SANCTUM INLE RESORT HOTEL

Initial Environmental Examination

Sanctum Inle Resort Hotel

PREPARED BY

E GUARD ENVIRONMENTAL SERVICES COMPANY LIMITED

Table of Contents

1.Executive Summary 5
စီမံကိန်းအကျဉ်းချုပ် 8
2.Introduction 12
2.1. Background History of Inle Lake 12
3.Scope of the IEE study 14
4.Review on Existing Environmental Protection Laws and Regulation 14
5.Description of the Project 26
5.1. Type of the Project 27
5.2. Requirement of Investor 29
5.3. Location of the Proposed Project 30
5.4. Present Status of **the Hotel** 30
5.5. Project Components 30
5.6. Proposed Implementation Schedule 34
5.7. Economic Feasibility 34
5.8. Purpose and Objective of Initial Environmental Examination 35
5.9. Adopted Procedure 35
5.10. Project Proponent Information 35
5.11. Information on IEE Survey Team 37
6.Description of the Environment 38
6.1. Physical Resources in the Project Area 38
6.2. Ecological Resources 44
6.3. Economic Development 51
6.4. Social and Cultural Resources 52
7.Screening of Potential Environmental Impacts and Mitigation Measures 53
7.1. Impact on Environmental Resource 54
7.2. Impact on Ecological Resources 56
7.3. Impact on Human 57
7.4. Waste Disposal 59
8.Assessment of Significance 63
8.1 Environmental Impact and Significance 65
9.Institutional Requirements and Environmental Management and Monitoring Plan 70
9.1 The Environmental Management Plan 70
9.2 Environmental Monitoring Plan 86

9.3. Duty and Responsibilities of the Party responsible for the Implementation of EMP Team andHSETeam……95
10.Corporate Social Responsibility Plan 100
11.Public Consultation and Information Disclosure 101
12.Biodiversity Management Plan 105
13.Environment, Health and Safety Guidelines for Tourism and Hospitality Development 114
14.Conclusions and Recommendations 118

APPENDICES

Appendix 1.Public hearing attendance lists 123
Appendix 2. Sanctum Inle Resort Hotel Layout Plan 130
Appendix 3. Wastewater Treatment System Flow Diagram 131
Appendix 4. Water Treatment System Unit 132
Appendix 5. Sanctum Inle Resort Hotel Evacuation Plan 134
Appendix 6: Recorded Photos of Field Survey 135
Appendix 7. Internal Rate of Return (IRR) Calculation 136
Appendix 8: Investor's Commitment on Environmental Conservation and 2% CSR Fund 137
Appendix 9: Laboratory result of Tube well water 139
Appendix 10: Detailed result of hourly environmental dust monitoring of the hotel site 140
Appendix 11: Detailed result of measurement of day and night noise level of hotel site 141
Appendix 12: Detailed list of machineries and equipment for hotel 142

Tables

Table 1: Relevant Environmental Laws and Regulations of Myanmar 15
Table 2: Manpower Requirement during the Operation Phase 32
Table 3: Detailed Information of Proponent 36
Table 4: Detailed Information of Proposed Organization 36
Table 5: Information on IEE Survey Team 37
Table 6: Sanctum Inle Resort Hotel's Air Quality 40
Table 7: International Guidelines used to compare Dust conditions of the Site 40
Table 8: Ground Water Quality Analysis 41
Table 9: Sanctum Inle Hotel's Noise level Measurement 42
Table 10: International Guidelines used to compare Current Noise Level of the Site 44
Table 11: Ecological Resources and its Existing Conditions 47
Table 12: Waste Containers or Bins for each Department 60

Table 13: Various Waste Streams for the Sanctum Inle Resort Hotel 61
Table 14: Environmental Impact and Significance 67
Table 15: Parameter for Environmental Quality 71
Table 16: Monitoring Plan for Environmental Quality 72
Table 17: Environmental Management Plan 73
Table 18: Environmental Monitoring Plan 87
Table 19: Corporate Social Responsibility Plan 101
Table 20: Biodiversity Management Plan 108
Table 21: Summary of Impacts Significance 120

Figures

Figure 1: Google Map of Sanctum Inle Resort Hotel 26
Figure 2: Layout Plan of Sanctum Inle Resort Hotel 27
Figure 3: Landscape of the Proposed Project Area 27
Figure 4: Designs of the Proposed Project 28
Figure 5: Location Map of the Proposed Project Area 30
Figure 6: Sanctum Inle Resort Hotel and Surrounding Area 39
Figure 7: Chart of Environmental Dust Monitoring 41
Figure 8: Graph of Noise Level Measurement 44
Figure 9: Ecological Resources in Inlay Lake 46
Figure 10: Map of Inlay Lake Wildlife Sanctuary and Proposed Sanctum Inle Resort Hotel 50
Figure 11: Composition of Waste Generated by the Hotel 60
Figure 12: Layout Plan with Rainfall Runoff Streams and AME 300 63
Figure 13: Photos of Sanctum Inle Resort 63
Figure 14: Organization Chart of Sanctum Inle Resort Hotel 96
Figure 15: Job Description of HSE Team 99
Figure 16:Commitment Letter for Environmental Management Plan for Sanctum Inle Resort Hotel 100

Abbreviation and Acronyms Used in this IEE Report

ASEAN	Association of South East Asia Nations
BMP	Biodiversity Management Plan
CFC	Chlorofluorocarbon
CSR	Corporate Social Responsibility
ECC	Environmental Compliance Certificate
ECD	Environmental Conservation Department
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FD	Forest Department
HSE	Health, Safety and Environment
IEE	Initial Environmental Examination
IEMA	Institute of Environmental Management and Assessment
INGOs	International Non-Government Organizations
IRR	Internal Rate of Return
MA TV system	Master Antenna Television system
MIC	Myanmar Investment Commission
MOECAF	Ministry of Environmental Conservation and Forestry
NGOs	Non-Government Organizations
ODSs	Ozone Depletion Substances
PM	Particulate Matters
PPE	Personal Protective Equipment
TSP	Total Suspended Particulates
USD	United States Dollar
VOCs	Volatile Organic Compounds
WHO	World Health Organization

Name and Address of Institution Submitting the Report

Name of Proposal, Proponent and Address

The name of the proposal is "**Initial Environmental Examination (IEE) for Sanctum Inle Resort Hotel.**" which is located at Plot number (38),Maing Thauk Village, NyaungshweTownship, Taunggyi District, Southern Shan State.

SANCTUM INLE RESORT COMPANY LIMITED

Address : No.147, Shwegondaing Street West Shwegondaing Quarter , Bahan Township, Yangon, Myanmar

Tel/Fax # : (95) 1-8604945 /8604946, (95) 1-8604946

E-mail : info@sanctum-inle-resort.com

1. Executive Summary

The E-Guard Environmental Services has carried out this Initial Environmental Examination (IEE) in August and September 2014 for the proposed Sanctum Inle Resort hotel at the plot number (38), Maingthauk plot, Maingthauk village, in Inle Lake Wildlife Sanctuary, east bank of Inle Lake, Nyaungshwe Township, Taunggyi District, Southern Shan State, Union of Myanmar. Sanctum Inle Resort Company Limited which will invest MMK 5714.90million on the proposed hotel project is 100% local investment, aiming to carrying out construction and operation of hotel services at the above-mentioned address.

In accordance with the paragraph 19 of the terms and conditions of the MIC permit, dated 9thApril 2014, the Sanctum Inle Resort Company Limited has to submit the Initial Environmental Examination (IEE) report together with Environmental Management Plan (EMP) to the Environmental Conservation Department (ECD), the Ministry of Natural Resources and Environmental Conservation (MONREC). Thus this IEE including EMP was prepared and submitted in conformity with the provisions of Myanmar Environmental Conservation Law, 2012 and general guidelines promulgated by the Environmental Conservation Department (ECD) of MONREC.

The proposed hotel site is located at the Inle Wildlife Sanctuary. Main power source of the hotel is electricity from the national grid with two backup generators for emergency use. Proposed hotel project consists of three main steps, from environmental conservation point of view, construction, operation of hotel services and decommissioning of the hotel after its lifespan.

The construction phase will take 24 months including 6 months of preliminary survey. Operation of hotel services will take 50 years and can be extended for another two times after which the hotel is supposed to be dismantled. The hotel project has planned to use and install up-to-date machines and equipment during construction and operation phases. The hotel shall abide international norms and standards, Myanmar Hotels and Tourism Law and other related laws, rules and regulations of relevant ministries.

The proposed hotel project has planned to create job opportunity for the local people up to 250 and other people from the region who can improve their professional skills and make themselves valuable human resources in hotel and tourism industry, through its capacity building process.

In all phases of the project, a few low impacts are observed whereas no significant impacts and unsustainable situations are identified. Only (29) non-significant environmental impacts are found out. During the construction phase, there is a low significant impact for discharging sewage and litter into the Inle Lake. Mitigation measures are to practice NO littering and discharging sewage into the Inle Lake policy, having alternative proper waste management system such as waste collection, segregation and proper disposal. During the operation phase, there is an environmental impact with low significant which is water resource depletion due to domestic water consumption from the tube well. Mitigation measures are installing water meter

and water saving equipment for control of water use. There is also low significant environmental impact due to discharging of sewage and litter to the nearby Inle Lake which must be mitigated by adopting no waste discharge to Inle Lake policy, installing sewage treatment plant and developing proper waste segregation and final disposal system. During the operation phase, there is a potential discharge to environment such as detergent, liquid chlorine/tablets, cleaning agents due to the use of chemical products for cleaning, laundry, swimming pool and Spa. This must be addressed by using secondary containment to avoid accidental leakage and spill and a wise choice of environmental friendly products (e.g. phosphate free detergent). In addition, there is a low significant impact which is noise and atmospheric emission due to transportation of delivered supplies and visitors to hotel which must be taken care of by conducting regular noise and air monitoring survey, use of proper PPEs and regular boats engine maintenance.

Regarding health and safety impacts, there will be a numbers of risks such as car/boat accidents during transportation, use of equipment and machines, probable electric shock hazard, fires and safety hazards such as falls from height, slips, trips and falls, falling objectives, manual handling, repetitive strain injuries etc… during the construction, operation and decommissioning phases. There are preventive measures already planned to reduce the risk of fire and also the machines to be provided are new with modernized technology including machine guards. Therefore the probability of accidents and electrical shocks are low. There are a number of actions to be done to mitigate the risks such as providing safety awareness training, first aid, free medicine, transport to the nearest hospitals in case of emergency, and personal protective equipment such as safety gloves, helmets, goggles, earmuffs etc.

There will be one Health, Safety and Environment (HSE) Coordinator appointed for the following program strategy of “Plan, Do, Check, Act” for potential health, safety and environmental issues. It is expected that the proposed project have only minor impacts on Physical, Biological and Socio-economic Environment. All of the impacts are local in nature and can be easily mitigated through adequate mitigation measures and regular monitoring during the Construction, Operation and Decommissioning Phases of the project. The EMP is prepared to address these potential impacts through appropriate mitigation, management and monitoring measures. The Environmental Management Plan (EMP) which has designed as an environmental management and health and safety framework for all three phases of Sanctum Inle Resort hotel is prepared in chapter 9. The environmental management practices, procedure and responsibilities are well defined here in to fully comply with the existing environmental policies, laws, rules and instructions of the Republic of the Union of Myanmar. This plan can be divided into four parts as follows;

- Environmental Management Plan (EMP)
- Corporate Social Responsibility (CSR)
- Environmental Monitoring Plan (EMP)

- Biodiversity Management Plan (BMP)

Environmental Management Plan (EMP) identifies the activity, objective, mitigation and enhancement measures, estimated cost and responsible person or unit. Environmental Monitoring Plan (EMP) has to find out environmental concerns, management activities, timing, cost and responsible person and unit. The main purpose of Corporal Social Responsibility (CSR) plan is to secure social well-being of the hotel guest, employees and their family members, better community living and transparent and friendly relationship with neighboring communities. Opinions, feedbacks, desires and needs of local people recorded in public hearing/public consultation meetings are well addressed and incorporated in the formulation of EMP and CSR. Biodiversity Management Plan (BMP) identifies the biodiversity management area, objective, management activities, timeframe, cost estimate and responsible person or unit so as to ensure the protection of biodiversity resources used by the hotel.

This IEE has, in brief, systematically and scientifically explored all possible positive and negative environmental impacts of the proposed hotel project and identified the monitoring and mitigation measures on negative impacts which could be happened in three phases.

အစီရင်ခံစာအကျဉ်းချုပ်

ကနဦးပတ်ဝန်းကျင်ဆိုင်ရာဆန်းစစ်ခြင်းကို ပြည်ထောင်စု သမ္မတ မြန်မာနိုင်ငံတော် ရှမ်းပြည်နယ် တောင်ပိုင်း၊ တောင်ကြီးခရိုင်၊ ညောင်ရွှေမြို့နယ်၊ မိုင်းသောက်ကျေးရွာအနီး၊ အကွက်အမှတ် (၃၈)၊ အင်းလေးကန်တောရိုင်း တိရိစ္ဆာန်ဘေးမဲ့တောထိန်းသိမ်းစောင့်ရှောက်ရေးနယ်မြေအတွင်းရှိ အင်းလေးကန်အရှေ့ဘက်ခြမ်း တွင်တည်ရှိသော Sanctum Inle Resort Hotel အတွက် ၂၀၁၄ ဩဂုတ်လနှင့် စက်တင်ဘာလများတွင် အီးဂတ် ပတ်ဝန်းကျင်ဆိုင်ရာ ဝန်ဆောင်မှုကုမ္ပဏီမှ စတင်ဆောင်ရွက်ခဲ့ပြီးဖြစ်ပါသည်။ စုစုပေါင်းရင်းနှီးမြှုပ်နှံမှုအစီအစဉ် ကျပ်သန်း ၅၇၁၁၄.၉၀ နှင့် Sanctum Inle Resort Co., Ltd၏ အဆိုပြုဟိုတယ်စီမံကိန်းသည် မြန်မာနိုင်ငံသားပိုင် (၁၀၀ ရာခိုင်နှုန်း) ရင်းနှီး မြှုပ်နှံမှုပုံစံဖြစ်ပြီး ဟိုတယ်တည်ဆောက်ခြင်းနှင့် ဟိုတယ်ဝန်ဆောင်မှုလုပ်ငန်းများ ဆောင်ရွက်ရန် ရည်ရွယ်ပါသည်။

၂၀၁၄ခုနှစ်၊ ဇူလိုင်၊ ၉ ရက်နေ့တွင် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်စည်းမျဉ်း၏ စာပုဒ် ၁၉ အရ Sanctum Inle Resort Co., Ltdသည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့်အတူ ကနဦးပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းအစီရင်ခံစာအား သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနသို့ တင်ပြရပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ပါဝင်သော ကနဦးပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းအစီရင်ခံစာကို ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနမှ ပြဌာန်းထားသော ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ (၂၀၁၂) နှင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး စည်းမျဉ်းစည်းကမ်းများနှင့်အညီ ပြင်ဆင်ပြီး တင်ပြပြီးဖြစ်ပါသည်။

အဆိုပြုဟိုတယ်နေရာသည် အင်းလေးကန်တောရိုင်းတိရိစ္ဆာန်ဘေးမဲ့တော၏နယ်နိမိတ်အတွင်း တည်ရှိပါသည်။ အဓိကလျှပ်စစ်မာတ်အားကို အစိုးရမာတ်အားပေးလိုင်းမှရရှိပြီးအရေးပေါ်အဖြစ်အသုံးပြုရန် မီးအားပေးစက် (၂လုံး)ကိုထားရှိထားပါသည်။ ပတ်ဝန်းကျင်ဆိုင်ရာထိန်းသိမ်းရေးရှုမြင်သုံးသပ်မှုများနှင့်အတူ ကနဦးပတ်ဝန်းကျင်ဆိုင်ရာဆန်းစစ်လေ့လာခြင်းကို ဆောက်လုပ်ရေးကာလ၊ ဟိုတယ်ဝန်ဆောင်မှုများ လည်ပတ်စဉ်ကာလနှင့် သက်တမ်း ကုန်ဆုံးပြီးနောက် ဟိုတယ်ဖျက်သိမ်းခြင်းကာလဟူ၍ အဆိုပြုဟိုတယ် စီမံကိန်း၏အဓိက အပိုင်းသုံးပိုင်းခွဲပြီး ဆောင်ရွက်ပြီးဖြစ်ပါသည်။

ဆောက်လုပ်ရေးကာလမှာ ကနဦးလေ့လာခြင်း(၆)လအပါအဝင် (၂၄)လကြာမြင့်မှာ ဖြစ်ပါသည်။ ဟိုတယ်ဝန်ဆောင်မှုများ လည်ပတ်စဉ်ကာလမှာ နှစ်(၅၀)ကြာမည်ဖြစ်ပြီး နောက်ထပ်နှစ်ကြိမ်တိုးချဲ့၍ တာဝန်ယူလုပ်ကိုင်နိုင်မည်ဖြစ်ပါသည်။ ထို့နောက် ဟိုတယ်ကို ဖျက်သိမ်းပေးရန် ရည်ရွယ်ထားပါသည်။ အဆိုပြုဟိုတယ်စီမံကိန်းတွင် ဆောက်လုပ်ရေးကာလနှင့် လည်ပတ်ကာလအတွင်း ခေတ်မှီစက်များ၊ ပစ္စည်းကိရိယာများနှင့် ယဉ်များ တပ်ဆင်အသုံးပြုရန်စီစဉ်ထားပါသည်။ ဟိုတယ်သည် နိုင်ငံတကာ သတ်မှတ်ချက်များနှင့် စံချိန်စံနူန်းများ၊ မြန်မာနိုင်ငံ ဟိုတယ်များ နှင့် နိုင်ငံခြားခရီးသွားလာရေးဥပဒေ နှင့်သက်ဆိုင်ရာဝန်ကြီးဌာနများ၏ အခြား ဆက်စပ်ဥပဒေများ၊ စည်းမျဉ်းများနှင့် နည်းဥပဒေများနှင့်အညီ လုပ်ဆောင်သွားပါမည်။ အဆိုပြု

ဟိုတယ်စီမံကိန်းတွင် ဒေသခံအလုပ်သမား (၂၅၀) ယောက်အား ၄င်း၏ဝန်ဆောင်မှုကာလအလိုက် လုပ်ငန်းအဆင့်ဆင့်တွင် တာဝန်ခန့်အပ်ထားရန် စီစဉ်ထားရှိသည်။ ဤလုပ်ငန်းတွင် စွမ်းရည်မြှင့်တင်မှု ဖြစ်စဉ်မှတဆင့် ဒေသခံအလုပ်သမားများသည် နိုင်ငံ၏ဟိုတယ်နှင့် ခရီးသွားကဏ္ဍတွင် ၄င်းတို့၏အသက်မွေးဝမ်းကျောင်း နှင့် တန်ဖိုးရှိသောလူသားအရင်းအမြစ်များ ဖြစ်ပေါ်လာနိုင်မည် ဖြစ်ပါသည်။

အဆိုပြုအပန်းဖြေစခန်းစီမံကိန်း၏ တည်ဆောက်ရေးကာလ၊ လည်ပတ်ကာလနှင့် ဖျက်သိမ်းကာလများတွင် လုပ်ဆောင်ချက်များအား စစ်ဆေးမှုပေါ်အရ ရေရှည်မတည်တံ့နိုင်သော အခြေအနေများ၊ ထင်ရှားသည့် ထိခိုက်မှုများနှင့် အနည်းငယ်ထိခိုက်မှုများ ကဲ့သို့သော ပြင်းထန်သောပတ်ဝန်းကျင်ဆိုင်ရာပျက်ဆီးမှုများကို မတွေ့ရှိပါ။ မထင်ရှားသည့် ထိခိုက်မှုများ (၂၉)ခုသာလျင် တွေ့ရှိရပါသည်။ တည်ဆောက်ရေးကာလတွင် အင်းလေးကန်အတွင်းသို့ မိလ္လာနှင့်အမှိုက်များစွန့်ပစ်ခြင်းကြောင့်လည်း သိသာထင်ရှားသောထိခိုက်မှုမရှိကြောင်းသိရှိရပါသည်။ လျော့ချနိုင်မည့်နည်းလမ်းများအဖြစ် အင်းလေးကန်နှင့်ပတ်သက်၍ ညစ်ညမ်းမှုလုံးဝမရှိရေးမူဝါဒ (မိလ္လာ၊ စွန့်ပစ်ရေဆိုး၊ စွန့်ပစ်ပစ္စည်းများနှင့် အခြားညစ်ညမ်းစေသောပစ္စည်းများအား အင်းလေးကန်အတွင်း မစွန့်ထုတ်ရေး) ကို လိုက်နာကျင့်သုံးပြီး စွန့်ပစ်ပစ္စည်းများစုပုံခြင်း၊ ခွဲခြားထားခြင်းနှင့် သင့်လျော်သော စွန့်ပစ်မှုများပြုလုပ်ခြင်းစသော သင့်တော်သောစွန့်ပစ်ပစ္စည်းစီမံစီမံခန့်ခွဲမှုနည်းစနစ်ကိုလည်း အသုံးပြုပါသည်။

လည်ပတ်ရေးကာလတွင် ဟိုတယ်ရေသုံးစွဲရန်အတွက် အဝီစိရေတွင်းမှရေယူရခြင်းကြောင့် ရေသယံဇာတ လျော့နည်းသွားခြင်းစသောသိသာထင်ရှားမှုနည်းသည့် ပတ်ဝန်းကျင်ထိခိုက်မှုရှိပါသည်။ လျော့ချမည့်နည်းလမ်းများကတော့ရေမီတာတပ်ဆင်ခြင်းနှင့် ရေသုံးစွဲမှုထိန်းချုပ်ရန်အတွက် စက်ပစ္စည်းများတင်ဆင်ပါမည်။ အင်းလေးကန်အတွင်းသို့ မိလ္လာနှင့်အမှိုက်များစွန့်ပစ်ခြင်းကြောင့်ဖြစ်လာမည့် သိသာထင်ရှားမှုနည်းသည့် ပတ်ဝန်းကျင်ထိခိုက်မှုကိုလည်းအင်းလေးကန်နှင့်ပတ်သက်၍ညစ်ညမ်းမှုလုံးဝမရှိရေးမူဝါဒ၊ မိလ္လာသန့်စင်စက်များတပ်ဆင်ခြင်း၊ သင့်တော် သောစွန့်ပစ်ပစ္စည်းခွဲခြားနည်းနှင့် နောက်ဆုံးစွန့်ပစ်နည်းစနစ် များအသုံးပြုပြီး လျော့နည်းအောင်ပြုလုပ်သွားပါမည်။ လည်ပတ်ရေးကာလတွင် ချေးချွတ်ဆေး၊ ကလိုရင်း၊ ရေကူးကန်၊ Spa၊ ဒိုဘီနှင့်အခန်းသန့်ရှင်းအတွက်သုံးသော ဓာတုဆေးရည်များကို ပတ်ဝန်းကျင်သို့စွန့်ပစ်မှုများလည်းရှိပါသည်။ မတော်တဆယိုထွက်ခြင်းနှင့်စိမ့်ကျခြင်းတို့မှ ရှောင်ရှားနိုင်ရန် ပတ်ဝန်းကျင်နှင့်သဟဇာတ ဖြစ်သောပစ္စည်းများ ရွေးချယ်အသုံးပြုခြင်းဖြင့် ဖြေရှင်းနိုင်ပါသည်။ ပစ္စည်းသယ်ယူပို့ဆောင်ရေးယာဉ်နှင့် ဧည့်သည်တို့အတွက် အသုံးပြုသောယာဉ်များမှထွက်လာသော ဆူညံမှုနှင့် လေထုညစ်ညမ်းမှုတို့ကို ဆူညံမှုနှင့်လေထုအား ပုံမှန်တိုင်းတာစစ်ဆေးခြင်း၊ PPEs အသုံးပြုခြင်းနှင့် ယာဉ်များ၏ အင်ဂျင်များအားပုံမှန်ထိန်းသိမ်းပြုပြင်သွားခြင်းစသည်တို့ဖြင့်လျော့ချသွားနိုင်ပါသည်။

ဖြစ်ပေါ်လာနိုင်သော ကျန်းမာရေး၊ ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာကိစ္စများအတွက် **"အစီအစဉ်ရေးဆွဲရန်၊ ပြုလုပ်ရန်၊ စစ်ဆေးရန်"** စသောနည်းဗျူဟာကိုလိုက်နာရန် ကျန်းမာရေး၊ ဘေးအန္တရာယ်

ကင်းရှင်းရေးနှင့်ပတ်ဝန်းကျင်စောင့်ရှောက်ရေးအဖွဲ့(HSE)လည်း ထားရှိထားပါသည်။ အဆိုပြုစီမံကိန်း သည် ပတ်ဝန်းကျင်၊ ဇီဝမျိုးကွဲနှင့် လူမှုစီးပွားရေးပတ်ဝန်းကျင်တို့အပေါ်တွင် အသေးစားထိခိုက်မှုများသာရှိမည်မှု မျှော်လင့်ထားပါသည်။ စီမံကိန်းဇ၏ တည်ဆောက်ကာလ၊ လည်ပတ်ကာလ နှင့် ဖျက်သိမ်းကာလတို့တွင် တွေ့ရသော ထိခိုက်မှုများမှာ အနည်းငယ်သာဖြစ်ပြီး လုံလောက်သောလျော့ချခြင်းနှင့်ပုံမှန်စောင့်ကြပ်ကြည့်ရှုခြင်းတို့ဖြင့်လည်း အလွယ်တကူလျော့ချနိုင်ပါသည်။ ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီရင်ခံစာသည် သင့်တော်သောလျော့ချမှု၊ စီမံခန့်ခွဲမှုနှင့် စောင့်ကြပ်ကြည့်ရှုခြင်းနည်းလမ်းများအသုံးပြုပြီး ဖြစ်ပေါ်လာနိုင်သော ထိခိုက်မှုများကို ဖြေရှင်းနိုင်ရန်ပြင်ဆင်ထားပါသည်။ Sanctum Inle Resort Co., Ltd ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီရင်ခံစာတွင် တည်ဆောက်ကာလ၊ လည်ပတ်ကာလနှင့်ဖျက်သိမ်းကာလ သုံးခုလုံးတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲခြင်းနှင့် ကျန်းမာရေးနှင့်ဘေးအန္တရာယ် ကင်းရှင်းရေးတို့အား ပုံဖော်ရေးဆွဲပြီး အခန်း (၅) တွင် ဖော်ပြထားပါသည်။ ပတ်ဝန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှု အလေ့အထကောင်းများနှင့်ဇီဝမျိုးစုံမျိုးကွဲစီမံခန့်ခွဲမှု အလေ့အထကောင်းများ၊ လုပ်ထုံးလုပ်နည်းများနှင့်တာဝန်များအား ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော် ပတ်ဝန်းကျင်ဆိုင်ရာမူဝါဒ၊ ဥပဒေ၊ စည်းမျဉ်းများနှင့် ညွှန်ကြားချက်များ အတိုင်းအပြည့်အဝလိုက်နာဆောင်ရွက်စေရန် သတ်မှတ်ပေးထားသည်။ ၎င်းအစီအစဉ် အား (၄) ပိုင်းပိုင်းခြားထားသည်။

၁။ ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ်
၂။ စီပွားရေးဆိုင်ရာလူမှုရေးတာဝန်ယူမှု
၃။ ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုသည့် အစီအစဉ်
၄။ ဇီဝမျိုးကွဲစီမံခန့်ခွဲမှုအစီအစဉ်

ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှုအစီအစဉ်တွင် အဆိုပြုအပန်းဖြေစခန်းစီမံကိန်းကြောင့် အနီးဝန်းကျင်အပေါ် ထိခိုက်မှုများ၊ ခန့်မှန်းကုန်ကျစာရိတ်နှင့် တာဝန်ရှိပုဂ္ဂိုလ်ကြောင့် လုပ်ငန်းလုပ်ဆောင်မှုများ၊ လုပ်ငန်းရည်ရွယ်ချက်များ၊ လျော့ချရေးနည်းလမ်းများနှင့် ပိုမိုကောင်းမွန်စေမည့်နည်းလမ်းများ အားခွဲခြားစိစစ်ထားပါသည်။ ပတ်ဝန်းကျင်လေ့လာစောင့်ကြည့်မှုအစီအစဉ်တွင် ပတ်ဝန်းကျင်ဆိုင်ရာသက်ဆိုင်မှုများ၊ စီမံခန့်ခွဲမှုလုပ်ဆောင်ချက်များ၊ အချိန်၊ ကုန်ကျစရိတ်၊ တာဝန်ရှိပုဂ္ဂိုလ်နှင့်အဖွဲ့အစည်းများကိုလည်း တင်ပြထားပါသည်။ စီပွားရေးဆိုင်ရာလူမှုရေးတာဝန်ယူမှု အစီအစဉ်သည် အပန်းဖြေသူများ၊ အလုပ်သမားများနှင့် ၎င်းတို့၏မိသားစုဝင်များ ၊ အနီးဝန်းကျင်ရှိ အစုအဖွဲ့များနှင့် ပွင့်လင်းမြင်သာ၍ ခင်မင်ရင်းနှီးစွာ ပိုမိုကောင်းမွန်သည့် လူမှုဘဝများ ဖြစ်ပေါ်ရန် ရည်ရွယ်ပါသည်။ လူထုတွေ့ဆုံဆွေးနွေးပွဲများတွင် မှတ်တမ်းတင်ထားရှိသော ဒေသခံအစုအဖွဲ့၏ စိုးရိမ်ကြောင့်ကြမှုများ၊ အမြင်များ၊ တုံ့ပြန်ချက်များ၊ ဆန္ဒများနှင့် လိုအပ်ချက်များနှင့် စိုးရိမ်သူများ ကို ပတ်ဝန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှု အစီအစဉ်နှင့် စီးပွားရေးဆိုင်ရာလူမှုရေးတာဝန်ယူမှု ဖော်ဆောင်ရာတွင် ရေးသွင်းထားပြီးဖြစ်ပါသည်။ ဇီဝမျိုးစုံမျိုးကွဲစီမံခန့်ခွဲမှု အစီအစဉ်သည် အင်းလေးကန်၏ ဇီဝမျိုးစုံမျိုးကွဲအား တိုးမြှင့်စေရန်နှင့် ရေရှည်တွင် အပင်နှင့် သတ္တဝါမျိုးစိတ်များ ကောင်းစွာမျိုးပွားခြင်းကို ထိန်းသိမ်းနိုင်ရန်အတွက်

ဇီဝမျိုးစုံမျိုးကွဲစီမံခန့်ခွဲမှုဇရိယာ၊ ရည်ရွယ်ချက်၊ စီမံခန့်ခွဲမှု လုပ်ဆောင်ချက်များ၊ လုပ်ဆောင်မည့် အချိန်ကာလ၊ ခန့်မှန်းကုန်ကျစရိတ်၊ တာဝန်ရှိပုဂ္ဂိုလ်နှင့်အဖွဲ့အစည်းအား ခွဲခြားစိစစ်ထားပါသည်။

တည်ဆောက်ကာလ၊ လည်ပတ်ကာလနှင့်ဖျက်သိမ်းကာလ အတောအတွင်းတွင် ကျန်းမာရေးနှင့်ဘေးကင်းလုံခြုံမှုအရ မော်တော်ကားနှင့်စက်လှေမတော်တဆဖြစ်မှု၊ စက်ပစ္စည်းအသုံးပြုမှု၊ လျှပ်စစ်ရှော့ဖြစ်မှု၊ မီးလောင်မှုနှင့် အမြင့်မှပြုတ်ကျခြင်း၊ ထိခိုက်ဒဏ်ရာရခြင်း၊ အရာဝတ္ထုများပြိုကျခြင်းစသော ဘေးကင်းလုံခြုံမှု အန္တရာယ်များလည်းရှိနိုင်ပါသည်။ မီးဘေးအန္တရာယ်နှင့်စက်ပစ္စည်းအန္တရာယ်တို့မှ ကင်းဝေးရန်အတွက် အသုံးပြုလမ်းညွှန်ချက်များပါဝင်သည့်ခေတ်မှီနည်းပညာသုံးစက်ပစ္စည်းများတပ်ဆင်ခြင်းဖြင့်လျော့ချနိုင်ပါသည်။ ထို့ကြောင့် မတော်တဆ ဖြစ်ခြင်းနှင့်လျှပ်စစ်ရှော့ဖြစ်ခြင်းတို့ လျော့နည်းသွားစေနိုင်ပါသည်။ အန္တရာယ်ဖြစ်မှုများ လျော့ချနိုင်ရန် ဘေးအန္တရယ်ကင်းရှင်းရေးသင်တန်း၊ ကြက်ခြေနီသင်တန်း၊ ဆေးဝါးသင်တန်း၊ အရေးပေါ်ဖြစ်လာခဲ့လျှင် နီးစပ်ရာဆေးရုံသို့ ပို့ဆောင်ပေးခြင်းနှင့် အန္တရာယ်ကင်းမျက်မှန်၊ လက်အိတ်၊ ဦးထုပ်၊ နားကြပ်စသော တစ်ကိုယ်ရေကာကွယ်ရေး ပစ္စည်းများ စသည်တို့ကိုလုပ်ဆောင်ပေးခြင်းဖြင့် လျော့ချနိုင်ပါသည်။

အချုပ်အားဖြင့် ဤကနဦးပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းသည် အဆိုပြုအပန်းဖြေစခန်းစီမံကိန်း၏ ပတ်ဝန်းကျင်အပေါ် သက်ရောက်နိုင်သည့် ထိခိုက်မှုများအားရှာဖွေဖော်ထုတ်ပြီး ဆန်းစစ်ခြင်းနှင့်ထိခိုက်မှုလျော့ချရေးနည်းလမ်းများကို အကြံပြုတားဆီးခြင်းနှင့် လျော့ချရေးဖော်ဆောင်မှုအား စောင့်ကြပ်ကြည့်ရှု့ တိုင်းတာသည့် စနစ်ကို သိပ္ပံ နည်းကျဖော်ထုတ်ပြီးဖြစ်ပါသည်။

2. Introduction

As mentioned in the paragraph 19 of the terms and conditions of the MIC permit, the IEE report has to be submitted to the Environmental Conservation Department (ECD), the Ministry of Natural Resources and Environmental Conservation (MONREC) in order to get the Environmental Compliance Certificate (ECC).

