Agency may issue in terms of the said Act.

14.2 The Lessee shall:-

14.2.1 take all necessary steps to prevent soil erosion and other damage to the natural resources on the leased area as directed by the Environmental Management Agency;

14.2.2 not remove, sell or cause or permit to be removed any sand, stone, gravel, earth or clay from the leased area;

14.2.3 preserve the leased area as far as possible in its natural state;

14.2.4 not hunt, destroy, trap or snare animals or rob or destroy any beehives unless otherwise directed by the Authority;

14.2.5 not convey nor permit to be conveyed into the leased area any firearms except with the prior written consent of the Authority having been obtained;

14.2.6 only fell trees growing in the leased area where it is proposed to erect approved buildings with the prior written consent of the Authority.

15 FIREGUARDS

15.1 The Lessee shall:-

15.1.1 take all reasonable precautions to minimise the risk of fire on the land and shall do all within its power to contain and put out any fire which may occur on or endanger the land and shall inform the resident staff of the Parks and Wild Life Management Authority in the National Park of any such occurrence within 24 hours after they have been observed;

15.1.2 if so required by the Authority, the Lessee shall provide at its own expense all its available staff and vehicles to assist in containing and putting out the fire be responsible for making and maintaining peripheral and interior firebreaks in and around the boundaries of the leased area as prescribed by the Authority.

15.2 The Authority reserves the right to suspend operations, either temporarily or permanently, of the Lessee in the leased area, if the Lessee fails to erect fireguards and the leased area or any part thereof is destroyed by fire as a result of absence of fireguards.

15.3 The Authority reserves the right to terminate this Agreement without any compensation or damages whatsoever if the Lessee fails to erect fire guards and the leased area or any part thereof is destroyed by the fire due to proven negligence of the Lessee or his employees, and/or any other person claiming the right through the Lessee.

16 HEALTH AND SANITATION

16.1 No warranty is given that the leased area is free from or will remain free from any health hazard and the Authority accepts no responsibility for the prevention neither of such health hazard nor for subsequent loss or damage as a result of the existence or encroachment of, any health hazard in or upon the leased area.

16.2 The Lessee shall maintain, at its own cost, the leased area in a clean, tidy and sanitary condition.

16.3 The Lessee shall-

16.3.1 provide, at all times, such sanitary and ablution facilities deemed adequate and sufficient by the Provincial Medical Directorate [hereinafter termed the Provincial Medical Directorate] having regard to the number of persons, including employees, resident upon, using or visiting the leased area or likely to do so, and the said facilities shall be located, constructed and completed to the entire satisfaction of and in accordance with plans approved by the Provincial Medical Directorate. A copy of such plans duly approved by the Provincial Medical Directorate shall be submitted to the Authority;

16.3.2 ensure all measures for the control of bilharzias as required by the Provincial Medical Officer for Health are undertaken and ensure that employees' resident upon the leased area, and their families, are tested and, if necessary, treated for bilharzias at least once each year;

16.3.3 ensure that water used for human consumption or other domestic purposes be either chlorinated or subjected to some other similar form of treatment approved by the Provincial Medical Directorate;

16.3.4 in terms of the Water Act, ensure that the waters are not polluted or contaminated in any way by persons resident upon, using or visiting the leased area

17 WATER SUPPLY

The Lessee shall, if it requires an allocation or supply of water for any purpose be solely responsible for concluding an agreement for the purchase of such water with the appropriate water supply authority.

18 OCCUPATION AND CULTIVATION

18.1 Not more than 12 employees may reside permanently on the leased Area except with the prior written approval of the Authority, provided that the Authority may for good and sufficient reason by notice in writing instruct the Lessee to cease to employ and to remove any employee and his family from the leased area.

18.2 The growing of crops or the cultivation of vegetable gardens is prohibited except growing of vegetables to be used by the Lessee and for employees' consumption.

NUISANCE

The Lessee shall not do, or cause, or permit to be done in the leased area any act, matter or thing which shall, or may be an annoyance or nuisance to the Authority or the occupiers of contiguous land.

20 INSPECTION

The Authority or its duly authorised representative shall have the right at all times to enter upon the leased area with such personnel and equipment as may be necessary to inspect or carry out such work as may be required in the leased area, or to enter therein for any purpose connected with this Agreement, or for the performance of official duties.

21 IMPROVEMENTS AND COMPENSATION

21.1 The Lessee shall keep and maintain the improvements in the leased area in a good condition and repair at no cost to the Authority.

21.2 The Lessee may only construct or alter buildings and permanent improvements in the leased area in accordance with plans and specifications approved by the Authority in writing and subject to such terms and conditions including the location thereof as may be stipulated by the Authority.

21.3 On expiration of this Agreement, or termination thereof the Lessee shall remove all structures and return the premises pre-ante (to their original position) to the Lessor. No compensation on any buildings and improvement that remain on the premises shall be payable to the Lessee by the Lessor, however the Lessee may hand over the buildings and improvements to the Lessor at no cost.

21.4 No compensation shall be payable in respect of any road, telephone, electricity and water/borehole installations.

22 ELECTRICITY AND COMMUNICATION CABLES

22.1 Before electricity, communication or any other cable connections are made to any improvements in the leased area, the Lessee shall submit plans of the proposed installation showing-

22.1.1 the position of the source of supply;

22.1.2 the route along which supply is to be effected; and

22.1.3 the manner in which supply is to be made.

22.2 If required by the Authority such supply and installation shall be by underground cable.

23 SIGNS

The Lessee shall obtain the written approval of the Authority before erecting any sign or notice in the leased area.

24 ACCESS ROADS

24.1 The Authority shall not be liable to construct, maintain or repair or contribute to the cost of any road or way which the Lessee may require, or be entitled to at law in order to gain access to the leased area.

24.2 The Lessee shall obtain the written approval of the Authority before constructing any road on the leased area.

25 INDEMNITY

25.1 The Lessee hereby indemnifies the Authority against:

25.1.1 Any claim what-so-ever in respect of injury to or death of any person whom-so-ever or livestock or property what-so-ever arising out of or caused by the use or occupation of the leased area;

25.1.2 Damage or loss of any kind arising out of the fluctuation of the water level or pollution of the waters where water exists within the leased area.

26 FORCE MAJEURE

26.1 The Parties shall not be held liable for liquidated damages or termination for default, if and to the extent that the delay or such default in performance or other breach or failure to perform its obligations under this contract is the result of an event of force majeure.

26.2 If a force majeure event or situation arises, the party experiencing the event or situation shall notify the other in writing of the occurrence of the event within seven (7) working days of the occurrence of the event and the cause thereof. Unless directed otherwise the Parties shall attempt to continue to perform their obligations under this Agreement as far as is reasonably practical and shall seek all reasonable alternative means for the performance not to be prevented by such event or situation.

26.3 If continuance is not possible the parties may suspend the obligations under this agreement for a while and shall resume their obligations after the Force majeure event has ceased if it is still possible. If the Force Majeure event exceeds six months the parties shall regard the agreement as terminated.

27 LAWS AND REGULATIONS

The Lessee shall conduct its activities in compliance with any laws and regulations in force from time to time. The Lessee shall be deemed to be conversant with and adhere to the provisions of the Parks and Wild Life Act [Chapter 20:14]) and the Parks and Wildlife (General) Regulations and any other applicable laws of Zimbabwe.

28. NON- WAIVER

No waiver by the Authority of any term, condition or clause of this lease on any one occasion shall constitute a waiver on any subsequent occasion and in particular the acceptance of overdue rental on one occasion shall not constitute a waiver of the Authority's right, to claim cancellation for late payment on any subsequent occasion.

29 ANIMALS

The Lessee shall not keep or permit to be kept on the leased area any animals, domestic animals or fish without the prior written approval of the Authority and then only on such terms and conditions as may be laid down by the Authority.

30 BREACH OF CONTRACT

30.1 If the Lessee:-

30.1.1 Commits, or permits any breach of the terms and conditions of this Agreement; or

30.1.2 fails to pay any amount payable in terms of this Agreement,

30.1.3 has its estate sequestrated or being a company placed in liquidation, or under corporate rescue ; or

30.1.4 enters into any composition, or compromise, or deed of arrangement with its creditors or becomes insolvent; or

30.1.5 fails to make adequate use of the leased area as provided for in this agreement;

30.1.6 has not developed the site for operations (12) twelve months after the effective date of the agreement;

30.1.7 fails to erect fire guards, in terms of clause 14, and the leased area or any part thereof is destroyed by the fire due to proven negligence of the Lessee or his employees, and/or any other person claiming the right through the Lessee

30.1.8 fails to comply with the terms and conditions of any permit, licence or authority issued to it in terms of the Parks and Wildlife Act [*Chapter 20:14*];

30.1.9 is found guilty of any offence in terms of the Parks and Wildlife Act [*Chapter 20:14*], or subsidiary legislation made in terms of that Act relating to animals or fish or pays a deposit fine in respect of any such offence:

The Lessor shall give written notice to the Lessee to rectify any breach within 30 days from the date of notice, save for Clause 30.1.2 which shall be fourteen (14) days, failing which the Lessor shall be entitled to forthwith terminate this agreement, retake possession of the leased area and evict the Lessee therefrom, without prejudice to any rights which the Lessor may have in terms of this Agreement and the law and no compensation shall be payable to the Lessee for any improvements to the leased property.

31 TERMINATION

31.1 The Lessor shall have the right to terminate the Agreement on six (6) months' written notice for reasons of the lessor's good name, conservation, public interest, public policy, good and desirable utilisation of the leased premises or in compliance with the Laws of Zimbabwe.

31.2 The Lessor shall have the right to terminate the Agreement forthwith and without further notice where the Lessee is in breach of Clause 9 of this Agreement.

31.3 The Lessee shall have the right to terminate this Agreement by giving the Lessor six (6) month notice in writing of its intention to terminate. Termination shall not take away the rights of either Party in terms of the law.

32 DISPUTE RESOLUTION AND ARBITRATION

32.1 This Agreement is based upon mutual trust. The Parties to this Agreement shall endeavour to settle any difference of opinion by amicable agreement.

32.2 Any disputes, controversies or claims arising out of or in connection with this agreement, including any related to its valid formation, breach, violation, termination or invalidity shall be amicably solved.

32.3 If at any time any question, dispute or difference shall arise between the Parties out of or in connection with this Agreement, either Party may give to the other notice in writing of such question, dispute or difference specifying its nature and the point in issue and the same shall be resolved between the Lessor, or his elected representative(s) and the Lessee or his elected representative(s) within thirty (30) days of such dispute arising

32.4 Where such dispute cannot be amicably resolved between the parties within a period of thirty (30) days from the time it arose the dispute may be referred by either party for final settlement to a competent court in Zimbabwe whose verdict shall be final.

33 CAPTIONS

The captions appearing at the head of the clauses of this Agreement shall not affect or be taken into account in the interpreting of the clauses to which they refer.

34 ADMINISTRATION

Any act, required or permitted to be performed by the Authority in terms of this Agreement, may be performed on behalf of the Authority by the Director-General or such other officer designated by the said Director-General or by the Authority.

35 WHOLE AGREEMENT AND UNDERTAKINGS

This Agreement shall constitute the whole Agreement between the parties hereto and shall supersede any previous Agreements and the Lessee acknowledges that no representations, warranty, undertaking or promise whatsoever not embodied herein has been made or given by the Authority and no variation shall be valid unless it is reduced to writing and signed for by signatories of both Parties.

6 NOTICES

Any notice to be given by the one party to the other in terms of this Agreement shall be delivered to the parties' respective addresses given below, which addresses the parties choose as their ***domicilia citandi et executandi;***

The Authority
The Director-General
Zimbabwe Parks and Wildlife Management Authority
Corner Borrowdale Road and Sandringham Drive
P. O. Box CY 140
Causeway
Harare

Victoria Falls Investments
The Managing Director
231 Sopers Crescent
Victoria Falls

Or to such other address within Zimbabwe as the Authority or the Lessee may, from time to time, notify the other in writing.

THUS DONE AND SIGNED FOR AND ON BEHALF OF THE PARKS AND WILDLIFE MANAGEMENT AUTHORITY AT HARARE this 5TH . DAY OF AUG.2021.

.....
DR FULTON U/PENYU MANGWANYA
DIRECTOR-GENERAL
PARKS AND WILDLIFE MANAGEMENT AUTHORITY

WITNESSES: 1. MUSAKWA A .....
Print Name *Signature*

2. MHAKA P .....
Print Name *Signature*

THUS DONE AND SIGNED FOR AND ON BEHALF OF THE LESSEE AT HARARE this 1ST DAY OF AUGUST 2021.

.....
ANDREW LANE

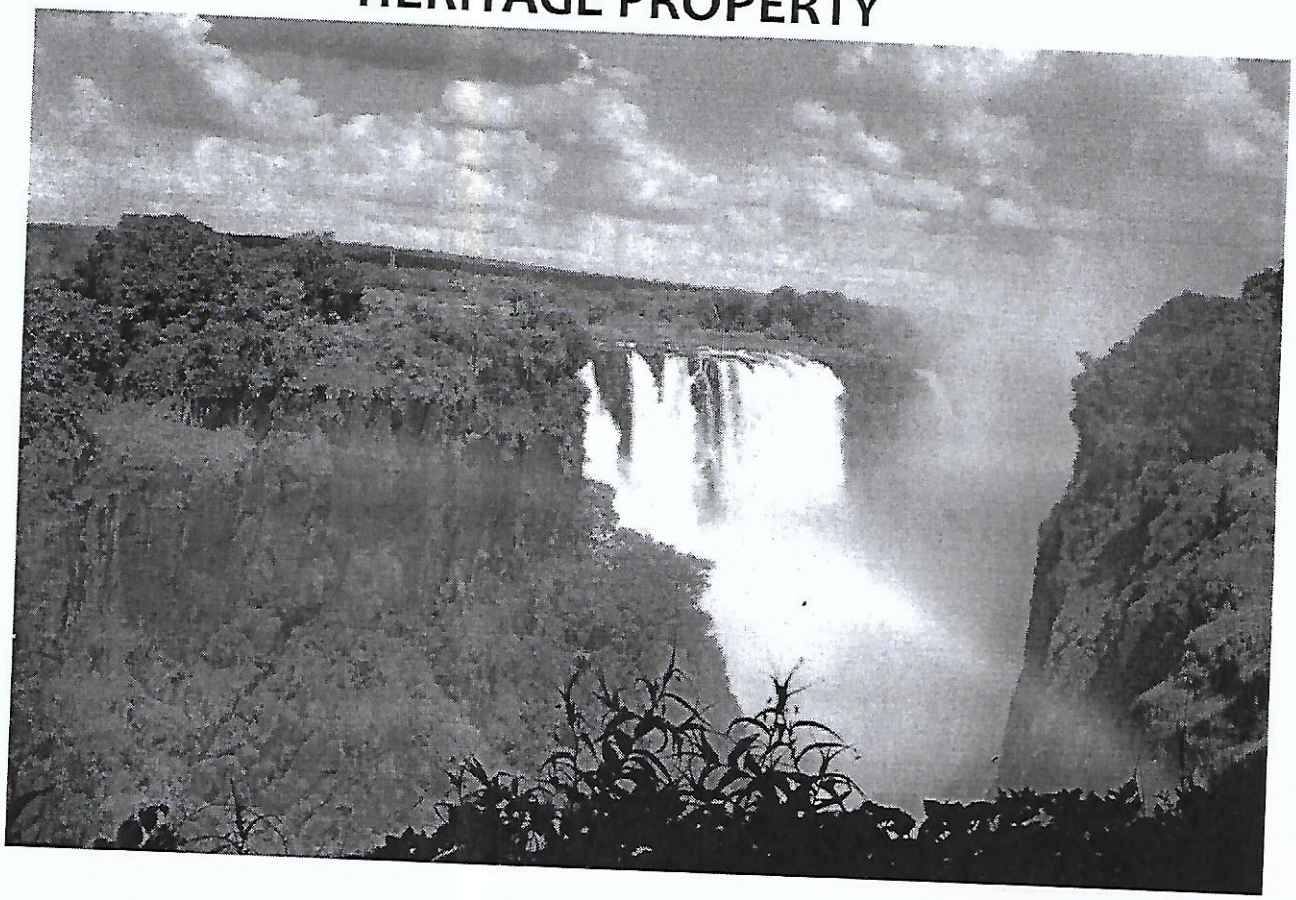
MANAGING DIRECTOR
SCANNER INVESTMENTS (PVT) LTD

WITNESSES: 1. Elizabeth Lane ..... Lane .....
Print Name *Signature*

2. TREVOR LANE .....
Print Name *Signature*

ANNEXURE 02

MOSI-OA-TUNYA/VICTORIA FALLS WORLD HERITAGE PROPERTY



THE JOINT INTEGRATED MANAGEMENT PLAN

ZAMBIA AND ZIMBABWE

NOVEMBER 2016 – NOVEMBER 2021

FOREWORD

At the expiry of the first Joint Integrated Management Plan (JIMP) for the trans-boundary Mosi-Oa-Tunya/ Victoria Falls World Heritage Property (MoT/VFWHP) (2007–2012) and its successful implementation, it gives the States Parties of Zambia and Zimbabwe great pleasure to present the second JIMP (2016-2021).

Driven by the two States Parties national policies and commitments in line with the Operational Guidelines of the 1972 Convention concerning the protection of Cultural and Natural Heritage, the Management Plan aims to protect and maintain the Outstanding Universal Value (OUV) enabling local communities and visitors to enjoy its naturalness.

The policies in this plan have been informed by an extensive public consultation process. The level of response reflects the desire of individuals and organisations to ensure that the special values of this World Heritage Property are safeguarded. It is the responsibility of the States Parties to work together in the implementation of the Management Plan.

Since 2007, considerable progress has been made on several conservation and management issues. This Management Plan also takes into consideration emerging issues including climate change and risk preparedness as well as changes in national and international policies which will affect the management of the property.

Acknowledgements

The States Parties acknowledge the Joint Technical Committee (JTC), Joint Site Management Committee (JSMC), the two National Commissions for UNESCO (NATCOMs) (Zambia/Zimbabwe), stakeholders, and individuals who have worked hard during the drafting process of this plan. We are confident that this document will prove to be an invaluable management tool for all those involved in the on-going conservation and management of this heritage property in the next five years.

Signatories on behalf of States Parties

Hon. Charles Banda (MP)
Minister
Ministry of Tourism & and Arts

ZAMBIA

Date_____

Hon. O.C.Z Muchinguri-Kashiri (MP)
Minister
Ministry of Environment, Water Climate

ZIMBABWE

Date_____

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ACRONYMS AND ABBREVIATIONS

AWF	African Wildlife Foundation
CAAZ	Civil Aviation Authority of Zimbabwe
CAMPFIRE	Communal Areas Management Project for Indigenous Resources
CTA	Curio Traders Association
EA	Environment Africa
EIA	Environmental Impact Assessment
EMA	Environmental Management Agency
FD	Forest Department
HAZ	Hotel Association of Zimbabwe
HRDC	Hwange Rural District Council
IUCN	International Union for Conservation of Nature
IUCN-ROSA	International Union for Conservation of Nature Regional Office for Southern Africa
JIMP	Joint Integrated Management Plan
JSMC	Joint Site Management Committee
JTC	Joint Technical Committee
LCC	Livingstone City Council
LM	Livingstone Museum
LTA	Livingstone Tourism Association
MOTNP	Mosi-Oa-Tunya National Park
MOU	Mémorandum of Understanding
NGO	Non Governmental Organisation
NHCC	National Heritage Conservation Commission
NMMZ	National Museums and Monuments of Zimbabwe
OUV	Outstanding Universal Value
PA	Protected Area
PWMA	Parks and Wildlife Management Authority
RDC	Rural District Council
RDL	Red Data List
SADC	Southern African Development Community
SEA	Strategic Environmental Assessment
SWASCO	Southern Water and Sewerage Company
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VFAPU	Victoria Falls Anti-Poaching Unit
VFM	Victoria Falls Municipality
MVFWHP	Mosi-Oa-Tunya/ Victoria Falls World Heritage Property
VFWHP	Victoria Falls World Heritage Property
WCMC	World Conservation Monitoring Centre
WHC	World Heritage Centre
WHP	World Heritage Property
DNPW	Department of National Parks and Wildlife
ZEMA	Zambia Environmental Management Agency

ZESCO	Zambia Electricity and Supply Corporation
ZIMRA	Zimbabwe Revenue Authority
ZPWMA	Zimbabwe Parks and Wildlife Management Authority
ZARA	Zambezi River Authority
ZRA	Zambia Revenue Authority
ZRP	Zimbabwe Republic Police
ZTA	Zimbabwe Tourism Authority

EXECUTIVE SUMMARY

The conservation and protection of Outstanding Universal Values of the World Heritage Properties presents on one hand opportunities for collaboration and exchange of information and experiences with other States Parties and on the other hand challenges arising from the ever-changing socio-economic environment.

World Heritage Properties have over the last two decades been under constant scrutiny and debate regarding their role in alleviating socio-economic challenges that States Parties face, especially in the developing world wherein conservation in certain instances is perceived as being in conflict with economic development.

Historically, management plans have been the tools for protected area system management. They aid in protecting key resources of the protected area by minimizing threats and allowing for sustainable utilisation of the natural and cultural resources.

The two States Parties have over the period 2014-2016 been involved in the rigorous consultative process of revising the Joint Integrated Management Plan (JIMP) for the Mosi-Oa-Tunya/Victoria Falls World Heritage Property, which was first, formulated in 2007 and expired in 2012.

The implementation of the JIMP, was instrumental in the protection of the Outstanding Universal Value of the Property and coordinating conservation activities over the period of five years. However, the implementation of the same, on the other hand, presented practical challenges on the ground that were not anticipated at the time of formulating the plan.

The challenges encountered and gaps that were exposed during the five-year implementation of the first JIMP greatly helped to inform the content of this revised JIMP. The existence of electricity pylons over sections of the property, for instance, made it impractical to maintain certain zones. This informed the realignment of zones in the revised JIMP.

Aside from the challenges faced on the ground, the revised JIMP was also informed by the need to incorporate emerging issues namely risk management, climate change, Information Communication Technologies Integrated Electronic Information Management Systems (IMS), community participation and beneficiation, and resource mobilization. The emerging issues are aimed at complementing existing or ongoing conservation programmes to conserve and protect the OUVs of the property.

Existing or ongoing conservation programmes from the previous JIMP include Tourism management and Education, Research and development, Resource conservation and operation and maintenance.

Tourism management and education entails coordinating tourism from project development to operation phase and ensuring that tourism activities are compliant to the World Heritage Operational guidelines and do not impinge on the OUVs of the site. Educational activities remain key for the property as a conduit for transmitting the values of the site to visitors and general public.

Research and development involves research activities carried out to directly support management of a specific area or issue and research addressing general conservation goals or knowledge improvement. Research contributes essential cultural knowledge for information and education of visitors.

Resource conservation activities ensure that all the various facets of development around the property should take cognizance of the property's natural resources values and ensure that they are not depleted in the long term.

The two States Parties, despite the challenges faced in the implementation of the previous JIMP, are committed to the conservation and protection of the Outstanding Universal Value of the Property in tandem with the Operational guidelines for the implementation of the World Heritage Convention and will endeavor to bequeath the property to the next generation in a viable condition.

PREAMBLE

VISION: A sustainably managed Mosi-Oa-Tunya/ Victoria Falls World Heritage Property.

MISSION STATEMENT: To protect, conserve and promote the Mosi-Oa-Tunya/ Victoria Falls World Heritage Property through a management framework that ensures its Outstanding Universal Value is maintained for the present and future generations.

PURPOSE: To ensure sustenance of the OUV of the property through co-ordinated joint management, guided development, inter-institutional involvement and community participation by the two States Parties.

The rest of part one looks at the following issues:

i. Description of the Property highlighting the heritage resources;

ii. The state of conservation focusing on the values of the MVFWHP;

iii. Zonation: This section outlines the rationale and criteria used for zoning the WHP and explains the basic management guidelines to be employed in each zone. The WHP is subdivided into three zones namely (i) High ecologically sensitive (ii) Medium ecologically sensitive (iii) Low ecologically sensitive. Modifications may be made only if they enhance the protection of the OUV of the site.

PART ONE:

1.0 BACKGROUND INFORMATION

1.1 Brief History

The Mosi-Oa-Tunya/ Victoria Falls World Heritage Property (MVFWHP) was inscribed a Natural World Heritage Property in accordance with the 1972 UNESCO World Heritage Convention on the 15th of December 1989. This was largely based on its unique geomorphic formations and processes, exceptional natural beauty as well as its aesthetic importance.

The Site was inscribed on the World Heritage List under the then criteria (ii) and (iii), now re-numbered (vii) and (viii) which reflect the World Heritage values.

1.2 Statement on the Outstanding Universal Values

The Mosi-oa-Tunya/Victoria Falls is the largest curtain of naturally falling water in the world at 1.708 m wide and with up to 500 million litres per minute descending at 61 m (Devil's Cataract), 83 m (Main Falls), 99 m (Rainbow Falls), and 98 m (Eastern Cataract). It has eight spectacular gorges of igneous origin (i.e. comprising basalts) and several islands in the core which serve as breeding sites for four endangered and migratory bird species, such as the Taita Falcon and Black Eagle. The riverine 'rainforest' within the waterfall splash zone is a fragile ecosystem of discontinuous forest on sandy alluvium, dependent upon maintenance of abundant water and high humidity resulting from the spray plume of about 500 m (at maximum height) that can be seen from a distance of 50 km and 30 km from Bulawayo and Lusaka roads respectively. A direct frontage viewing of the falls is possible from both Zambia and Zimbabwe.

The Mosi-oa-Tunya/Victoria Falls and associated eight steep sided gorges have been formed through the changing waterfall positions over a geological time scale. The gorges are an outstanding example of river capture and the erosive forces of the water still continue to sculpture the hard basalts. These gorges take a zigzag course of a distance of about 150 km along the Zambezi River below the falls. Seven previous waterfalls occupied the seven gorges below the present falls, and the Devil's Cataract in Zimbabwe is the starting point for cutting back to a new waterfall. In addition, an aerial view of the falls shows possible future waterfall positions. Upstream are a spectacular series of riverine islands formed during the ongoing geological and geomorphological processes. The property is characterized by banded basalt of ancient lava flow, Kalahari sandstones and chalcedony out of which stone artefacts of *Homo habilis* dating three million years, stone tools of the middle Stone Age and weapons, adornments and digging tools of the late Stone Age that indicate occupation by hunter-gatherers.

The property requires continued maintenance and updating of its management plan, supported by adequate staffing and provision of financial resources.

The falls being a major attraction, urban infrastructure developments, tourism facilities and services may impact the property's integrity and therefore need to be carefully managed not to compromise the exceptional beauty and Outstanding Universal Value of the property.

Effective and continued action is also required to tackle the current and potential impacts on the property.

2.0 INTRODUCTION

The States Parties of Zambia and Zimbabwe recognise the need to sustain the integrity of the VFWHP through an appropriate management plan or other management systems. Since 1996 it has been UNESCO and IUCN missions and recommendations that the VFWHP should have an effective JIMP. Thus the agreed institutional framework for the management of the property is at three levels: Joint Ministerial, Joint Technical and Joint Site Management Committees. The property requires continued maintenance and updating of its management plan, supported by adequate resources.

The Falls being a major attraction, urban infrastructure developments and tourism facilities and services may impact the property's integrity and therefore need to be carefully managed not to compromise the exceptional beauty and outstanding universal value of the property. Thus, the management plan is aimed at ensuring the effective conservation, sustainable management and development of the Mosi-Oa-Tunya/ Victoria Falls WHP by the two States Parties of Zambia and Zimbabwe.

3.0 DESCRIPTION OF THE PROPERTY

3.1 LOCATION AND AREA

3.1.1 Location

The property lies at 17°55' South and 25°50' East, on either side of the Zambezi River in southern Zambia and north-western Zimbabwe.

The boundary is formed by the southern section of Victoria Falls National Park in Zimbabwe and the southern part of the Mosi-oa-Tunya National Park up to Maramba River as well as the riverine strip up to the including Canary Island about 2.5km upsteam of the Main Falls.

Thus the boundary line for the property generally follows the Zambezi River frontage from a point immediately opposite the western tip of the Canary Island and trends eastwards thence to the confluence of the Zambezi and Maramba River, at point on the southern bank of the Maramba River, thence winding northeastwards to a point on the Mosi-oa-Tunya National Park boundary, thence southwards along this eastern Park boundary to Songwe point at the confluence of the Zambezi and Songwe River on its northern bank, thence connecting to Zimbabwe, thence trending eastwards along the gorges of the Zambezi in the direction of the river flow up to the beginning of the upper part of the Batoka Gorge forming the boundary of the Victoria Falls National Park , thence trending southwards on the eastern line of the Park boundary and following the entire Victoria Falls National Park boundary (thus trending in the generally western, northern and northwestern direction leaving the Victoria Falls town on the left, and following a series of Park boundary beacons along the southern Zambezi River Bank up to Zambezi National Park and a riverine section of the Zambezi River including Canary connecting into Zambia to the starting point.

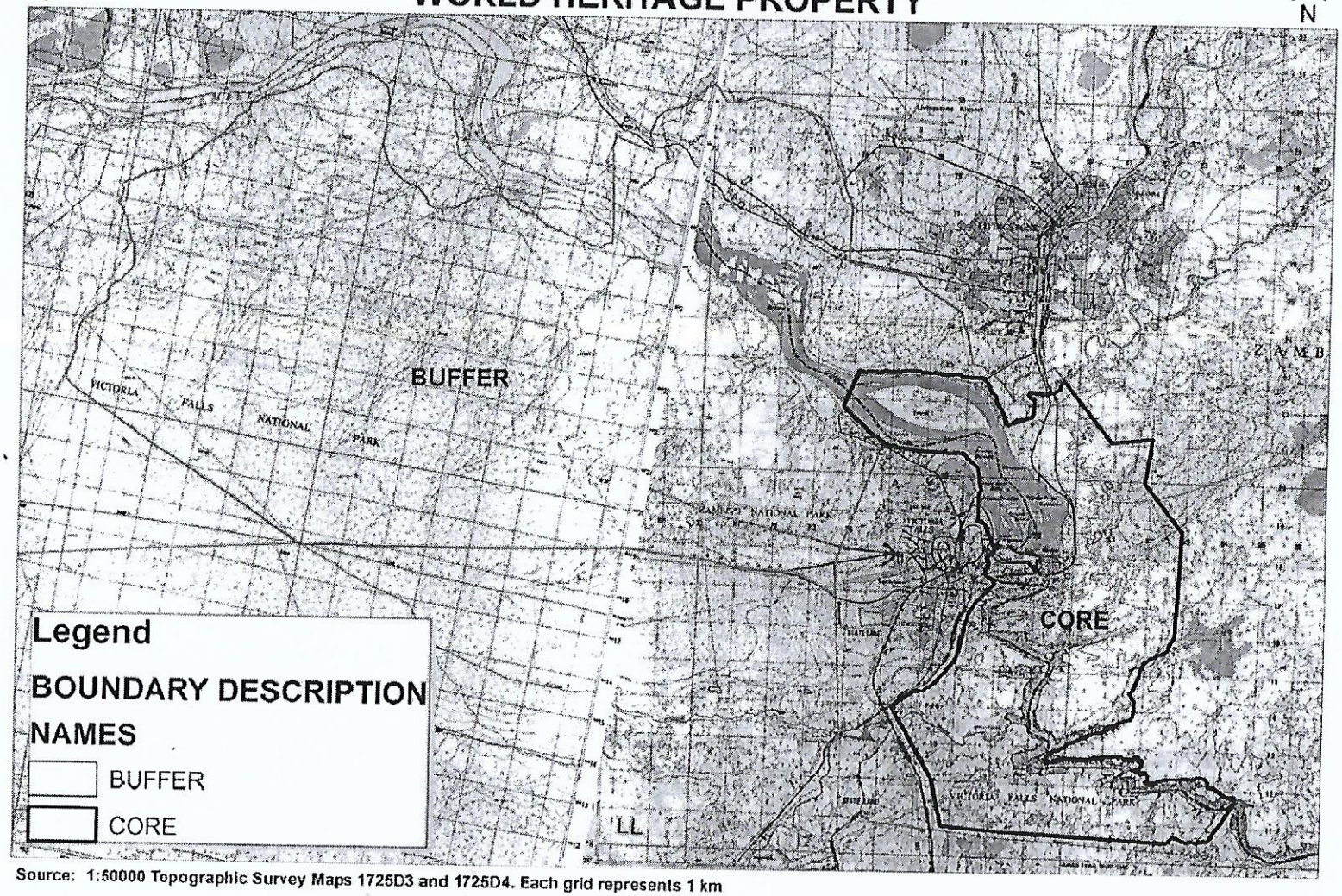
3.1.2 Area of the World Heritage Property

The total area is 27485.5 ha comprising a core of 6562 ha and a buffer of 20925.5 Ha

Table 1: Summary of the World Heritage Property Area

State Party	Core (Ha)	Buffer (Ha)
Zambia	3373	3182
Zimbabwe	3189	17743.5
Total	6562	20925.5

MOSI-OA-TUNYA / VICTORIA FALLS WORLD HERITAGE PROPERTY



Source: 1:50000 Topographic Survey Maps 1725D3 and 1725D4. Each grid represents 1 km

3.1.3 BIOPHYSICAL AND CULTURAL RESOURCES

3.1.3.1 PHYSICAL ENVIRONMENT

(i) Climate

The property falls under a region of a sub-tropical hot and arid climate, with a marked seasonal variation (Meynell *et. al.*, 1996). The property is characterized by three distinct seasons: Wet/Warm season running from November to April; Cool/Dry season which runs from May to August 16 – 27°C and a Hot/Dry season, from September and October 27 - 32°C.

The wet/warm season (November to April) has an annual mean rainfall of ±750mm with the highest rainfall being from January to March. October is the hottest month, whereas June is the coldest with temperatures averaging 33.9°C and 6.4°C respectively. The months of April/May constitute the post rainy season, whereas the cool dry season is from May to August.

(ii) Geology

The geology of this trans-boundary property is a product of volcanic action that characterized much of Southern Africa about 200 million years ago during the Karoo Period (Meynell *et. al.,* 1996, Bond, 1990). The lava flows produced during this period formed the basalt plate underlying the rocks. These basalts are subsequently overlain by a thin layer of arid and/or marine sandstones and the red Kalahari sands. Chalcedony and surface limestones are also found as isolated rocks or constituent minerals. This geology has a major effect on the vegetation of the area (Fanshawe, 1975).

(iii) Soils

The property is characterised by three soil types i.e. shallow gravel soils, underlain with basalt rock close to the Zambezi river channel and along its tributaries; alkaline sandy clay soils on upper valley slopes and Kalahari sands on higher altitudes on north-western section of the park areas.

Together with lithosols, a soil type which lies above weathering rock and gravel and in depth not exceeding 25cm, the Kalahari sands form the rigosols, which are one of the major soil groups in the area. These soils are

extremely infertile and are of little value in terms of agricultural production (Meynell *et al.*, 1996).

(iv) Geomorphology

The Victoria Falls World Heritage Property and the surrounding area is the first order land mass called the African Plateau. The north-western part of the park has two third order forms slightly dissected further away from the river. The south-western portion, close to the Falls area, is an undulating plateau interrupted in various places by hills, ridges and minor escarpment.

The relief of this whole region is dominated by the Zambezi River, the Falls and the downstream gorges. To a large extent these features are the basis for the UNESCO declaration of the area as a World Heritage Property. The Victoria Falls and gorges are the most important natural features of the park and of an exceptional significance internationally, hence the site where they are found was declared a WHP in 1989.

Some of the islands upstream of the Falls are a result of outcropping of the basalt rendering stable islands with thin soil and vegetation cover while others originated from alluvial deposits which result into islands which are often covered with thick vegetation including reeds, grasses and mature trees (Meynell *et al.*, 1996).

The islands vary in size from a few square metres to a several square kilometres and are either sandbanks, sometimes with or without one or more central depressions, or basalt-based. Livingstone Island on the Zambian side and the Cataract Island on the Zimbabwean side are examples of basaltic islands whereas Palm (in the Buffer) and King George VI (in the Core) are sand islands.

(v) Paleontology

The property is characterised by paleontological evidence that the ecology of the falls has evolved through time and space through the fossil faunas which have been excavated from the study area. Fossils of an early form of elephant for instance were unearthed during the construction stage of the ZESCO canal deposited with the Livingstone Natural History Museum. These fossils tell an evolution story of the animal life of the study area. Some of the discoveries in the study area include a giraffe and several antelopes (Clark in

Phillipson 1990). The paleoclimatic indicators as preserved in the property's rocks and sand material show that the climate of the Victoria Falls area has been fluctuating between arid and wet conditions.

(vi) Hydrology

The Zambezi River with its Source at Kalene Hills is Africa's fourth largest river and gives rise to the Victoria Falls after forming another spectacular Sioma-Ngwezi Falls and the Barotse Cultural landscape on the upstream areas (Meynell *et al.*, 1996). The property has two rivers of significance, the Zambezi and Maramba River. The Dambwa Stream disappeared possibly due to both climate change and human related activities.

The Zambezi River records seasonal fluctuations in volumes of water falling on the Victoria Falls area. During November to December the Victoria Falls are at their lowest level with the mean flow of less than 20,000 cubic meters per minute. March-April is the peak season with water levels rising rapidly. At peak flood, water at the Victoria Falls, falls thirty times its dry season volume, averaging 550,000 cubic metres per minute. In 1958 historic flows of 700,000 cubic metres per minute were recorded. At peak season, water is stained golden brown due to the sediment that it carries. These fluctuations have a bearing on the scenic impression of the Falls. The curtain of falling water at the Victoria Falls is 108 metres at its deepest point, 1 708 metres in width.

3.1.3.2 BIOLOGICAL ENVIRONMENT

(i) Flora

The predominant natural habitat in the Victoria Falls/Mosi-oa-Tunya World Heritage Site is woodland (Meynell et al., 1996). Shalwindi (2000) states that according to LANDSAT imagery and the 1:500,000 vegetation map of Zambia, four main vegetation types are observed in the WHS namely; Mopane, Mixed scrubland, Riparian and Swamp vegetation types. A closer analysis of these woodlands reveals six main vegetation types (Meynell et al., 1996) namely Riparian Forest, Kalahari woodland, (iii) Mopane, (iv) Mixed Scrub Vegetation, (v) Mukusi Woodland and (vi) Miombo Woodlands. The vegetation in the WHS is divided into six types based on biological features as described below:

(vii) a. Riparian Forest: The Zambezi River, in common with all rivers in tropical Africa, has a distinct fringing vegetation of gallery or riparian woodland. The Riverine Forest is found along the banks of the

Zambezi, Songwe and Maramba Rivers and on some islands. On the riverbanks it is with a width rarely more than 20-100m wide from the high water mark (Fanshawe, 1975, Meynell et al., 1996). At its best development, riparian forest is a three storeyed forest with a closed evergreen canopy attaining 21m in height. Some common tree species that occur here are *Diospyros mespiliformis, Trichilia emetica, Syzyguim guineense* ssp *barotsense, Syzyguim cordatum, Mimusops zeyheri, Hyphaene coriacea, Hyphaene petersiana and Pheonix reclinata*. Also common are *Phragmites mauritianus and Cyperus papyrus*.

This habitat houses the highest concentration of animals and is the most sought and threatened by human developments. A small section of the riverine woodland is the 'Rainforest' found opposite the Victoria Falls. Species such as *Rotala cataractea* seem to favour the highly specialized conditions prevailing in the 'Rainforest'. Overally, the rainforest contains a highly specialized forest flora of an island character. Species such as *Sebea pentandra, Loberlia kirkii*, and *Gladiolus unguiculatus* are rare herbaceous species with very specialized habitat requirements. Another species of interest is the rare fern *Cheilanthes farinose*.

The central deep sandy ridges of some of the islands produce a non-riparian vegetation, with affinities to Kalahari woodland. *Dichrostachys cinerea, Acacia polyacantha* and *Terminalia sericea* are also to be found in these areas.

b. Kalahari Woodland: This woodland type mainly occurs on Kalahari sands (Meynell et al., 1996). The term Kalahari woodland therefore embraces all woodlands on Kalahari sand with the exception of the vegetation derived from the destruction of dry evergreen forest (Fanshawe, 1969). The Kalahari sands are deep and well-drained and are characterized by *Baikiae plurijuga, Guibortia coleospermum* and *Schinziophyton rauteneii*. This woodland type is of great economic importance because of its utilization in terms of the curio curving industry, furniture manufacture, firewood supply and ethnomedicology (Meynell et al., 1996). *B. plurijuga* produces a valuable timber commercially exploited in both Zambia and Zimbabwe for railway sleepers, mining timbers and parquet flooring (Fanshawe, 1975, Meynell et al., 1996). This woodland

type is independent of the Zambezi. Other species of interest in this woodland are *Burkea africana, Erythrophleum africanum*, and the *Uapaca spp.*

c. Mopane Woodland: This one storeyed open woodland with a deciduous canopy of 6-18m high (Fanshawe, 1969, Chidumayo et al, 2004) is the second largest habitat in the Victoria Falls World Heritage Property on the Zambian side. It is found between the Riverine Forest and Mixed Scrubland. The dominant mopane is pure or almost pure (Fanshawe, 1969), thus frequently forming a near monoculture over considerable areas (Chidumayo et al, 2004). Scattered elements of Munga woodland occur in places mainly represented by *Acacia nigrescens, Adansonia digitata, Combretum imberbe, Kirkia acuminata* and *Lannea sthulmannii*. Mopane woodland thrives well in alkaline sandy soils. The physiognomy of Mopane woodland on the alluvial flats is largely conditioned by the depth and duration of flooding during the rainy season. The most abundant tree that occurs in this area is *Colophospermum mopane*, a valuable browse species for domestic animals and wildlife.

d. Scrub Woodland: Scrub Vegetation extends over much of the MoNP and Victoria Falls WHS (Chidumayo et al, 2004) and occupies the largest part of this protected area. It is dominated by shrubs, with scattered tall trees on shallow stony basalt soils in the southeast and on shallow sandy soils in the northwest of the park. Notable woody species are *Colophospermum mopane, Kirkia acuminata, Commiphora Spp, Pterocarpus antunesii, Pterocarpus angolensis, Sclerocarya caffra, Acacia nigrescens, Sterculia quenquioloba, S.africana, Cassia abbreviata, Securidaca longependulata, Dichrostastachys cinerea, Burkea africana* and *Adansonia digitata*. Mixed scrubland thrives on shallow, strong soils underlain by basalt and its distribution is close to the Zambezi and its tributaries (Meynell et al., 1996). The main value for this vegetation type is browse and grazing for wildlife and cattle in the area. It also provides good supplies of fuelwood and like the Kalahari woodland is exploited for curio making and poles for building (Meynell et al., 1996).

e. Baikiaea Woodland: This habitat occurs on the well-drained Kalahari sands on the plateau overlooking the Zambezi Valley at the Victoria Falls. It is separated from scrubland on the valley floor by a sand scarp. It occupies only 2% of the park and is relatively taller and floristically richer. The *Baikea*

plurijunga, Guibourtia coleosperma, Burkea africana, and *Schinziophyton rautanenii* are the dominant trees.

f. Miombo Woodland: The Miombo Woodlands occupies the second smallest portion of the WHS and the MOTNP. It is found on the Kalahari sands in the north of the park. This vegetation type is dominated by *Brachystegia boehmii, Brachystegia spiciformis and Julbernadia globiflora.* Other dominant species are *Erythrophleum africana, Schinziophyton rautanenii, Pterocarpus angolensis* and *Combretum spp.* Invasive alien species recorded in the WHS include Lantana camara. The extent of its distribution and density is a threat to biodiversity of global significance and requires urgent attention. Other invasive alien species of interest in the area are *Eichhornia crassipes* and the *Opuntia species.*

(viii) (ii) Fauna

The WHS is habitat to mammals, fish, amphibians and reptiles. The species diversity is 75% birds, 13% reptiles and 8% mammals. The WHS and surrounding area is home of the White Rhino and rare Taita Falcon. Others include the Elephant, Zebra, Kudu, Hippo, a number of birds, fish, reptile and amphibian species.

a. **Mammals:** Large mammals represent the most significant fauna. The WHS was initially prime wildlife habitat. Mammals found in the area include among others Elephant, Buffalo, Giraffe, Zebra, Wildebeest, Impala, Kudu, Warthog, Eland, Sable, Baboon, Velvet Monkey, Hippo, Bushbuck, Waterbuck and White Rhino.

b. **Avi-fauna:** The WHP area has 415 species (Pollard, 1989) of which 36 species are raptors, 13 species breed in the gorges, 16 species are protected and the rest are migratory birds. The islands and gorges are of special interest in relation to birdlife. The islands and swamps are important refuge for the Coppery Tailed Coucal, Lesser Jacana, Night Herons and Pel's Fishing Owl. The gorges are important for raptors. Among the 36-recorded species, 13 species use the area as breeding grounds and 16 are specially protected (Hartley, 1993). The concern is however, over the increasing disturbance of the Taita Falcon and Black Eagle breeding sites in the gorges.

3.1.3.3 CULTURAL ASPECTS

The WHP has a number of various cultural resources that tell the prehistory and cultural history of the Victoria Falls area. The diverse cultural heritage in this area goes back to millions of years as evidenced by the existence of numerous Stone Age and Iron Age deposits and sites associated with living

traditions that are very important to the Leya of Chief Mukuni and Sekute Chiefdoms.

(ix) Archaeological resources

Iron Age Sites that date back to between about the 7th to 12th centuries in the WHP are very important as they have been used to describe the area's cultural-history of the Leya of Chief Mukuni and Sekute. Some of the Iron Age Sites in the WHP include the Baobab Tree, Iron Age Site along Hubert YoungRoad and the Mubuyu Iron Age Site near the Palm Grove Siding.

(x) Traditional /Anthropological

Besides the Victoria Falls region being occupied by the Bushmen (Kwengo) a hunting and gathering group who occupied the area during the Later Stone Age (10 000 AD to 2000 BP), the Victoria Falls has been occupied by the Leya under Chief Mukuni and Sekute, the Toka under Musokotwane whilst other minor groups included the Subiya under Liswani and Totela from the 15th century. According to the current Senior Chief Mukuni, there are a number of very important traditional/ritual sites in the WHP namely:

a. Nsamba ndwazi (place for washing diseases)
b. Katola Buseka/Bunji jumping point (offering site)
c. Chipozyo (sacred place at Boiling Point)
d. Chisamu Cilikumbete (source for water used in the various rain and thanks giving ceremonies).
e. Simukale Site marks the point at which the first Mukuni negotiated his entry into Gundu Village now Mukuni Village
f. Siloka Island the first Royal Burial ground for Mukuni Siloka I

Similarly, on the Zimbabwean side, according to Chiefs Mvutu, Shana and Hwange, there ritual sites mainly on islands along the Zambezi River, Chamapato Hills and the Big Tree (Victoria Falls town), Kazeruka (now Garden Island) and the Boaruka Island.

(xi) Historical National Monuments and Engineering Structures

There are five historical structures in and close to the WHP namely the boat club monument, the Old drift national monument, Victoria Falls Railway Bridge, David Livingstone statue and the war memorial site in the eastern cataract.

a. ***The Boat Club Monument:*** This site which marks the 1947 Royal Visit of King George and his entourage is located on the edges of the Zambezi River.
b. ***Sekute Crossing Point:*** This site marks the Crossing point and a Village Settlement of the Leya. Sekute is located about three kilometers from the Main Mosi-oa-Tunya National Park Main Gate.

c. ***Old Drift:*** The Old Drift Site is a cemetery of the earliest European settlers who died in the Old Livingstone Town established in 1898 by Mopane Clark.

d. ***Victoria Falls Railway Bridge:*** This bridge linking Zambia and Zimbabwe was constructed between 1904 and 1905.

e. ***War Memorial Cenotaph:*** The statue was erected in memory of Northern Rhodesia Europeans killed in the First World War. The protection of these resources is important as they provide information of the history of the site. Further these sites act as additional tourist attraction for the WHP.

4.0 STATE OF CONSERVATION

4.1 Conservation values of the MVFWHP

The property's Core and Buffer lie entirely within protected areas (Zambezi and Victoria Falls National Parks on the Zimbabwean side and the Mosi-Oa-Tunya National Park on the Zambian side). This has helped to ensure double buffering of the property for effective maintenance and conservation of the vegetation, habitats and geomorphic processes in a relatively natural state, especially the Rainforest and islands above the falls. In addition, the Core and Buffer are biologically diverse, and are host to a number of endemic and/or rare plant and bird species. However, natural and human induced processes if not fully managed seem to pose threats to the integrity of the site.

The Victoria Falls/Mosi-Oa-Tunya World Heritage Property is experiencing various conservation challenges related to urban development, tourism pressure; invasive species; poaching; Water pollution and abstraction; and, institutional challenges, as such a State of Conservation Report shall be produced annually.

The two States Parties will continuously strengthen the enforcement of the respective EIA policies and other supporting legal frameworks such as the World Heritage Convention, Parks and Wildlife Acts, Heritage and Museum Conservation Acts and Regional Town and Country Planning Act, Urban and Regional Planning Act and the World Heritage Convention.

The two States Parties through the implementation of the JIMP will thrive to ensure the Outstanding Universal Values of the property are sustained. The integrity of the property and it's natural and cultural values are maintained through;

i. Continuous inventorying of the biodiversity and cultural resources within the property;
ii. Regular state of conservation reporting;
iii. Observation of all conservation commemoration days; and
iv. Upholding Trans-frontier conservation initiatives.

4.2 Core Values

The MVFWHP has a range of values around which objectives have been formulated to ensure adequate protection of the property. These are:

i. Conservation of biodiversity, ecosystem services, natural and cultural values across boundaries (Geological values, Water catchment values, Geomorphological values, Biological values, Aesthetic values, Cultural and historical values);

ii. Promoting landscape-level ecosystem management;
iii. Laying foundations for collaboration (trust and cooperation, community partnerships);
iv. Increasing the benefits of conservation to communities on both sides of the borders through community partnerships;
v. Economic development largely through socio-economic activities, education and employment creation through tourism; and
vi. Trans-boundary initiatives to control problems such as veld fires, pests, poaching, pollution and smuggling.

50 ZONATION

This section outlines the rationale and a criterion used for zoning the WHP and explains the basic management guidelines to be employed in each zone. The WHP is subdivided into three zones namely (i) High ecologically sensitive (ii) Medium ecologically sensitive (iii) Low ecologically sensitive. Modifications to these zones have been made in line with the 1989 World Heritage Bureau recommendations as well as the prevailing inconsistent historic land use. Future modifications can only be made if only they contribute to the enhancement of the OUV.

5.1 Rationale for Zoning

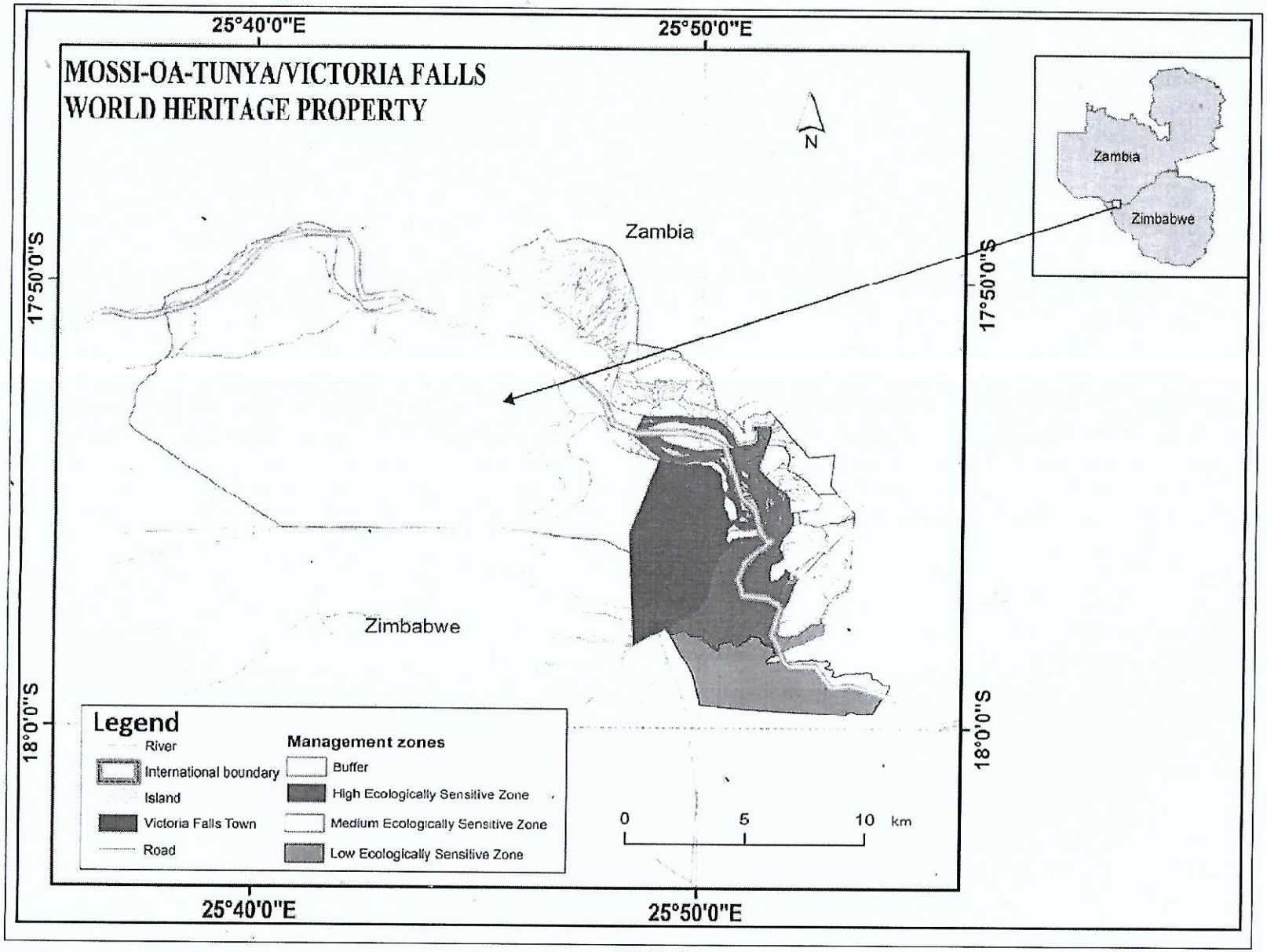
The zoning plan for the WHP is based on the understanding that certain activities and management practices are more ecologically appropriate within specific areas of the WHP than in others. The zoning therefore allocates specified activities, facilities, and management practices to defined areas of the WHP based on the following principles:

i. Legal protection and land use harmonisation are key to the protection and maintenance of the OUV of the property.
ii. Some biophysical features/elements and processes are more sensitive than others. Thus, the protection of different conservation values requires the application of different management approaches, if those values are to be maintained or enhanced;
iii. Certain activities, while acceptable individually, are mutually incompatible. They are therefore best confined to distinctly different areas;
iv. Even where uses are compatible, designation of a zone helps to establish the management priorities for that particular area; and
v. It is desirable to concentrate intensive facility development in clearly defined areas, to minimise the area of environmental disturbance and protection of the OUV. All proposed developments should be subjected to an EIA process.