This report describes the findings of Initial Environmental Examination (IEE) and Environmental Management Plan (EMP) of Sanctum Inle Resort hotel to be constructed and operated at the plot number 38, Maingthauk plot, Maingthauk villageat the east bank of Inle lake falling in the Inle Wildlife Sanctuary, Nyaungshwe Township, Taunggyi District, Southern Shan State by Sanctum Inle Resort Company Limited. The aim of this report is to identify the major environmental impacts which can occur during construction and operation phases of the hotel project with the provision of effective measures to reduce the adverse impacts, if any. In addition, it also reveals day- to- day safety, health care, social welfare management and biodiversity management plans to be implemented by the proposed hotel throughout its lifespan.

2.1. Background History of Inle Lake

The Inle Lake, the second largest fresh water lake in Myanmar, is situated at an altitude of 884 m above sea level in a N-S striking graben zone than 100 km long. The N-S striking mountain chain in the West (East of Heho) rise about 270 m and those in the East (Taunggyi) about 400 m above the level of the Inle Lake. It is about 23 km long and 6.4 meter wide. It depth varies considerably between the dry season (up to 4 m) and rainy season (up to 7 m). The mean surface temperature of the very clear water was 21.7℃ towards the end of dry season, and the bottom temperature was 20℃ (ANNANDALE 1923).

The lake is renowned for its beauty and serenity, and has been attracting visitors for hundreds of years. It is a site of two famous pagodas, Phaung Daw Oo and Ah Lo Taw Pauk, which date back 800 years, as well as many pagodas and stupa fields in the lake environs. Inle is one of three key tourism destinations in Myanmar, alongside Mandalay and Pagan, and attracts over 250,000 visitors annually, including both international and national visitors on pilgrimage. The Pagoda festival in October is a major draw-card, and the culture of *Intha* people is of particular interest, with the unique leg-rowing fishermen, and the floating garden agriculture (hydroponic cultivation) as well as artisan crafts of silk, weaving, silver smiths and lotus cloth.

However, the Inle Lake and its catchment area have been experiencing severe environmental and physical degradation due to several human, natural and anthropogenic factors. As a result, the submergence area which was once 257.03 km^2 (2005) has shrunk to 239.83 km^2 (2010). The deepest lake of the part measured at 6.6m is now a mere 3.9m deep; and the shallowest part once 3.9m is now 1.9m deep. The lake is elliptical in shape. Nowadays, the north south axis is approximately 18 km and east west is approximately 5 km in length. The nearest airport is Heho

which is approximately 50 km from Nyaungshwe and 30 km south west of Taunggyi, the capital of Shan State. The water surface area of Inle Lake was known to be around 271 sq.km; its length from north to south was 57.94 km and its breadth from west to east was 12.88 km. A survey of the lake dimensions conducted by the Survey and Land Records Department in 2007 revealed that the lake area had decreased at an alarming rate.

The total lake area was reduced to 163.17 sq.km, of which only 62.16 sq.km remained as open water surface area. Of the remainder, 38.85 sq.km was floating agriculture garden. 33.67 sq.km wild floating vegetation and peat marshes, 7.77 sq.km human habitats and 20.72 sq.km of land based agriculture on land that had encroached into the lake. The length from north to south measured only 17.7 km and its width from west to east a mere 6.44km, indicating that the loss of total lake area was 106.19 sq.km; the decrease in length was 24.14 km and width 6.44 km. The deepest part of the lake, which was once known to have been 6.1 m, is now a mere 3.66 m; and the shallowest part, which was once around 3.66 m, is 1.83 m. The reasons for the shrinkage of lake and its becoming shallower are mainly attributed to the upstream soil erosion, and general watershed issues, coupled with the impact of floating gardens.

The Inle Lake Wildlife Sanctuary was established in November 1, 1985 by order of the Socialist Government for fuller legal protection of native and migratory birds and biodiversity conservation in general, with the extent of 247.48 square miles. The Wildlife Sanctuary Warden's office was established at Nyaungshwe in 1990. It is the world renowned and has been designated as an **ASEAN Heritage Site**. In 1998, Inle Lake was named as one of the representatives of the Earth's 200's most valuable eco-regions and declared as one of the fresh water biodiversity hotspots by the World Conservation Monitoring Centre (WCMC). Its connection to the Saga Lake and Mobye reservoir makes it's into a wetland spreading over a length of 100 km. The lake is also home to the revered PhaungDawOo Pagoda and Inthar people residing at the stilt house on the lake, famous for their tradition of rowing boats with leg.

Inle Lake is home to nine indigenous fish species including the locally priced *Inle cypris (*the inle carp, locally known as "nga- phein") Sawbwa genera that are endemic to Inle lake and are not known to be found in any part of the world. There are 16 sub- species that thrive in the inflows of streams that discharge into the lake. The lake also provides one of the large fishery resources within the Shan State, supporting livelihoods of a large human population living at the lake and along its fringes. Inle Lake with its associated wetlands supports a wealth of biodiversity and provides important habitats for migratory water birds within the East Asian Flyway from Siberia to Australia. The eastern ***Sarus crane*** is also endemic to the Inle region. Inle Lake also serves as a habitat for a wide diversity of native and migratory bird species. A 10.36 sq.km area on the northern fringe of the Sanctuary area has been demarcated as a Bird Preservation Area, where around 25,000- 30,000 birds consisting of about 270 species, both native and migratory species, congregate during the cold season months. There are 527 tree species, 12 water plant species, more than 270 bird species, 43 fish species, 3 tortoise species, 93 butterfly species, about 30 reptiles and 217 orchids recorded by Environmental and Wildlife Conservation division, Forest

Department. According to the Criteria of the International Union for Conservation of Nature-IUCN's list of vulnerable species; seven bird species (including the *Sarus crane*) that inhabit Inle Lake, are listed as being threatened with extinction.

3. Scope of the IEE study

In the scope of this study, its includes the identification of proposed project plan, installation of facilities and equipment, water treatment, wastewater management, firefighting, operation of hotel services and its requirements, health, safety and corporate social responsibility measures of proposed hotel and analyzing and each component from environment, safety and health care point of view. Full consideration of the potential impacts of the performances in all three phases of project: construction phase, operation phase and decommissioning phase has been properly included and carried out in this study. An Environmental Management Plan (EMP) describing comprehensive measures to reduce the unwanted and adverse impacts is attached in this report based on potential environment, safety and health impacts findings. The E Guard Environmental Services based in Yangon has contracted with the and Sanctum Inle Resort Co., Ltd in order to conduct the study taking full responsibility and send an E Guard specialist team in which environmental, health, safety, and social experts are included to perform necessary field measurements. This team has carried out preliminary scoping, field survey, assessment and analysis of project activities and compilation of this report. A field observation using checklist, quantitative and qualitative data collection was carried out by interviews and discussions with responsible persons of Sanctum Inle Resort Co., Ltd in August and November 2014. Secondary data collection was necessarily carried out in order to obtain bio-physical, environmental, climatic and socio-economic information concerning with the proposed hotel site and its surrounding. Baseline environmental data was collected using up to date measuring devices by which evaluation was conducted on any significance of potential impacts in December. And suitable mitigation measures on those impacts were identified to be able to put under acceptable limits which is extremely important because the proposed hotel site is totally located in Inle Lake Wildlife Sanctuary. E Guard Environmental Services met local communities living near the proposed hotel site and carried out public consultation process creating a chance to local public and related stakeholders to express their opinions, suggestions and needs during IEE and EMP formulation of the project.

4. Review on Existing Environmental Protection Laws and Regulations

The Environmental Conservation Law (2012) is the major governing law and the Environmental Conservation Department (ECD) and Ministry of Natural Resources and Environmental Conservation (MONREC) are the prime governing bodies of the law enforcement. In addition, the Constitution (2008), national Environmental Policy (1994), Environmental Conservation Rules and Regulation (draft) and The Protection of Wildlife and Protected Areas Law (1994) are also included to be abided by in the process of environmental impact assessment (EIA) and initial environmental examination (IEE). The above-mentioned existing national laws, rules and

regulations of the Union of Myanmar are to be abided by the project proponents/investors on mitigating negative environmental impacts that are compiled and presented in Table 1.

It is equally important for this project proponent (Sanctum Inle Resort Co., Ltd.) which shall also comply with Myanmar Hotel and Tourism Law (1993), regulations and the Social Security Law (2012).

Table 1: Relevant Environmental Laws and Regulations of Myanmar

Laws and Regulations	Description
National Environmental Policy (1994)	To achieve harmony and balance between socio-economic, natural resources and environment through the integration of environmental considerations into the development process enhancing the quality of the life of all its citizens.
Constitution 2008	
Sec.45	The Union shall protect and conserve natural environment.
Sec.390 (b)	Every citizen has the duty to assist the Union carrying out the environmental conservation
Environmental Conservation Law, 2012	
Objectives Section 3	(c) to enable to emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefit of present and future generations; (d) to reclaim ecosystems as may be possible which are starting to degenerate and disappear; (e) to enable to manage and implement for decrease and loss of natural resources and for enabling the sustainable use beneficially;
Provisions of Duties and Powers relating to the Environmental Conservation of the Ministry: Section 7	(a) To specify categories and classes of hazardous wastes generated from the production and use of chemicals or other hazardous substances in carrying out industry, agriculture, mineral production, sanitation and other activities; (b) To prescribe categories of hazardous substances that may affect significantly at present or in the long run on the environment; (c) To promote and carry out the establishment of necessary factories and stations for the treatment of solid wastes, effluents and emissions which contain toxic and hazardous substances; (j) To prescribe the terms and conditions relating to effluent treatment in industrial estates and other necessary places and buildings and emissions of machines, vehicles and mechanisms; (m) To lay down and carry out a system of EIA and SIA as to whether or not a project or activity to be undertaken by any Government

Laws and Regulations	Description
	department, organization or person may cause a significant impact on the environment; (o) To manage to cause the polluter to compensate for environmental impact, cause to contribute fund by the organizations which obtain benefit from the natural environmental service system, cause to contribute a part of the benefit from the businesses which explore, trade and use the natural resources in environmental conservation works.
Environmental quality standards Section10.	The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards: (a)suitable surface water quality standards in the usage in rivers, streams, canals, springs, marshes, swamps, lakes, reservoirs and other inland water sources of the public; (b) water quality standards for coastal and estuarine areas; (c) underground water quality standards; (d) atmospheric quality standards; (e) noise and vibration standards; (f) emissions standards; (g) effluent standards; (h) solid wastes standards; (i) Other environmental quality standards stipulated by the Union Government.
Monitoring Section13.	The Ministry shall, under the guidance of the Committee, maintain a comprehensive monitoring system and implement by itself or in co-ordination with relevant Government departments and organizations in the following matters: (a) the use of agro-chemicals which cause to impact on the environment significantly; (b) transport, storage, use, treatment and disposal of pollutants and hazardous substances in industries; (c) disposal of wastes which come out from exploration, production and treatment of minerals, industrial mineral raw materials and gems; (d) carrying out waste disposal and sanitation works; (e) carrying out development and constructions; (f) Carrying out other necessary matters relating to environmental pollution.

Laws and Regulations	Description
Environmental Conservation Law, 2012: Responsibilities of project proponent/business owner for reducing environmental impact	
Section 14.	A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards.
Section 15	The owner or occupier of any business, material or place which causes a point source of pollution shall install or use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution. If it is impracticable, it shall be arranged to dispose the wastes in accord with environmentally sound methods.
Environmental Conservation Rules, 2014	
Rules 58	The Ministry shall form the EIA Report Review Body with the experts from the relevant Government departments, organizations.
Rules 59	The Ministry may assign duty to the Department to scrutinize the report of EIA prepared and submitted by any organization or person relating to EIA and report through the EIA Report Review Body.
Rules 61	The Ministry may approve and reply on the EIA report o IEE or EMP with the guidance of the Committee.
Myanmar Hotel and Tourism Law (1993)	
Section 3 (b)	To enable tourists to observe Myanmar culture heritage and natural scenic beauty
Section 3 (c)	To prevent destruction and damage of Myanmar cultural heritage and natural scenic beauty, due to the hotel tourism industry
Section 3 (e)	To develop technical relating to hotel and tourism industry and to open up more employment opportunities
Order for Licensing of Hotel and Lodging-House Business (1st September 2011): Annexure (A); The minimum standard requirements for the Hotel business	
Location and Building	Location of the hotel must be suitable for hotel business and the environment must be healthy and hygienic; The building must be in the safety condition and separate with its own stair-case The hotel must be adequately lit and ventilated
Bedroom	All bedrooms must be adequately lit and ventilated; All bedrooms must be built to ensure privacy and safety; All bedrooms must be kept free from mosquitos, flies and insects; Electric fan or air-conditioner or heater and blanket etc... must be arranged according to the climate of the place;

Laws and Regulations	Description
Bathroom and Toilet	A bathroom must be hygienic and adequately lit and ventilated; Shall have toilet, a hand-basin, mirror, shower and bathtub; Shall have water-purified system and hot water/cold water. A toilet must be hygienic and adequately lit and ventilated;
Hotel Restaurant and Hotel Dining Room	Food and beverage provided must be fresh, clean and hygienic; Restaurant and Dining room must be kept clean and hygienic and provide the protective system from mosquito, fly and any insects; Dining room and kitchen must be separate.
Kitchen	Arrangements must be made to keep the kitchen clean, hygienic, adequately lit and ventilated ad to protect from insects and free from bad smell; Food and beverage provided must be fresh, clean and hygienic; Kitchen equipment, crockery and cutlery of the restaurant must be clean and hygienic; A system must be made to provide a sufficient supply of hot and cold running water; Areas for cooking place, washing dishes and for food must be placed separately; A system must be made for disposal of leftover food rubbish. There must be adequate store room and refrigerator connected with the kitchen; Finished foods must be stored as warmer for fresh and not poison.
Security and Fire prevention arrangements	Shall provide arrangement for security of guests and their properties; Shall arrange fire preventive planning in accordance with stipulations of relevant departments; Shall rehearse trainings for fire security services If the building is over 3-storeyed shall install emergency exit. The emergency stair must be strong for use actually. Shall arrange prevention and security of worksite for staffs.
The Social Security Law (2012)	
Section 53 (a)	The employers and workers shall co-ordinate with the Social Security Board or insurance agency in respect of keeping plains for safely and health in order to prevent employment injury contracting disease and decease owing to occupation and in addition to safety and educational

Laws and Regulations	Description
	work of the workers and accident at the establishment;
Myanmar Citizens Investment Law (2013)	
Law No (18)	The PyidaungsuHluttaw passed a new citizen investment law on July 29, 2013 by No. 18 of law with the objectives of a. Supporting the main objectives of the national economic development plan; b. Safeguarding the citizen obtained, should obtain economic enterprise and Opportunities; c. Developing employment opportunities; d. Acquisition of high technology and development of manufacturing business by high technology; e. Production materials by using local resources; f. Establishing import substituted goods; g. Promotion and expansion of exports; h. Emerging the business of production and service involving large capital; i. Developing modern industrial businesses; j. Developing small and medium industrial businesses; k. Revealing less energy consuming businesses; l. Causing to rise renewable source of energy, such as new Biomass energy, new energy exploration and exploitation; m. Developing private and cooperative sector; n. Developing regionally; o. Participating widely in monetary market; p. Participating investments in local development work, by emigrant citizen, intellectuals, intelligentsias, entrepreneurs; q. Developing intellectual property manufacturing and services;
Forest Law (1992)	
Section 17	Forest produce may only be extracted after obtaining a permit. However, if it is for domestic or agricultural or piscatorial use not on a commercial scale, forest produce may be extracted in an amount not exceeding the stipulated quantity, without obtaining a permit.

Laws and Regulations	Description
Section 21	A person who has obtained permission for extraction of forest produce shall: (a) Abide by the conditions contained in the permit: (b) Abide by the orders, directives, prohibitions and restrictions issued by the Forest Department in accordance with this law: (c) Pay the royalties, security deposits and advances due: (d) Affix the mark after measuring in the manner prescribed or affix the property-mark which has been registered.
Section 30	A private entrepreneur who is desirous of establishing a sawpit, sawmill, tongue-and groove mill, plywood mill, veneer mill or a wood-based industry with the exception of wood- based cottage industries and furniture industries has the right to establish the same only after obtaining a permit from the Forest Officer empowered for this purpose.
Protection of Wildlife and Protected Areas Law (1994)	
Section 35	(a) Hunting without a license; (b) Violation of any condition of the hunting license; (c) Raising without permission, for commercial purpose normally protected wild animals and seasonally protected wild animals; (d) Causing water and air pollution, causing damage to a water-course or putting poison in the water in a natural area; (e) Possessing or disposing of pollutants or mineral pollutants in a natural area; (f) Establishing and operation a zoological garden or a botanical garden without a license.
Section 37 (a)	Killing, hunting or wounding a completely protected wild animal without permission, possessing, selling, transporting or transferring such wild animal or any part thereof without permission.
The Conservation of Water Resources and Rivers Law (2006)	
	The State Peace and Development Council Law enacted this law by Law No.8/2006 on the date of 2nd October, 2006. This law covers for all water sources above and underground within boundaries of rivers, creeks, banks and water fronts. Under this law, Ministry of Transport has power to direct for carrying out waterways conservation work, to notify the land boundary as waterfront boundary for bank protection,

Laws and Regulations	Description
	river-creek improvement and to navigate vessels in the rivers and creeks with the objectives of: (a) To conserve and protect the water resources and rivers system for beneficial utilization by the public; (b) To smooth and safety waterways navigation along rivers and creeks; (c) To contribute to the development of State economy through improving water resources and river system; (d) To protect environmental impact.
The protection and preservation of cultural heritage regions law (1998)	
Section 18	No person shall, without prior permission granted under this law, construct, extend, renovate a building or extend the boundary of its enclosure in the ancient monumental zone or ancient site zone.
Section 19	No person shall, without prior permission granted under this Law carry out any of the following with respect to a building within the protected and preserved zone:- (a) Constructing or extending; (b) Renovating or extending the boundary of its enclosure.
Section 20	No person shall carry out any of the following in the cultural heritage region:- (a) Destroying an ancient monument; (b) Willfully altering the original ancient form and structure or original ancient workmanship of an ancient monument; (c) Excavating to search for antiquities; (d) Exploring for petroleum, natural gas, precious stones or minerals.
Section 21	No person shall, without prior permission granted under this Law, carry out any of the following in the cultural heritage region:- (a) Carrying out renovation and maintenance work on an ancient monument; (b) Carrying out archaeological excavation; (c) Building road, construction bridge, irrigation canal, embankment or extending the same; (d) Digging well, pond, fish-breeding pond or extending the same.

Laws and Regulations	Description
Section 22	No person shall construct a building which is not in conformity with the conditions prescribed region wise by the Ministry of Culture in the cultural heritage region.
Section 23	No person shall plough and cultivate or carry out any activity which may cause damage to the cultural heritage within the boundary notified by the Department in the cultural heritage region.
National Food Law (1997)	
	Food and Drug Administration (FDA) enacted this law in 1997 to enable public to consume food of genuine quality, free from danger, to prevent public from consuming food that may cause danger or are injurious to health, to supervise production of controlled food systematically and to control and regulate the production, import, export, storage, distribution and sale of food systematically. Food Safety Responsibilities in this law are as follows: Recommendation on imported and exported food - Post market surveillance (risk assessment) - HACCP along with general practice for food inspectors and manufactures - Food safety training for restaurants, street, vendors, etc. - Laboratory training on basic food analysis.
Labor Dispute Law (2012)	
Section 38	No employer shall fail to negotiate and coordinate in respect of the complaint within the prescribed period without sufficient cause.
Section 39	No employer shall alter the conditions of service relating to workers concerned in such dispute at the consecutive period before commencing the dispute within the period under investigation of the dispute before the Arbitration Body or Tribunal, to affect the interest of such workers immediately.
Section 40	No party shall proceed to lock-out or strike without accepting negotiation, conciliation and arbitration by Arbitration Body in accord with this law in respect of a dispute.

Laws and Regulations	Description
Section 41	No person shall carry out lock-out or strike to amend such decision or agreement within the effective period of the decision of the Arbitration Body or the Arbitration Council or any collective agreement.
Section 42	No person shall prohibit the right to work independently of the workers who are not desirous to participate in the strike nor impede the right of a worker to strike.
Section 43	No person shall fail to abide by or carry out any condition contained in agreement concluded before the Conciliation Body in respect of individual dispute or collective dispute.
Section 44	No person, after having informed in advance by the Arbitration Body or Tribunal for settling the dispute, shall fail to arrange to enable to examine the trade under dispute or to produce the documents which is considered by the Arbitration Body or Tribunal that it concerns with the dispute or to appear as a witness when he is so summoned.
Section 45	No person, if he is sent notice for examination before the Arbitration Body orTribunal, shall fail without sufficient cause to appear in person or to send legal representative within the stipulated period.
Prevention of Hazard from Chemical and Related Substances Law (2013)	
	The PyidaungsuHluttaw enacted this law by Law No.28 of 2013 on the date of 26th August, 2013. This law was enacted with the objectives of: (a) To protect from being damaged the natural environmental resources and being hazardous any living beings by chemical and related substances; (b) To supervise systematically in performing the chemical and related substances business with permission for being safety; (c) To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically; (d) To perform the sustainable development for the occupational safety, health and environmental conservation. Regarding the chemical management and storage, currently, regulations governing chemicals management are divided between various Acts,

Laws and Regulations	Description
	mostly dating from colonial times; hence the legislation is in many respects related to the British framework. The Factory Act and the Public Health Act contain the provisions for chemicals management and storage. Some chemicals are likely to require permits.
Development Committees Law (1993)	
Section 18	The Committee may direct the owner of any building or land or the occupant thereof to comply with the following matters in respect of any building located within the town area in accordance with the relevant Laws, rules and bye-laws:- a) suspending or altering or demolishing the construction or renovation of any building which has been carried out without prior permission or without compliance with the specifications contained in the permission; b) removing any building or part of any building which encroaches upon any public road, drain, water supply pipe, sewage, etc; c) removing any building or part of any building which obstructs the construction or repair of public roads and bridges; d) repairing, demolishing or removing any dangerous building or building unfit for human habitation or any part thereof; e) white-washing or painting buildings and fences; f) erecting fences around unfenced land or repairing of unrepaired fences; g) clearing and removing any noxious or untidy trees, bushes and undergrowth and also filling up ravines, pitches.
Section 20	The Committee may direct the owner of the building or land or the occupant thereof comply with the following matters in respect of surface well, lake, drainage and sewage in accordance with the relevant laws, rules and bye-laws:- a) erecting enclosure or repairing any dangerous surface well, lake or pool of water; b) cleaning, repairing, filling tip or covering up any unhygienic surface well, lake, water storage tank or receptacle used for storing water; c) constructing or repairing drains, drainage pipe or drains for

Laws and Regulations	Description
	proper flow of water discharged from factories, workshops buildings and so as not to damage any street or public property; d) repairing and improving the lay-out of the earth-work so as to drain off water properly from factories, workshops and buildings; e) maintaining flushing-type toilet with, flush tank water-closet, sewage pipe and septic tank in factories, workshops, buildings and compounds; f) closing or demolishing or altering and repairing the toilet with flush tank, water-closet, sewage pipe and septic tanks which have been installed either without prior permission or without compliance with the specifications contained in the permission; g) constructing of sewage pipe or water pipe passing through adjacent land owned by some other person; h) compensating for damages if any, incurred to the owner in constructing sewage or water pipe passing through another person's land.
Section 21	The Committee may direct the owner of the building or land or the occupier thereof within the town area to comply with the following matters in accordance with the provisions contained in the relevant laws, rules and bye-laws:- a) keeping and maintaining suitable garbage bins for the collection of rubbish and offensive matters prior to their disposal; b) prohibiting the use of public or private water supply system found to be unhygienic; c) maintaining the rest house room or room rented in whole to be in a clean and sanitary condition; d) keeping and maintaining the buildings used for public entertainment in clean and sanitary condition as well as to ensure safety from fire hazards; e) prohibiting the use of or altering or maintaining the work premises dealing in dangerous enterprises if it becomes dangerous or nuisance to the neighborhood.

Laws and Regulations	Description
Underground Water Act (1930)	
	The underground water act enacted on the date of 21st June in 1930 whereas it is expedient to conserve and protect underground sources of water supply in the Union of Burma. This act prohibits sinking of a tube for the purpose of obtaining underground water except under and in accordance with the terms of a license granted by the water officer. Township Officer or sub-divisional officer had power to close a license tube after exercising jurisdiction over the local area concerned and the expense of such closure shall be recoverable from the owner of the tube as if it were an arrear of land-revenue.

5. Description of the Project

The Sanctum Inle Resort Company Limitedhas leased the plot number 38, Maingthauk plot, Maingthauk villageat the east bank of Inle Lake falling in Inle Wildlife Sanctuary, Nyaungshwe Township, Taunggyi district, Southern Shan State from the Forest Department for the initial 50 years in order to carry out thehotel business. The authorized capital for the project is US$ 5 millionand the project is a 100% local investment. The project's target business involves mainly hotel services. The project will provide employment opportunities for local people.

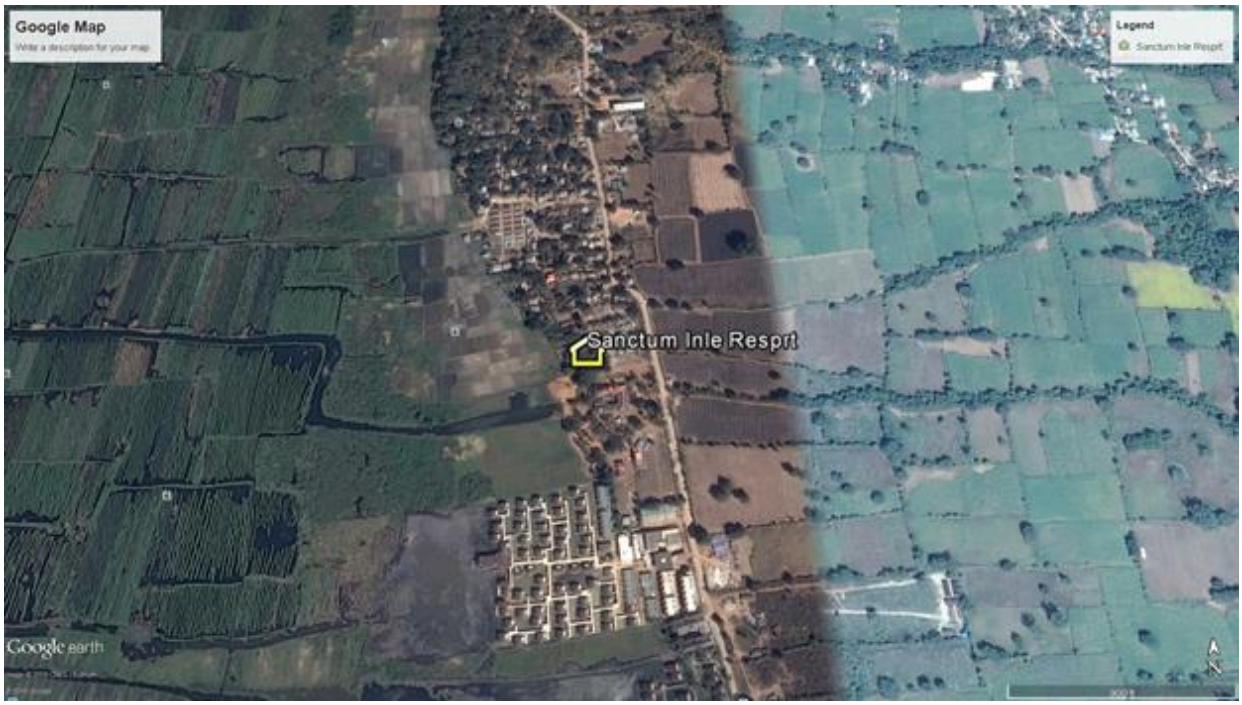


Fig 1: Google Map of Sanctum Inle Resort Hotel

Fig 2: Layout Plan of Sanctum Inle Resort

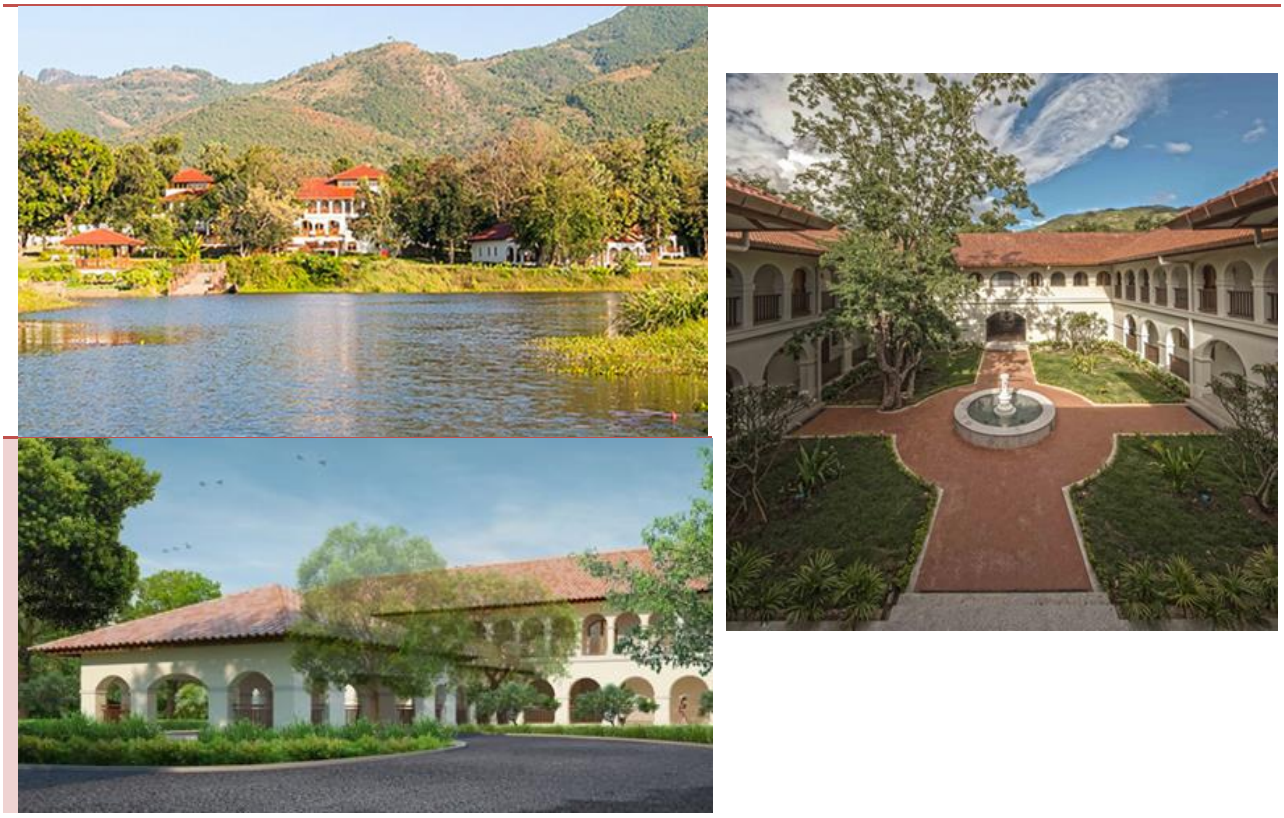


Fig 3: Landscape of Sanctum Inle Resort


CLOISTER CLASSIC

CLOISTER DELUXE



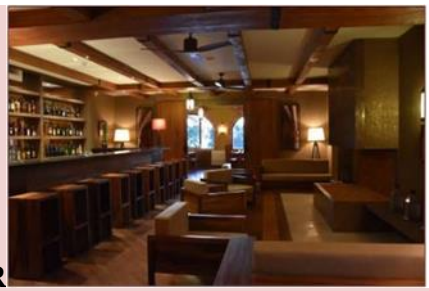
PROVOST JUNIOR SUITE

ABBEY SUITE



THE PEFECTORY

THE CLOISTER BAR





THE CHAPTER HOUSE


THE SANCTUARY SPA


FACILITIES & SERVICES

Fig 4: Designs of Proposed Project

5.1. Type of the Project

The Sanctum Inle Resort Company Limited of the Republic of Union of Myanmar proposed its investment of 100% local on building Sanctum Inle Resort hotel, with the authorized capital of 150.07 million MMK,on 6.01 acre leased land, at plot number 38, Maingthauk plot, Maingthauk village the east bank of Inle lake falling in Inle Wildlife Sanctuary, Nyaungshwe Township, Taunggyi district, Southern ShanState. The main objective is to construct and operate international standard hotel with the lease of maximum period of 50 years followed by extending another 10 years two times.

5.2. Requirement of Investor

The investors have to properly submit this Initial Environment Examination (IEE) report as a preliminary environment impact assessment on the proposed hotel carried out by third party (E Guard Environmental Services) in order to be reviewed and made comments and suggestions by the Environmental Conservation Department (ECD) of the Ministry of Natural Resources and Environmental Conservation (MONREC).

5.3. Location of the Proposed Project

Sanctum Inle Resort hotel is located at near Maingthauk Village, Nyaungshwe Township, Taunggyi District, Southern Shan State, Union of Myanmar, at the coordinates of 20° 34.275 N and 96°56.611 E covering the total area of 6.01 acre, falling in the Inle Lake Wildlife Sanctuary. The hotel area is 100% on the land. The hotel is quite close to Inle East Reserved forest in the east. Floating gardens and vast area of marsh land can be viewed in the west side, about 150 meters, from the hotel. A main road starting from Nyaungshwe to Loikkaw, Kayar State passes through east side of the compound of the proposed hotel providing easy access to Nyaungshwe, Shwenyaung, Heho and Taunggyi.

Figure 3: Location map of the proposed project area

5.4.Present Status of the Hotel

At present, Sanctum Inle Resort hotel construction work is underway as the land lease agreement has been agreed with Forest Department, Ministry of Environment and Environmental Conservation Department (MOECAF) for initial 50 years. Soil test, site cleaning, fencing, transformer and power cable installation collection of construction materials and equipment are being carried out. A guard house and a store have been constructed inside the project site and security guards are assigned. Construction of tube well and wastewater treatment plant, staff dormitory, laundry, store, transformer and generator house are being carried out on this land.

5.5.Project Components

Construction Phase Activities

The investor has planned to build, 1 main building, 10Bungalow typed hotel rooms, 1 office, 2 staff houses, 1 laundry building, 1 Spa, 5 villas, 1 building for General Manager, 1 generator

house and 1 Jetty with pergola on total leased area within 24 months period right away after 6 months of land preparation period. A tube well is drilled for drinking and washing. A swimming pool is planned to be built near the Spa. Construction division of Sanctum Inle Resort Co., Ltd will take care of constructing all buildings. All building materials are wood and brick. Hotel buildings are planned to be equipped with up-to-date electrical and communication system, Master Antenna Television (MATV) system, fully addressable digital fire alarm system (fire extinguishers are to be kept in all buildings.), water supply and sanitation system and air condition and ventilation system. A jetty will be built so as to provide easy transportation for guests and visitors.

Water Supply Development

The main water supply is from tube well. This well water is pumped to the water treatment facility that is housed in the service support center located in the hotel compound. The AMD water treatment system is installed so as to meet the requirements of Nyaungshwe Township Municipality. The treatment media for this treatment plant is sand, activated carbon and liquid chlorine. The treated water is to be stored in the overhead distribution tank and supplied non-portable water for garden, firefighting, W/C units and laundry. This water treatment system is available in appendix 5.

Site Waste Management

A considerable amount of organic refuse (vegetation) would be generated during site clearance activities. To the greatest extent possible the soft material (leaves, shoots, etc.) would be separated and composted on site for later reuse during the landscaping phase. Harder and woody material (tree trunks, branches) would be stockpiled and removed from the site by a waste contractor. During construction, temporary toilets will be provided for use on the site.

Material Transportation

Site clearance and construction of the hotel will require transportation of materials to and from the site and this will generate a significant amount of traffic, especially trucks, on the main road. This will exacerbate traffic congestion in the area along the transport routes and potentially cause a deterioration of air quality due to dust and exhaust fumes. These are issues that can be mitigated to some extent as discussed below in section 9.1.

Wetland Protection

The developer is aware of the ecological role of wetlands as 100% of the hotel area has been fallen in Inle Wildlife Sanctuary and for that reason these wetland area of the project site will be protected. It is intended that the existing trees will be maintained and restored as much as the original state and the floating marsh will be incorporated as a special feature in the landscape

design. The details of this are to be worked out. The measures of wetland protection are discussed in section 9.1.

Employment

It is estimated that approximately between 700 and 1000 persons (skilled and unskilled) will be employed during construction of the resort.

Operation of Hotel Services

Throughout its lifespan, Sanctum Inle Resort hotel has a plan to offer services mentioned below;

1. Hotel room for guests (bungalow type)
2. Restaurant, Bar, Room Service and Meeting Room
3. Conferences/Workshop/Wedding receptions
4. Swimming pool
5. Shows/parties/gatherings/wedding receptions
6. Travel Excursions, Boats and communication
7. Spa, Yoga and Fitness Center
8. Organic Farm

Table 2: Manpower requirement during the operation phase

Local Personnel required		
Department	Type of Personnel	No of Persons
Administrative office, HR, Finance, Front	Managerial Level	10
Housekeeping, Food & Beverage, Kitchen, Sale& Marketing, Engineering, Security and unskilled work	Other ranks	135
Total		**145**

Traffic

Operation of the resort will require the transport of guests to and from the airport. This will involve scores of vehicles movements in addition to the traffic caused by hotel staff, suppliers, and local visitors. The entrance to their sort has been designed to facilitate easy exit to and from the main road and to prevent traffic congestion at the entrance.

Water Demand

The total estimated demand for water by the resort during full operation is 5,000 gallon per day (1,500,000 gallon per year).

Electricity Supply and Fuel Demand

The electricity supply during full operation will be from the national grid. There will be two standby (500 KVA) generators for backup in case of power cut. The total estimated demand for fuel for boats, vehicles and generators is Diesel 7,200 gallons, Petrol 500 gallons and Lubricants 2,000 gallons per year.

Solid Waste Management

Solid waste generated at the site will primarily be domestic in nature (paper, plastics, packaging, waste food, etc.). This will be collected on a regular basis by a township municipal committee. The hotel operators are willing to institute waste segregation and recycling procedures at the resort and the extent to which these can be effectively executed will be examined. In order to reduce the usage of portable plastic bottles, recyclable glass water bottles are used for the complimentary water in the hotel rooms. Used beer cans and soft drink bottles are reused in the restaurant so as to reduce volume of waste. No plastic bags are allowed to use in the boutique.

Sewage Treatment and Effluent Disposal

The sewage treatment plant (STP) to service the demands of the resort is built on land west of the hotel compound. The sewage treatment plant (AME 300) which is the aeration activated sludge technology is installed. The function of treatment system is to pump out grey and black water into the equalization tank. The effluents coming out from equalization tank is sent to aeration tank and then send to sedimentation before it is discharged to environment. The treated effluent will meet Nyaungshwe Township Municipality requirements and the Ministry of Environmental Conservation and Forestry. The effluent, which is treated to wastewater quality standards that meet Environmental Conservation Department requirements, will be pumped back to the resort for use as irrigation for the grounds. The process flow of sewage treatment plant AME 300 is attached in appendix 4.

Fire Management

The firefighting facilities such as fire hose reel, fire extinguishers, fire blanket are installed at strategic places at the resort. The fire drill is planned to organize regularly at the resort. An emergency evacuation plan is developed so as to quickly response in case of fire accident. This emergency evacuation plan can be found in appendix 6. In addition, all rooms and offices are

equipped with smoke detectors. The kitchen also has heat detectors which are connected to the addressable fire panel located at the reception area and it is manned 24 hours.

Resource Conservation Technology

It is the intention of the developers to employ resource saving methods and technologies. Someof these are listed below.

Rooms

- Air conditioning savings

  A/C will switch off automatically once the guest left the room.

  A/C self-adjusts to the minimum when no presence of person is detected in the room.
- Use of fluorescent bulbs
- Lights will switch off automatically when there are no people inside the room.
- Water tank in toilet will use water saving device 3/6 liters per flush.
- Faucets will be of low water consumption.
- Guests will be encouraged to reuse towels as part of the ecological laundry policy,thereby saving water and detergents.
- Use of biodegradable soaps in rooms.
- Power saver installed

Hotel

- Reuse of treated sewage effluent for irrigation of the grounds.
- Residual warm water from the A/C system will be reused to warm up the running water.
- Use of environmental friendly (phosphate free) detergents in the laundry.
- All outdoor areas will be provided with electronic switching devices to ensure that lightsare turned off during daylight hours.
- Widespread use of low consumption fluorescent bulbs.

5.6.Proposed Implementation Schedule

The Sanctum Inle Resort Co., Ltd, proposed its project implementation plan as follows;

- Period of proposed capital to be brought in: from the date of issue of MIC permit

- Proposed duration of investment: 50 years (extendable 10 years 2 times)

- Total leased period: 50 years

- Commencement date of construction: After the date of receiving MIC permit

- Construction period: 24 months (land preparation period 6 months included)

5.7.Economic Feasibility

The proposed Sanctum Inle Resort Hotel project which aims to operate international standard hotel services, after construction and installation of necessary equipment, is 100% local investment. The hotel project expects to get total net profit starting from year-1 of operation and expected amount is MMK 84.12 million. From year -2 to year-5, during the period of tax exemption and reliefs, the total net profit will obviously increase at steady rate, from MMK 103.17 million in year-2 to MMK 396.47 million in year-5. From year-6 to year-10, although tax being imposed, the total net profit will be MMK 415.38 million. Pay back or recoupment period on cash flow is 11 years. The Internal Rate of Return (IRR) on investment is calculated as 9.02% with the calculation of income tax 25% on Gross Operating Profit and commercial tax 5% on total revenue, after tax exemption period of 5 years. The Internal Rate of Return (IRR) calculation is attached as appendix 8.

5.8.Purpose and Objective of Initial Environmental Examination

The main purpose of conducting Initial Environmental Examination (IEE) is, as instructed by MIC and in compliance with law, rules and regulations of ECD and MOECAF, to identify the immediate and potential negative impacts of projects on physical, biological, socioeconomic and cultural environment of proposed site. The specific objectives of this study include:

- Identify the major issues that may arise as a result of proposed activities on bio-physical, socio-economic and cultural environment of the project area,
- Recommend practical and site-specific measures for environment impacts mitigation and environment enhancement,
- Prepare and implement environmental management plan for the project, and
- Make sure that IEE is carried out sufficiently and soundly for the proposed project.

5.9. Adopted Procedure

Based on the information provided by the project proponent and qualitative and quantitative data collected during the field study of the hotel site and surrounding areas, this report is duly prepared. Baseline environment data on noise, water, air quality are collected and added after systematic measurements are made at site. Secondary data collection was also carried out to obtain up to date data and information on physical, biological, ecological, socioeconomic, natural environment and cultural environment of the proposed hotel site and surrounding areas. This was then followed by assessment of data and information to identify and determine the possible negative environmental impacts due to the proposed project activities. The opinions, comments,

suggestions and needs which were recorded during public consultation process are highly valued, analyzed and taken into account in the formulation of EMP. ECD of MONREC already laid down the IEE approach, methodology and procedure to be followed by third party in its study and any investors in their proposed projects. The evaluation of positive and negative environmental impacts in this study follows the method of the Institute of Environmental Management and Assessment (IEMA).

5.10.Project Proponent Information

The following table describes detailed information of project proponent and its organization.

Table 3: Detailed Information of Proponent

Proponent name	Daw Su Su Tin
Father's name	U Nyunt Tin
Citizenship	Myanmar
Passport/NRC number	12/BaHaNa (Naing) 039391
Address in Myanmar	No.12 Nagayaung Pagoda Street, Ward No(5), Mayangone Township, Yangon
Residence abroad	N/A

Table 4: Detailed Information of Proposed Organization

Name of Principle Organization	Sanctum Inle Resort Co., Ltd
Type of Business	Hotel Services
Principle Company's Address	No. 147, Shwegondaing Street, West ShwegondaingWard, Bahan Township, Yangon
Authorized Capital	MMK 100 million
Manufacturing	-
Production System	-
Investment Location	Near Maingthauk Village, NyaungshweTownship, Taunggyi District,

	Southern Shan State
Type of Land	Inle Lake Wildlife Sanctuary

List of Executives of Sanctum Inle Resort Co., Ltd.

1. Daw Su Su Tin (Managing Director)

2. U Than Too Kyaw (Director)

5.11.Information on IEE Survey Team

E Guard Environmental Services is the company conducting the Initial Environmental Examination (IEE) for Nippon Express (Myanmar) Co., Ltd. U Aye Thiha is the Managing Director of E Guard Environmental Services.

Table 5: Information on IEE survey team

Name	Position
U Saw Win	Environmental Advisor (Team Leader)
U Soe Min	Director
Daw Win Thida Khine	Research Assistant
U ZinKoKoOo	Research Assistant
DawKhaingZarWint	Technician (Data Acquisition and Solution)

Full Address of the company conducting IEE:

E guard Environmental Services Company Limited
No. (99), MyaKanThar Lane, NyeinChanYay Street,
10 ile, Pyay Road, SawBwarGyiGone Quarter,
Insein Township, Yangon, Myanmar.

6. Description of the Environment

6.1. Physical Resources in the Project Area

Topography and Soil: Sanctum Inle Resort hotel is located at the heart of eastern Shan Plateau of Myanmar, in Nyaungshwe Township, Taunggyi District, about 691 km north east of Yangon by car. The project site is situated on eastern bank of Inlay Lake, lying on western side of Nyaungshwe – Nampan motor road, about 11km south of Nyaungshwe. Nyaungshwe Township share the borders with Taunggyi township in the north, Taunggyi and Sesaing townships in the east, Pehkon township in the south and Kalaw and Pinlaung townships in the west. The proposed resort area 1.25 ha is totally situated inside the boundary of Inlay Lake Wildlife Sanctuary.

In general, the area is a narrow valley between hills in the east and Inlay Lake Wildlife Sanctuary in the west, with average elevation of 884 m above sea level. Dominant forest type of the area includes low Indaing and hill forests. Landscape is beautifully dotted by hills, sporadic forests, shifting cultivation sites, paddy fields, small scattered villages, Inlay Lake with floating islands, hotels and resorts.

The Red Earths and Yellow Earth soils (Acrisol) are the most dominating soils of the land area. The Shan Plateau is about completely covered with these soils. The Yellow Earths occur on the level lower slopes and they occupy a relatively small area, changing the Red Earths down the slopes. The Red Earths have a very deep profile having the texture varying sandy and silty to silty clay loam and with good structure. They are well drained and easy to plough. However inside the unique wetland ecosystem of Inlay Lake Wildlife Sanctuary, Gley Swampy Soil is dominant with seasonally inundated grass/ marsh lands.

There is no major river or stream passing through the area. The Inlay Lake, seasonally average about 19 km long, 8.0 km wide and 3.6 m deep and its tributaries is the only natural water collection site of the area. The total area of its drainage basin is 3700 km^2 and is a major source of hydro electrical power for southern Myanmar, specifically for Law-Pi-Ta hydroelectric power plant.

Nyaungshwe is the common entry point to the area. It is 430 miles away from Yangon by car. Shwenyaung train station which is about 10 miles north of Nyaungshwe is 320 miles away from Yangon by train. Shwenyaung to Nyaungshwe is about 10 miles by car. Nearest airport is Heho Airport and it is about 14 miles from Nyaungshwe by car.

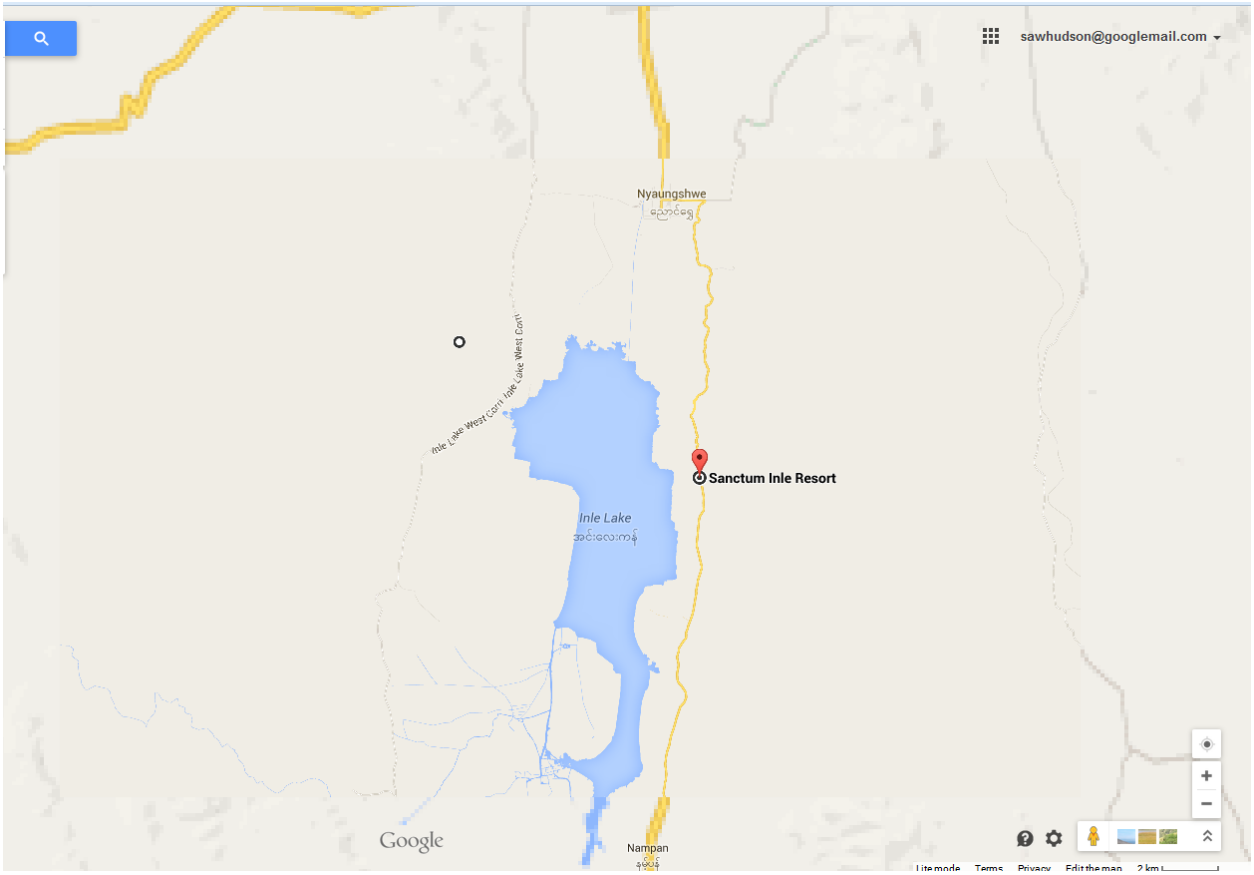


Figure 6: Sanctum Inle Resort hotel and surrounding area

Climate: Myanmar's climate is greatly influenced by the tropical monsoon circulating system and it also effect the Shan Plateau. It has three distinct seasons; summer, rainy, and winter seasons. Nyaungshwe has a humid subtropical climate (Köppen climate classification Cwa). Temperatures are comfortably warm throughout the year, although the winter months (December–February) are milder and nights can be quite cool. It is commonly believed that the local weather is one of the nicest in the whole country. The average annual high temperature is 24.6°C and average annual low temperature is 13.8°C. The average annual rainfall of the area is 1,555 mm. The driest month is January with almost no precipitation. Most precipitation falls in August, with an average of 330 mm. The warmest month of the year is April with an average high temperature of 29 °C. In January, the average low temperature accounts only 7 °C and it is the coldest month of whole year round. The difference in precipitation between the driest month and the wettest month is about 325 mm. The average high temperature varies during the year by 7 °C.The best time of the year to visit the area is during September and October.The summer of 2010 was registered as very high temperatures, dropping the water level of the Inlay Lake to the lowest in nearly 50 years.

Air Quality: The ambient air quality measured at the perimeter of the proposed project area can provide some indication of the air quality within the project area. The range of various pollutant levels measured at the perimeter of the proposed project during the month of August are presented in Table 6 below.

Table 6: Sanctum Inle Resort Hotel's Air Quality

Date/Time (12-13/12/2014)	TSP	PM10	PM2.5
10:00-11:00	65.76	39.31	26.04
11:00-12:00	83.58	40.79	22.44
12:00-13:00	56.19	32.61	21.38
13:00-14:00	51.70	25.76	13.23
14:00-15:00	53.87	24.53	10.41
15:00-16:00	104.58	44.84	12.08
16:00-17:00	303.08	192.23	58.88
17:00-18:00	286.38	188.89	49.74
18:00-19:00	269.68	185.55	40.60
19:00-20:00	91.89	63.92	26.54
20:00-21:00	104.62	73.48	26.58
21:00-22:00	59.33	46.14	26.49
22:00-23:00	71.33	53.12	28.50
23:00-0:00	56.36	47.50	33.33
0:00:0-1:00	62.09	51.18	21.08
1:00:0-2:00	31.53	26.14	18.40
2:00:0-3:00	26.58	24.96	19.39
3:00:0-4:00	29.28	27.35	21.58
4:00:0-5:00	39.72	36.72	27.95
5:00:0-6:00	60.49	50.94	28.04
6:00:0-7:00	130.77	107.71	62.50
7:00:0-8:00	198.25	150.05	61.63
8:00:0-9:00	254.98	142.81	47.31
9:00-10:00	354.89	140.11	43.07

The ambient air quality measured within the project area can be compared with the IFC guideline value and NEQG guideline values.

Table 7: International Guidelines used to compare Dust condition of the Site

Parameter	Averaging Period	Average Result	IFC Guideline value	NEQG value
PM_{10}	24 Hour	75.69	50	50
$PM_{2.5}$	24 Hour	31.13	25	25

IFC = International Finance Corporation
NEQG= National Environmental Quality (Emission) Guideline

Note: Based on the above table it appears that the pollutant level of TSP, PM 10 and PM 2.5 in the project area is higher than the limiting ambient air quality standards. This may be because of construction activities carried out on the project site.

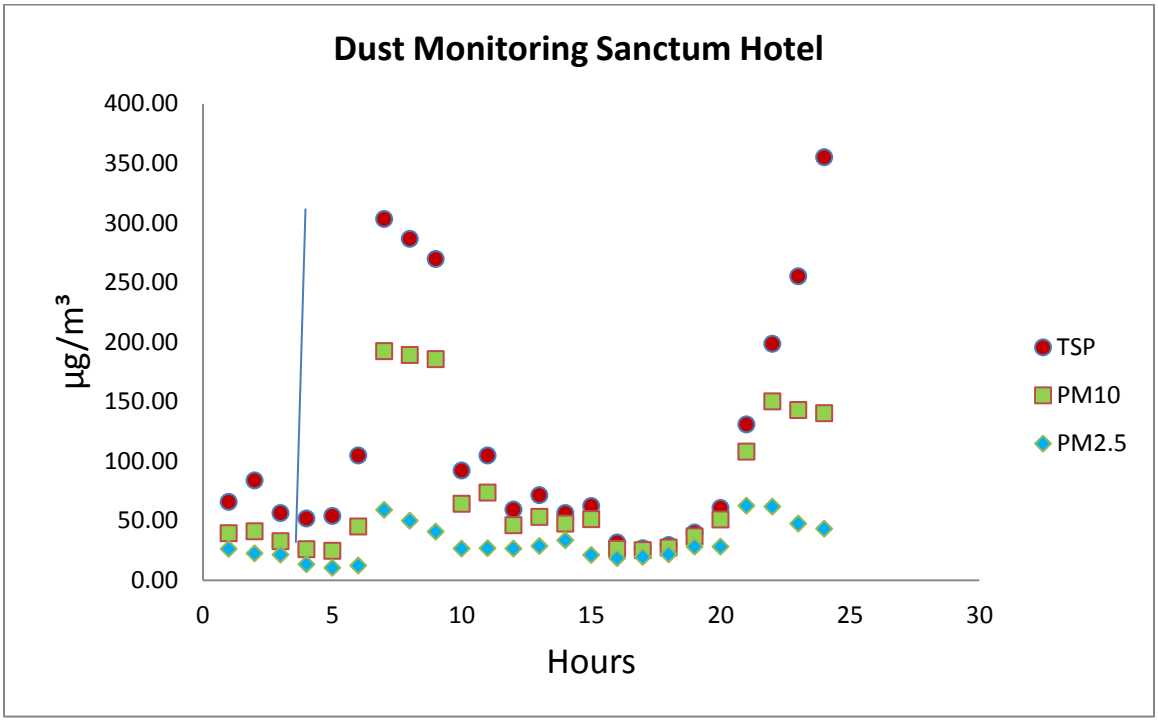


Figure 7: Chart of Environmental Dust Monitoring

Ground Water: The ground water quality analyzed from the tube well located in the proposed project area can provide some indication of the water quality of the project area.
The following table shows the water parameters measured during the month of November, 2014.

Table 8: Ground Water Quality Analysis

Sr.	Quality	Result	Method	WHO Standard Value	Remarks
1.	pH	7.5	pH meters	6.5-8.5	Normal
2.	Turbidity	5 NTU	Lovibond SpectroDirect Method No. 3.85	5 NTU	Normal

Sr.	Quality	Result	Method	WHO Standard Value	Remarks
3.	Hardness	198 mg/l	Lovibond SpectroDirect Method No. 200 and 201	500 mg/l	Normal
4.	Aluminum	N/A	Lovibond SpectroDirect Method No. 40	<0.02 mg/l	Normal
5.	Potassium	N/A	Lovibond SpectroDirect Method No. 340	<20 mg/l	Normal
6.	Iron	0.29 mg/l	Lovibond SpectroDirect Method No. 220	<0.3 mg/l	Normal
7.	Chloride	3 mg/l	Lovibond SpectroDirect Method No. 90	<250 mg/l	Normal
8.	Dissolved Oxygen	N/A	Jenway Dissolved Oxygen Meter (Model 970)	<10 ppm	
9.	BOD5	N/A	Estimated by Eco-Lab with Jenway Dissolved Oxygen Meter (Model 970)	50 mg/l	

Note: As most of the parameters measured are within the normal range, it can be concluded that the water from the tube well can be used as domestic water.

Noise: The noise level measured in the perimeter of the project area can provide the indication of the existing noise level of the area as follows. The noise level measured is ranged from 41 to 58 dB (A) which is lower than the permissible level for the commercial and residential area. (Source: General EHS Guidelines: IFC-www.ifc.org)

Table 9: Sanctum Inle Hotel's Noise Level Measurement

Date	Time	Mean value	Weight	Day/Night
12/12/2014	09:05:00-10:05:00	57.3	A	Day
12/12/2014	10:05:30-11:05:00	56.3	A	Day
12/12/2014	11:05:30-12:05:00	56.1	A	Day

Date	Time	Mean value	Weight	Day/Night
12/12/2014	12:05:30-13:05:00	51.8	A	Day
12/12/2014	13:05:30-14:05:00	57.3	A	Day
12/12/2014	14:05:30-15:05:00	57.7	A	Day
12/12/2014	15:05:30-16:05:00	58.2	A	Day
12/12/2014	16:05:30-17:05:00	57.1	A	Day
12/12/2014	17:05:30-18:05:00	53.6	A	Day
12/12/2014	18:05:30-19:05:00	54.5	A	Day
12/12/2014	19:05:30-20:05:00	54.7	A	Day
12/12/2014	20:05:30-21:05:00	54.5	A	Day
12/12/2014	21:05:30-22:05:00	54.4	A	Day
12/12/2014	22:05:30-23:05:00	54.7	A	Night
12/12/2014	23:05:30-00:05:00	53.4	A	Night
13/12/2014	00:05:30-01:05:00	44.2	A	Night
13/12/2014	01:05:30-02:05:00	41.7	A	Night
13/12/2014	02:05:30-03:05:00	42.0	A	Night
13/12/2014	03:05:30-04:05:00	42.9	A	Night
13/12/2014	04:05:30-05:05:00	43.8	A	Night
13/12/2014	05:05:30-06:05:00	44.3	A	Night
13/12/2014	06:05:30-07:05:00	48.4	A	Day
13/12/2014	07:05:30-08:05:00	53.9	A	Day
13/12/2014	08:05:30-09:05:00	53.0	A	Day

Table 10: International and National Guidelines used to compare Current Noise Level

Receptor	IFC Guideline		NEQG	
	Daytime 10:00-22:00	Nighttime 22:00-10:00	Daytime 10:00-22:00	Nighttime 22:00-10:00
Residential, institutional, educational	55	45	55	45
Industrial, Commercial	70	70	70	70

The following bar chart also demonstrates the 24 hours trend of noise level measured at Sanctum Inle Hotel from 12:00 PM of 12th December 2014 to 12:00 PM 13th December 2014 by technicians of E Guard Environmental Services.