The zones created provide guidelines for dealing with the management issues where they occur. These guidelines will be used in the implementation of the management activities proposed under each management programme.

5.2 Detailed Description of the Zones

Figure 1: Map of Mosi-oa-tunya/Victoria Falls World Heritage Proprty Zones



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5.2.1 Zambia

(i) Highly Ecologically Sensitive Zone (Block 1)

This zone includes an area bordered by a 10 metres riverine strip (river bank) of the Zambezi up to the confluence of Maramba River (i.e. to the bridge) The eastern zone boundary follows the Mosi-oa-tunya road from the Maramba River Bridge to Border post extending to the northern scarp of Gorge 3 and follows the scarpline of the gorges up to Songwe River. On the western side the zone is bordered by an international boundary which forms a common boundary with Zimbabwe. It encompasses islands, waterfalls and gorges and their ongoing formation processes.

(ii) Medium Ecologically Zone (Block 2)

This zone is an area between Hurbert Young Drive on the east and the Mosi-oa-tunya Road and bordered by the Mukuni Road in the south as well as the Park Boundary to the east.

iii) Medium Ecologically Sensitive Zone (Block 3)

This zone comprises an area south of the ZESCO powerlines which trend in a southwest to northeast direction and meets with the eastern cutline of Mosi-oa-tunya National Park that trends in a southerly direction into Songwe River gorge scarps. On the west, this zone is bordered by the gorge scarp line.

(iv) Low Ecologically Sensitive Zone (Block 4)

This zone is defined by the area below the cutline of the eastern Mosi-oa-tunya National Park and Hurbert Young Drive on the west and the intersection of road to Maramba River On the southern part the zone is bordered by the Mukuni Road and follows Songwe Village Road to the Park Boundary.

(v) Low Ecologically Sensitive Zone (Block 5)

This zone is represented by an area on the southern part of Mukuni Road which is bordered by the high voltage powerline that passes through an area next to Beacon BK1 and truncates Mukuni Village. The zone is bordered by the eastern boundary of the Mosi-oa-tunya National Park; also part of the Mosi-oa-tunya Road and an extension to the gorge scarp where the ZESCO power station and compounds and Palm Groove school are. This zone with the power station and lines form the southern boundary line as stated earlier.

5.2.2 Zimbabwe

(i) Highly Ecologically Sensitive Zone (Block 6)

Starting from a point UTM X 378914 Y 8013226 where the Masuwe River joins the Zambezi River, the boundary follows the Masuwe River towards Victoria Falls / Bulawayo Road to point UTM X375298 Y 8013294, thence northwards along

the Road to Deka- Falls Railway Strip 4, thence northwards along the eastern boundary of that Railway strip to the southern boundary of Railway Reserve Victoria Falls A following the Victoria falls Municipality Town boundary up to a point it joins the Railway Strip 6, thence eastwards to the Victoria Falls Bridge, thence northwestwards following the Victoria Falls Rainforest, thence up the Zambezi River covering the riverine vegetation strip to where it joins the Zambezi National Park boundary.

(ii) Medium Ecologically Sensitive Zone (Block 7)

The zone covers the Victoria Falls border and the Rainforest car park area and continues from the Victoria Falls Rainforest VIP entrance gate, thence along the Zambezi Drive Road to beacon R11, thence westwards following the boundary beacons to where it joints Zambezi National Park boundary.

(iii) Low Ecologically Sensitive Zone (Block 8)

The zone covers the Southern part of Victoria Falls National Park A, area bounded by a line drawn from a point on the Zambezi River at map référencé 35KLL842115 on the 1:50000 map Victoria Falls 1725D4 and on a straight line drawn between beacons M44 and M43 of the Victoria Falls Reserve (as shown on the General Plan CG152 , and generally westwards along the boundaries of that Reserve,through beacons M43,M17 and towards M23 to the Bulawayo-Victoria Falls Road, thence proceeding generally north-westwards along that road to Masuwe Bridge, thence downstream the Masuwe River to the Masuwe/ Zambezi confluence, thence southeast along the international boundary to the starting point.

(Iv) Buffer

(xii) a. Zambia

The northern section of the Mosi-oa-tunya National Park forms the Buffer for the WHP in Zambia.

(xiii) b. Zimbabwe

The area starts from the international boundary of Zimbabwe and Zambia on a straight line through beacon BL2 and BL1 proceeding generally southwards along a straight line through beacon W1, thence 800 metres on a straight line southwards towards beacon W3, thence 16km westwards along the Victoria / Falls Kazungula Road, thence 7,6km northwest along the 16km Road following that road northeast wards to its intersection by the Zimbabwe – Zambia international boundary at UTM X35K5039 Y 8027011, thence downstream the Zambezi River to the starting point.

5.3 Prescribed Activities for the Zones

5.3.1 High Ecologically Sensitive Zone

(i) Purpose

To provide for the protection and sustainable utilisation of the core features and processes of the WHP and for the protection of the fragile natural environments such as the Zambezi river gorges and riverine vegetation.

(ii) Permitted activities

The following are activities **permitted** in the High Ecologically Sensitive Zone

Rafting	Boat Cruises	Canoeing	Boating
Angling	Rafting	Kayaking	Bunge Jumping
Gorge Swing	Falls Viewing	Game Viewing and walking safaris	Cultural Ceremonies
Bush meals	Rap jumping	River boarding	Moonlight viewing
Photographic tourism	Traditional rites	Jetting (30-45hp)	Picnics
Abseiling	Research and Monitoring	Tour guiding	Law enforcement and management operations

(iii) Prohibited activities

The following activities and developments are **prohibited** in the High Ecologically Sensitive Zone:-

Resource extraction except for research purposes	Ballooning	Low flight levels – low (SEA)	Night drives
Cable car	Use of Speedboats above 45hp engine	Erecting new permanent infrastructure	Developments or fencing in animal migration areas/ corridor(s)
Boating along river bank and islands	Construction of facilities of height above native tree	Herding of domesticated animals	Littering, mining

	canopies		
Wet bikes; Water skiing	Fencing of infrastructure and other developments in the zone	Painting buildings/ facilities in non-earth colours	Loud Music

(iv) Permitted Facilities / Infrastructure

The following facilities and infrastructure are **permitted** in the High Ecologically Sensitive Zone: -

Existing infrastructure	WHP management facilities (Toilets, garbage bins, signage, walking trails)	Hides
Common Marina	Eco-lifts	Picnic sites

(v) Prohibited Facilities / Infrastructure

No further infrastructural developments except those under permitted facilities/infrastructure.

5.3.1 Medium Ecologically Sensitive Zone

(i) Purpose

To permit habitat recovery, provide for the natural preservation of resources and reduce utilisation pressure on the core features of the WHP.

(ii) Permitted Activities

The following are **permitted** in the Medium Ecologically Sensitive Zone

Game viewing and game drives	Tour guiding	Aerial viewing,	Walking safaris
Photographing	Traditional rites	Hiking	Bird watching,
Camp sites	Lion walks and nature walks	Picnicking	Moonlight viewing
Lodging	Law enforcement and management operations	Research and monitoring	Elephant-back rides
Art painting	Bush dinners	Helicopter flights	Hides

(iii) **Permitted Facilities / Infrastructure**

The following facilities and infrastructure are **permitted** in the Medium Ecologically Sensitive Zone:-

Existing infrastructure	Signage	semi-permanent facilities	Park Management facilities such as Toilets and garbage bins.
Camping sites	Hides	Picnic sites	walking trails, game viewing loops

(iv) **Prohibited activities**

The following activities and developments are **prohibited** in the Medium Ecologically Sensitive Zone: -

Resource extraction except for research purposes	Ballooning	Low flight levels – low (SEA)	Night drives
Cable car	Construction of tarred park roads	Erecting new permanent infrastructure	Developments or fencing in animal migration areas/ corridor(s)
Fencing of infrastructure and other developments in the zone	Construction of facilities of height above native tree canopies	Painting buildings/ facilities in non-earth colours	Littering, mining, loud music, Herding of domesticated animals

(v) **Prohibited Facilities / Infrastructure**

No further permanent structures

5.3.2 Low Ecologically Sensitive Zone

(i) **Purpose**

This zone is meant to provide for the sustainable management of the natural resources by keeping the environment as natural as possible while enabling medium to large scale development and other activities compatible with conservation principles and objectives of the WHP.

Due to the presence of five pylons of power lines on the Zambian side, the low ecological zones have been shifted slightly inwards to compensate for area initially covered.

The following activities are **permitted** in the Low Ecologically Sensitive Zone

Lodging	Walking safaris	Game viewing	Bird watching
Law enforcement and management operations	Ariel Viewing	Picnicking and camping	Hiking
Photographing	Research and monitoring	Tour guiding	Moonlight viewing
Wildlife conservation water reticulation system	Road construction, maintenance and rehabilitation,	Park management facilities, signage	Game viewing loops

(ii) Permitted Facilities / Infrastructure

The following facilities and infrastructure are **permitted** in the Low Ecologically Sensitive Zone: -

Existing infrastructure	Signage	semi-permanent facilities	Park Management facilities such as Toilets and garbage bins.
Camping sites	Hides	Picnic sites	walking trails, game viewing loops

(iii) Prohibited activities

The following activities and developments are **prohibited** in the Low Ecologically Sensitive Zone: -

Resource extraction except for research purposes	Ballooning	Low flight levels – low (SEA)	Night drives

Cable car	Construction of tarred park roads	Erecting new permanent infrastructure	Developments or fencing in animal migration areas/ corridor(s)
Fencing of infrastructure and other developments in the zone	Construction of facilities of height above native tree canopies	Painting buildings/ facilities in non-earth colours	Littering, mining, loud music, Herding of domesticated animals

5.3.3 Buffer

(i) Purpose

This zone is meant to provide for the sustainable management of the natural resources by keeping the environment as natural as possible while enabling medium to large scale development and other activities compatible with conservation principles and objectives of the WHP.

(ii) Permitted Activities

Photographic safaris, angling, boating

(ii) Permitted Facilities / Infrastructure

Lodges, Camps, Roads, Signage,

(iii) Prohibited activities

Settlements, farming, mining, harvesting of trees, grazing of domestic animals

(iv) Limits of Acceptable Use

All developments taking place in the zone shall be subject to existing legal requirements

Lodges and other photographic activities shall be undertaken

PART TWO

6.0 STRATEGIC MANAGEMENT PROGRAMMES

Arising from the strengths, weaknesses, problems/challenges, issues, opportunities and threats raised in the various review documents relating to the WHS, a number of key strategic management programmes, objectives and activities have been planned to address or mitigate the issues raised.

The following key strategic management programmes have been identified:

- Legal, Policy and Institutional Framework;
- Tourism Management and Education;
- Research and Development;
- Resource Conservation
- Community Participation and Beneficiation
- Integrated Electronic Information Management Systems
- Operations and Maintenance programs
- Disaster and Risk management
- Financing and Resource Mobilisation
- Planning, Monitoring and Evaluation

6.1 LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK

6.1.1 Legal and Policy framework of the WHP

This Management Plan has been endorsed by both States Parties through the respective Ministries responsible for its implementation as the framework for long-term detailed decision-making on the conservation and improvement of the OUV of the WHP and its attributes, and its aims and policies have been incorporated into relevant planning guidance and policies.

The States Parties shall observe key legislations that promote and sustain OUVs namely:

ii. National Heritage Conservation Commission Act
iii. Zambia Wildlife Act
iv. Town and Country Planning Act
v. Zambia Environmental Management Act
vi. Zimbabwe Parks and Wildlife Act (Chapter 20:14)
vii. Environmental Management Act (Chapter 20:27)
viii. Atmospheric Pollution Prevention Act (Chapter 20:03)
ix. Hazardous Substances and Articles Act (Chapter 15:05)

x.Noxious Weeds Act (Chapter 19:07)
xi.National Museums and Monuments Act (Chapter 25:11)
xii.Tourism Act (Chapter 14:20)
xiii.Forestry Act (Chapter 19:05)
xiv.Regional Town and Country Planning Act (Chapter 29:12)
xv.Rural District Councils Act (Chapter 29:13)
xvi.Zimbabwe National Water Authority Act

6.1.2 Institutional framework and Regional cooperation

6.1.2.1 Institutional frameworks

The two States Parties of Zambia and Zimbabwe have a number of commonalities on the Zambian and Zimbabwean side in terms of existing legislative and administrative/institutional frameworks. However, there are also a few differences, which are fundamental. Thus, it is imperative that guiding regional frameworks are established. However, institutional frameworks at country level are a mandate of each States Party though it is advisable to include all the key stakeholders with a bearing on the ecosystem integrity of the WHS as well as the broader socio-economic dynamics of the area. It is against this background that the Institutional Framework needs to be synchronized at both national and bi-national level.

The institutional frameworks include the principal stakeholders, National Heritage Conservation Commission (NHCC) and Department of National Parks and Wildlife (DNPW) formerly Zambia Wildlife Authority (ZAWA) on the Zambian side, Zimbabwe Parks and Wildlife Management Authority (ZPWMA) and National Museums and Monuments of Zimbabwe (NMMZ) on the Zimbabwean side. On either side, various stakeholders with a bearing on the ecosystem integrity are included in the overall management and planning for the WHP.

Objective 1:

i. To establish an Institutional Framework to enable the Joint Integrated Management Plan (JIMP) for the Mosi-Oa-Tunya/ Victoria Falls World Heritage Property to be implemented;
ii. To coordinate planning and management of natural and cultural resources in the Mosi-Oa-Tunya/ Victoria Falls World Heritage Property;

iii. To implement an effective trans-boundary natural and cultural resources management programme for Mosi-Oa-Tunya/ Victoria Falls World Heritage Property;

iv. To mobilise resources for the effective implementation of the Joint Integrated Management Plan (JIMP); and

v. To ensure regional cooperation at all levels to conserve the natural and cultural values of the Mosi-Oa-Tunya/ Victoria Falls World Heritage Property.

6.2.2.2 **Issues and Rationale**

On the **Zambian** side of the Falls, NHCC is the government agency tasked with the management of the MVFWHP, while DNPW is directly in charge of the wildlife resources of Mosi-Oa-Tunya National Park (MOTNP). The Victoria Falls is also a declared National Monument. This has presented some challenges in the actual management of the site. A ministerial recommendation was made in 2002 for the two institutions to agree on a common position in management of the site. In 2006, an MoU was signed by NHCC and DNPW to facilitate this collaborative approach. This MOU formed the basis of the establishment of a Joint Technical Committee comprising of staff from NHCC and DNPW referred to as the Joint Management Committee (JMC).

On the **Zimbabwean** side, the WHP is managed by the ZPWMA. The Zambezi National Park was declared as a protected area in 1952. NMMZ also has a role in the management of the site since the area was declared a National Monument in 1937.

i. **Structures of Management Committees**

a. Structure of the MWHP-Zambia

The membership for the committee shall be drawn from the following: ZESCO, LTA, FD, ZEMA, SWASCO, Local Chiefs, CTA, LCC, KDC, NHCC, DNPW, Livingstone National Museum, ZTA, Ministry of Tourism, Zambia Police, Immigration, ZRA, AWF, etc). The Chair and the Vice Chair shall be appointed by the Minister responsible for Chiefs and Traditional Affairs.

Officers on the Committee shall be Chair, Vice Chair, Secretary, Vice Secretary and Committee members. NHCC to provide secretariat.

b. Structure of the VFWHP Committee-Zimbabwe

The membership of the committee shall be drawn from the following: ZPWMA (Chairperson, NMMZ (Vice Chairperson), VFMS (Secretary), EMA (Vice Secretary), COMMITTEE MEMBERS (Local Chiefs; HRDC), Forestry Commission, ZTA, ZINWA, ZARA, HAZ-Victoria Falls and Local Community Representative.

ii. **The Joint Management Structure**

The Joint Management Framework for the WHP, comprising of the Joint Ministerial Committee (JMC), Joint Technical Committee (JTC) and the Joint Site Management Committee (JSMC) which was adopted in 2007 facilitates joint site management and consultation.

The responsible Ministers from both Zambia and Zimbabwe shall serve on the JMC. The relevant ministries responsible for Tourism, Environment, Natural Resources, Local Government, Housing, Education, Energy, Water, Community Development, Home Affairs and any other relevant ministries may be co-opted. Sub-committees to focus on specific issues at JSMC and JTC level may be created and added to the structure.

iii. **Structure of Bi-National Management Framework**

Comprises the JMC, JTC and the JSMC.

a. **Joint Ministerial Committee (JMC)**

To meet at least once a year and has the following responsibilities:

i. Provide policy guidelines and direction to the JTC; and
ii. To hold consultative meetings at least once a year to review implementation progress and recommendations by the JTC

b. **Joint Technical Committee (JTC)**

To meet at least twice a year and has the following responsibilities:

i. Identify discrepancies and propose harmonisation of the existing legal instruments;
ii. Propose domestication of World Heritage Convention into local laws;
iii. Preparation of consolidated bi-national state of conservation reports;
iv. Review implementation progress of the JIMP;

v. Produce periodic reports to UNESCO; and
vi. Identify projects for implementation.

Despite the two committees having clearly defined parameters, they have challenges such as Non-domestication of World Heritage Convention into local laws and inadequate financial resources.

c. Joint Site Management Committee (JSMC)

To meet quarterly and has the following responsibilities:

i. Hold meetings at least quarterly;
ii. Undertake invasive species control and management in the WHP;
iii. Develop bi-national guidelines for management of the WHP;
iv. Produce educational awareness materials;
v. Undertake Site promotion and publicity campaigns;
vi. Undertake site monitoring and patrols;
vii. Collect and compile visitor statistics;
viii. Collect and compile human-wildlife and incident reports;
ix. Address any local problems and make recommendations to the JTC

6.2.2.3 **Regional Cooperation**

i. Guiding Principle

To develop a coordinated approach to the management and conservation of the biophysical and cultural resources of the WHP into the Regional context.

ii. Issues and Rationale

It is recognised that the MVFWHP is an important tourist destination and natural asset to the whole region of Southern Africa. Though Zambia and Zimbabwe should take the leading role in planning and management of the site, the entire Southern region is indirectly involved in this process. The Kavango Zambezi Trans-frontier Conservation Area (KAZA-TFCA) principle plays a significant role in the management of the property.

OBJECTIVE 1:

To use diversity of tourism products and services in SADC/COMESA as a package in order to increase value of the WHP as a tourist destination.

Activities

i. Integrate WHP into other major tourism programmes/products in the region;
ii. Stage exhibitions and fairs marketing regional tourism products; and
iii. Maintain and improve existing tourism and cultural infrastructure such as museums.

OBJECTIVE 2:

To promote ecosystem management and biodiversity conservation at regional level.

Activities

i. Promote collaboration in trans-frontier conservation areas;
ii. Develop and implement common guidelines in the management of shared natural resources; and
iii. Identify, prioritise and address common problems as focal points of regional initiatives (e.g. Climate Change, Desertification, Biodiversity Conservation, Poaching and Pollution)

OBJECTIVE 3:

To promote regional cooperation and exchange of information in natural and cultural resource management.

Activities

i. Build synergies in human and institutional capacity at regional scale in collaboration with universities and other tertiary institutions;
ii. Undertake exchange programmes;
iii. Establish regional database of heritage experts (natural and cultural); and
iv. Facilitate research projects at regional level.

6.2 TOURISM MANAGEMENT AND EDUCATION

6.2.1 Guiding principle:

To coordinate and support sustainable tourism management in order to make meaningful contribution to poverty alleviation at local and, regional levels.

6.2.2 Issues and Rationale

Victoria Falls being one of the world's greatest wonders and a World Heritage Property is a major tourist attraction in Southern Africa. The high tourist arrivals experienced during tourism peak season have increased the need for more hotel/lodge accommodation and demand for more tourism activities resulting in the following challenges within the WHP and surrounding areas:

i. Pressure to put up more hotels, lodges and camping facilities;
ii. Developers tend to prefer sites in the core zone along the Zambezi River leading to insularisation (blockage of the game corridors);
iii. Increased illegal activities like wood poaching for curio making and firewood;
iv. Waste management – litter, along roads and paths;
v. Pollution – this includes water pollution from boats on the rivers, release of sewage into the river system, especially at Masue and Maramba, and noise pollution from the helicopters;
vi. Threats of loss of wilderness and ecosystems values due to overcrowding;
vii. Limited space for tourism development within the Site and towns namely Livingstone and Victoria Falls;
viii. High unemployment levels in Livingstone, Victoria Falls and surrounding areas;
ix. Restrictions on tourism infrastructural designs and extent;
x. Conflict of interests amongst operators;
xi. Failure to fully meet visitor expectations;
xii. Stiff competition with other attractions in the region;
xiii. Exclusion of local people from experiencing some of the WHP areas e.g. the Site, the Zambezi River and buffering protected areas
xiv. Low park patronage of the WHP; and
xv. Poor customer care services.

OBJECTIVE 1:

To provide adequate safety and security to visitors to the WHP.

<u>Activities</u>

i. Enter into contract with Rescue Service Providers;
ii. Promote tourism Insurance policies for Tour operators;

iii. Procure safety and first aid equipment;
iv. Train site personnel in first aid; and
v. Deploy adequate security personnel in the WHP.

OBJECTIVE 2:

To reduce vehicular traffic congestion and overcrowding within the WHP.

Activities

i. Encourage relevant authorities (Customs and Immigration Departments) on improved and efficient clearance system at the border/entry points.

OBJECTIVE 3:

To improve visitor service and standards within the WHP

Activities

i. Provide necessary accessories to visitors with special needs;
ii. Upgrade visitor trails to accommodate those with special needs;
iii. Construct, maintain and upgrade viewing points;
iv. Establish and maintain animal proof waste disposal bins;
v. Design and erect appropriate signage;
vi. Upgrade and maintain Visitor Information Centres; and
vii. Regulate tour-guiding through licensing and accreditation.

OBJECTIVE 4:

To market and promote the WHP.

Activities

i. Conduct regular marketing and promotion of the WHP through various media;
ii. Establish a Website for the WHP (e-market place of SEED project);
iii. Produce and distribute information materials;
iv. Participate in local and international tourism fairs; and
v. Promote partnerships with strategic institutions as regards packaging of tourism products.

OBJECTIVE 5:

To regulate the number of tourists entering the WHP

Activities:

i. Carry out a study to review the carrying capacity of the Rainforest and Eastern Cataract which currently is set at 500 visitors for the Rainforest and 250 visitors for the Eastern Cataract per any given time;

ii. Limit the number of students/pupils to 100 in the Rainforest and the Eastern Cataract at any given time; and
iii. Compile visitor statistics regularly.

OBJECTIVE 6:

To allow for appropriate tourism administrative development within the WHP

Activities:

i. Install electronic ticketing systems;
ii. Install electronic ticketing turn-stiles;
iii. Provide wheel chairs for physically challenged visitors and all those that may not complete the tour on foot;
iv. Build an ablution block for visitors and operators at the car park. Complete development of car park. Extend/improve and maintain administration offices and ablution blocks;
v. Place more warning signs at Horse Shoe, Rainbow and at other danger points;
vi. Continually upgrade and repair the twenty Zambezi camp lodges and three fishing camps (Kandahar, Mpalajena and Siansimba);
vii. Improve Interpretation Centres of the WHP; and
viii. Ensure that brochures relating to the WHP are up to date.

6.3 RESEARCH AND DEVELOPMENT

6.3.1 Guiding principle

Investigative activities that that will be conducted with the intention of making a discovery that can either lead to the development of new products or procedures, or to improvement of existing products or procedures.

6.3.2 Issues and Rationale

The conservation of natural and cultural resources in the WHP, and protection of the environment in general, is primarily a law-enforcement issue. The steps required to improve law-enforcement in the WHP are given in the **Operations and Maintenance Programme** of this Joint Management Plan. The programme outlined here provides for monitoring of the natural and cultural resources and illegal activities, in order to determine the effectiveness of conservation and protection measures. The programme also defines research priorities for the WHP, as indicated by the Joint Technical Committee.

Management decisions taken in Protected Areas (PA) are often not properly researched and are based on managers understanding and intuition. Research in PAs should primarily be applied research into problems and issues underlying the threatened loss of biodiversity and ecological function.

Identified research priority areas:

i. Geomorphologic survey and mapping to monitor soil erosion, rock falls and the extraction of soil, gravel and rocks;
ii. Vegetation mapping and survey;
iii. Identification and mapping of cultural sites;
iv. Hydrological studies related to water abstraction and pollution;
v. Research on the impacts of Human/ Tourism on the natural and cultural resources of the WHP;
vi. Studies on the aquatic fauna and flora;
vii. Long-term viability of the rainforest ecosystem;
viii. Exotic and invasive species; and
ix. Sustainability indicators.

Other important but non-prioritised areas of research (not in any order):

i. Sustainability of natural resource use systems;
ii. Improving land use around the WHP;
iii. Cultural values and practices that promote conservation;
iv. Impact of gully formation on the ecosystem in the WHP;
v. Studies to identify indicator species; and
vi. Economic valuation of ecosystems.

OBJECTIVE 1

i. To encourage research that is consistent with the protection and understanding of the WHP's biophysical and cultural values.
ii. To facilitate the collection of traditional knowledge relevant to the site and the integration of that knowledge into contemporary science-based approaches in management of the WHP.
iii. To facilitate documentation of information relating to the location, significance, and use of sites of cultural significance within the WHP.

Activities:

i. Determine key (indicator) species;
ii. Periodically carry out elephant censuses and movement patterns;
iii. Identify and implement ways of encouraging researchers to carry out management orientated research;

iv. Ensure management orientated research is carried out and properly supervised;
v. Liaise with research institutions to ensure that management oriented research is given priority.
vi. Prepare guidelines for accessing information and research findings;
vii. Tap into indigenous knowledge of the local communities in areas of research and forestry resource inventories;
viii. Implement relevant research recommendations;
ix. Produce land-use maps in and around the WHP;
x. Investigate appropriate methodology for the control of invasive alien species;
xi. Initiate research to determine causes and impacts of habitat modification on sensitive and rare species of fauna and flora;
xii. Update the existing database of flora, fauna and cultural sites;
xiii. Carry out a comprehensive archaeological survey of the WHP;
xiv. Record oral history, myths and legends from local communities;
xv. Study the effects of pollution on the ecosystem of the river;
xvi. Carry out a geological baseline study of the WHP;
xvii. Conduct soil erosion surveys;
xviii. Record sacred sites and other cultural sites in collaboration with local communities;
xix. Undertake studies on the population dynamics of the Falcon species in the Batoka gorges as well as other endangered bird species in the WHP;
xx. Consider listing endangered species on the RDL;
xxi. Create herbariums;
xxii. Undertake research on climate change and its impact on the WHP;
xxiii. Conduct water quality tests;
xxiv. Conduct hydrological studies to establish a number of water baseline conditions for monitoring; and
xxv. Employ a consultant to study and recommend carrying capacity of vessels on the river.

6.3 RESOURCE CONSERVATION

6.3.1 Guiding Principle

Develop a sustainable and effective natural and cultural resource based management system that includes all stakeholders in WHP.

6.3.2 Issues and Rationale

The conservation of protected areas and places of exceptional landscape or biological value is strengthened if these areas are given international recognition as World Heritage Properties. It is, however, incumbent on the property owners (Zambia and Zimbabwe) to conserve the natural and cultural resources of the site in as natural a state as possible. The Falls area conforms to the necessary criteria as a 'superlative natural phenomenon' and the 'most important and significant natural habitat' where threatened species of animals and plants of outstanding universal value survive'.

6.3.2.1 Natural resources related impacts/issues

i. **Lack of capacity in ecosystem management to manage the WHP leading to:**
   a. Flourishing of alien species (reduction of wilderness values of Rainforest);
   b. Rock-falls and erosion.

ii. **Pressure for infrastructural development which may lead to:**
   a. Loss of riverbank (riparian) vegetation;
   b. Loss of wilderness value;
   c. Riverbank erosion;
   d. Loss of habitats for avian, reptiles and other forms of wildlife and migration routes;
   e. Reduction in river bank stability; and
   f. Alteration of river flow rates and disturbance of geomorphological processes.

iii. **Increasing numbers of Jetties leading to:**
   a. Loss of riverbank (riparian) vegetation;
   b. Loss of wilderness value;
   c. Riverbank erosion;
   d. Loss of habitats for avian, reptiles and other forms of wildlife and migration routes;
   e. Reduction in river bank stability; and
   f. Alteration of river flow rates and disturbance of geomorphological processes.

iv. **Pressure on the River (High Number of Boats) leading to:**
   a. Visual impacts and reduced aesthetic value;
   b. Overcrowding of tourists/boats;
   c. Poor water quality; and
   d. Negative impacts on the freshwater ecology (Disturbances of the spawning areas of fish from moving boats and their propellers.)

v. **Poor land use practices leading to:**
   a. Deforestation of areas adjoining the WHP; and

b. Visual impact due to conflicting land uses.

vi. **Increased and unregulated tourist numbers leading to:**

a. Disappearance of vegetation;
b. Desertification;
c. Loss of aesthetic value of the site;
d. Loss of wildlife habitat; and
e. Accelerated erosion

vii. **Water Abstraction leading to:**

a. Reduced aesthetics;
b. Changes in active land formation processes; and
c. Alteration of river bank sedimentation.

viii. **Pressure on Islands (Islands on the Zambezi River are on demand for various tourism activities) leading to:**

a. Loss of islands wilderness values ;
b. Disturbance of the island formation or normal geomorphic processes;
c. Accelerated soil erosion;
d. Disturbance of wildlife habitats such as nesting areas and animal corridors; and
e. Loss of cultural values of the islands.

ix. **Pressure on the Zambezi Gorges leading to:**

a. Disturbance to breeding sites of numerous bird species;
b. Disturbance of gorge ecology such as loss of vegetation;
c. Disturbed geomorphic processes;
d. Visual Impacts due to developments on the cliff bottoms, tops and slopes; and
e. Removal of rocks (boulders) and other earth material for construction purposes.

x. **White water rafting is a popular tourism sport in the gorges leading to:**

a. Disturbance of the sensitive ecological sites;
b. Disturbance of geological features and processes;
c. Vegetation removal and associated soil erosion;
d. Visual impact; and
e. Waste management problems and poor water quality.

xi. **National Parks and Wildlife Areas: Protected areas are not for development however they are affected by:**

a. Disturbance of vegetation/ wildlife ecology (habitat);

b. Disturbance of animal corridors;
c. Disturbance of fish spawning areas;
d. Loss of wilderness value;
e. High rate of animal road kills;
f. Inbreeding of animal species (Poor Gene Pool);
g. Littering in the park area;
h. Bush fires;
i. Soil erosion;
j. Poaching;
k. Pollution;
l. Shortage of food for grazers in parts of the park; and
m. Noise pollution.

xii. **Deforestation and Poor forest husbandry resulting in:**

a. Disappearance of vegetation;
b. Desertification;
c. Loss of aesthetic value of the site;
d. Loss of wildlife habitat; and
e. Accelerated erosion.

6.3.2.1 **Cultural resources related impacts/issues**

i. **Poor conservation, interpretation and management of cultural heritage resources resulting in:**

- Disintegration of excavation pit walls in the field museum;

a. Poor/inadequate interpretation and publicity of heritage sites;
b. High erosion at cultural heritage sites;
c. Vandalism of sites by human beings;
d. Destruction of sites by wildlife;
e. Lack of financial benefit to the local communities from heritage resources;
f. Deforestation of areas adjoining the WHP; and
g. Visual impact due to conflicting land uses.

OBJECTIVE 1:

To maintain ecosystem integrity in the WHP.

Activities

i. Develop woodlots in rural areas to minimise pressure on vegetation;
ii. Remove existing exotic species and rehabilitate affected habitats with indigenous species;
iii. Develop guidelines for rafting pressure points in gorges;

iv. Rehabilitate pathways to prevent erosion in Eastern Cataract and other gorges;
v. Develop standards, guidelines and procedures for river based operations in the WHP and enforce guidelines for riverbank development;
vi. Maintain artificial (man-made) water points in south eastern portion of WHP(Zambia) Chamabondo and Kalisosa vleis in the Zambezi National Park (Zimbabwe) as a measure to control elephant densities in the riverine habitats;
vii. Formulate integrated fire management plans;
viii. Promote collaboration in trans-frontier conservation areas; and
ix. Agree on water usage to protect the Rainforest and preserve wilderness values of the site.

OBJECTIVE 2:

To conserve the geology and geomorphology of the gorges, river banks, islands and associated features and processes

Activities

i. Review NHCC Act (Zambia) to enforce or strengthen adequate punitive measures;
ii. Design and erect restrictive signage in appropriate areas;
iii. Undertake media campaign to increase awareness on the natural and cultural resources in the WHP; and
iv. Investigate alternative sources of fuel (green technology), carving and construction materials.

OBJECTIVE 3:

To control negative impacts in the WHP and surrounding buffer zone which result from incompatible land use in the buffer zone and surrounding areas

Activities

i. Prohibit the introduction of exotic fish species;
ii. Develop an integrated land use plan for the buffer zone and surrounding areas.

OBJECTIVE 4:

To control noise from aircrafts and boats, water pollution from boats and waste disposal within the WHP

Activities

i. Enforce acceptable noise levels and number of flights at any given time over the Falls;
ii. Carry out regular water quality tests to monitor pollution of the river from water vessels, and ensure stiffer penalties for non-compliant operators
iii. Collaborate with **ZEMA and EMA** on standards and guidelines.

OBJECTIVE 5:

To control illegal activities that threaten the integrity of the WHP

Activities

i. Carry out regular law enforcement patrols

OBJECTIVE 6:

To develop capacity through staff appointments, capacity building and facilitation of collaborative programmes to enhance effective conservation in the WHP.

Activities

i. Carry out collaborative projects with other agencies to facilitate information sharing

OBJECTIVE 7:

To conserve and enhance the WHP's cultural resource values, which are of local, national and universal significance.

Activities

i. Arrest soil erosion at cultural resources sites
ii. Erect signage that prohibits littering at cultural sites
iii. Ensure that the cultural sites that are threatened, receive attention and are given adequate protection
iv. Erect barriers to protect vulnerable cultural resources
v. Protect/conserve the cultural resources that are threatened by wildlife

OBJECTIVE 8:

To develop and maintain synergies between the natural and cultural values of the WHP in order to sustain the authenticity and integrity of the resources

Activities

i. Integrate into the environmental management and biodiversity policies the protection, preservation, conservation and utilisation of the cultural resources
ii. Utilise database information in liaison with appropriate stakeholders to conserve cultural resources in the WHP

OBJECTIVE 9:

To recognise and preserve the site's diverse tangible and intangible cultural resources.

Activities

i. Review by appropriate stakeholders any activity that may damage or change the authenticity or integrity of cultural resources in the WHP
ii. Allow custodians of cultural traditions regulated access to sacred sites in the WHP
iii. Allow tourism development that ensures sustainability and integrity of cultural resources in the WHP while sustaining its OUV
iv. Hold regular consultative meetings with local community representatives.
v. Incorporate the Bene-Mukuni intangible and tangible aspects in the management, presentation and conservation of the Property.

6.4 COMMUNITY PARTICIPATION AND BENEFICIATION

6.4.1 Guiding principle

To balance the needs of residents/community and visitors to ensure that cultural heritage tourism benefits all stakeholders and local communities participate positively in the sustainable management of World Heritage Property.

6.4.2 Issues and Rationale

The Community Participation and beneficiation programme aims at environmental protection and awareness among the local communities. Under this programme the WHP's staff will explain the properties management policies to the bordering communities.

The rapid growth of human populations in areas surrounding the WHP presents great challenges to the managing organisations in promoting better community relations. The demands for use of the area's resources are intensifying. They should be managed in ways that balance the environmental, social, economic and cultural needs of residents; to create a safe, green, friendly, prosperous environment in which people want to live and work, now and in the future.

As more people settle close to the boundary of the WHP, conflicts are escalating between local communities and the WHP due to issues arising including the following:

i. Loss of value to their traditional attachment/resources within the WHP;
ii. Lack of community involvement in management, decision-making and benefit from natural resources in the WHP;
iii. Human/wildlife conflicts caused by elephants, buffaloes, and monkeys straying into communal areas;
iv. Inaccessibility of natural resources in the restricted area (for firewood, crafts, grazing land) by the community;
v. Lack of alternative watering points for domestic animals, outside the WHP during the dry season; and
vi. Lack of alternative route between Mukuni village and Livingstone town, other than through WHP.

OBJECTIVE 1

To develop mutual understanding and respect between the local communities and the WHP management.

Activities

i. Establish a structure to hold 2 annual consultative meetings between the JSMC of the WHP and the local communities;
ii. Devise lines of communication that promote smooth flow of information; and
iii. Encourage dialogue between policy makers and communities.

OBJECTIVE 2

To create opportunities for local communities to benefit from the tourism and conservation activities of the WHP.

Activities

i. Initiate developmental projects in the WHP that will benefit the local communities;
ii. Promote and encourage village tours to encourage community empowerment;
iii. Develop and implement income-generating projects to benefit local communities;
iv. Develop intellectual property rights for the indigenous knowledge systems;
v. Encourage the tourism and hospitality industry to contribute towards infrastructural developments in the local communities;
vi. Encourage the tourism and hospitality industry to develop a sustainable marketing strategy and promotional programmes focussing on the values of the cultural resources; and
vii. Create a structure to ensure that communities benefit from tourism and conservation activities of the WHP.

OBJECTIVE 3

To promote interest and awareness of the outstanding values of the WHP among the local communities.

Activities

i. Design and implement heritage educational outreach programmes for schools, tertiary education institutions and the public;
ii. Facilitate regulated access for educational tours for the local schools;
iii. Establish voluntary heritage resource management frameworks at local community level;
iv. Train traditional custodians and local tour guides to inform the public with correct information; and
v. Raise awareness on intellectual property rights for indigenous knowledge systems of the area.

OBJECTIVE 4

To promote and enhance the conservation of cultural resources of the local communities in the WHP and adjacent areas.

Activities

i. Develop programmes to raise awareness on the importance of cultural resources and their conservation; and
ii. Design, communicate and continually review local custodian access to sacred sites.

6.5 INTEGRATED ELECTRONIC INFORMATION MANAGEMENT SYSTEMS

6.5.1 Guiding principles

Use of Information and Communication Technology (ICT) for conservation of, and access to, the WHS; for education (both conventional and lifelong learning); and promoting sustainable tourism.

6.5.2 Issues and rationale

The heritage sector in all countries contributes to the generation of national wealth by providing attractions for tourists, helping to preserve habitats, providing exciting foundations and settings for education, and offering resources to commercial activities including advertising, publishing, radio and television. Thus, the heritage sector has not been spared in embracing use of ICT which is a driver for economic development.

However, ICT also as issues that include the following:

i. The internet server can go down randomly, so you cannot connect to a webpage;
ii. Networks can get hacked into;
iii. Conducting business online leaves customers prone to online credit card theft, such as identity theft;
iv. Viruses can come through the internet damaging the files in your computer thereby losing data;
v. Some software can be difficult for some generations and people to learn how to use i.e. low ICT literacy levels;
vi. People start to rely on computers too much and use them to do everything i.e. become mechanic;
vii. Repetitive strain injury, strain on tendon in the arms, back problems and painful eyes are caused from prolonged use of computers;
viii. Work sometimes does not look exactly like what you want it to look like and there is a possibility of ICT deceiving the customer in terms of appearance; and
ix. low awareness of the benefits and usefulness of ICTs especially in decision-makers (SMEs managers as well as civil servants) leading to low level of utilisation of such tools from the ones who are endowed.

Objective 1

To enhance Knowledgeable (education) and Physical Access to WHP.

Activities:

i. Study Tourism domain competition dynamics, main market trends, and future scenarios related to the diffusion of ICTs and e-Business at the international and at the local level;
ii. Analysis, design and develop e-Business applications or services for the WHP e.g. applications for marketing, advertising, online booking (hotels, vehicles, visits);
iii. Identify the priorities for the use of ICT in the WHP in the provision of infrastructure, training, the development of education strategies, and research into the effective use of different technologies;
iv. Deploy effective and high -speed ICT infrastructure and software applications for the WHP;
v. Develop a database for customer/tourist tracking and management for the WHP;
vi. Identify the roles and ways in which the WHP can use ICT to promote education (in school and in later life) and employment;
vii. On-site provision of information at the heritage provider, museum, archive, or local record centre; and
viii. Off-site provision of heritage information at schools, libraries, and eventually at homes.

Objective 2

To leverage ICT in Documentation and Site Recording;

Activities:

i. Digitisation or retro-conversion of the WHP documentation and recordings for easy access and enhance preservation/conservation;
ii. Create digital libraries for the WHP. This is true whether the contents of these resources are sites and monuments records, library or museum catalogues, archival finding aids, manuscripts, audio recordings, records of species, digitised photographs, computer-aided designs, or Virtual Reality models of the built heritage or landscapes, natural and environmental records, and maps; and
iii. Ensure synergy between projects creating digital resources, whether these are generated through the creation of new information assets or the retro-conversion of non-digital resources.

Objective 3

To facilitate Multiple Interpretive Contexts.

Activities:

i. Identify and encourage the use of optimum technologies, practices, and standards that will produce consistent and interoperable digital resources (e.g., catalogues which support cross-heritage searching);
ii. Establish criteria for supporting the development of software, documentation, and other local ICT needs of the heritage sector; and
iii. Research into interoperable catalogues to have a significant impact on the ways we use heritage information to allow cross domain searching--the ability with a single query to search biological, habitat, archaeological, built heritage, and documentary data for information related to a single topic.

Objective 4

To enhance Preservation of Authenticity.

Activities:

i. Address the problem of managing the expanding digital record for contemporary users and future generations, whether through distributed data services or more novel preservation strategies; and
ii. Enable the creation of a national heritage network, including libraries, museums, archives, biological recording centres, with links to public networks.

Objective 5

To Balance Visitorship with Conservation.

Activities:

i. Ensure a synergy between bodies which are supporting content creation as part of heritage conservation and preservation, and those which are supporting infrastructure provision;
ii. Monitor the trends of visitorship to balance with conservation as well as reduce animal-human conflict; and
iii. Put facilities in place to monitor visitors, enhance their security as well as conservation plans.

Objective 6

Facilitating Public Participation and beneficiation.

Activities:

i. Establish clear guidelines on the commercial exploitation and expected return on investment in heritage assets when created in digital form;

ii. Ensure that all those organisations and sections of society (communities) which can benefit from the creation of heritage information do so; and
iii. Form the framework for public outreach by making it possible to give general access to information about the holdings and to allow institutions to better identify material of community interest.

Objective 7

To use ICT for efficient management and administration of the WHP

Activities

i. Automate the management and administration, supply chain and combine into a single source that facilitates a variety of operations - product selection, ordering, fulfillment, tracking, payment and reporting;
ii. Continuous maintenance of ICT equipment and infrastructure to facilitate business continuity;
iii. Embrace the use of ICT to undertake a range of tasks that enhance the efficiency of employees in the workplace e.g. emails, use of social media for communication and sharing of information;
iv. Identify and propose ways of resourcing the ICT training needs of both users and workers in the WHP; and
v. Encourage organizations/institutions to develop coherent strategies to effectively manage revenue collection in the WHP.

6.6 OPERATIONS AND MAINTENANCE PROGRAMS

6.6.1 Guiding principle

Coordinated operational plans and adherence to regulations through the various law-enforcement agents for enhanced maintenance of the infrastructure of the WHP.

6.6.2 Issues and Rationale

The following issues and challenges were identified under operations and maintenance:

a. Operational and maintenance Issues:

i. Poor road infrastructure in the WHP
ii. Inadequate coordination amongst stakeholders within the WHP.
iii. Inadequate training opportunities and low staffing levels.

b. Disjointed management approaches leading to:

i. Differences in presentation and interpretation standards;
ii. Reduced environmental standards; and
iii. Littering of the Site.

The success of WHP to meet its vision will be greatly enhanced by well-equipped and trained staff in the various management authorities. Recruit, train, develop, and motivate staff that has the knowledge, skills, abilities, and commitment, to achieve the WHP's goals in the areas of heritage protection and presentation, collaborative management, visitor use, tourism, and financial sustainability. This programme is designed to maintain the infrastructure of the WHP and to ensure that the regulations are adhered to through the various law-enforcement agents. In order to protect the important WHP ecosystem as well as the enjoyment of the visitors to the site the following activities require attention:

OBJECTIVE 1:

To improve the operational effectiveness and maintenance of services within the WHP

Activities:

i. Equip the implementing organisations with sufficient equipment, financial and human resources to effectively manage the site;
ii. Assess training needs among staff and organise capacity building courses;
iii. Appoint new qualified staff to fill the gaps within the organisations;
iv. Demarcate and maintain WHP boundary;
v. Demarcate the sacred sites within the WHP;
vi. Carry out collaborative work with other agencies and bureau to facilitate information sharing;
vii. Regulate activities on the Zambezi River;
viii. Increase the security units to police the WHP;
ix. Provide relief services for visitors who may not complete the tour;
x. Train staff in the use of new equipment (electronic ticketing systems and turn-stiles);
xi. Replace information signs with improved signs;
xii. Ensure that trails do not cause erosion;
xiii. Ensure proper security in danger areas;

xiv. Establish and maintain fire breaks in the WHP;
xv. Maintain elephant trench at Big Tree in Zimbabwe;
xvi. Develop guidelines and establish rafting, boats, canoes launching points. The number of operators on either side needs to be established through a study;
xvii. Restrict picnics to designated areas;
xviii. Establish water level monitoring points along the Zambezi River within the WHP;
xix. Ensure aircrafts (helicopters, micro-lights and fixed winged) fly within regulated space and height;
xx. Enter into smart partnerships with stakeholders in recycling solid waste;
xxi. Continuously monitor quality of treated wastewater being discharged into the river;
xxii. Continuously monitor the effectiveness of the sewer reticulation infrastructure;
xxiii. Maintain and improve roads, walkways and drainage in the WHP;
xxiv. Upgrade the existing wastewater treatment to meet the increasing demand in both countries; and
xxv. Install rain gauges and other metrological instruments within the WHP.

OBJECTIVE 2:

Coordinated operations and maintenance of the WHP

Activities:

i. Manage the volume of traffic passing through and around the WHP, the negative impacts this has on the site, and the extent to which this impedes the management of other issues;
ii. Encourage greater use of public transport, improve the service, and allow for more effective management of other forms of transport;
iii. Establish mechanisms and processes by which integrated transport systems for the WHP can be explored and developed;
iv. Encourage walking and cycling in order to control and reduce car journeys;
v. Ensure pedestrians navigate the site easily, safely and enjoyably;
vi. Address tensions between conservation and the desirability of providing physical access to the site to as many people as possible; and

vii. Provide clear and efficient transport alternatives, and encourage their use, in order to reduce traffic congestion in and around the WHP.

6.7 DISASTER AND RISK MANAGEMENT

6.7.1 Guiding principle:

Risk and Disaster Management shall be a consistent, cohesive and embracing management strategy, communicated between different stakeholders and organizations to reduce vulnerability to hazards and cope with disasters.

6.7.2 Issues and Rationale

Flooding, fire, disease, drought, reduction in water flow, pollution from traffic, development pressures amongst other risks present a major threat to the WHP as well as visitors and the communities living in and around the property. As such the Risk and Disaster Management Plan (RDMP) is intended to protect the WHP against these and other natural and man-made risks and disasters so as to safeguard the OUV of the property.

The RDMP must be:

1. Comprehensive, Progressive and anticipate future disasters and take preventive and preparatory measures to build disaster-resiliance and disaster resilient communities;

2. Risk-driven and use sound risk management principles (hazard identification, risk analysis, and impact analysis) in assigning priorities and resources;

3. Integrated to ensure unity of effort among all levels of government and all elements of a community;

4. Collaborative to create and sustain broad and sincere relationships among individuals and organizations to encourage trust, advocate a team atmosphere, build consensus, and facilitate communication;

5. Coordinated to synchronize the activities of all relevant stakeholders to achieve a common purpose;

6. Flexible and able to use creative and innovative approaches in solving disaster and risk challenges; and

7. Professional and should value a science and knowledge-based approach based on education, training, experience, ethical practice, public stewardship and continuous improvement.

OBJECTIVE 1:

To mitigate and manage Natural and man-made risks and disasters

Activities

i. Monitor environmental trends (hydrological, ecological, geomorphological and metrological);

ii. Conduct a stakeholder mapping in environmental risk and disaster management;

iii. Conduct awareness, sensitisation and Capacity building programmes on natural and man-made disasters;

OBJECTIVE 2:

To develop a Risk and Disaster Management Framework for the WHP

Activities:

I. Develop Standards and Guidelines for Heritage related risk and disaster management;

II. develop and implement a comprehensive and coordinated risk and disaster management plan;

III. create synergies with the main risk and disaster management National Frameworks.

6.8 FINANCING AND RESOURCE MOBILISATION

6.8.1 Guiding Principle

To develop a robust financing and resource mobilisation strategy for the sustainable management of the WHP.

6.8.2 Issues and Rationale

In order for the JIMP to be successfully implemented, there is great need for financing and resource mobilisation. In most cases, plans end up gathering dust in shelves because they are beautifully crafted but lack any strategies and resources to implement them. World Heritage Properties need long-term, continuous support. The greatest challenge to national and local authorities and citizens is to provide both technical and financial assistance for their long-term management, preservation and for emergency interventions. For the success of the JIMP the following are proposed:

6.8.2.1 Financing

i. All responsible and interested stakeholders of the WHP to subscribe monthly/annually to JIMP

Key Stakeholders include:

a) Ministries responsible for tourism and environment in both countries i.e. EMA, ZEMA, ZPWMA, ZTA, DNPW;
b) Local Authorities VFM and LCC;
c) Private sectors operating in the WHP;
d) Any other interested parties;

ii. Donors, cooperating partners especially international organisations and individuals interested in the conservation and sustainability of the WHP such as UNESCO;

iii. Fines polluters using the polluter pays principle and fines directed to WHP conservation.

6.8.2.2 Resource Mobilisation

i. Recruit adequate skilled staff e.g. security for the instilling of statutory laws governing WHP;

ii. Volunteer support e.g. skilled and experienced personnel to train staff in specified fields of interest to support the WHP;

iii. Submitting joint proposals to donor agencies; (eg Research and control of invasive species)

iv. website creation, which is key to marketing and promoting the WHP.

The other issues include the need to:

i. Establishing clear guidelines and mechanisms for partnerships development and operation;

ii. Expanding and ensuring effective implementation of existing partnerships;

iii. Identifying new partnership potential and financial opportunities;

iv. Establishing performance indicators for evaluation of the activities;

v. Consolidate and expand existing levels of technical and administrative expertise and financial assistance to safeguard the proper management of these outstanding cultural and natural heritage sites.

vi. In sudden calamities and emergencies, including wars, earthquakes or floods, can critically affect the WHP and threaten what the world community cherishes most. Attending to sudden special needs requires quick response and intervention capabilities. Damages at affected WHP can quickly escalate beyond the normal stand-by capacity of local authorities and of the World Heritage Fund. In times of such sudden peak demands there will also be a need for a stronger

technical stand-by assistance, to facilitate fast mobilization of the very best expertise.

6.8.3 Communication and general engagement of the public

Objective

To reach out to the larger audiences to increase public understanding of WHP. Discussion progressed from an overview of the cause, the value of branding, the issues and target audiences involved, and ended with suggestions of specific initiatives.

Activities

i. Explore and value the WHP "brand", as they are internationally acclaimed and officially certified. The World Heritage portfolio is of timeless and immense social value, such that some organizations or corporations may like to connect their image with a specific site or a specific thematic category or cause.
ii. Create a "Champions' Club" of international figures, using the "ambassadors" model of UNICEF and UNESCO at the national, regional and global levels;
iii. Launch a Youth Heritage Movement using the "World Federation of UNESCO Clubs and Associations";
iv. Partner with the media to reach a larger audience;
v. Set up an international award for WHP journalism;
vi. Establish a World Heritage Day;
vii. Institute special awards every two years to acknowledge successful initiatives at WHP;
viii. Establish a programme to highlight the WHP and their stories annually;
ix. Prepare practical regional field guides to WHP to support fund-raising, advocacy, and information sharing at World Heritage Propertys about other sites;
x. Clarify through communication that WHPs' are not protected by UNESCO, while they are under the responsibility of the States Parties.

6.8.4 Resources Mobilizing

Objective

To formulate short and long term resource mobilization strategies to meet the resource gaps.

Activities:

i. Conduct a survey on the current activities and resource gaps at the WHP;
ii. Explore Public-Private Partnership Programmes, wherever possible, structured with a view to the long term;
iii. Implement a cohesive and overall strategy to engage all constituencies to provide more and sustainable resources for the WHP;
iv. Present a clear and compelling case for support. Mapping current activities,

identifying priority needs, and demonstrating likely impact of additional resources;

v. Develop a leadership community by cultivating private individuals, top-level corporate and foundation, bi- and multi-lateral leadership willing to advocate, build awareness, and seek support for the WHP;

vi. Develop prospects for support from all potential constituencies by customizing prospect identification in order to match site needs with what various constituencies can offer;

vii. Design a coherent and comprehensive plan of action and ensure that the plan is realistic, reflects clear goals and priorities, and can be scaled up consistent with capacity;

viii. Develop membership programmes targeting various constituencies;

ix. Leverage the resources of various constituencies (e.g. private capital triggering multi-lateral funding) to yield more rapid results;

x. Build sustained corporate giving programmes (targeting customers and employees);

xi. Create an "Adopt-a-Site" and a "Sister-Sites" programme, potentially around endangered sites, to connect resources with needs at different locations;

xii. Explore other commercial linkages such as electronic billing add-ons, or marketing for a cause;

xiii. Seek to involve the growing number of foundations and non-profit institutions who specialise in bringing investors, philanthropists and applicants together;

xiv. Prepare an inventory of pot entail donors;

xv. Prepare a clear portfolio of sites needing support from respective donors while prioritizing projects and seek to secure funding for the entire portfolio.

6.8.5 Private-Public Complementarities

Objective

To facilitate mechanisms in which governments and international public institutions can directly and indirectly support the cause of the WHP through their policies, incentives, and other instruments.

Activities:

i. Mainstream WHP into development processes, such as the World Bank Comprehensive Development Framework, AFDB and UN Coordination programmes;

ii. Use World Heritage as a sector of activity and a basis to review other programmes and projects;

iii. Use programmes aimed at social development, environment, infrastructure, training and income creation as entry points;

iv. Explore opportunities in the context of the World Bank grant provision under International Development Aid (IDA) to support WHPs, and enlarge site-specific trust funds;

v. Prepare a protocol to support private-public partnerships. This should include: legislation and policies, tax incentives, revenue retention at sites; Governance instruments (trusts and foundations, advisory boards representative of local, national and, international interests, impact assessment of development proposals on cultural resources, values-based planning, methodology for assuring long-term support and inter-government coordination);

vi. Invest in strengthening local capacity to enable local communities to coordinate donors and make the WHS a priority demand in development aid;

vii. Carry out pilot projects to demonstrate Return on Investment for conserving sites (value-adding activity) and report results widely;

viii. Disseminate widely the inventory of endangered parts/areas of the WHS, and specify budgetary requirements;

ix. Establish structured Round Tables for the WHP with the Global Environment Fund (GEF) and consider adding a cultural fund to GEF;

It is cardinal and important that the World Heritage Partnerships Initiative must be accountable to its stakeholders. It should present periodic progress reports to the stakeholders, at which time an in-depth performance evaluation and decision on continuation will be made. Such feedback will be essential in keeping partnerships and the good-will of contributors alive. In addition, Transactions – from project selection to implementation, evaluation and accounting – must be governed by correct rules and highly transparent procedures. Beyond ethical conduct, results should be well disseminated, and successes should be celebrated. Where warranted, positive feedback and public recognition needs to be given to those who have generously supported a cause.