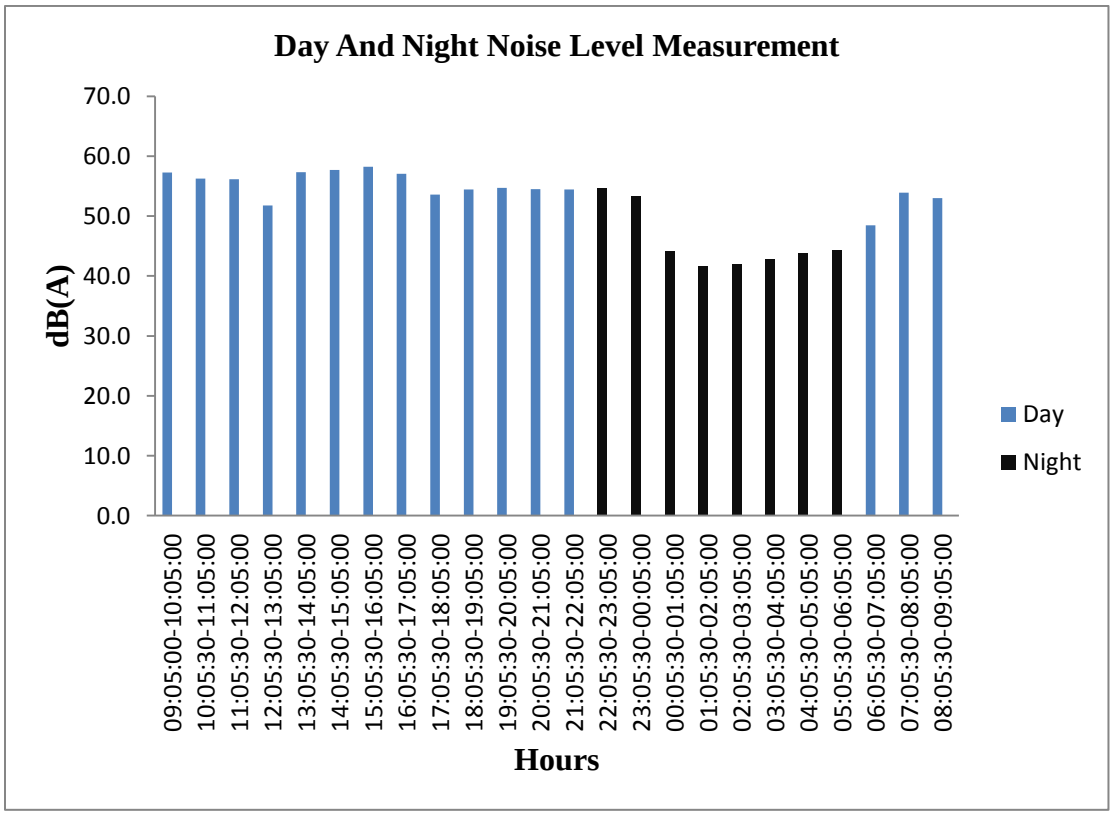


Figure 8: Graph of Noise Level Measurement

6.2.Ecological Resources

Proposed Sanctum Inle Resort Inlay Resort site is situated inside the boundary of Inlay Lake Wildlife Sanctuary. Inlay Lake Wildlife Sanctuary is a wetland sanctuary and located in Nyaungshwe, Pinlaung and Peh Kon Townships of Southern Shan State. The proposed resort is situated in the Territory of Nyaungshwe Township. The Sanctuary was established in 1985 and designated as an ASEAN Heritage Park in 2003. It recently covers an area of 556 km^2. Inlay

Lake, situated in the heart of the Sanctuary, covering average water body area of about 88 km², with significant geographical conditions is the second largest fresh water lake of Myanmar.

The objectives of Inlay Lake Wildlife Sanctuary are:

- To conserve and protect wetland ecosystem; the natural vegetation, wetland birds and fresh water fishes of the Sanctuary
- To conserve geological features and scenic beauty of mountain areas
- To conserve Inlay watershed and maintain water resource for Law-Pi-Ta hydroelectric power plant
- To conserve and educate the local people in traditional floating agriculture practiced by "In" lake-dwellers
- To upgrade the Sanctuary so as to promote ecotourism

Total 255 woodland birds, 90 wetland birds, 59 fish species, 3 turtle species, 94 butterfly species, 25 amphibian and reptile species and several plant species including 184 orchid, 41 wetland tree species, 11 bamboo species, 527 medicinal plant species and 12 algae species are recorded in this wetland sanctuary (FD, 2014).It is also home for different ethnic groups, namely Intha, Shan, Pa Oo and Da Nu.

There are altogether 281 villages situated inside the Inlay Lake Wildlife Sanctuary, 262 villages in Nyaungshwe Township territory, 3 villages in Pinlaung Township territory and 16 villages in Pehkon Township territory. The unique traditional style of leg rowing, fishing, floating market, floating vegetation, boat racing, and handicrafts of Intha are amazing for all.

Inle Lake view from the boat

Floating vegetation at Inle Lake

Birds at Inle Lake

Dwindling population of *Inlecypris*
(Local name - Nga-Phein)

Vulnerable species - Cirus crane found at Inle Lake

Fig 9: Ecological Resources in Inlay Lake

Table 11: Ecological Resources and its Existing Conditions

Ecological Resources	Existing condition
Protected areas	Inlay Lake Wildlife Sanctuary established in 1985 and designated as an ASEAN Heritage Park in 2003, covers an area of 556 km^2. It is an ecotourism, mainly bird watching and birding site. In the core area, a two-storey bird watching house was established by the Forest Department
Forests	East Inlay Reserved Forest, 218 km^2 West Inlay Protected Public Forest, 142km^2 Total forest area 360 km^2, about 25% of the whole Nyaungshwe Township area of 1,452 km^2. Dominant forest types are low Indaing forest and hill forest Major tree species of the forests are teak (*Tectona grandis*), Coral (*Erythrina crista*), Kusum Ceylon oak (Schleichera oleosa), Emblic myrobalan (*Emblica officinalis*), Chapalish (*Artocarpus calophyla*), Civit (*Swintonisa floribunda*) and Pine (*Pinus spp*.) The common mammals found in these forests are Barking Deer (Muntiacus Rafinesque), Asiatic Jackal (*Canis Aureus*), Pangolins (*Manis Pentadaetyla*), Common pulm civet (*Paradexurus hermaphrodites*) and Common Otter (*Lutra lutra*).
Fisheries, aquatic biology	The Inlay Lake, seasonally average about 19 km long, 8 km wide and 3.67 m deep and its tributaries constitutes a significant wetland ecosystem in the area. The total area of its drainage basin is 3,700 km^2 and is a major source of hydro electrical power for southern Myanmar, specifically for Law-Pi-Ta hydroelectric power plant. Native aquatic plants include pondweed, coontail, bladder wort, stone wort, muster grass, and elephant grass. Pondweed is used as a food source by both people and fish. Elephant grass, known locally as Kaing is important in the structure of floating island for agriculture, as well as weaving mats. Water hyacinth, known as Baeda, is useful for floating land. Five fish families inhabit Inle water. They are mainly carp, catfish, murrel and also an endemic cyprinid. Intha fishermen harvest the carp with conical net stretched over wood and

<table>
<tr><td></td><td>bamboo frames. A variety of harpoons are employed to spear fishes. The Inle carp, known as Nga-Phane plays an important role in the food supply to the area people.</td></tr>
<tr><td>Wildlife</td><td>Inle is rich in birdlife. 254 bird species have been recorded there. Highlights would be rare Jerdon's Bushchat, White-tailed Stonechat, Collared Myna, Black-collared Starling, rare Sarus Crane, Glossy Ibis, Ferruginous Pochard, Spot-billed Duck, Garganey, Pheasant-tailed Jacana, Black-winged Stilt, Sandpipers, Sooty-headed Bulbul, Crimson Sunbird, Clamorous Reed Warbler, Red Avadavat and Yellow-breasted Bunting. And also breeding or roosting colonies of Little, Cattle, Intermediate and Great Egrets, Chinese Pond, Indian Pond and Black-crowned Night Herons, Vinous-breasted, Black-collared, Chestnut-tailed and Asian Pied Starlings, Collared, Jungle, White-vented and Common Mynas would be seen in this Myanmar (Burma) ecotourism, birds watching and birding site.</td></tr>
<tr><td>Rare/ endangered species of Inlay Lake Wildlife Sanctuary</td><td>
<table>
<tr><th>Bird Species</th><th>IUCN Category</th></tr>
<tr><td>Baer's Pochard Aythya baeri</td><td>Critically Endangered</td></tr>
<tr><td>Lesser Whistling-duck Dendrocygna javanica</td><td>Least Concern</td></tr>
<tr><td>White-rumped Vulture Gyps bengalensis</td><td>Critically Endangered</td></tr>
<tr><td>Greater Spotted Eagle Clanga clanga</td><td>Vulnerable</td></tr>
<tr><td>Sarus Crane Antigone antigone</td><td>Vulnerable</td></tr>
<tr><td>Indian Skimmer Rynchops albicollis</td><td>Vulnerable</td></tr>
<tr><td>Eastern Sarus Crane Grus antigone sharpii</td><td>Vulnerable</td></tr>
<tr><td>Yellow-breasted Bunting Emberiza aureola</td><td>Vulnerable</td></tr>
<tr><td>Fish species</td><td></td></tr>
<tr><td>Cyprinus carpio intha</td><td>Endemic</td></tr>
</table>
</td></tr>
</table>

	Neolissochilus nigrovittatus	Endemic
	Cirrhinus lu	Endemic
	Physoschistura brunneana	Endemic
	Physoschistura shanensis	Endemic
	Yunnanilus brevis	Endemic
	Sawbwa resplendens	Endemic
	Microrasbora rubescens	Endemic
	Danio erythromicron	Endemic
	Inlecypris auropurpurea	Endemic
	Poropuntius sp.	Endemic
	Percocypris compressiformis	Endemic
	Garra gravelyi	Endemic
	Silurus burmanensis	Endemic
	Channa harcourtbutleri	Endemic
	Macrognathus caudiocellatus	Endemic
Coastal resources	Nonexistent	

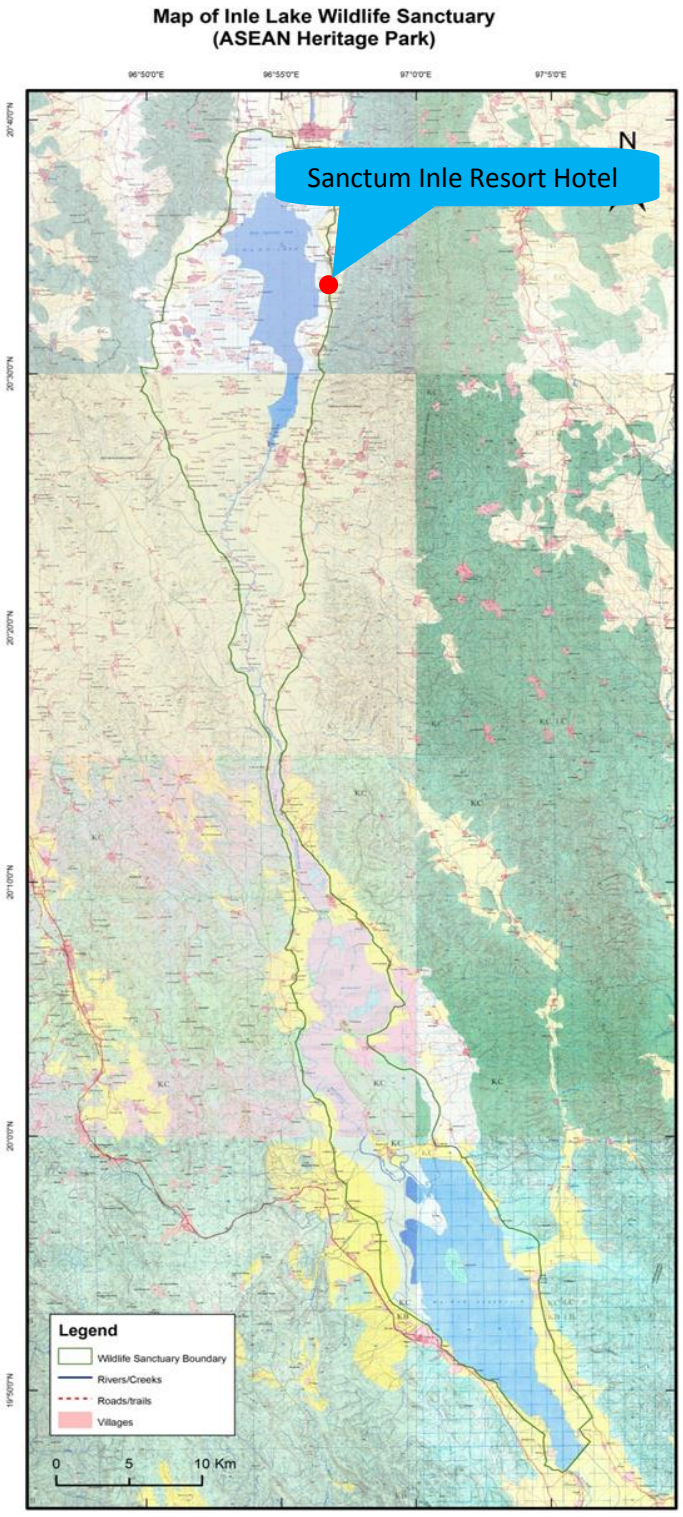


Figure 10: Map of Inlay Lake Wildlife Sanctuary and Proposed Sanctum Inle Resort Hotel

6.3.Economic Development

Originally, Nyaungshwe is a quiet little town of southern Shan State, made up of eight wards in the town and 444 villages in the township territory, having total population of 188,602 (2014). Township economy is traditionally based on agriculture (including floating garden agriculture inside the Inlay Lake), fishing, forestry and cottage industries.

Inlay Lake Wildlife Sanctuary, established in 1985 and later in 2003 designated as an ASEAN Heritage Park is the second largest fresh water lake in Myanmar and one of the best eco-tourism sites of the country. It is internationally famous for its unique wetland ecosystem, geological features and scenic beauty of surrounding mountains. The traditional living style of indigenous ethnic groups namely Intha, Shan, Pa Oo and Da Nu such as one leg-rowers, fishing with conical net stretched over wooden and bamboo frames, floating market and floating agriculture added its attractions. Exploration the life styles and cottage industries (such as traditional weaving and silver smith) of villages in the region by boat is a great pleasure and regular trip for most of the visitors. Experience of interacting with endemic people, including Padaung tribes who continue the practice of ringed neck is of special and exciting moment for both local and international visitors.

Inle may be visited all the year round, but the best time for migratory birds and trekking activities is from November to May. In addition to observation of rare birds, aquatic plants and animals, butterflies and doing trekking, visitors can also pay homage to historical pagodas, such as Phaung Daw Oo, Alowdaw Pauk, Shwe In Daing, Taung Do around the lake and many other pagodas on the surrounding hills. The ceremonial Phaung Daw Oo Festival, which lasts for almost three weeks, is closely followed by the Thadingyut festival of lights. Intha and Shan turn out in their best clothes in great numbers to celebrate the Buddhist Lent. Traditional boat racing, with dozens of leg-rowers in Shan dress in a team on each boat, is a famous event during the PhaungDawOopagoda Festival.

This unique situation has led to significant development of hotel and tourism infrastructure. In combination with government's democratic transition policy, many small and large privately owned hotels and tour operations have arisen in the area during the past few years. Roads are being improved, nearby Heho airport is being extended and local shops are flooded with consumer items of both local and foreign, thus increased job opportunities for local residents. There are about 40 hotels and resorts already developed in and around the Inlay Lake and the number increased to nearly 100 for the whole Nyaungshwe Township. Construction of new Inlay Hotel Zone,on 620 acres (2.5 km^2) of land between Kanbe and Chaungpa villages, 15 miles south to Nyaungshwe, on the east side of Nyaungshwe- Nampan-Loikaw Road is being underway.In brief, Nyaungshwe/ Inlay/ Heho basin is a potentially booming and vibrant area for ecotourism investors from all around the world. On the other hand, due to growing population, unsustainable means of land utilization and agriculture, poor living conditions, declining of watershed forests, erosion and siltation, the lake is getting narrow and consequently threatening

the existence of whole ecosystem including local communities. It is urgently required to work together in harmony among government, local people, investors and NGOs-INGOs, to keep the lake and its ecosystem clean, pleasant and sustainable and to prevent against any environmental disturbances.

Transportation: There have been relatively good high-way connections to Nyaungshwe from major cities of the country such as Taunggyi, Mandalay, Naypitaw and Yangon. Nyaungshwe is 690 km away from Yangon and 330 km away from Mandalay by car. Shwenyaung train station which is about 16 km north of Nyaungshwe is 514 km away from Yangon by train. Shwenyaung to Nyaungshwe is about 16 km by car. Nearest airport is Heho Airport and it is about 22 km from Nyaungshwe by car. Daily flight services are available from Heho airport to major cities of the county particular Yangon and Mandalay. Yangon and Mandalay international airport is the main entry points for most of the foreign visitors coming to Heho/Nyaungshwe/ Taunggyi area. Public transport bus lines and taxi services are also available in the town.

Electrical Power Source: Within Nyaungshwe- Inlay area, including new Inlay Hotel Zone, electricity is mainly supplied from the National Grid arranged by the Ministry of Electric Power (MOEP) and Myanmar Electricity Power Enterprise (MEPE). As new power supply plans and projects are being under way, there is a great tendency for improvement of power supply in the area in the near future. Currently, local people and businesses including hotels/resorts used to keep backup generators in case of power dropouts.

6.4.Social and Cultural Resources

Population and Communities

Nyaungshwe, a small town about 3 kilometers north of Inle Lake is administratively belongs to Taunggyi District, Southern Shan State of Myanmar. The township is composed of eight wards in the town and 444 villages.

According to 2014 census report, whole population of Nyaungshwe Township is 188,602, with a population density of 129 per square kilometer. Original local communities have settled in the area since time immemorial and most of them are farmers, fishermen, traders, businessmen and small and median enterprise owners. Few of them work as government staff, military personnel and company/NGOs staff. There are also some new comers from other parts of the nation mostly related to hotel and tourism business, NGOs and INGOs.

Nyaungshwe is the tourist hub for visiting Inle Lake and Inlay Lake Wetland Sanctuary. It consists of one main thoroughfare with numerous side streets and a few parallel roads. The main street has numerous shops, several restaurants, a few stupas, travel agencies and a market. The town serves as a marina for the numerous long boats carrying tourists into the lake. The lake itself is located a few kilometers south through a river channel.

There are about 40 hotels and resorts in and around the Inlay Lake and total about 100 in wholeNyaungshwe Township. Construction of new Inlay Hotel Zone, on 2.5 km^2 of land between Kanbe and Chaungpa villages, 24 km south to Nyaungshwe, on the east side of Nyaungshwe- Nampan-Loikaw Road is being underway. Most of the hotels/ resorts in and around the Inlay Lake are constructed in large compounds and far form settlement areas. Man-made water ways are usually constructed by developers to get boat access form Inlay Lake to lake-side hotels/resorts passing through seasonally inundated grass/ marsh land.

Nearest settlement areas of the proposed Sanctum Inle Resort site are Maingthauk Village about 0.81 km north with a population of (255) and Pay-pin-inn village about half mile south west with a population of (211).

Health Facilities

Nyaungshwe Township Government Hospital, 25 bedded is the nearest public hospital from proposed resort site. In addition, there is a government health center in Maingthauk village only about half mile north of resort site. There are also private/NGO clinics in Nyaungshwe town and most of large villages. Local communities still rely on traditional Myanmar and Shan herbal medicines and a number of traditional medical experts and their clinics are also found in the area. The nearby towns of Sesaing, Pehkon, Kalaw and Pinlaung also have public township level hospitals. In serious/emergency cases, local inhabitants used to go to Taunggyi and take treatments at **Taunggyi General Hospital** and many other private hospitals.

Education Facilities

Education level of the local residents is relatively low. There are altogether 239 basic education schools in the township mostly run by the Ministry of Education, 4 high schools, 21 middle schools, 213 primary schools and 1 monastic school. Primary education is accessible for most of the inhabitants, but access to middle school and high school education is still limited for many young people living in small villages. Nearest education center to the proposed Sanctum Inle Resort site is Maingthauk village high school. There is no college/university level education center in Nyaungshwe Township. After matriculation, most of the students who want to get higher education have to go to large cities such as Taunggyi, Mandalay and Yangon. As the township has developed together with eco-tourism business, more and more pre-primary schools and child-day-care centers are being appeared in towns and villages as well.

7. Screening of Potential Environmental Impacts and Mitigation Measures

The development of this project could necessarily bring changes in the local environment in terms of physical, biological and socio-economic aspects. The impacts generated are both beneficial as well as adverse. Based on the analysis of environmental baseline information and activities that are to be performed by the project, the possible environmental impacts are

identified. Most of the identified impacts have been quantified to the extent possible on the value judgment. Each of the environmental issues has been examined in terms of their current condition, likely impacts during construction and subsequent operation and abandonment phases. The impacts have been predicted in terms of environmental impact and business impact of the proposed project activities. The impacts on the environment from various activities of the project can be categorized as follows:

Impact on Environmental Resource

- Impact on Air Quality
- Impact on Noise Levels
- Impact on Surface and Ground Water Quality
- Impact on Soil/Land use extent

Impact on Ecological Resources

- Impact on Terrestrial Habitat and Biodiversity

Impact on Human Environment

- Health and Safety
- Socio-economics
- Security

Waste Disposal

- Solid waste disposal
- Liquid waste disposal
- Sanitary waste disposal

7.1. Impact on Environmental Resource

Impact on Air Quality: It can be anticipated that a certain amount of dust particles be generated by earth moving activities during building construction such as bungalow, dining room, kitchen, power generator house, staff dormitory etc… and during offloading of earth materials. This situation will be worst during the drying season and during the afternoon when the trade winds are most prevalent. Given the relative remoteness of the site, airborne particulates should not pose a hazard to residents in the vicinity or downwind of the construction site. The occurrence of dusting is periodic and short-term lasting for the duration of the construction activity.This impact on air quality can be mitigated by spraying water during the construction phase of the excavated areas especially during dry condition. Controlling speed and operation of construction vehicles could also reduce dust pollution.

In the operation phase, emission of dust particles, CO_2, SO_2 and other greenhouse gas is due to transportation of delivered supplies to hotel by vehicle movements. This emission can be minimized by doing regular vehicles maintenance.

Impact on Noise Level: During construction phase, the use of heavy equipment during site clearance and building construction works will inevitably generate noise, which may create a nuisance for nearby residents. Although annoying, this negative impact will be short-term (limited to the duration of the construction works) and is not considered to be a significant threat to the health or wellbeing of humans. Distance will help to ameliorate noises. In addition, construction activities that generate disturbing sounds should be restricted to normal working hours. Employees operating that generate noise should be equipped with noise protection gear.

In the operation phase, it is noted that the section of the eastern main road is presently being upgraded and it is unlikely that the additional traffic induced by Sanctum Inle Resort Hotel will cause any undue congestion in the near term.

During the decommissioning phase, there will be noise impact due to demolishing activities of hotel buildings and other facilities. However, this impact will be short-term.

Impact on Surface and Ground Water Quality: During site preparation and construction phase, inadequate provision of toilets for use by workers can lead to ad hoc defecation in secluded areas on the site, thus creating of unsanitary conditions and sources of fly infestation. Improper disposal of leftover food and other domestic forms of construction garbage could lead to littering of the site and pollution of adjacent of Inle lake water.

The improper siting of stockpiles and storage of sand, gravel, cement, etc., at the construction sites could lead to fine materials being washed away, during heavy rainfall events, into the drainage system and ultimately into the adjacent Inle Lake environment. This would not only represent a waste of materials but would also contribute to turbidity and sedimentation with consequent negative impacts on inshore Inle lake water quality and possibly the ecology of the wetland environment.

Hazardous and flammable materials (e.g. paints, thinner, solvents, diesel etc.) improperly stored and handled on the site are potential health hazards for construction workers and spilled chemicals would have the potential to contaminate soil and inhibit plant growth in localized areas. It is anticipated that refueling or maintenance of large vehicles will take place on the construction site and therefore there will be a requirement to store fuel and lubricants in a safe manner on the site. Safe storage areas should be identified and retaining structures put in place prior to the arrival and placement of material.

During the operation phase, spilled chemical used for laundry service such as detergent, solid/liquid chlorine, pesticide would have the potential to pollute soil and water quality of Inle

Lake. Hazardous chemicals (e.g. fuels) is stored in separate secured tanks in the generator house which is restricted to authorized personnel only and spill response kits are standby at the area.

Impact on Soil and Land use extent: The construction of the resort will involve the erection of permanent concrete structures on what is essentially a green field site. This will result in a loss of the options for alternative land use and thus represents an irreversible commitment of land resources. The loss of optional uses for the wildlife sanctuary land in the future is considered to be a negative impact. In order to mitigate this impact, trees and plant will be conserved as much as possible on completion of the construction phase.

Vegetation clearance, road construction and excavation works related to construction of the hotels and buildings will expose soils in the affected areas leaving them vulnerable to erosion by surface run-off and ultimately threaten adjacent Inle lake waters with high turbidity and sediment deposition, a negative consequence. The flat topography of the site would tend to reduce erosive surface flows and the threat of turbidity should exist only for the duration of construction works before landscaping and drainage works are put in place that would reduce the susceptibility to soil erosion. Ultimately, it is the wetland habitat that would be adversely affected by prolonged levels of high turbidity. Mitigation means will be to phase site clearance to the greatest extent possible so as to minimize the area of exposed soil at any given time, to re-cover exposed soils with grass and other appropriate species as soon as possible. Exposed soil will be temporarily bund and redirect flows from heavy runoff areas that threaten to erode or result in substantial surface runoff to adjacent Inle Lake waters.

7.2. Impact on Ecological Resources

Impact on Terrestrial Habitat and Biodiversity: The clearing and removal of trees and vegetation during entrance road construction and the development of the resort will result in the loss of a significant part of the existing forest and, as a consequence, a reduction of habitat for wildlife species. In particular, the main concern relates to the loss of habitat for endangered and endemic species, especially the ***Sarus crane***. Noise, vibrations, and intrusive activities related to construction works also will tend to scare away any animals remaining on the site after vegetation clearance. It is anticipated that low ecological impact would occur due to short term construction period.

In order to mitigate these impacts, the original and natural forested condition of the site would be maintained and restored as much as possible. Site clearance should be carried out in a manner that retains the large trees while the building footprints are pegged out. Where possible bird feeding trees should be retained and used in the landscaping of the resort properly. All construction workers and persons on site must be given specific instructions not to harm small animals including snakes but allow the animals to retreat into the forest. All construction contractors should be exposed to the environmental management plan and sensitized to the environmental issues. Detailed biodiversity management plan is available in section 12.

7.3. Impact on Human

Health and Safety: Being a project of hotel/resort services, health, hygiene and safety of hotel employees and contractors is the most priority factor for Sanctum Inle Resort hotel. The developer, Sanctum Inle Resort Co., Ltd believes that commitment on health and safety of its guests and employees is the most important parameter to make its business a great success.

Hygiene, health and safety accidents and injuries such as cuts and amputations, electric shock, thermal burns, crushing injury from material handling/ falling objects or vehicle operation, fire hazards, headache and sickness due to poor ventilation or noise and small injuries due to slips and falls could happen during the construction, operation and dismantling phases as well.

To avoid or minimize health and safety risks, Sanctum Inle Resort Company limited has carefully designed resort layout and safety plan in accordance with both Myanmar and international norm and standards of a 4-star hotel/resort. The plan includes assembly area, alarm system, first aid boxes, fire extinguishers, fire hose reels, sidewalks, escape routes, emergency exits, daily housekeeping and cleaning services on guest rooms, toilets, cafeteria, bar, kitchen, all public places (lobby, lounge, swimming pool, spa, reception etc.) and even outdoor greening and landscaping. Resort buildings will be designed and constructed in careful consideration of physical stability, structural load capacity, proper ventilation, lighting, fire prevention, sanitation and general safety issues, and shall comply with all relevant health and safety requirements, mainly issued by the Ministry of Environmental Conservation and Forestry and Ministry of Hotels and Tourism.

To ensure and monitor the health and safety standards of the resort, one Health, Safety and Environment (HSE) coordinator is to be appointed. Regular trainings/instructions regarding safety aspects such as utilization of Personal Protective Equipment (PPE) requirements, guidelines for machine safety, guidelines for housekeeping/lighting/electricity, guidelines for sanitation/hygiene, guidelines for first aid and fire and emergency evacuation drill are to be given/imposed to all employees. Notice, warning and caution announcement or signs will be released to all guests and employees as necessary in accordance with basic health and safety guidelines for hotel/resort management as mentioned detailed in chapter 11, EMP of this report.

For the health and emergency medical care of all resort guests and employees, the first aid kits will be kept ready at all public places of the resort and a limousine shall be kept 24-hour standby to send the injured guests/employees to the nearby hospitals or clinics within the few minutes, in case if it is required. Regular medical checkups for employees will be provided and 6 monthly medical checkups will be given to catering personnel.

In case of fire, all the guests and employees shall be evacuated systematically and as soon as possible. In cooperation with Nyaungshwe Township government fire brigade, fire drills shall conduct regularly and thirty young resort employees shall be trained and organized as volunteer

firefighting group. Fire alarm system, fire hoses, fire extinguishers, escape routes and emergency exits shall be inspected regularly and followed by proper maintenance as necessary.

To prevent electric shocks and hazards, two electrical maintenance staff (handyman) shall be assigned under engineering department to do regular inspections and take preventive measures. To prevent injuries and accidents caused by operating of machineries, proper Personal Protective Equipment (PPE) such as safety gloves, helmet, goggles, earmuffs etc., are to be provided as necessary.

Poor housekeeping can be a contributing factor causing injuries, infections and illnesses leading to accidents and injuries such as slips and falls, falling objects, fires and property damages. To avoid/mitigate this, a housekeeping department with a manger and total strength of 26 experts and employees shall be developed to carry out regular and proper housekeeping, monitoring and prevention measures.

Socio-economics: The proposed hotel/resort project is a100% investment by a Sanctum Inle Resort Co., Ltd. Total authorized investment plan of the company for resort project is MMK 10,000 million. Upon completion of construction and installation of necessary equipment, Sanctum Inle Resort Com., Ltd aims to operate international standard four stars lake side resort for maximum 70 years, inside the vicinity of internationally known ASEAN Heritage Park of Inlay Lake Wildlife Sanctuary.

This investment aims to contribute development of hotel and tourism business in the area and to boost local employment opportunities and consequently the socioeconomic development of local communities.

During the 2-year construction phase, local technicians and general workers will be employed, estimated average about 50-100 labors per day. In the operation phase of maximum 70 years, hotel needs to employ maximum 145 employees (technicians, experts and workers) of all Myanmar nationals, out of which more than 70% will be local inhabitants. By working together with and by getting trainings from experienced managers, experts and technicians of Sanctum Inle Resort Com., Ltd, local inhabitants will get opportunities to improve their skills in hotel and tourism business and thus contribute the capacity building of local citizens. Similar job opportunities as construction phase will again happen in dismantling phase.

In addition, after tax exemption period of first 5-year, hotel shall pay income tax (25% of gross operating profit) and commercial tax (5 % of total revenue) to the Government of the Republic of the Union of Myanmar. Therefore, the proposed investment shall bring long-term opportunities for socio-economic development of local communities and the nation as a whole.

Security: The need for security can never be overemphasized whether personal or for property. During construction, security is very important in any site. This ensures that materials are in order. It also controls movement within the site especially for the intruders who might be injured

by the materials and other hazardous features available within the site. Security is also of paramount importance during the operational phase of the project such as:

- Enclose the site using suitable walls to beef-up security and to control movement as proposed in the design and employ security guards who must always guard the site/property and document movements on the site/ property

- Strategically install lighting as well as security alarms

7.4. Waste Disposal

Solid Waste Disposal: Construction and decommissioning activities contribute to increased solid wastes including stones, wood, glasses, plastics, containers, metal rods, pieces of iron sheets, sharp objects (nails) etc.. These wastes will be collected and empty day to day basis to avoid any undesirable working condition and environmental impacts. Based on their different waste types, these solid wastes will be collected and segregated in their dedicated rubbish bins, and regular and proper disposal will be done in accordance with Nyaungshwe Township Municipality guidelines.

In the operation phase, major solid wastes will be generated form daily room cleaning, kitchen, bar, restaurant, cafeteria, souvenir desk, reception/office and staff quarters. Different kinds of solid wastes, such as tissue paper, food residues (organic wastes), glasses, tins, bottles, packing materials, stationeries, damaged/expired devices or appliances and other miscellaneous will be generated every day. All these solid wastes will be collected separately in standard garbage bins based on their types and wet and dry status. Disposal of these collected wastes shall be done in accordance with Nyaungshwe Township Municipality guidelines, in such a manner to avoid the creation of health risks and to maintain proper sanitary conditions in and around the resort area.

Various waste such as solid wastes and effluents will be generated during the construction, operation and decommissioning phases. Solid wastes generated will be segregated according to the figure.

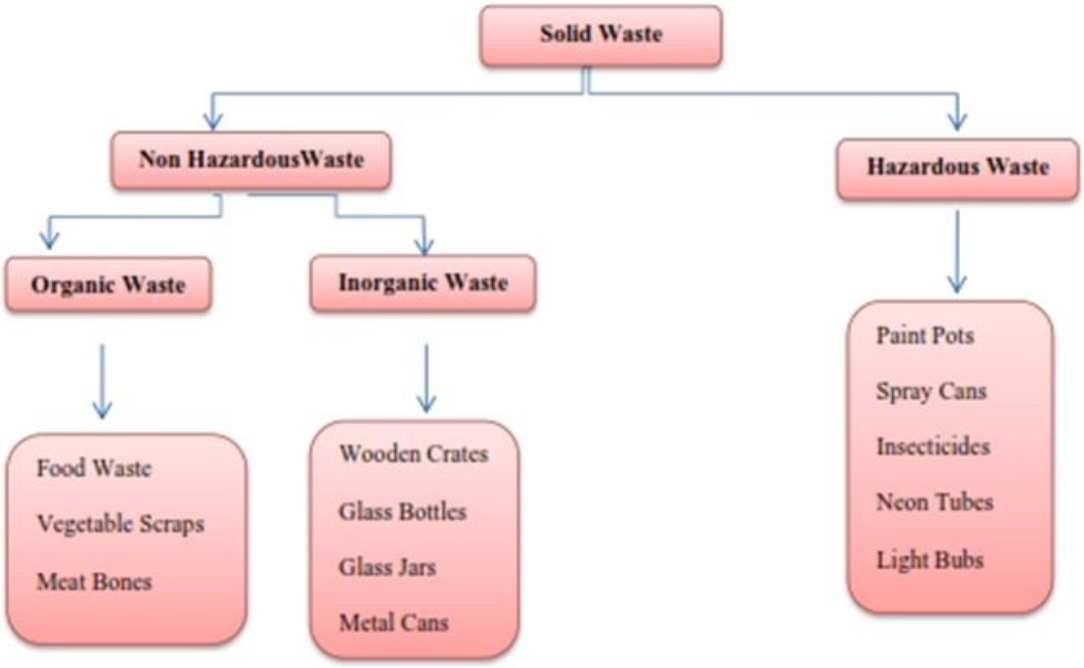


Fig 11: Composition of Waste generated by the Hotel

The waste bins and waste containers will be placed at the premises of each department. These organic/inorganic wastes will be collected and stored at the temporary waste storage area at the project site. And then, these wastes will be recycled, or placed at local land fill for disposal within the project site.

Table 12: Waste Container or Bins for each Department

No.	Waste Categories	Quantity Of Containers or Bins
Food & Beverage Department		
1	Waste Food 200L (for pigs)	2 bins
2	Plastic Bottles	1 container
3	Glass Bottles	1 container
4	Cans	1 container
Housekeeping & laundry Department		
1	Plastic Bottles	1 container
2	Cans	1 container
3	Papers	1 container
Reception & Administration Department		
1	Papers	1 container

Maintenance Department		
1	Unutilized Items	1 container
Staff quarters		
1	Plastic Bottles & Cans	1 container
2	Glass Bottles	1 container
3	Burnable Garbage	1 container
SPA		
1	Papers	1 container

It is essential that these wastes are handled, stored and managed in a safe and environmentally responsible manner. Wastes types segregated are disposed of in accordance with the "Best Practicable Environmental Option (BPEO)" with the intention of least impacts on the environment.

Table 13: Various Wastes Streams for the Sanctum Inle Resort Hotel

Waste Stream	Description	Handling Methods	Disposal Method
Organic Wastes	Food waste, vegetable scraps, meat bones, fish bones, etc.	Placed in bins or containers at the premises of each department. Stored at temporary storage area at the site.	Organic waste will be disposed of at sanitary landfill within the project site and composed at the site. Food waste can be disposed of by composting or used as animal feed).
Inorganic Wastes	Wooden crates, glass bottles, glass jars, metal cans, etc.	Placed in bins or containers at the premises of each department. Stored at temporary storage area at the site.	Wooden crates, glass bottles, glass jars and metal cans have resale value and will be reused or recycled.
Used Oil	Waste from vehicle maintenance	Collect in drums and temporarily stored at site	Contact NyaungShwe Municipal Committee for recycling
Sewage	All human excreta and associated products	The three-step septic type toilet system and Bio-tank system will be used	When the Bio-tank is full, contact NyaungShwe Municipal Committee for final disposal using vacuum vehicle.

Effluent (liquid and sanitary waste disposal): The developer shall strictly apply the policy of zero waste discharge into the Inlay Lake. It has planned to use readymade, pre-cut, pre-designed materials in construction. No liquid waste with significant extent and adverse impacts on surrounding environment is expected in construction and decommissioning phases. In addition, to avoid unnecessary crowd, dirt, wastes (including liquid wastes) and smell inside the resort area, developer has planned to construct tube wells and water treatment plant, staff dormitory, laundry, store, transformer and generator houses and car parking on its purchased land, situated outside of the boundary of Inlay Lake Wildlife Sanctuary. The resort shall also establish standard maintenance house for vehicles, machines and equipment and oil and lubricant storage facility on the land outside of resort site. Machines, equipment and vehicles maintenance and handling of oil and lubricants shall carry out with special care by trained technicians and experts to avoid any kind of oil, fuel and liquid wastes contamination into the surrounding environment particularly into the Inlay Lake.

During the operation phase, all resort guests and over 100 employees will use toilet facilities, kitchen, bar, restaurant, cafeteria, swimming pool and washing machines in daily basis. Two different types of liquid wastes are expected, used water (grey water) and swear form toilets. All the used water (grey water) which may include cleaning agents, disinfectants, and linen washing agents will be collected through separated channels or pipe lines into waste water treatment plant. Proper treatments will be given there before discharge in accordance with Nyaungshwe Township municipality guidelines.

To ensure zero contamination or seepage by toilet wastes, resort will use two types of toilet waste management system: three-step septic type toilet system for the main entrance building which is planned to construct on higher ground and bio-tank sewer disposed system for cottages on lower ground. Bio-tank system will contain 3 different steps/chambers of clean-up mechanism, in the first chamber the sewer coming from toilets will be disinfected using micro-bio-organisms, second chamber will work as sludge sedimentation tank and last chamber with evaporation funnel will store the liquids. Detailed design and function of the Bio-tank is attached as appendix4. Special cautions and regular monitoring shall be taken to make sure that the septic tanks and bio-tanks are not overloaded. Resort shall also comply with Nyaungshwe Township municipality guidelines for proper disposal of all liquid wastes to avoid any contaminations and hazards by wastewater and sewages into the Inlay lake and wetland ecosystem.

Resort design also include to conserve all existing trees of the area and to conduct pleasant landscaping for recreation on all remaining areas (about 2 acres) of the resort site. The biological engineering techniques will be applied using grass, bamboos, step by step hedgerows vegetation and evergreen tree species to keep the resort area clean, fresh and green, and also to prevent sedimentations and waste water seepages into the Inlay Lake.

Fig 12: Layout Plan with Rainfall Runoff Streams and AME 300

Fig 13: Photos of Sanctum Inle Resort

8. Assessment of Significance

In order to assess the significance impact of the activities, a consideration was made of the environmental impact and business impact of the proposed project activities. In the environmental impact, an environmental aspect is the most significant: when its impacts are severe, its level of control is low and its occurrence is high. An objective method in order to select the significant impacts is to take into account *Severity, Occurrence and level ofcontrol,* with weighting method (1-3). In the business impact which includes the legal requirements and stakeholder concerns, significant impact will take into account as *Compliance* with the existing national, regulations and *Complaint* from stakeholders with weighting method (1-3) as indicated below:

Environmental Concern		Legislative Concern		Stakeholder Concern		Significant Level of Aspect
Severity Level **Low (1) High (3)** Control Level **Low (1) High (3)** Occurrence	x	Compliance **(1) to (3)**	x	Complaint **(1) to (3)**	=	High **(243)** Low **(1)**

Method to calculate the significant aspect

The basic principles in order to figure out the significant aspect are as in the following;

Severity

This criterion is used to evaluate the effects on man and environment, depending on the toxicity, quantity and impact of the activities.

1 Low severity: low toxicity, low quantity, low impact on man and environment.

2 Medium severity: medium toxicity, averaged quantity, mediumimpact on man and environment

3 High severity: high toxicity, very important quantity, high impact on man and environment

Occurrence

This criterion is corresponding to the frequency of the impact occurrence.

1 Annual frequency or never occurred

2 Monthly or Weekly Frequency

3 Daily frequency or chronicle

Level of Control

This criterion is used to evaluate the level of control of the aspect, depending on the detection, available means, the operating procedures and the precautions taken.

1 High Easy detection and control with operating procedures regularly checked and/or important precautions taken to lower impact.

2 Medium Detection and control with operation procedures not regularly checked and/or average precautions taken to lower impact.

3 No control No detection and/or no precaution taken to lower impact.

Legal Compliance

1 Subject to be existing regulatory controls (local regulations)

2 Subject to regulatory control in the near future (Impending or amending legislation within the next 5 years)

3 No regulatory control

Complaint from Stakeholders

1 No complaint

2 Potential to a cause of serious complaint

3 Serious complaint raised by partners, neighbors, customers, employees and communities

Scoring evaluation for significant environmental impacts

Score evaluation corresponds to:

1-60	No significant impact
61-121	Low impact, try to improve
122-182	Significant impact, real necessity to improve

183-243 Unsustainable situations

Based on the scores significant aspects are those whose scores are above 60 and between 182.
Overall Score = Weighting of (Severity x Occurrence x Level of Control x Legal Compliance x Stakeholder Complaint)

8.1 Environmental Impact and Significance

The following table indicates the evaluation of environmental impact and its significance:

Table 14: Environmental Impact and Significance

Activities	Aspects of the risks	Impacts	Severity	Occurrence	Control	Compliance	Complaint	Result score	Significance
Construction Phase									
Loss of terrestrial habitat and biodiversity	Loss of endemic species	Natural resource depletion	3	1	3	1	2	18	No significance
Soil erosion due to excavation	Loss of organic matter and nutrients by removal of top soil.	Land/water pollution	1	1	3	2	1	6	No significance
Nuisance dusting	Dust generation	Atmospheric pollution	2	2	3	2	2	48	No significance
Noise	Noise generation by vehicles, earth moving equipment, excavation activities	Nuisance noise pollution	2	2	3	2	2	48	No significance
Material transportation	Dust generation/potential spill	Atmospheric pollution/Spillage	1	2	3	2	2	24	No significance
Material storage	Spill/waste generation	Land/water pollution	2	1	3	2	1	12	No significance
Surface runoff	Storm water discharge	Land/water pollution	2	1	3	1	1	6	No significance
Construction waste disposal	Waste generation by construction activities	Land/water pollution	2	2	3	1	1	12	No significance
Sewage and litter management	Liquid/Solid Waste generation	Land/water pollution	2	3	3	2	2	72	Low significance
Occupational health and safety	Cuts and amputations, Thermal burns, Slip and	Injury/Mortality	2	2	1	2	2	16	No significance

	falls/ Crushing injury from material handling and falling objects/ Nuisance/ Respiratory problems/ Headache and sickness								
Security	Potential theft, loot, intrusion	Prosecution/Imprisonment	2	2	3	1	2	24	No significance
Replanting and landscaping	Soil cover rehabilitated and habitat restored	Ecosystem restored/protected	-	-	-	-	-	-	Positive impact
Employment and income generation	Local people get employed/Skill improved	Socioeconomic standard of communities improved	-	-	-	-	-	-	Positive impact
Operation phase									
General									
Employment	Local people get employed	Socio-economic standard increased	-	-	-	-	-	-	Positive impact
Government revenue	Government acquired revenue	Government GDP increased	-	-	-	-	-	-	Positive impact
Water supply	Water resource depletion	Natural resource depletion	2	3	3	2	2	76	Low significance
Sewage treatment and disposal	Effluent discharge to environment	Land/Water pollution	2	3	3	2	2	76	Low significance
Solid waste disposal	Waste generation	Land/Water pollution	2	3	3	2	1	36	No significance
Use of Chemical products for cleaning, laundry, swimming pool and spa	Discharge to environment such as detergent, liquid chlorine/Tablets, cleaning agents etc…	Water pollution	2	3	3	2	2	76	Low significance
Use of electricity	Energy consumption	Resource depletion	1	3	3	2	1	18	No significance
Electricity generation	Spillage/Noise	Land/Water/Noise pollution	2	2	3	2	2	48	No significance
Traffic	Dust/Noise/Spillage	Noise/Land/Water pollution	2	3	3	2	2	76	Low significance

Building maintenance	Raw materials depletion, Waste generation	Resource depletion	1	1	3	3	1	9	No significance
House keeping	Waste generation	Resource depletion	1	3	3	3	1	27	No significance
Office works	Waste generation	Land pollution	1	1	3	3	1	9	No significance
Occupational Health & Safety									
Car/boat accident during transportation	Get injury/disease	Injury/Mortality	3	1	3	1	2	18	No significance
Occupational accidents	Cuts and amputations, Thermal burns/trips, slip and falls/ Crushing injury from material handling and falling objects/ Nuisance/ Respiratory problems/ Headache and sickness	Injury/Mortality	2	2	1	2	2	16	No significance
Proximity to high voltage transformer	Electrocution	Injury/Mortality	3	1	3	1	2	18	No significance
Use of portable electrical equipment	Potential fatal electrical shocks or burns	Injury/Mortality	3	3	3	1	2	54	No significance
Emergency Diesel Generator running	Noise level higher than 80 dBA	Nuisance (noise)	1	2	3	3	2	36	No significance
Logistics (transportation, storage) services									
Transportation of delivered suppliesto hotel by vehicles	Accidental Spillage, CO2 emission	Groundwater contamination/Land pollution/Air pollution	2	3	3	2	2	72	Low significance
Diesel storage at dedicated area	Diesel spill	Ground water pollution	2	2	3	2	2	48	No significance
Chemical storage (paints, detergents, pesticide, chlorine tablets or liquid chlorine)	Leak/spill/fire	Ground water/Air pollution	2	2	3	2	2	48	No significance

A/C maintenance	CFC release to atmosphere	Ozone depletion/Global warming	1	1	3	2	1	6	No significance
Decommission phase									
Dismantling of buildings, installed facilities	Noise, waste generation, potential leakage	Noise, land pollution	1	1	3	2	2	12	No significance
Rehabilitation of project site	Vegetation disturbance/Land deformation: soil erosion, drainage problems/Restoration of site	Land/water pollution/	2	1	3	2	1	6	No significance
Safety and occupational hazards	Cuts and amputations, Thermal burns/trips, slip and falls/ Crushing injury from material handling and falling objects/ Nuisance/ Respiratory problems/ Headache and sickness	Injury/Mortality	2	2	1	2	2	16	No significance
Socio-economic impacts	Loss of income, reduced ability to support dependants, loss of quality of life, loss of benefits i.e. medical cover, insurance etc…	Potential socio-economic impacts	2	1	3	2	2	24	No significance
Housekeeping	Waste generation	Land pollution	1	1	3	2	2	12	No significance

9. Institutional Requirements and Environmental Management and Monitoring Plan

The implementation of the project will be managed by Sanctum Inle Resort Hotel. A Health, Safety and Environment (HSE) Coordinator is assigned for the project monitoring and coordinating purposes. HSE coordinator will be responsible for implementation and monitoring of the environmental management and monitoring plan as well as coordination with local authorities and the nearby communities. He/she shall work closely with the contractor during the construction, operation and abandonment phase and will be the first contact on the ground directly for Sanctum Inle Resort Hotel. He/she shall receive all complaints and grievances arising in the course of the implementation of the EMP.

9.1 The Environmental Management Plan

The environmental management plan (EMP) that was prepared for the proposed project was the basis for determining the anticipated impacts, monitoring requirements, and development of mitigation measures with respect to the following stages:

(i) Construction,
(ii) Operation, and
(iii) Decommissioning phase.

Parameter

During operation phase, the effluent should be monitored twice a year by comparing with *National Environmental Quality (Emission) Guideline* values including following parameters.

Table 15: Parameter for Environmental Quality

Parameter	Unit	NEQG Value
Biological Oxygen Demand (5-day) (BOD_5)	mg/l	50
Chemical Oxygen Demand (COD)	mg/l	250
Oil and Grease	mg/l	10
pH	mg/l	6-9
Total coliform bacteria	100 ml	400
Total Nitrogen	mg/l	10
Total Phosphorus	mg/l	2
Total Suspended Solid	mg/l	50

Table 16: Monitoring Plan for Environmental Quality

No.	Environmental Concerns	Parameters	Frequency
1	Water quality	As Mentioned as above table	Twice every year
2	Ambient air quality	SO_2, NO_2	Annually
3	Occupational Health and Safety	PPEs and outfit for workers	Annual

Detailed, site-specific mitigation measures and monitoring plans are developed and will be implemented during the project implementation phase. The Detailed EMP is as follows;

Table 17: Environmental Management Plan

Project / Activity Phase (Potential Environmental Impact)	Objectives	Mitigating & Enhancement Measures	Estimated Cost of Proposed Measures (USD)	Responsible Person / Unit
Construction Phase				
Change in land use extent	To ensure no major change in existing land use	▪ Conserve trees and plant more on completion ▪ Ensure compliant with existing planning policy	-	Sanctum Inle Resort /Contractor
Loss of terrestrial habitat and biodiversity	To protect endemic species of wildlife sanctuary and their habitats	▪ Retain and restore as much of the original and natural forestedcondition of the site. ▪ Site clearance should be carried out in a manner that retains the large trees while thebuilding footprints are pegged out. ▪ Construction of the internal roads and placement of the building footprints should be carriedout after identifying and locating all the mature and ecologically valuable trees (usingqualified personnel) and aligning the roads and building footprints as much as possible soas to save these trees. Trees and shrubs contained within the footprints that are amenableto transplanting should be identified and removed to the nursery. ▪ Where possible bird feeding trees	-	Sanctum Inle Resort /Contractor

		should be retained and used in the landscaping of theresort property ▪ Trees to be protected and left in place should be clearly marked, individually numbered,identified on the site plan and encircled by a sturdy fence prior to the commencement ofconstruction. ▪ The landscape plan should be prepared prior to commencement of site clearance activitiesand be subject to careful review and assessment. ▪ All construction workers and persons on site must be given specific instructions not to harmsnakes but allow the animals to retreat into the nearby area. ▪ All construction contractors should be exposed to the environmental management plan andsensitized to the environmental issues.		
Soil disturbance/erosion	To lessen soil disturbance and prevent soil erosion due to construction activities	▪ Control earthworks and compact loose soils ▪ Install drainage structure properly ▪ Landscaping on project completion ▪ Control and mange excavation activities ▪ Control activities during rainy conditions ▪ Provide soil erosion control and conservation structures/means where necessary ▪ To the greatest extent possible, phase site clearance so as to minimize the	No extra cost	Sanctum Inle Resort /Contractor

		area of exposedsoil at any given time. ▪ Re-cover exposed soils with grass and other appropriate species as soon as possible. ▪ Temporarily bund exposed soil and redirect flows from heavy runoff areas that threaten to ▪ erode or result in substantial surface runoff to adjacent Inle lake waters ▪ Monitor areas of exposed soil during periods of heavy rainfall throughout the construction ▪ phase of the project		
Traffic	To reduce traffic jam and accidents	▪ Provide adequate parking and driveways ▪ Control and management of traffic through enforcement of speed limits ▪ Provide bill boards at the site/entrance to notify motorists about the development	No extra cost	Sanctum Inle Resort /Contractor
Noise	To ensure cumulative noise impacts are acceptable	▪ Construction activities that will generate disturbing sounds should be restricted to normalworking hours. ▪ Local residents should be given notice of intended noisy activities so as to reduce thedegree of annoyances. ▪ Workers operating equipment that generates noise should be equipped with noise protection gear. Workers operating equipment generating noise levels greater than 80 dBA continuously for 8 hours or more should use earmuffs. Workers experiencing prolonged noise levels of 70 – 80 dBA should wear earplugs.	5000	Contractor

Air Pollution (nuisance dust)	To minimize dust effectively and avoid complaint due to the air borne particulate matter release to the atmosphere	▪ Water during the construction phase of excavated areas during dry conditions ▪ Control speed and operation of construction vehicles ▪ Prohibit idling of vehicles ▪ Ensure sound condition of construction machinery and equipment ▪ Workers on the site should be issued with dust masks during dry and windy conditions.	2000	Contractor
Material transportation	To reduce dust/noise/waste generation and avoid spillage during transportation	▪ All fine earth materials must be enclosed during transportation to the site to prevent spillageand dusting. Trucks used for that purpose should be fitted with tailgates that close properlyand with tarpaulins to cover the materials. The cleanup of spilled earth and constructionmaterial on the main roads should be the responsibility of the Contractor and should bedone in a timely manner (say within 2 hours) so as not to inconvenience or endanger otherroad users. These requirements should be included as clauses within the contracts madewith relevant sub-contractors. ▪ The transportation of lubricants and fuel to the construction site should only be done in theappropriate vehicles and containers, i.e. fuel tankers and sealed drums. ▪ As far as possible, transport of	No extra cost	Contractor/ Sanctum Inle Resort

		construction materials should be scheduled for off-peaktraffic hours (to avoid other hoteliers' construction works). This will reduce the risk of traffic congestion and of road accidents on theaccess roads to the site. ▪ Appropriate traffic warning signs, informing road users of a construction site entrance ahead and instructing them to reduce speed, should be placed along the main road in the vicinity ofthe entrance to the Sanctum Resort Hotel property ▪ Flagmen should be employed to control traffic and assist construction vehicles as theyattempt to enter and exit the project site.		
Material storage	To ensure proper storage of material and avoid accidental spillage	▪ The stockpiling of construction materials should be properly controlled and managed. Finegrainedmaterials (sand, marl, etc.) should be stockpiled away from surface drainagechannels and features. ▪ Low berms should be placed around the piles and/or tarpaulin used to cover open piles ofstored materials to prevent them from being washed away duringrainfall ▪ Safe storage areas should be identified and retaining structures put in place prior to thearrival and placement of material. ▪ Hazardous chemicals (e.g. fuels)	No extra cost	Contractor/ Sanctum Inle Resort

		should be properly stored in appropriate containers andthese should be safely locked away. Conspicuous warning signs (e.g. 'No Smoking') shouldalso be posted around hazardous waste storage and handling facilities.		
Construction waste disposal	To ensure adequate disposal options for all kinds of construction waste including glass, metal, wood, cement residues, plastic, paper based wastes, oil spills etc.	▪ Waste collection, segregation and disposal should be properly managed and contact to Nyaungshwe Township Municipality for final disposal. ▪ Special attention should be given to minimizing and reducing the quantities of solid wasteproduced during site preparation and construction. To reduce organic waste, softervegetation may be composted onsite and used for soil amendment during landscaping. ▪ Reusable inorganic waste (e.g. excavated soil) should be stockpiled away from drainagefeatures and used for in filling where necessary. ▪ Unusable construction waste, such as damaged pipes, formwork and other constructionmaterial, must be disposed of atNyaungshwe Township Municipality dumpsite.	5000	Contractor
Sewage and litter management	To prevent soil/water contamination due to grey water discharge and overload or spillage of temporary septic tanks	▪ Install proper sewage treatment plant ▪ Proper solid waste receptacles and storage containers should be provided in sufficientnumbers, particularly for the disposal of lunch boxes and drinking bottles, so as to prevent	5000	Sanctum Inle Resort

		littering ofthe site ▪ Arrangements should be made for the regular collection of litter and for its disposal only atthe dump site. ▪ No discharge of sewage sludge to Inle lake		
Accident/ Injury/ Health Hazard	To minimize potential accidents/injuries and disease	▪ Proper personal protective equipment i.e. safety shoes, helmet, goggles, respiratory equipment and gloves shall be used at all times on site ▪ Use barriers and guards as necessary to protect employees from physical hazards, ▪ Signage danger warning or CAUTION will be put at strategic places; ▪ Development of occupational safety and health guidance plans ▪ Provide first aid kits and contact points in case of injury and accidents ▪ Form a safety and health committee to coordinate safety and health issues at workplace ▪ Provide regular safety awareness talks and trainings	5000/yr	Sanctum Inle Resort
Replanting and landscaping	To ensure plant and trees are maintained and restored	▪ Retain and restore as much of the original and natural forestedcondition of the site. ▪ Site clearance should be carried out in a manner that retains the large trees while thebuilding footprints are pegged out. ▪ Construction of the internal roads and placement of the building footprints should be carriedout afteridentifying	No extra cost	Sanctum Inle Resort

		and locating all the mature and ecologically valuable trees (usingqualified personnel) and aligning the roads and building footprints as much as possible soas to save these trees. Trees and shrubs contained within the footprints that are amenableto transplanting should be identified and removed to the nursery. ▪ Where possible bird feeding trees should be retained and used in the landscaping of theresort property ▪ Trees to be protected and left in place should be clearly marked, individually numbered,identified on the site plan and encircled by a sturdy fence prior to the commencement ofconstruction. ▪ The landscape plan should be prepared prior to commencement of site clearance activitiesand be subject to careful review and assessment. ▪ All construction workers and persons on site must be given specific instructions not to harmsnakes but allow the animals to retreat into the nearby area ▪ All construction contractors should be exposed to the environmental management plan andsensitized to the environmental issues.		
Employment/income generation	To ensure local people get employed and increase livelihood status.	▪ N/A		

Operation Phase				
Employment	To ensure local people get employed and increase their livelihood status	▪ N/A		
Water supply	To ensure adequate water supply	▪ Provide adequate water storage facilities to ensure adequate supplies for thedevelopment.	No extra cost	Sanctum Inle Resort
Depletion of water resources	To minimize water consumption	▪ Install water meter for control of water use. ▪ Install water-saving equipment, including ultra-low-flush toilets, spray nozzles, urinals, and low-flow showerheads	3000/yr	Sanctum Inle Resort
Energy Consumption saving (Electricity, Diesel, Gasoline etc…)	To save energy consumed by the resort	▪ Regular servicing of vehicles, boats and machinery ▪ Switch off idle vehicles and machinery ▪ Use efficient energy consuming equipments and energy saving bulbs ▪ Sub-meters and real-time energy monitoring equipment, timers, photoelectric cells,thermostats, etc. should be installed throughout the Sanctum Inle resort facilities. ▪ Install translucent shades and fluorescent lighting. ▪ Pipe insulation, tank lagging (not asbestos!) and heat recovery systems should be installedwherever it is practical to do so.	4000/yr	Sanctum Inle Resort
Electricity generation by stand-by generator	To reduce noise impact produced by generator and avoid accidental spillage	▪ The placement of the power generators on the less populated side of the project site will remove the source of noise and vibration from	No extra cost	Sanctum Inle Resort

		the vicinity of the hotels. ▪ The fuel storage facilities will comply with suppliers' specifications for contained storage.		
Accident/ Injury/ Health Hazard	To minimize potential accidents/injuries and disease	▪ Proper personal protective equipment i.e. safety shoes, helmet, goggles, respiratory equipment and gloves shall be used at all times on site ▪ Use barriers and guards as necessary to protect employees from physical hazards, ▪ Signage danger warning or CAUTION will be put at strategic places; ▪ Development of occupational safety and health guidance plans ▪ Provide first aid kits and contact points in case of injury and accidents ▪ Form a safety and health committee to coordinate safety and health issues at workplace ▪ Provide regular safety awareness talks and trainings	5000/yr	Sanctum Inle Resort
Sewage treatment and disposal	To prevent soil/water contamination due to overload or spillage of septic tank system	▪ Design of sewage system should be sound in terms of adequacy, gradient materials and standards and should connect to the proposed wastewater treatment system and should be monitored regularly to avoid leakages and spills ▪ Construction of adequate and standard wastewater treatment plant system (e.g. Bio-Tank) ▪ Regular emptying of the septic tank ▪ Contact Nyaungshwe Township	5000/yr	Sanctum Inle Resort

		Municipality for final disposal of sewage sludge. ▪ Undertake regular monitoring and testing of effluent to ensure compliance with national standards and regulations		
Solid waste disposal	To minimize generation of different types of waste	▪ Proper segregation in collection of waste. ▪ Practice recycling of waste. ▪ Implement composting of waste especially garden refuse and provide food wastes to nearby villages for animal fodder ▪ Contact Nyaungshwe Township Municipality for proper disposal.	1000	Sanctum Inle Resort
Ground water contamination	To avoid ground water contamination due to accidental spillage of diesel	▪ Install oil traps on drainage ▪ Use drip trays to collect oil leakage ▪ Servicing of machinery and equipment to be done at a designated place with a paved surface and oil interceptors	2000/yr	Sanctum Inle Resort
A/C maintenance	Ozone depletion/Global warming	▪ Construct the buildings with high ceiling, large windows, sidewalks and verandas for proper natural air circulation ▪ Provide environmental friendly R410A typed A/C	2000/yr	Sanctum Inle Resort
Fire	To prevent from incidents of fire	▪ Ensure sufficient emergency firefighting tools (fire alarm, fire extinguishers, fire hoses, standby water tanks, water pumps, and first aid boxes) are installed and standby at all corners of resort and regular check and maintenance. ▪ Training on fire fighting, evacuation	5000/yr	Sanctum Inle Resort

		and first aid. Organize a volunteer firefighting team with hotelemployees and get consultation by Nyaungshwe Township fire station. ▪ Keep enough spaces for sidewalks, escape routes, emergency exits, assembly area with regular inspection and maintenance. Proper maintenance of machines, wires and electrical appliances.		
Food and Portable water Quality	To ensure that food and water provided by resort is hygienic and standard quality	▪ Install additional water purification system at kitchen. Use only purified drinking water for all cooking and food preparing. ▪ Do not use banned substances, ingredients or chemicals in food making. ▪ Compliance with food hygiene and water-quality standards of government authorities and international standards of food-handling, preparation and storage and water-quality. Supply of safe and hygiene foods, drinks and water. Regular testing of food and water according to World Health Organization (WHO) standards as a minimum	3,000/yr.	Sanctum Inle Resort
Emission of noise and CO2 from vehicle movements	To minimize emission of CO2/noise	▪ Noise survey Signage Use of PPEs and Proper maintenance of vehicles.	No extra cost	Sanctum Inle Resort

Decommissioning Phase				
Waste disposal due to dismantling activities	To minimize generation of scraps and other debris on sites	▪ Use of an integrated solid waste management system i.e. through a hierarchy of options: ▪ Wastes generated as a result of facility decommissioning activities will be characterized in compliance with standard waste management procedures. ▪ All buildings, machinery, equipment, structures and tools that will not be used for other purposes should be removed and recycled/ reused say in other projects ▪ Where recycling/reuse of the machinery, equipment, implements, structures, tools and other waste is not possible, the materials should be disposed to approved dumpsites ▪ To contact Nyaungshwe Township Municipality for final waste disposal	3000	Sanctum Inle Resort Hotel/Contractor
Ground water pollution due to dismantling activities	To prevent potential pollution	▪ procedures for finding contaminated material during excavations will be established ▪ covering and damping of excavated materials ▪ appropriate storage of contaminated material if found. ▪ Ground contamination and storm water contamination will be limited on site by proper handling and storage of materials and equipment.	2000	Sanctum Inle Resort Hotel/Contractor
Rehabilitation of project site	To ensure less vegetation disturbance, land deformation and restoration of site	▪ Implement an appropriate re-vegetation program to restore the site to its original status	-	Sanctum Inle Resort Hotel/Contractor

		▪ During the re-vegetation period, appropriate surface water run off controls will be taken to prevent surface erosion; ▪ Monitoring and inspection of the area for indications of erosion will be conducted and appropriate measures taken to correct any occurrences; ▪ Fencing and signs restricting access will be posted to minimize disturbance to newly-vegetated areas; ▪ Scoop out any contaminated soils and replace with uncontaminated soil from another source Comprehensive Landscaping		
Health and safety impacts	To avoid potential occupational hazards	▪ The safety of the workers should surpass as a priority of all other objectives in the decommissioning project ▪ Provide appropriate Personal Protective Equipment (PPE) as necessary. ▪ Staircases and other hazardous areas shall be suitably protected say using strong rails to avoid occurrence of incidences ▪ Provide emergency health care and sanitation to employees. ▪ Ensure sufficient emergency firefighting tools (fire extinguishers, hooks, buckets and water tanks) are standby at demolishing site	10000	Sanctum Inle Resort Hotel/Contractor
Socio-economic impacts	To prevent loss of income, quality of life and benefits such as medical, insurance cover etc…	▪ Assist with re-employment and job seeking of the involved workforce. ▪ Compensate and suitably recommend	-	Sanctum Inle Resort Hotel

		the workers to help in seeking opportunities elsewhere. ▪ Offer advice and counseling on issues such as financial matters.		