6.9 PLANNING, MONITORING AND EVALUATION

6.9.1 Guiding principle

Planning, monitoring and evaluating the available resources in order to identify and prepare responses to potential risks as well as develop the foundations for sustainable financing of activities in the WHP.

6.9.2 Issues and Rationale

Management plans need to be continuously developed in a participatory manner , fully involving all interested parties and in particular those managing, or administering the WHP. The planning should be attuned to the particular characteristics and needs of the site and incorporate sustainable development principles. Over the years, management authorities have carried out various activities within and around the WHP in an attempt to protect and conserve the natural and cultural resources. These efforts have been most pronounced in the eradication of invasive alien species, notably *Lantana camara* on the Zimbabwean side. However, there has not been adequate collaboration and consultation between Zimbabwe and Zambia to evaluate the effectiveness of such activities and programmes. There is need to jointly monitor and evaluate the activities in a holistic manner.

Key areas for planning, monitoring and evaluation:

i. Water quantity and quality;
ii. Vegetation cover;
iii. Key indicator species: flora and fauna;
iv. Human impacts (illegal activities: levels, frequency, types);
v. Resource off-takes (wood and fish);
vi. Problem animals: impacts, effectiveness of management interventions;
vii. Endangered species: flora and fauna;
viii. Effectiveness/impacts of conservation programmes
ix. Tourist volumes, demography and characteristics
x. Incidence and impacts of fire outbreaks in the WHP;
xi. Climate and issues of climate change;
xii. Community participation and Beneficiation;
xiii. Impacts of tourism;
xiv. Information dissemination;
xv. Rain-forest dynamics;
xvi. Ranger patrol performance;
xvii. Large mammal population dynamics and movements;
xviii. Implementation of existing tourism regulations; and
xix. Tourist opinions

As implementation of this plan continues there will be need to review the list above. Planning, monitoring and evaluation will cover all aspects of the WHP relating to its boundaries, development, tourism, interpretation, education and transport.

Given their importance in helping to sustain and enhance the significance of the WHP, relevant policies in planning need to be taken into account by local planning authorities in developing their strategy for the historic or natural environment (as appropriate) and in determining relevant planning applications.

OBJECTIVE 1:

To implement appropriate planning, monitoring and evaluation mechanisms to ensure effective and efficient management, and interventions of the WHS.

Activities:

i. Regular monitoring of water quality and quantity;
ii. Regular monitoring of vegetation cover;
iii. Regular monitoring of the impacts of humans on the WHP;
iv. Continue monitoring the *Lantana camara*;
v. Monitor and Evaluate the effect of different management programmes;
vi. Plan and Implement recommendations arising from the monitoring and evaluation exercises;
vii. Prepare implement and review a monitoring and evaluation plan;
viii. Review the planning, monitoring and evaluation plan;
ix. Implement and Monitor fire management plans;
x. Continue animal population monitoring;
xi. Monitor cultural sites for their protection;
xii. Monitor long-term effects of the removal of invasive alien species;
xiii. Monitor Geological processes;
xiv. Monitor human activities along and on the river; and
xv. Monitor ZESCO's water abstraction.

Objective 2

Optimize benefits accruing from Planning, monitoring and evaluation system of the WHP.

Activities:

i. Establish clear and consistent leadership structures for the WHP;
ii. Secure the long-term provision of appropriately qualified staff to manage the WHP through the planning, monitoring and evaluation system;
iii. Develop opportunities to transfer learning between WHPs;
iv. Explore access to alternative funding sources, and re-invest funds generated from WHS into management and conservation, so that

responsibility for funding for the Site does not fall disproportionately upon the Local Authority.

v. Plan and put mechanisms in place to manage the WHP, and co-ordinate exchange of significant amounts of information held by various stakeholders;
vi. Monitor the WHP's general condition regularly, and assess the implementation of the Management Plan;
vii. Raise the local community's awareness of the value and relevance of the WHP, and promote the opportunities and responsibilities so as to enable property owners to make informed decisions;
viii. Seize the opportunity to realise the potential benefits of greater community involvement, and the opportunities that the properties status brings for regeneration, education, culture, and civic pride;
ix. Seek greater engagement of the local business community in the management of the property to enhance sustanability;
x. Put mechanisms in place to manage any tensions between conservation and development;
xi. Minimise the threat of inappropriate development and ensure that plans and decisions fully consider the impacts of development proposals, and are based on a thorough understanding of the property's Outstanding Universal Values;
xii. Mitigate the potential damage caused to the fabric, authenticity and character of the property by incremental change;
xiii. Address the challenges of integrating contemporary design within the Site and encourage high quality development schemes
xiv. Address sustainability issues, including climate change, and manage the permanent, inherent tensions between the needs for adaptation and conservation; and
xv. Research into the relationships between sustainability and conservation, and disseminate information through education, training and public awareness programs and materials.

Objective 3

Conserve and preserve the Outstanding Universal Values of the WHP.

Activities

i. Promote co-ordination and responsibility across the different ownership patterns in the WHP;
ii. Put mechanisms in place for effective management of all elements of the Site's historic environment, to protect the authenticity and integrity, based on a thorough understanding of the OUV;
iii. Address the long-term availability of materials and skilled craftsmen to maintain the fabric of the Property;

iv. Safeguard the property's Site's historic buildings and archaeological structures and ensure they remain in general good condition, and protect them from inappropriate and/or inadequate maintenance;
v. Ensure that the property's extensive and vulnerable landscape setting is recognised, interpreted, protected and managed to prevent incremental damage as well as treat the parks and open spaces as integral to the property's landscape setting and managed appropriately;
vi. Promote understanding that the Zambezi River is an integral to the property's landscape setting and a need to ensure it is managed appropriately;
vii. Identify and safeguard important views, both within and beyond the property and manage them appropriately;
viii. Base tree and woodland management of the Site upon an understanding of the OUV; and
ix. Secure the necessary capital investment to realise opportunities to improve the quality and maintenance of the Site's public realm.

Objective 4

Factor in adaptive management and address emerging issues.

Activities:

i. Ensure that management and administrative arrangements are appropriate for the effective implementation of the Plan, encourage community involvement, enable partnerships and secure the required funding;
ii. Put in place risk management plans for the protection of the property, including the fabric, relevant archives, and periodically updated. Guarantee that research and information about the Site is produced, collected, archived and analysed, and made available to partners in ways that assist implementation of the Plan;
iii. Ensure periodic monitoring of the condition of the propeorty;
iv. Ensure that the property and its setting are taken into account by all relevant planning, regulatory and policy documents (statutory and non-statutory) and by any future changes to the planning system as well as in all relevant decisions taken by the Local Authority and other management partners;
v. Ensure that architecture, which enhances the values of the site, is encouraged; and
vi. Ensure that adaptation to address climate change is made and promoted with any harm to the heritage asset balanced against the public benefit.

Review and Amendment of Management Plan

Preparation of a management plan is an essential step in the establishment and use of a sound approach to Protected Area management. However, the management plan should be considered to be an evolving document rather than one that is unchanging.

ANNEXTURES

Annex 1: Structure of MWHP Committee-Zambia

Zambia Mosi-Oa-Tunya World Heritage Property Committee				
Sub-Committees				
Conservation and monitoring	Tourism	Socio-Cultural	Finance and budgeting	Publicity/Education

Structure of the VFWHP Committee-Zimbabwe

CHAIRMAN (ZPWMA)

VICE CHAIRMAN (NMMZ)

SECRETARY (VFMS)

VICE SECRETARY (EMA)

COMMITTEE MEMBERS

(Local Chief; HRDC, Forestry Commission, HAZ-Victoria Falls, ZTA, Local community Representative, ZINWA, ZARA)

[B] STRUCTURE OF BI-NATIONAL MANAGEMENT FRAMEWORK

JOINT MINISTERIAL COMMITTEE (JMC)

JOINT TECHNICAL COMMITTEE (JTC)

JOINT SITE MANAGEMENT COMMITTEE (JSMC)

Annex 2: IMPLEMENTATION LOGFRAME AND REGIONAL COOPERATION PROGRAMME

1.1 OBJECTIVE 1: *To sustain a JMC consisting of the responsible Ministers in each of the two countries*					
No	Activities	Responsibility	Timing	Priority	Budget US$
1.1.1	Provide policy guidelines and direction to the JTC	Permanent Secretaries and JTC	Ongoing	H	5 000
1.1.2	Hold two consultative meetings a year to review implementation progress and recommendations by the JTC	Ministers	Ongoing	H	10 000 x 2 per year

1.2 OBJECTIVE 2: *To sustain a Joint Technical Committee (JTC) comprising of the two National WHP Committees*					
No	Activities	Responsibility	Timing	Priority	Budget US$
1.2.1	Agree on the composition and membership of the Joint Site Management Committee (JSMC)	Joint Technical Committee (JTC)	ongoing	H	None
1.2.3	Propose harmonisation of joint legal instruments	JTC	2017-2019	H	25 000
1.2.4	Propose domestication of World Heritage Convention into local laws	JTC	2017-2021	M	10 000
1.2.5	Continue the formation of World Heritage Committees at national level	JTC	By 2018	M	None
1.2.6	Preparation of consolidated bi-national conservation status reports	JTC	annually	H	2 500
1.2.7	Review implementation progress of the JMP	JTC	twice a year	H	None

1.2.8	Produce periodic reports to UNESCO	JTC	every 2 years (2019)	H	2 500
1.2.9	Identification of projects for implementation	JTC	At quarterly meetings	H	None

1.3 OBJECTIVE 3: *To sustain a JSMC consisting of the members as recommended by the JTC and for it to manage the WHP at the Site level*					
No	Activities	Responsibility	Timing	Priority	Budget US$
1.3.1	Hold meetings quarterly or when the need arises	JSMC	Once every two months	H	10 000
1.3.2	Undertake invasive species control and management in the WHP	JSMC	Ongoing	H	10 000
1.3.3	Develop bi-national guidelines for managing the WHP	JSMC	By 2018	H	20 000
1.3.4	Produce educational awareness materials	JSMC in collaboration with ZTA and ZNTB	Ongoing	M	15 000
1.3.5	Undertake Site promotion and publicity campaigns	JSMC	Ongoing	M	10 000
1.3.6	Address any local problems and make recommendations to the JTC	JSMC	Ongoing	H	None

1.4 OBJECTIVE 4: *To use diversity of the tourism product and services in SADC/COMESA as a package in order to increase value of the WHP as a tourist destination*					
No	Activities	Responsibility	Timing	Priority	Budget US$
1.4.1	Integrate WHP into other major tourism products in the region	JSMC	Ongoing	L	10 000
1.4.2	Stage exhibitions and fairs to market regional tourism products	JSMC	Ongoing	M	10 000
1.4.3	Upgrading existing interpretive centres and field museum(s)	JSMC	Ongoing	L	100 000

1.5 OBJECTIVE 5: *To promote ecosystem management and biodiversity conservation at regional level*					
No	Activities	Responsibility	Timing	Priority	Budget US$
1.5.1	Promote collaboration in trans-frontier conservation areas	JSMC, JTC	Ongoing	M	15 000
1.5.2	Develop and implement common guidelines in the management of shared natural resources	JSMC	Ongoing	M	10 000
1.5.3	Identify, prioritise and address common problems as focal points of regional initiatives (e.g. Climate Change, Desertification, Biodiversity Conservation, Poaching and Pollution)	JSMC, JTC	Ongoing	L	20 000

1.6 OBJECTIVE 6: *To promote regional cooperation and exchange of information in natural and cultural resource management*					
No	Activities	Responsibility	Timing	Priority	Budget US$
1.6.1	Build synergies in human and institutional capacity at regional scale in collaboration with universities and other tertiary institutions	JSMC	Ongoing	L	5 000
1.6.2	Undertake exchange programmes	JSMC	Ongoing	M	1 000
1.6.3	Establish regional database of heritage (natural and cultural) experts	JSMC	Ongoing	L	None
1.6.4	Facilitate research projects at regional level	JSMC	Ongoing	L	10 000

Annex 3: RESOURCE CONSERVATION PROGRAMME

2.1 OBJECTIVE 1: *To maintain ecosystem integrity in the WHP*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.1.1	Develop woodlots in rural areas to minimise pressure on vegetation	FC, FD, NHCC,	Ongoing	M	10 000
	Promote green technology		Ongoing		
2.1.2	Remove existing exotic species and rehabilitate affected habitats with indigenous species	ZPWMA, NHCC, DNPW,	Ongoing	H	6 000
2.1.3	Review guidelines for rafting pressure points in gorges	ZPWMA, NHCC	2017-2019	H	5 000
	Develop sustainable livelihoods alternatives together with local communities				
2.1.4	Rehabilitate pathways and their sides to prevent erosion in Eastern Cataract and other gorges	ZPWMA, NHCC, DNPW, NMMZ	Ongoing	H	2 000
2.1.5	Develop standards, guidelines and procedures for river based operations in the WHP and enforce guidelines for riverbank development	ZPWMA, NHCC, DNPW, NMMZ	June 2017	H	5 000
2.1.6	Maintain artificial (man-made) water points in South eastern portion of WHP (Zambia) Chamabondo and Kalisosa vleis in the Zambezi National Park (Zimbabwe) as a measure to control elephant density in the riverine habitat	ZPWMA, NHCC, DNPW	Ongoing	M	10 000
2.1.7	Integrate fire management plans	ZPWMA, NHCC, DNPW FC, NMMZ	2018	M	2000
2.1.9	Monitor and regulate water abstraction to protect the Rainforest and preserve wilderness values of the Site	ZPWMA, NHCC and DNPW	Ongoing	H	None

2.2 OBJECTIVE 2: *To conserve the geology of the gorges, river banks, islands and associated features/processes*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.2.2	Maintain and erect regulatory signage in appropriate areas	ZPWMA, NHCC, DNPW, NMMZ	Ongoing	M	1500
2.2.3	Undertake media campaigns to increase awareness on the Natural and cultural resources in the WHP	ZPWMA, NHCC, DNPW NMMZ	Ongoing	M	2000
2.2.4	Investigate and promote carving and construction material	ZPWMA, NHCC, DNPW FC, EMA	2018-2019	H	4000

2.3 OBJECTIVE 3: To *control negative impacts in the World Heritage Property and surrounding buffer zone which result from incompatible land use in the buffer zone and surrounding areas*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.3.1	Regulate the introduction of exotic flora and fauna species.	EMA, ZEMA, ZPWMA, DNPW NHCC, NMMZ	Ongoing	H	3000
2.3.2	Develop an integrated land use plan and a buffering mechanism areas around the WHP	ZPWMA, DNPW NHCC, NMMZ, FC	2017-2020	M	10000

2.4 OBJECTIVE 4: *To control noise from aircraft and boats and water pollution from boats and waste disposal within the WHP*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.4.1	Determine and implement acceptable noise levels and number of flights at any given time over the falls.	CAAZ, ZA, ZPWMA	2017-2021	H	10000
2.4.2	Carry out regular water quality tests to monitor pollution of the river from water vessels, and ensuring defaulting operators are prosecuted and stopped from operating	ZPWMA, NHCC, EMA, SWASC, ZEMA, DNPW	2017-2021	M	10 000
2.4.3	2.4.3 Enforce environmental standards and guidelines	ZPWMA, EMA, NMMZ, NHCC, DNPW	2017-2020	H	5 000

2.5 OBJECTIVE 5: To c*ontrol illegal activities that threaten the integrity of the WHP*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.5.1	Carry out regular area law enforcement patrols.	ZPWMA, NHCC, DNPW	2017-2021	H	60 000

2.6 OBJECTIVE 6: *Develop capacity through staff appointments, capacity building and facilitation of collaborative programmes to enhance effective conservation in the WHP*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.6.1	Carry out collaborative projects with other agencies to facilitate information sharing	ZPWMA, NMMZ, NHCC, DNPW EMA, SWASC, ZEMA	2017-2021	M	10 000

2.7 OBJECTIVE 7: To *conserve and enhance the WHP's cultural resource values, which are of local, national and international significance.*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.7.1	Arrest soil erosion at cultural resources sites	ZPWMA, NMMZ, NHCC, DNPW	2017-2021	M	5 000
2.7.2	Erect signage that prohibits littering at cultural sites	NHCC, ZPWMA, DNPW, NMMZ	2017-2021	H	1 500
2.7.3	Ensure that the cultural sites that are threatened, receive attention and are given adequate protection	NMMZ, NHCC, ZPWMA, DNPW	2018-2020	M	5 000
2.7.4	Erect barriers at cultural sites that are damaged by traffic	NMMZ, ZPWMA, NHCC, DNPW	2017-2020	H	2 000
2.7.5	Protect/conserve the cultural resources that are threatened by wildlife	NMMZ, ZPWMA, NHCC,	2017-2021	H	5 000

2.8 OBJECTIVE 8: *To develop and maintain synergy between the natural and cultural values of the site in order to sustain the authenticity and integrity of the resources.*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.8.1	Integrate into the environmental management and biodiversity policies the protection, preservation, and utilisation of cultural resources	ZPWMA, NMMZ, NHCC, DNPW	2017-2021	H	10000
2.8.2	Utilise the information in the database and in liaison with appropriate stakeholders to conserve the cultural resources in the WHP	ZPWMA, NMMZ, NHCC, DNPW	2017-2021	H	5 000

2.9 OBJECTIVE 9: *To recognise and preserve the Site's diverse tangible and intangible cultural resources*					
No	Activities	Responsibility	Timing	Priority	Budget US$
2.9.1	Review by appropriate stakeholders any activities that may damage or change the authenticity or integrity of a cultural resource in the site	ZPWMA, NMMZ, NHCC, DNPW Other stakeholders	2017-2021	H	6 000
2.9.2	Allow custodians of cultural traditions regulated access to sacred sites in the WHP	ZPWMA, NMMZ, NHCC, DNPW	2017-2021	H	None
2.9.3	Allow tourism development that ensures the sustainability and integrity of cultural resources in the WHP	ZPWMA, NMMZ, NHCC, DNPW	2017-2021	H	None
2.9.4	Hold regular consultative meetings with local community representatives	ZPWMA, NMMZ, NHCC, DNPW	2017-2021	H	10 000

Annex 4: COMMUNITY COLLABORATION PROGRAMME

3.1 OBJECTIVE 1:

To develop mutual understanding and respect between the local communities and the WHP management.

No	Activities	Responsibility	Timing	Priority	Budget US$
3.1.1	Hold 2 annual consultative meetings between the JSMC of the WHP and the local community	JSMC	2017-2021	H	5 000

3.2 OBJECTIVE 2:

To create opportunities for the local communities to benefit from the tourism and conservation activities of the WHP

No	Activities	Responsibility	Timing	Priority	Budget US$
3.2.1	Initiate developmental projects in the WHP that will benefit the local communities	JSMC	2017-2021	M	10 000
3.2.2	Promote and encourage village tours	JSMC	2017-2021	H	500
3.2.3	Develop and implement income-generating projects to benefit local communities	JSMC	2017-2021	M	15 000
3.2.4	Develop intellectual property rights for the indigenous knowledge systems	JSMC	2017-2019	H	10 000
3.2.5	Encourage the tourism and hospitality industry to initiate and implement infrastructural development among the local communities	JSMC	2017-2021	H	None
3.2.6	Encourage the tourism and hospitality industry to develop a sustainable marketing strategy and promotional programmes focussing on the values of the cultural resources	JSMC	2017-2021	H	None

3.3 OBJECTIVE 3: *To promote interest and awareness of the outstanding values of the WHP among the local communities*					
No	Activities	Responsibility	Timing	Priority	Budget US$
3.3.1	Design and implement heritage educational outreach program for schools, tertiary education institutions and public	NHCC, NMMZ, ZPWMA, DNPW	2017-2021	H	20 000
3.3.2	Facilitation of regular access of educational tours for local schools	NHCC, NMMZ, ZPWMA, DNPW	2017-2021	M	800
3.3.3	Establish voluntary heritage resource officers at local community level	NHCC, NMMZ, ZPWMA, DNPW	2017	M	1 000
3.3.4	Train traditional custodian and local tour guides to inform the public with correct information	JSMC	2017-2021	H	2 000
3.3.5	Raise awareness on intellectual property rights for indigenous knowledge systems of the area	JSMC	2017 - 2021	H	1 000

3.4 OBJECTIVE 4: *To promote and enhance the presentation and conservation of cultural resources of the local communities in the WHP and adjacent areas.*					
No	Activities	Responsibiljty	Timing	Priority	Budget US$
3.4.1	Research and document all the cultural resources in the WHP	NHCC, NMMZ	2017-2019	H	80 000
3.4.2	Develop environmental education programmes to raise awareness on the importance of cultural resources and their conservation	JSMC	2017-2019	H	20 000
3.4.3	continually review local custodian access to sacred sites	JSMC	2017-2021	H	None

Annex 5: TOURISM DEVELOPMENT PROGRAMME

4.1 OBJECTIVE 1:

To provide adequate safety and security to visitors to the WHP

No	Activities	Responsibility	Timing	Priority	Budget US$
4.1.1	Enter into contract with Rescue Service Providers	NHCC, ZPWMA	2017	H	500
4.1.2	Promote tourism Insurance policies with Tour operators	JSMC	2017-2021	H	1 000
4.1.3	Procure safety and first aid equipment	NHCC, ZPWMA	2017	H	1 000
4.1.4	Train site personnel in first aid	NHCC, ZPWMA	2017-2021	H	1 000
4.1.5	Deploy adequate security personnel in the WHP	NHCC, ZPWMA	2017	H	None

4.2 OBJECTIVE 2:

To reduce vehicular traffic congestion and overcrowding within the WHP

No	Activities	Responsibility	Timing	Priority	Budget US$
4.2.1	Encourage relevant authorities (Customs and Immigration Departments) on fast track system of clearance at the border/entry points.	JMC	2017-2021	H	None

4.3 OBJECTIVE 3: *To improve visitor services and standards within the WHP*					
No	Activities	Responsibility	Timing	Priority	Budget US$
4.3.4	Construct, maintain and upgrade viewing points	NHCC, ZPWMA, NMMZ, DNPW	2017-2021	H	50 000
4.3.5	Establish and maintain animal proof waste disposal bins	NHCC, ZPWMA, NMMZ, DNPW	2017-2021	H	6 000
4.3.6	Design, produce and erect appropriate signage	NHCC, ZPWMA, NMMZ, DNPW	2017	M	500
4.3.7	Upgrade and maintain Visitor Information Centres	NHCC, ZPWMA, NMMZ	2017	M	30 000
4.3.8	Regulating tour-guiding through licensing and accreditation of tour guides	NHCC, ZPWMA, NMMZ, DNPW	2017-2021	H	500

4.4 OBJECTIVE 4: *To market and promote the WHP*					
No	Activities	Responsibility	Timing	Priority	Budget US$
4.4.1	Conduct regular marketing and promotion of the WHP through various media	NHCC, ZPWMA, NMMZ, DNPW	2017-2021	H	20 000
4.4.2	Establish a Website for the WHP	NHCC, ZPWMA, NMMZ, DNPW	2017-2021	M	10 000
4.4.3	Produce and distribute information materials	NHCC, ZPWMA, NMMZ, DNPW	2017-2021	M	20 000

4.4.4	Participate in local and international fairs	NHCC, ZPWMA, NMMZ, DNPW	2017-2021	L	20 000
4.4.5	Promotional partnerships with strategic Tourism institutions as regards packaging-tours	NHCC, ZPWMA, NMMZ, DNPW	2017-2021	L	500

4.5 OBJECTIVE 5: *To regulate the number of tourists entering the WHP*					
No	Activities	Responsibility	Timing	Priority	Budget US$
4.5.1	Establish and review the carrying capacity of the Rainforest and Eastern Cataract.	NHCC, ZPWMA	2017-2021	M	None
4.5.2	Limit students to 100 in the Rainforest and the Eastern Cataract at any given time	NHCC, ZPWMA, NMMZ	2017-2021	M	None
4.5.3	Compile visitor statistics regularly	NHCC, ZPWMA, NMMZ	2017-2021	H	None

4.6 OBJECTIVE 6: *To allow for appropriate tourism administrative development within the WHP*					
No	Activities	Responsibility	Timing	Priority	Budget US$
4.6.2	Install electronic ticketing turn-stile	NHCC, NMMZ DNPW ZPWMA	2017	H	5 000
4.6.5	Improve signage within the WHP	NHCC, NMMZ DNPW & ZPWMA	2017 - 2021	H	None

Annex 6: OPERATIONS AND MAINTENANCE PROGRAMME

5.1 OBJECTIVE 1:

To improve operational effectiveness and maintenance of services within the WHP

No	Activities	Responsibility	Timing	Priority	Budget US$
5.1.1	Equip the implementing organisations with sufficient equipment, financial and human resources to effectively manage the WHP.	NHCC, NMMZ DNPW ZPWMA	2018-2021	H	200 000
5.1.2	Assess training needs among staff and organise capacity building courses	NHCC, NMMZ DNPW, ZPWMA	Ongoing	H	60 000
5.1.3	Appoint new qualified staff to fill the gaps within the organisations	NHCC, NMMZ DNPW, ZPWMA,	Ongoing	H	40 000
5.1.5	Record sacred sites within the WHP	NHCC, NMMZ DNPW ZPWMA	2018	H	3 000
5.1.10	Train staff in use of new equipment (electronic ticketing systems and turn-stiles)	NHCC, NMMZ DNPW ZPWMA	Ongoing	H	2 000
5.1.16	Maintain elephant trenches within the WHP	NHCC, NMMZ DNPW ZPWMA	Annually	H	2 000
5.1.17	Review guidelines and establish rafting, boats, canoes, launching points.	NHCC, NMMZ DNPW ZPWMA	2017	M	2 000
5.1.19	Treatment of water bodies to remove pollutants with use of harmless chemicals or biological cleaners	NHCC, NMMZ DNPW ZPWMA	20177 - 2021	H	1 000
5.1.21	Ensure aircrafts (helicopters, micro-lights and fixed-winged) fly within regulated space and height	NHCC, NMMZ DNPW ZPWMA	Ongoing	H	None
5.1.23	composting of biodegradable solid waste to minimise accumulation of solid waste	NHCC, NMMZ DNPW ZPWMA and local	Ongoing	H	None

		authorities			
5.1.24	Enter into smart partnerships with stakeholders in recycling solid waste	NHCC, NMMZ DEPARTMENT OF WORLD LIFE, & ZPWMA and stakeholders	Ongoing	L	None
5.1.25	Continuously monitor quality of treated waste water being discharged into the river.	EMA, ZEMA, VFM, LCC	Ongoing	H	None
5.1.26	Continuously monitor the effectiveness of the sewer reticulation infrastructure.	LCC & VFM	Ongoing	H	None
5.1.27	Maintain and improve roads, walkways and drainage in the WHP	NHCC, NMMZ DNPW ZPWMA	2018-2021	H	30 000
5.1.29	Install rain gauges and other meteorological instruments within the WHP	NHCC, NMMZ DNPW ZPWMA	2017-2021	H	1 000

Annex 7: RESEARCH AND MONITORING PROGRAMME

6.1 OBJECTIVE 1: *To encourage the conduct of research that is consistent with the protection and undertaking of the WHP's biophysical and cultural values.*					
No	Activities	Responsibility	Timing	Priority	Budget US$
6.1.1	Determine key (indicator) species	ZPWMA and DNPW	Ongoing	H	1 000
6.1.2	Periodically carry out elephant census and movement patterns	ZPWMA and DNPW	Once a year	H	None
6.1.6	Prepare guidelines for accessing information and research findings	ZPWMA, DNPW NHCC and NMMZ	2017 - 2021	H	5 000
6.1.7	Tap into indigenous knowledge of local communities in areas of research and forest resource inventories	ZPWMA, NHCC and NMMZ	Ongoing	M	1 000

6.1.8	Implement relevant research recommendations	Joint Bi-lateral Committee	Ongoing	H	None
6.1.9	Produce land-use maps in and around the WHP	NHCC, NMMZ, DNPW and ZPWMA	Ongoing	H	5 000
6.1.10	Investigating appropriate methodology for the control of invasive alien species	NHCC, NMMZ, DNPW and ZPWMA	Ongoing	H	1 000
6.1.11	Initiate research to determine causes and impacts of habitat modification on sensitive and rare species of fauna and flora	NHCC, NMMZ, DNPW and ZPWMA	2017-2021	H	5 000
6.1.12	Update the existing database of flora, fauna and cultural sites	ZPWMA and NMMZ, DNPW NHCC	Ongoing	M	1 000
6.1.13	Carry out a comprehensive archaeological survey of the WHP	NHCC, NMMZ, DNPW and ZPWMA	2018-2020	H	10 000
6.1.14	Record oral history, myths and legends from local communities	NHCC, NMMZ, DNPW and ZPWMA	Ongoing	H	None
6.1.16	Carry out a geological baseline study of the WHP	JTC	2018 – 2020	H	5 000
6.1.17	Conduct erosion surveys within the site	NHCC, NMMZ, DNPW and ZPWMA	Ongoing	H	1 000
6.1.19	Undertake studies on the species population dynamics	NHCC, NMMZ, DNPW and ZPWMA	Ongoing	H	1 000
6.1.20	Update RDL database to include WHP species	JTC	Ongoing	M	None
6.1.21	Create herbariums	NHCC, NMMZ, DNPW and ZPWMA	2018-2020	M	None
6.1.25	Commissioning study to determine carrying capacity of vessels on the river	ZPWMA, DNPW	2018 - 2021	H	5 000

6.2 OBJECTIVE 2: *To ensure effectiveness of management interventions are monitored and evaluated*					
No	Activities	Responsibility	Timing	Priority	Budget US$
6.2.2	Regularly monitor vegetation cover	NMMZ, DNPW and ZPWMA	Ongoing	H	1 000 per year
6.2.3	Regularly monitor the impacts of human on the WHP	NMMZ, DNPW and ZPWMA, NHCC	Ongoing	H	500 per year
6.2.4	Continue monitoring the *Lantana camara* project and extend it on the Zambian side of the WHP	ZPWMA, DNPW	Ongoing	H	1 000 per year
6.2.7	Prepare and implement a monitoring plan	JSMC	Ongoing	H	5 000
6.2.8	Regularly review monitoring plan	JSMC	Ongoing	H	None
6.2.18	Monitor ZESCO water abstraction	JTC	Ongoing	H	ZESCO

Annex 8: EMERGING ISSUES

For emerging issues such as climate change, Risk management and preparedness, Information Management Systems the JTC shall propose, develop and implement management plans.

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ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR SCANNER INVESTMENTS P/L



Scanner Investments (Pvt) Ltd
Contact Person: Andrew Lane
Cell: 0783513169 ID. No. 08-211354 M 00
Email: andrew@victoriafallsinvestments.com

Environmental Guardians Services (Private) Limited

Landline +263292883520
Cell Phones +263773705989
+263716949022
+263774666351

259 Munn Road
Mqabuko Heights
Bulawayo
Zimbabwe

Email: montana.kansingo@gmail.com
Website: www.egs.co.zw

Furthering the development of understanding, protection and quality enhancement of the environment"

AUGUST 2021

"Furthering the development of understanding, protection, and quality enhancement of the environment"

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CHAPTER 1: INTRODUCTION

1.0 Introduction

Victoria Falls is the main tourist destination in Southern Africa. The magnificent falls and the Zambezi River are the main attractions. It is one of the most significant natural geographical features of the **Zambezi River**, and one of the world's most famous, and arguably most beautiful, waterfall formations. Thus, certain venues are the prime destinations for both foreign and domestic tourists. Heavy use is likely to lead to congestion and dissatisfaction amongst both groups. Victoria Falls National Park, a major international tourist destination, is contrasted with Lake Kariba which is the prime venue for domestic tourism. Hwange National Park, also draws foreign and local visitors in almost equal numbers. The Victoria Falls is one of Africa's most well-known geographical features. Its inter- national fame has depended crucially on notions of natural form and beauty rooted in European romantic and natural history traditions, which gained it a pre-eminent position in a global lexicon of **'natural wonders'**.

Tourism sector is one of the sectors that will lead us to realising the objectives of Vision 2030 as guided by the interventions that the Second Republic is going to undertake through the National Development Strategy 1: 2021-2025 (NDS1), as we march towards achieving an upper middle-income society by 2030. NDS1 is the first 5-year Medium Term Plan aimed at realising the country's Vision 2030, while simultaneously addressing the global aspirations of the Sustainable Development Goals (SDGs) and Africa Agenda 2063. NDS1 objectives support for aggressive marketing and rebranding of Zimbabwe, to facilitate tourism arrivals taking advantage of the country's diverse tourist attractions, ranging from natural, to man-made historical sites.

There are a number of restaurants and lodges, ranging from affordable to luxurious, offering meals in the both Livingstone in Zambia and Victoria Falls town in Zimbabwe. While visitors will be kept busy with the interesting historical stories and the adrenaline-filled activities on offer such as rafting along the might Zambezi River, there is a need for dining services in the vicinity. Thus this restaurant is in a strategic location for the refueling of the human physiological need after such exhaustive activities.

In conjunction with the above, Scanner Investments (Pvt) Ltd (Appendix 1) "referred to as the proponent hereafter" is proposing to develop a restaurant that will be called Old Pump Station situated close to Victoria Falls. The proposed project entails the development of restaurant in the 1.15 hectare area. The Zambezi National Park has leased the said area to Scanner Investments in order to increase the tourist value of the area. The development entails the construction of a raised platform which will be the restaurant's dining area and installation of the container which will be restaurant food preparation area. The construction materials to be used will be wood for floors, logs for pillars and a stretcher tent for shed. All this will blend with the natural environment which brings out the eco-friendliness the restaurant strives for.

The project will ensure that proper buildings or structures are provided with adequate services (i.e. water, electricity, proper ventilation and sewage) as the building plans will be approved by Ministry of

Health and Child Welfare and the Department of Physical Planning. Further to the above, this development seeks to strengthen the economic performance of Victoria Falls as witnessed by the diversity of services that will be provided by the project. This project is also in line with meeting the requirements of Vic-Falls World Heritage society and Sustainable Development Goals (SDGs) as is going to play a pivotal role in poverty alleviation mainly through job creation and eco-friendly business approach. It is against this background that the proponent wishes to establish this restaurant.

Scanner Investments Pvt Limited acknowledges the fact that any developmental activities including a restaurant have an impact on the environment, creating an ecological footprint whose cumulative impact can be extremely significant. The nature of the development will minimize negative environmental impacts and promote sustainability as the proposed plan will blend in with the existing infrastructure and services. It will also promote, sustainable socio-economic activities, and environmental sustainability.

Stakeholders should understand the socio-economic and environmental costs and benefits of this infrastructural development. The pressures originating from inappropriately managed infrastructure and associated tourism activities can impact the receiving natural environment. Negative impacts on terrestrial and aquatic ecosystems include destruction of wildlife habitats (reduction in biodiversity); damage and pollution of water bodies; changes in salinity; soil erosion; disruption of soil stability; disruption of nutrient cycles; and inadequate waste management and disposal. There is an urgent need to minimize the negative impacts of infrastructure development and tourism, and maximize its positive contribution to biodiversity conservation. It is important to note that the relationship between tourism and natural environments are complex since they often require competing demands (socio-economic versus ecological) to be balanced.

Projects that adopt a green approach utilize as few resources as possible which are adapted to available local resources. Waste is minimized and/ or recycled and nature, biodiversity, water, air quality and soil are protected. Furthermore, minimal environmental damage is caused while planning and implementing the projects. Projects, especially nature-based, provide ideal opportunities to promote green technologies and innovations.

Scanner Investments Pvt Limited endeavours to adopt a green approach in all its restaurant activities and operations from the pre-operational through to the post operational phases of the restaurant. The organisation has undertaken to conduct an environmental impact assessment on the Old Pump Station restaurant project. The preparation of an ESIA in parallel with project design provides a useful framework within which environmental considerations and design development can interact. Environmental analysis may indicate ways in which the project may be modified to avoid possible adverse effects. It helps to ensure that the importance of the predicted effects/impacts and the scope of reducing them are properly understood.

According to the World Travel & Tourism Council (WTTC 2018) responsible for the global authority on the economic and social contribution of Travel & Tourism notes that Zimbabwe's travel and tourism

direct contribution to the GDP is 10% with numbers expected to go up as Zimbabwe has been voted among the best countries in the world to visit in 2019 by renowned world travel magazines, www.lonelyplanet.com , www.frommer.com andwww.nationalgeographictravel.com. It is with great coincidence on this note in regards to Scanner vision to be at the right place and the right time to develop a restaurant.

In terms of the Environmental Management Act (EMA) ESIA Regulations of 2007, the proposed project is identified as prescribed activity, as with any development activity, including associated structures and infrastructure, requires Environmental Impact Assessment prior to authorization. In fulfillment of EMA act 20:27 and its Regulation Statutory Instrument 7 of 2007 (Environmental Impact Assessment and Ecosystem Protection), the proponent contracted Environmental Guardians Services to undertake an ESIA for the proposed "**OLD PUMP HOUSE**" that shall be approved by Environmental Management Agency in terms of governing laws. This ESIA report is prepared for the Ministry of Environment as an evaluation tool.

The other applicable legislations that have been made reference to are as follows:-

1. Zimbabwe Constitution
2. Environmental Management Act (Cap 20:27)
    a. Statutory Instrument 6 of 2007 (Effluent and Solid Waste Management)
    b. Statutory Instrument 7 of 2007 (Environmental Impact Assessment and Ecosystem Protection)
    c. Statutory Instrument 10 of 2007 (Hazardous Waste Management)
    d. Statutory Instrument 12 of 2007 (Hazardous Substances, Pesticides and other Toxic substances)
    e. Statutory Instrument 72of 2009 (Atmospheric Pollution Control)
3. Explosive Act and Explosive Regulations SI 72 of 1989
4. Water Act
5. NSSA Act
6. Wildlife and National Parks Act
7. Protection of Wild Life Act
8. National Museum & Monument of Zimbabwe Act
9. Public Health Act
10. Electricity Act
11. Forest Act
12. Regional, Town And Country Planning Act
13. Pneumoconiosis Act
14. Rural District Council Act
15. Factories and Works Act
16. Convention on Biological Diversity
17. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
18. Convention on the Conservation of Migratory Species of Wild Animals
19. Convention on Wetlands (popularly known as the Ramsar Convention)

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20. Protocol on Wildlife Conservation and Law Enforcement (1999)
21. UNESCO Operational Guidelines

This ESIA report describes the proposed restaurant development activities that are going to be conducted and discusses the possible major environmental impacts (positive and negative) envisaged, and the environmental management measures that will be taken to mitigate the negative impacts to the environment. It also encompasses the public consultations with various stakeholders as well as the EMP.

1.1 Objectives of the ESIA Report

The main objectives of the ESIA are to identify the significant potential impacts both positive and negative that may result from a proposed project. The ESIA provided recommendations to mitigate negative impacts and maximize benefits on all aspects of the surrounding environment (physical, biological, social).

The other general objectives of the ESIA include

- Scope issues and concerns regarding the proposed project that needs to be addressed;
- Gather baseline information describing the existing environment of the project site and immediate surroundings
- Present and discuss alternatives to the proposed project.
- Engage stakeholders in the ESIA process
- Inform corporate decisions about tourism/restaurant planning and development; and
- Promote development that is environmentally and socially sustainable.
- To protect the environment for a smooth ecosystem intra-relations and finally for providing the workers with safe and healthy working conditions.

1.2 Proponent and Consultancy Details

A multi-disciplinary team of experienced professionals in environmental and socio-economic matters was assembled to carry out the required resource assessment, generation of baseline data, determination of potential impacts and recommendation of mitigation measures. An iterative approach among the environmental team members and other project professionals was adopted. This team is led by a Principal Environmental Consultant who has over 10 years of experience in various environmental, health, safety and socio-economic management issues. The majority of the consultants seconded to EGS Pvt Ltd are from the local industries and institutes of higher learning (Appendix 6).

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Table 1.1 provides details of the proponent and the consultancy.

Name	Andrew Lane (08-211354 M 00) Cell: 0783513169 Email: andrew@victoriafallsinvestments.com
Stand No	
Postal address	Scanner Investments(Pvt) Ltd 231 Sopers Crescent Victoria Falls
Physical address	Victoria Falls National Park, Victoria Falls
Website	
Name & address of the consultancy	Environmental Guardians Services 259 Munn Road, Mqabuko Heights Bulawayo
Consultancy contact telephone No.	+26392883520/+263773705989/+263716949022 **www.egs.co.zw**
Project area	Victoria Falls National park
Name of registered owner of the property	Scanner Investments(Pvt) Limited
Property owner telephone No	0783 513 169
Property owner postal address	Scanner Investments(Pvt) Limited 231 Sopers Crescent Victoria Falls
Current land use plan	National Park
Are there any other, existing land uses that impact on the environment in the proposed area?	None
What is the name of the nearest Town?	Victoria Falls

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CHAPTER 2: THE PROJECT DESCRIPTION

2.1 Location

The proposed restaurant project by Scanner Investments Private (Ltd) (Appendix 1) will be situated along Zambezi Drive opposite to Victoria Falls National Park VIP entrance (Fig 1, Appendix 2). Access to the proposed project site will be from the Zambezi Drive. The extent of the development area is about 1.15 Hectares. The access from Zambezi drive is roughly 0,150 km to the project site. The table below shows the geographical UTM co-ordinates for selected points on the lower and upper terrain areas of the proposed Restaurant site. **The project is located on the fringes of the World Heritage Site.**

Table 2.1: Old pump house restaurant coordinates.

Zone	Hem	Easting	Northing
35	S	377863	8018102
35	S	377778	8018162
35	S	377927	8018240
35	S	377837	8018298
35	S	377834	8018301
35	S	377927	8018248
35	S	377889	8018300

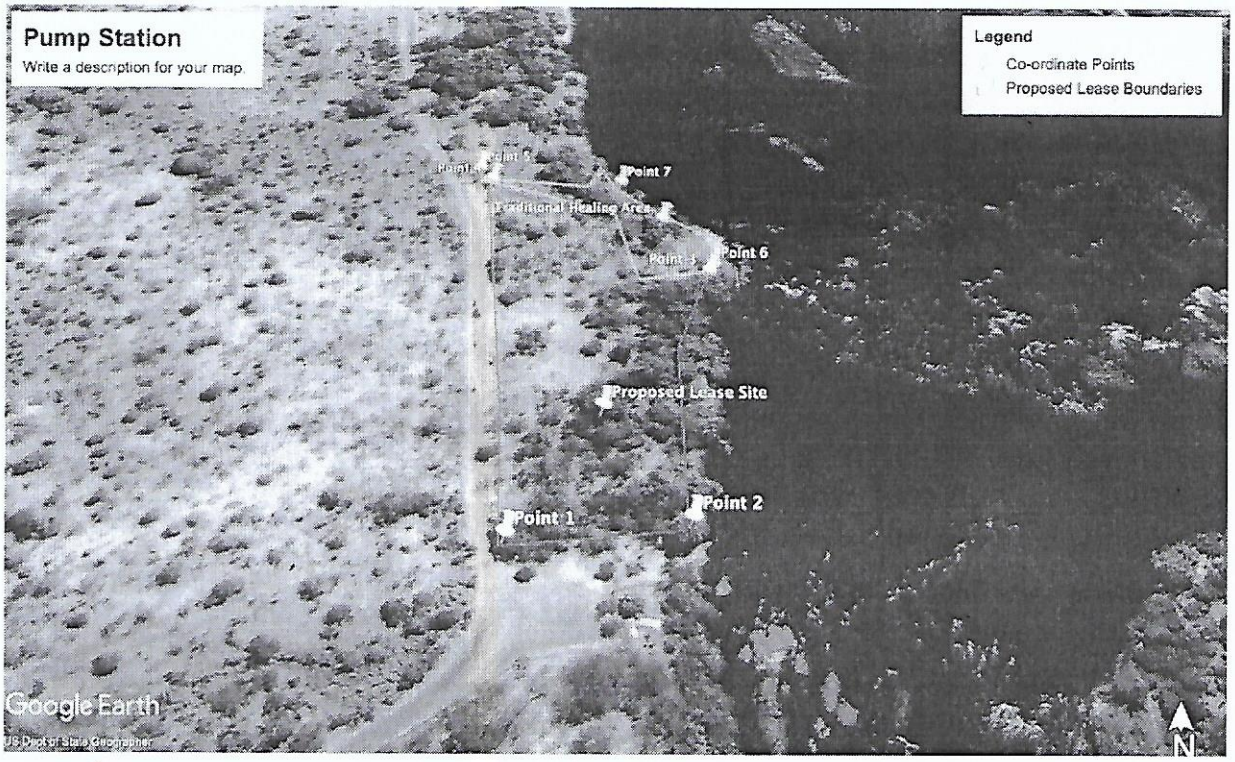


Figure 2.1: Location of the proposed Old Pump Station Restaurant

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Victoria Falls is one of the 7 wonders of the world and has everything brought together for an escape to a perfect dream holiday with nature, from incredible adventures to restaurants that serve international and traditional local cuisines, to scenery, and of course the magnificent mighty Victoria Falls, It really is the adventure and capital heartbeat of Africa.

The Old Pump Station restaurant will be located at Victoria Falls National Park, along Zambezi Drive opposite to Victoria Falls National Park VIP entrance as alluded to earlier on. Access to the proposed project site will be from two sides; the Zambezi Drive and from the National Park using the VVIP entrance. The restaurant will involve the construction of the following infrastructure and services (Fig 2.3):

- Construction of the raised wooden platform overlooking the Zambezi River.
- Positioning of a container that will be used as a kitchen.
- Establishment of power supply lines
- Sewage and water reticulation

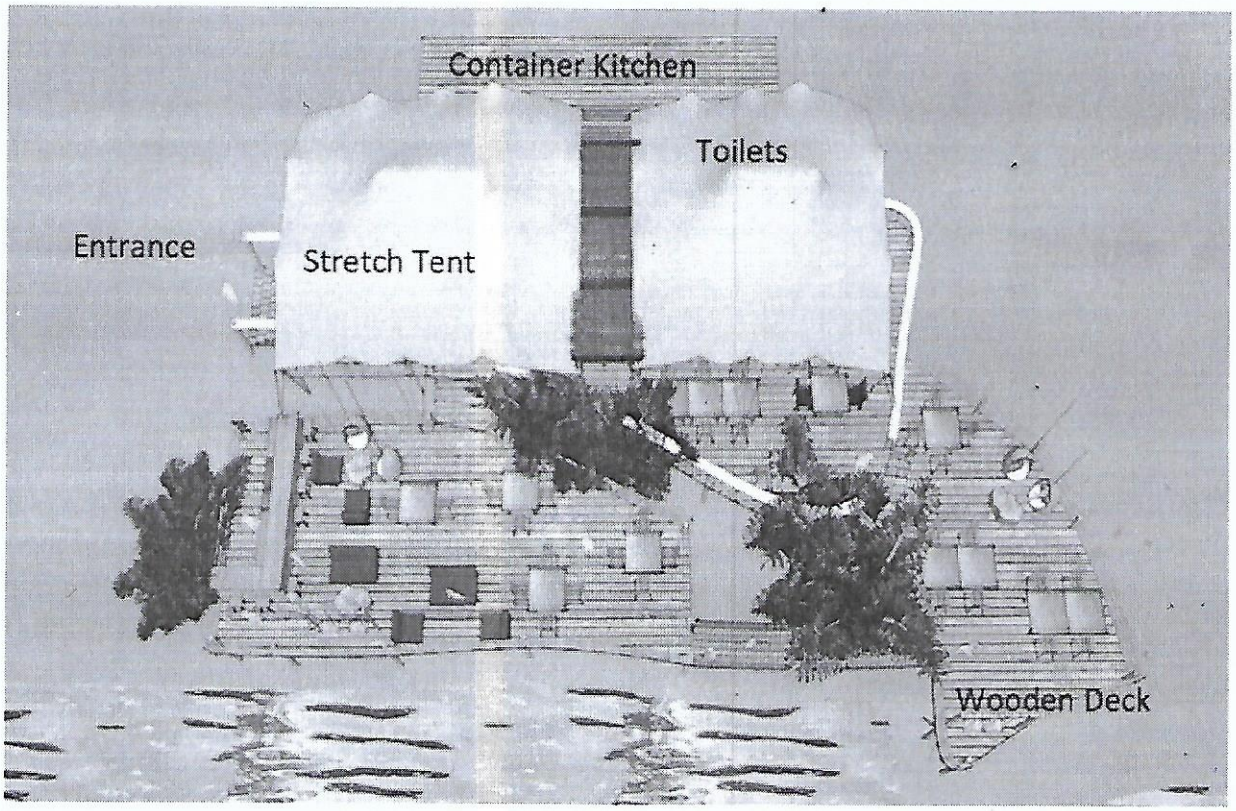


Figure 2.2: The artist representation of the proposed Old Pump Station Restaurant

Various building materials will be used to construct the restaurant. There will be brick and stone work, metal fabrication work, woodwork, floor tiling, just to mention some.

The landscaping will be done progressively during the operation phase. This will be done with the objective to blend with the local environment in the long term. The landscaping will camouflage the restaurant in years to come.

2.2.1 Construction Methodology

The construction of the restaurant will initially involve the minimal removal of vegetation, followed by hole digging for the columns of the raising dining area, private dining deck and a functions deck. Resources like sand, bricks, cement, water and sewage reticulation piping and machinery, among other things, will be made use of. The construction will be arranged in such a way that the "outward looking" structures will maximise on the natural lighting. This will reduce the amount of electrical energy to be used. Since there will a lot of light from the sun it will be advisable to minimise the amount of solar radiation incident by minimising the size of glazed openings and providing adequate shading devices where large openings cannot be avoided.

The design of the restaurant is essentially a reinforced woodwork construction. During the construction, the foundations holes will be reign forced with concrete. All beams and columns will be of wood and steel reinforced. A drop ceiling will hang above the deck platform. The plumbing lines and electrical conduits will be housed within the drop ceiling. The front bays of the structures will be covered with canvass. Floors will be covered with wooden tiles to design specifications.

2.2.2 The Sewage Works

The sewage management system that is going to be used by Scanner Investments is one termed *Fustiflow Septica* Sanitation System. The *Fustiflow Septica* has been successfully used at Ushewekudze Township, near Mbudzi in Harare since 2011. UZ Housing Trust is also implementing *fusticflow Septica*. The similar system in Europe (Italy) has been used for about 150 years, and no problems have been reported to date. There are four sizes of biofilters of same depth but varying in soak pit diametre depending on demand. This project may possible use FC2 Corporate Deluxe that serves up to 400+ users. An elaborate sewage and water reticulation system will be put in place; access roads will be constructed for easy vehicular movement. The effluent from the restaurant will be discharged into wet wells and fed to the treatment plant by lift pumps through underground piping and manholes to facilitate cleaning of the pipes. Screens will be installed in the wet wells to remove untreatable matter. The first stage in the treatment is in the aeration chamber which is responsible for 90% of the treatment process. Bacteria grown in the aeration chamber breaks down the biodegradable matter in the waste water stream to produce a suspended sludge.

The microorganisms in the suspended sludge is removed in the settling chamber and pumped back into the aeration chamber. The clear liquid at the top of the settling chamber is at this stage 85-90% treated. The final polishing of the effluent is carried out in a dosing chamber where the effluent passes through a sand filter and then chlorine is added for disinfection. The installation of the plant will include the construction of tanks, installation of piping and pumps. The actual package system will be half buried in the ground. The installation will be fenced and walkways with rails and ladders will provide safety features for inspection of the plant. The main electrical controls will be housed in a control room.

Treated effluent from the system will be discharged into the drainage channel running along the southern boundary of the restaurant property. The effluent leaving the treatment plant facility and entering the sump is considered to be treated to tertiary levels and this effluent water quality may meet the WHO effluent standards used by the EPA.

The sewage plant will carry out three stages of treatment, primary, secondary and tertiary treatment resulting in an effluent stream and a sludge residue. The plant will treat all the waste water generated by the restaurant including sewage, laundry washing and kitchen. The sewage treatment plant will produce tertiary effluent that will meet SAZ effluent drainage standards or equivalent (WHO effluent standards).

Effluent Characteristics after Treatment shall be;

- BOD - 20 mg/L
- TSS - 20 mg/L
- pH - 6.0-8.0
- Faecal Coliform concentration- 200/100 mL
- Chlorine residual - 0.5 mg/L

The *Fustiflow Septica* Sanitation System works through a process called Bacterial Bio-degradation. This process completely breaks down organic matter or black water into gases and water. The gases produced are carbon dioxide, methane and nitrogen. The final effluent will be discharged into a drainage channel along the southern boundary of the restaurant property which leads directly into wetland or sump. With this level of treatment the effluent water can be used as grey water for irrigation and other non-potable uses.

2.2.3 Solid Waste

Waste management will start from the planning to construction and the operation phases. Therefore, there will be waste collection points during the construction phase for the debris from construction material. The waste collection points will be located within specific areas in the construction chain. This will happen until construction is complete. When operational, refuse collection points will be assigned according to a specific enterprise and along the normal routes of people sufficiently close to a driveway to use (Plates 2.1 and 2.2). Waste segregation will be applied in both construction and operational phases using colour coded waste bins. Recyclables will be taken to Victoria Falls Recycling Centre which is under the management of Greenline Africa. Greenline Africa will train restaurant staff on the method of sorting of recyclables and storage for onward transporting. Management of the restaurant will have to work with Greenline Africa on the designs of the refuse receptacles. The Victoria Falls municipality will then collect the refuse in closed vehicles for disposal (Plate 2.3) in Victoria Falls Landfill. No waste materials will at any stage be disposed-off in the open veld of adjacent properties, where the wind direction will carry bad odours across the properties of adjacent tenants or landowners. The temporary stockpiling of any material that could rot and release unpleasant smells into the air will not be permitted. Burning of waste will not be permitted. Spot fines may be administered if construction/tenant employees are found to be polluting the area in any way.



Plate 2.1: Suggested waste storage bins that are colour coded and labelled

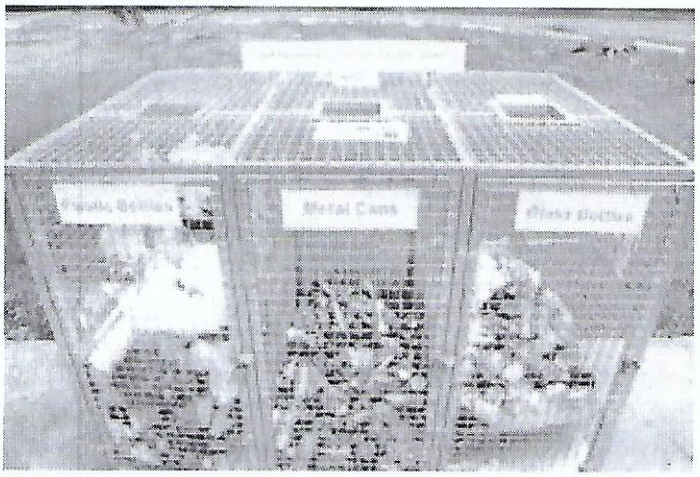


Plate 2.2: Suggested waste segregation receptacles



Plate 2.3: Closed refuse vehicle

2.2.4 Hazardous waste

Used phenyl air fresheners, expired medicines, tablet covers, syrup bottles, injection bottles and other medical discards, old paints, fluorescents and button cells will be separately disposed of into waste bins. Batteries, CFL, tube lights, printer cartridges, broken clocks and thermometers will be sealed in containers into waste bins separately from other types of waste.