9.2.Environmental Monitoring Plan

The detailed environmental monitoring plan is as follows;

Table 18: Environmental Monitoring Plan

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
Health, Safety and Environment (HSE) issues	• Appoint one Health, Safety and Environment (HSE) Coordinator.	permanent	3000 per month	Sanctum Inle Resort Hotel
Review of EMP	• Review EMP to cover any unidentified impacts.	Monthly	No extra cost	HSE Coordinator
Construction Phase				
Traffic	▪ Provide adequate parking and driveways ▪ Control and management of traffic through enforcement of speed limits ▪ Provide bill boards at the site/entrance to notify motorists about the development	Daily check and control during construction	No extra cost	Contractors/HSE Coordinator
Waste Management	▪ Design of sewerage system should be sound in terms of adequacy, gradient materials and standards and should connect to the proposed wastewater treatment system and should be monitored regularly to avoid leakages and spills ▪ Engage the services of Nyaungshwe Township Municipality for disposal of solid waste ▪ Construction of adequate and standard wastewater treatment plant/system	Daily check and control during construction	No extra cost	Contractor/HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	▪ Full compliance with the law and all regulations			
Soil disturbance	▪ Control earthworks &compact loose soils ▪ Install drainage structures properly ▪ Landscaping on project completion ▪ Control and manage excavation activities ▪ Control activities especially during rainy conditions ▪ Provide soil erosion control and conservation structures/means where necessary. ▪ Ensure standard appropriate practices on the provided gardens	Daily check and control during construction	No extra cost	Contractor/HSE Coordinator
Change in land use extent	▪ Conserve trees and plant more on completion ▪ ensure compliance with existing planning policy	Daily check and control	No extra cost	Contractor/HSE Coordinator
Changes in hydrology/ impended drainage	▪ Proper installation of drainage structures ▪ Install cascades to break the impact of water flowing in the drains ▪ Ensure efficiency of drainage structures through proper design and maintenance ▪ Provide gratings to the drainage channels	Field observation	No extra cost	Contractor/HSE Coordinator
Air pollution	▪ Enclose the site with dust-proof net during construction ▪ Water should be sprayed during the construction phase of excavated areas during dry conditions ▪ Control speed and operation of construction vehicles ▪ Prohibit idling of vehicles ▪ Ensure sound condition of construction machinery and equipment ▪ Engage sensitive construction workers. ▪ Measure air quality	Air quality measurement – once a year Field observation once a month	500 per year	Contractor/HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
Noise pollution	▪ Erect suitable barriers to control noise ▪ Sensitize drivers of construction machinery on effects of noise ▪ Maintain plant equipment (if present) ▪ Construction activities to be restricted to daytime ▪ Workers in the vicinity of or involved in high-level noise to wear safety & protective gear. ▪ Listening to local communities on their perception and complaints ▪ Measure noise quality	Noise level measurement – twice a year Field observation – once a month	1000 per year	Contractor/HSE Coordinator
Water resources	▪ Management of water usage. Avoid unnecessary wastage ▪ Recycling of water at the construction phase where possible	Daily check and control during construction	No extra cost	
Fuel, Oil, fats & greases pollution	▪ Proper storage, handling and disposal of new oil and used oil wastes ▪ Maintain plant and equipment to avoid leaks ▪ Maintenance of construction vehicles should be carried out in the contractors yard (off the site) ▪ Provide oil interceptors along the drains leading from fuel storage station& parking ▪ Provide a grease trap for all wastewater from kitchen ▪ Regular scheming of the oil interceptor& grease trap	Daily check and control during construction	No extra cost	Contractor/HSE Coordinator
Health and Safety	▪ Regular field checks to make sure minimal use of update and good vehicles, machines, equipment with proper maintenance ▪ Strict control to avoid use of toxic and hazardous substance in construction. ▪ Make sure that appropriate Personal Protective Equipment (PPE) are provided as necessary ▪ Make sure that emergency health care and sanitation is provided to employees	Field observation – once a month	1,000 per year	HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	▪ Ensure sufficient emergency firefighting tools (fire extinguishers, hooks, buckets and water tanks) are standby at construction site			
Operation Phase				
Vegetation	▪ Landscaping and planting vegetation in all disturbed areas ▪ Planting and grassing should be done just before the rains or irrigated on dry spells.	Inspection: Monthly	No extra cost	HSE Coordinator
Sewage disposal	▪ Ensure that standard septic type/ bio-tanks is used ▪ Regular inspection of Waste water Treatment Plant and Septic Tanks/ Bio-tanks to prevent overload or spillage ▪ Make sure that final disposal of sewage& sludge follow Nyaungshwe Township Municipalityguidelines	Monthly	50 per trip (contact with NyaungshweTownship Municipality)	HSE Coordinator
Energy consumption	▪ Regular servicing of vehicles and machinery Switch off idle vehicles and machinery Use efficient energy consuming equipments and energy saving bulbs	Continuous	No extra cost	Contractor
Solid waste disposal	▪ Make sure recyclable and reusable wastes are sent to appropriate facilities or places for proper recycling and reuse. ▪ Make sure hotel staffs and guests follow the waste segregation system.	Daily	25 per trip (contact with Nyaungshwe Township Municipality)	HSE Coordinator
Ground water contamination due to spillage of oil and lubricants	▪ Ensure minimum use and proper maintenance of vehicles, machines and equipment ▪ Regular inspection to make sure transport, storage and handling of oil and lubricants are carried out under standard procedure ▪ Make sure spill response kits are standby at storage area ▪ Inspect if secondary containments are installed properly and oil separators are provided ▪ Ensure servicing of machinery and equipment to be	Monthly check	No extra cost	HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	done at a designated place with a paved surface and oil interceptors			
	▪ Make sure maintenance of vehicles/boats are done regularly.	monthly	No extra cost	HSE Coordinator
Safety	▪ Inspect and assured that measures for prevention of accidents and injuries are properly practiced such as insulation of electrical equipment, hand rails for ladders, anti-slip strips, swimming pool cautions, etc. ▪ Make sure proper PPE is provided as necessary and all employees get first aid training ▪ Ensure that vehicles, machines, equipment are in good conditions and with regular maintenance. ▪ Test emergency lights regularly and keep in proper working order ▪ Make sure that safety and emergency rescued procedures are practiced at swimming pool ▪ Keep battery-operated emergency lights in all guest rooms and useful locations in order to light aisles, halls, and stairways along evacuation routes. ▪ Review of existing safety plan by Resort Management Committee and HSE Coordinator and modify if necessary	Daily	No extra cost	HSE Coordinator
Fire safety and preparedness	▪ Install adequate and appropriate firefighting equipment as provided elsewhere in the report ▪ Conduct training on firefighting, evacuation and emergency response & conduct regular fire drills ▪ Adapt effective emergency response plan ▪ Maintain/service firefighting machinery regularly ▪ Provide emergency numbers at strategic points ▪ Provide emergency control switch	Drills: Quarterly Inspection: Monthly	No extra cost	HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	▪ Follow rules and procedures to make sure that aisles and exits are kept clear, are properly and clearly marked, and allow workers to quickly and safely leave the warehouse in an emergency. ▪ Enforce no smoking policy ▪ Have emergency evacuation procedures that require all employees to participate in drills. During a drill, employees should leave the building, go to an assigned location (assembly area) and remain there until a signal is given to return to the resort. The focus should be on orderly evacuation, rather than on speed. ▪ Hold at least one emergency evacuation drill every year during which all employees are evacuated within 3 minutes. ▪ Fire extinguishers should match the potential fire hazard and should be located near flammable liquids and near every strategic area. ▪ Fire extinguishers should have maintenance tags attached to them to indicate the date they were last checked and serviced. In addition, there should be a diagram that shows workers how to use fire extinguishers in the immediate area. ▪ Install two separate fire alarms: one that has a sound that only means “fire” and one for “general”. ▪ Alarms should have back-up battery or an uninterruptible power supply. ▪ Test alarms regularly and maintain in proper working order. ▪ In addition to the resort’s audible alarm, a visible fire alarm (such as a flashing light) should be installed.			
Health	▪ Provide Medical Checkup and vaccination for all employees.	Yearly	20 per head	HSE Coordinator

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	▪ Maintain a record of occupationalaccidents and diseases occurrences ▪ Review of existing health plan by management committee and HSE Coordinator. ▪ Modify if necessary.			
Security	▪ Ensure security guards and facilities are provided during the entire project cycle	Daily	No extra cost	
Decommissioning Phase				
Waste disposal due to dismantling activities	▪ Ensure the use of an integrated solid waste management system i.e. through a hierarchy of options: ▪ Make sure all buildings, machinery, equipment, structures and tools that will not be used for other purposes should be removed and recycled/ reused say in other projects ▪ Where recycling/reuse of the machinery, equipment, implements, structures, tools and other waste is not possible, the materials should be disposed to approved dumpsites. ▪ Make sure wastes are collected regularly and collection, segregation, storage and disposal of wastes are in accordance with NSTM procedure and guidelines	Daily check and control	No extra cost	HSE coordinator/Contractor
Water pollution due to dismantling activities	▪ Test the water quality of daily consumed water ▪ Field observation and counter measures to ensure minimal use of water ▪ Special care and cautions in transport, storage and handling of oil and lubricants ▪ Listen to employee and local communities' perception and complaints on water quality and respond/ react properly ▪ Covering and damping of excavated materials	Water quality test – once during demolishing Field observation – once a month	500 per year	Contractor

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
	▪ Appropriate storage of contaminated material if found. ▪ Ground contamination and storm water contamination will be limited on site by proper handling and storage of materials and equipment.			
Rehabilitation of project site	▪ Implement an appropriate re-vegetation programme to restore the site to its original status ▪ During the re-vegetation period, appropriate surface water run off controls will be taken to prevent surface erosion; ▪ Monitoring and inspection of the area for indications of erosion will be conducted and appropriate measures taken to correct any occurrences; ▪ Fencing and signs restricting access will be posted to minimize disturbance to newly-vegetated areas; ▪ Carry out soil tests foe contaminants & if need be scoop out any contaminated soils and replace with uncontaminated soil from another source Comprehensive Landscaping	Field observation	No extra cost	
Health and safety impacts	▪ The safety of the workers should surpass as a priority of all other objectives in the decommissioning project ▪ Strict control to avoid use of toxic and hazardous substance in demolishing ▪ Make sure that appropriate Personal Protective Equipment (PPE) are provided as necessary ▪ Make sure that emergency health care and sanitation is provided to employees ▪ Ensure that safety measures have been effectively integrated and positioned in respective areas of the project to control and manage fire outbreaks ▪ Staircases and other hazardous areas shall be suitably protected say using strong rails to avoid occurrence of incidences	Field observation-once a month	1000 per year	Contractor

Environmental Concern	Management Activities	Frequency/Timing	Cost (USD)	Responsible Person / Unit
Socio-economic impacts	▪ Ensure assistance with re-employment and job seeking of the involved workforce. ▪ Make sure to compensate and suitably recommend the workers to help in seeking opportunities elsewhere. ▪ Offer advice and counseling on issues such as financial matters.	Field observation	No extra cost	Sanctum Inle Resort

9.3. Duty and Responsibilities of the Party responsible for the Implementation of EMP Team and HSE Team

The implementation of the project and EMP plan will be managed by Sanctum Inlay Resort Hotel. The HR Department will take responsibility as a HSE Coordinator for Health, Safety and Environment (HSE) Team. The team will perform the duties under the guidelines and supervision of the General Manager of Sanctum Inlay Resort Hotel. Trainings will also be provided for HSE team.

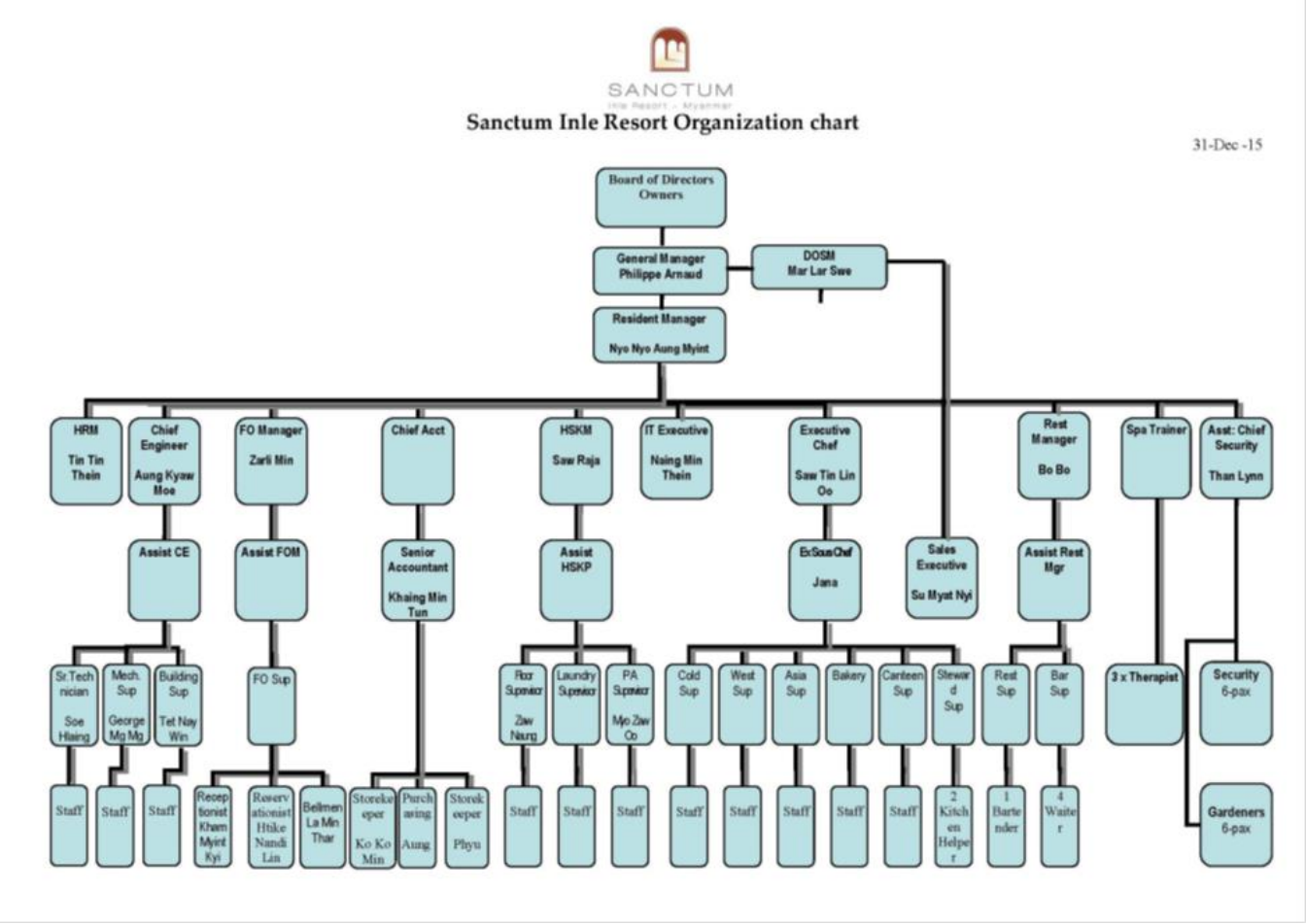


Fig 14: Organization Chart of Sanctum Inle Resort Hotel

AppleTree Hospitality

JOB DESCRIPTION

SANCTUM Inle Resort - Myanmar

Job Title & Level	Health & Safety Officer
Department	Security
Reports to (Title)	General Manager
Directly Supervises	Assistant Chief of Security, Security Supervisors, Security Guards
Date	June 2015

JOB PURPOSE

The Health & Safety Officer shall be responsible in all effective safety, develop and maintain a pro-active loss prevention program designed to ensure a safe and secure environment for resort guests and associates.
The Health & Safety Officer will be required to conduct their duties in a courteous, safe and efficient manner, in accordance with the hotel's policies and procedures, ensuring that a high level of safety is maintained.

PERFORMANCE REQUIREMENTS

Technical	Security, First Aid. Fire Fighting, Food & personal Hygiene
Behavioral	• Exhibit and encourage high performance standards for themselves and others • Able to develop and maintain excellent credibility with coworkers and subordinates by demonstrating complete consistency between words and actions, in all aspects of behavior. • Effectively identify & anticipate guest needs & handle challenging situations with guests & staff diplomatically. • Exceeding guest expectations regarding both in quality and service. • Positively influence coworkers to accept & execute changes immediately and effectively. • Regularly keep manager up-to-date on relevant activities • Maintain a high level of output and quality. • Take action to ensure overall success of department. • Maintain an organised system to ensure that processes are getting completed on time.

JOB RESPONSIBILITIES

1.Risk Management

1. Review all the health and safety documents, such as OH&S management system manual, hazards, objectives and targets, legal requirement, training requirement and other documents.
2. Conducting management review with the station management to review station's health and safety performance.
3. Conducting OHS internal and external group to assess the resort's health and safety performance.
4. Use knowledge and skills to promote a positive health and safety environment in the workplace.
5. Assist to plan, implement, monitor and review protective and preventative safety measures.
6. To assist in monitoring the effectiveness of agreed Environmental Health and Safety programme, advise and assist management on safe working priorities and to recommend improvements in organization and work methods.
7. To assist in ensuring statutory compliance in reporting to external bodies.
8. To assist in the maintenance of up to date standardized records
9. To monitor, evaluate and act upon Environmental, Health and Safety conditions injurious to Health and Safety in his/her area and promote improvement by advice, education and enforcement of appropriate legislation.
10. To assist in the management of all relevant external EH&S providers that relate to staff welfare
11. Responsibility for the development and promotion of good Environmental, Health and Safety practice

through assisting in the preparation and issuing of EH&S policies, codes of practice, and safe working procedures.

12. To assist in the maintenance and update such information technology and systems as necessary for the effective management and operation of the Environmental, Health and Safety Programme
13. To plan and deliver appropriate and effective Environmental Health and Safety Education which promotes good Environmental Health and Safety Practice within the organization.
14. To advise and assist management in the assessment of staff development and training needs and the implementation of staff development and training programme.
15. To assist in the planning and implementation of in-service training for all staff.
16. To liaise with management and research and advise on resolutions for Environmental Health and Safety issues in line with legislation and best practice.
17. To advise on and assist in resolving Environmental Health and Safety issues, with appropriate research as required
18. To ensure the quality and output of resort is of the highest standard and co-operate with performance assessment and efficiency and effectiveness team.
19. To assist, where required, in the implementation and promotion of agreed changes in work practice.
20. Chair monthly Health, Safety & Security Committee meetings and enforce safety programs.
21. Organize and conduct departmental safety committee meetings. Attend and participate in other required meetings of the resort.
22. Develop, revise, and advise key personnel of emergency procedures.
23. Personally handle and investigate all serious cases of accidents in conjunction with Senior Management.
24. Coordinate and monitor for efficiency, all safety and security related programs for the overall resort, including lost and found processes, auditing of issuance of hotel keys and master keys, chemicals, CPR, and Fire Preparedness training, Manager on Duty schedules, evacuation drills, etc.
25. Assumes all responsibilities for all aspects of fire drills within the hotel including the training of staff.

2.Guest Satisfaction

1. Ensure that maximum security protection is given to the life and person of the resort's guests.
2. Ensure all guests are being treated in an efficient and courteous manner and that all standards are applied.
3. Assist guests in resort public areas whenever required.
4. Resolve customer complaints as appropriate to maintain a high level of customer satisfaction and quality.
5. Report on a regular basis to the General Manager / Manager on Duty.
6. Provide other duties and services as assigned by the General Manager / Senior Hotel Management.

3. Associate Satisfaction

1. Ensure that maximum security protection is given to the life and person of the associates of the resort.
2. Assign duties and schedules of safety staff, balancing needs of resort and productivity standards.
3. Ensure the timely completion of performance appraisals.
4. Give direction and be responsible for the implementation of departmental plans.
5. Operate the department within hotel's policies as they relate to the ethical codes, standards of good business practice and local laws and regulations.
6. Work with staff on all "special events" programs within the hotel.
7. To conduct daily briefing and periodic associate meetings.

4. Quality Assurance

1. Review daily reports from associates, issuing necessary orders to counter-act unsatisfactory or irregular situations and conditions.
2. Coordinate "walk throughs" of the resort with staff as needed for inspection purposes.
3. Regularly inspect all resort areas for security violations and recommend improvement measure.
4. Represent the hotel and attend meetings of the police / hotel Security Liaison Committee in discussing common problems and practices.
5. Provide other services as requested by General Manager.
6. Participate in courses relating to the Health & Safety field to remain current.

5.Training and Development

1. Manage the training and development of associates with an eye toward maximum associates' satisfaction, productivity and guest satisfaction.
2. Responsible for the selection, training and development of the associates within the Department.

3. Be well versed and knowledgeable of hotel's Fire and Evacuation procedures as well as health and safety requirements in the workplace. Ensure employees are aware of their duty of care as determined by legislation and that they maintain complete familiarity.
4. Uphold Apple Tree's company culture by demonstrating hotel's standards at all times to guests and fellow associates.
5. Personally ensure compliance with all relevant Workplace Health & Safety, Occupational Health & Safety legislation and related hotel policies.
6. Ensure all training is carried out as planned.
7. Train new associates according to all corporate specifications, including documentation.
8. Monitor staff activity and coach subordinate performance.
9. To provide training, instructing and guiding of all Security Associates' regularly in that each associate may carry out or discharge their duties efficiently at all times.
10. Arrange regular First Aid courses for security associates & other key department associates.
11. Administer the employment and termination of all security department personnel in conjunction with the Human Resources Department.

To summarise, it is not the intention of this Job Description to limit the scope or responsibilities of the above-mentioned, but to highlight the most important aspects of your position. It is essential that all associates are committed to their jobs and the success of the enterprise, and maintain a willingness to accept total flexibility of jobs and duties throughout the hotel.

TRAINING PROVIDED BY DEPARTMENT
On the Job Training.

JOB SPECIFICATION	
Educational Level	Law enforcement or security related background considered.
Language Proficiency	Must be able to speak, read, write and understand the primary language(s) used in the workplace and English.
Skills	• Requires good communication skills, both verbal and written. • Most tasks are performed in a team environment with the employee acting as a team leader. There is minimal direct supervision. • Possess basic computer skills. • Extensive knowledge of Health & Safety of resort and facilities.
Experience	Supervisory/management in Health & Safety is preferred. Working knowledge of constitutional, statutory and civil law.
Certificates Required	First Aid, Security, Firefighting, Food & personal Hygiene

Job Description Reviewed & Approved (Name and Signature – DH)	**Reviewed & Approved** (Name and Signature - HR)	**Reviewed & Approved by** (Name and Signature - GM)

Date Discussed	**Agreed by** (Name and Signature)	**Supervised by** (Name and Signature)

The below is to ensure that a clear discussion is held between the Manager and Associate and the job role clearly explained.

cc: Personnel File

Fig 15: Job Description of HES Team

SANCTUM
Inle Resort - Myanmar

Date: 30 December 2015

Subject: Commitment to follow Environmental Conservation Law, Rules, Standards and Mitigation Measures Stated in the Environmental Management Plan (EMP) of the Initial Environmental Examination (IEE) Report

With regard to the above matter, we, Sanctum Inle Resort Company Limited has established the local investment company for the hotel and resort services in Inle Lake, Shan State, Northen part of Myanmar.

Our company strongly commits that all our operations will be performed in an environmentally friendly manner by following Myanmar Environmental Conservation Law 2012, Myanmar Environmental Conservation Rules 2014, and relevant environmental standards through successful implementation of mitigation measures stated in the Environmental Management Plan (EMP) of the Initial Environmental Examination (IEE) Report.

Sincerely yours,

Su Su Tin
Managing Director
Sanctum Inle Resort Co., Ltd.

MAING THAUK VILLAGE, INLE LAKE
NYAUNG SHWE, SHAN STATE, MYANMAR
NO. 147, SHWEGONEDAING STREET,
WEST SHWEGONEDAING WARD,
BAHAN TOWNSHIP, YANGON, MYANMAR

WWW.SANCTUM-INLE-RESORT.COM

Fig 16: Commitment Letter for Environmental Management Plan by Sanctum Inle Resort Hotel

10.Corporate Social Responsibility Plan

Along with EMP, Corporate Social Responsibility (CSR) Plan is also formulated to be implemented by Sanctum Inle Resort Co., Ltd during the 50-years operation period. The Sanctum Inle Resort Co.' Ltd strongly believed that a hotel/resort and tourism business can achieve sustainable profits, only by minimizing environmental footprint caused by itself and sharing the benefits with employees and local community. The aim of CSR is to ensure social well-being of the employees and their family members, better living condition and transparent and friendly relationship with the communities nearby. Sanctum Inle Resort Co.' Ltd has allocated 2% of its net profit for CSR plan.

Table 19: Corporate Social Responsibility Plan

No	Activity	Responsibility	Timing	Estimated Budget (USD per annum)
1.	Provide free emergency medical care. Annual medical checkup and vaccination for all employees	HSE Coordinator/ Sanctum Inle Resort	Annually	USD 2,000
2.	Social and environmental assistance to nearest villages, Maingthauk Village and Pay-pin-inn village of Nyaungshwe Township (provide teaching materials to school, basic medicines to clinic, conduct environmental education program, tree planting program, contribute for local pagoda festival)	HSE Coordinator/ Sanctum Inle Resort	Annually	USD 1,500
3.	Cooperation with nearby hotels, businesses and concerned authorities for local environmental safety and sanitation (contribution to Nyaungshwe Township Municipality for collective sewage/waste water disposed system, cleaning and maintenance of drainages, roads, power lines)	HSE Coordinator/ Sanctum Inle Resort	Annually	USD 1,500
	Contributions to local infrastructure development (for better development of power supply, water supply, roads, health and sanitation facilities in the area in cooperation with nearby hotels, businesses and concerned authorities)	HSE Coordinator/ Sanctum Inle Resort	Annually	USD 1,000
	Total			USD 6, 000

11.Public Consultation and Information Disclosure

In order to ensure the public involvement, the following procedures were followed during IEE report preparation. IEE team also carried out interaction with local communities and related stakeholders during field survey to collect the public concerns and suggestions. The casual meeting is held at different stakeholders especially the neighbors of proposed project site.

Subject: Stakeholder Meeting, Initial Environmental Examination for Inle Hotels Groups

Venue: MineThauk Monastery, NyaungShwe Township, Shan State

Date: 15th March, 2015

Time: 10:00 am – 1:00 pm

Attendees: 128 people

Meeting Agenda

1. Open the meeting
2. Opening Speech
3. Presenting the objectives of performing the Environmental Impact Assessment
4. Presenting the hotel operations
5. Presenting the initial environmental examination of hotels by E Guard Environmental Services Co., Ltd
6. Providing gifts and donations
7. Questions and Answers by participants
8. Closing speech
9. Close the meeting

Opening speech by U KyawZawHla, Township General Administration Officer, NyaungShwe Township, General Administration Department: First of all, I would like to greet to those who attends today stakeholder meeting for the Initial Environmental Examination of Inle Hotel groups like H.E Parliament representatives, officials from various departments, personnel from Political parties, NGO and INGO members, Civil Societies, Township and District Administration officers, Communities from the project areas, invited Journalists and reporters and participants may have a health of body and peace of mind.

Distinguished guests and participants!

The purpose of today meeting is to inform the concerned people about the potential environment and social impacts, the mitigation measures and the monitoring programs of the hotel projects which are already completed and are being under construction.

With regard to the presentation presented in this meeting, suggestions and opinions from the participants will also be taken. I would like to explain a little bit about the Initial Environmental Examination (IEE) process. IEE is the mandatory process to be implemented so as to know the potential impacts related to the projects. In order to perform the nation's development, it is crucial to establish the international standard hotels for the development of hotel and tourism sector of the country. When constructing these hotels, we will have the benefits of the development of the nation, the employment opportunity for the local communities and the development of the tourism industry. In addition, environment could be impacted because of these projects activities. These projects are to be constructed in accordance with the international regulations and the existing environmental conservation laws which have been promulgated by the government in order to consider potential environmental impact in the business and investment.

Therefore, I would like to request all the participants to give constructive suggestions so as to minimize the environmental impacts when performing nation's development works.

Thank you.

Explaining the objectives of conducting environmental impact assessment by DawSein Ma Ma, Director Environmental Conservation Department, Taunggyi: I would like to present the environmental policy, strategies, laws and procedures regarding the Initial Environmental Examination of 12 hotels in today meeting organized by third party. If we conduct a business, there is a prerequisite activity to be conducted by a business person. We must follow the existing law. If not, action will be taken. According to article 14, Environmental Conservation Law, a person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards. When performing development for the country, it is necessary to minimize the environment and social impact as low as possible. The monitoring programs are to be performed in line with article 15 and to follow up the action in accordance with the instructions provided in article 16 of environmental conservation law.