2.2.5 Access & Circulation

Selective vegetation clearance will be done to open up and widen access to the project area and walkways within the project area. The already existing road will be maintained. Good connections and access to the restaurant facilities and services will be put in place. A good road network will increase the accessibility to and from the project area, making it easier to find one's way around. Road construction in the project area will maintain the grid-iron pattern to conform to other roads in the town. Parking bays will be in place for guests with vehicles and other transporters. A key factor of providing appropriate connections will be ensuring that there are barrier-free, so that all visitors have the easy access to move around the restaurant. The vegetation alongside the access road and Bulawayo-Victoria Falls Road will not be tempered with.

2.2.6 Electrical Works

Electrical work during the construction of the premises will include installation of lighting (both indoor and outdoor), air-conditioning, gadgets, dispensers and appliances,including electrical cables, lighting apparatus, sockets etc. It is suggested that all these that have been mentioned must be operated on solar power due to the failure to adequately provide power to the resort town of Victoria Falls. Solar energy as a substitute will be a must and all rooms should be fitted with heated water that is supplied by solar with an electricity back up. Solar power will also be used for laundry departments and cooking through the embracement of new technological advancements. It has been suggested that the roof tops of some of the structures will bear the solar panels and an open space will be identified for solar system. To turn the restaurant to a green power one, at least 50% of electricity will be solar power. The electricity from ZESA should power exclusively the restaurants and complemented by a generator in case of power outage. The restaurant is estimated to have an electrical demand of about 600 KVA that will be supplied by the Zimbabwe Electricity Transmission Company. A standby generator will be installed with an output capacity of 600 KVA and will be housed in a sound proof building. Modern televisions, cable, telephone and internet services will be installed providing state of the art telecommunication services.

During construction, there will be other activities involving the use of electricity such as welding and metal cutting during construction. This has to the in accordance with SI 177 of 2018 and shall be included in the EMP.

2.2.7 Water

The Restaurant will draw water from the Zambezi River and have a water treatment plant onsite. The plant will deliver over 2000 litres of portable water per day. 10 000 litre Jojo tanks will be used to store water.

2.2.8 Plumbing

Installation of pipe work for water supply and sanitary facilities will be carried out at the restaurant, pipe work will be made to connect sewage from the premises to the *Fustiflow Septica* Sanitation System, and for drainage of storm water from paved surfaces and the rooftop into the peripheral storm

water drainage system. This water will be harnessed for gardening purposes. Plumbing activities will include metal and plastic piping.

2.2.9 Landscaping

It is suggested that in between roads, there should be green zones that will be covered with grass lawn, trees and plants that attract birds and butterflies. Birdbaths will be placed in strategic areas. The park will play a pivotal role in providing up-market resting places for the guests. The park will give guests a place to connect with the natural world. It will also make the restaurant to blend well with the local environment. The landscaping will be characteristic of cultural heritage of Zimbabwe. Stone landscaping as one found in Khami Ruins, local Nambya sculpture and structures will be incorporated into the designs. Also as part of landscaping, few watering holes for birds will be dug strategically within the restaurant premises thus providing the guests an opportunity to interact with different types of birds found in Victoria Falls.

2.2. 10 Employment

The restaurant will provide job opportunities during the construction and operational phases of the project both as direct and indirect employment. During the construction phase more than 300 hundred jobs are expected to be created directly from the construction activities. These include jobs for both skilled and unskilled construction workers. It is expected that these workers will be filled by persons available from the surrounding communities. **Gender consideration is therefore very important when hiring labour.** In addition, the provision of construction materials and services such as trucking stimulate local and regional economic activity and generates jobs indirectly.

During the operation the restaurant will generate a wide range of job opportunities including managerial, service, maintenance and technical positions. These positions will be needed to operate the restaurant. These positions will be filled by qualified persons locally and regionally. Where necessary the restaurant will undertake staff training and as a last resort will employ overseas workers if suitably qualified persons are not available in Chidobe.

2.2.11 Justification

Victoria Falls town enjoys bordering Zambia and Botswana from both ends giving a wide range of activities to undertake besides viewing the iconic the waterfalls itself, with activities ranging from boat cruises, safari game adventures, helicopter tours, adrenaline activities, carnival festival and lots more from these multiple countries combined as access to these countries is easy. Victoria Falls International Airport (VFIA) has been newly completed with modern-African style for easy access to the wonder town and this development has seen some airlines either increasing frequency or introducing bigger planes to meet demand for the visitors flying directly. This project would bring direct investment to the country. On the other hand this will occur in an area known to be among the poor villages and therefore it would raise the status of the Monde village within the short term.

2.2.12 Analysis of Alternatives to Proposed Project

The concept of alternatives is recommended to be explored in design, technology selection,

construction techniques and phasing, operating and maintenance procedures, transport, power and water supply routes, choice of the site, industrial and domestic waste disposal sites, water sources, choice of land to be occupied by physical buildings, river diversions and land use. The alternatives are compared in terms of potential environmental impacts, suitability under local conditions, and monitoring requirements, particularly on the vulnerability, stability, permeability, safety and other monitoring aspects of the land sites.

The following table shows the alternatives to be considered at key selected activities at the proposed Restaurant project.

Table 2.2: Activity alternatives to be considered include the following

Item	Description	Alternatives	Comments
1	Energy Sources for Restaurant operations, activities and auxiliary facilities.	Solar Electricity, gas, wind, With less energy supply from the ZESA grid or having ZESA sub-station.	
2	Water Supply	Zambezi river (raw water), ZINWA (raw water), Municipality (potable water), Ground water. Harness water from rooftops and storm water	Surface Water Abstraction Permit and/or Ground Water Abstraction Permit will need to be processed if own water schemes are chosen. Water balance and reticulation as per requirements of the Restaurant and all its related facilities will also be developed.
3	Wastewater disposal	Sewerage treatment works, Septic tanks, establishment of treatment plant and subsequent recycling of wastewater, reducing the wastewater at source	Detailed engineering design considerations are not yet complete. However, choice of wastewater disposal should be made considering the geochemistry, geotechnical and Hydrogeological characteristics of the area. It is with the knowledge of these characteristics that sustainable and cost effective methods of wastewater disposal can be determined.
4	Construction and building material sources	Local suppliers; suppliers from outside the town or country. Concrete will likely be the main construction material. Brickwork and masonry may be used depending on architectural	Necessary permits e.g. sand abstraction permits will be sort if need arises. Construction material and associated wastes will be used in a way that minimises environmental damage if its from authorised suppliers.

Item	Description	Alternatives	Comments
		designs. Stones from excavation (and blasting if any) may be used for any masonry works. Bricks may be bought from commercial suppliers or moulded on site depending on cost, type, quantities and other construction management factors.	
5	Transportation	Road, rail, air.	A Cost Benefit Analysis is to be conducted to determine the cost effective and environmentally friendly modes of transportation that can be used in the Restaurant and in Restaurant related operations/activities. In use of road transport vehicles (trucks, lorries, automobiles, motor cycles), bicycles and walking may be used. Use of air in transportation is the fastest mode of transport however; this is quite expensive and contributes air emissions to the atmosphere. For the alternatives considered, others may be particularly suited for certain type of activities than others.
6	Emergency preparedness and Response	Hospitals, surgeries, clinics, in house training on emergency preparedness and first aid.	It is important to incorporate escape routes and measures to prevent or minimise effects of accidents and disasters.
7	Drainage	Setting up a site drainage system; storm water drains; water harvesting to reduce runoff and introduction of another source of water	All necessary Hydrogeological and geotechnical studies will need to be carried to establish appropriate drainage system to be established.
8	Solid Waste Disposal The main solid waste generated includes: • Construction waste from	Reduction of wastes at source; reuse; recycling; composting; disposal in a landfill	An integrated solid waste management system will be established to ensure sound solid waste management. Provision will be made for waste collection and storage containers such as skips and bins throughout the Restaurant site.

Item	Description	Alternatives	Comments
	construction and related activities. • Institutional and Office wastes – such as paper, plastics, cardboard, cartridges, inks etc. • Yard and ground maintenance related waste e.g. grass cuttings, vegetation wastes, pesticides residues and containers • Domestic type wastes including food wastes, paper, packaging, etc.		
10	Employment	Locals, outside of town	First preference will be given o locals for employment however in cases were particular skilled persons are not available these will be sort from outside the town.

2.3 Project Evaluation

Cost–benefit analysis (CBA), sometimes called **benefit–cost analysis** (BCA), is a systematic process for calculating and comparing benefits and costs of a project, decision or government policy (hereafter, "commercial project"). This is an important tool in analysing the possible benefit a project will have on the community. CBA has two purposes:

1. To determine if it is a sound investment/decision (justification/feasibility),

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2. To provide a basis for comparing projects. It involves comparing the total expected cost of each option against the total expected benefits, to see whether the benefits outweigh the costs, and by how much.

The project evaluation will be discussed under the following headings:

2.3.1 List Alternative Projects/Programs

In every facet of life, people need and wants are infinite, whereas the resources to satisfy them are finite and signify the importance of scarcity. In such a situation, an economy has to make a choice on the best project to be taken. In doing so, they are bound to incur some costs known as opportunity costs, that is, the cost of best alternative forgone. In the project under study, the opportunity cost of constructing a restaurant is equivalent to the same land that was supposed to be used for a housing project, good scenic area for tourists, urban agriculture or recreational facility.

2.3.2 Select Measurement(s) and Measure All Cost and Benefits Elements.

Costs and benefits can be divided into private and social benefits/costs. Private costs/benefits are those that can accrue to individual firms or companies and social benefits/costs are those that accrue to the community at large. Private costs and benefits are shown below:

Figures Based On Project Cost

The Restaurant's total project cost will be US $ 23 199 898.20 (Appendix 1). It is easy to compute private benefits and costs, but it becomes a challenge to monetarise social benefits as most of them are qualitative in nature. Social benefits and costs are referred to as externality as they are beyond the company's control. Externalities are defined as positive and negative impact that may accrue to the third party who is not involved in the direct production and consumption of that particular good/service. Negative externalities that may arise are: noise, visual intrusion and environmental degradation. Noise will be generated during the construction and implementation stages. The cleared place will represent intrusion pollution to the population who are used to seeing vegetation at the proposed project area. Excavations and other related forms of land preparation will present a number of environmental consequences like water, air and soil pollution. However, possible mitigations have since been suggested in the EMP.

2.3.3 Positive externalities that can be noted are:

Employment

The Zimbabwe labour market can be best described as in disequilibrium owing to high labour supply against a constrained demand. This is caused by structural rigidities that are in the economy, owing to a decade of economic meltdown. The high unemployment rate suggests that Zimbabwe is not operating at its full employment level and there are lots of resources that are still under-employed. The country is suffering from both structural and cyclical unemployment. Such type of employment would be solved if the economy can be grown. The economy can only grow if the government allows investment that is labour intensive as the country has a comparative advantage on labour. Investment in Restaurants will bring a lot of various jobs from white collar to blue collar. Restaurant centres tend to contribute more tertiary jobs which is the required ingredient to increase/ develop the country. If Zimbabwe is to

achieve the Sustainable Development goals by 2030, there is need to grow the economy through increase in employment.

Economic Growth

This measures the increment of Gross Domestic Production, which is the value of total goods and services that is produced in the country. Using the expenditure approach (GDP= Consumption + Investment + Government Expenditure + Net exports), the project will influence the consumption through the multiplier effect, where one person's expenditure will be the other person's income. A lot of light weight industries like banks, insurances, supermarkets and cocktail bars will be expected to announce their presence in the commercial centre. The cumulative effect of this will be an increase in the investment. Government expenditure is likely to increase in the provision of public goods, merit goods, reducing externalities, and address all forms of market imperfections. Victoria Falls is leisure seekers chosen destination in the world, so a lot of tourists will use this service and thereby affect the invisible part of exports. With agriculture and manufacturing still to contribute anything meaningful to the GDP, the onus now rests squarely on tourism and mining to improve GDP figures, which are around 10 billion currently. If the country improves all tourism facilities, we stand a higher chance to maximise profits in this sector.

Balance of Payments

The country is reeling under balance of payments deficit owing to high import bills against an export bill that is growing at an arithmetical rate, owing to a spate of economic challenges. Low industrial capacity, liquidity constraints, drought and lack of foreign direct investment have been blamed for the current account problems bedevilling the country. The Mist Restaurant is going to have banks to cater for foreigners who would need to use the service. This will result in more money being spent in the country by foreigners, thereby increasing our exports invisible receipts. Let alone the use of communication links like internet.

Price Stability

This is a situation in which prices in an economy do not change much over time. Price stability would mean that an economy would not experience inflation or deflation. One reason why prices change overtime is a result of shortages in the economy, which result in structural inflation. The coming of the new competition will ensure steady supply of better services in the industry, thereby ushering price stability. This scenario will improve the volume of tourist because one of the problems the country is facing in luring tourists is high cost of service in the country.

Government Revenue

The government of Zimbabwe is grappling under low revenue, which is the result of limited economic activity. The establishment of the proposed Restaurant will contribute more revenue in the fiscus through taxes (pay as you earn, value added tax, income tax, surcharges, withholding and presumptive tax). This revenue may go a long way in assisting government in the provision of public and merit goods.

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CHAPTER 3: DESCRIPTION OF PROJECT ENVIRONMENT

3.0 Introduction

This chapter describes the restaurant site as well as its surroundings in terms of the physical, biological and socio-economic characteristics.

3.1 Geology

3.1.1 Relief of the Victoria Falls Region

Victoria Falls are located across the Zambezi - southern Africa's largest river. In full flood with a maximum vertical drop of 108 meters, and length of 1,700 meters, they form the world's largest sheet of falling water. The relief of the project area is dominated by the Zambezi with its shallow braided valley above the falls, the Victoria Falls themselves, and the downstream gorges. The Falls themselves are the principal landscape feature. The high water flows of over 8000 cubic meters create a spray cloud rising into the air characteristic of the views of the area, which can be seen from at least 30 kilometres around. The gorges are dramatic landscape features themselves forming a darker zigzag scar when viewed from the top of the scarp, but which can become impressive when viewed from the edge or looking up from the river.

The Victoria Falls demarcate two sections of the Zambezi with markedly contrasting geomorphologic characteristics, designated the upper- and mid-Zambezi, respectively (Wellington, 1955). Upstream, the river flows in a low gradient, broad channel, which exceeds 2 km width in places. Below the falls, the gradient is evidently steeper and the river is constrained by a series of narrow gorges, some 100 km in total length. Downstream of these gorges, the Zambezi widens into the broad valley known as the Gwembe Trough, in which Lake Kariba is impounded. The Victoria Falls represent the modern position of a west migrating Knick point that incised the lower gorges into Jurassic (Karoo-age) basalts that form the bedrock. Constrain estimates of head ward erosion rates, westward measures to between 0.042–0.052 meters per annum and 0.067–0.080 meters per annum. This faster rate means that head ward erosion has incised 20 km of gorges below the Falls in 300–250 ka. The present position of the Victoria Falls reflects the culmination of evolutionary events initiated by diversion of drainage off the Kalahari plateau into the mid-Zambezi river that occupies a deep graben.

The river is bound by a low (15–45 meters) scarp, at a distance of about 5–6 kilometres from the main channel, which marks the junction with the surrounding low relief basalt plain, which is ascribed to the African Erosion Surface (Lister 1987; Moore et al. 2009). The basalt bedrock at the crest of this scarp is capped by a silicified limestone, designated The Chalcedony Beds (Dixey, 1950). The age of this unit is not well constrained, but its origin may be linked to the development of the widespread African Surface (Lister 1987, Moore et al. 2009). The Chalcedony is overlain by coarse sandstone, often silicified, that is known as the Pipe Sandstone. The Pipe Sandstone is overlain by beds of red Kalahari sand, of variable thickness, interpreted to be of Aeolian origin, and termed Kalahari Sand I (KS I) (Dixey 1950). Previous geological and archaeological work by Andy Moore and Fenton (Woody) Cotterill (2006) explains that a series of abandoned river terraces have been recognized between the valley scarps and the modern channel of the Zambezi. The Upper Terrace is capped by two gravel

benches separated in height by about 6 meters altitude - the Older Gravels I (OG I) and Old Gravels II respectively. Relict patches of KS I overlie these two gravel units. Their upper surfaces are cemented by a pedogenic Ferricrete (termed Ferricrete i), inferred to have formed at the base of the KS I. Younger Gravels and alluvial sands have accumulated on a Middle Terrace, at an elevation less than 10 meters above the modern river. In parts, these are overlain by reworked Kalahari Sand (KS II). Below the Middle Terrace, reworked Aeolian sands and calcareous sandy alluvium (Dixey 1950) bound the river. Andy Moore and Fenton (Woody) Cotterill (2006) produced simplified stratigraphy tables following earlier work by Clarke (1950) and Dixey (1950) and Wellington 1955, Figure 3.1and Figure 3.2 respectively.

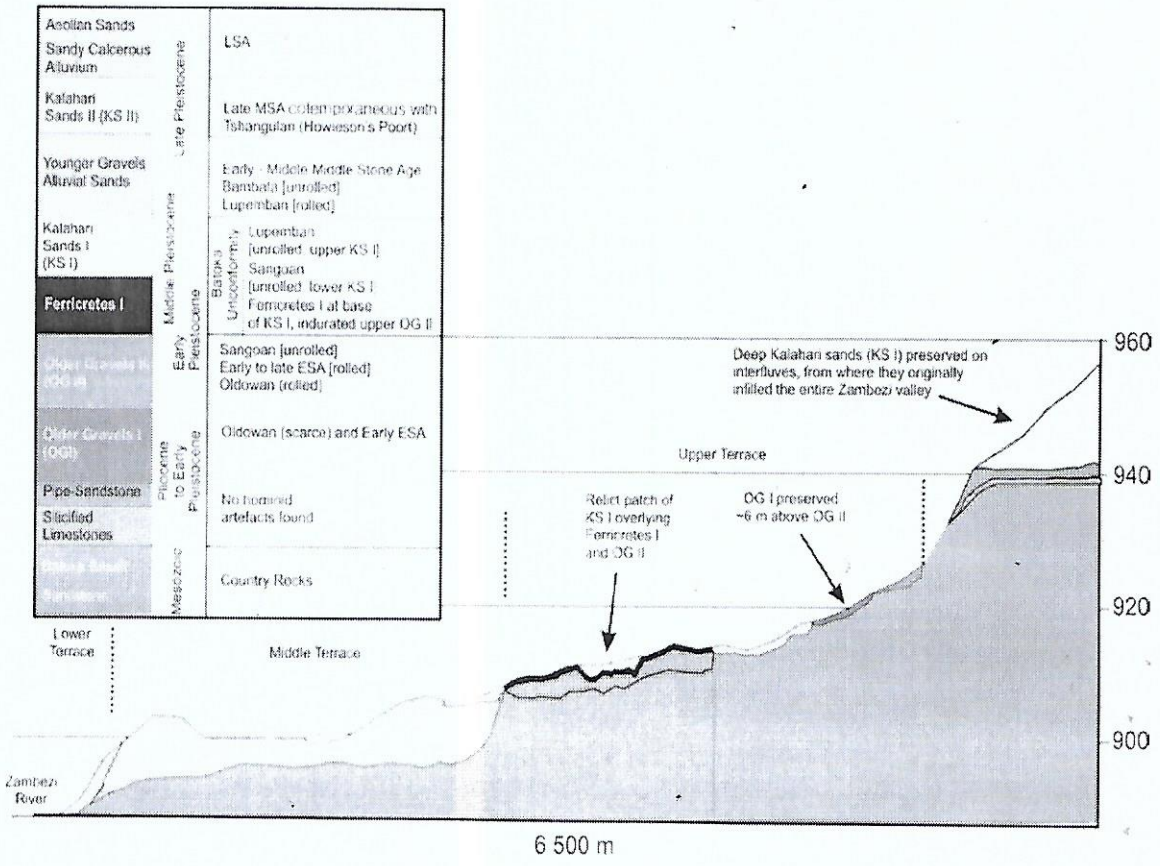


Fig 3.1: Regional Stratigraphy of the Victoria Falls area, adopted after Andy Moore and Fenton (Woody) Cotterill (2006)

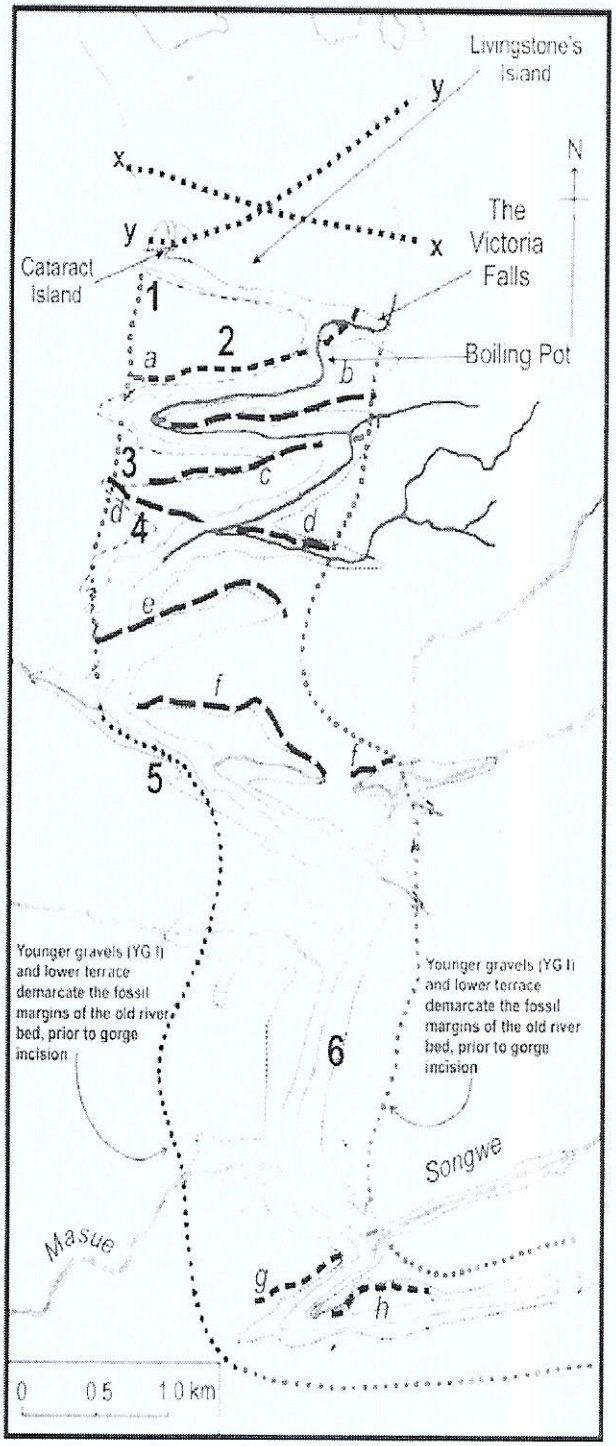


Figure 3.2: Summary of the stratigraphy of the Victoria Falls Formation (VFF), adopted Andy Moore and Fenton (Woody) Cotterill (2006).

6. Ferricrete I (Sangoan accumulated on Old Gravels)

5. Old Gravels II (OG II) (Mid- to Late-ESA and Sangoan)

4. Old Gravels I (OG I) (Rolled Oldowan and Acheulian)

---

3. Pipe sandstone

---

2. Silicified limestone or "Chalcedony"

---------- *Marked Unconformity*

1. Karoo Basalt'

3.1.2 Basaltic Soils

Soils derived from basalt are generally very shallow lithosols with pockets of dark brown/black vertisols. These clays are expansive and have a high water holding capacity, becoming seasonally water logged. This poses potential problems for road and building construction. Although relatively high in exchangeable cations (nutrients for plant growth), the expansion and contraction of the clays during wet and dry periods makes them largely unsuitable for agriculture, (Except along contact zones where clay mix with sand). The Basalt areas have high heat absorbency, so are hotter during the day and remain warmer during the night than the sands. This has implications for human settlement and housing

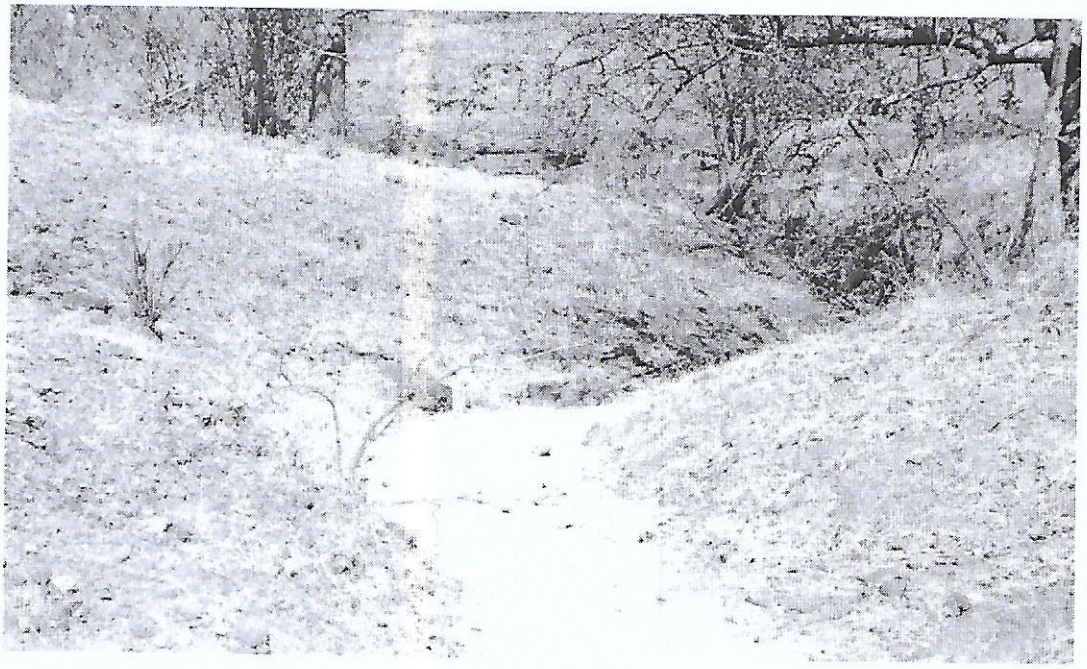


Plate 3.1 Basaltic soils exposed on the bottom of the scarp

3.1.3 The Kalahari Sands

These soils are regosols; deep, yellowish/brown or reddish sands with very low water holding capacity and very little nutrient for plant growth. For these reasons, they are unsuitable for agriculture unless irrigation is available and soil nutrients are enhanced with natural or artificial fertilizers. The sands are loose and very easily eroded, particularly on hill slopes and contact zones with the lower lying basalt. Gully erosion is quite evident at this restaurant project site (Plate 3.1)

3.1.4 Local geology –restaurant site

The proposed Restaurant site lies to the south of the famous Victoria Falls. Geomorphological, the restaurant sits on a plateau like terrain forming steep scarp of the Zambezi River valley. The bottom parts of the scarp measuring an elevation of about 940 meters and the highest an approximate elevation of 973 meters. The exposure of outcrops is limited except in the hilly side sections where the basaltic unit generally pillowed in nature is revealed. Red brick silt unit commonly referred to as the Forest Sandstone (Plate 3.1) caps the local stratigraphy and it often exhibits a history of strong alteration the form of oxidation. Quartz floats, magnesite floats and basaltic floats are spread across the entire area. Strati-graphically the brick red sands (Forest Sandstone) are from elevation of 950 – 959 meters, separated by light brown soils from the basalt which appear at around 940 meters elevation or below.

The basement basalt is strongly weathered and weak on exposure to surface. Structures within the basement basalt initiate formation of channels resulting in localized minor gorges. The vertical jointing nature under load tends to dilate and this compromise the structure as lateral stress distributes normally through the vertical fissures. This requires special foundation design from civil/structural engineering

expertise. Primarily, it is recommendable that any structure be set on a solid foundation; the primary support of the infrastructure should be put up only upon exposing the fresher/parent zone of the basement basalt.

3.2 Hydrology and hydrogeology

3.2.1 Hydrology

Generally, the Zambezi flows over a level sheet of basalt, in a shallow valley bounded by low and distant sandstone hills. The river's course is dotted with numerous tree-covered islands, which increase in number as the river approaches the fall. ZINWA harvests water from the Zambezi River into treatment tanks. The water is then reticulated to various users at a fee. There are no mountains or escarpments, however, there are deep valleys which create a waterfall. This is due to the faulting of the Precambrian period that resulted in the spectacular Eastern Rift Valley that extends from Central to Southern Africa. The flat plateau forming the cliffs extends hundreds of kilometres in all directions.
The runoff from the project site drains mainly into the Zambezi River. Two main small erosion drainage channels traverse through the site area. They form small gullies at the top of plateau confluence outside the project area at the Parks boundary fence and then proceeds to the Batoka gorge. While the Zambezi River has a very huge and hydrological active catchment, the location of the site is in the mid Zambezi basin, which contributes minimal, flows to the river.

(a) Surface Water Quality

The quality of water flowing through the project area is generally good. The water is free of pollutants from anthropological industrial activities since there are no industries upland. Organic matter, soil particles and dirt such as paper and plastic are the pollutants (Plate 3.2 and 3.3). These are however minimum since the flow is also as limited as the drained area. The Zambezi River has very good raw water quality. The dilution effect due to the large flow volumes reduces the impact of pollutants on the surface water quality.



Plate 3.2 & 3.3 Glass, plastic and other pollutants illegally disposed

(b) Groundwater Regime

The groundwater is expected to flow in the direction of the Zambezi River. The water holding capacity (specific retention) of Kalahari sand is very low. The basaltic bedrock has low porous and holds water

mainly in faults and cracks. Quoting water table level may be misleading due to the topographical layout of the area. Surface elevations may have up to 20m difference across 500m.

3.3 Climate

Climatic and weather conditions are very indicative of what the rainy, wind, temperature, seismic and lighting patterns are and what resulting environmental impacts can be expected for addressing.

3.3.1 Seasons

The climate in and around Victoria Falls can be described as hot and sub- tropical with a degree of variation in the four seasons. The meteorological year in Zimbabwe has four seasons. These are:

a) Cool Season: mid-May to August
b) Hot Season: September to November
c) Main Rainy Season mid-November to mid-March
d) Post Rainy Season mid-March to mid-May

In detail, these four seasons are characterized by;

a) The Dry/ Cool Season- sets at the beginning of June up to August and has temperatures ranging between 17°C and 27°C, although this is occasionally exceeded in either direction.
b) Hot season- this is the period beginning September to the beginning of the rainy season in November, when temperatures rarely go below 30°C.
c) The Main Rainy Season- usually begins at the end of October, through November, to the end of March, although the season sometimes stretches into April.
d) Post Rainy Season- this is the period during the months of March or beginning of April to May. Although some rainfall occurs, this amount is low and far between. By the end of May, all signs of rain usually disappear, giving way to the dry season.

3.3.2 Lightning

The type of rainfall mostly found in Victoria Falls is convective, which is associated with showers and thunderstorms. The area therefore has many chances of lightning activity during the summer when the rains are falling.

The Fig 3.3 below shows return period of fires in Southern Africa. It is assumed the more the lightning frequency in an area, the higher the fire return rate. Therefore, basing on the map, Victoria Falls lies in an area moderately prone to lightning.

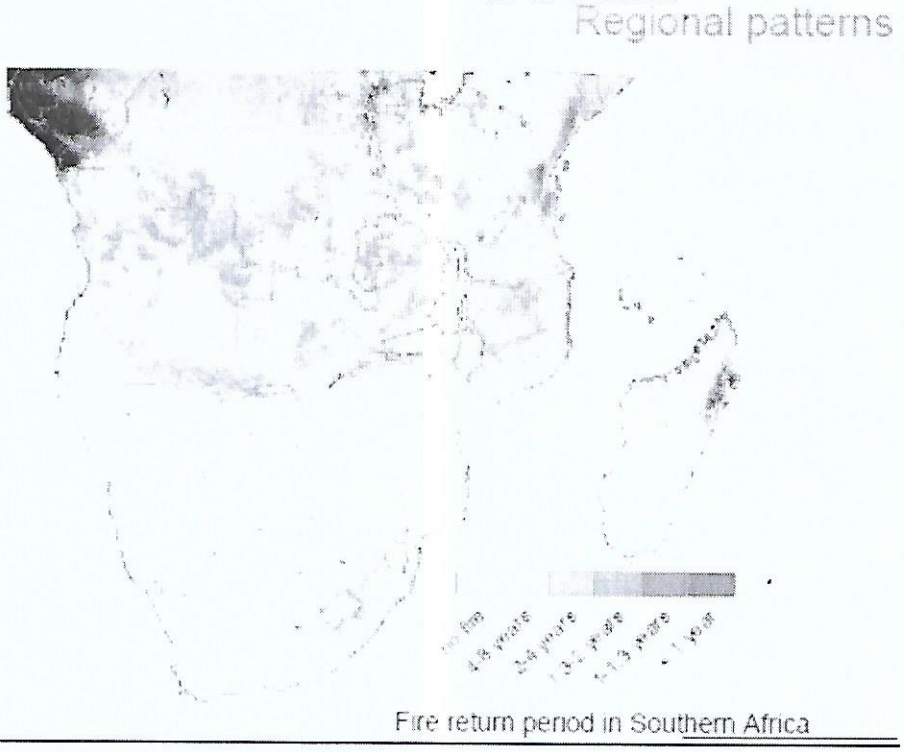


Fig 3.3: Fire return period in Southern Africa

3.3.3 Rainfall

The Zimbabwean natural farming regions are categorized according to the expected amount of rainfall as follows:

- Region 1- above 900mm.
- Region 2- 800mm - 899mm.
- Region 3- 600mm - 799mm.
- Region 4- 500mm – 599mm.
- Region 5- 499mm and below.

Rainfall in the main rainy season is characterized by severe storms occurrence followed by spells of drier weather. Such intense storms are highly erosive if there is not enough vegetation cover on the ground, leading to severe soil erosion.

The long-term annual average rainfall for Victoria Falls is around 600mm, but there is considerable variation from one year to the next. In some drought years, the total annual rainfall falls to 400mm and

in the very high rainy years, it can exceed 800mm per annum. The increasing variation in annual average rainfall is an indication of Global Warming and how it is affecting the climate in Zimbabwe. Ecologically zoning of the project area, lies in natural regions IV & V (Fig 3.4) which are characterized by low fertility soils rainfall between 450- 650mm with periodic seasonal drought and severe dry spells in the rainy season. Optimum agricultural production should be limited to livestock production and drought resistant crops. Nevertheless, maize is quite commonly produced in the communal lands, despite its unsuitability. Natural region 4 is suitable for game ranching

3.3.4 Wind

The types of winds most prevalent in the Victoria Falls are Easterlies to South Easterlies. The winds range from light to moderate, but chances of strong gusts is always there. Chances of variable winds are also prevalent in the summer.

3.3.5 Temperature

Victoria Falls Town lies near the Hwange District share almost the same weather patterns/ conditions. This is a semi-arid region and meteorologically classified under Natural Region 3. The mean annual maximum temperature ranges from between 21 to 30°C. These temperatures are experienced during the summer season, which begins in September through to April. Occasionally hot spell occur when the maximum temperatures exceed 30 due to the relatively dry conditions associated with the region 4 in which Hwange is situated.

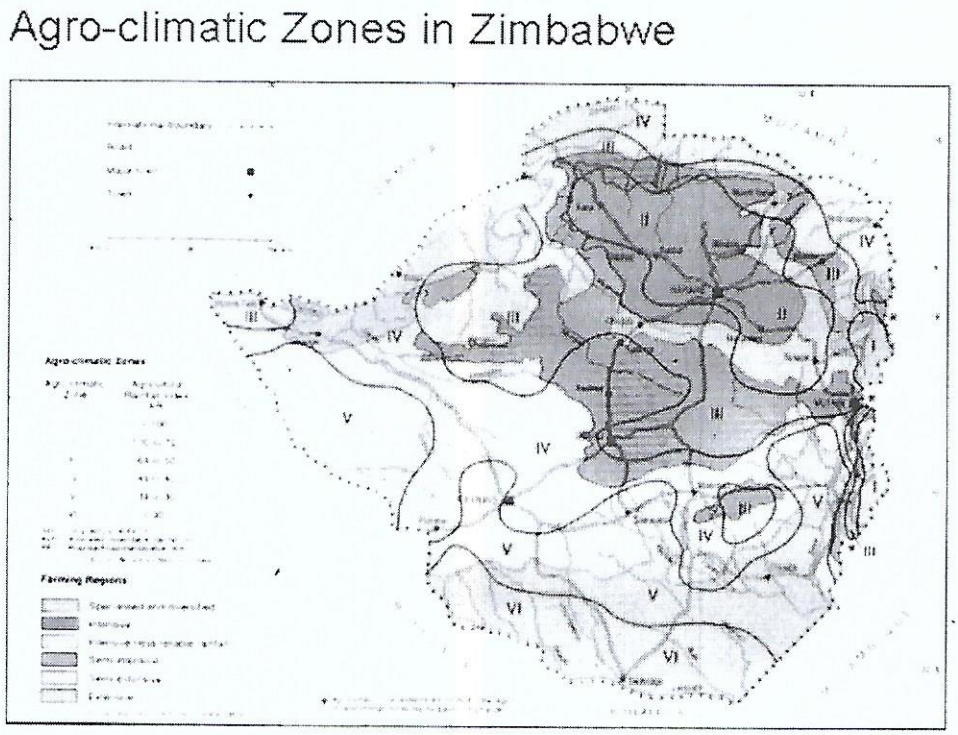


Fig 3.4: Agro-climatic Zones in Zimbabwe

3.3.6 Seismic Conditions

Zimbabwe can be divided into at least three broad seismic zones namely;

- Eastern Border Area.
- Zambezi Area.
- Central Area.

a) Eastern Border Area

The Eastern Border area shows high earthquake activity. This area is in the southern part of the Great East African rift system that is the dominant tectonic feature of the African continent. This system controls seismic activity in the eastern and southern Africa is considered by many to the best example of continental rifting.

Major seismic activity takes place on the eastern (Mozambique) side. The recent earthquake event of 23rd of February 2006 which measured 7.4 on the Richter scale emanated from this region (21.22S Latitude and 33.34E Longitude). This event was followed by aftershocks some of which, like the three aftershocks of the 15th of March, 2006, were felt in the eastern parts of the country as well as some parts of Harare. Aftershocks from the event are still being recorded.

b) Zambezi Area

This region extends from the northern tip of the country, in the southwesterly direction through Lake Kariba, Devil's Gorge, the Deka Fault, to the westerly edge of the country. This region is the most active seismic region in Zimbabwe. Earthquakes of magnitudes higher than 5.0 have occurred in this region. The largest being a magnitude 6.1 that occurred on the 23rd of September 1963.

c) The Central Area

This area's geology is predominantly stable (granitic) continental shield and may be regarded as a seismic. Earthquakes do, of course, occur in this region but they are small and very infrequent. An event of magnitude 5.0 occurred in the southern part of the country which is associated with faulting along the Sabi-Limpopo mobile belt. Two earthquake events have occurred in this region around midnight of the 21th of May, 2006 in the Wedza area. The shocks were felt in the eastern, northern and central parts of the country including Harare. The magnitudes were around 4.0.

d) Seismicity of Victoria Falls

As said that the seismicity of Zimbabwe can be divided into three broad zones namely the Zambezi basin, the eastern border areas and the central region. Among these, the most seismically active region is the Zambezi basin followed by the eastern border areas. The central region is more stable although some earthquakes have been recorded. Victoria Falls just like Hwange sits within one of the seismically active region in Zimbabwe the Zambezi basin. This event occurred in the boundary of Zimbabwe shield and the Save-Limpopo mobile belt. Since then few small magnitude events have occurred in the vicinity

of its epicenter. In recent years there was an earthquake of magnitude 4.3, which occurred in Nyamandlovu on 15 March 2008, which was felt in Hwange, Bulawayo and surrounding areas.

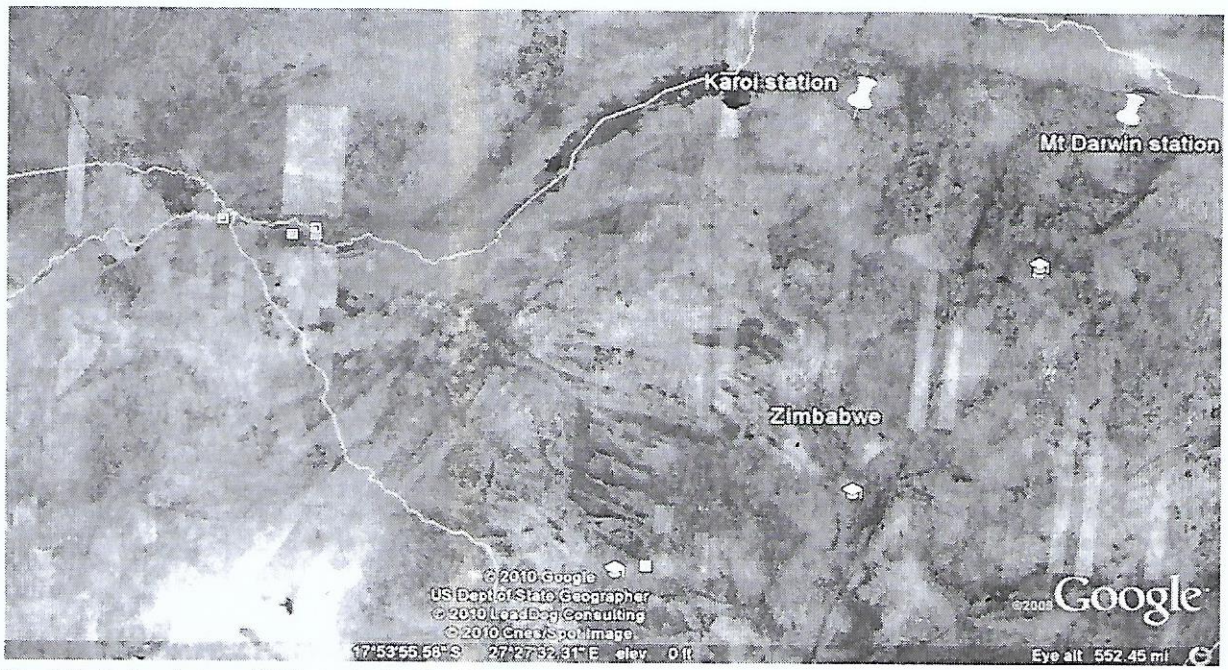


Fig 3.5: Seismicity of Victoria Falls, Hwange and surrounding areas.

Table 3.1: List of earthquakes, which occurred in and around Hwange

Date	Latitude	Longitude	Magnitude
1963/09/25	-18.5000	28.5000	5.8
1967/06/11	-18.9000	26.9000	2.9
1968/12/13	-18.3000	27.3000	3.3
1969/03/18	-19.5000	27.5000	2.8
1972/05/08	-18.9000	27.8000	2.8
1973/10/20	-19.0000	26.6000	2.9
1974/04/03	-18.8000	27.0000	2.9
1976/04/03	-19.3000	27.4000	3.8
1976/05/15	-19.0000	27.0000	2.9
1977/10/03	-19.2000	28.1000	3.2
1978/03/06	-19.3000	27.7000	3.5
1979/05/29	-18.6263	26.6549	3.3
1982/06/02	-19.4000	28.4000	3.8
1986/12/18	-18.6000	26.5000	3.5
1990/06/24	-20.5000	26.8000	4.5
1994/08/29	-19.2000	26.9000	3.7

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Date	Latitude	Longitude	Magnitude
2005/11/10	-19.0430	29.1390	3.8
2008/03/15	-20.7200	27.5400	4.3

As for 2009 and 2010, there were no events.

3.4 Ecology and Biodiversity

3.4.1 General Overview of the Biodiversity of the Victoria Falls Region

The Victoria Falls region falls within the Zambezi River Basin. In biodiversity terms, the Victoria Falls area falls in the Zambezian biome which covers about 95% of the basin. This biome comprises of woodland and savanna vegetation, interspersed with grasslands and wetlands. Moister areas are covered with miombo broad-leaved woodland, and drier areas with mopane or acacia woodland. Considering biodiversity importance and conservation, the Victoria Falls region lies at the centre of the proposed Kavango-Zambezi Transfrontier Conservation Area (KAZA TFCA). The region supports impressive populations of large mammals and birds, the largest elephant population in the world, two globally threatened large mammals (black rhinoceros and wild dog), several endemic species of plants, reptiles and amphibians, one endemic mammal and one endemic bird species.

3.5 Protected Area Close to the Proposed Area

The proposed site of the Restaurant lies adjacent to the Zambezi National Park (included in The Victoria Falls World Heritage Site) and Fuller National Forest Reserve. Open to visitors throughout the year, the Victoria Falls National Park in north-western Zimbabwe protects the south and east bank of the Zambezi River. It covers 23.4 km², extending from the larger Zambezi National Park about 6 km above the Falls, to about 12 km below the Falls. Newman (1987), states that a notable feature of the park is the rainforest, which grows in the spray of the falls, including ferns, palms, liana vines and a number of other trees, such as mahogany, not seen elsewhere in the region. A World Heritage Site is a natural or cultural site that demonstrates influence or significance in a global context, has an outstanding Universal Value, and is inscribed on the World Heritage List by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage Committee (UNESCO, 2012). In Zimbabwe, cultural heritage is defined by law and includes some of the following: any historical building, ruin, statue, grave, cave, rock shelter, and area of archaeological or historical interest. There are Stone Age refractory furnace that were discovered by the ESIA Team. Details are in the Archaeological report in Appendix 3.

Mosi-oa-Tunya National Park in Zambia is an UNESCO World Heritage site and is twinned to the Victoria Falls National Park on the Zimbabwean side (United Nations, 2007). The Park covers 66 km² (25.5 square miles) from below the falls, in a north-west arc along about 20 km of the Zambian river bank. It forms the south-western boundary of Livingstone and has two main sections, a wildlife park at its north western and the land adjacent to the Victoria Falls. The national parks contain abundant wildlife, including populations of elephant, buffalo, giraffe, zebra and a variety of antelopes.

Vegetation

Climatically, the Victoria Falls region is expected to host open deciduous or semi-deciduous woodland but the effect of climate is offset by the geological formations. The Zambezi River flows over a bedrock of dull red-brown basalt and overlying beds of reddish Kalahari Sands. The exposed edges of these two formations on both north and south of the Falls, including the project site, are irregular in outline and there are outliers of varying size form islands of Kalahari Sand overlying the basalt.

i) Mopane and Scrub Woodland

Basaltic soils on the site are shallow, stony, with wash of Kalahari sand over them and they favour those tree species that are shallow rooted and able to withstand long hot, dry periods.. These include the mopane woodland to mixed mopane scrub. The dominant species include *Colophospermn mopane*, a valuable browse species for domestic animals and wildlife.

Scrub Vegetation is dominated by shrubs, with scattered tall trees on shallow stony basalt soils Notable woody species are *Kirkia acuminata, Acacia nigrescens, Burkea Africana, Combretum emberbe, Erythrophleum africanum, Sclerocarya caffra, Pterocarpus antunesii, Sterculia quinqueloba, Commiphora mollis, Cassia abbreviate, Sterculia quenquioloba, S.africana, . Securidaca longependulata, Dichrostachys cinerea, .* and the vlei lily *Crenum macowanii.*

Mixed scrubland thrives on shallow, strong soils underlain by basalt and its distribution is close to the Zambezi and its tributaries (Meynell *et al.*, 1996). The main value for this vegetation type is browse and grazing for wildlife and cattle in the area. It also provides good supplies of fuelwood and like the Kalahari woodland is exploited for curio making and poles for building.

***ii)* Dry Deciduous Woodlands on Kalahari Sands**

The Kalahari sands on the cliffs and plateau of the of the project site are deep, well drained and they support Miombo/ Kalahari woodland dominated by some most important timber producing trees: the Zimbabwean teak (*Baikiaea plurijuga)*,and *Pterocarpus angolensis, Amblygonocarpus andongensis, Barkea Africana, Combretum collinum, Erythrophleum africanum, Afzelia quanzensis, Xeroderris stuhlmannii*

On the plateau woodland are also a miombo element dominated by dense thickets, at shrub level largely composed of *Baphia massaiensis ssp. obovata* (isunde),the white *Bauhinia macrantha*, the Lavendar croton (*Croton gratissimus*), *Terminalia sericea, Grewia monticolor, Grewia flavascens Grewia flava, Combretum apiculata, C. collinum, Burkea africana* and the Crinum lily (*Crinum macowanii*). Many of the shrub species produce edible fruits for humans like the tree *Berchemia discolor* (bird plum) and *Sclerocarya birrea*. There is very little grass covering the open woodlands whose soils are highly disturbed by erosion.

iii) Riparian Vegetation

The restaurant site is part of the Zambezi River basin drainage system but lies on the drier edges. Most of the tree species occurring on the proposed restaurant site are found within the boundaries of the

Victoria Falls World Heritage site (rain forest), which is 2-3 km away to the north. Due to the microclimatic influence of the waterfalls on vegetation, the trees species found close to the rainforest are three to four times larger (in height and stem diameter) than the same species found on the drier places to include restaurant site. Therefore clearance of trees from the restaurant site area will not threaten existence of these species.

The vegetation in the rainforest is nurtured by the spray from the falls, supports plants rare for the area such as pod mahogany, ebony, ivory palm, wild date palm and a number of creepers and lianas. At its best development, riparian forest is a three storied forest with a closed evergreen canopy attaining 21m in height. Some common tree species that occur here are *Diospyros mespiliformis, Trichilia emetica, Syzyguim guineense ssp barotsense, Syzygum cordatum, Mimusops zeyheri, Hyphaene coriacea, Hyphaene petersiana* and *Pheonix reclinata*. Also common are *Phragmites mauritianus* and *Cyperus papyrus*. This habitat houses the highest concentration of animals and is the most sought and threatened by human developments (Source: Joint Management Plan for the Victoria Falls /Mosi-oa-Tunya World Heritage Site).

Table 3.2: Summary of Vegetation Type and Dominant Species at the site.

Site Area	Vegetation Type	Dominant Species
Upper Terrain/ Plateau	Teak Woodland	*Baekaea plurijuga, Burkea Africana, Pterocarpus angolensis, Baphia , Adansonia digitata, Diplorhynchus condylocarpon, Brachystegia spiciformis ,Sclerocarya birre, Bauhinia macrantha*, the Lavendar croton (*Croton gratissimus*), *Terminalia serecia, Grewia monticolor, G. flavascens G. flava, Combretum apiculata, C. collinum, C. emberbe, Terminalia serecia, , Pterocarpus antunesii, Commiphora molli, Acacia nilotica, Dychrostecia ceneri, Strychnos pungens, Strychnos cocculoides*
Plateau Slopes	Combretum- mopane mixed Woodland	*Terminalia prunoides, Ziziphus mucronata , Kirkia acuminata, Afzelia quanzensis, Acacia nigrescens, Combretum apiculata, C. collinum, Terminalia serecia, Grewia monticolor, G. flavascens G. flava, Sclerocarya caffra, Commiphora species, Euclea divinorum, Strychnos pungens*
Scarp floor area	Mixed Mopani woodland	*Colophospermn mopane,Kirkia acuminata, Acacia nigrescens, , Combretum emberbe, Erythrophleum africanum, ,. Adansonia digitata, Commiphora species*

iv) Invasive Alien Species

Invasive alien species recorded in the in the Victoria Falls region include *Lantana camara* and the Castor oil plant. This weed was not recorded at the project site but is concentrated in the Zambezi River banks even within the Victoria Falls World Heritage Site (VFWHS).The extent of its distribution and density is a threat to biodiversity of global significance and requires urgent attention. Other invasive alien species of interest in the area are *Eichhornia crassipes* (water hyacinth) and the *Opuntia* species. The water hyacinth has occasionally covered the Victoria Falls town sewage treatment ponds, which subsequently discharges sewage into the Masue River a tributary to the Zambezi River.

(b)Wildlife (animals)

The Victoria Falls is bound by wildlife conservation areas within the Kaza-TFCA. The Hwange-Matetsi-Victoria Falls complex is made up almost entirely of unsettled state land protected areas comprising four national parks (15,547 km2), two safari areas (3,430 km2) and four forest reserves (3,010 km2), resulting in an a area of state protected land of 21,987 km^2. In the vicinity of the proposed site are the Victoria National Park, the Zambezi National Park, Fuller Forest on the Zimbabwean side and the Mosi-oa-Tunya National park on the Zambian side of the Zambezi River. This region is rich in animal diversity (mammals, birds, fish, reptiles, amphibians and invertebrates), hence wildlife have been a major tourist attraction besides the Victoria Falls World Monument.

The determination of the presence and occurrence of animal species in this area has been derived from the following principal sources of information which include: the recent field surveys, data from specimen records found the National animal collections in the Natural History Museum of Zimbabwe, Bulawayo, published literature and personal communications from the consulted public stakeholders in the area.

Although few animals were seen on the site during the field surveys, the occurrence and presence of those species not encountered was established through examination and interpretation of animal faecal matter, footmarks, bone remains, burrowing, animal sound calls nests and consulting the local people who have resided in the area for a long time.

Mammals

Although few animals like buffalo and elephants are regular visitors to the proposed site for the Restaurant, a large population of elephant *Loxodonta africana* (EN) lives in Zambezi National Park, crossing to the islands above Palm Island and into Zambia during the dry season when water levels are low. There are small herds of buffalo *Syncerus caffer* and blue wildebeeste *Connochaetes taurinus*, as well as giraffe *Giraffa camelopardalis*, Burchell's zebra *Equus burchelli* (on the Zambian side), warthog *Phacochoerus aethiopicus*, and some bushpig Potamocherus porcus. Schools of *Hippopotamus amphibius* are common above the falls. Vervet monkey *Cercopithecus aethiops* and chacma baboon *Papio ursinus* are common round the falls and lion *Panthera leo* (VU) and leopard *P. pardus* are occasionally seen. Klipspringer *Oreotragus oreotragus* and Cape clawless otter *Aonyx capensis* can be seen in the gorges. Especially in the Zimbabwean parks, six species of antelope are common and six less so, some also occurring, or have been introduced, on the Zambian side, though recent

droughts have decimated these. Specially protected species include roan, wild dog, and cheetah but these are not common visitors to the project site.

Avifauna

Birds locate a habitat with sufficient food and water if they are to survive in the area. More varied food is required to enable successful breeding. The Victoria Falls and its environs host more than 700 bird species (P.J. Mundy, pers. Comm), of which about 25% are waterfowl. About 15 of Zimbabwe's 23 specially protected bird species occur within this area. The gorge system below the falls is an important breeding habitat for raptors, having a wide range of these species, which has led to the Batoka gorges being, listed an 'Important Bird Area'. Some 35 raptors are found in the Batoka gorges below the falls and few kilometres from the proposed Restaurant site. These include the Taita falcon (*Falco fasciinucha)* that breeds there as do black eagle (*Aquilla verreauxi)*, peregrine falcon (*Falco peregrinus)*, augur buzzard (*Buteo rufofuscatus augur)* also black stork (*Ciconia nigra)* and African swift *Apus barbatus*. Also found above the falls area are whitebacked night heron (*Gorsachius leuconotus)*, African finfoot (*Podica senegalensis)* and rock pratincole (*Glareola nuchalis)*.

Very few bird species were encountered during the survey period as evidenced by the nests (Plate 3.4). This is because birds are highly migratory and seasonal in appearance. The most common bird species sighted were the grey ground hornbill, yellow billed hornbill, Black flycatcher, woodpeckers and guinefowl, Natal francolin, Redbilled francolin, Redbilled wood hoopoe, White bellied sunbird, Black crow, Scarlet-chested sunbird, Lizard buzzard, Woodland king fisher and the Forktailed drongo (*Dicrurus adsimilis)*, the Red billed Firefinch, Golden-breasted Bunting (*Emberiza flaviventris*), Blue Waxbill, Grey Headed Sparrow (*Passer griseus) P. domesticus, Malimbus rubriceps* (Red-headed Weaver, Black Sunbird (*Nectarinia amethystine*), Scarlet-chested Sunbird (*N.senegalensis)*, and the little Bee- Eater (*Merops pusillus)*, Black Collared Barbet (*Lybius torquatus)*, and the Black-Eyed Bulbul (*Pycnonotus barbatus).*

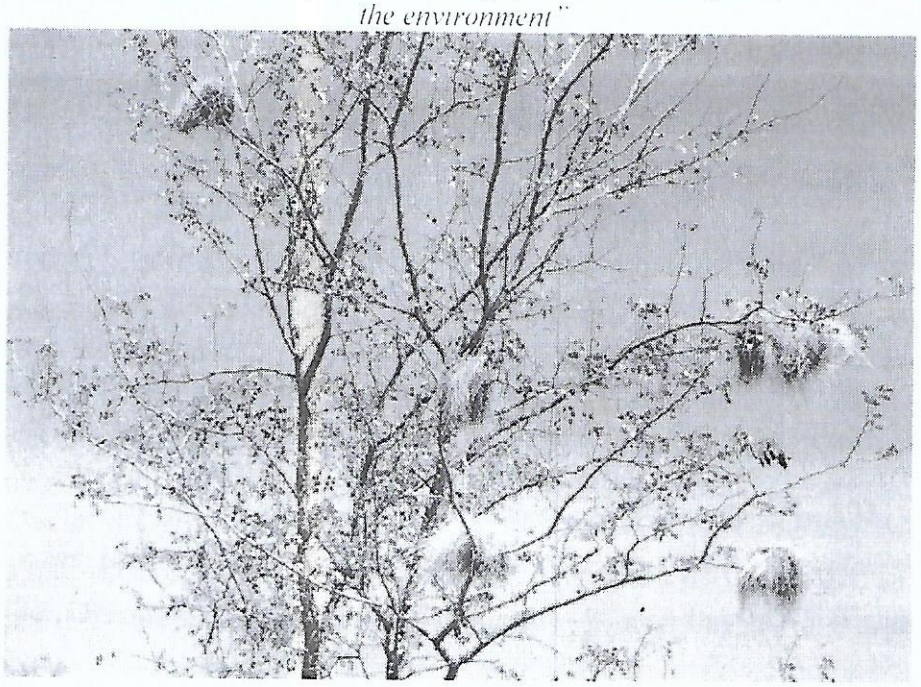


Plate 3.4: Some bird Nests on Acacia tree

Birds of economic significance include the Francolins, Guinefowls, ducks and geese which are hunted for meat. Species of negative importance include the Red-Billed Quelea which a pest of cultivate grain.

Fish

Under normal circumstances it is not expected that the project will affect fish fauna in downstream water bodies. However, the fish fauna which may be impacted by the proposed projèct in the event of unprecedented wastewater runway caused by storms are found in the nearby Zambezi River above and below the Falls. The fish species of the basin are well documented chiefly because of their economic importance as a major source protein food. There are over 360 species of fish recorded in both the Upper and Lower Zambezi basin. Bell-Cross, 1975 documented a comprehensive checklist of the Fish of the Zambezi basin (Appendix 4).

The total number of indigenous fish species recorded in the upper Zambezi (i.e. above the Victoria Falls) is 71 species recorded from the waters above the falls, which include African mottled eel (*Platystacus cotylephorus)*, tigerfish (*Hydrocynus vittatus)*, Kafue pike (*Hepsetus odue)* and silver barbel (*Schilbe intermedius)* and several species of bream. The middle Zambezi (i.e. below the Victoria Falls) has 45 species which include butter barbel (*Schilbe mystus)*, eastern bottlenose (*Mormyrus longirostris)*, chessa (*Distichodus schenga)*, nkupe (*Distichodus mossambicus)*

Apart from a still undescribed killifish in the Caprivi there are no fish species endemic to the KAZA area and none are listed on the IUCN Red Data List (Bills and Marshall 2004). The introduction of exotic species is a matter of considerable concern, particularly the introduction of the Nile tilapia

Oreochromus nilotica which is apparently displacing the middle Zambezi endemic *Oreochromus mortimeri* (Bills and Marshall 2004). The major threats to fish fauna of the Zambezian aquatic biome are the abstraction of water, the building of dams, over-fishing, and the introduction of exotic species often from aquaculture development projects, invasion of waters by the water hyacinth, water pollution from urban developments.

Invertebrate Fauna-Insects

Insects and other invertebrates form the most diverse group of animals on earth and collectively, they are major energy conduits and are agents of nutrient cycling and plant pollination in various ecosystems. Insects can be used for conservation assessment and ecological monitoring in selected habitats or ecosystems for the following reasons: insects have short life-cycles, have high rate of population increase, high habitat specificity hence can rapidly respond to environmental disturbance.

Given the vast diversity of insects and their relatives, lack of taxonomic expertise for most groups and the time factor, sampling effort was emphasized on selected groups that are popularly known for being bio-ecologically informative in terms of their abundance, species richness, taxonomic tractability and ability to reflect the ecological quality of the area.

The area has a potential to host relatively high diversity of insects due to its well preserved vegetation and considerable number of rock outcrops and streams that have created a good heterogeneous habitat for a number of invertebrates. The Victoria Falls and the surrounding areas are basically hot, dry savanna, and mopane woodland and the presence of the Zambezi River provides a conducive environment for insect breeding. The site inhabits a host of invertebrates which include the following Orders of insects: butterflies (Lepidoptera), spiders, scorpions (Arachnids), grasshoppers (Orthoptera), termites (Isoptera), ants, wasps, bees (Hymenoptera), flies (Diptera), beetles (Coleoptera), dragonflies and mayflies (Odonata) and plant bugs (Hemiptera). Some of the species encountered include the Brown bush locust (*Phymateus baccatus)*, Praying mantis (*Sibylla pretiosa)*, Honey bee (*Apis mellifera)*, and Tortoise beetle (*Aspidomorpha* sp), Tenebrionidae Snout beetles (*Psammodes)* species. (*Encosternum delegoguei)* Hemiptera. Buttefly species sighted include: *Hypolimnas misippus, Byblia ithyia, B. archeloica, Precis oenone oenone, P. hierta ccebrene* (family: Nymphalidae); Family Pieridae:- *Colotis evenina, C. evegore, C. danae, Belenois aurota, Catopsilia florella, Eurema brigitta brigitta,*. Termites species found in the area included: *Macrotermes michaelsenis, M .falciger, M. natalensis, M. subhylinus Odontotermes badius, Hodotermes mozambicus and Microtermes species.*

Herpetofauna-Reptiles and Amphibians

A survey of the herpetofauna of the proposed Restaurant site yielded very little results in terms of biodiversity. Encountered species were: the Common Flap-necked Chamelion, Variable Skink (*Mabuya* varia), and *Mabuya striata,* Brown House Snake *(Lamprophis capensis)*. Olive Grass Snake *(Psammophis mossambicus)*, common clawed frog *(Zenopus laevis)*, Kalahari toad *(Bufo poweri)*. However there is a comprehensive collection of herpetofauna of the Victoria Falls housed in the Natual History Museum of Bulawayo. There are 200 species of reptiles and 90 species of amphibian recorded in the Zambezi basin (Broadly, 1975) (Appendix 4). Broadly (1975) published a detailed checklist of the Reptiles and Amphibians of the Victoria Falls region. In summary, reptilian Orders found in the

area include: Chelonia (Terrapins, tortoises and turtles), Crocodylidae (the Nile crocodile), Squamata (Lizards, Geckos, chameleons, skinks, plated lizards,, sand lizards, monitor lizards,)- the suborder Serpentes (snakes) included Blind snakes, worm snakes, the African Python, File snake, Olive grass snake, Boomslang, Vine snake, Common Egg-eating snake, Egyptian and Mozambique spitting Cobras, Black Mamba (*Dendroaspis polylepis),* Burrowing Adder, Snouted Night-Adder, and Puffadder. The African Python is Africa's second largest snake, this species is endangered and protected nationally and internationally. Recorded Amphibians include Clawed frog (*Xenopus laevis),* Toads (*Bufo regularis),* Grey tree-frog *(Chiromantis xerampelina),* Natal Puddle frog, and Savana sharp-snouted frog. There is diverse fauna of reptiles and amphibian known to occur in the Victoria Falls and Hwange District but there are no such species in this area that appear on the 2002 IUCN Red List of threatened species, but all species in the Lizard genus *Cordylus* and the Monitor lizard of the genus *Varanus,* and the *Python sebae* are listed on the CITES appendix 2. If these species are then encountered in the area, the Department of National Parks should be consulted to handle the animals according to the law.

3.6 Socio-economic of Victoria Falls in General

The main purpose of the socio economic analysis is to place the proposed development project within the context of the human environment upon which it will have an important influence. This sub section essentially deals with the socioeconomic context of the area i.e. land use patterns, infrastructure etc.

Victoria Falls is largely a tourist resort area. The rebound of travel and tourism in Zimbabwe has been supported by the vast popularity of Victoria Falls, an astounding geographical site located between Zimbabwe and neighbouring Zambia. The Falls are the nation's most popular tourist attraction and it is among the seven natural wonders of the world and its surroundings have been established as a National Park. The town of Victoria Falls experienced an increase in tourist arrivals towards the end of the political unrest period, after several years of losing ground to Livingstone, in Zambia. The town is also host to an array of exceptional restaurants as well as an upgraded airport that serves travel and tourism in the region. This is supported by river sport, sunset tours (game drives) and aerial scenic viewing using helicopters. There are also elephant rides.

To support the abovementioned business, there are shops, restaurants; offices within the Victoria Falls in the suburbs are shops and small scales business and well as vending in market places and bus terminus. The suburbs are Chinotimba, Mkhosana, Umfeladawonye and Aerodrome

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3.6.1 Population

The total population of Victoria Falls and Hwange Rural are shown in fig 3.6 (ZIMSTATS, 2012).

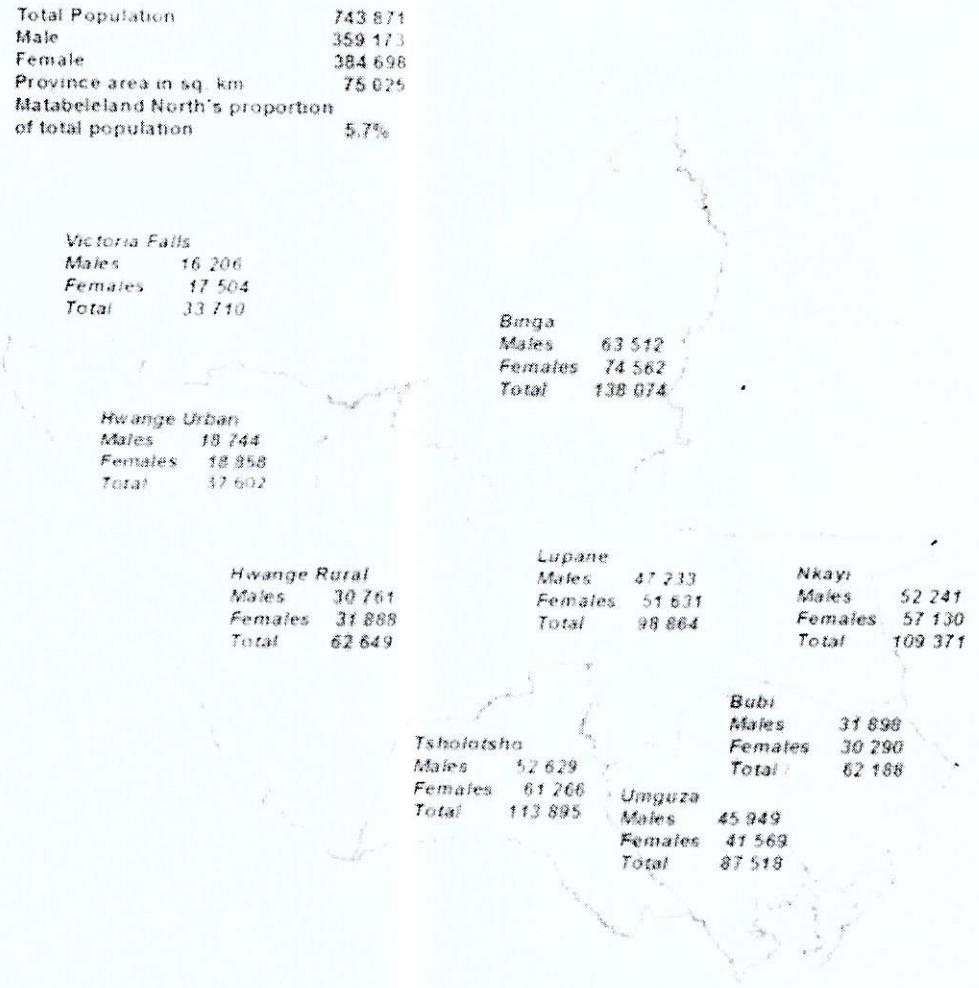


Fig. 3.6: Population Demographics of Hwange District

3.6.2 Industrial and Commercial development

There are a number of business opportunities in Victoria Falls. Some are only the recapitalisation and others are new business plans and ideas as this report cover **The Old Pump Staion Restaurant**. Tourism is the obvious basis for that business in this town. Victoria Falls town has a dualistic economic structure, whereby the formal sector enjoys modern patterns of investment, while the informal sector is more indigenous and exhibits greater ties with rural areas. In the formal sector, tourism is the main economic activity that provides most employment opportunities and generates considerable revenue for the town. Apart from those directly employed in the tourism sector, hundreds of people in the town

supplement their incomes by selling locally made handcrafts and artefacts to tourists. The socio-economic base of the town comprises the following major infrastructural facilities: transport routes, health facilities, industrial establishments, tourist facilities and accommodation facilities, which are described in more detail below.

3.6.3 Transport Infrastructure

The provision of adequate transport infrastructure is an important prerequisite, without which it would be very difficult to move freight, passengers and even solid waste from sources of generation to disposal sites. There are two regional roads, namely, the Bulawayo and Kazungula highways that connect Victoria Falls town to other urban centres in Zimbabwe and neighbouring countries, respectively. Apart from these major roads, the town has numerous link roads. While the road network is fairly developed, a major cause for concern is that only a few roads are all-weather and the rest are either gravel or earth roads.

3.6.4 Energy Sources

The main energy source for the town is electricity. Other energy sources are wood, paraffin, petrol, diesel and gas. ZEDTC is responsible for supply of power within the area. Paraffin, wood, petrol and diesel (to power generators), solar power and biomass and gas are used to provide energy in cases of power cuts or in areas where there is no electricity. The increase in power cuts and electricity charges has resulted in an increase in the number of people who use alternative sources of energy such as wood, petrol, diesel, gas and paraffin. These are used for lighting, heating and cooking. The use of wood fuel, by expanding urban population is reducing woody cover and exposing the area to erosion and loss of wildlife habitat. The area being described in this report has been subjected to land degradation by the Monde community. They poach wood in the project area. It was reported that the community at times trespasses into the Victoria Falls National Park. An important point to note is that there are power lines that run through the Restaurant. The main electrical power lines that supply energy from main grid pass through the Restaurant site. In addition, other electrical power lines pass through that supply power to surrounding areas.

3.6.5 Accommodation Facilities

There are three basic housing units providing shelter to residents of the town. These housing structures constitute the bulk of housing units in the formal residential areas namely: Chinotimba, Mkhosana, Baobab and houses located mostly in the town centre. Over 70% of formal housing units are in Chinotimba and Mkhosana high-density areas (HDAs) while 14.4% are in Baobab suburb. The remainder are flats or townhouses developed mostly by restaurants to accommodate junior managers and senior staff (PlanAfric, 2001). Semi-formal housing units are simple shelters erected by private companies as a stop-gap measure to accommodate their employees, considered essential to their business, but for whom no permanent houses are available. Such housing structures are found in Gardini, Zimsun, Savanna and Zimcast residential areas. They have, over a period of time, attained a degree of quasi-permanence, no wonder the municipality provides them basic services such as waste collection. The third and largest category of housing units comprises informal structures erected mostly

using cheap and readily available materials such as plastic, scrap metal and even cardboard boxes, some of which are recovered from waste dumps.

3.6.6 Tourism Facilities

Due to its adjacency to the spectacular Zambezi waterfalls, proximity to the recently upgraded Victoria Falls International Airport and millions of investments devoted towards the establishment of five star restaurants such as Elephant Hills, Victoria Falls town is widely regarded as a prime international and regional destination for tourists in Southern Africa. The natural beauty of the waterfalls, which are classified as one of the Seven Wonders of the World and the rich biodiversity of the Zambezi River (Riverine) ecosystem, attracts thousands of visitors every month. To cater for these visitors, the town has numerous tourist facilities, which offer a wide range of services such as entertainment, sport as well as bed and breakfast to tourists. Currently the town has 8 restaurants (3 of them classified as five star), several lodges and numerous guest houses, which can accommodate about 3 000 visitors every night (PlanAfric, 2001).

3.6.7 Health Facilities

Central Government, local authorities and private practitioners are offering health services in the Victoria Falls town. The Government is managing two health facilities in the area whilst the municipality and Hwange Rural District Council are managing one facility each. Surgeries, Chemists, Pharmacies etc are being managed by private medical practitioners. The Victoria Falls community is served by Victoria Falls hospital and Chinotimba clinic. These health facilities also act as major referral centres for Hwange District. The Victoria Falls Town Council's Health Services Department offers primary health care and outreach services. The only health facility under the jurisdiction of the municipality is Chinotimba clinic. The clinic caters for a large catchment that extends beyond the town to include parts of Zambia, Kasana, Zambezi National Park, Kazungula, Monde and Chisuma.

The community is also served by private medical institutions such as the Chinotimba Medical Centre. There are also a few surgeries and pharmacies. There are no specialist institutions, which attend to particular types of illnesses. Services such as infectious diseases, mental and maternity health conditions, eye unit, paediatrics, obstetrics and gynaecology are being offered at the main hospital. It is important to note that there lack of general and specialist medical services in the area. The health institutions are experiencing problems such as inadequate finance, equipment and staff shortages. As a result most people either go without medical services or travel to Bulawayo for medical attention. On emergency situation requirements all medical institutions can be approached, however the Victoria Falls Hospital is the only that can deal with major medical cases. The other institutions can accommodate minor medical cases. In the Hwange (about 100km away from Victoria Falls Town) there are also medical institutions that can be approached. Three of these institutions are major hospitals (St Patricks Hospital, Hwange Colliery Hospital and St Mary at Lukosi,) that can accommodate major medical cases.

3.6.8 Transport Networks

a) The Road Networks

The roads networks are managed by two Roads Authorities: the Department of Roads, who manage national roads, and the municipality that are responsible for all other roads in the area. There are two national roads within the Victoria Falls town. These are the Bulawayo-Livingstone Road and Victoria Falls-Kazungula Road. The Bulawayo-Livingstone road links the Victoria Falls to Botswana, Namibia and Zambia to the west. All are all-weather roads, which are kept in good condition, as they are of national importance especially in the tourist and transportation sectors. The Department of Roads in the Ministry of Transport is responsible for capital, operation and maintenance works for these two national roads.

The rest of the roads in the Victoria Falls fall the jurisdiction of the municipality and these mainly consist of all-weather paved surfaces, gravel and earth roads. The CBD, the low density area and high-density distributor roads are all-weather, bitumen surface. The proposed project site can be accessed using a gravel road which will be tarred, and its approximately 1.2 km from the main Bulawayo- Vic falls road. This same gravel road is an access road for the Monde community.

b) Air Transport

Approximately 18km away, along the Victoria Falls-Bulawayo, is a Victoria Falls International airport. The airport runs domestic and international flights. The Victoria Falls Combination Master Plan states that because of increased traffic volumes an airport expansion programme has been proposed.

3.6.9 Communication Services

The town's main communication service providers are those that offer postal services, landline and mobile phone services, and internet services. The town has a number of postal service providers the main one being ZimPost through post offices in the town. Others that provide postal services in the town are FedEx and DHL One of ZimPost's sister companies TelOne and Econet wireless are the providers of telephone landline and cellullar telecommunication services in the town and surrounding areas. According to the Victoria Falls Combination Master Plan (2000) the capacity of the Victoria Falls exchange telecommunications lines is too few for the current demand. The town also has mobile phone service providers and these include Econet and Net One. Econet has efforts underway to improve its mobile telecommunication network. There are various internet services providers with the town.

3.6.10 Employment Opportunities

According to Zimbabwe Poverty Update 2017–19, extreme poverty rose from 30 percent in 2017 to 38 percent in April–May 2019. Extreme poverty increased in both urban and rural areas. However, in relative terms, extreme poverty increased more in urban areas. It was 2.5 times higher in April–May 2019 than in 2017. In absolute terms, rural extreme poverty remains higher than urban poverty. The Covid 19 pandemic has exacerbated the poverty threshold. However, in this project, youths will benefit through employment creation in all phases of the project especially during the construction and operational phases of the project cycle.

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From observation and information offered by stakeholders, unemployment is reported as being very high throughout the community and the main occupation of residents is in the tourism industry, formal and informal service sectors. The informal sector is reported to have significant contribution to the livelihood of the residents as majority formal employment remuneration is not able to cater for basic needs. Victoria Falls Municipality plays a key role in poverty eradication by developing strategies to create jobs and raise incomes. The local authority has intensively expanded programmes and policies that create jobs for the poor residents in the community. In 2015, the Municipality introduced public work schemes, providing the poor with semi-skilled or unskilled work, and guaranteeing them at least 100 days of employment per year.

3.6.11 Education Requirements

According to the Victoria Falls Combined Master Plan there were seven registered pre-schools in Victoria Falls town as at February 2017. The majority of which are located in the high density residential areas. To date there are about fourteen schools in the area and surroundings. There are ten primary schools in Victoria Falls town and surrounding areas. There are four only secondary schools within the Victoria Falls area including the Mosi-oa-Tunya Secondary School. The municipality administers this school. The school offers secondary and advanced education. It is important to note that a significant number of schools in the area have a high enrolment, which is met by "hot-seating". They also cannot meet existing demand due to limited facilities. The Victoria municipality estimates that there is an immediate need for an additional secondary school in the area. A school has been constructed in Mkhosana residential area.

There are very few tertiary level institutions in the area. This means that the increase in number of students graduating from secondary school has been compounded by the unavailability of tertiary level educational facilities. According to Victoria Falls Combination Master Plan stakeholders, workshops have revealed the priority accorded to education by the community. There is a strong feeling that the area is being neglected through inadequate provision of teachers and school facilities.

3.6.12 Community and Recreational Facilities

Community facilities are meant to encompass such things as libraries, community halls, churches, youth clubs and the like. These facilities in this region are weak and almost no existent with some community facilities having been used since the 1970's to date with no improvements or renovations being undertaken. The town has only one Community Hall situated in Chinotimba. It is used for community functions such as meetings, weddings and other social gatherings. Recreation facilities cover both passive and active pursuits. Passive recreation mainly involves the enjoyment of sitting and walking in parks whilst active recreation involves all manner of sports. Whilst Victoria Falls is endowed with a lot of Public Opens Space, very little of it is managed as park areas where people can sit and stroll. The CHOGM Park opened in 1992, is the first real public park in Victoria Falls. The shortage of public open space, which may be used for playing fields, is due to the use of these spaces as informal settlements.

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Access to urban sports facilities is largely determined by where one lives, itself a manifestation of social class. A majority of high-density suburb residents cannot afford sports which involve expensive equipment or entrance fees and are therefore limited to playing and watching football.

3.6.13 Major Land Uses

The project area is in the Victoria Falls National Park, making it the major land use as tourism.

3.6.14 Archaeological Impact Assessment Report

The archaeological assessment report was conducted and is shown on Appendix 4.

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CHAPTER 4: SPECIFIC REGULATORY REQUIREMENTS

4.1 Introduction

This section provides a brief overview of the environmental legal requirements that are likely to have direct or indirect bearing or influence on the proposed project, and which need to be taken into consideration concerning this proposed project. The Restaurant development is likely to be influenced by a number of different regulating authorities, legislation and policies. Table 4 outlines the various key pieces of legislation and policies that have been considered in this ESIA report.

4.1.1 Specific Regulatory Requirements

Table 4.1: National laws

Agency	Act	Sections and Compliance by the proponent
Environmental Management Agency	**Environmental Management Act (Chapter 20:27)**	The following sections apply to the project and therefore compliance is required. - **57 Water pollution prohibition;** during construction activities, no activity will be done close to any water body about 30 metres distance. There will be no illegal disposal of waste in water bodies and construction workers found on the wrong arm of the law will be given a penalty. - **63 Air quality standards**; so as to reduce air pollution as a result of construction activities there will be surface watering to militate against fugitive particulate matter. This will be done at least 3 times a day. - **70 Prohibition against discharge and disposal of wastes**; there will be provision of bins during all phases of the project thus planning, construction and operational phase. Penalties will be given to construction workers who illegal discharge wastes. - **73 Prohibition of discharge of hazardous substances chemicals and materials or oil into the environment**; during construction phase, hazardous substances and chemicals such as petrol, diesel grease and oils will be used. However to avoid discharge of hazardous substances chemicals

Agency	Act	Sections and Compliance by the proponent
		and materials or oil into the environment the following measures are to be followed; - No construction worker will discharge any hazardous substance, chemical, oil or a mixture containing oil into any waters or any other or any parts of the environment contrary to any criteria prescribed in terms of section seventy-two. - All contaminated soils will be remediated as will be stated in the EMP. - **79 Standards for noise**; currently there are no standards for specific work locations. However, where noise levels are above 90dB workers to put on earplugs. - **80 Noise in excess of established standards prohibited**; - **81 Exemption in respect of noise standards;** as in section 79. - **83 Prohibition against littering;** at the project site there will be receptacles for litter. - **106 Environmental audit of Projects;** quarterly environmental auditing will be done after ESIA certification - **107 Developers to minimize adverse effect of Projects on environment;** the project will have the minimum negative impacts by adhering to all applicable legislations. - **108 Inspection of environmental impact assessment reports;** will be done after ESIA certification
Ministry of Local Government and Urban Development	**Urban Councils Act Chapter 29:15 (2008)**	This Act provides for the establishment of municipalities and towns and the administration of municipalities and towns by local boards, municipal and town councils; to provide for the conferring of town and city status on growth points, municipalities and towns; to provide for the declaration of local government areas and the administration of local government areas by local boards; to confer

Agency	Act	Sections and Compliance by the proponent
		functions and powers and impose duties upon municipal and town councils and local boards; to provide for the establishment of the Local Government Board and to provide for the functions thereof; and to provide for matters connected with or incidental to the foregoing. The proponent has to adhere to the following sections of this Act, **PARKING, OMNIBUSES AND OTHER TRANSPORT SERVICES** **189 Parking places and parking meters** (1) A council may, on land acquired, leased or set aside by the council for the purpose and on any road, provide and maintain places for the parking of motor vehicles. (2) A municipal council may purchase parking meters and other devices for the control of the parking of motor vehicles and may install and maintain such meters or other devices in any place set aside by the council for the parking of motor vehicles and on any road. **190 Parking garages** (1) Subject to subsection (2), a municipal council may construct, acquire or lease buildings to provide accommodation for the parking of motor vehicles by members of the public on land set aside for the purpose. (2) If a municipal council intends to construct buildings in terms of subsection (1) on land which has not been specifically reserved in terms of an approved town planning scheme for a parking garage. **212 Numbering of houses and naming of roads** (1) The council may from time to time assign names to roads within the council area and cause the name of any road to be affixed to or painted on any house, building or other structure fronting upon any part of such road. (2) The council may, by notice in writing to the owner or occupier of any house or other building, direct the owner or occupier at his own expense— (*a*) to mark or affix in accordance with any by-law at the main entrance or in some other conspicuous position on such premises the

Agency	Act	Sections and Compliance by the proponent
		number specified in that notice; or (*b*) to renew the number referred to in paragraph (*a*) as often as it has become defaced or obliterated; and that owner or occupier will, within thirty days after receipt of that notice from the council, mark, affix or renew any such number as so directed. **216 Electricity undertaking** A municipal council may, subject to the Electricity Act [*Chapter 13:05*] own and operate a public electricity supply undertaking and carry on any activity incidental thereto. **217 Street lighting** Subject to the Electricity Act [*Chapter 13:05*] a council may place, erect, install, provide, maintain and operate street lighting inside or outside the council area, either— (*a*)on its own behalf; or (*b*) on behalf of any other local authority or other person on such terms and conditions as may be mutually agreed upon; and supply electricity thereto and do all such things as are incidental to the foregoing. **252 Assessment of residential property** (1) The assessment of residential property for rating purposes will consist of— (*a*) calculating the number of rating units to be assigned to the property; and (*b*) determining the rating zone within which the property is situated. (2) The rating unit for any residential property will be— (*a*) an area equal to the minimum size of stands or plots permitted under any town planning scheme applicable within the locality in which the residential property is situated; or (*b*) such area as the council may fix for all residential properties situated in localities where there is no town planning scheme regulating the minimum size of stands or plots. (3) Where a council has fixed the area of a rating unit in terms of paragraph (*b*) of subsection (2)— (*a*)the town clerk will cause notice thereof to be published once in the *Gazette* and in two issues of a newspaper; (*b*) the council will not alter that area

Agency	Act	Sections and Compliance by the proponent
		except for the purpose of a general assessment made in terms of section *two hundred and forty-seven.*
Ministry of Tourism and Hospitality Management	**Tourism Act Chapter 14:20**	An act to establish a Zimbabwe Tourism Authority and to provide for its functions; • to provide for the appointment and functions of a board of the Authority; to establish a Zimbabwe Tourism Fund; • to provide for the designation, registration and grading of tourist facilities and for the licensing of persons who provide services connected with tourism; • to provide for the imposition and collection of levies in respect of designated tourist facilities and • to provide for matters connected with or incidental to the foregoing. 35. Designation of tourist facilities. 40. Certificates of registration or grade of designated tourist facilities. 55. Levies.
MHCC	**Public Health Act 15:17, 2018**	At the construction camp there will be close to 500 people and others will be coming from the locality. Where people group, contagious infections usually spread easily hence the need to control infectious diseases. The following sections of the Act mitigate against such contagion; • Notification by medical practitioners (sections 19 & 37) • Sale of unwholesome, diseased or contaminated articles of food (section 69) • No one will cause a nuisance (sections 82 & 85 (a) • Examination of premises (section 90) • Prohibitions in respect of back-to-back dwellings and rooms without • through ventilation (section 93) **All houses will comply with the specifications of this act.**
	Food And Food Standards Act Chapter 15:04	The Act provides for the sale, importation and manufacture for sale of food in a pure state; to prohibit the sale, importation and manufacture for sale of food which is

Agency	Act	Sections and Compliance by the proponent
		falsely described; and to provide for the fixing of standards relating to food and matters incidental thereto. **4. Adulteration or false description of food.** adulterated if it contains, or is mixed or diluted with, any substance or ingredient not present when the food is in a pure or normal state and in a sound condition **5. Control of sale, importation and manufacture of food.** No person shall— (a) sell; or (b) import for sale; or (c) manufacture for sale; any food which is adulterated, falsely described or unwholesome or unfit for human consumption. **6. Control of mixed or compounded foods.** No person shall mix any substance or ingredient with any food intended for sale with intent to deceive the purchaser thereof by increasing the mass, measure or volume, altering the flavour or concealing the quality of the food. **7. Control of blended foods.** No person shall sell any food or label any food intended for sale as a blend or as blended unless it consists solely of different kinds, qualities or grades of the food named **8. Inspection, seizure and disposal of food.** Where an inspector has reason to believe that there is in or upon any premises, place, vehicle, vessel or aircraft any food for the purposes of sale or manufacture for sale or that a contravention of this Act is taking place, he may, subject to

Agency	Act	Sections and Compliance by the proponent
		this section— (a) enter upon, inspect or search the premises, place, vehicle, vessel or aircraft; (b) open and examine any receptacle or package found in or upon the premises, place, vehicle, vessel or aircraft; (c) inspect any store, record, book, document or account in or upon the premises, place, vehicle, vessel or aircraft; (d) require the owner or occupier of the premises, place, vehicle, vessel or aircraft to produce or make available to him for inspection any store, record, book, document or account referred to in paragraph (c); **9. Withdrawal of notice or return of food.** If within fourteen days from the date (a) of the issue of any notice relating to food; or (b) when any food was detained; a summons in respect of a prosecution for an offence in terms of this Act or an order in respect of proceedings in terms of this Part relating to the food concerned has not been issued, the notice shall be deemed to have been withdrawn or, as the case may be, the food shall as soon as possible be returned by the inspector who detained it **10. Taking of samples and analysis of food.** A sample of food taken in terms of subparagraph (i) of paragraph (f) of subsection (1) of section eight shall be taken and submitted to an analyst in the prescribed manner. (2) An analyst to whom a sample of food has been submitted in terms of subsection (1) shall, with all convenient speed, test, examine or analyse the sample of food and shall state the result of the test, examination or analysis in an affidavit in the prescribed form.
Ministry of National Housing and Social Amenities	**Housing Standards Control Act Chapter 29:08 . (1997)**	As the proposed project concerns establishment of restaurant houses, the proponent has to adhere to the Housing Standards Control Act Chapter 29:08 .(1997) and these sections will apply,

Agency	Act	Sections and Compliance by the proponent
		23) When building deemed to be of unsatisfactory standard. A building will be deemed to be of an unsatisfactory standard if the condition of the building— (a) in respect of one or more of the following— (i) repair; (ii) stability; (iii) internal arrangement; (iv) means of escape from fire; (v) natural and artificial lighting; (vi) ventilation; (vii) water supply; (viii) personal washing facilities; (ix) drainage and latrines; (x) freedom from damp; (xi) freedom from termite or other insect infestation; (xii) in the case of a dwelling, facilities for— a) the storage, preparation and cooking of food; and b) the disposal of waste water; (xiii) any contravention of the Public Health Act [Chapter 15:09] referred to in paragraph (c) will be commenced and completed. **26 Contents of closure order** A closure order— (a) shall specify the building in respect of which the closure order is made; and (b) subject to paragraph (d), may stipulate that the building concerned be vacated by all or any of its occupants— (i) if the building is in a dangerous condition, forthwith; or (ii) within a period of not less than thirty days; and (c) shall require the owner of the building concerned to close such building in a specified manner; and (d) shall determine the date, and the duration, of closure of the building concerned; and (e) shall specify— (i) the use or uses, if any, to which the building concerned may be put; and

Agency	Act	Sections and Compliance by the proponent
		(ii) The person or persons, if any, who may occupy the building. **Control of Harmful use or Occupation of Premises and Undue Interference** Part VII General 82 Dangerous buildings (1) Notwithstanding anything contained in this Act, an authority may, if it is satisfied that— (a) any building is— (i) in a dangerous condition; or (ii) being used in a dangerous manner; and (b) it is necessary for immediate action to be taken for the protection of persons using, or in the vicinity of, the building referred to in paragraph (a); FIRST SCHEDULE (Sections 23 and 85) **Minimum Requirements In Relation To Unsatisfactory Standards** 1. Any room used, or intended, designed, constructed or adapted to be used, as the whole or any part of a dwelling shall— (a) except in the case of a kitchen, pantry, bathroom or latrine, be of a minimum horizontal dimension of two metres; and (b) be provided with a window area, including skylights— (i) which shall be not less than one-tenth of the area of the floor of such room; and (ii) of which not less than fifty per centum shall be capable of being opened to the external air: Provided that— (i) a window which opens from such room to a veranda or similar place shall be deemed to open directly to the external air if such room and the veranda or similar place, treated as one room, have adequate ventilation; (ii) where mechanical ventilation is provided for such room to the satisfaction of the authority, it shall not be necessary for any of the window area of such room to be capable of being opened to the external air.

Agency	Act	Sections and Compliance by the proponent
		2. In every dwelling there shall be— (a) not less than one water-closet for every unit of twelve occupants. 3. In every dwelling there shall be— (a) an adequate supply of potable water; SEMAND SCHEDULE (Sections 43 and 85).
NSSA	**NSSA Act Chapter 17:04** **Pneumoconiosis Act Chapter 15:08**	The act provides for preventive medical examinations for persons intending to work and those working in dusty occupations. It also provides for the payment of compensation to employees who contract pneumoconiosis from their workplace, and their dependants. There is a Pneumoconiosis Board which acts as an advisory body to the Minister of Public Services, Labour and Social Welfare on matters relating to the prevention and compensation of pneumoconiosis. There is also a Medical Bureau that conducts medical examinations on the workers and certifies them fit or unfit to work in a dusty occupation. During the construction exercise, occupational health and safety issues are likely to occur hence the proponent has to adhere to the following requirements of the Pneumoconiosis Act so as to avoid litigation and time loss injuries. **Employer's Obligation** 1. To register with NSSA as soon as he/she commences to employ 2. To employ only persons in possession of a red ticket i.e. those who will have been examined and X-rayed and certified fit to work in dusty occupations 3. To ensure that periodical medical examinations of employees are done as follows: - 2 medical exams during the first 10 years of employment - 2 yearly medical exams between 10 and 20 years of employment - depending on the age or health, medicals can be done more often - annual medical exams after 20 years of employment 4. The employer must also monitor and maintain healthful levels of dust at the workplace. Ensure that workers suffering from any stage of pneumoconiosis are not

Agency	Act	Sections and Compliance by the proponent
		permitted to continue working in a dusty occupation or enter therein.
NSSA	**Factory and Factories Act Chapter 14:08**	The act stipulates requirements to be compiled with at any factory in regard to: - Submission of building plans - Registration of factories (certificate in a glazed frame on the factory premises) - Provision of a healthy & safe workplace by the employer - Installation, inspection, use, guarding & maintenance of machinery - Installation, inspection, use, guarding & maintenance of pressure vessels (i.e. boilers, compressors etc.) - Installation, use, guarding, inspection & maintenance of electrical plants/machinery - Building, structural & excavation work - Installation, use, inspection & maintenance of elevators & escalators. - The Employer will:- - Provide a healthy & safe workplace - Provide competent supervision - Provide PPE free of charge & maintain it in good condition - Employ adequate staff The Employee will:- - Put on protective clothing provided - Not do anything that is likely to endanger himself or the lives of other persons - Not temper with safety devices - Report any unsafe conditions that he/she would have noticed and accidents that occur
NMMZ	**The National Museums and Monument Act Chapter 25:11**	This act provides for the protection and management of all areas of archaeological and historical importance. The alteration, excavation, damage, or removal from such sites cannot be done except with the consent of the Director of

Agency	Act	Sections and Compliance by the proponent
		national Museum and Monuments of Zimbabwe. Any artefacts or monuments observed will be reported to the NMMZ by the discoverer or owner of the land. Therefore, any such relics that might be exhumed during the construction phase will be reported to NMMZ.
Victoria Falls Municipality	**Model Buildings By-Laws**	Manages construction of habitable premises in terms of space, ventilation & lighting and sanitation.
NPWMA	**Parks and Wildlife Act Chapter 20:14**	This Act deals with the protection of wildlife, conservation, propagation or control of the wild life, fish and plants of Zimbabwe and the protection of her landscape and scenery to confer privileges of owners or occupies of alienated land as custodians of wild life, fish and plants among other things. These legislation sections will to be adhered to and these include the following; Section 59 deals with the control of hunting, removal and sale of live animals and animal products. It also prohibits development and activities that are likely to seriously affect, endanger or injure special protected plants and animals. In order to ensure a wholesome environment between humans and wild animals the following will be enforced: • Control of, introduction into or removal of plants from a botanical reserve or botanical garden. Section 28 says no person shall— introduce any plant into a botanical reserve or a botanical garden; or pick any plant in a botanical reserve or a botanical garden except in terms of a permit issued in terms of section twenty-nine. Section 43 deals with specially protected animals; the animals specified in the Sixth schedule are hereby declared to be specially protected animals. • No person will hunt any animal on any land or from one place to another without a permit. The permission is only issued by the Director of National Parks & Wildlife in order to hunt, sell, keep or even collect certain plants and animals.

Agency	Act	Sections and Compliance by the proponent
		Section 50 states that no person shall pick any specially protected indigenous plant except in terms of a permit issued in terms of section fifty one. These sections will be implemented.
ZESA	**Electricity Act Chapter 13:19,1985**	The Act allows ZESA To install public lighting and electricity for domestic and commercial use in the area. Therefore, regulations governing the provisions of the essential service will be adhered to by the project. The proponent will adhere to all requirements by the Electricity Act.
PWMA	**Zambezi/Victoria Falls Park Management Plan: 2008 to 2016**	The plan was developed by the PWMA and stakeholders to direct park development and operations. It identifies and outlines strategies required in order to ensure that shared vision and goals of the park are realized.
Forestry Commission	**Forest Act Chapter 19:05**	Section 45 of the Act specifies that no worker may cut timber without a permit. No worker will be allowed to cut, fell, injure or destroy any indigenous trees or timber or remove indigenous trees or timber from any private land unless in possession of a valid timber license issued by the timber Board. These other sections of the legislation shall apply; • 37. Owner of private land may apply for protection of forest. • 55. Owner or occupier of private land must give notice of intention to dispose of indigenous timber. Fires in this ecological sensitive area are strictly guarded against. The following sections of the Act state so; • 67. Notice of intention to burn standing vegetation to be given to occupiers of adjoining land. • 68. Provision and maintenance of fireguards on common boundaries. • 69. Orders in relation to fireguards. • 70. Fires kindled on land of another to be controlled and extinguished. • 71. Saving of counter-firing.

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Agency	Act	Sections and Compliance by the proponent
		• 72. Liability of servant acting under direction of employer. • 73. Saving of rights to recover damages. • 74. Inquiry into damage sustained. • 75. Procedure in regard to extinguishing fire.
ZINWA	**Water Act Chapter 20:24, 1998**	Victoria Falls Municipality is going to provide water that will be used during construction. All water belongs to the state. The construction activity will involve use of water at the project area hence the following sections of the Water act have to be adhered to. Water used for construction purposes will be conserved and avoid pollution of water sources and no member of the public will be denied right of access to water source. (Section 67 (a) & (b)). Water pollution is an offence. The sections below will be applicable to the development of this Project. - 3. Water vested in President - 4. No private ownership of water; the proponent will share their water sources with the locals. - 32. Use of water for primary purposes, - 33. Power of catchment council to limit quantity of water abstracted for primary purposes. - 34. Application for permit. - 35. Authority to sink boreholes for any purpose or wells for purposes other than primary purposes. - 36. Period of validity of permit. - 38. Permit not transferable except with consent of council. - 67. Water resource management to be consistent with environmental approaches.

4.2 International Conventions

Table 4.2: International Conventions

Agenda 21, a 1992 UNCED Action Plan
In 1992, at the UNCED held in Rio de Janeiro Agenda 21 was adopted as a programme of action for the 21st century. Twenty-seven (27) environmental principles were outlined at the UNCED conference as an attempt to enshrine a charter for the protection of the Earth. The following examples of the principles

in sections outlined during the Earth Summit of 1992 in Agenda 21-action programme can be applied to the ESIA or EMP process for this proposed project:

- Principle 1, which states that human beings are at the centre of concerns for sustainable development and that they are entitled to a healthy and productive life in harmony with nature hence calls for coexistence between the traditional land use plans and the construction project in Victoria Falls.
- Principle 17, which states that EIAs should be a national instrument, that shall be taken for proposed activities that are likely to have significant adverse impacts on the environment and are subject to the decision of a competent national authority.

It is therefore in line with the international principles of sustainable development, vital to observe a precautionary approach in order to address the likely impacts a project may bring.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) 1975

This convention aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The trade monitored is diverse as it ranges from the live animals and plants to a vast array of wildlife products including foods products, leather goods, timber, curios and medicine. The objective of CITIES is to protect endangered species through a listing system. Appendix I list species threatened with extinction. Trade in this category is generally prohibited. Appendix II includes species, which although not necessarily threatened, may eventually be threatened if trade in such species is not strictly regulated. Appendix III includes all species, which any party identifies as subject to regulation within its jurisdiction, to prevent or restrict exploitation, and as needing the cooperation of other parties. Zimbabwe has relevant provisions in the Parks and Wildlife Act and subsidiary regulations in order to conform to the above objectives of CITES.

The Ramsar Convention.

The Convention on Wetlands of International Importance, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. Negotiated through the 1960s countries and non-governmental organizations concerned that at the increasing loss and degradation of wetland habitat for migratory water birds, the treaty was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975. It is the only global environmental treaty that deals with a particular ecosystem, and the Convention's member countries cover all geographic regions of the planet. The tenets of this apply also applies in this project.

The Ramsar mission: The Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world". The Convention uses a broad definition of the types of wetlands covered in its mission, including lakes and rivers, swamps and marshes, wet grasslands and peat lands, oases, estuaries, deltas and tidal flats, near-shore marine areas, mangroves and coral reefs, and human-made sites such as fish ponds, rice paddies, reservoirs, and salt pans.

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International Union for the Conservation of Nature (IUCN). IUCN encourages the study of species and ecosystems, and how they interact. It analyses the impact on biodiversity of human behaviour, social and economic policies and assists in developing policies for sustainable development and conservation. Therefore, any policies and procedures of this proposed project will consider IUCN required standards.

United Nations Framework Convention on Climate Change (UNFCC-1992)

The ultimate objective of the Convention is to achieve the stabilisation greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with climate system. Such a level should be achieved within a timeframe sufficient to:

- allow ecosystems to adapt naturally to climate change
- Ensure that food production is not threatened
- enable economic development to proceed in a sustainable manner

Article 3 sets out key principals:

- inter-generational rights
- precautionary principle
- the right to sustainable development

Article 4 of the Convention requires States to promote and cooperation in the development, application, and diffusion of technologies, practices and processes that control reduce or prevent anthropogenic emissions of certain greenhouse gases.

Convention on World Cultural and Natural Heritage

This convention seeks to establish an international system for the protection of outstanding cultural and natural heritage sites for all humanity and to ensure their protection through a closer cooperation among nations. It establishes a list of such sites. The Victoria Falls is part of the list of these sites.

According to the World Heritage Convention, "Cultural heritage" is a monument, group of buildings or sites of historical, aesthetic, archaeological, scientific, ethnological or anthropological value. "Natural Heritage" designates outstanding physical, biological, and geological features; habitats of threatened plant or animal species and areas of value on scientific or aesthetic grounds or of conservation.

UNESCO's World Heritage Mission is to:

- Encourage countries to sign the convention and ensure the protection of their own natural and cultural heritage; and
- Encourage state parties to the convention to nominate sites within their national territory for inclusion on the World Heritage List.

In Zimbabwe, the provisions of the National Museums and Monuments Act and the Parks and Wildlife Act are broadly compatible with the UNESCO's World Heritage mission requirements.

The SADC Protocol on Wildlife Conservation and Law Enforcement.

ARTICLE 3: Principle1. Each State Party shall ensure the conservation and sustainable use of wildlife resources under its jurisdiction. Each State Party shall ensure that activities within its jurisdiction or control do not cause damage to the wildlife resources of other states or in areas beyond the limits of national jurisdiction.

ARTICLE 7: On wildlife management and conservation programmes, main objectives include that: Parties shall assess and control activities which may significantly affect the conservation and

sustainable use of wildlife so as to avoid or minimized negative impacts; the protection of wildlife and wildlife habitats to ensure the maintenance of viable wildlife populations; prevention of over-exploitation and extinction of species; restrictions on the taking of wildlife, including but not limited to restrictions on the number, sex, size or age of specimens taken and the locality and season during which they may be taken; and restrictions on trade in wildlife and its products, both nationally and international.

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CHAPTER 5: METHODOLOGY TO FULFILL ESIAOBJECTIVES

5.0 Introduction

Purposive Expert Sampling method was used in this study as it allowed the researchers to easily select stakeholders of paramount importance. Expert sampling is a type of purposive sampling technique that is used when your research needs to glean knowledge from individuals that have particular expertise. This expertise may be required during the exploratory phase of qualitative research, highlighting potential new areas of interest or opening doors to other participants. Alternately, the particular expertise that is being investigated may form the basis of your research, requiring a focus only on individuals with such specific expertise. Expert sampling is particularly useful where there is a lack of empirical evidence in an area and high levels of uncertainty, as well as situations where it may take a long period of time before the findings from research can be uncovered. Therefore, expert sampling was a cornerstone of this Project.

5.1 Advantages of Purposive Expert sampling method

- The results are expected to be more accurate
- It is less time consuming
- It is less expensive as it involves lesser search costs

Stakeholders consulted included the following;

- Zimbabwe Parks and Wildlife Management Authority
- ZRP
- Environmental Health
- ZINWA
- Forestry Commission
- ZESA
- Ministry of Public works
- Agritex
- ZTA
- Victoria Falls Environmental Watch
- National Museum and Monuments of Zimbabwe
- Victoria Falls Municipality

The Environmental Social Impact Assessment for this project was carried out in a phased approach comprising the following:-

- A discussion and desk study of all relevant background documents and materials;
- A field work phase to make detailed studies of the baseline situation at the project site and to determine the potential environmental, social and economic impacts of the project;
- A public consultation exercise;
- The major legal compliance issues for the ESIA are highlighted. The Consultants reviewed all applicable legislation, regulations and policies which will regulate on the running of the project;

- An analysis of the current and potential environmental impacts;
- The preparation of an environmental management plan for the project; and
- Finally, the preparation of the ESIA report.

The activities constituting each of these stages are described in summary below.

5.2 Types of Data

5.2.1 Sources of Primary Data

Sources of primary data are limited and at times it becomes difficult to obtain data from primary source because of either scarcity of population or lack of cooperation. Regardless of any difficulty one can face in collecting primary data, it is the most authentic and reliable. These included meetings, interviews and direct observations. These were preferred as they helped gather the much needed data concerning the project.

5.2.2 Interviews

An interview is a face-to-face conversation with the respondent. Face to face interviews were done with various stakeholders of concern that included the Ministry of Health and Forestry Commission, just to mention a few. This was done in order to have their comments and recommendations concerning the project. This enabled the interviewer to draw conclusions easily concerning the comments and recommendations concerning the project.

5.2.3 Meetings

Face to face meetings were held with stakeholders due to Covid 19 pandemic on aspects that will not have been clear and to discuss the scope of the ESIA and to enable the Consultants to gain an understanding of the project. The consultants clearly established the depth of the activities that will be carried out at the site during the project and EMP implementation. The stakeholders showed support to the project that will bring development to the local community and its surrounding, as well as nationwide. Emphasis on the law of Indigenisation and Empowerment Act were made which states that at least 80% of the employees should come from the local community. Most important was the involvement and participation of most stakeholders who aired their views and concerns about the project as shown in Appendix 5

5.2.4 Observations

Observations were made in natural settings as well as in an artificially created environment with the surroundings of the proposed project area. Of major concern to the ESIA team was the observation of ecology, hydrology/hydrogeology, landforms, palaeontology, soil and socio-economics of the area.

5.2.5 Photographs

A camera was of paramount importance in helping to gather data about the state of the environment, for example, vegetation among others.

5.2.6 Secondary Data

Secondary data sources were helpful as they provided the researchers with much needed data concerning the project.

5.2.7. Government Records

Most of the environmental legislations were obtained from governmental departments such as EMA, ZINWA, Forestry Commission, Meteorological Department, National Parks and Wildlife, among others. Archaeological sites and monuments based on data were collected from the National Museums and Monument Department.

The review of literature in any research is based on secondary data. It is mostly from books, journals and periodicals. Secondary data can be less valid, but its importance is still valuable. Sometimes, it is difficult to obtain primary data: in these cases, getting information from secondary sources is easier and possible. Sometimes primary data does not exist. In such situation, one has to confine the research on secondary data. Sometimes primary data is present but the respondents are not willing to reveal it. In such case too secondary data can suffice.

5.2.8 Published Printed Sources

Some of the books used included books from renowned scholars such Chenje (1998) and Phillipson (1975).

5.2.9 Published Electronic Sources

As internet is becoming more advanced, fast and reachable to the masses; it has been seen that much information that is not available in printed form is available on internet. In the past the credibility of internet was questionable, but today it is not. The ESIA team used internet to research on issues concerning the Restaurant project.

5.2.10 Issues That Affected the Validity/Reliability of the Data

A study is seen as being reliable when it can be used by a number of different researchers under stable conditions, with consistent results and the results not varying. Reliability reflects consistency and replicability over time. Validity refers to how accurately a method measures what it is intended to measure. If study has high validity that means it produces results that correspond to real properties, characteristics, and variations in the physical or social world. We are expecting the same with this ESIA study.

5.2.9 Challenges Encountered During Data Collection

No major challenges were encountered during data collection. However, the execution of the ESIA report was delayed as some of the stakeholders delayed in submitting their stakeholder comments feedback.

5.2.10 How They Were Overcome

The ESIA team had to keep on reminding stakeholders about the stakeholder consultation forms that needed to be filled in by either phone or internet.

5.3 Desk Studies

5.3.1 Generic Impacts and Environmental Management Measures

A consultation was undertaken from literature, in order to summarise and categorise the main impacts that can reasonably be expected from the historic, current and proposed project activities. The desk study was focused on all available documents and reports relating to the project. Secondary data from technical and management reports prepared by the client, local area plans and maps for purposes of compiling baseline physical and socio-economic information was looked into. Attention was also given to climate and geology/soil types report as well as on applicable Environmental Legislations.

5.3.2 Physical Environment

Data on the physical environment was obtained including at least the following elements:

- Surface water flow and impoundments including sensitive ecological settings;
- Archaeological sites and monuments based on data collected from the National Museums and Monument Department consultation and field surveys;
- Baseline geology, topography, hydrology, soil and palaeontology, using all available maps on the geology and soil types of the area;
- Ecological data of the flora and fauna of the area;
- Land use patterns and consultations with local government officials in the district;
- Land tenure detail and extents that exist, extent and nature of current and historic disturbance of land activities.