In order to monitor, control, manage, reduce or eliminate environmental pollution, on-site facility of controlling equipment shall be installed or used. According to article 54 of Environmental Conservation Rule, the business would carry out the environmental impact assessment for his plan, business or activity and submit the environmental impact assessment report to the Ministry. In accordance with article 55, the environmental management plan is to be submitted to the Ministry and the environmental impact assessment is to be conducted by a qualified third person or organization accepted by the Ministry. In article 57, the Ministry shall determine and decide, after making scrutiny, whether or not the third party person or organization is suitable to carry out the environmental impact assessment. The initial environmental examination shall include the detailed description of the project, details of the project proponent, Term and conditions of the third party organization who will conduct the environmental impact assessment, description

of the project environment, the potential environmental impacts, public consultation and information disclosure, the mitigation measures, conclusion of initial environmental examination, the environmental management plan (EMP), resource and responsible personnel to conduct EMP and funding for this environmental management plan implementation,. I will explain in details the environmental impact assessment process.

Presenting the implementation works of hotel projects by U MyoThet Tin, Consultant (Social) of E Guard Environmental Services Co., Ltd: He presented the location, area and the facts about the project.

Explanation of Initial Environmental Examination by U Tin Aung Moe, Director E Guard Environmental Services Co., Ltd: He explained about the location, area and the plants and animal species of Inle Lake Wildlife Sanctuary. He discussed in details about the adverse and positive environmental impacts during construction, operation and abandonment phase of 12 hotels projects and the employment opportunities in order to fulfill the requirement of the staffs of 12 hotels. He also mentioned the air quality, noise, water quality, pollution, health and safety of guests and employees, socio-economics, sewage system due to wastewater disposal. Monitoring and mitigation measures to minimize the environmental impacts are also highlighted. He explained about the biodiversity management plan developed for the hotel projects. In order to appear the responsible eco-tourism society in and around of Inle lake hotels, he highlighted the need of consensus effort by the 12 hotels in the environmental conservation.

Questions and Answers by the participants:

(Q) **U Win Myint, Minister, Shan state provincial government:** When did the land lease agreement for hotel construction sign and how much is the rate? Regarding the environment, I know that the duration is between 30 and 50 years. Therefore 70 years is too long. It needs to be reevaluated. The date of contract should be informed to the local community in a transparent manner.

(A) **DawTheingi Win, Director, and Amata Hotel**: The contract has been signed with Forest Department at the registration office, NyaungShwe Township. According to the MIC regulation, the duration is 50 years. It is extendable up to 2 terms maximum. Each term has 10 years.

(A) **Daw Tin Tin Yee, Managing Director (ANN Heritage):** Our hotel has signed the contract since 2002. The condition of permit for 12 hotels is not the same and the year of contract as well. Permit which requires prior submission is granted only after going through several scrutiny and approvals made by the Ministry of Hotel and Tourism and MIC.

(Q**) U AungKyi Win, Provincial Parliament Representative, NyaungShwe Township**: There is neither Inle Lake authority nor Inle Lake protection law. Although 12 prohibitions rules are adopted and implemented, if the authority allows the area as a special economic development

region, there is no opportunity for the local people. Why do Hotels receive permission while local people are prohibited to extend land area? Local people should have this opportunity.

(A) **Daw Tin Tin Yee (Ann Heritage):** Hotel and Tourism Department reevaluated the situation and issued the permit due to the fact that accommodations are inadequate for the visitors. This may be because of the necessity of the state and the hotel and the tourism industry as well.

(Q)**One local residence:** We are glad that donations are provided by the hotels. As far as I know, local people are to be informed about the initial environmental examination of the project according to MIC regulation. Is there such program or not? Donation is just for the charity or for the community development? If it is for the community development, it is one time event during 50 years? E Guard said that existing trees are to be conserved and replanted. Where are the locations to conserve and replant those trees? How hotels will do to restore the damaged environment?

(A) **U Tin Aung Moe, Director, E Guard**: Information is not provided to local people due to the fact that these hotels received permissions very early. The present-day Hotels have to inform to the local people. In addition, environmental management plan are to be developed. There is a section in EMP mentioning to perform local development and national development. There is a Corporate Social Responsibility program in the EMP. Therefore, donations are not once for all events. There will be such event in the future. By doing landscaping in the areas where the hotel land is connected to the Inle Lake, the environment will be conserved one way or another.

(Q) **Suggestion from one local residence**: How can we observe the donations? For those hotels which have total 20 or 30 acres of land should implement community forestry (CF) plantation.

(A**) Daw Tin Tin Yee (Ann Heritage lodge):** If the authority provides the community forestry, we are ready to implement.

(A) **DawKhinHtwe Than, HR and Admin Manger (Pristine Lotus):** We have plans to coordinate with the organizations from neighboring villages. We have donated poles for floating land which worth 7 million kyats. It is still ongoing. For CSR programs, the monthly funds are spared to support the nearby villages. We have collaboration with Irrigation department for the floating land. We have planned to collect garbage to have a clean environment.

(A) **U AungKoKo, General Manger (Villa Inle):** Existing trees are maintained. You can come and check. Our hotel is constructed based on nature.

(Q) **U Win Naing, Pe Pin Kone Village, MaingThuak Village**: There are frequent disputes on land. Compensation is settled with Aureum Palace hotel. It is a mess that floating lands are abandoned. How can we solve it? I would like to know how Asia Green is cleaning the water way?

(A) **Dr. U TunAung (Shan state, Parliament Representative-1):** Only one EIA and SIA should be conducted for all Inle Lake hotels. Wastewater from hotels is being discharged in the NyaungShwe creek. Therefore, I would like to suggest that hotels should take responsibility. Hotels should improve the transportation. I would like to know that legal actions are immediately taken for the discharged? Why there are only 12 hotels and not all the others?

(A)**Daw Tin Tin Ye (Ann heritage Lodge):** This is because permission granted by Forest Department and MIC is not the same.

(A) **U ThetTun, Chairman, Innthar Literature and Civilization organization**: Regarding Land ownership and Land registration, Authorities and concerned department are to be officially informed and defined the area.

(A) **U KyawZawHla, Township General Administration officer,** we will send our team to measure the land due to bank erosion issues. We are doing everything after thorough scrutiny.

(Q) **U ThetTun, Chairman, Innthar Literature and Civilization organization:** we would like to know the contact phone number.

(A) **DawSein Ma Ma:** Legal actions can be taken if the discharged are from the hotels according to article (14) of Environmental Conservation Law.

(A**) U Tin AUng Moe:** Suggestions are recorded and will be presented.

The approved IEE report will be accessible to interested parties and general public through Township Admin office, ECD office, Yangon Region and MOECAF Naypyitaw office.

12. Biodiversity Management Plan

Biodiversity is essential for human life. It provides human society with many important benefits and services. These services are collectively termed as environmental services. They are 1) provisional services: food, fresh water, fuel and materials, 2) regulating services: climate regulation, flood control, disease regulation and water purification, 3) cultural services: aesthetic, spiritual, educational and recreational benefits and 4) supporting services: biomass production, soil formation, nutrient cycling and provision of habitats. Although biodiversity is providing these valuable services, human activities are causing tremendous damage to ecosystems and species around the world. There are a number of reasons for the overall loss of biodiversity that we now face, including climate change, habitat conversion, invasive species, overexploitation and pollution.

A hotel impacts biodiversity at each stage of its life cycle, from planning through to closure. At the construction state, impact is determined by the size and location of the area cleared for development and where construction activities are taking place, the choice of construction

methods, the sources and amount and type of materials, water and energy used to build the hotel, the location of temporary camps for construction workers, inadequate storage facilities for construction materials, the amount of construction waste that has to be disposed of, and other types of damage such as surface soil erosion or, compaction caused by construction activities or disruption of natural water flows and drainage patterns.

In the operational stage, a hotel's impact comes mainly from the energy, water, food and other resources that are consumed in running the hotel, by the solid and liquid wastes it produces, by the way its grounds are managed, and by the direct impacts of its guests. In addition, regular renovation and replacement of furniture, appliances and facilities can cause impacts through purchasing choices and increased waste generation. Using energy and water more efficiently, using organic and sustainably produced food, reducing, treating and disposing of waste appropriately, making sustainable purchasing decisions and managing gardens with natural-style plantings can all help a hotel to reduce its adverse impacts on biodiversity. Similarly, a hotel's relationship with host communities not only affects the sustainable operations of the hotel but also the use of environmental resources by communities themselves.

Biodiversity resources are used in every area of a hotel, from restaurants to guest rooms to gardens. The following action plan has been developed to mitigate the biodiversity impacts caused by hotel.

Table 20: Biodiversity Management Plan

Biodiversity Management Area	Management Objectives	Management Activities	Frequency /Timing	Cost (USD)	Responsible Person/Unit
Hotel restaurants	Seeking sustainable sources of food supplies, especially of endemic fish, agricultural products and wild game	**Internally:** ▪ Avoid purchasing species that are locally, regionally or globally depleted, except from sustainable sources. ▪ Choose food items that have been certified by sustainable, fair trade or organic certification schemes ▪ Introduce regional dishes based on locally produced foods on the menus. ▪ Raise the awareness of staff about biodiversity issues related to the production and harvesting of food (fish, waterfowl and game), ▪ Educate staff in helping customers understand and appreciate foods sourced from sustainable sources and ask them for ideas on using foods from sustainable sources in the restaurant. ▪ Set up a kitchen garden, greenhouses and/or orchard, either within the hotel grounds, or on another site.	Continuous observation	No extra cost	Sanctum Inle Resort Hotel Manager
		Suppliers: ▪ Explain to current suppliers that hotel want to purchase foods from sustainable sources and ask them how hotel can work together to put this goal into practice. ▪ Find new local suppliers by contacting the government agriculture ministry. Explain to supplier hotel purchasing standards. Help them directly to develop their activities or put them in	Continuous observation	No extra cost	Sanctum Inle Resort Hotel Manager

		contact with specialized associations that can help them improve their practices. ▪ Encourage and support certification schemes for sustainably produced products. ▪ Seek out suppliers who use sustainable packaging materials and systems, such as natural cork. **In partnership with public authorities and local organizations:** ▪ Assist local food producers and suppliers to produce and store food supplies so that they meet your quality requirements and demand (e.g. by supplying cool boxes with ice for storing local sustainably caught fish, or by providing suitable seeds, tools or other items necessary for cultivation). **With Client:** ▪ Inform customers about the issues concerning sustainable food production, harvesting methods that promote biodiversity conservation, sustainable labels and the origin of food. ▪ Inform customers about the benefits of sustainable food for themselves, both in terms of health and improved taste. ▪ Create a small exhibition of local products or photos of local food production and harvesting equipment. ▪ Invite guests and suppliers to visit the kitchen gardens, greenhouses and/or orchards, as a means of raising awareness and enhancing the natural experience of their stays.	Continuous observation	No extra cost	Sanctum Inle Resort Hotel Manager
Guest rooms and public	Making responsible choices in terms of	**Internally** ▪ Identify the wood products purchased by the	Continuos observation	No extra cost	Sanctum Inle Resort Hotel

areas	wood used for expansion or renovation projects and furniture; medicinal and aromatic plants for amenities and spa products; and ornamental plants and animals for public areas.	hotel that may negatively impact high-biodiversity forests, and substitute alternative wood products from sustainable sources when making future purchases. ▪ Explain to hotel staff the need to obtain wood from sustainably managed sources and the need to regularly check local forestry regulations, and ensure that purchased timber and forest-derived products have been harvested in compliance with those regulations. ▪ Re-use wood whenever possible. ▪ Provide staff with information about the sustainable wood used in the hotel, and about activities the hotel takes to support tree planting and sustainable forestry. ▪ Check all products containing plant-based products to ensure that the plants used to make these products: - have been harvested sustainably, and have been collected from cultivated sources that do not endanger wild sources of supply. Appropriate standards include the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants and - are not endangered and/or listed under CITES. ▪ Explain to hotel staff the hotel's commitment in relation to the use of medicinal and aromatic plants in amenities and spa products. Help them to communicate with customers about these issues. **With suppliers** ▪ Choose products from reputable sources that are informed about conservation and sustainable use issues associated with production and sourcing	Continuous observation	No extra cost	Manager Sanctum Inle Resort Hotel Manager

		of plant-based body-care products, and which operate in accordance with international sustainability standards. Appropriate standards include the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants - are not endangered and/or listed under CITES. ▪ Explain to current suppliers that the hotel want to purchase plant-based spa products and similar items that come from sustainable sources, and ask them how you can work together to put this standard into practice. ▪ Support local communities and producers to build their own businesses for sustainable harvest and cultivation of plants for production of plant-based body-care products, and once these businesses are established, purchase their products. **With clients** ▪ Explain to clients the importance of protecting medicinal and aromatic plants, and offer information about where they can purchase medicinal and aromatic plant products that are produced sustainably. Consider selling a selection of these products in the hotel shop. ▪ Use the wall space in the spas to showcase local culture and biodiversity through photographs and artifacts.	Continuous observation	No extra cost	Sanctum Inle Resort Hotel Manager
Hotel souvenir shops:	Avoiding souvenirs produced from threatened or protected plant and animal	**Internally** ▪ Regularly check (e.g. annually) with local authorities and associations for species added to CITES lists and national legislation controlling	Continuous observation	No extra cost	Sanctum Inle Resort Hotel Manager

	species.	or banning trade in threatened species ▪ Train staff to communicate about the issues concerning illegal trade in endangered species, CITES, and local regulations to protect endangered species. **With suppliers** ▪ Inform shop managers or leaseholders about issues concerning illegal trade in endangered species, the species on the CITES lists and regulations controlling or banning trade in threatened species. ▪ Ensure that shop managers or leaseholders understand that they should not display, stock or sell any products derived from endangered species and/or species listed under CITES and/or national legislation controlling or banning trade in endangered or threatened species. ▪ In partnership with public authorities and local organizations ▪ Encourage local artists to develop souvenirs from sustainable materials, including recycled products. ▪ Raise awareness in the community and public organizations about threatened species and the need to protect them. ▪ Work in partnership with local authorities and nongovernmental organizations (NGOs) on program to control use of local threatened species and their parts in production of souvenirs and other items. **With clients** ▪ Provide information (videos, DVDs, posters and	Continuous observation Continuous	No extra cost No extra	Sanctum Inle Resort Hotel Manager Sanctum Inle

		photo books) to guests about illegal trade in endangered species and trade restrictions under CITES and/or national legislation. Highlight the fact that customs authorities are trained to check for such species and products derived from these species, and make available information on the fines imposed in the countries of origin of the customers. A useful point of contact is the national CITES management authority. The National CITES management authority provides information on species traded internationally, and should be able to advice on where to find out about domestic regulations. ▪ Have a sign in the shop saying that customers can buy "CITES-proof" souvenirs and articles there, as a guarantee that they will not be in trouble with customs upon departure or arrival. ▪ Offer guests the opportunity to buy toy animals of charismatic local species that are under threat (e.g. turtles, etc.) for their children. Often local environmental organizations produce such animals or other biodiversity related toys.	observation	cost	Resort Hotel Manager
Hotel grounds and gardens:	Using indigenous plants for landscaping and minimizing light and noise.	**Internally and/or with suppliers** ▪ Plant local indigenous species and/or drought-resistant species wherever possible in landscaped and garden areas. Even small gardens in city hotels can incorporate such species. Purchase these plants from local greenhouses. ▪ If hotel plan to have exotic animals on hotel grounds, ensure that hotel have all the relevant national permits that may be required for purchasing and keeping them, and that they are obtained from sustainable sources. ▪ Check that plants used in the hotel's grounds and gardens are not listed as invasive species.	Continuous observation	No extra cost	Sanctum Inle Resort Hotel Manager

		▪ Plant local, native tree and bush species to create shaded areas and new habitats. Hotel can also green its roofs and walls, which will also have a positive energy savings effect. ▪ Encourage wildlife in the hotel grounds. For example, consider creating a wildlife garden, or in small urban spaces provide suitable nesting places for birds and nesting boxes and/or grow plants attractive to butterflies. Where possible, set aside land as natural areas or reserves; even small areas can be valuable for wildlife. ▪ Work with local wildlife experts to ensure that hotel lighting does not adversely affect wildlife, particularly if the hotel is situated near sensitive wildlife sites. Use lighting equipment that minimizes the upward spread of light near to and above the horizontal (e.g. by using cowlings that direct light downwards). Locate lights to reduce stray light and glare to a minimum; away from buildings, luminance should not exceed five candela per square meter (Cd/m2). ▪ Use sound insulation and reduce noise at source, to limit disturbance to wildlife. ▪ In partnership with public authorities and local organizations ▪ Consult with local conservation organizations, universities or botanical gardens in the design of a biodiversity-friendly garden or hotel grounds. ▪ Develop explanatory signs on the various species, in partnership with local conservation organizations. ▪ Engage local teachers, conservation organizations, universities or botanical gardens in developing nature trails and biodiversity edutainment (education + entertainment)			

		activities for children and their families, e.g. a game to explore and discover different aspects of biodiversity in and around the hotel. ▪ Encourage use of local indigenous species and incorporation of wildlife areas in gardens and public areas. ▪ Support programs to eradicate alien invasive species. ▪ Support the development of local biodiversity businesses, such as indigenous tree nurseries, and incorporate the products of these businesses in your supply chain. **With clients** ▪ Communicate with guests about how hotel have integrated biodiversity concerns in the design and management of the grounds by: placing signs on trees and in flower beds with the names of the indigenous species;	Continuous observation	No extra cost	Sanctum Inle Resort Hotel Manager

13.Environment, Health and Safety Guidelines for Tourism and Hospitality Development

Most of the guidelines mentioned in this chapter refer to Environment, Health and Safety Guidelines for Tourism and Hospitality Development by International Finance Corporation, World Bank Group, 2007.

Energy conservation

Reduction of energy consumption associated with heating, ventilation, and air conditioning systems through:

- Specification of well insulated building fabric to minimize heat transfer
- Energy recovery of from exhaust to supply air in the building ventilation systems
- Variable air volume air handling systems;
- Use of inverter-driven variable speed fans;
- Adoption of temperature control settings which avoid simultaneous heating and cooling;
- Building zoning according to temperature needs and heat gains (e.g. a north zone and a south zone);
- Use of enthalpy control to vary volumes of fresh and recycled air according to ambient and internal building conditions;
- Adoption of relatively high (~+10°C chilled water flow temperature) and inverter-driven, variable speed chilled and hot water pumps
- Selection of chillers which are efficient over wide ranging operating and load conditions (e.g. efficiency rates of at least 0.60 kW/TR, which is equivalent to a coefficient of performance [COP] of approximately 5.9)
- Switch off the power in unoccupied buildings during low season to save energy, assigning rooms in one block or area systematically

Reduction of energy consumption associated with lighting:

- Use of occupancy sensors
- Use of high-efficiency light bulbs (e.g. fluorescent light bulbs) where possible
- Daylight controls (e.g. to adjust interior lighting, based on incoming daylight, using a photoelectric sensor)
- Dimming-control retrofits for fluorescent, high-intensity discharge, and incandescent lamps

Adoption of an energy management and control systems, including centralized monitoring and reporting of energy and water use, switched time schedules, chiller optimization, load-based reset, and demand control

Reduction of energy consumption associated with cooking and refrigeration equipment:

- Match use of cooking range burners to facility needs

- Use of appropriate lids
- Select high efficiency refrigerators and walk-in coolers;
- Use of an exhaust system that automatically varies fan speeds

Wastewater management

Wastewater management strategies include:

- Minimizing use of the laundry by asking guests to reuse towels and bedding;
- Controlling consumption of cleaning chemicals;
- Substitution of cleaning chemicals with biodegradable products, when possible;
- Avoiding or minimizing the use of cleaning chemicals containing phosphates, nitrilotriacetic acid or any of its salts, ethylene diaminetetraacetic acid and ethylene dinitrilotetraacetic acid or any of their salts, alkylphenol ethoxylate, halogenated organic solvents (e.g. 1,1,1-trichloroethane and other Ozone Depleting Substances (ODSs), butoxy-ethanol, and VOCs in excess of 10 percent by mass.

Waste management

Waste Management Plan includes:

- Buying in bulk quantities whenever possible;
- Use of refillable, bulk dispensers (e.g. toiletries) rather than individually packaged products;
- Working with suppliers to limit use of, and establish recycling for, product packaging;
- Avoiding use of polystyrene foam in all operations;
- Providing in-room recycling procedures and appropriate receptacles;
- Use of glass or durable plastic instead of disposable plastic items (e.g. straws, cups);
- Implementing organic-waste composting;
- Disposing of wastes only after all waste prevention and recycling strategies have been explored and maximized.
-

Noise control

Recommended control techniques to reduce indoor and outdoor noise pollution include:

- Installing double doors between guest rooms and between rooms and noisy environments (e.g. kitchens, laundries);
- Installing windows with sound-reduction materials;
- Positioning, enclosing, and isolating noisy equipment (e.g. permitting space or buffer zones encompassing two walls between the laundry and public areas).

Indoor air quality control

The following control techniques are recommended to keep indoor air quality acceptable:

- Use low-VOC-emitting products (e.g. use water based paints rather than oil based paints, low VOC containing adhesives for flooring and wall decorations);
- Avoid aerosols and sprays;
- Use housekeeping and cleaning products during unoccupied hours taking care to follow safety precautions including appropriate ventilation;
- Avoid the use of "air fresheners";
- Expose products in open or ventilated areas before installation and increase ventilation rates during and after installation.
- Institute a no-smoking policy;
- Use exhaust ventilation with pressure control for major local sources;
- Avoid paper clutter;
- Provide specific staff-training and guest information.

Water and food quality

Food and water provided to workers and guests should be safe.

The following food hygiene measures should be adopted:

- Compliance with food hygiene and water-quality standards defined by central authorities or, in their absence, application of international food-handling, preparation and storage and water-quality recommendations;
- Supply of safe potable water for drinking, bathing, food preparation, and other purposes where it may be ingested;
- Regular testing of potable water according to World Health Organization (WHO) standards as a minimum.

Emergency response procedures

Site Fire Control

1. Alert other people

2. If small, control using an extinguisher or fire hose reel

3. Contact fire brigade if not under immediate control

4. Attend to human life in immediate danger

5. For electrical fires turn off power before fighting

6. For oil and lubricant fire DO NOT USE WATER, rather use fire extinguisher

7. Once out of the building, stay out. Do not allow people to go back into the burning building to collect valuables. While existing the building, close doors (but do not lock) to slow down the spread of fire

8. Obey all instructions

9. Proceed to emergency evacuation area

Fuel Spills

1. Turn off engines and equipment and notify manager

2. No engine or equipment is started until clean up completed

3. Secure the spill area and ensure that there are no sources of ignition

4. Clean up the spill using absorbent material from site spill kit

5. Dispose of contaminated materials as per procedure

14.Conclusions and Recommendations

This Initial Environment Examination (IEE) study was carried out at the beginning stage of proposed Sanctum Inle Resort Hotel, which is established inside the territory of Inlay Lake Wildlife Sanctuary, at block No. 38, Maingthauk village, Nyaungshwe Township, southern Shan state, in the Union of Myanmar. The main aim of the study is to identify the major environmental impacts due to implementation of the project activities in all three phases (construction phase, operation phase and decommissioning phase).

The primary and secondary data were used to assess the environmental impacts. The potential environmental impacts were assessed in a comprehensive and scientific screening procedure. The report has provided a full picture of all potential environmental impacts associated with proposed hotel, and recommended suitable prevention and mitigation measures. The results after scoring evaluation of significant environmental impacts can be summarized as follows:

Table 21: Summary of Impacts Significance

Level of Significance	No. of Impacts
Positive Impact	4
No Significant Impact	29
Low Impact	6
Significant Impact	-
Unsustainable Situations	-

There will be positive impacts as the proposed project will generate local employment opportunity to enhance their capabilities and work skills. As a result, their socio-economic conditions will be improved. Because of the hotel business, government will also benefit a certain amount of revenue. After replanting and landscaping are carried out, soil cover of the resort will be rehabilitated and habitat will be restored.

In all phases of the project, a few low impacts are observed whereas no significant impacts and unsustainable situations are identified. Only (29) non-significant environmental impacts are found out.

For **construction and decommissioning phases,** all non-significant impacts recorded are minor or no significant environmental impacts such as dust particles dispersion, noise, waste generation, water pollution and potential health and safety impacts on employees such as accidents. All these impacts are minimal, short term, limited to the site and controllable.

Evaluation results show that there are non-significant environmental impacts on **operation phase**. However, there is environmental impact with low significant which is water resource depletion due to domestic water consumption from the tube well. That must be addressed by installing water meter and water saving equipment for control of water use. There is also low significant environmental impact due to discharging of sewage and litter to the nearby Inle Lake which must be mitigated by adopting no waste discharge to Inle Lake policy, installing sewage treatment plant and developing proper waste segregation and disposal system. During the operation phase, there is potential discharge to environment such as detergent, liquid chlorine/tablets, cleaning agents due to the use of chemical products for cleaning, laundry, swimming pool and spa. This must be addressed by using secondary containment to avoid accidental leakage and spills. In addition, there is a low significance impact which is noise and atmospheric emission due to traffic/vehicle movement during loading and unloading of supplied goods which must be taken care of by conducting regular noise and air monitoring survey, use of proper PPEs and regular vehicle maintenance.

Regarding health and safety impacts, there will be a numbers of risks such as car accidents during transportation, use of equipment and machines, probable electric shock hazard, fires and safety hazards such as falls from height, slips, trips and falls, falling objectives, manual handling, repetitive strain injuries etc… during the construction, operation and decommissioning phases. There are

preventive measures already planned to reduce the risk of fire and also the machines to be provided are new with modernized technology including machine guards. Therefore the probability of accidents and electrical shocks are low. There are a number of actions to be done to mitigate the risks such as providing safety awareness training, first aid, free medicine, transport to the nearest hospitals in case of emergency, and personal protective equipment such as safety gloves, helmets, goggles, earmuffs etc.

There will be one Health, Safety and Environment (HSE) Coordinator appointed for the following program strategy of "Plan, Do, Check, Act" for potential health, safety and environmental issues. It is expected that the proposed project have only minor impacts on Physical, Biological and Socio-economic Environment. All of the impacts are local in nature and can be easily mitigated through adequate mitigation measures and regular monitoring during the Construction, Operation and Decommissioning Phases of the project. The EMP is prepared to address these potential impacts through appropriate mitigation, management and monitoring measures.

Based on possible impacts figured out, an Environmental Management Plan (EMP), Biodiversity Management Plan (BMP), Corporate Social Responsibility (CSR) Plan together Environmental Monitoring Plan are prepared and attached in this IEE, as a comprehensive and collective solutions for environmental management, biodiversity/ecology protection and enhancement, health and safety and corporate social responsibility framework for all three phases (construction, operation and decommissioning) of Sanctum Inle Resort. The EMP, BMP and CSR, presented as major institutional requirement, aim to minimize or offset the potential environmental and ecological impacts generated by resort's activities, to provide maximum occupational health and safety and to ensure better community living. The environmental management, biodiversity management and monitoring practices, procedures and responsibilities are comprehensively expressed here to get full compliance with the existing environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

In conclusion, it can be verified that No adverse or harmful impacts of any significance are expected by proposed Sanctum Inle Resort. A full scale Environmental Impact Assessment (EIA) shall be done if necessary, based on comments and suggestions made by ECD after reviewing this IEE.

The following recommendations have been made for efficient and effective implementation of environmental conservation, biodiversity/ecosystem management, health and safety, social responsibilities measures throughout the lifespan of the proposed resort.