5.4 Field Surveys

The field surveys and impact identification were done on the basis of the following environmental attributes, archaeology, geology, ecology, hydrology/hydrogeology, landforms, palaeontology, soil, and socio-economics. This involved systematic coverage of the area and its environs noting any visible environmental attributes as well as assessing the impacts of the project on identified parameters. Oral interviews were held with local residents to solicit information on environmental, social and economic parameters and also to establish their attitudes towards the project. The field surveys thus enabled the consultants to examine the current state of the environment to verify information obtained from the desk study, as well as to take note of any environmentally, socially and economically significant aspects of the planned project.

5.4.1 Archaeological Investigation

The starting point for archaeological investigations was the perusal of the national archaeological survey records, followed by a field survey of the project site and surrounding areas.

5.4.2 Geology, Landforms and Soil

The geology, palaeontology, landforms and soil data of the project area was collated from secondary data such as, maps and field survey.

5.4.3 Water

Both the hydrology and hydrogeology of the project area were assessed. Hydrology includes presence of water courses, streams, rivers, dams, pans storm-water drainage, position and character of wetlands and flood

levels. Any potential river diversions were investigated. Other data was reviewed from literature, records from ZINWA and Victoria Falls Municipality.

5.4.4 Biodiversity

The general biological environment of the project was investigated. Dominant, endangered and invader species were not noted in the project area. Commonly occurring fauna, endangered species and their preferred habitats were determined.

5.4.5 Safety and health

Existing safety and occupational health risks from current and possible historic operations were investigated. Potential occupational and safety hazards and risks were assessed. These will be more pronounced during the construction and the operational phases.

5.4.6 Waste Management

A survey of the disposal of waste on the site was conducted to capture baseline data and potential waste to be generated by the proposed project.

5.4.7 Socio-Economic Assessment

The current status of the socio-economic issues in the study area was assessed. The Environmental Management Act of Zimbabwe views the management of the environment as a collective responsibility and therefore all affected and interested parties/stakeholders were consulted.

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CHAPTER 6: PUBLIC PARTICIPATION

6.0 Introduction

Public participation is the involvement of parties who potentially have an interest in a development or project, or may be affected by it. The principal objective of public participation in an Environmental Impact Assessment (EIA) process, in particular, the scoping process is to inform and enrich decision-making processes. According to the EMA Act Chapter 20:27; the communities around the proposed operation and other stakeholders have to be consulted with regards to the proposed development of The restaurant. The consultation was done with various stakeholders whose comments are on Appendix 5.

6.1 Stakeholder Identification

A stakeholder is a person or organisation that has social, environmental, economic, cultural and political interest on the said development. The above variables were used to identify key stakeholders and they were further divided into categories based on their interests thus:

- Regulators
- Local government
- Lobbyist groups
- Local community

Step One: was to list the various natural resources within the project area, e.g., forestry, water bodies, wildlife and soils.

Step Two: the ESIA team managed to list the functions and uses of the resources. Resources such as ground water, soils, geological features, terrestrial habitats, woodlands and wildlife were considered. The table below highlights the main natural resources and their functions within the study area.

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Table 6.1: Main Natural Resources and their Functions

Natural Resources	Function	Stakeholder Responsible	Comments
Forest Resources	Forest resource offers shelter, food and fuel for a broad array of wildlife and human beings. They offer watershed protection, prevention of soil erosion, biodiversity, water cycle, medicinal plants and contribute to the reduction of global warming.	• Forestry Commission • Zimbabwe Parks and Wildlife Management Authority • Victoria Falls Municipality • Wild Horizons • Wildlife Encounter	All the identified stakeholders work in one way or another together to preserve the biodiversity which is a function of life.
Water Bodies	70-80% of most living things comprise of water in their tissues. Therefore water is a function of life. Water is used for hygiene purposes too.	• ZINWA • Zimbabwe Parks and Wildlife Management Authority • Health • Victoria Falls Municipality	Water is an ingredient of all matter, therefore there is need to preserve water sources.
Land	Administration and acquisition of land within their jurisdictions.	• Forestry Commission • Zimbabwe Parks and Wildlife Management Authority • DA	Environmental Management is very important in land management.
Settlements	Monde Village is on a Communal Land and there are homesteads	• Monde Community • Victoria Falls Municipality • Forestry Commission • Zimbabwe Parks and Wildlife Management Authority • DA	The community depends on the ecological services in the area.

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Natural Resources	Function	Stakeholder Responsible	Comments
Wild animals	Wildlife is of great significance especially to the tourism sector. One of the well-recognised parks near the study area is Zambezi National Park.	• Forestry Commission • Zimbabwe Parks and Wildlife Management Authority	Zimbabwe Parks and Wildlife Management Authority oversees the management of wildlife species. Anti-poaching team policed by local community.
Electrical Power	Provide lighting and power to stakeholders	• ZESA • ZIMRA	Power has become the driver of most technological developments

Step Three: after identification of groups that have a stake in the above table, the ESIA team used the following questions to stream line the stakeholders;

- Who uses the existing resource(s)?
- Who benefits from the resource(s)?
- Who wishes to benefit but is unable to do so?
- Who impacts on the resource(s) positively or negatively?
- Who has the right and responsibility over the use of resource(s)?
- Who would be affected by a change in the status/regime?
- Who makes the decisions that affect the use of the resource(s)?

6.2 Profile of Stakeholder

6.2.1 Regulators

These are governmental or appointed commissions whose role is to police the laws in the country. The organisations are manned by technocrats with a special knowledge in their field of work. These organisations include: ZRP, ZINWA, ZESA, NSSA, MHCC, FC and ZPWMA (see list of acrimony).

ZINWA –they are concerned with hydrological aspects of the project so as to control and monitor any pollution resulting from the construction activities and supplying of the water. They also make sure that the Water Act of 1998 is being adhered to.

ZRP – its main role is to maintain peace, order and stability in the project area so as to avoid crime activities to prevail in the area.

ZESA - install public lighting and electricity for domestic and commercial use in the area

FC- this commission is concerned with protection, conservation and preservation of forest resources, especially indigenous trees.

ZPWMA –concerned with protection of wildlife, propagation or control of wildlife, fish and plants; and the protection of landscape and scenery.

MHCC-The department of environmental health in the Ministry of Health enforces the Public Health Act Chapter15:09, 1996, Health and Sanitation Regulations SI 182 of 1995, Food and Foods Standard Act Chapter 15:04 2001and other pieces of regulations.

6.2.2 Local Government

Local government is a form of public administration which exists as the lowest tier of administration within our country. The term is used to contrast with offices at state level, which are referred to as the central government or national government. Local governments generally act within powers delegated to them by the directives of the higher level of government.

Victoria Falls Municipality

The municipality is a local government institution at town level. The role of the municipality is to translate the duties of a central government through the mayor and the councillors. The municipality portfolio has the education, health, transport, commercial, administrative, developmental, advisory and monitoring role. It is the developmental and the monitoring role that concerns **The Old Pump Staion Restaurant** development.

Tthe City of Victoria Falls in terms of the law is run by a Mayor elected on the basis of universal suffrage and a Council made up of representatives elected on a Ward (Constituency) based system. The Town Council is at liberty to impose such taxes and charges as it deems fit and in this connection derives most of its revenue from land and property based taxation. Secondly, the Minister responsible for local government has to approve the taxes and charges in the form of By-laws.

6.2.3 Communities

Community usually refers to a social unit larger than a household that shares common values and has social cohesion. It can be referred to as a group of people who stay close together at a given time and space sharing certain social, economic and political value. The communities that were identified were grouped according to the basis of making a living.

Securing a "social licence" through community consultation has become as significant as securing regulatory licenses in most mining jurisdictions. Recognising the importance of effective discussion of community and other stakeholder issues and concerns in relation to the project activities, Environment Guardians Services, developed tools to facilitate informed dialogue with stakeholders potentially impacted by the project. The team has prioritised the use of:

- Good communication through use of clear and plain local language understood by the generality of the audience.
- Encourage informed discussion of issues through giving a comprehensive description of Project in relation to environmental impacts (positive and negative) before contribution from the flow commences.
- Be sensitive to resource limitations of stakeholder groups, the team arranged meeting points within walkable distances given that a majority of stakeholders does not have means of transport.

Public consultation has been, and remains a continuous process. Apart from waves of face-to-face discussions with affected stakeholders concerning the project, public consultations were carried out at local administration and district administration.

The goal of these consultations was to obtain views of different stakeholders on the positive and negative socio-economic impacts that may arise from the proposed project; and to obtain their suggestions on potential mitigation measures for these impacts. The consultations involved the operational description of the project, oral presentations about the project, and detailed discussions on the stakeholders' opinions and queries in reference to the project.

Methods of Consultation

The following methods were used during public consultation:

- Interviews
- Meeting with all stakeholders
- Review meetings (An issues/response report will be distributed to some stakeholders reflecting the stakeholders' issues back to them).

Table 6.2: Issues Raised by Stakeholders

STAKEHOLDER	YES / NO TO THE PROJECT		ISSUE RAISED	COMPLIANCE
	YES	NO		
Victoria Falls Municipality			• Furnish the council with detailed waste management plans, and proposed sources of portable water.	
Forestry Commission			• No objections to the project	
ZESA			a) The proponent is to adhere to the **Electricity Act** (Chap 13:19) **SI** 177:2018 b) Upon establishing power lines as ZEDTC, damage will be done to the environment, therefore the following mitigation steps are to be followed; • Wayleave clearance • Pole planting and line construction Waste disposal- offcuts from cables, conductors and surplus material should be disposed properly at approve dumping sites	• The proponent will adhere to all the requirements by the Electricity Act (Chap 13:19). The proposed mitigatory measures will be considered so as to protect the environment
ZINWA			• No objections to the proposed project. • Inflow apparatus installed at Zambezi river should not be interfered with.	

STAKEHOLDER	YES / NO TO THE PROJECT		ISSUE RAISED	COMPLIANCE
	YES	NO		
Ministry of Health and Child Care			• Employment creation especially for the local people	Youths will benefit through employment creation in all phases of the project especially during the construction phase as builders.
			Building plans • Building plans for all proposed structures to be constructed on site to be drawn in accordance with Model by Laws for Zimbabwe.	The building plans for the proposed structures will be drawn in accordance with the stipulated and the provisions of the Model By Laws For Zimbabwe and these will meet the minimum health requirements of the Ministry of Health and Child Care The building plans in question will be submitted to the ministry of health and child care or the Public Health Department-Victoria Falls for examination and approval prior to construction taking place on site
			Water supply • Adequate water should be available and tested to ensure that it is safe for human consumption.	Adequate water supply will be available (both quality and quantity) Water will be tested and analysed to ensure that it is safe for human consumption The proponent through the Pump Operator at the water works to ensure that free residual chlorine out of the consumer taps is at 0.2ppm The free residual chlorine at several consumer stations will be tested at least twice a week.

STAKEHOLDER	YES / NO TO THE PROJECT		ISSUE RAISED	COMPLIANCE
	YES	NO		
			Ablution facilities • Adequate ablution facilities that are reticulated by sewer system should be constructed for both sexes so as to avert Public Health Nuisance on site.	Adequate ablution facilities reticulated by sewer system for both sexes will be constructed so as to avert public health nuisances on site as stipulated and provided for in the Public Health Act chapter 15.09
			Waste Management • Appropriate solid waste management system should be put in place on site with focus on recycling, reducing and re-using waste	Appropriate solid waste management systems will be put in place Refuse bins will be placed on strategic sites Waste collection will be done in time so as to avoid pile ups.
			Fire Prevention and control Adequate and approved firefighting equipment should be made available on site	Proper serviced fire extinguishers and sand buckets will be provided at strategic points
				Excavated land will be covered to reduce mosquito breeding sites in the town
				The entire work force that handles or prepare food for clients will undergo Food Handlers Medical

STAKEHOLDER	YES / NO TO THE PROJECT		ISSUE RAISED	COMPLIANCE
	YES	NO		
				Examination as stipulated and provided for in the statutory instrument number 41 of 1994 to guard against food born disease out breaks on site Public health measures will be observed as stipulated in the Public Health Act Chapter 15.09 section 82 which stipulates that "No person shall cause a nuisance, or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge The proponent will take all reasonable measures to avoid public health nuisances from being generated on site The project will maintain economic activities of the people, increase and improve tourist attractions in the town, thereby bringing in foreign currency
Department of Roads			• No objection to the proposed project. However Scanner Investments should maintain the road condition and is responsible for any damages caused on the road structures.	Proponent will maintain the road passing along the project area through street sanitation program.
Museum			• No objection to the proposed developments that are geared towards the economic development of the country.	The project will make reference to the National Museums and monuments Act. A full archaeological Impact assessment has been done (refer to the archaeological report Appendix 3).

STAKEHOLDER	YES / NO TO THE PROJECT		ISSUE RAISED	COMPLIANCE
	YES	NO		
			• However, this must be done with due regard to the archaeological and cultural heritage of the country.	
ZRP			• Ensure security of clients is prioritized and are protected from criminals and animals.	Safety of the clients is of paramount importance in the tourism business and security company will be engaged.
Ministry of Local Government, Public works and National Housing			• No objections to the proposed operations, however the office recommend mitigatory measures to be put in place to deal with pleasantries during the construction phase of the proposed development.	All mitigatory measures will be put in place during the construction phase of the proposed development.
ZTA			• Ensure proper waste management and recycling, reduction of waste and energy usage.	The proponent to adopt a green approach to the management of the restaurant.
AGRITEX			• No objections to the project.	

STAKEHOLDER	YES / NO TO THE PROJECT		ISSUE RAISED	COMPLIANCE
	YES	NO		
Zimbabwe Parks and Wildlife Management.			• The office fully support the proposed development. • However, the proponent should take note of environmental and social impacts of the project throughout its construction and implementation phase. • Also, a well elaborated environmental/social management plan should be developed to enhance benefits and minimise impacts. • The following mitigation measures should be taken into consideration: 1. Proper waste management plan. 2. Dust suppression measures. 3. Afforestation and minimise land clearance Consider local employment.	Proponent will follow dictates of its EMP and have an environmental policy.

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CHAPTER 7: IMPACT IDENTIFICATION AND ASSESSMENT

7.0 Introduction

The need to address environmental problems has become an important point of interest for restaurateurs and their managers throughout the world. **Individually, restaurants do not have a significant negative impact on the environment**. Collectively however, they consume huge amount of resources. Restaurants and other types of accommodation contribute 2% of the 5% global CO_2 emission by the tourism sector. It has been estimated that 75% of restaurants' environmental impacts can be directly related to excessive consumption of resources and it creates unnecessary operational costs (Parambil, 2019).

The three key areas of environmental impact are energy, water, and waste. In destinations that do not have the necessary infrastructure and systems to manage these impacts, severe degradation of the environment can occur. Making a contribution to solving these problems is referred to as **greening.** Becoming more sustainable or environmentally responsible are also often used to describe achievements in this field.

Restaurants recognises that their responsibilities extend far beyond reducing their environmental footprint and should not just be committed in reducing their negative impacts but to actually positively impact on the communities in which it operates. The proposed development is of no exception. The proponent recognises that actions cannot be implemented globally, but that it is the key to implement local programmes that give back to the people who live around it. The proposed restaurant will lead to a number of negative impacts to the community like increased crime rate, prostitution and traffic congestion. However, the fact that the development will be a stepping stone towards the development of the community, increase tax revenue, boost capital investment, contribute to charitable contributions and sponsorship, employment creation and support local community developmental programmes cannot be ignored. The development will not only create employment to the locals, but will also go an extra mile of developing maintaining roads or public utilities which will not only be used by the visitors but will become valuable to the local population as well. Contributing to community events and projects, getting involved in these will also be the intention of the proponent thus boosting community relationships.

7.1 Impact on the Environment

The hospitality sector presents a variety of environmental aspects that may have a significant impact on the environment. Its users are consuming resources such as energy and water on a daily basis and generating a great deal of solid waste and effluents. The hospitality industry causes environmental pollution and it consumes vast amounts of non-renewable resources and therefore it has to be in the front line of environmental concern. The proposed Restaurant will inevitably increase traffic levels together with associated air pollution, waste generation and destruction of local habitats. However, the use of solar power will mitigate on the impacts of the proposed development. If this is done effectively, the operations will consume relatively small amounts of energy, water, food, paper and other resources,

and which add only a small amount of pollution to the environment in terms of smoke, smell, noise and chemical pollutants. The development will go a long way in educating the public about the local environment putting more emphasis on the importance of protecting the environment. Not only will the project educate the locals on the importance of protecting the environment, but its structures will be designed in such a way that their impact on the environment is reduced and they merge in with the local environment. The proposed project will employ more sustainable practices in order to promote a green image, for example using organic products, recycling, using less toxic chemicals and using more energy and water efficient fittings.

7.2 Impact on Water

The stress on our water environment as a result of increased industrialization, which aids urbanization, is becoming very high thus reducing the availability of clean water. Polluted water is of great concern to the aquatic organism, plants, humans, and climate and indeed alters the ecosystem. The preservation of our water environment, which is embedded in sustainable development, must be well driven by all sectors. While effective wastewater treatment has the tendency of salvaging the water environment, integration of environmental policies into the actor forms core objectives coupled with continuous periodical enlightenment on the present and future consequences of environmental/water pollution will greatly assist in conserving the water environment.

Water is second only to air in terms of value to life. Yet, most new construction projects treat this valuable resource as a problem to be managed. Construction business profess a long term commitment to doing the right thing for water management but it still tend toward the cheapest and most expedient storm water control methods. Such innovation has got short term payback rules. We can't handle drought, but we can't handle floods either. We are supposedly running out of clean water due to the Climate Change era. What's the payback period on preventing a flooded basement or worse a flooded community? What is the Return On Investment (ROI) when we run out of water? How do those calculations look when water supply and sanitation costs triple in the next 20 years?

These are all questions for any construction project, The Restaurant in particular, and are also relevant for new and existing restaurant. The hospitality industry has its own water management challenges, which we like to call *opportunities*.

7.3 Impacts on Electricity

Tourism is a major economic activity in the world. However, while tourism has a noticeable positive impact on economic development, it also contributes to environmental degradation by increasing energy consumption and therefore emissions. Restaurant energy consumption is influenced by physical and operational parameters. The physical parameters common to most buildings include size, structure and design of the building (prevailing architectural / construction practices), geographical and climatic location, the age of the facility, the type of energy and water systems installed, the way these systems are operated and maintained, types and amounts of energy and water resources available locally, as well as energy-use regulations and cost.

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Restaurant sustainability has become a priority for forward-thinking guests and restaurateurs in recent years. With high electricity and water consumption rates and waste generation, many restaurants have realised the negative impacts they've had on the environment. Restaurants around the world are now working to improve their environmental footprint while simultaneously improving the guest experience.

To truly make a difference for the environment and gain a competitive edge, restaurateurs need to do more than the bare minimum. Sustainability must be more than just box-ticking green issues—your values and policies must demonstrate your true commitment to the cause. While some restaurateurs believe they can't afford to be sustainable or that their guests aren't interested in their efforts, the opposite is in fact true.

Lighting control, optimising dining and water temperatures, and raising energy awareness among staff are just some of the options. Equally importantly, energy efficiency measures are not only going to prove economically beneficial but are also likely to benefit the reputation of your restaurant.

7.4 Influence on Culture

Cultural heritage is a legacy of physical artifacts and intangible attributes of some group or society that makes the legacy of past generations, and is carefully kept in the present to be left in a legacy for the benefit of future generations (Cerovic *et al*, 2011). The proponent strongly believes that community engagement can help to sustain traditional ways of life and livelihoods. This might include synergies with companies that promote village tours or support local craftsmen and women. More cultural and social events will be available for local people such as entertainment and exhibitions. To add on, the development will lead to the conservation of the local cultural heritage of the area and rebirth of its crafts, architectural traditions and ancestral heritage.

7.5 Impact on Health and Wellbeing

Corporate community engagement also known as corporate community involvement or corporate community investment refers to the activities that a company undertakes to enhance its relationships with, and contribute to the well-being of the communities in which it has a presence or impact *(International Tourism Partnership 2012)*. It is the most visible way an organisation can demonstrate its ethics. It entails many different kinds of initiatives and actions, from donations to community partnerships, employee volunteering to work placements, but generally involves a company giving its resources in the form of time, money and products or services to a social or environmental cause. The development aims at improving the health and wellbeing of the community through engaging the community in programmes that will focus on health issues, whether raising health awareness among the community or supporting medical care. Other community programmes will aim at improving educational opportunities for local people. Therefore, the development will boost the health and improve the wellbeing of the locals.

7.6 Impact on Political System

Companies are moving away from simply assessing a community's needs and wants, to a more successful approach that is participatory and collaborative based on a mutual trust, transparency and

building consensus. Companies identify the type of expertise, skills and delivery capacity available and which projects have worked well in the past. The proposed, restaurant, therefore aims at prioritising community involvement in every decision made that can have an impact on the environment and the community at large. Communication, will therefore, be a stepping stone towards realisation of this goal. People have a right to be involved in the decision making about the planned interventions that will affect their lives hence respect for human rights will underpin all actions as enshrined in the Agenda 21 and the Environmental Management Act.

7.7 Impact on the Way of Life

A company can build capacity of the community by equipping individuals with new knowledge and skills to increase their opportunities and improve their quality of life and manage to co-exist with the restaurant sustainably. The proponent will to provide learner ship or internship to those in culinary school so as to boost employment opportunities by creating a pool of potential recruits for the resort town. This means there will be education, training and skills transfer to the local people thus impacting positively on their way of life. One of the core values of social impact assessment is that social dimensions of the environment specifically but not exclusively peace, the quality of social relationships, freedom from fear, and belongingness are important aspects of people's health and quality of life therefore, the development will work hand in hand with the community so that this goal can be realised.

7.8 Detailed description of Potential Impacts

7.8.1 Potential Bio-Physical Impacts

7.8.1.1 Vegetation clearing and Habitat modification

Clearing of native vegetation is a key threatening process on biodiversity and the physical habitat. Much of the retention of the biodiversity values of the area can be attributed to the low degree of disturbance to its native vegetation and existence in the Victoria Falls National Park. Minimal clearing will occur in the area for construction activities. However, the project site is in the World Heritage Site and the location is in the medium ecological sensitive zone. As such, dictates of the Joints Management Plan for the WHC will be adhered to.

7.8.1.2 Wildlife Displacement

The region surrounding the proposed site is rich in wildlife biodiversity. The removal of vegetation causes direct and indirect damage to wildlife. The impact on wildlife stems primarily from disturbing, compacting, removing, and redistributing the land surface. Some impacts are short-term and confined to the site; others may have far reaching, long term effects. The most direct effect on wildlife is will be human wildlife conflict and surprisingly habituation.

Mobile wildlife species like game animals, birds, and predators reside in these areas. More sedentary animals like invertebrates, reptiles, burrowing rodents and small mammals may be directly destroyed. The project site is roamed by mainly Elephants which derive food from trees and grasses in the site. The construction of the site will not significantly drive these animals from the area as it is a semi-permanent structure and will blend well with the surroundings.

7.8.1.3 Degradation of aquatic habitats of wildlife

Degradation of aquatic habitats of wildlife has often been a major impact from effluent discharges. Sediment contamination of surface water is common with such surface activities. Sediment yields may increase several times over their former level as a direct result of increased run-off and erosion.

If streams, pans or marshes are filled or drained, fish, aquatic invertebrates, and amphibians are destroyed. Food supplies for predators are reduced by destruction of these land and water species. Animal populations displaced or destroyed can eventually be replaced from populations in surrounding ranges, provided the habitat is eventually restored.

Many wildlife species are highly dependent on vegetation growing in natural drainages and wetlands. This vegetation provides essential food, nesting sites and cover for escape from predators. Any activity that destroys this vegetation near ponds, and wetlands reduces the quality and quantity of habitat essential for their survival.

7.8.1.4 Habitat Impairment and wildlife Movement Corridors

Broad and long lasting impacts on wildlife are caused by habitat impairment through such like infrastructure developments. The habitat requirements of many animal species do not permit them to adjust to changes created by land disturbance. These changes reduce living space. The degree to which a species or an individual animal tolerates human competition for space varies. Sóme species tolerate very little disturbance. In instances where a particularly critical habitat is restricted, such as a primary breeding area, a species could be eliminated. The wide range of damage that could be done is severe.

Habitat fragmentation affects large mammals when their movement between patches or areas of suitable habitat is impeded. Animal movements can be impeded by the construction of fences, surface drainage channels. Constraints on the seasonal movements and migrations of animals including rare and endangered species such as the elephant and wild dogs can have major implications on their abundance and thus affects species and ecological processes in the area they inhabit. However, very few animals are using the project area as habitat and migration corridor.

7.8.1.5 Human –Animal Conflicts (HAC)

The building of a Restaurant in the fringes of the WHS in the national park has a potential of creating human animal conflicts. Already there are reports of such conflicts of human and problem animals like baboons, elephants and buffalos with the resident community and tourists. Habitat reduction, impairment and animal displacement caused by the construction operations may worsen the current land use conflicts as more animals will be forced to occupy areas settled by people. In the event of HAC it is important to engage the National Parks and Wildlife Authority for assistance.

7.8.1.6 Artificial lightning and Wildlife

Installation of lights on the restaurant infrastructure will light up the area at night hence repelling wildlife from the nearby National Park. Insects attracted to the lights will be exposed to predators hence reducing the population in the area.

7.8.1.7 Introduction of alien Invasive species

Weed invasion is a major issue for the biodiversity of the project and affects all vegetation communities to some extent. Invasive alien species recorded in the Victoria Falls region include *Lantana camara,* the water hyacinth and the Castor oil plant. *Lantana camara* is concentrated in the Zambezi River banks even within the Victoria Falls World Heritage Site (VFWHS).The extent of its distribution and density is a threat to biodiversity of global significance and requires urgent attention. Other invasive alien species of interest in the area are *Eichhornia crassipes* (water hyacinth) and the *Opuntia* species. The water hyacinth has at sometimes completely covered the sewage treatment ponds of the Victoria Falls municipality. Improper handling of sewage may increase chances of invasive species propagation.

Part XIII of the EMA Act (20: 27) requires every person responsible to clear or cause to be cleared any noxious weed. *Lantana camara* is difficult to control as it is perennial and can regrow to form denser thickets if it is simply slashed and left. A combination of mechanical and chemical control is effective while biological control should be a long-term additional control. All forms of control should be followed by revegetation with indigenous ground covers and trees to halt seedlings from forming new thickets. An on-going follow-up work involving hand pulling of seedlings and spot spraying of regrowth is conducted at least annually.

7.8.1.8 Danger of fire outbreaks/ veldt fires

The site for restaurant is on the fringes of the Victoria Falls World Heritage Site which supports a rich animal and plant biodiversity. The increased human population at the new restaurant may pose a hazard of wildfires which may be triggered by the contractors during construction. The vegetation (in the site) and the surrounding woodland make the site prone to veld fires. Fires are a scourge of the environment during the dry season and can cause property damage and major disasters. Mismanaged and heavy fires negatively impact on habitats as they kill individual organisms, damage unprotected living tissues, modify growth and reproductive rates, change availability and use of resources, and alter the competitive balance between organisms. In the long term, such changes may alter productivity and population structure of a species and composition of communities. Fire can reduce habitat diversity by promoting grasslands in better watered areas with fertile soils or by destroying the perennial grasses to promote thicket formation and accelerated erosion in situations of low rainfall and infertile soil. The elephants that regularly visit the site and surrounding areas can also aggravate the problem of veld fires by reducing woodland to grassland. By opening the woody canopy, elephants enable more grass to grow, providing fuel for fires (Norton-Griffith 1979). Fires also inhibit tree recruitment by killing seedlings and stunting the growth of young trees. It is therefore, important to have measures to prevent and control veld fires that the restaurant area may be exposed to. These measures may include the following:

- Working hand in hand with the District's Civil Protection Unit especially during construction.
- Institutional arrangements that are in place for fire management and firefighting –It is important to consider from past experiences which of these have proved effective, and what improvements may be needed?

- Resources needed e.g. personnel, equipment and technology available for preventing and fighting fires
- Organisation and training in firefighting, management and prevention.
- Assist communities in their efforts to manage and control veld fires through providing management services, training and support;
- It is also important to put in place firebreaks. Taking into account terrain and vegetation, the firebreak must be sufficiently wide and long to have a reasonable chance of preventing a veld fire from spreading into the surrounding National Park and Fuller Forest.

7.8.1.9 Poaching of Wildlife and Forest resources

Wildlife poaching and illegal wood harvesting is a serious problem. There is a considerable amount of poaching in the area for animals, fish and trees. This has a huge impact on the property's ecosystem. The animals are being hunted for their meat and skins. Some of the wildlife species commonly targeted are Elephants, Rhinos, buffalo and impala. The locals and restaurants depend on fish from the Zambezi River. The trees are cut down for firewood and for the ever-growing wood carving industry. Poaching and bee harvesting can also increase the risk of fire outbreaks in the area. To address this challenge several measures have been taken including joint operations between the two States Parties, combined security meetings, ranger training courses and the provision of fencing to control access.

7.8.1.10 Soil Erosion

Vegetation clearance and excavation works related to construction of the Restaurant may expose soils in the affected areas which have left them vulnerable to erosion by surface run-off and create the threat of land degradation, water turbidity and sediment deposition in nearby drainage channels. This impact will be high during the construction phase before landscaping and drainage works reduce the susceptibility to soil erosion.

Some mitigation steps are still possible for the site and should be implemented forthwith and these include:

- Deliberately re-cover exposed soils with grass and other appropriate species as soon as possible
- Temporarily bind exposed soil and redirect flows from heavy runoff areas that threaten to erode or result in substantial surface runoff to adjacent water courses
- Monitor areas of exposed soil during periods of heavy rainfall throughout the remaining construction phase.

For more details on soil erosion refer to **Section on Vegetation clearing and Habitat modification.**

7.8.1.11 Dust Emission and Air Quality

Earth moving activities during construction and offloading of material may generate certain amount of air borne particulate matter (dust). Movement of trucks and heavy-duty equipment to and from the project area, as well as construction work and stockpiling of earth material, will contribute to dust emissions. Construction activities will also result in the removal of vegetation that will expose and loosen soil, which can become airborne with medium to strong winds. This will add fugitive dust to the

area, which is already dust prone because of the loose and sandy nature of the top soils. Air borne particulates may pose a serious hazard to establishments and residents in the vicinity or downwind of the construction, particularly during windy weather. High levels of suspended particulate matter increase respiratory diseases and affect vegetation growth and development. It is therefore essential that Environmental Management Plans on dust and air quality management are established. Sources of dust emission should be considered, and total dust and dust fall should be monitored. Baseline dust has been conducted on the table below.

7.8.1.12 Surface and underground Water Pollution

Oil spillage from heavy machinery used in the transportation of construction material may cause both surface and underground water pollution. In addition, pollution may be a result of improper storage of fuel or vehicle maintenance at the site. Human waste from the construction site has the potential to contaminate surface water because of the presence of macrobiotics. This can result in the spread of waterborne diseases, especially during the construction phase.

7.8.1.13 Impact of Project on Aesthetics

The construction of the restaurant will affect the aesthetic elements of the landscape resulting in the loss of natural appearance and attraction of the site. Alteration of landforms may also impose unfamiliar and discontinuous configurations. New linear patterns appear as vegetative cover is removed and waste dumped to the side. Dust, vibration, and diesel exhaust odours are created, affecting sight, sound, and smell. Some members in local communities and wildlife may find such impacts disturbing or unpleasant. The construction of the restaurant may result in exposure of the area to invasive alien species, which are major threats to the local vegetation community aesthetic value.

However, although the Restaurant is not a natural landform, it may add to the aesthetic value of the area through its architectural design. The restaurant also can become an area of socio-cultural significance hence becoming part of the local area's socio-cultural heritage.

7.8.2 Potential Impacts on Public Health

7.8.2.1 Impact of Noise from the Project

The use of heavy equipment, earth moving equipment, during site clearance and construction works is expected to generate above normal noise levels. The obvious implication of noise is the potential for noise-induced hearing loss. In addition, noise produces other health effects, influences work performance and makes communications more difficult. The fauna in the area surrounding the site will also be affected by noise. It has generally been believed that wildlife is more sensitive to noise and vibrations than human beings.

Albeit annoying, this negative impact is only short-term (limited to the duration of the construction works) and is not considered to be a significant threat to the health or well-being of humans.

7.8.2.2 Solid waste

Solid waste generated from the site preparation and construction activities could negatively impact the site and surrounding environment if not properly managed and disposed off at an approved dumpsite. Solid waste generation during construction phase will include, typical construction waste (e.g. wasted chips of wood, shelvings, steel, wooden scaffolding and boxes, bags, waste earth materials). Solid waste, if allowed to accumulate in drainage ways, could cause localised flooding. Pooling of water, in turn, would create conditions conducive to the breeding of nuisance and health-threatening pests such as mosquitoes. Poor construction waste management constitutes a short-term, possibly long-term, negative impact.

Construction sites generate considerable waste and provision must be made for suitable separation and storage of waste in designated and labelled areas throughout restaurant premises. Any hazardous waste should be separated and stored in areas clearly designated and labelled, for future disposal. Worker training should include instructions on how to dispose of wastes emphasising the need to protect the natural environment. Collection bins must be adequate in number and appropriately spaced throughout the restaurant environs. The importance of recycling during the operation phase must be emphasised to the restaurant management. The returns could be channelled to waste management.

Poor garbage management at the restaurant during the all phases (pre-operational, operational and post-operational) of the project will lead to unsanitary conditions including vermin and fly infestation and odours as well as unsightly conditions. The issue of solid waste management is also of critical importance as this an inherent problem in the area that the developer will have to face.
Other impacts related to solid wastes are stated below.

- Flies breed in some constituents of solid wastes, and flies are very effective vectors that spread disease.
- Mosquitoes breed in blocked drains and in rainwater that is retained in discarded cans, tyres and other objects. Mosquitoes spread diseases, including malaria and dengue.
- Rats find shelter and food in waste dumps, particularly the *Rattus norvegicus*. Rats consume spoiled food, spread disease like *leptospirosis,* damage electrical cables and other materials and inflict unpleasant bites.
- Plastic bags are a particular aesthetic nuisance and they can cause death of grazing animals, which eat them.
- Animals may consume inedible products such as plastic bags.
- Polluted water (leachates) flowing from waste dumps, and disposal sites can cause serious problems of water supply. Chemical wastes may (especially persistent organics) may be fatal or other serious effects if ingested, inhaled or touched and can cause widespread pollution in water suppliers.

Municipal refuse collection services are available in Victoria Falls. It is hoped that disposal of refuse material will be done at an approved landfill site.

7.8.2.3 Public Health

HIV/AIDS is one of the major public health challenges in Africa. Increased HIV/AIDS infection rates may affect the production age. HIV/AIDS affects the productive age group, which in turns negatively impacts on the local economy's production and also results in social impacts (e.g. orphans, loss of family income etc). This is particularly so during the construction phase. It is therefore discouraged to have temporary structure within the site. Locals have to be employed to mitigate this impact.

7.8.2.4 Traffic, Transportation and Access Roads

Site preparation and construction activities will see an increase in the movement of heavy vehicles and construction equipment. This may result in disruption of traffic and increase traffic related hazards and risks. Therefore, it is important to put in place traffic control measures, which include the following:

- Exit ramps from the main road to access all sides of the próperty should be considered.
- Scheduling of construction work to allow for the movement of material and heavy equipment should seek to minimise disruption to traffic flow.
- Roadside signs should be used where movement of heavy machinery and construction equipment leaves or enters the main road.
- Arrangements for parking and storage of material should be made onsite as is feasible for efficient operations.

7.8.3 Socio-Economic Impacts

7.8.3.1 Employment

This is a positive impact of the restaurant project. At the stage of construction it is estimated that over 200 persons will be employed. These levels of short-term employment opportunities would have a positive impact on the local economy and on regional unemployment.

7.9 Summarised List of Possible Impacts Identified

The following impacts and activities are envisaged to occur during the ESIA implementation. For easy ranking, the impact number will be given codes. This will be used in the ranking of impacts on Table 7.5.

7.9.1 Project phase and associated impacts

7.9.1.1 Construction Phase

- Availability of finance
- Policies
- Conflicts
- Construction

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- Biodiversity loss (Loss of flora and fauna)
- Introduction of alien weed pests species
- Loss of habitat
- Poaching
- Soil erosion
- Increase in vending activities
- Generation of Waste (Solid and liquid)
- Improvement in the standard of living
- Loss of aesthetic Value
- Occupational Health risks
- Modification of surface drainage
- Increased Energy consumption
- Increased Water consumption
- Employment creation
- Soil compaction
- Traffic and parking
- Noise/Water/Atmospheric Pollution

7.9.1.2 Operation

- Income generation
- Water consumption
- Cultural dilution
- Generation of Waste (Solid and liquid)
- Increased Energy consumption
- Induced development of other economic sectors
- Employment creation
- Threat to cultural or historical sites
- Soil compaction
- Traffic and parking
- Noise/water/atmospheric Pollution
- Traffic congestion
- Increased Water consumption
- Increased run off
- Loss of aesthetic Value
- Occupational Health risks
- Improvement in the standard of living

7.9.1.3 Decommissioning

- Visual intrusion
- Waste generation
- Environmental pollution (noise, water and air)
- Occupational Health risks
- Soil compaction
- Future land use planning
- Reclamation and Rehabilitation

7.9.2 Biophysical Impact

Table 7.5: Biophysical Impact

Impact	Probability		Severity of Impact									
	High	low	Magnitude	Duration				Extent	Intensity	Reversibility		Significance	
				S	M	L	P			Yes	No	Yes	No
Biodiversity loss (Loss of flora and fauna)	☆		Medium			☆		L	M	☆		☆	
Introduction of alien weed pests species		☆	Small	☆				IS	M	☆		☆	
Loss of habitat	☆		Small	☆				L	L	☆		☆	
Poaching		☆	Small	☆				IS	M	☆		☆	
Soil erosion	☆		Small	☆				L	L	☆		☆	
Increase in vending activities	☆		Medium	☆				L	L	☆		☆	
Generation of Waste (Solid and liquid)	☆		Long			☆		L	L	☆		☆	
Loss of aesthetic Value	☆		Medium			☆		IS	L	☆		☆	
Occupational Health risks	☆		Medium	☆				L	M	☆		☆	
Modification of surface drainage	☆		Long			☆		IS	L	☆		☆	
Increased Energy consumption	☆		Long			☆		IS	H	☆		☆	
Increased Water consumption	☆		Long			☆		IS	M	☆		☆	
Fires	☆		Small	☆				IS	M	☆		☆	
Reclamation and Rehabilitation	☆		Medium	☆				L	L	☆		☆	

Duration: (S) Short = 0-5yrs; (M) Medium = 6-10yrs; (L) Long = >10 (P) Permanent

Extent: L = Local; IS = Immediate Surroundings; Intensity: L = Low; M = Medium; H = High

7.9.3 Socio economic Impact

Table 7.6: Socio economic Impact

Impact	Probability		Severity of Impact									
	High	low	Magnitude	Duration				Extent	Intensity	Reversibility		Significance	
				S	M	L	P			Yes	No	Yes	No
Policies		☆	Medium	☆				IS	L	☆		☆	
Availability of finance	☆		Medium	☆				L	L	☆		☆	
Conflicts	☆		Small	☆				IS	L	☆		☆	
Increase in vending activities		☆	Small	☆				IS	L	☆		☆	
Secondary population growth	☆		Small	☆				IS	L	☆		☆	
Improvement in the standard of living	☆		Small			☆		IS	L	☆		☆	
Influx of people	☆		Small	☆				IS	L	☆		☆	
Employment creation	☆		Medium			☆		IS	L	☆		☆	
Traffic and parking	☆		Medium			☆		IS	L	☆		☆	

Duration: (S) Short = 0-5yrs; (M) Medium = 6-10yrs; (L) Long = >10 (P) Permanent
Extent: L = Local; IS = Immediate Surroundings; Intensity: L = Low; M = Medium; H = High

7.9.4 Political Impact

Table 7.7: Political Impact

Impact	Probability		Severity of Impact									
	High	low	Magnitude	Duration				Extent	Intensity	Reversibility		Significance	
				S	M	L	P			Yes	No	Yes	No
Policies	☆		Medium			☆		L	L	☆		☆	
Influx of people	☆		Medium			☆		IS	M	☆		☆	
Land Tenure change	☆		Medium			☆		IS	M	☆		☆	
Future land use planning	☆		Low			☆		IS	M	☆		☆	

Duration: (S) Short = 0-5yrs; (M) Medium = 6-10yrs; (L) Long = >10 (P) Permanent
Extent: L = Local; IS = Immediate Surroundings; Intensity: L = Low; M = Medium; H = High

According to the simple matrix table analysis, the following environmental impacts (and their codes) were considered significant and these will be fully addresses in the EMP.

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Table 7.8: Significant Environmental impacts and their codes

IMPACT CODE No.	IMPACT
1	Availability of finance
2	Policies
3	Conflicts
4	Biodiversity loss (Loss of flora and fauna)
5	Introduction of alien weed pests species
6	Loss of habitat
7	Poaching
8	Soil erosion
9	Increase in vending activities
10	Generation of Waste (Solid and liquid)
11	Secondary population growth
12	Improvement in the standard of living
13	Loss of aesthetic Value
14	Occupational Health risks
15	Modification of surface drainage
16	Increased Energy consumption
17	Increased Water consumption
18	Introduction of alien weed pests species
19	Influx of people
20	Employment creation
21	Soil compaction
22	Traffic and parking
23	Noise/Water/Atmospheric Pollution
24	Loss/disturbance of ecosystem
25	Future land use planning
26	Reclamation and Rehabilitation

Table 7.9: Impact Ranking – Pair Wise

Impact Code No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	1	1	1	4	1	6	1	1	1	1	11	1	1	14	1	1	1	1	1	1	1	1	1	1	25
2	1	2	2	4	2	6	2	8	2	2	11	2	2	2	2	16	17	18	2	2	2	2	2	2	2
3	1	2	3	4	5	6	7	3	3	10	11	3	13	14	3	16	17	18	19	20	21	22	23	24	25
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	1	2	5	4	5	6	7	5	5	5	11	5	5	5	5	5	5	5	5	5	5	5	23	5	25
6	1	2	6	4	6	6	8	6	6	6	11	6	6	6	6	6	6	6	6	6	6	6	23	6	6
7	1	2	7	4	5	6	7	7	7	7	11	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	1	2	8	4	5	6	7	8	8	8	11	8	13	8	8	8	8	8	8	8	8	22	23	8	25
9	1	2	9	4	5	6	7	8	9	9	11	12	13	14	15	16	17	18	19	20	9	9	23	24	25
10	1	2	10	4	5	6	7	8	10	10	11	10	13	14	10	16	17	10	10	10	10	10	23	10	25
11	1	11	11	4	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
12	1	12	12	4	5	6	7	8	12	10	11	12	13	14	15	16	17	18	12	20	21	22	22	12	25
13	1	2	13	4	13	13	7	8	13	13	11	13	13	13	13	13	13	13	13	13	13	22	23	13	25
14	1	2	14	4	14	6	7	8	14	10	11	14	13	14	14	16	14	14	14	14	14	22	23	14	25
15	1	2	15	4	5	6	7	8	15	10	11	15	13	14	15	16	17	18	15	15	15	15	23	15	25
16	1	16	16	4	5	6	7	8	16	16	11	16	13	16	16	16	16	16	16	16	16	22	23	16	16
17	1	17	17	4	5	6	7	8	17	17	11	17	13	14	17	16	17	18	17	17	17	22	17	17	17
18	1	18	18	4	5	6	7	8	18	10	11	18	13	14	18	16	18	18	18	18	18	22	18	18	25
19	1	2	19	4	5	6	7	8	19	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
20	1	2	20	4	5	6	7	8	20	10	11	20	13	14	15	16	17	18	20	20	20	22	23	20	20
21	1	2	21	4	5	6	7	8	9	10	11	21	13	14	15	16	17	18	21	20	21	22	23	23	21
22	1	2	22	4	5	6	7	22	9	10	11	22	22	22	15	22	22	22	22	22	22	22	22	22	22
23	1	2	23	4	23	23	7	8	23	23	11	22	23	23	23	23	17	18	23	23	23	22	23	23	23
24	1	2	24	4	5	6	7	8	24	10	11	12	13	14	15	16	17	18	24	20	21	22	23	24	25
25	1	2	3	4	5	6	7	25	25	25	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Table 7.10: Ranking Results

IMPACT CODE No.	IMPACT	SCORE	PERCENTAGE %	RANK
1	Availability of finance	43	6.99	3
2	Policies	34	5.53	6
3	Conflicts	6	0.98	24
4	Biodiversity loss (Loss of flora and fauna)	49	7.97	1
5	Introduction of alien weed pests species	32	5.20	7
6	Loss of habitat	37	6.02	5
7	Poaching	38	6.18	4
8	Soil erosion	28	4.55	12
9	Increase in vending activities	7	1.14	23
10	Generation of Waste (Solid and liquid)	21	3.41	16
11	Secondary population growth	46	7.48	2
12	Improvement in the standard of living	10	1.63	20
13	Loss of aesthetic Value	31	5.04	8
14	Occupational Health risks	24	3.90	14
15	Modification of surface drainage	17	2.76	17
16	Increased Energy consumption	29	4.72	10
17	Increased Water consumption	25	4.07	13
18	Influx of people	24	3.90	14
19	Employment creation	6	0.98	24
20	Soil compaction	15	2.44	19
21	Traffic and parking	9	1.46	21
22	Noise/Water/Atmospheric Pollution	29	4.72	10
23	Loss/disturbance of ecosystem	30	4.88	9
24	Future land use planning	8	1.30	22
25	Reclamation and Rehabilitation	17	2.76	17

All these significant impacts will be addressed in the EMP.

CHAPTER 8: ENVIRONMENTAL MANAGEMENT PLAN

8.0 Introduction

The EMP for the project forms the practical guide to the implementation of the bio-physical, social and economic mitigation measures that have been formulated for the project. It sets out "**what, who, how, when and at what cost**" these measures will be achieved. The EMP is also the primary mechanism for management, accountability and reporting on the project's bio-physical, social and economic performance. The EMP has been developed without reference to detailed design. Consequently, it is envisaged that the EMP will be revised and updated following the completion of the detailed design phase of the project.

The EMP fully addresses the significant environmental impacts highlighted in the PWR. The EMP consists of various detailed plans like the water management plan, air quality management plan, noise and blasting management plan, biodiversity management plan, waste management plan, hazardous materials management plan, community health and safety plan and reclamation and rehabilitation plan. These plans are subject to review during the detailed design phase. The follow-up of the implementation of these plans is the responsibility of the project's Safety, Health and Environment (SHE) department in liaison with other departments in the organisation and with external regulators like NSSA, Ministry of Health, ZINWA, ZESA, Community Leaders, Victoria Falls Municipality, DA etc.

Monitoring programs for each plan include the following elements:

i. Indicators to be measured;
ii. Methods and, where relevant, equipment to be used;
iii. Sampling locations and frequency;
iv. Trigger values that signal the need for corrective action;
v. Any specific training requirements; and
vi. Monitoring and reporting procedures.

The monitoring programs are comprehensive for all components of the project. The EMP outlines the monitoring programs for the various components. Implementation of mitigation measures and monitoring, including responsibilities and authorities, is organisationally divided into application fields (air quality, water quality, etc.) monitoring method, parameter measured, frequency and responsible person and/or organisation is outlined in the EMP.

Some aspects of project development and implementation will be subcontracted. The contractor will be required to adhere to the EMP. Ability to meet the conditions and standards stipulated in the EMP will be a ***key requirement for bidders participating in the tender process***. The EMP will be maintained as controlled document to ensure that all relevant parties are informed of any changes in mitigation measures and procedures that could affect the environment. Where operations are undertaken via

contract, the contractors will be required to update the SHE Department of the EMP relevant to their operations. All amendments to the responsibilities, operations and procedures, and the control document outlined in the EMP, must be submitted to the SHE Department for approval prior to their implementation.

An integral component of all EMP sub-plans is consideration of potential impacts on the community. Details of the public consultations undertaken during preparation of the bio-physical, economic and social impact assessment studies are available in the supporting documents.

Reporting and review links the information gained through monitoring and observation systems to the internal continual improvement process and to external stakeholders. There will be a built-in mechanism for feedback to identify systems within the EMP that require improvement. It also provides external stakeholders with an opportunity to be further informed of the status and performance of the project's environmental management system.

Incident reporting and investigation is an important means of accident prevention in occupational Health. An essential component of successful accident prevention is a culture of open communication and transparency in the workplace, whereby incident reporting is undertaken in a routine manner. Reporting also provides the opportunity to engage with external stakeholders and promote transparency in management processes. External reporting mechanisms include disclosure of information to affected parties and regulatory authorities.

The internal reporting mechanism is intended to capture, verify, analyse data and monitoring. Daily site inspections, observations, and maintenance records also form an important aspect of this day-to-day gauge of environmental performance.

Data and observations documented will be incorporated into a monthly environmental summary report. This report will include data on each environmental value potentially affected by the Project. The Project's environmental performance will be reported to EMA, financiers, shareholders, the community, and other stakeholders. Reporting will be achieved through a number of avenues, with the type and level of information provided tailored to suit the audience. Major reporting media are:

(i) **Environmental Monitoring Report**. Verified monitoring data will be collated into an environmental monitoring report. This report will be forwarded to the SHE Department on a monthly basis together with a summary analysis of the results, which includes an assessment of the Project's regulatory compliance status;

(ii) **Quarterly Environmental Report**. EGS in liaison with SHE Department will review results from monitoring systems for trends and anomalies on a quarterly basis and prepare a quarterly environmental report for inclusion in the annual environmental management report. This report will include: monitoring result summaries and analysis,

including an assessment of the Project's compliance with regulatory requirements and stated objectives; progress on the implementation of the EMP, incident reporting sheets, community concern and complaint handling activities; and details of mitigating actions undertaken to rectify or prevent environmental harm. This report is mandatory and will be forwarded to EMA;

(iii) **Annual Environmental Management Report**. This will be prepared at the end of each calendar year and made publicly available. The purpose of this document is to provide the Government, project financiers, the community, and other stakeholders with information on the environmental performance of the Project, identify areas for improvement, and suggest appropriate targets, activities, and initiatives for the upcoming year; and

(iv) **Quarterly Newsletters, Fact Sheets, and Workshops**. Additional reporting to the local community will be undertaken through provision of quarterly newsletters, fact sheets, and workshops. Reporting media will be prepared and delivered by the Community Liaison Officer with the prior informed consent of the SHE Department and assistance and input from the Environmental Officer as required.

External auditing will be undertaken by a certified auditor on an annual basis. Audit reports will be submitted to senior Restaurant Management, including the Board of Directors, for review. Internal and external audit activities may result in issuance of Corrective Action Reports (CARs) or observations of concern. CARs are generally issued in the case of regulatory noncompliance and best practice purposes, or where an issue or activity has the potential to cause human or environmental harm. Where a CAR is raised, a report separate to the overall auditing report will be issued that identifies the area of concern and the timeframe within which it must be rectified. Corrective action undertaken to close out the CAR must be documented and signed off by the SHE Department. Where issues raised under a CAR are not addressed to the satisfaction of the auditor within the specified period of time, the matter will be identified in the project's annual report as a 'non-conformance'. Observations of concern are generally issued for activities or situations where corrective action should be undertaken to avoid the potential for the matter to become a CAR in the future. These issues must be addressed, but no separate report will be raised and they will not be reported in the Project's annual report.

8.1 Phases of the Project

The point of departure for any EMP is to take a pro-active route by addressing and minimising any potentially significant problem before it occurs. In particular this EMP deals with the following phases;

8.2.1 Planning or Design Phase (DS)

It is essential that possible problematic situations be eliminated or mitigated during the planning phase, to ensure that contingency plans are prepared for any possible accidental situation that may arise during the construction phase.

8.2.2 Construction Phase

The majority of possible environmental impacts on a site tend to occur during the construction phase, and most of them will have immediate effects (e.g. dust pollution, fuel spillage). It is therefore vital that the site is monitored on a continual basis during this phase, as it would then be possible to identify and correct these impacts as they occur, thus minimising their possible impact.

8.2.3 Operational Phase (OP)

By being pro-active during the design and construction phases, potentially harmful impacts that may occur during the operational phase will be minimised or eliminated.

8.2.4 Decommissioning Phase (DE) (Chapter 9)

Thoughtful design, thorough monitoring and strict adherence to the EMP during the construction and operational phases will ensure that the decommissioning phase (if and when applicable) will be done efficiently and with minimal damage to the bio-physical and social environments. This phase is not terminal but continuous. This EMP fits into the overall planning process of the project and should be implemented by the developer as soon as EMA approves it. A copy of the EMP should always be available on site. All contractors and sub-contractors are to be familiar with the EMP and its contents.

8.3 EMP Objectives

This EMP must be used during the pre-construction, construction and operational phases of the proposed project.

The objectives of this plan are to:-

- Ensure all environmental safeguards are carried out correctly;
- Manage site activities effectively and coordinate with other players in the project;
- Minimise adverse impacts on the environment;
- Ensure that environmental mitigation measures are in place from the start of the project;
- Minimise disruption to fauna and flora and neighbouring landowners/communities; and
- Monitor the project.

Table 8.1: Planning and Design Phase

POSSIBLE IMPACT	MITIGATION MEASURES	RESPONSIBLE PERSON/MONITORING AGENCY	FREQUENCY	COMPLIANT	
				Yes	No
Availability of finance	This restaurant project will definitely contribute to the fiscus. The project cost is 23 million US$, this investment will have an increment to the Gross Domestic Production, which is the value of total goods and services that is produced in the country. The building of the restaurant is an investment that will generate taxes, levies, employment and other downstream industries. Therefore, the proponent needs all the support available.	• Project Manager • ZIA • Victoria Falls Municipality • Banks • DA	Continuous		
Poor Policies	The Consultants will review all applicable legislation, regulations and policies which will regulate on the running of the project during its life span. To mitigate against poor policies, the proponent will be assisted by the EGS in comprehending the policies contained therein (Chapter 4).	• Project manager • Victoria Falls Municipality • DA • MP • Councillor • Community Leaders	Continuous		

Table 8.2: Construction Phase

POSSIBLE IMPACT	MITIGATION MEASURES	RESPONSIBLE PERSON/MONITORING AGENCY	FREQUENCY	COMPLIANT	
				Yes	No
INCREASED ENERGY CONSUMPTION					
Increased Energy consumption	Energy efficiency/saving measures (use of energy saver bulbs/fluorescent tubes and machines that use less energy), will be considered in the final design phase, along with other "Green Building" aspects. It is recommended that all lighting both interior and exterior be powered by solar energy. Therefore, only the laundry and the restaurants can use the conversional source of power.	Project Manager, Contractor ZESA ZERA	During life of the project		
VISUAL INTRUSION					
Loss of aesthetic Value Indirect Impacts including degrading of visual quality of existing structures and glare from manmade light source will resulted from construction traffic, temporary site access areas, site cabins and heavy machinery, after dark lighting and welding, and dust	The building should not be taller than 11m since it in close to the World heritage Site. The colour and the landscaping should blend with the local surroundings. The landscape architectural will be coupled with the grass lawn park and trees so as to blend well with the natural environment. Decommissioning of all temporal structures used as storerooms will be enforced.	Project Manager Contractor EMA Forestry Commission	During life of the project		

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during dry weather All impacts are temporary in nature.					
BIODIVERSITY LOSS					
Biodiversity loss (Loss of flora and fauna)	The land clearing will be conducted in spaces where structures will be built only. In places where construction material and access roads will made, closure measures will involve landscaping and planting of indigenous trees only. Greenline Africa will be responsible for educating the contractors on the sustainable ways of cutting down trees together with the types of trees to be cut.	Project Manager Contractor EMA Victoria Falls Municipality Forestry Commission Parks and Wildlife ZINWA Greenline Africa	Continuous		
	Horticultural Activities The remaining indigenous trees could be retained or replanted wherever possible. Gardens or landscaped areas around the proposed development will be planted with indigenous (preferably using endemic or local species from the area) grasses, forbs, shrubs and trees, which are water wise and require minimal horticultural practices. Where herbicides are used to clear vegetation, specimen-specific chemicals will be applied to individual plants only. General spraying will be prohibited.	Project Manager Contractor EMA ZINWA Forestry Commission Victoria Falls Municipality National Parks Community Leaders	Continuous		
	Site inspection Before any vegetation is removed, a suitably qualified person (i.e. EMA, Forestry Commission or on his request a vegetation specialist) will inspect the study area (during the growing season) for any plants/grass/trees species that could be transplanted to other similar/ suitable areas in the study area that will remain natural.	EMA Project Manager Contractor Forestry Commission Victoria Falls Municipality National Parks Community Leaders	Continuous		
	Sensitive flora	EMA	Continuous		

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	Any medicinal/sensitive flora that will have to be removed will be removed by a suitably qualified specialist and relocated. The area (and surroundings) ecological conditions (e.g. weather, natural, and alien vegetation) that may prompt fires to occur and those that contributed to their intensity and spread must be mitigated.	Contractor Forestry Commission Victoria Falls Municipality Greenline Africa			
	Retaining flora On site floral assets and tree clumps will be identified and retained where possible. Floral assets intended to be retained will be clearly marked on site and be fenced off.	EMA Project Manager Contractor National Parks	Once-off		
	Street trees No street trees planted may be removed without prior approval.	EMA Project Manager Contractor National Parks	Once-off		
	Removing flora No valuable trees or floral assets may be removed without permission from the EMA/Forestry Commission or in some cases flora removals permit.	EMA Contractor Forestry Commission	Once-off		
POACHING					
Poaching	Employees and contractors will be educated on the ills and consequences of poaching. An education on the importance of biodiversity will be conducted. National Parks and Wild Horizons will be requested to give an awareness on the impacts of poaching to biodiversity.	National Parks Wild Horizons Forestry Commission Community Leaders Victoria Falls Municipality Greenline Africa			

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INTRODUCTION OF INVASIVE ALIEN SPECIES (IAS)					
Introduction of Invasive Alien Species	Eradication or Mitigation Eradicate alien invasive species by destroying or removing them when possible before they spread. This reduces or eliminate the likelihood that a species will become established or spread, and decrease or eliminate the presence of an invader. Mitigation can include eradication (eliminating the IAS completely); containment (keeping the IAS within regional barriers); or suppression (reducing population levels of the IAS to an acceptable threshold).	EMA Project Manager Contractor Forestry Commission Victoria Falls Municipality Community Leaders Greenline Africa	Once Off		
	Management of affected areas Manage the established invasions and restore habitats, where possible.	EMA Project Manager Contractor Forestry Commission Victoria Falls Municipality Community Leaders	Continuous		
	Adaptation Adaptation involves changes in behaviour in order to reduce the impact of an invasive species. Prevention stops a bad event from happening; mitigation curtails the extent, duration, and impacts of a bad event; and adaptation reduces the consequence when a bad event is permitted to run its full course.	EMA Project Manager Contractor Forestry Commission Victoria Falls Municipality Community Leaders	Continuous		
SOIL EROSION					
Soil erosion	All surface run-off will be managed in such a way so as to ensure erosion of soil is minimal. All surfaces that	Project Manager EMA	Continuous		

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	are susceptible to erosion will be covered with a suitable vegetative cover as soon as construction is completed. Where storm water erosion may potentially occur, energy dissipaters such as gravel beds must be installed to prevent erosion. Where possible, paving will be done.	Contractor Victoria Falls Municipality Community Leaders Forestry Commission			
	Surface cladding All surfaces that are susceptible to erosion, will be protected either by cladding with biodegradable material or with the top layer of soil being seeded with grass or seeded/planted with a suitable groundcover.	Project Manager EMA Contractor Victoria Falls Municipality Community Leaders Forestry Commission	Continuous		
	Swales Erosion caused by construction methods or unusually heavy rainstorms must be prevented and managed by building retention swales and cut-off swales to direct the water to shallow, slow flowing slopes and areas	Project Manager EMA Contractor Victoria Falls Municipality Community Leaders Forestry Commission	Continuous		
SOIL COMPACTION					
Soil Compaction	Designated Routes Designated routes will be determined for the construction vehicles and designated areas for storage of equipment. These areas will preferably be already disturbed.	Project Manager EMA Contractor Victoria Falls Municipality Community Leaders Forestry Commission	Once-off		
	Compacted areas All areas that are compacted by machinery will be ripped prior to them being rehabilitated with topsoil.	Project Manager EMA Contractor Victoria Falls Municipality Community Leaders Forestry Commission	Once-off		
	Access points & Routes	Project Manager EMA	Once-off		

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	Clearly mark the site access points and routes on site to be used by construction vehicles, workers and pedestrians. Provide an access map to all contractors whom in turn must provide copies to the construction workers. Instruct all drivers to use demarcated access points and routes.	Contractor Victoria Falls Municipality Community Leaders Forestry Commission			
	Vehicular fences Fence off/barricade areas which are off limits to vehicles.	Project Manager EMA Contractor	Once-off		
	Excavated areas Mark out the areas to be excavated to ensure that only necessary areas are excavated.	Victoria Falls Municipality Community Leaders Forestry Commission	Once-off		
	Planning Plan the site before starting – for access, deliveries, construction areas, wash-down area, waste area, stockpiles, and chemicals storage etc.	Project Manager Contractor Greenline Africa	Continuous		
POOR WASTE MANAGEMENT					
Poor Waste Management Sewage will arise from the on-site workforce. It is characterised by high level of BOD, and E.coli counts and may adversely affect the water quality, if not proper controlled.	Storage Temporary waste storage points on site will be determined. These storage points will be accessible by waste removal trucks (Plate 2.3) and these points will not be located in areas highly visible from the properties of the surrounding users. These areas will also preferably be already disturbed. Waste segregation is strongly advocated using colour coded bins. Recyclables will be taken to Victoria Falls Recycling Centre which is managed by Greenline Africa.	Project Manager Contractor EMA Victoria Falls Municipality Victoria Falls Municipality Ministry of Health Greenline Africa	Continuous		
	Waste Plan Prepare a Waste Management Plan. Coordinate with other contractors on site and nearby businesses for potential reuse or "waste exchange". Coordinate with	Project Manager Contractor EMA Victoria Falls Municipality Ministry of Health	Continuous		

	other contractors working on site regarding: site management, timing of works and waste management (recycling and reuse potential). Management of waste using the 4Rs (Reduce, reuse, recycle and recover) is strongly advocated.	Greenline Africa			
	Disposal Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce during construction. A licensed contractor would be responsible for appropriate disposal of waste matter and maintenance of these facilities. Solid waste will be disposed of in a manner approved by the EMA. All solid waste must be removed and transported to Victoria Falls Town landfill on a regular basis. Keep records of waste reuse, recycling and disposal for future reference.	Project Manager Contractor Victoria Falls Municipality Ministry of Health EMA Greenline Africa	Continuous		
	Cleaning/Clearing Avoid the cleaning of the site camp or paved surfaces with a hose pipe and soap. All roads will be cleared of any obstruction and will be swept clean with a broom, so as to avoid the waste from entering the storm water systems.	Project Manager Contractor EMA	Continuous		
	Waste Removal On completion of works, the contractors will clear away and remove from the site all construction paint, surplus material, foundations, plumbing and other fixtures of every kind. Areas thus cleared will be graded and scarified to restore the ground as near as possible to its original profile.	Project Manager Contractor EMA Greenline Africa	Continuous		
	Waste Separation	Project Manager Contractor EMA	Continuous		

	Different well labelled bins will be provided for waste separation at source (Plate 2.1). Waste will be segregated as follows; Wet Waste Rotten fruits, vegetable and their peels, left-over food, egg shells and rotten eggs, mango seeds, tea bags, used coffee powder, and fibre, used flowers, non-vegetation food remains, bones, spoiled spices, chewing gum, garden waste, and dust come under wet waste. Spoiled or expired food will be removed from its packet and discarded. Anything liquid amongst these must be drained and the remaining will be wrapped in a newspaper. *Sanitary Waste* Used sanitary cloths, condoms, syringes, cotton and bandages, diapers, tissue papers, ear buds, dental floss, blood-stained cloth, etc., is sanitary waste. This will be wrapped properly in newspapers and marked with a red cross before handing over to garbage collectors. *Dry Waste* Mop stick and mop clothes will be handed over directly. Toilet cleaning brushes, other brushes, scrubs must be dried first and then wrapped in newspapers. Various papers and stationery, razors and blades, various bottles will be kept separate. All the covers of various food/dairy items will be cleaned, dried and handed over separately. Hair and thermocol will be wrapped in paper. *Hazardous Waste*	Ministry of Health Greenline Africa Project Manager Contractor EMA Ministry of Health	Continuous Continuous Continuous		

	Used phenyl air fresheners, expired medicines, tablet covers, syrup bottles, injection bottles and other medical discards, old paints, fluorescents and button cells will be separately handed to the collectors. Batteries, CDs and cassettes, CFL, tube lights, printer cartridges, broken clocks and thermometers will be packed in newspaper or cardboard box and handed over. Cosmetics will be wrapped in the newspaper marked with red cross on it. No plastic bags will be used for this kind of garbage segregation.				
	Storage Temporary waste storage points on the site will be determined. These storage points will be accessible by waste removal trucks and these points will not be located in logically sensitive areas /areas highly visible.	Project Manager Contractor EMA Victoria Falls Municipality Ministry of Health	Continuous		
	Disposal No waste materials will at any stage be disposed off in the open veld of adjacent properties where the wind direction will carry bad odours across the properties of adjacent tenants or landowners. The temporary stockpiling of any material that could rot and release unpleasant smells into the air will not be permitted. Burning of waste is not permitted. Spot fines may be administered if construction/tenant employees are found to be polluting the area in any way.	Project Manager Contractor EMA Victoria Falls Municipality Ministry of Health Greenline Africa	Continuous		
	Waste Bins and Removal Waste bins with lids will be provided on site for all Waste pertaining to food and drinks. These will be supplied in close proximity to the area where the construction workers eat. The waste bins will be cleared by a waste truck on a weekly basis. Ensure that waste is waste is disposed at Landfill.	Project Manager Contractor EMA Victoria Falls Municipality Ministry of Health Geenline Africa	Continuous		

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CHEMICAL WASTE MANAGEMENT (WATER POLLUTION)					
Poor Chemical Waste Management	The water pollution control legislation provides the major statutory framework for the protection and control of water quality in Zimbabwe. This has to be adhered to. Re-fuelling Fuelling will be done off-site or in bunded areas on site.	Project Manager Contractor EMA ZINWA Victoria Falls Municipality Ministry of Health	During Construction		
	Spill kits Spill kits must be available in all vehicles that transport hydrocarbons for dispensing to other vehicles on site. The dispensing devices (pump heads) must be compatible with the vehicles to which they are dispensing. In addition, the dispensing devices must be fitted with the necessary valves / apparatus that will ensure that the nozzles do not drip fuel after pumping has stopped.	Project Manager Contractor EMA ZINWA Victoria Falls Municipality Ministry of Health	During Construction		
	Decontamination In the event of spills from vehicles or any other source, the area will be cleaned immediately, using a bioremediation product, such as Petro-Clean TM. The absorbent and soil must be placed in a bin and removed from site by a certified company and disposed of as a hazardous waste at a licensed commercial facility. Contaminated soils will be excavated from the individual contaminated zones and then transported to a centralised decontamination works area for treatment by biopiling and solidification / stabilization were neccessary.	Project Manager Contractor EMA ZINWA Victoria Falls Municipality Ministry of Health Greenline Africa	During Construction		
	Workshop	Engineer Project Manager Contractor	Once-off		

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	The vehicle maintenance area and secured storage area will be established as far as is practicable and buffer area around drainage/storm water channels.	ZINWA			
	Maintenance area The maintenance of vehicles and equipment used for any purpose during the development will take place only in the maintenance area.	Engineer Contractor Project Manager	Once-off		
	Equipment The equipment used in the development process will be adequately maintained so that during operations it does not spill oil, diesel, fuel, or hydraulic fluid, during operations.	Engineer Contractor EMA	Once-off		
	Machinery Machinery or equipment used on the site will not constitute a pollution hazard in respect of the above substances. The proponent will order such equipment to be repaired or withdrawn from use if he or she considers the equipment or machinery to be polluting and irreparable.	Engineer Contractor EMA	Once-off		
NOISE POLLUTION					
Noise Pollution	Normal working Hours No adverse construction noise impact is expected at the vicinity of the work sites due to the large separation distance between the construction sites and the nearby settlements, construction noise monitoring is therefore not proposed. However, regular site audit is required to ensure proper implementation of good site practices. Construction will be limited to normal working hours, which is stipulated to be from 06:00hrs to 18:00hrs, Monday to Friday and Saturday from 0600hrs to 1500hrs. No work will be allowed on Sundays and Public Holidays, except in extreme emergencies and with the prior approval of the Project Manager.	Project Manager Contractor	During Construction		

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	Noise Machinery that will be used should be of less noise or have silencers. If not possible, contractors and site workers must wear earplugs so as to reduce the impact of noise.	Project Manager Contractor	During Construction		
AIR POLLUTION					
Air Pollution	Water dampening The liberation of dust into the surrounding environment will be effectively controlled by the use of water spraying and/or other dust allaying agents, such as dust nets. Regular and effective damping down of working areas (especially during dry and windy periods) must be carried out to avoid dust pollution that will have a negative impact on the surrounding environment and communities. When necessary, these working areas will be damped down every 3 - 4 hours.	Project Manager Contractor EMA Ministry Of Health Forestry Commission	During Construction		
	Speed of trucks The speed of haulage trucks and other vehicles must be strictly controlled to avoid dangerous conditions and excessive dust. Preferably, trucks will not exceed a speed of 20km/hr.	Project Manager Contractor NSSA	During Construction		
	Fires on site A designated area will be assigned for fire making, if necessary, by the construction workers, so as to ensure that run-away veld fires do not occur. This will also reduce air pollution by excessive smoke. No burning of waste will be allowed in the project site.	District Disaster Team Contractor Victoria Falls Municipality EMA Victoria Falls Municipality Forestry Commission	During Construction		
OCCUPATIONAL HEALTH RISKS					
Occupational Health Risks	Occupational Accidents As mandated by the NSSA Act, an accident register will be kept on site and in an updated manner. All	Project Manager Contractor EMA			

	accident must be recorded after investigations. Safety signage will be posted to inform workers and visitors of personal protection on site.	NSSA			
	HIV/AIDS and other STIs, Prostitution The company will employ an external training provider to conduct an HIV/AIDS awareness course. Effort, time and, where necessary, money must be invested in HIV/AIDS education and training. HIV/AIDS education and training must deal with how the disease is spread and how to prevent transmission; Provision of appropriate equipment and materials to protect colleagues from the risk of exposure to HIV in the performance of their work; Restaurant will encourage routine, confidential, voluntary testing and counselling as part of its education and awareness program; People will be made aware of the disease and its implications, including its devastating impact, how to prevent its transmission and how to tackle its stigma. The proponent will provide condoms to all employees and will work in collaboration with the Ministry of Health in awareness and prevention initiatives.	Community Health Ministry NGOs Community Health Ministry NGOs			
	Number of toilets The number of toilets will be recommended by the Environmental Health department from Victoria Falls Hospital. Workers on site will be provided with temporary toilets in this phase and during the operational phase, permanent ones will be provided. This will avoid diarrheal infections. Toilet paper will be supplied to all toilets. Toilets will be cleaned by a certified company on a regular basis.	Project Manager Ministry of Health Contractor	Once off		
	Accommodation	Project Manager Contractor	Once off		

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	Alternative accommodation will be arranged for construction workers by the contractors, will they be too far from their permanent residence, and need accommodation closer to the site. However, no wooden cabins shall be used as accommodation on site. This is sub-standard housing according to the Public Health act.	NSSA Ministry of Health			
TRAFFIC CONGESTION					
Traffic Congestion	Departmental Requirements All requirements from the provincial and local roads and traffic departments must be adhered to and precautionary measures taken to provide safe and effective traffic management. The designs of the culverts must be done in conjunction with the Ministry of Infrastructure Development and Transport	Project Manager Contractor Ministry of Infrastructure and Transport	Once-off		
	Site access The access of large trucks will be investigated by the Project Manager to provide a suitable access route that does not become a nuisance to existing residents.	Contractor Project Manager	Once off		
	Wheel wash Establish an all-weather site access and wheel wash or shake down and prevent soil and materials being tracked onto the surrounding road system.	Engineer Contractor	Continuous		
	Peak traffic hours Construction vehicles and activities will avoid contractor continuous peak hour traffic times (weekdays 7-8am and 5- 6pm).	Project Manager Contractor	Continuous		
	Established Tracks Access and travelling on the construction site must follow established or demarcated tracks only.	Contractor Project Manager	Once off		
	No vehicles No vehicles whatsoever are allowed to move across wetland or sensitive areas, which could cause erosion	Contractor Project Manager EMA	Continuous		

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	accident must be recorded after investigations. Safety signage will be posted to inform workers and visitors of personal protection on site.	NSSA			
	HIV/AIDS and other STIs, Prostitution The company will employ an external training provider to conduct an HIV/AIDS awareness course. Effort, time and, where necessary, money must be invested in HIV/AIDS education and training. HIV/AIDS education and training must deal with how the disease is spread and how to prevent transmission; Provision of appropriate equipment and materials to protect colleagues from the risk of exposure to HIV in the performance of their work; Restaurant will encourage routine, confidential, voluntary testing and counselling as part of its education and awareness program; People will be made aware of the disease and its implications, including its devastating impact, how to prevent its transmission and how to tackle its stigma. The proponent will provide condoms to all employees and will work in collaboration with the Ministry of Health in awareness and prevention initiatives.	Community Health Ministry NGOs Community Health Ministry NGOs			
	Number of toilets The number of toilets will be recommended by the Environmental Health department from Victoria Falls Hospital. Workers on site will be provided with temporary toilets in this phase and during the operational phase, permanent ones will be provided. This will avoid diarrheal infections. Toilet paper will be supplied to all toilets. Toilets will be cleaned by a certified company on a regular basis.	Project Manager Ministry of Health Contractor	Once off		
	Accommodation	Project Manager Contractor	Once off		

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	scouring and compaction. However, there is no stream or wetland within the surroundings of the project area.	ZINWA			
EMPLOYMENT CREATION					
	Employment criteria Local contractors are going to be considered first to minimise the effects of accommodation, equally so with employees for these contractors.	Project Manager Community Leaders	Continuous		
INCREASED WATER CONSUMPTION					
Increased Water consumption	No treated water will be used for construction purposes. Water will be drawn from Zambezi River and boreholes to be drilled for the project during this construction phase.	Project Manager ZINWA Community Leaders	Continuous		
MAINTENANCE OF ROADS AND SERVICE					
Maintenance Of Roads And Service	The Victoria Falls Municipality and the proponent will together to construct a tarred road that will end at the Restaurant. The other part of the road to Monde Village will be constructed under the hospices of social responsibility by the restaurant as an all-weather road. Victoria Falls Municipality will construct new roads and rehabilitate those that are not in good condition. All access roads as a result of construction activities will be closed and re-vegetated.	Project Manager Victoria Falls Municipality Community Leaders	Continuous		

Table 8.3: Operational Phase

POSSIBLE IMPACT	MITIGATION MEASURES	RESPONSIBLE PERSON/MONITORING AGENCY	FREQUENCY	COMPLIANT	
				Yes	No
WASTE MANAGEMENT					

Poor Waste Management	Most of the aspects are covered in the construction Phase. It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during the operation phase include: Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. Training of site personnel in proper waste management and chemical waste handling procedures. Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).				
	Containers Waste bins with lids will be provided on site for all waste pertaining to sanitary, food and drinks. These will be supplied in close proximity to the area where they are generated. The temporary stockpiling of any material that could rot and release unpleasant smells into the air will not be permitted. Burning of waste is not permitted. Spot fines may be administered if the employees are found to be polluting the area in any way as dictated by the EMA Act and the Water Act.	Restaurant Management Contractor Victoria Falls Municipality EMA Victoria Falls Municipality	Continuous		
	Removal Waste generated will be cleared weekly. Recycling vendors will be contracted.	Restaurant Management Contractor Victoria Falls Municipality	Continuous		
	Disposal Solid waste will be disposed of in a manner approved by the EMA. All solid waste must be removed and transported to Victoria Falls Town landfill on a regular basis. Keep records of waste reuse, recycling and disposal for future reference.	Restaurant Management Contractor Victoria Falls Municipality	Continuous		
	Waste separation As in construction phase				

Poor Waste Management	Most of the aspects are covered in the construction Phase. It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during the operation phase include: Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. Training of site personnel in proper waste management and chemical waste handling procedures. Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).				
	Containers Waste bins with lids will be provided on site for all waste pertaining to sanitary, food and drinks. These will be supplied in close proximity to the area where they are generated. The temporary stockpiling of any material that could rot and release unpleasant smells into the air will not be permitted. Burning of waste is not permitted. Spot fines may be administered if the employees are found to be polluting the area in any way as dictated by the EMA Act and the Water Act.	Restaurant Management Contractor Victoria Falls Municipality EMA Victoria Falls Municipality	Continuous		
	Removal Waste generated will be cleared weekly. Recycling vendors will be contracted.	Restaurant Management Contractor Victoria Falls Municipality	Continuous		
	Disposal Solid waste will be disposed of in a manner approved by the EMA. All solid waste must be removed and transported to Victoria Falls Town landfill on a regular basis. Keep records of waste reuse, recycling and disposal for future reference.	Restaurant Management Contractor Victoria Falls Municipality	Continuous		
	Waste separation As in construction phase				

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INTRODUCTION OF INVASIVE ALIEN SPECIES (IAS)					
Invasive Alien Species	As in the operational phase. These species should not be introduced at all in the first place since some of them are difficult to eliminate or eradicate completely.				
WATER CONSUMPTION					
Increased Water consumption	The Mist Restaurant will introduce various interventions to recover, reuse and store water in order to conserve water and limit the restaurant's impact on both the environment and water table.	Restaurant Management Contractor Victoria Falls Municipality ZINWA	Continuous		
	Grey water In its efforts to save and reuse water, the Restaurant will implement two grey water collection systems. The first collection system treats and stores water from the kitchens and a number of rooms, which is then used to flush the public toilets in the banquet area, staff ablutions and to also water the gardens throughout the restaurant. The second collection system recycles backwashed water back into the swimming pool. The restaurant will install a complete recycling pool backwash water system that will feed back into the pool to further optimise the use of water at the pool.	Restaurant Management Contractor Victoria Falls Municipality ZINWA	Continuous		
	Gardening To improve the water efficiency of the restaurant's gardens, water wise plants will be planted; with the restaurant's flowering plants that will be planted will be the succulents which require less water. In addition, the irrigation system in the garden beds that will be put at the main entrance will be drip system which reduces water consumption by up to 60%.	Restaurant Management Contractor Forestry Commission Victoria Falls Municipality	Continuous		

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	Water Monitoring Certain areas within the Restaurant will have water meters installed to allow water consumption in different areas of the restaurant to be monitored closely. With these water meters, the Garden Supervisor will be able to incorporate water monitoring into the Energy Monitoring dashboard to measure usage and generate reports. This will enable the SHE Department within the restaurant to identify areas of high consumption and proactively implement tactics to curb it where possible. The SHE Department will have to experiment with various water saving devices in the kitchens where water usage is necessary. These include devices such as flow restrictors on taps and energy and water efficient showerheads.	Restaurant Management Contractor ZINWA Victoria Falls Municipality	Continuous		
	Water Harvesting Rain-water harvesting is a green initiative involving a catchment area to collect rainwater and divert it to storage tanks or groundwater recharge pits. While not typically designed to act as the main source of water, a rainwater harvesting system can help offset the costs of irrigation, promote conservation, provide an alternative to watering restrictions during a severe drought and, in many ways, reduce flooding and clean streams. Rainwater is collected using gutters to channel water from the roof to a storage tank or a barrel rather than to the ground, sidewalks and streets. The stored water can then be released gradually.	Restaurant Management Contractor Victoria Falls Municipality ZINWA	Continuous		
ELECTRICITY CONSUMPTION					
	As in the construction phase for some aspects.				

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Increased Electricity Consumption	Heating Avoid overheating bedrooms and corridor areas. This is not only expensive, it can also be uncomfortable for guests; aim for 19-21°C Ensure good control of your heating system. Use timer switches and thermostatic radiator valves, and check that thermostats are unaffected by draughts, sunlight, radiators and fireplaces Service your boiler regularly. This could help you save up to 10% of your annual heating costs Ensure that pipework feeding bedrooms and common areas is well insulated	Restaurant Management Contractor Victoria Falls Municipality ZESA	Continuous		
	Hot water Do not overheat hot water. A temperature of 60°C is ideal. It provides comfortable hot water and is hot enough to kill legionella bacteria Consider fitting spray water taps, as they use less hot water and energy Make sure that leaking taps are repaired promptly Ensure that pipework is well insulated	Restaurant Management Contractor Victoria Falls Municipality ZESA	Continuous		
	Lighting Install occupancy and daylight sensors so that your lights are only on when required Use low-energy lighting. Replace tungsten GLS lamps and T12 fluorescent tubes with much more energy efficient items such as T5 tubes or compact fluorescent or LED lamps. These could help you reduce the electricity you consume for lighting by up to 80%. Furthermore, some of the newer bulb types last more than eight times longer than tungsten GLS lamps, and, as they produce less heat, they will put less strain on the cooling required from your air conditioning system	Restaurant Management Contractor Victoria Falls Municipality ZESA	Continuous		

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	Refrigeration Defrost fridges regularly; check the seals on cold rooms and fridges; and keep condensers and evaporators clean When replacing or buying new, look for energy efficient units such as those that are A rated. If possible, buy A++ units, as they have the lowest electrical running costs Keep fridge doors closed as much as possible	Restaurant Management Contractor Victoria Falls Municipality ZESA	Continuous		
	Communication on energy Sustainability For the above to be implemented effectively it is important to communicate sustainable best practices to restaurateurs, employees, contractors tenants and guests	Restaurant Management Contractor ZESA Guests	Continuous		
MAINTENANCE OF ROADS AND SERVICE					
Maintenance of roads and service	The Victoria Falls Municipality will construct new roads and rehabilitate those that are not in good condition. All access roads as a result of construction activities will be closed and re-vegetated.	Project Manager Victoria Falls Municipality Transport Ministry DA	Continuous		
PROJECT RELATED CONFLICTS					
Project Related Conflicts	All affected and interested stakeholders were consulted and their concerns addressed. However, the employment criteria that will be used to mitigate conflicts will be first priority to the local people for Hwange District including Victoria Falls town.	Restaurant Management Victoria Falls Municipality Wild Horizons Community Leaders Victoria Falls Municipality DA	Once off		
TERMS OF TENANT SELECTION					
Poor Terms of tenant selection	Tenants (such as banks, curios etc) will be given terms according to the Restaurant Regulations which will be provided by The Mist Restaurant.	Restaurant Management Victoria Falls Municipality Prospective Tenants	Once off		

EMPLOYMENT CREATION					
Employment criteria	Local contractors and employees are going to be considered first	Restaurant Management Community Leaders Victoria Falls Municipality DA	Continuous		
OCCUPATIONAL HEALTH					
Occupational Health Risks	As in the Construction phase. However, there should be a SHE Officer that will be responsible for Occupational and emergency issues at the Restaurant.				
SECONDARY POPULATION GROWTH					
Secondary Population Growth	There won't be any significant population growth in the area. However, there will be demographic changes whereby there will high concentration of the young economically active population in a spatial area over time. This is due to the pull effect that lure the economically active population to a place where there is a new development in search of greener pastures.	Restaurant Management Community Leaders Victoria Falls Municipality DA	Once Off		
REVENUE COLLECTION					
Increase Revenue Collection to Central and Local Governments	Through payment of relevant taxes and fees to the central government and local authority, the project will contribute towards the national revenue earnings. The taxes include various service charge, duty, licenses and fees charged directly and indirectly. The Mist Restaurants can play an important role in attracting foreign investment and providing training for nationals. Many tourism ventures include foreign equity participation and technical knowledge about the construction and operation of restaurants. The former represents a mobilization of international financial resources, which can be regarded as a desirable substitute for foreign borrowing. Outside management can be used to train large numbers of nationals who	ZIMRA Victoria Falls Municipality DA Project Manager ZIMRA Victoria Falls Municipality DA Project Manager	Continuous		

	would not otherwise have access to training. Furthermore, tourism provides a stimulus for the development of other ancillary businesses catering to tourists.				
FIRES					
Fires outbreaks	Employees, contractors and tenants will be educated on the dangers of fires and how to deal with them in case of a fire incident. Fire extinguishers will be positioned at strategic points. For more information see Emergency Preparedness Plan.	Project Manager Victoria Falls Municipality District Disaster Administrator Victoria Falls Municipality DA	Continuous		
POLICIES					
Poor Policies	The Consultants will review all applicable legislation, regulations and policies which will regulate on the running of the project during its life span. To mitigate against poor policies, the proponent will be assisted by the EGS in comprehending the policies contained therein (Chapter 4). Some of the policies that may affect the finer details are to be pursued by the proponent, e.g. taxation, levies.	Restaurant Management Victoria Falls Municipality DA MP Councillor Community Leaders	Continuous		

Table 8.4. Summarised Environmental Monitoring Program

Parameter	Location	Frequency of Monitoring				Cost per Quarter
		Ambient			Discharge to Surface Water	
		Surface water	Sediments	Ground Water		
pH	All locations	Monthly	pH	All locations	Monthly	
Turbidity	All locations	Monthly	Turbidity	All locations	Monthly	
Temperature	All locations	Monthly	Temperature	All locations	Monthly	
Dissolved Oxygen	All locations	Monthly	Dissolved Oxygen	All locations	Monthly	

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Parameter	Location	Frequency of Monitoring				Cost per Quarter
		Ambient			Discharge to Surface Water	
		Surface water	Sediments	Ground Water		
Conductivity	All locations	Monthly	Conductivity	All locations	Monthly	
Total Dissolved Solids	All locations	Monthly	Total Dissolved Solids	All locations	Monthly	
Total Suspended Solids	All locations	Monthly	Total Suspended Solids	All locations	Monthly	
ORP	All locations	Monthly	ORP	All locations	Monthly	
Total Coliforms & E. Coli	All locations	Monthly	Total Coliforms & E. Coli	All locations	Monthly	
Alkalinity/Hardness	All Locations	Quarterly	Alkalinity/Hardness	All locations	Quarterly	
Nitrates						
Nitrates	Ambient locations	Quarterly	Total Nitrogen, Nitrate, Nitrite, bio-gas	Ambient locations	Quarterly	
	Runoff discharge points where fertilizers used STP effluent discharge points	N/A	N/A	Runoff discharge points where fertilizers used STP effluent discharge points	N/A	
Total Phosphorus, Phosphate	Ambient locations	Quarterly	Total Phosphorus, Phosphate	Ambient locations	Quarterly	
Total Phosphorus, Phosphate	Runoff discharge points where fertilizers used	Bi-annually (TP only)	Total Phosphorus, Phosphate	Runoff discharge points where fertilizers used N/A	N/A	
Pesticides/Herbicides	Ambient locations	Quarterly	Pesticides/Herbicides	Ambient locations	Quarterly	

Parameter	Location	Frequency of Monitoring				Cost per Quarter
		Ambient			Discharge to Surface Water	
		Surface water	Sediments	Ground Water		
Pesticides/Herbicides	Runoff discharge points where pesticides/ herbicides used	N/A	Annually	Runoff discharge points where pesticides/ herbicides used	N/A	

"Furthering the development of understanding, protection and quality enhancement of the environment"

CHAPTER 9: DECOMMISSIONING PHASE

9.0 Introduction

Planning for rehabilitation and decommissioning will be undertaken in the early stages of project development and is developed in the context of the overall restaurant closure objectives. During the operational phase, research and site trials will enable the rehabilitation programme to be modified to reflect site specific parameters. At closure, the final landforms will be created, and the progressive rehabilitation programme extended, to include the remaining areas of disturbance. The most important elements of the rehabilitation program following closure will be the refinement of the success criteria and the establishment of a long term monitoring programme.

Site inspections should be undertaken routinely to inspect the works areas in order to ensure the recommended mitigation measures are properly implemented.

Decommissioning and reclamation planning is essential to ensure that the entire development life cycle is accounted for. During project operations, research and site trials enable the rehabilitation program to be modified to reflect site specific parameters. At closure, the final landforms are created and the progressive rehabilitation program extended to include the remaining areas of disturbance. The most important elements of the rehabilitation program following closure are the refinement of the success criteria and the establishment of a long term monitoring program. The objective is to demonstrate that rehabilitated areas are trending towards stable and sustainable ecosystems consistent with the defined completion criteria.

In the lead-up to the project closure, criteria are needed to demonstrate the success of rehabilitation. Both regulators and the local community can play an important role in the establishment of these criteria and the monitoring methods chosen to assess performance. This is particularly important if components of the closed project site are to be utilised by the local community. There will also be a role for the local community to play in the long-term monitoring of the success of rehabilitation. Some ecosystems may take decades to re-establish and early warning of potential problems will prevent costly maintenance programs. Prior to decommissioning, and in coordination with the relevant stakeholders, the proponent will develop a re-vegetation plan for native plant species in order to enhance the wildlife habitat value of the project area.

The responsibility of decommissioning lies on the project management. The project closure will not only be terminal, but progressive and systematic during the life of the project. The monitoring authorities and stakeholders will include EMA, RDC, MoHCC, ZTA, Forestry Commission, ZPWMA, and the local leadership. The proponent will discuss with these stakeholders whether to destroy or leave some of the project buildings that may be useful to the regulators or the community.

9.1 Associated Infrastructure

The main building complex comprising of chalets, Caravan Park and raised tents to accommodate clients, professional tour guides and staff housing will either be left for the local authority or to local community to make use of if that is agreeable. The proponent will engage the local community and the local authority on the best way to utilise the project infrastructure.

All surfaces will be checked for waste products from activities such as concreting and cleared in a manner approved. Hardened surfaces will be ripped. Rubble material will be removed from the project site and used for rehabilitating purposes. Burying of rubble on site will be prohibited. The project site will be cleared of all litter.

The contractor will check that all watercourses are free from building rubble, spoil and waste materials. Barriers and demarcations associated with the construction phase will be removed from the site. The proponent will repair any damage that the construction and decommissioning works have caused to neighboring properties.

9.2 Surfaces

All surfaces in the project area will be checked for waste products from activities such as concreting and these surfaces are to be cleared in a manner approved by the site engineer. All surfaces hardened due to construction activities will be ripped and imported materials thereon will be removed. All rubble will be taken to Victoria Falls landfill or used to reclaim and rehabilitate eroded areas in the Monde Village of Chidobe Ward. Burying of rubble on site will be prohibited. The site will be cleared of all litter. The contractor, before commissioning, will check that all watercourses are free from building rubble, spoil materials and waste materials.

In the lead-up to decommissioning, closure criteria will be needed to demonstrate the success of rehabilitation. Both regulators and the local community will play an important role in the establishment of these criteria and the monitoring methods chosen to assess performance. This is particularly important if components of the decommissioned site are to be utilised by the local community.

9.3 Buildings and Structures

Surface runoff may cause potential water quality impact during the demolition activities. Precipitation that falls on unpaved lands and areas with the topsoil exposed during the demolition would wash away soil particles. Such surface runoff and storm water overflows with high levels of suspended solids if directly discharged into the water bodies or via the drainage channel could lead to a water quality impact.

All structures comprising the air conditioned rooms, ablution facilities, suites, washing facilities and other components of the development will be removed from site. The area that was developed will be checked for spills of hazardous substances and these will be cleaned up. Some of the buildings will be gutted to recover any salvageable equipment and material. It is anticipated that the demolition of all

salvageable material such as roofing, cladding, steelwork and timber will be carried out free of charge by the demolition firm in return for the material itself. Brickwork, blockwork, concrete and foundations will be broken up and either used for rehabilitation or disposed off at Victoria Falls landfill.

The disturbed areas will be graded and vegetated with the aim of returning the area to natural bush. As a result of the wide cover of topsoil in the general area, it is anticipated that the rehabilitation programme will not rely on the use of imported topsoil for the establishment of a viable vegetation cover.

9.4 Water Supplies

Water will be supplied from boreholes, there could be more than 3 at the time of decommissioning. The water supply pipelines leading to the restaurant will be left in place. Those leading to working areas will be drained and plugged below the ground surface and left in place.

Water quality impacts from the land-based decontamination works, associated with leachate, and contaminated runoff, can be controlled to acceptable levels by implementing the recommended mitigation measures. All the effluents and runoff generated from the works areas shall be treated and their quality be monitored before discharged. No unacceptable water quality impacts would be expected from the land-based decommissioning activities.

9.5 Waste Management

Accumulation of solid waste (such as debris, rubbish and demolition materials), and spillage of oil, diesel or solvents by vehicles involved with the decommissioning works, if uncontrolled, could also lead to deterioration in water quality. This will require continuous monitoring of the site over time.

Waste management will be the contractor's responsibility to ensure that all wastes produced during the decommissioning activities are handled and disposed of in accordance with the recommended mitigation measures and EMA's regulations and requirements. The mitigation measures recommended should form the basis of the site Waste Management Plan to be developed by the contractor during decommissioning phase of the Restaurant Project.

The water sensitive receivers that may be affected by the decommissioning activities for the Project have to be identified. Proposed decommissioning activities have to be reviewed to assess the land-based water quality impact upon the nearby water bodies. Practical water pollution control measures will be subsequently recommended to ensure that effluent discharged from the decommissioned site will comply with the regulatory criteria. Consideration has to be given to controlling potentially harmful impacts from site works and to the use of 'best' practice measures to minimise the potential for discharges of pollutants to the nearby waters of the Zambezi River.

9.6 Roads and Culverts

All opened up access roads during construction will be decommissioned before the restaurant is commissioned. These will be closed and the area re-vegetated. On the terminal decommissioning, through stakeholder consultation, roads that are supposed to be used by the community around will be identified and left. Those that are not necessary will be ripped off of the tar and soil exposed to initiate vegetation growth.

9.7 Temporary Services

Temporary roads will be closed and access across these blocked. All areas where temporary services were installed will be rehabilitated to the satisfaction of the above mentioned monitoring authorities.

9.8 Re-vegetation

Re-vegetation will commence at the start of the raining season (October). The rehabilitation process will be in 6 steps:

Step 1 – Re-Profiling: This will involve the restoration of the area's original longitudinal profile, so as to resemble the original state prior to construction.

Step 2 – Topsoil Spreading: Top soil will be spread to a depth of 50mm to 100mm. Topsoil management is important because it is a natural seed bank, containing nutrients and micro-organisms, and has a higher moisture capacity than ordinary sand.

Step 3 – Sowing: Based on the results of pre-construction vegetation baseline data, indigenous seed mix of up to 30 species will be sown over the decommissioned area. The grasses: Eragrostis spp, E. superba, Aristida spp and Bothriochloa radicans which are fast growing, will help to prevent erosion and provide protection to indigenous seedlings as they develop.

Step 4 – Rehabilitation Maintenance: Placing wind fencing and laying brush matting will help stabilise the area further, and control weed and erosion while vegetation regenerates.

Step 5 – Habitat Construction: Log piles, bird perches, nesting boxes and other techniques will be used to encourage fauna to return to the rehabilitated areas.

Step 6 – Monitoring and maintenance: Post decommissioning audits monitor the development and quality of the rehabilitation. From these audits the proponent will collect valuable data on landform stability, vegetation development, fauna re-colonisation and soil nutrients. Monitoring of rehabilitation vegetation is a long term commitment for the proponent.

An invasive species management activity will be implemented at the onset of rehabilitation. Finally, there will be inspection in order to ensure adherence to EMP guidelines, completion of localised/ remaining areas of impact, monitoring of rehabilitation success and other pertinent issues.

Areas of stagnant water will be drained and backfilled with soil. All areas where topsoil was removed will be landscaped in order to reflect surrounding conditions. Since approximately 1500mm of topsoil could be removed, sufficient topsoil will be made available for landscaping and sloping purposes. Erosion monitoring and control will be conducted. This will be in the form of inspections subsequent to rains. Topsoil will be replaced in all areas that were eroded. It is critical that adequate topsoil remains in construction areas, implying that topsoil might need to be supplemented in some areas until such time that a layer of vegetation has stabilised the soil.

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CHAPTER 10: EMERGENCY PREPAREDNESS PLAN

10.0 Introduction

Emergency Preparedness Plan (EPP) establishes the framework for Old Pump Station restaurant's response to, recovery from, and mitigation of all hazards. The plan unifies and coordinates efforts of different agencies and departments, non-governmental and voluntary organisations involved in emergency management with the goal of protecting life and property and ensuring public safety.

EPP performs the following functions:-

- Public safety issue formulation and resolution;
- Review of after-action reports and lessons learned; and
- Homeland security state grants funding project planning.

10.1 Regulatory agency contacts

The following table lists the designations, addresses and telephone numbers of individuals at the various regulatory agencies with jurisdiction over Victoria Falls town activities. The district disaster management team will revise this table as and when required to keep it up-to-date with Victoria Falls town regulatory requirements.

Table 10.1: Regulatory Agency Contacts

AGENCY	TITLE	ADDRESS	TELEPHONE
District Disaster Management Team	District Administrator	Victiria Falls District Administrator office	0281 22245
ZRP Victoria Falls	Chief Inspector	ZRP Victoria Falls main station	0213 41323
Victoria Fire & Ambulance Services	Fire Officer	Victoria Falls town council	0213 44400
Ministry of Health	Provincial Medical Director	Victoria Falls Hospital	0213 44262
Civil Aviation Authority of Zimbabwe	Loss Control Officer	Victoria Falls Airport	0213 44428

Environmental Management Agency	District Environ. Officer	Victoria Falls District Administrator office	0281 22207

10.2 Fire Plan

This is meant to reasonably protect the health and safety of personnel within the Old Pump Station restaurant. The Fire Procedure outlined below contains the basic elements that every person will need to know and keep in mind if a fire situation presents itself. The facility will have fire extinguishers installed at strategic places depending on the type of fires anticipated.

Procedure:

Fire Detection and Safety Equipment

- Smoke and fire alarms will be maintained according to manufacturers' guidelines and in conjunction with local authority and state regulations.
- Smoke and fire alarms will be tested on quarterly basis to assure continued functioning.
- Sprinkler systems will be installed and inspected on an annual basis to assure continued functioning.
- Fire extinguishers will be maintained in locations according to the regulations, certified annually, and checked for charge monthly.
- Staff will be educated on fire detection and safety equipment at least half yearly.
- Fire drills will be conducted as per specifications of the District disaster management team.

The presence of smoke is assumed to accompany fire and will be responded to in the same manner as fire. The following procedure will be implemented;

Rescue:

Evacuate people from danger in the following order:

a) Residents in immediate danger
b) Ambulatory people
c) People close to danger area

Alarm:	Sound the alarm
To contain the fire:	Close doors and windows
Extinguish /Evacuate:	Horizontal, Vertical

What one should do when the fire alarm sounds:

a) Remove the people from the room if able and close the door behind. Direct people evacuated to a designated assembly point
b) Pull the nearest fire alarm box.

c) Call 999 or other emergence numbers and report the name of the facility, location of the facility, and location of the fire within the facility.
d) Notify the fire officer, hospital and district disaster management team.
e) Conduct a roll call

Departmental Instructions:

- The district disaster management team will report immediately to the fire scene.
- The dietary, housekeeping, and laundry departments will secure their areas and report to the fire scene to assist with the residents.
- The dietary manager and/or cook will make sure the kitchen exhaust and gas are turned off and report to the fire scene to assist with the residents.
- The business office will call the fire department and remain in the office until the "all clear" is called.
- Maintenance personnel will report directly to the scene of the fire with additional fire extinguishers.
- All other staff is to remain on their assigned unit or assembly points and will be called when a need arises.

Note: Only the fire department or district disaster management team will make the decision to re-open the door of the fire scene when the fire, or drill, is over.

10.3 Fire Extinguisher Use Plan

This plan promotes the optimal safety and security of people, staff, and guests through the encouragement of proper fire extinguisher use.

Procedure:

Select the appropriate fire extinguisher to use based on the source of the fire:

a) Type A: For use on trash, wood, or paper fires.
b) Type B: For use on liquid or grease fires.
c) Type C: For use on electrical fires.
d) Type DC: Multipurpose — for use on all types of fires.
e) Use the Acronym P.A.S.S. to remember how to use the fire extinguisher:
    1. Pull the pin;
    2. Aim at the base of the fire;
    3. Squeeze the handles together; and
    4. Sweep back and forth.
f) Tag the extinguisher as used and initiate a work order for the maintenance department.
g) The maintenance department is responsible for replacing the spent extinguisher with a freshly charged one.

10.4 Severe Weather Plan

The plan aims to protect personnel, and visitors from the potential effects of severe weather through the implementation of a written plan of action. A severe weather forecast is an indication that weather conditions are favourable for severe thunderstorms, heavy rain, flooding and strong winds

Procedure:

a) Thunderstorm Warning: The presence of a thunderstorm warning will be announced over the P.A. system by the administrative person in charge, by stating the following:
b) Attention all staff — thunderstorm warning. This will be repeated three times.
c) In the event that the P.A. system is non-functional, the administrative person in charge will inform all department heads, who will, in turn, notify their department personnel.
d) Be sure that the two-way radios are used.
e) Upon hearing the announcement, all staff will initiate precautionary measures.
f) Stay indoors and away from windows after closing all open windows and shutting the shades/curtains where applicable.
g) Move residents and visitors away from windows.
h) Maintain an environment of calm and reassurance.

When the thunderstorm warning has been lifted, the Administrator or his/her designee will announce the following over the P.A. system: "Attention all staff, all clear". Repeat three times.

10.5 Bomb Threat Plan

It will be a policy of this facility to reasonably protect personnel, and visitors from the potential effects of a bomb threat through the implementation of a written plan of action. A bomb threat against this facility may be received by telephone, mail, or message at any time. Telephone threats may be received at any telephone located on the property or may be directed to building occupiers. Any staff member receiving a bomb threat should make every effort to follow the procedure outlined below.

Procedure:

a) While bomb threats may be received by mail, the most popular method is by phone. Clues will help the police.
b) Listen for background noises, gender of the caller, ethnic characteristics, and pay close attention to the voice.
c) Stay calm: The natural reaction is to panic. This will not help but will only hinder the situation.
d) Do not use the beepers, phones, elevators, and/or radios.
e) Send someone to inform other departments. Send a person to a nearby pay phone to call the police if he/she is not on-site. A preliminary decision will be made by the police, fire department, District disaster Administrator, with respect to the necessity of searching and/or evacuation.
f) If a search is done, it will be completed by the police, fire, and administrative staff.

g) Do not touch or remove anything. This could initiate detonation. The decision to evacuate will be made by the police, fire, and District Disaster Administrator. If detonation occurs, the situation will be handled as any other disaster.

10.6 Call Light Emergencies Plan

It will be a policy of this facility to promote the safety of people with a functional call light system. In the event of an interruption in the functioning of a call light, a written plan to assure prompt correction will be in place.

Procedure:

a) Make sure that the call light cord is plugged into the call light box located on the wall.
b) Press the reset button on the call box.
c) Reset the call lights by turning off the master switch for 30 seconds, then switching back on at the electrical panel.
d) If the call lights remain non-functional, notify the maintenance director immediately to initiate corrective action. Initiate alternative call light plan.

10.7 Utility Emergencies Plan

The policy of this facility is to reasonably protect personnel, and visitors from the potential effects of an interruption in utility services through the implementation of a written plan of action. Utility emergencies may be caused by a disaster inside the facility or adjacent to it. They can be a planned or unplanned interruption by the organisation providing the service.

Procedure:

The facilities management director will advise the District Disaster Administrator on the procedures that must be taken during a planned service outage. The facilities management director will keep an up-to-date list of the following:

a) List of utility companies servicing the facility
b) Names and phone numbers of key personnel at the utility companies
c) Back-up support to these utilities
d) The outlets with orange coloured dots located throughout the facility are powered by the generator.
e) There are extension cords in located in the Maintenance Department to use for equipment that is imperative to keep running (i.e. Oxygen concentrators). If natural gas is lost and it will be for a long period of time, it may be necessary to evacuate the residents depending on weather conditions. This decision will be made by the District Disaster Administrator or his/her designee. If the utility emergency is going to last for more than four hours, Victoria Fire & Ambulance Services must be notified at 0213 44400. Remember to stay calm and reassure the residents.

10.8 Workplace Violence Plan

The policy of this facility is to reasonably protect the health and safety of personnel, and visitors through the development and implementation of this plan to address the potential for workplace violence. An incident is any out-of-the-ordinary occurrence that results in threats, injury, property loss or damage, physical force, or restraint. This may involve any past or present employees, visitors, or residents of the facility. If any of the above occurs, follow the steps outlined below.

Procedure:

If you feel that your life is in jeopardy and/or weapons are seen/ involved, call the police immediately at 013 41323. Notify the District Disaster Administrator immediately, or as soon as possible. Try not to provoke or upset the situation by arguing or becoming hostile. Do whatever is necessary to protect those involved. If you feel that there are precursors to the behaviours described above, do not hesitate to initiate the call for help.

10.9 Training Plan

The restaurant employees and their managers will be responsible for reading the Facility Disaster and Emergency Preparedness Plan. All Supervisors will ensure that the plan is available to the employees and that they have a clear understanding of their roles and responsibilities. During the quarterly drills, the emphasis will be directed toward educating the new employees. This will be accomplished through the assistance of senior employees. The Disaster and Emergency Preparedness Plan will be covered during initial orientation and at least annually thereafter.

10.10 Conclusion

To build and enhance a high performance system of integrated health safety emergency preparedness and response to keep people safe, The Old Pump Station restaurant will collaborate with stakeholders to develop, implement and maintain a comprehensive strategy to prepare for, respond to, and recover from health emergencies of known and unknown origins. An emergency plan specifies procedures for handling sudden unexpected situations.

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CHAPTER 11: CORPORATE SOCIAL RESPONSIBILITY PLAN

11.0 Introduction

Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families, as well as of the local community and society at large. Emphasis on social environmental and economic sustainability has become a focus of many CSR efforts. Sustainability was originally viewed in terms of preserving the earth's resources. In 1987, the World Commission on Environment and Development published "Our Common Future," a landmark action plan for environmental sustainability. The commission defined sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their needs". Companies are now challenged by stakeholders, including customers, employees, investors and activists to develop a blueprint of how they will sustain economic prosperity, while taking care of their employees and the environment. There is need for Scanner to provide internship opportunities for the locals in culinary schools.

The Old Pump Station restaurant is committed in working with the Victoria Falls municipality, so as to achieve a safe and healthy environment to the proposed restaurant.
The restaurant is to provide the following services to ensure a healthy and safe environment;

- Refuse collection
- Street refuse collection and removal
- Monitoring of contractors cleaning streets and sanitary lanes

In conjunction with the Victoria Falls municipality and National Parks, The Old Pump Station restaurant will make sure that there is maintenance of the environment in which the project is located. The restaurant will participate in educating clients, residents and companies in Victoria Falls about proper food waste management strategies.

11.1 Employment

It is very possible that all be jobs within the restaurant may be filled by people from Hwange District and Victoria Falls. However, it is not possible to have 100% employment from the same locality. Therefore, as part of Social Corporate Responsibility, The restaurant will legislatively employ at least 80% of the total jobs for the restaurant. This will allow improvement of living standards of the local population and in turn develop their homes and alleviate poverty.

11.2 Roads

The restaurant will maintain the existing tarred road passing along the restaurant: This is the same road that is used by the tourist community.

11.3 Water

The health of a community is directly linked to its access to clean drinking water, and in dry western Zimbabwe, the single biggest issue with which the nearest local villagers (Monde Village) have to cope with is access to a year round supply of clean water. As a way of giving back to the community, The Old Pump Station restaurant may drill a borehole for the provision of water. A 2x5000 litre water tanks may be donated for water supply and trough for the animals.

11.4 Sanitation

Good water supplies are essential to sound sanitation. It is imperative that waste is disposed of safely and that water supplies are not contaminated in the process. Diseases like cholera and typhoid are endemic when this is not the case. As a way of enhancing or improving the sanitation of the Monde Community, the restaurant will join with the Ministry of Health (Environmental Health Department) in the provision of Blair Latrines. These measures will reduce the spread of diseases associated with poor sanitation like cholera and diarrhoea.

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CHAPTER 12: CONCLUSION

12.0 Conclusion

The restaurant industry is starting to change their practices, led strongly by demand from consumers. People are asking more about green credentials, what practices are in place and what restaurants are doing to minimise their impact on the environment. It is clear that an investment in **Green food chain** for sustainable global development and investing in environmentally-friendly tourism can drive economic growth, poverty reduction and job creation, while improving resource efficiency and minimising environmental degradation. The Old Pump Station restaurant is encouraged to join the internationally recognised Green Tourism Africa certification programme that is endorsed by the Zimbabwe Tourism Authority. The time is right for restaurant sector to forge ahead with innovative low carbon initiatives that would contribute to the economy.

It is well known that the restaurant development sector boasts one of the highest employment multipliers in the world, and has the potential to significantly address unemployment in the country. When a restaurant development is well managed, it can provide quite a number of benefits. Restaurant development provides direct economic advantages to the immediate community. This will to lead to an increase in the demand of various services and goods leading to increased employment opportunities. **It is therefore very important to employ more women where jobs are required.**

With respect to environmental management, the Transitional Stabilisation Programme targets protection, restoration and promotion of sustainable use of terrestrial ecosystems, sustainable management of forests, fighting the veld fire scourge, combating desertification, halting and reversing land degradation and loss of bio-diversity, therefore the proposed restaurant will go a long way in supporting this goal.

The development of The Old Pump Station restaurant will result in the following dominant impacts: increased job opportunities, increased cost of living, increased GDP, general improvement in living conditions.

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REFERENCES

1. Rattray, J.M. (1961). "Vegetation types of Southern Rhodesia". Separate from *Kirkia* 2: 68–93.

Legislations

2. Zimbabwe Constitution
3. Environmental Management Act Chapter 20:27 (2003) and its Regulation Statutory Instruments
    a) (S.I.) 7 of 2007 (Environmental Impact Assessment and Ecosystem Protection);
    b) Atmospheric Air Pollution Regulation, S.I 72 of 2009;
    c) SI 6 of 2007 on Effluent and Solid Waste Disposal;
    d) SI 12 of 2007 on Environmental Management (Hazardous Substances, Pesticides and Other Toxic Substances) Regulations;
    e) S.I 10 of 2007 on Environmental Management (Hazardous Waste Management) Regulations.
4. Explosive Act and Explosive Regulations SI 72 of 1989
5. Water Act
6. NSSA Act
7. Wildlife and National Parks Act
8. Protection of Wild Life Act
9. National Museum & Monument of Zimbabwe Act
10. Public Health Act
11. Electricity Act
12. Forest Act
13. Regional, Town And Country Planning Act
14. Pneumoconiosis Act
15. Rural District Council Act
16. Factories and Works Act
17. Convention on Biological Diversity
18. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
19. Convention on the Conservation of Migratory Species of Wild Animals
20. Convention on Wetlands (popularly known as the Ramsar Convention)
21. Protocol on Wildlife Conservation and Law Enforcement (1999)
22. Archaeological Impact Assessments - Guidelines for planning authorities and developers

1. Clark J D (1952) *The Native Tribes* in Clark J D [ed] The Victoria Falls, Livingstone. 1952.
2. Meynell P., Sola, L. and N. Nalumino (eds.) (1996) Strategic Environmental Assessment of Developments Around Victoria Falls, Vol. 1, IUCN-ROSA, Harare.
3. Newman, M. (1987). Victoria Falls: a visitor's guide to the Victoria Falls. Victoria Falls Publicity Association, Victoria Falls.

4. United Nations (2007). Protected Areas and World Heritage World Conservation Monitoring Centre. Website accessed 1 March.
5. Rattray, J.M. (1961). "Vegetation types of Southern Rhodesia". Separate from *Kirkia* 2: 68–93.
6. Thompson J M (1934) *Memorandum on the Native Tribes and Tribal Areas of Northern Rhodesia*, Livingstone.
7. Sola, L. (1995) Land Use and Natural Resources, In Meynell P., Sola, L. and N. Nalumino (eds.) Victoria Falls SEA Report, IUCN-ROSA, Harare.
8. Phillipson, D.W. (Ed.) (1975). Mosi-oa-Tunya. A handbook to the Victoria Falls Region. Longman. ISBN: 0582641675.
9. PlanAfric, (2001) Sustainable Development Strategies: A Resource Book.
10. PARAMBIL M.A., (2019) Restaurant Industry And Environmental Impacts Submitted by School of Tourism Studies MGU Submitted to SUDISH PEARSON Faculty of tourism School of Tourism Studies MGU.
11. Oates, F (1989) Matabeleland and the Victoria Falls: a naturalist's wanderings in the interior of South Africa, from the letters & journals of the late Mr Oates.
12. UNESCO World Heritage Centre http://www.whc.unesco.org
13. http://www.fao.org/tempref/docrep/fao/008/y5793e/y5793e05.pdf
14. Cerović Z, Kvasić S.G, Cerović M (2011), '*The Impact Of National Culture On The Restaurant Organizational Culture.* zdenkoc@fthm.hr , sandag@fthm.hr ; martau@fthm.hr
15. International Tourism Partnership (2012), '*What is Community Engagement?*', Available online at https://www.greenrestaurantier.org/our-themes/community-communication-engagement/what-is-community-engagement/ (accessed on 12 September 2019)

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Appendix 1

Company Documents Prospectus Letter and Project Cost

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Appendix 2

Maps

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Appendix 3

Archaeological Report

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Appendix 4

List of Fish

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Appendix 5

Stakeholder Participation

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Appendix 6

EIA Team

Licence Number: 8000103761

ENVIRONMENTAL MANAGEMENT AGENCY (EMA)

ENVIRONMENTAL IMPACT ASSESSMENT CERTIFICATE

Issued in terms of the Environmental Act [Chapter 20:27]

This serves to certify that Andrew Lane

Name of Company : Scanner Investments (Pvt) Ltd

Full Address : 231 Sopers Crescent, Victoria Falls Hwange Zimbabwe

Contact No. :

Has been granted EIA acceptance to operate:

Development Project Name : Old Pump Restaurant (13498)

Physical address of Project: Zambezi Drive Victoria Falls

Type of Development : Tourism-Restaurant

Telephone at site : 0783 513 169

And is permitted to operate in accordance with Part XI of the Environmental Management Act (Chapter 20:27) under the specified terms and conditions.

Invoice/Receipt No. : 366517/499694

Issuing Officer : Dadirai Kwenda

Issue Date : 02.12.2021

Expiry Date : 01.12.2023

Director General:

Annexure Q 33 271

ENVIRONMENTAL MANAGEMENT AGENCY

All communications should be addressed to "The Director General"
685/686 Lorraine Drive/Faber Road, Bluffhill,
P O Box CY 385, Causeway, Harare
Harare
Telephone 08677006244; E-mail: registry@ema.co.zw,

17/1/1/3A

07 JULY 2021

ENVIRONMENTAL MANAGEMENT AGENCY
REGISTRY
14 JUL 2021
P.O. BOX CY 385, CAUSEWAY
ZIMBABWE

ANDREW LANE
SCANNER INVESTMENTS (PVT) LTD
231 SOPERS CRESCENT
VICTORIA FALLS

PROPONENT: 0783 513 169

CONSULTANT: EGS: montana.kansingo@gmail.com

RE: PROSPECTUS REVIEW FOR SCANNER INVESTMENTS P/L (PROJECT NUMBER 13498)

The above matter refers.

A decision for you to carry out a full EIA was taken in compliance with the provisions of the **Environmental Management Act [Chapter 20:27].** However you are being advised to include the following over and above the terms of reference you have already presented in your prospectus and the specific EIA contents provided under **Section 99** of the **Environmental Management Act [Chapter 20:27]:**

1. Public consultation should include all Government related Ministries and Departments at Local, District, Provincial and National level and should be presented on official letterheads. Public consultation should also include other institutions related to the project as well as neighboring land users.

2. Critically outline and examine the project processes through a comprehensive and clear project description.

3. Critically examine other land uses that may be affected by the project during implementation.

4. An analysis of the biodiversity impacts of the projects, land tenure system, soil and hydrological analysis should be done.

5. Attach soils, hydrological and topographical maps and make an analysis of the impacts of the project to the current environmental baseline.

6. The appendices should include Certificate of incorporation of the company, CR14 and Declaration by the Company on the company's responsible official to deal with environmental Issues.

Amb. F.Z. Chideya (Chairperson); Mr C Chitindi (Vice Chairperson); Mr N Mushangwe (Member); Ms M Mayahle (Member); Mr I D Kunene (Member); Mr A Matiza (Member); Mr T K Hove (Member);Prof E Gandiwa (Member); Mr.AChigona (Member)

7. Any other issues relevant to the mitigation of impacts likely to be caused by the project during implementation.

Your EIA presentation should also be able to satisfy the provisions of the statutory regulations of the **Environmental Management Act** and be of professional standard in quality and presentation.

However, let it be known that several factors will play a determining role in the consideration of the EIA study and, as such, the acceptance of this prospectus shall in no way be interpreted as implied acceptance and granting of the EIA certificate by the Agency.

Please do not hesitate to contact us on any environmental issues related to the implementation of your project and you are advised not to implement the project until an EIA certificate has been granted.

Thank you

PP

C. MUSHAVA
DIRECTOR: ENVIRONMENTAL PROTECTION
FOR: DIRECTOR GENERAL
Cc: PEM MATABELELAND NORTH PROVINCE

ENVIRONMENTAL IMPACT ASSESSMENTS
ECOSYSTEMS
07 JUL 2021
CNR FAIRBRIDGE/PARK DRIVE, BLUFFHILL
P. O. BOX CY 365, HARARE
TEL: (04) 303500 / 303309 EMAIL: ep@ger

RECEIVED BY: .....
DESIGNATION: .....
CONTACT NUMBER: .....
DATE: .....
I.D NUMBER: .....

Amb. F.Z. Chideya (Chairperson); Mr C Chitindi (Vice Chairperson); Mr N Mushangwe (Member); Ms M Mayahle (Member); Mr I D Kunene (Member); Mr A Matiza (Member); Mr T K Hove (Member);Prof E Gandiwa (Member); Mr.AChigona (Member)

Annexure Q4. 2TB

VICTORIA FALLS
INVESTMENTS

01st July 2021

Victoria Falls Investments and Victoria Falls Envirowatch
Meeting Minutes

Representation and Attendees:

Victoria Falls Investments (VFI) – Andrew Lane as Managing Director

Victoria Falls Enviro Watch (VFEW)– Tony Peel as Chairman of the Board 1 person

Meeting commenced at 9:00am, on 1st July 2021.

VFI put forward their plans for a new restaurant at the old Pump Station and expressed their interest for VFEW to be involved in the new EIA process.

Discussed two maps (attached) showing the Medium Ecologically Sensitive Zone it falls into and discussed the permissions within this zone for a restaurant and ablution facilities.

Discussed the Google Earth map of the area (attached) for proposed layout.

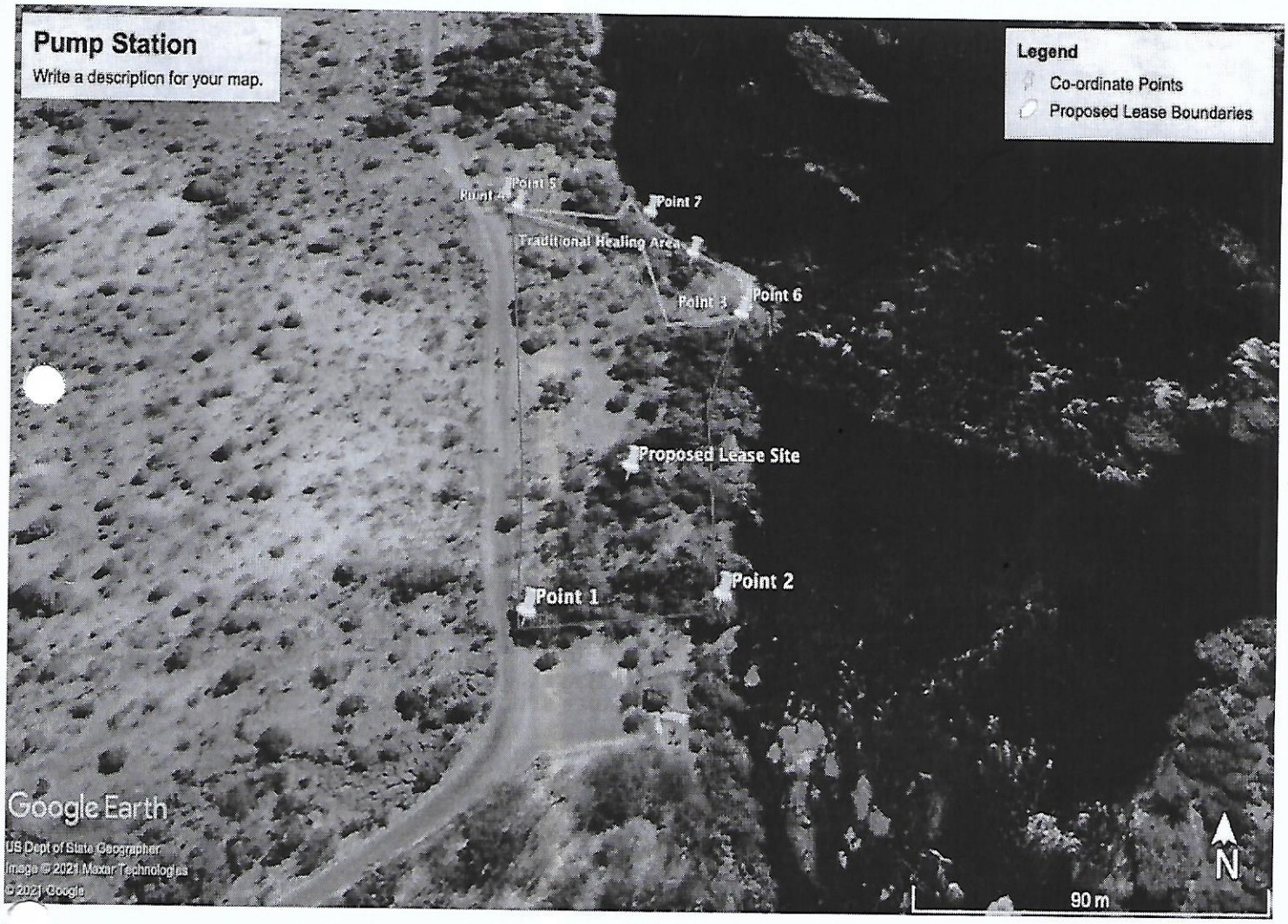
VFI expressed the priority they are placing on the environmental impact and taking all aspects into consideration with building designs and placement, to ensure no game corridors are blocked from wildlife in the area reaching the water etc.

VFI are looking into options to assist and support the local anti-poaching efforts in the area.

VFI and VFEW will create a good working relationship and keep in contact to discuss updates and suitable options moving forward.

Meeting closed at 9:45am.

VICTORIA FALLS
INVESTMENTS



Scanner Investments T/A Victoria Falls Investments
Mobile: +263 783 513 169 • E-mail: andrew@victoriafallsinvestments.com • Address: 231 Sopers Crescent, Victoria Falls, Zimbabwe
victoriafallsinvestments • Directors: A full list of directors is available at the above address

VICTORIA FALLS
INVESTMENTS

5.3.1 Medium Ecologically Sensitive Zone

(i) Purpose

To permit habitat recovery, provide for the natural preservation of resources and reduce utilisation pressure on the core features of the WHP.

(ii) Permitted Activities

The following are **permitted** in the Medium Ecologically Sensitive Zone

Game viewing and game drives	Tour guiding	Aerial viewing,	Walking safaris
Photographing	Traditional rites	Hiking	Bird watching,
Camp sites	Lion walks and nature walks	Picnicking	Moonlight viewing
Lodging	Law enforcement and management operations	Research and monitoring	Elephant-back rides
Art painting	Bush dinners	Helicopter flights	Hides

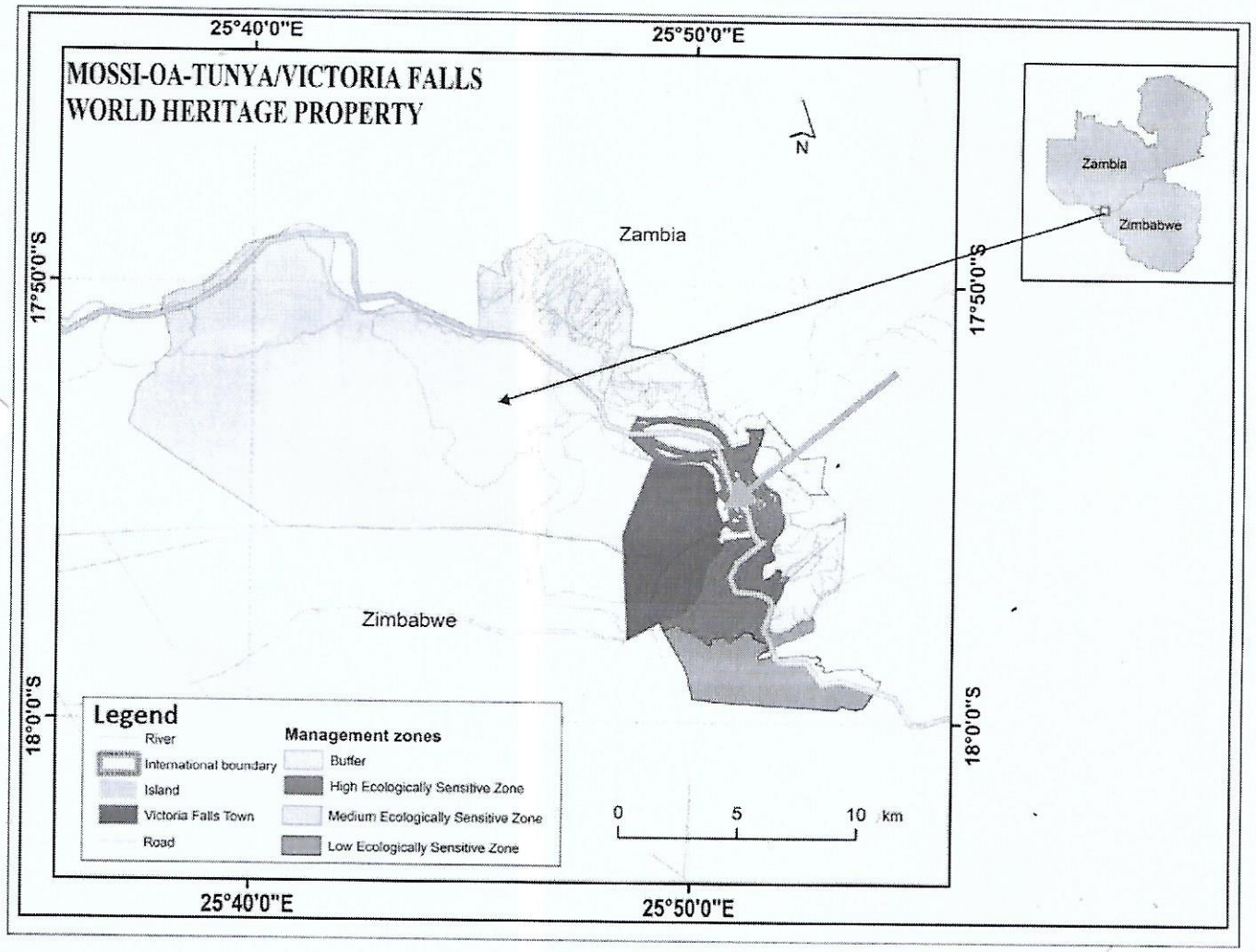
(iii) Permitted Facilities / Infrastructure

The following facilities and infrastructure are permitted in the Medium Ecologically Sensitive Zone:-

Existing infrastructure	Signag	semi-permanent facilities	Park Management facilities such as Toilets and garbage bins.
Camping sites	Hides	Picnic sites	walking trails, game viewing loops

Scanner Investments T/A Victoria Falls Investments
Mobile: +263 783 513 169 • E-mail: andrew@victoriafallsinvestments.com • Address: 231 Sopers Crescent, Victoria Falls, Zimbabwe
victoriafallsinvestments • Directors: A full list of directors is available at the above address

VICTORIA FALLS
INVESTMENTS



Annexure Q5 277

HEAD OFFICE

Tourism House
55 Samora Machel Ave
P.O. Box CY286 Causeway
Harare
Tel: 263 4 780651/4, 752570
774709, 774760, 780365
Fax: 263 4 758826/28
E-mail: marketing@ztarzim.co.zw
info@ztarzim.co.zw
Website: http://www.zimbabweburism.co.zw

Bulawayo
Coal House
95 R.G. Mugabe Way
P. O. Box FM 150
Bulawayo
Tel. 263-9-72333
Email: zta@byo.ztazim.co.zw

Mutare
109 H. Chitepo St
Cnr Fifth Ave
3rd Floor
Zimre Centre
Tel: 020-66614/15/17
Email: mutare@ztazim.co.zw

Gweru
Civic Centre
8th St
Box 1933
Gweru
Tel: 054231671-2
Fax: 054-231670
Email: midlands@ztazim.co.zw

Victoria Falls
Shop 13-14 Galleria Building
P.O. Box 103
Victoria Falls
Tel: 263-13-44376
Fax: 263-13-44380
Email: ztavicfalls.ztazim.co.zw

Beitbridge
NSSA Building
1st Floor Left Wing
Great North Road
Beitbridge
Tel: 263288-23640/3
Email: bb@africaonline.co.zw

Masvingo
2nd Floor, Zimre Centre
Cnr Hughes Street
Simon Mazorodze Rd
Tel: 263-39266240-3
P.O. Box 1740
Masvingo
E-mail: masvingo@ztazim.co.zw

Kariba Office
29 Main Road
AMC Complex
Kariba
Tel. 263 261 2146276
Email: ztakariba@gmail.com

Chiredzi Office
Old Mutual House, 1st Floor
Chironga Drive
Chiredzi
Tel: 031-2653/2698
Fax: 031 - 2702
Email: marvelous@ztazim.co.zw

PIC/tm/08.01/2021

11 August 2021

The Senior Consultant
259 Munn Road
Mqabuko Heights
BULAWAYO

ATTENTION: Mr M Montanar

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED OLD PUMP STATION RESTUARANT VICTORIA FALLS

The Zimbabwe Tourism Authority (ZTA) welcomes and support the proposed eco-friendly restaurant in Victoria Falls City Council by Scanner Investments (Private) Limited. This development will go a long way to add variety to the Destination Victoria Falls tourist products.

We take note that the project is within the Victoria Falls/ Mosi oa Tunya World Heritage Property (WHP) and surrounded by National Park hence, the developer needs to observe the restrictions that comes with developing in Park Estates and WHP as provide for in the current Joint Management Plan (JMP). Notwithstanding this fact, it is our hope that the restaurant will match the aspirations of a world class resort city. Furthermore, the area is in the proposed expanded Victoria Falls Special Economic Zone (SEZ), thus it is important to keep track of progress in this regard.

Whilst we welcome the proposed development, you need to minimize the negative impacts of this project to the environment by adopting green tourism approaches in the design, construction and operations. To this end, the principles of

Zimbabwe
A World of Wonders

recycling, re-use and reduction of waste and energy usage, natural air conditioning, natural paints and lighting, green building techniques as well as solar harvesting can be explored. In addition, we recommend that the promoter incorporates the locals into the tourism valuc chain as part of community involvement in the project. We also look forward to the added employment opportunities especially for the local community.

Also take note that the operator is required by law to provide plans for the proposed structures to the ZTA before commencing construction. This is to enable the ZTA to give guidance in line with minimum statutory requirements.

For further assistance on these issues, please do not hesitate to contact the undersigned or our Planning and Investments Promotion Department on email tawanda@ztazim.co.zw or on +263 773 431 219.

GIVEMORE CHIDZIDZI
ACTING CHIEF EXECUTIVE

Annexure Q6 279

PARKS AND WILDLIFE MANAGEMENT AUTHORITY

CORPORATE CENTRE

'All correspondence to be directed to the Director General'

Ref: 158/16/CS/PL/AR

22 June 2021

The Managing Director
Victoria Falls Investments
231 Sopers Crescent
Victoria Falls

Attention: Andrew Lane

RE: APPLICATION (FORMER RAILWAY WATER-PUMP STATION), VICTORIA FALLS LONG TERM LEASE

The above cited refers:

This serves to advise we have now received the opinion from our representative who specialises with Victoria Falls regarding World Heritage considerations in as far as the restaurant proposal is concerned. We have attached the document for your information as well as the Victoria Falls World Heritage Property Joint Integrated Management Plan. It is imperative that Victoria Falls Investments undertake an Environmental Impact Assessment (EIA) in line with the EMA Act Chapter 20:27 to establish whether the proposal is compatible with the environment.

The construction of a semi-permanent restaurant is provided for in the Joint Integrated Management Plan since the proposed development area is under the Medium Ecologically Sensitive Zone.

In order to proceed therefore, kindly **submit the plans of the buildings to the Senior Area Manager for onward submission to Head Office for approval and begin undertaking an EIA immediately.**

The outcome of the EIA, shall determine the objects of the final agreement to be entered into between Victoria Falls Investment and Zimparks.

Regards

DR F.U MANGWANYA
DIRECTOR GENERAL

HEAD OFFICE
Cnr Borrowdale Rd &
Sandringham Drive,
P O Box CY140 Causeway,
Harare
Zimbabwe

CONTACT DETAILS
Tel: +263 (242) 792786 - 9
+263 (242) 707624 - 9
Email: info@zimparks.org.zw

BOARD MEMBERS
Dr Aggrippa Golden Sora (Chairman)
Dr Tanyaradzwa Mundoga (Vice Chairman)
Prof. Prisca Mugabe
Dr Khumbula T Moyo
Dr Fortune Sambo
Mrs. Sithembile Ncube
Ms. Mabel Buzuzi
Miss. Ginnel Mabiza
Mr. Nkosiyabo Sibanda
Mr. Mlamuleli Mhlanga
Prof. Lindah Mhlanga
Dr F.U. Mangwanya (Ex-Officio)

MISSION
To conserve Zimbabwe's wildlife heritage through protection and sustainable utilization of natural resources for the benefit of the present and future generations.

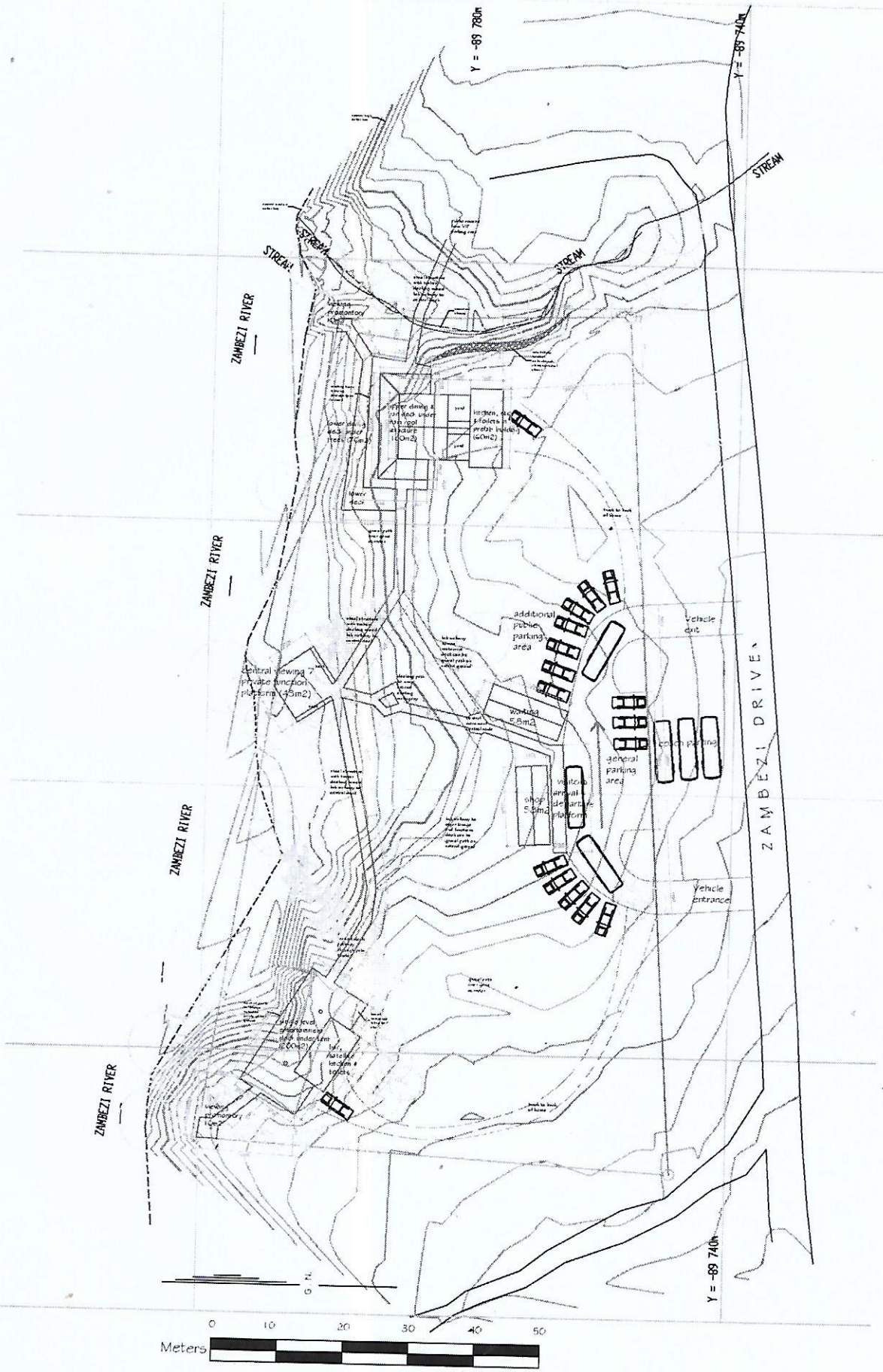
VISION
To be the world leader in sustainable conservation.

CORE VALUES
Integrity
Accountability
Commitment
Teamwork
Innovation

OFFICIAL ZIMPARKS

Annexure Q 7

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VICTORIA FALLS INVESTMENTS
BAINES RESTAURANT PROPOSED MASTER PLAN
FEBRUARY 2022
KSA



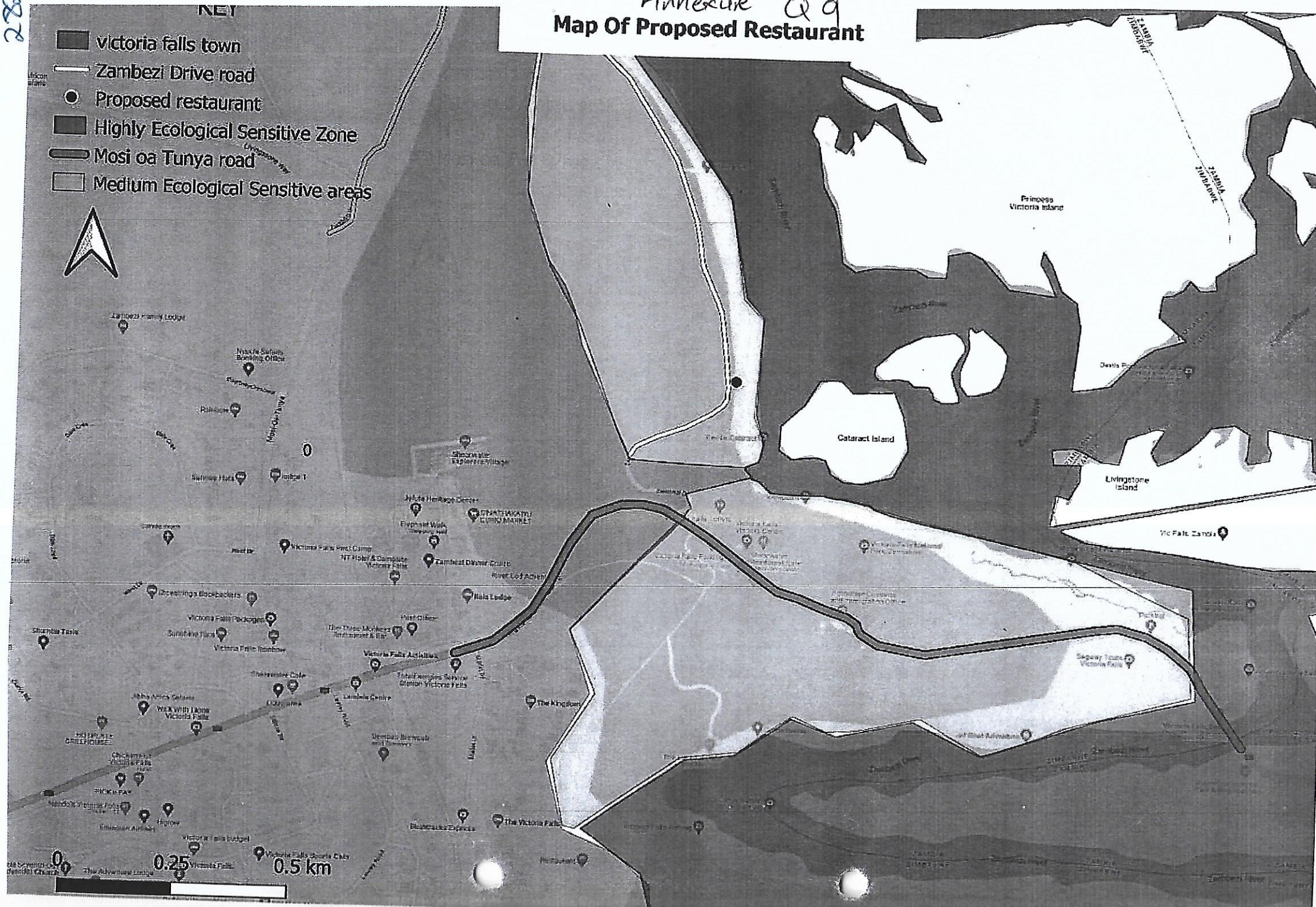
PROPOSED RESTAURANT, ENTERTAINMENT AND VIEWING DECKS

Annexure C8

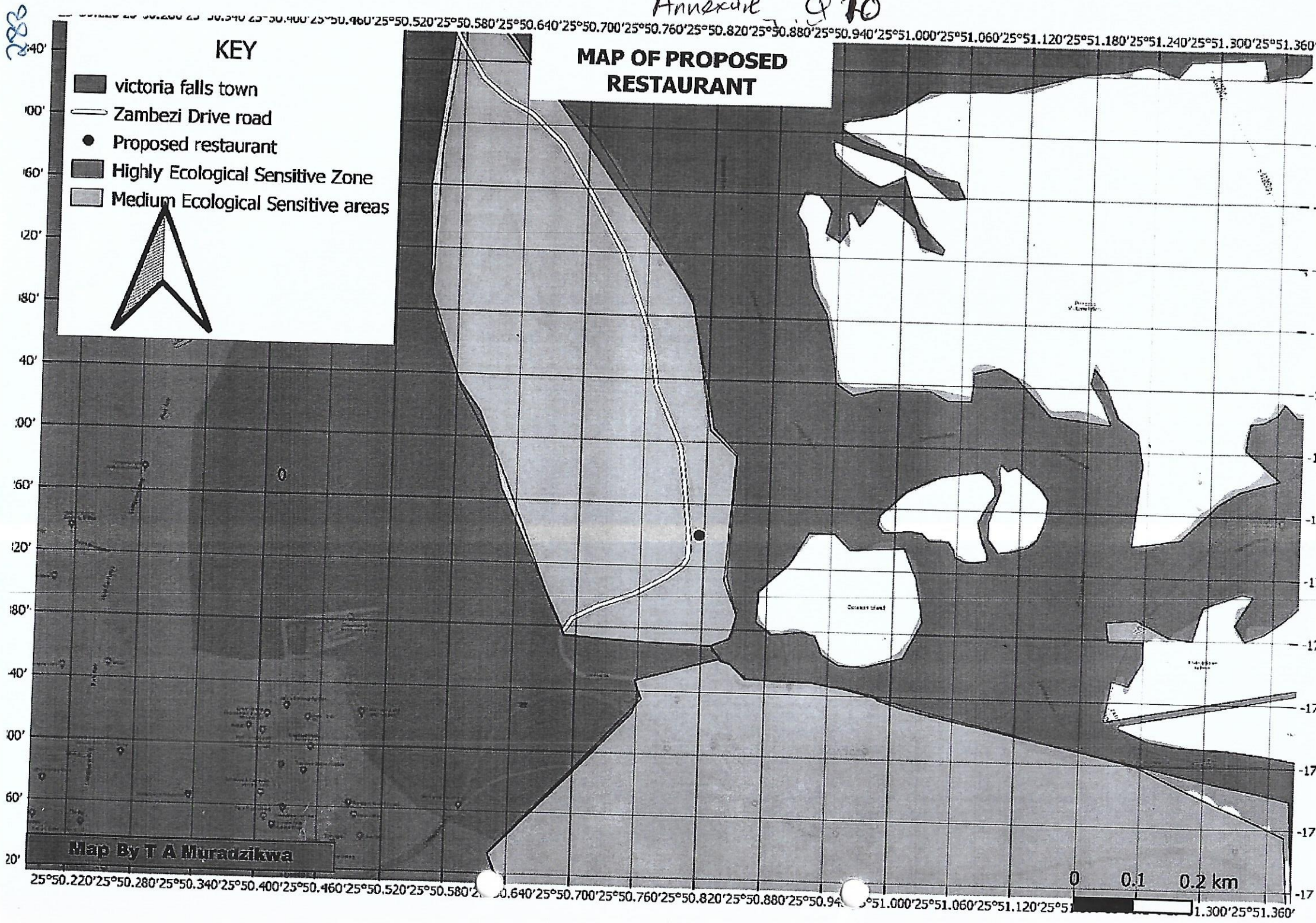
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Annexure Q 9

Map Of Proposed Restaurant



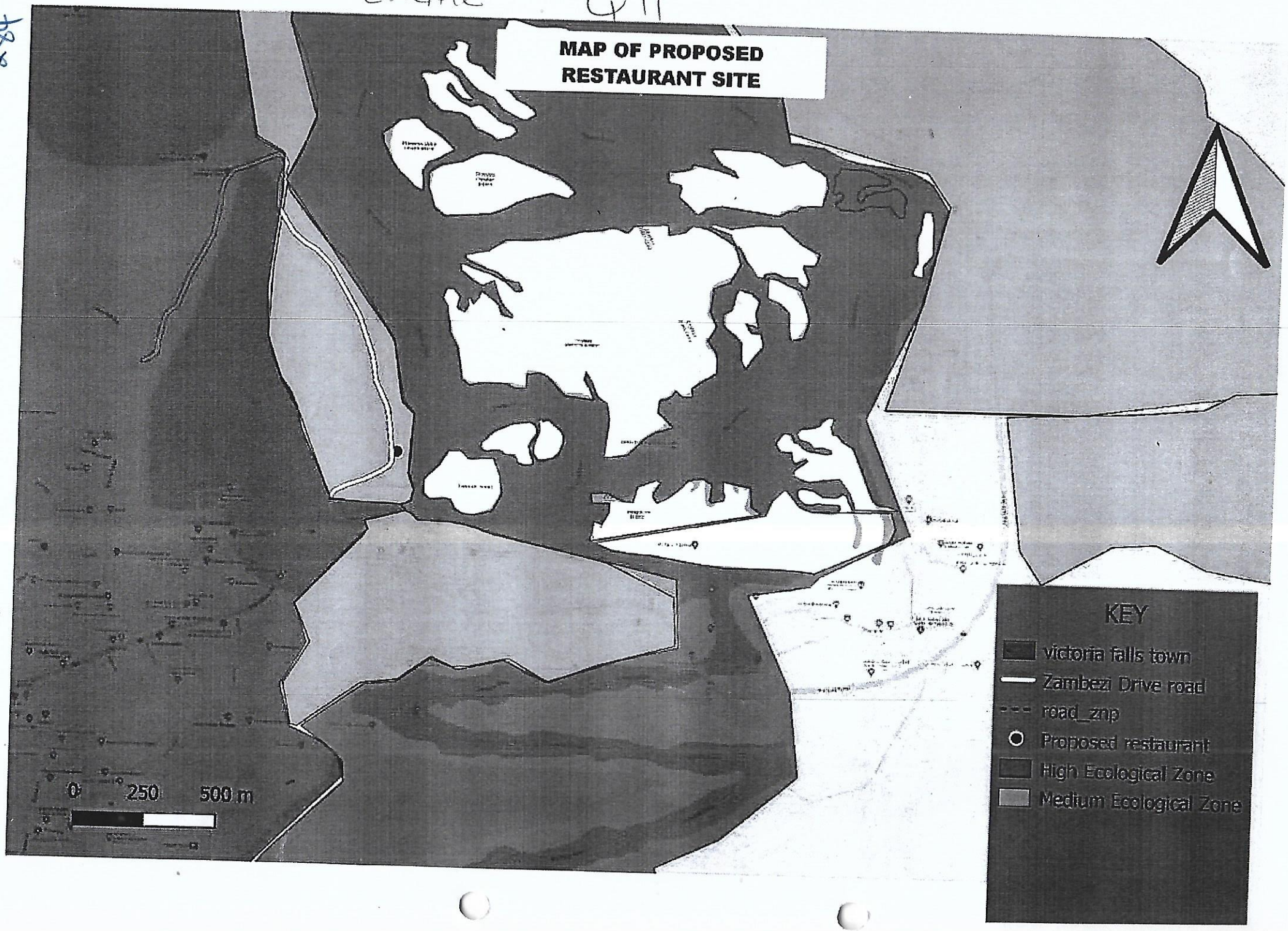
Annexure J @ 10



ANNEXURE Q11

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MAP OF PROPOSED RESTAURANT SITE



Annexure Q12.

National Museums and Monuments of Zimbabwe

ALL COMMUNICATIONS SHOULD BE
ADDRESSED TO THE REGIONAL DIRECTOR

Natural History Museum of Zimbabwe
P.O Box 240
Bulawayo
Zimbabwe
Tel: 29-2234019/29-[redacted]
Fax: 2250045
Email: natmuse@netconnect.co.zw

26 July 2021

The Director
Scanner Investments (Pvt) Ltd
231 Sopers Crescent
Victoria Falls

RE: STAKEHOLDER CONSULTATION ON PROPOSED RESTAURANT

National Museums and Monuments of Zimbabwe support all development projects in the country that are geared toward the economic development of the country. However, this must be done with due regard to the archaeological and cultural heritage of the country, which forms an important window to our past. As such all development projects must be preceded by an Archaeological Impact Assessment conducted by a qualified archaeologist. The report must be presented to the National Museums and Monuments of Zimbabwe.

Yours Faithfully,

Dr. M. J. Fitzpatrick
Regional Director

Annexure Q13.

Guidelines for the Establishment of New Semi - Permanent Structures in The Mosi oa Tunya/ Victoria Falls World Heritage Property (MoT/ VF WHP)

This serves as a guide to the concept posed by Victoria Fall Investments (VFI) represented by Mr. Andrew Lane proposing to develop an eco - friendly restaurant in the WHP. According to the site description in the proponent's application/ proposal dated the 21st of April 2021 and Ecological Feasibility Assessment conducted by Ecologist Zambezi National Park dated the 2nd of May 2021 the proposed site falls within the Yellow Zone/ Medium Ecologically Sensitive Zone of the WHP. However, it is our mandate to ensure environmental sustainability and adherence to conservation principles that fosters the *status quo* preservation of the authenticity and integrity of the Outstanding Universal Values (OUVs) that led to the initial inscription of the Victoria Falls as a World Heritage Property by the World Heritage Convention in 1989.

This write up, having scrutinized the possible positive and negative impacts that may come with the scope of the project is informed by numerous documents (See Reference list). The scope and location of the project poses a myriad of challenges that could drive difficulties to implement the project in the area under request because of the following factors;

1. **Position of World Heritage Convention (WHC) on the Establishment of Structures/ Developments in the WHP**

As a prerequisite to the dictates of the (1) the **Joint Integrated Management Plan (JIMP) (2016-2021)** by Zimbabwe and Zambia, (2) the UNESCO **operational guidelines** of July 2019 **and** (3) **IUCN Advice Notes on Environmental Assessments** of November 2018 development of any structure(s) within the WHP of which the eco- friendly restaurant is not sparred, calls for the undertaking of an Environmental Impact Assessment (EIA) process and consultations of stakeholders and finally of the World Heritage committee. This is done prior establishment of the proposed structures or developments. This is suggested in the World Heritage Convention Operational Guidelines of July 2019, **Decision 43 COM 11A** paragraph 118bis which states that,

> *"Notwithstanding Paragraphs 179 and 180 of the Operational Guidelines, States Parties shall ensure that Environmental Impact Assessments, Heritage Impact Assessments, and/or Strategic Environmental Assessments be carried out as a pre-requisite for development projects and activities that are planned for implementation within or around a World Heritage property. These assessments should serve to identify development alternatives, as well as both potential positive and negative impacts on the Outstanding Universal Value (OUV) of the property and to recommend mitigation measures against degradation or other negative impacts*

on the cultural or natural heritage within the property or its wider setting. This will ensure the long-term safeguarding of the Outstanding Universal Value, and the strengthening of heritage resilience to disasters and climate change".

The practice of undertaking the EIA process as a proactive measure is highlighted and reinforced in the **IUCN Advice Notes on Environmental Assessments** of November 2018 under World Heritage Impact Assessment Principles. Principle 1 reiterates that for all proposals that may adversely affect a natural World Heritage Site must undergo a rigorous Environmental Assessment early on in the decision-making process, whether they are located within or outside its boundaries.

"This assessment should take place as early as possible in order to provide timely and effective input to decision-makers. Assessments that take place late in the decision-making process or after the decision has been made cannot adequately inform decision-makers".

For proposals affecting natural World Heritage Sites the **IUCN Advice Notes on Environmental Assessments** of November 2018 clearly and explicitly states that:

"IUCN's position is that infrastructure and other development proposals and/or concessions located within, or outside the boundaries of a natural World Heritage Site, should be considered in terms of whether they are compatible with the long-term objective of preserving the Outstanding Universal Value of the site for future generations. Those proposals that are not compatible with this objective should not be permitted within these sites".

Over and above all the World Heritage Convention discourages the construction of new structures not compatible with the long term objectives of preserving the OUVs of the site for sustainable conservation of the WHP.

2. World Heritage Status and Growing Pressure of Developments in the WHP

Accommodating to many developments within a World Heritage Site poses the threat of a possible delisting of the very site from the World Heritage list. To avoid noise State Parties with proposed developments within their World Heritage Sites are obliged to follow the following adoption. For Zimbabwe Decision **43 COM 7B.34**, adopted at its 43rd session (Baku in Azerbaijan,

2019), has concern over the ever - growing development pressure within and around the property and

> *"Also urges the States Parties to provide information on the exact locations and full details of all developments still under consideration, and to submit to the World Heritage Centre for review by IUCN, an Environmental Impact Assessment (EIA) for each of these projects, including a specific assessment of the impacts on OUV in accordance with Paragraph 172 of the Operational Guidelines and in line with IUCN's World Heritage Advice Note on Environmental Assessment, before taking any decision that may be difficult to reverse;"*

The same Decision under **3.4.3. Effects for Non-compliance** has so many repercussions associated such as:

- *Risk having the property inscribed on the World Heritage danger list.*
- *Affect global rankings in as far as internationally well managed Heritage properties are concerned. (Mana Pools currently ranked one of the best preserved Parks in Africa and the world whilst Victoria Falls is amongst the 20 best attractive heritage site the world over)*
- *Loss of UNESCO brand will affect international visitations to the site (shunning by visitors.*
- *Detract potential international conservation funding from development partners.*

3. Procedural Informing of the Relevant Bodies of Any Developments in the WHP

The World Heritage Convention Operational Guidelines of July 2019 paragraph 172 states that the World Heritage Committee invites the States Parties to the Convention to inform the Committee, through the Secretariat, of their intention to undertake or to authorize in an area protected under the Convention major restorations or new constructions which may affect the Outstanding Universal Value of the property. Notice should be given as soon as possible (for instance, before drafting basic documents for specific projects) and before making any decisions that would be difficult to reverse, so that the Committee may assist in seeking appropriate solutions to ensure that the Outstanding Universal Value of the property is fully preserved.

The World Heritage Convention process is bureaucratic and does not whatsoever warrants guarantee that the project will finally sail through approval for its establishment in the WHP. Some of the demanding processes are (1) stakeholder consultations on the scope and impacts of the project in the WHP, (2) carrying out of a full EIA by engaging an unbiased EIA expert and

production of the EIA Report and Certificate, (3) carrying out of Heritage Impact Assessments, (4) in some cases Strategic and Social Impact Assessment (SESA) and finally (5) consultations of UNESCO World Heritage Committee which sail through the Zimbabwe National Commission for UNESCO (ZIMNATCOM) and Southern Africa Regional Office for UNESCO. In the case of Zimbabwe where we have the Mosi oa Tunya/ Victoria Falls WHP as a shared or transboundary resource with Zambia, there is need to consult Zambia.

4. Proposed Project Site vs World Heritage Nomination Criteria

The existing and proposed development projects within the WHP have been and are already facing widespread condemnation and criticism from stakeholders. The sites are indicated in the **State of Conservation Report for the Mosi oa Tunya/ Victoria Falls World Heritage Property (MoT/ VF WHP) (2020).** Over and above all, the Victoria Falls WHP was selected based on Criteria (vii) to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance and (viii) to be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features. Thus, there is need to explore the degree of complementarity between site nomination criteria of the WHP and the proposed eco – friendly development in the yellow zone.

IUCN goes a step further and proffer practical solutions in situations where there is incomplementarity between the two. Principle 4 of the **IUCN Advice Notes on Environmental Assessments** of November 2018 states that:

> *"Reasonable alternatives to the proposal must be identified and assessed with the aim of recommending the most sustainable option to decision-makers. The different options should be clearly communicated to decision-makers, and those that are least damaging in relation to the site's Outstanding Universal Value should be highlighted, including in some cases the 'no project' option. Very often, economically viable and feasible alternatives can be found to development proposals that may be damaging to a World Heritage Site's Outstanding Universal Value. A detailed and early consideration of alternatives can also help to ensure that resources are not wasted in developing proposals that are incompatible with World Heritage status (for example extractive projects)".*

In the case of this eco – friendly restaurant the same may apply in the face of lack of reasonable merits for its establishment in the yellow zone. Alternative sites may be explored.

5. **Absolute Avoidance of Environmental Footprints**

Existence of the eco – friendly restaurant, as the name rightfully suggests will come with a lot of positives to the ecosystem/ environmental spectrum, tourism industry, socio cultural and economic spheres. However, in terms of negatives there are imminent possibilities of witnessing an overwhelming increase in the flow of traffic and humans in the area, noise pollution, disturbance of animal corridors, disturbance of the aesthetic beauty that poses an eyesore to most of the onlookers, challenges in setting up ablution soak aways, disturbance the state of the Ramsar site (wetland) and water pollution among other negative impacts. Some of the impacts are cited in the Ecologist's assessment report for the same.

6. **Leeway for the Establishment of the Restaurant**

However, an exit point maybe used to allow the construction of the eco – friendly restaurant in the WHP as captured in **The Joint Integrated Management Plan (JIMP) for the trans boundary Mosi-Oa-Tunya/ Victoria Falls World Heritage Property (MoT/VFWHP) (2016-2021).** Below is an extract from the above Plan showing the purpose, permitted activities, permitted infrastructure, prohibited activities and infrastructure in the Medium Ecologically Sensitive Zone of the WHP in which the proposed restaurant falls.

5.3.1 Medium Ecologically Sensitive Zone

(i) Purpose To permit habitat recovery, provide for the natural preservation of resources and reduce utilisation pressure on the core features of the WHP.

(ii) Permitted Activities

The following are permitted in the Medium Ecologically Sensitive Zone Game viewing and game drives, Tour guiding, Aerial viewing, Walking safaris, Photographing, Traditional rites, Hiking, Bird watching, Camp sites, Lion walks and nature walks, Picnicking, Moonlight viewing, Lodging Law enforcement and management operations, Research and monitoring, Elephant-back rides, Art painting. Bush dinners and Helicopter flights Hides.

(iii) Permitted Facilities / Infrastructure

The following facilities and infrastructure are permitted in the Medium Ecologically Sensitive Zone:- Existing infrastructure, Signage, ***semi-permanent facilities,*** *Park Management facilities such as Toilets and garbage bins, Camping sites, Hides, Picnic sites, walking trails, game viewing loops*

(iv) Prohibited activities

The following activities and developments are prohibited in the Medium Ecologically Sensitive Zone: - Resource extraction except for research purposes, Ballooning, Low flight levels – low (SEA), Night drives, Cable car, Construction of tarred park roads, ***Erecting new permanent infrastructure, Developments or fencing in animal migration areas/ corridor(s),*** *Fencing of infrastructure and other developments in the zone, Construction of facilities of height above native tree canopies, Painting buildings/ facilities in non earth colours, Littering, mining, loud music, Herding of domesticated animals*

(v) Prohibited Facilities / Infrastructure

No further permanent structures

Based on the **Joint Integrated Management Plan (JIMP) for the trans boundary Mosi-Oa-Tunya/ Victoria Falls World Heritage Property (MoT/VFWHP) (2016-2021)** the eco – friendly restaurant falls in the yellow zone of the WHP and the establishment of semi – permanent facilities establishment is allowed in this zone. The same section is clear that only further establishment of permanent structures is prohibited.

In conclusion, the onus is on us as an organization to consider having the restaurant or not. The decision is an outcome on an interplay and balance of trade - offs between:

(a) prioritisation of commercial pursuits vis a vis the dictates of the WHC,

(b) the dominance and manipulation of the gray area or void or conflict between the **Joint Integrated Management Plan (JIMP) for the trans boundary Mosi-Oa-Tunya/ Victoria Falls World Heritage Property (MoT/VFWHP) (2016-2021)** and the other WHC documents to be more specific the (1) UNESCO **Operational Guidelines** of July 2019, (2) **IUCN Advice Notes on Environmental Assessments** of November 2018, (3) **Zimbabwe's Report on the 43rd Session of the World Heritage Committee,** Baku, Azerbaijan, 30 June to 10 July 2019, (4) **State of Conservation Report for the Mosi oa Tunya/ Victoria Falls World Heritage Property (MoT/ VF WHP) (2016), (5) State of Conservation Report for the Mosi oa Tunya/ Victoria Falls World Heritage Property (MoT/ VF WHP) (2020) and**

However, the UNESCO **operational guidelines** of July 2019 **and IUCN Advice Notes on Environmental Assessments** of November 2018 supersede the **Joint Integrated Management**

Plan (JIMP) (2016-2021) by Zimbabwe and Zambia. The later is only a domesticated guide to action for the transboundary property but overarched, governed and overridden by the 2 earlier statutes. Ahead of the joint World Heritage Centre/ IUCN Reactive Monitoring mission possibly coming to Zimbabwe in August this year to monitor the state of affairs in the WHP we should be found above board.

References

(1) The **Joint Integrated Management Plan (JIMP) (2016-2021)** by Zimbabwe and Zambia.

(2) The UNESCO **operational guidelines** of July 2019.

(3) **IUCN Advice Notes on Environmental Assessments** of November 2018.

(4) **Zimbabwe's Report on the 43rd Session of the World Heritage Committee,** Baku, Azerbaijan, 30 June to 10 July 2019.

(5) **State of Conservation Report for the Mosi oa Tunya/ Victoria Falls World Heritage Property (MoT/ VF WHP) (2016).**

(6) State of Conservation Report for the Mosi oa Tunya/ Victoria Falls World Heritage Property (MoT/ VF WHP) (2020).

Annexure Q 14

SPECIAL CONDITIONS FOR SCANNER INVESTMENTS OLD PUMP RESTAURANT (13498), HWANGE DISTRICT MATEBELELAND NORTH PROVINCE

TERMS AND CONDITIONS

1. The developer shall comply with the conditions specified in the approved Environmental Management Plan.
2. The developer should notify the Director General if there is any change in the project which is likely to alter the project effect on the environment or if it appears the project effect on the environment differs materially in kind or degree from the effects outlined in the environmental impact assessment prepared for the project.
3. The Environmental Management Agency may carry out periodic environmental audits of the project. The developer shall keep records and submit quarterly progress reports to the Environmental Management Agency.
4. The developer shall ensure that all other licenses and permits are acquired and conditions adhered to.
5. Developer should comply with subsidiary legislation and statutory instruments.
6. This certificate is not transferrable to any other person or developer.
7. This certificate is subject to amendment, suspension or cancellation in terms of Section (104) of the Environmental Management Agency Act (Chapter 20:27).

SPECIAL CONDITIONS (IF ANY)

1. The project should not interfere with wildlife corridors.

2. Adhere to operational guidelines of UNESCO which regulates developments in the World Heritage Site and as guided by the National Parks & Wildlife Authority of Zimbabwe.

RECEIVED BY: ANDREW LANE DESIGNATION: MANAGING DIRECTOR

ID NUMBER: 08-211354-A-00 CONTACT NUMBER: 0783513169

DATE: 07/12/2021