- Follow the comments and suggestions made by ECD after reviewing this IEE report
- Once EMP is approved by concerned authorities, strict implementation is essential
- For full and proper implementation of EMP, well understanding and supports by resort owner and its administrative authority is deem necessity
- Fully implement Corporate Social Responsibility (CSR) Plan as an ethical business obligation, so as to be regarded as good neighbor/investor in the neighborhood
- Well experienced and knowledgeable HSE Coordinator and HSE assistants shall be selected and appointed

- Daily, monthly and annual action plan shall be formulated based on EMP and fully practiced
- Keep full records of environmental management, biodiversity/ecosystem management, health & safety management and social responsibility management activities and present to annual independent third party environment audit
- Follow the annual audit report and comments
- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar

APPENDICES

Appendix 1.Public hearing attendance lists

Stakeholder Meeting
Location - Monastery, Minethauk Village, Naungshwe Township
Date - 15.3.2015

Government Organization and Department

No.	Name	Occupation	Department	Phone No.
1	DawSein Ma Ma	Director	Environmental Conservation Department	09-250090562
2	Daw Tin MyintMyint	Deputy Officer	Environmental Conservation Department	09- 5600387
3	U TheinMyintZaw	Deputy Fire Officer	Fire Force Office	9250101220
4	Dr. TunAung	Shan State Hluttaw		09-250289696
5	U KyawKyawOo	Officer	Irrigation Department	09-5215293
6	U Saw Tin Htwe Ye	Village Administrater	Khaung Tine	09-428371988
7	U MyoAung	Pagoda Trustee	Khaung Tine	09-428317194
8	U KyawZawHla	Township Administrater	GAD (Naungshwe)	09-5214405
9	U Win Myint	Minister	Government of Shan State	09-42831001
10	U AungKyi Win	Regional Perliament Member	Shan State Hlattaw	09-36167779
12	U Sai Than Htwe	Ranger	Forest Department	081-205090
13	Daw Nu Aye	Teacher(B.E.M.S)	Education	09-259624783
14	DawEiEiKhaing	Teacher	Education	09-428339428

NGO (Non-Governmental Organization)

No.	Name	Occupation	Department	Phone No.
1	U TetTun	Chairman	Inn Literature and Cultural Committee	09-41008457
2	U TaZarAung	Chairman	Shwe Inn Sarlukhae Altruism Group	09-400514418
3	U Nanda Htwe	Deputy Chairman	Shwe Inn Sarlukhae Altruism Group	09-428330126
4	Mg Than Zaw	Member	Shwe Inn Sarlukhae Altruism Group	09-30657371
5	Mg NyanHlaing Win	Member	Shwe Inn Sarlukhae Altruism Group	09-258350347
6	Mg Myat Min Oo	Member	Shwe Inn Sarlukhae Altruism Group	09-254790755
7	U Thar Doe	Chairman	SeinHla San Dar Local Development Committee	09-36051127
8	U Win Naing	LiviSC Officer	UNDP	09-442075930

Company

No.	Name	NRC No.	Address	Occupation
1	DawKhinHtwe Than	12/UKaTa(N)005162	Pristine Lotus	HR &Admi Manager
2	DawKhinMyat Thin	13/NyaYaNa(N)084567	Pristine Lotus	HR Officer
3	Daw Tin Tin Yi	13/NyaYaNa(N)011183	Ann Heritage Lodge	Hotel
4	U Moe Zaw	9/NyaYaNa(N)006919	Villa Inle Resort & Spa	Hotel

No.	Name	NRC No.	Address	Occupation
5	U ThatoeHtut	12/YaKaNa(N)007461	Inle Garden Hotel	Administrative
6	DawKhaingSweOo	13/NyaYaNa(N)079556	Pristine Lotus	Assistant HR Manager
7	Daw New New Win	9/TaThaNa(N)121765	Pristine Lotus	HR Officer
8	Daw Yin Yin Aye	9/TaThaNa(N)099336	Pristine Lotus	Chief Accountant
9	U Jawk Man	12/MaGaTa(N)083319	Pristine Lotus	Chief Security
10	U AungPhyoe	9/TaThaNa(N)158912	Pristine Lotus	F & B (S)
11	U TunMyat Lin	13/KaLaNa(N)007333	Villa Inle Resort & Spa	FO
12	DawTheinGyiTun	13/NyaYaNa(N)112899	Villa Inle Resort & Spa	Finance
13	DawKyiKyiOo	8/YaNaKha(N)132821	Villa Inle Resort & Spa	FO
14	U Myint Aye	9/MaTaLa(N)180157	MyatMingalar Hotel	GM
15	DawNyoNyoAungMyint	9/MaMaNa(N)026885	Sanctum Resort	RM
16	Ms. Carmen	CN431400XY	Sanctum Resort	GM
17	U Zaw Min Tun	12/ThaMaNa(N)100580	MyatMingalar Hotel	EP
18	U ZayZayAung	7/YaTaYa(N)111492	MyatMingalar Hotel	Office
19	U Saw Min Lat	12/YaPaTha(N)045126	MyatMingalar Hotel	
20	U Win Oo Tan	8/NaMaNa(N)084086	Aureum Hotel	GM
21	U AungKoKo	9/NyaUNa(N)004899	Villa Inle Resort & Spa	GM
22	U Aung Lin	12/AhKhaNa(N)024917	MaharAkari Hotel	
23	Ma Zin Mar Tun	13/TaKaNa(N)296776	MaharAkari Hotel	
24	U Ye Wint Tin	12/BaHaNa(N)098786	Sanctum Inle Resort	Construction Management
25	U AungThetNaing	12/MaBaNa(N)105832	Villa Inle Resort & Spa	Chief Engineer
26	DawNila Win	12/PaBaTa(N)013808	NovotelInle Lake Myat Min	Finance Manager
27	Daw Moe PwintPhu	12/UKaMa(N)148343	Amazing NyaungShwe	Manager
28	Daw K Thi Nay Wing	14/YaKhaNa(N)19912	Amata Hotel	
29	DawTheingi Win	12/MaGaTa(N)002723	Amata Hotel	Director
30	Ma HtayHtayHlaing	8/KaMaNa(N)108902	Amata Hotel	Account
31	Ma MyatMyat Moe	12/DaCaNa(N)034770	Amata Hotel	F & B
32	DawPhyuPhyuMaung	9/NyaUNa(N)1500810	Amata Hotel	Front Office

Media

No.	Name	Occupation	Department	Phone No.	E mail Address
1	Ma Myint May Soe	Local News	Myanmar Post	o9-32089223	Layappleo25@gmail
2	Ma Zin Mar Aung	Local News	Myanmar Post		

Local People

No.	Name	NRC No.	Adress (Village)	Occupation
1	U Aung Than		Panphal	Farming
2	U ZawMyoeHteik		Magyisin	Carving
3	Mg MyoeMyint		Magyisin	Farming
4	U NyiHtwe	77139	Nanpan	Carpenter
5	U Ye YintHtun	105519	Nanpan	Carpenter

No.	Name	NRC No.	Adress (Village)	Occupation
6	U Naing Lin Htun	13/NyaYaNa(N)088355	Nanpan	Carpenter
7	Phi Nge	13/NyaYaNa(N)063478	Nanpan	Staff
8	U AungMyoeLwin	13/NyaYaNa(N)032116	Nanpan	Carpenter
9	U Nyein Chan Phyoe		Nanpan	Carpenter
10	U Nay MyoeAung	13/PhaKhaNa(N)023694	Myaynikone	Horticulture
11	LwinWai		Myaynikone	Horticulture
12	U Kyaw Than		Myaynikone	Horticulture
13	DawThidarHmi	12/MaYaKa(N)031828	Myaynikone	Education(Teacher)
14	DawKhin Aye Sint	13/NyaYaNa(N)061406	Myaynikone	Education(Teacher)
15	DawThae Su Mon	13/NyaYaNa(N)085116	Myaynikone	Education(Teacher)
16	DawMyintHtay		Myaynikone	Horticulture
17	U San Nyein	13/NyaYaNa(N)036362	Kyunkyi	Horticulture
18	U MyoMyintAung	13/NyaYaNa(N)020585	Kyunkyi	Horticulture
19	U Bo Khin		Kyunkyi	Horticulture
20	Ma KhinSandarPyae Win	13/PaTaYa(N)032402	Myaynikone	Staff
21	Ma MyaSandar	13/NyaYaNa(N)112316	Kyunkyi	Staff
22	Ma KhaingThazinOo	13/PaTaYa(N)036784	Myaynikone	Staff
23	Ma Htwe Mar	13/PaTaYa(N)032003	Myaynikone	Staff
24	Ma Myint Aye Sein	13/NyaYaNa(N)077327	Myaynikone	Staff
25	U Htein Win		Myaynikone	Horticulture
26	U PhyoeAung	13/NyaYaNa(N)002404	Myaynikone	Farming/Orchard
27	U KhinMaungSoe	13/NyaYaNa(N)068327	Myaynikone	Horticulture
28	U Kyaw Win		Myaynikone	Horticulture
29	U HtunHla	13/NyaYaNa(N)019665	Wettharkinkyaung	
30	U Win Aung	13/NyaYaNa(N)019604	Wettharkinkyaung	Farming/Orchard
31	U Nay MyoeAung	13/NyaYaNa(N)083971	Inginkone	
32	U MyintAung		Inginkone	Orchard/Farming
33	U Win Maung	13/NyaYaNa(N)020102	Chaungpar	Farming
34	U ZawWai		Phayarphyu	Farming/Orchard
35	U Than Htay	13/NyaYaNa (N) 019535	Thalae U Inn Village	Horticulture
36	U Khan ZawHtway	13/NyaYaNa (N) 028487	Thalae U Inn Village	Sewing
37	U MyoHlaing	13/ NyaYaNa (N) 000411	AlalMyaung Village	Orchard/ Farming
38	U MyoSwe	13/ NyaYaNa (N) 018650	Thalae U KoneThar	Government Staff
39	U Zaw Min	13/ NyaYana (N) 104398	Thalae U KoneThar	Casual Labour
40	U ZawNaingMyo	13/ NyaYaNa (N) 062588	Thalae U KoneThar	Orchard/ Farming
41	U KhinTheinMyint	13/ NyaYaNa (N) 024406	NyaungWun (East)	Government Staff
42	U San MyintOo	13/ NyaYaNa (N)076181	NyaungWun (East)	Horticulture
43	U SoeAung	13/ NyaYaNa (N) 076052	NyaungWun (East)	Horticulture
44	U Ye Myint	13/ NyaYaNa (N) 000349	AlalMyaung Village	Farming
45	U KyawNyein	13/ NyaYaNa (N) 018499	AlalMyaung Village	Farming
46	U KaungMyat	13/ NyaYaNa (N)076395	Sub BEPS, Lay EainKone	BEPS Teacher
47	U Bayan Saing	9/ PaULa (N) 004417	MyaungGyi Village, Minethauk	Teacher

No.	Name	NRC No.	Adress (Village)	Occupation
48	U AungKhin	13/ NyaYaNa (N) 009323	Par Nway Danu	-
49	U HtayMyint	13/ NyaYaNa (N) 024231	BEHS, Minethauk	Teacher
50	U AungKhine	13/ NyaYaNa (N)124152	Minethauk Inn Village	Horticulture
51	U MyaMaung	13/ NyaYaNa (N)	Minethauk Inn Village	Horticulture
52	KhinSoe Win	13/ NyaYaNa (N) 024130	Minethauk	-
53	U ZawMyoHtun	13/ NyaYaNa (N) 009170		
54	U HtunHtunOo	13/ NyaYaNa (N) 024671		
55	U Tin Soe	13/ NyaYaNa (N) 024639		
56	U OhnZaw	13/ NyaYaNa (N) 1024018	Minethauk	Village Administrater
57	U MyoMyint	13/ NyaYaNa (N) 024496	Minethauk	School Volunteer
58	DawKhin Mar Nyo	13/ NyaYaNa (N) 024483	BEPS, Pay Pin Kone	BEPS Headmaster
59	Daw Khan KhanOo	13/ NyaYaNa (N) 000723	BEPS, Parnwe	BEPS Headmaster
60	DawPhyuPhyuThinn	13/ NyaYaNa (N) 009336	BEPS, Kyan Pone Ngal	BEMS Teacher
61	DawHtayHla	13/ NyaYaNa (N) 130681	BEPS, Minethauk	BEPS Headmaster
62	U KhinAung Moe	13/ NyaYaNa (N) 009355	BEPS, Minethauk Inn	BEPS Headmaster
63	U KyawNyunt	13/ NyaYaNa (N) 023890	BEMS	
64	U Kyaw Aye		Par NwayMyaukKyaung	
65	U KyawAung		Par NwayMyaukKyaung	
66	U Mhin			
67	U KyawLwin	13/ NyaYaNa (N) 025554	Minethouk Group, ParNwe Danu	Orchard/ Farming
68	U TheinHtay	13/ NyaYaNa (N) 024631	MyaungGyi Village, Minethauk	Orchard/ Farming
69	U San Hla	13/ NyaYaNa (N) 025239	Pay Pin Kone	Orchard/ Farming
70	U Win Naing	13/ NyaYaNa (N) 068147		
71	U HtunShein		Pay Pin Kone	
72	DawNaweNawe Win	13/ NyaYaNa (N) 020549	Kyan Pont Ngal, Minethauk	Orchard

List of Participants

no	Type of Participants	**TOTAL**
1	Government Organization and Department	14
2	NGO	8
3	Company	32
4	Media	2
5	Local People	72
		128

Pictures of Public Hearing

Registration by participants

Registration by Government Officials

Registrationby participants


Opening Speech By Government Officals

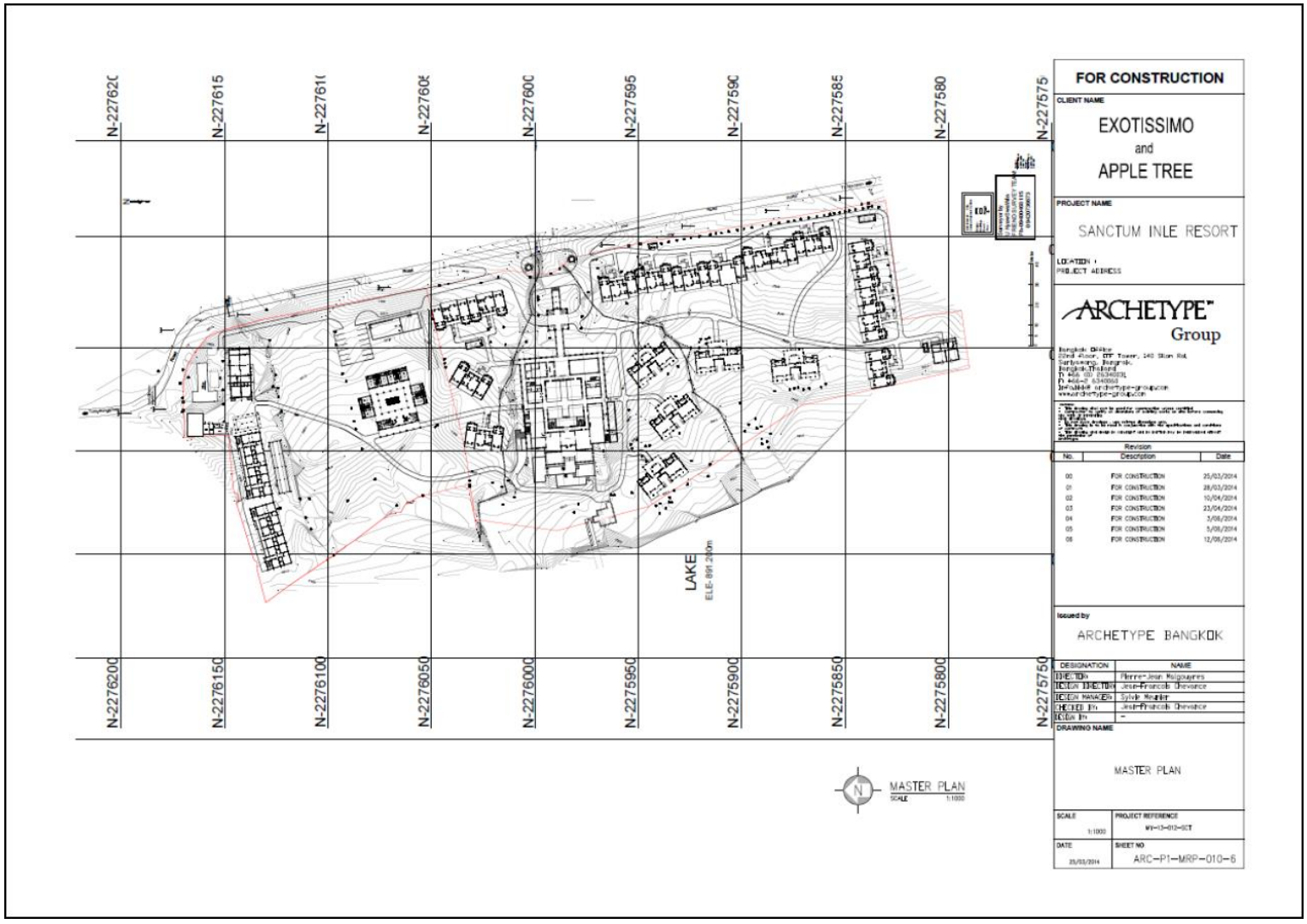

Presentation of IEE process by U Tin Aung Moe and U MyoThet Tin, E Guard Environmental Services Co., Ltd


Donation by Inlay Hotels Group


Questions and Answers


Questions and Answers

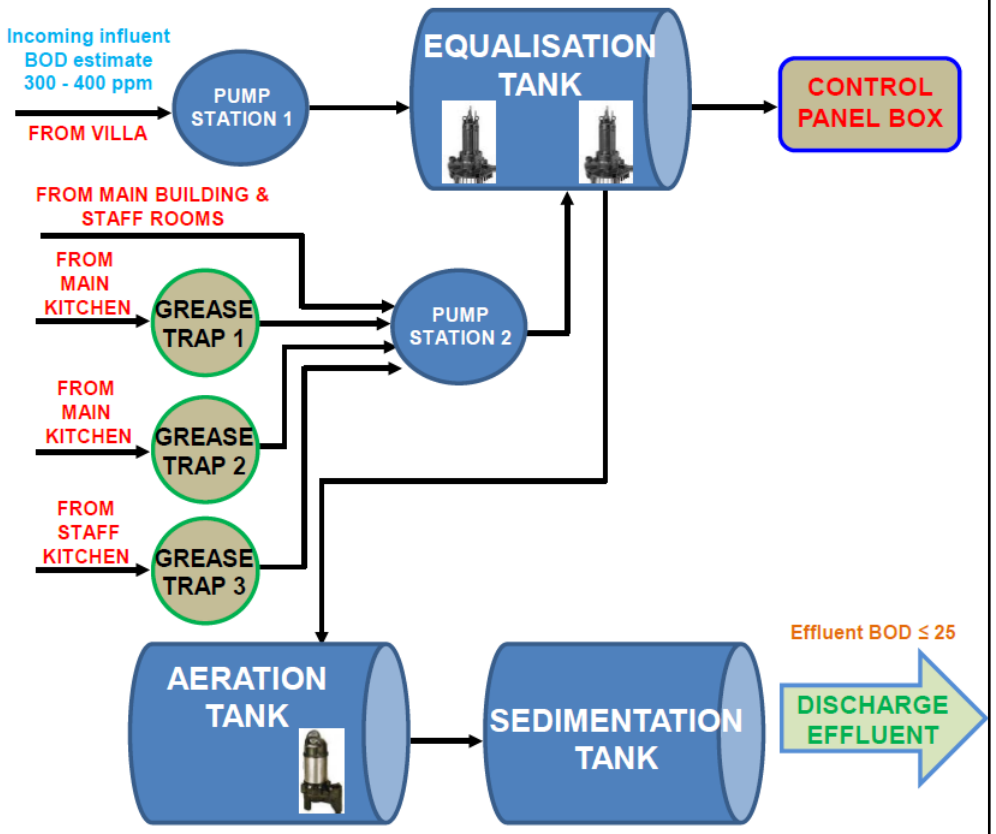
Appendix 2. Sanctum Inle Resort Hotel Layout Plan



Appendix 3.Wastewater Treatment System Flow Diagram

SANCTUM INLE RESORT **AME 300** *Aeration activated sludge process*

Table 1.3.1 Indicative Value for Treated Sanitary Sewage Discharges		
Pollutants	Units	Amd
pH	pH	6 – 9
BOD	mg/l	≤ 25
COD	mg/l	≤ 125
Total nitrogen	mg/l	Limited treatment
Total phosphorus	mg/l	Limited treatment
Oil and grease	mg/l	Effective grease trap
Total suspended solids	mg/l	≤ 30
Total coliform bacteria	MPN/100 ml	Chlorinated effluent



- The system above is not designed to reduce phosphate & nitrogen. Nonetheless it will still reduce nutrients to some extent.
- One method for reducing phosphate is to use a PAC flocculent in an additional subsequent tank. This will generate additional sludge.

Appendix 4.Water Treatment System Unit

Amd

NO. 39 B, THAZIN LANE, BAHO ROAD, AHLONE TOWNSHIP,
YANGON, UNION of MYANMAR.
Tel : (95-1) 218437, 218438, (95-9) 73112672, 73176248
Fax : (95-1) 222122
Email : amd@yangon.net.mm / amdstaff@optusnet.com.au

To : Mr. Stuart Beck
Project Manager
Archetype Myanmar Ltd

Date : 21st July 2014

Re : Water treatment system Installation at Sanctum Inle Resort

Amd Water Treatment Price Estimate

I) Raw Water Source
i) Tube well ☑
ii) Lake water ☐

	DONE	*NOT DONE*
Raw Water Analysis	☑	☐

	pH	TDS	Total Alk	T-Hardness	Fe
II) Raw Water Analysis (Tube well - 04.07.2014)	7.59	194	156	159	0.02

III) Requested capacity — **(108) rooms (i.e.; 216 guest) + staffs**
80 m^3/day (15m^3/hr)

Design inclusion/ Scope of work

Treatment Types	*Equipment model*
➢ Primary Filtration	2 xSMDD 600 c/w 30 bags of Imported Graded Sand
➢ Chlorine Sterilization	ProMinent Dosing Pump c/w Chemical Tank (200L)
➢ De-Chlorination	2 x WD 700 c/w 14 bags of Potable grade activated
➢ Transfer pumps – duplex	Davey Dynaflo 6210 X 4 at two places
➢ Lift pumps for Over head Tank(Optional)	2 x Dynaflo 6230 with control system
➢ Pressure pumps (Optional)	Dynaflo 6230 pump set with Monsoon 6C controller

Optional Items

Inle ground water has typically high hardness mainly Bicarbonates but also Calcium & Magnesium. The resulting damage to kitchen, laundry & bathroom fittings increases maintenance works andassociated costs. Reverse osmosis treatment is useful in reducing hardness, but costly for the entire resort. Therefore we propose a system suitable for use in the laundry and kitchen water supply. This would necessitate an intermediate storage tanks and additional transfer or pressure pump. We highly recommend this in the Inle area.

Typical System (Photos)

Sand Filtration& Chlorination

6230 pump with Monsoon Control system

ARO 6000G

Typical inclusions

- High quality imported sand and activated carbon and iron reduction media, Australian Davey water pumps and Spiral wound fiberglass filter with multiport valves.
- Automatic electrical control wired back to a central electrical control box

Exclusions

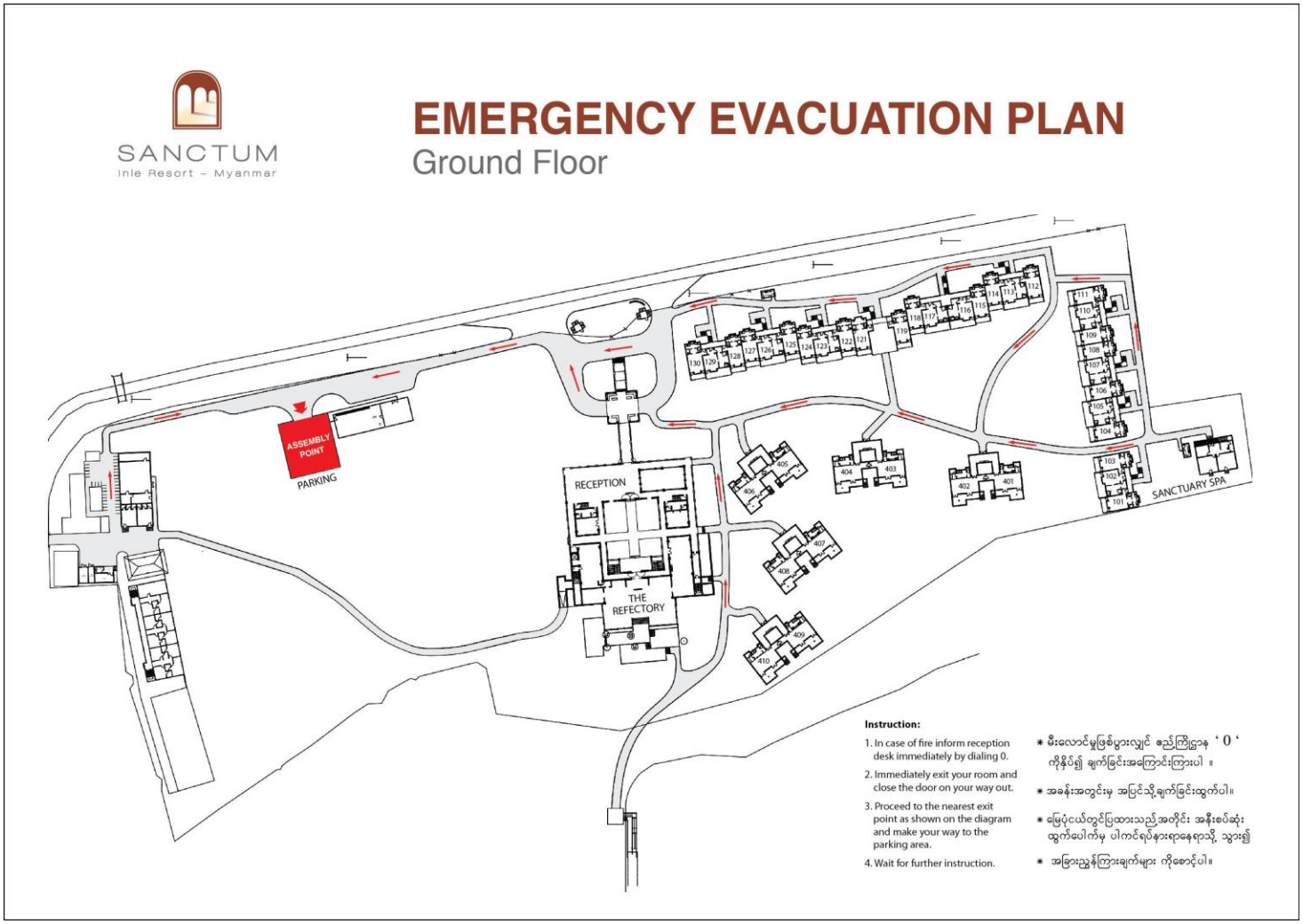
- Tube Wells / Inter Building Water Pipes. (i.e. piping from ground to over head tower)
- Electrical supply to Amd pump house including wiring for over head tower.
- Space for Amd to install the water treatment equipment / Construction of suitable pump house at Basement and roof top.

Warranty Period

- One year from installation date

LwinLwinOo
Manager
Water Treatment Division
Amd

Appendix 5. Sanctum Inle Resort Hotel Evacuation Plan



Appendix6: Recorded Photos of Field Survey

 Wastewater treatment system	 Grease trap system installed at Kitchen	 Villas under construction
 Surface water sampling	 Preparing for water sampling	 Standby generator

Appendix 7. Internal Rate of Return (IRR) Calculation

PROPOSAL FORM (1) RE-ITEM 12 (f)

INTERNAL RATE OF RETURN (IRR)

Currency in MMK Million

YEAR	INVESTMENT	NET PROFIT	DEPRECIATION	TOTAL CASH FLOW	CASH FLOW	DISCOUNT FACTOR 9%	NPV	DISCOUNT FACTOR 10%	NPV	REMARKS
0	(3,078.07)	-	-	(3,078.07)	(3,078.07)	1.000	(3,078.07)	1.000	(3,078.07)	
1	(2,636.83)	84.12	126.92	(2,425.79)	(2,425.79)	0.917	(2,224.45)	0.909	(2,205.05)	
2		103.17	170.12	273.29	273.29	0.842	230.11	0.826	225.74	
3		202.08	170.12	372.21	372.21	0.772	287.34	0.751	279.53	
4		284.71	170.12	454.83	454.83	0.708	322.02	0.683	310.65	
5		396.47	170.12	566.60	566.60	0.650	368.29	0.621	351.86	
6		415.38	170.12	585.50	585.50	0.596	348.96	0.564	330.22	
7		463.50	170.12	633.62	633.62	0.547	346.59	0.513	325.04	
8		482.25	170.12	652.37	652.37	0.502	327.49	0.467	304.65	
9		488.25	170.12	658.37	658.37	0.460	302.85	0.424	279.15	
10		489.75	170.12	659.87	659.87	0.422	278.46	0.386	254.71	
11		501.30	155.72	657.02	657.02	0.388	254.92	0.350	229.96	
12		501.30	155.72	657.02	657.02	0.356	233.90	0.319	209.59	
13		501.30	155.72	657.02	657.02	0.326	214.19	0.290	190.53	
14		501.30	155.72	657.02	657.02	0.299	196.45	0.263	172.80	
15		501.30	155.72	657.02	657.02	0.275	180.68	0.239	157.03	
16		501.30	155.72	657.02	657.02	0.252	165.57	0.218	143.23	
17		501.30	155.72	657.02	657.02	0.231	151.77	0.198	130.09	
18		501.30	155.72	657.02	657.02	0.212	139.29	0.180	118.26	
19		501.30	155.72	657.02	657.02	0.194	127.46	0.164	107.75	
20		501.30	155.72	657.02	657.02	0.178	116.95	0.149	97.90	
21		585.69	43.20	628.89	628.89	0.163	102.51	0.135	84.90	
22		585.69	43.20	628.89	628.89	0.150	94.33	0.123	77.35	
23		585.69	43.20	628.89	628.89	0.137	86.16	0.112	70.44	
24		585.69	43.20	628.89	628.89	0.126	79.24	0.102	64.15	
25		585.69	43.20	628.89	628.89	0.115	72.32	0.092	57.86	
26		585.69	43.20	628.89	628.89	0.106	66.66	0.083	52.20	
27		585.69	43.20	628.89	628.89	0.097	61.00	0.076	47.80	
28		585.69	43.20	628.89	628.89	0.089	55.97	0.069	43.39	
29		585.69	43.20	628.89	628.89	0.082	51.57	0.063	39.62	
30		585.69	43.20	628.89	628.89	0.075	47.17	0.057	35.85	
TOTAL	(5,714.90)	14,279.48	3,647.22	12,211.79	12,211.79		7.69		(490.89)	

$$\text{IRR} = \text{Lower Rate} + \frac{\text{NPV of Lower Rate}}{\text{NPV of Lower Rate} - \text{NPV of Higher Rate}} \times (\text{Higher Rate} - \text{Lower Rate})$$

$$= 9\% + \frac{7.69}{498.58} \times 1$$

$$= 9\% + 0.02\%$$

$$= 9.02\%$$

Appendix 8: Investor's Commitment on Environmental Conservation and 2% CSR Fund

သို့

ဥက္ကဋ္ဌ
မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်
ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ရုံးအမှတ်(၃၂)၊ နေပြည်တော်။

နေ့စွဲ။ ။၂၀၁၄ ခုနှစ်၊ လ ( )ရက်။

အကြောင်းအရာ။ ။ မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်သို့ လုပ်ငန်းဆောင်ရွက်ခြင်းနှင့်ပတ်သက်၍ ကတိဝန်ခံချက်ပေးပို့ခြင်း။

လေးစားရပါသောလုပ်ကြီးမင်းခင်ဗျား ။ ။

၁။ အထက်ပါအကြောင်းအရာနှင့်ပတ်သက်၍ မြန်မာနိုင်ငံသားများ ရင်းနှီးမြှုပ်နှံမှုဥပဒေအရ ကျွန်မတို့၏ **"ဆန်တမ်အင်းလေး ရီဆော့ ကုမ္ပဏီ လီမိတက်" "SANCTUM INLE RESORT COMPANY LIMITED"** သည် ရှမ်းပြည်နယ်(တောင်ပိုင်း)၊ တောင်ကြီးခရိုင်၊ ညောင်ရွှေမြို့နယ်၊ အင်းလေးကန်တောရိုင်းတိရိစ္ဆာန်ဘေးမဲ့တောအတွင်း၊ မိုင်းသောက်ကျေးရွာအုပ်စု၊ မိုင်းသောက်ရွာကွင်း၊ အကွက်အမှတ် (၃၈) ရှိ ဧရိယာ (၆.၀၁ ဧက) အကျယ်အဝန်းမြေကွက်ပေါ်တွင် "ဟိုတယ်လုပ်ငန်း" ကို ဆောင်ရွက်ရန် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်သို့ အဆိုပြုလွှာ ပေးပို့တင်ပြ လျှောက်ထားသော ကုမ္ပဏီဖြစ်ပါသည်။

(က) ဤလုပ်ငန်းသည် မြန်မာနိုင်ငံသား ၁၀၀ % ရင်းနှီးမြှုပ်နှံသော ကုမ္ပဏီဖြစ်ပါသည်။

(ခ) ဤလုပ်ငန်းသည် နိုင်ငံတော်အတွက် စီးပွားရေးလုပ်ငန်းလုပ်ဆောင်သော အခြေခံစီးပွားရေးလုပ်ငန်းအဆောက်အဦကို အထောက်အကူပြုသောလုပ်ငန်းဖြစ်ကြောင်း ဝန်ခံကတိပြုအပ်ပါ သည်။

(ဂ) ကျွန်မတို့ ကုမ္ပဏီအနေဖြင့် လုပ်ငန်းဆောင်ရွက်ရာတွင်လည်း ပတ်ဝန်းကျင်ညစ်ညမ်းမှု နှင့် မီးဘေးအွန္တရာယ်မဖြစ်ပွားစေရန်အတွက် လိုအပ်သောအစီအမံများ၊ မီးဘေးကြိုတင်ကာကွယ်မှုများ ပြုလုပ်ဆောင်ရွက်ထားမည် ဖြစ်ပါကြောင်းနှင့် သဘာဝဘေးအွန္တရာယ် ကြိုတင်ကာကွယ်မှု အတွက်လည်း အစီအမံများပြုလုပ်သွားမည့်အပြင် ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်၏ဥပဒေများ၊ နည်းဥပဒေစည်းမျဉ်းစည်းကမ်း၊ လုပ်ထုံးလုပ်နည်းများနှင့်အညီ ပတ်ဝန်းကျင်ညစ်ညမ်းမှုမရှိစေရန် အကောင်အထည်ဖော်ဆောင်ရွက်သွားမည်ဟု ဝန်ခံကတိပြုပါသည်။

(ဃ) "ဆန်တမ်အင်းလေး ရီဆော့ ကုမ္ပဏီ လီမိတက်" "SANCTUM INLE RESORT COMPANY LIMITED" အနေဖြင့် ပြည်ပမှ ဝယ်ယူတင်သွင်းမည့် စက်ပစ္စည်းများရှိခဲ့ပါကလည်း ကောင်းမွန်သော အရည်အသွေးရှိသော ပစ္စည်းများကိုသာ တင်သွင်းမည်ဖြစ်ကြောင်း ဝန်ခံကတိပြုအပ်ပါသည်။

(င) ဤအဆိုပြုလုပ်ငန်းများဆောင်ရွက်မှုအတွက် နိုင်ငံခြားငွေဖြင့်ရရှိသောအခကြေးငွေများရှိခဲ့ပါက "မြန်မာ့နိုင်ငံခြားကုန်သွယ်မှုဘဏ်" (MFTB) သို့မဟုတ် "မြန်မာ့ရင်းနှီးမြှုပ်နှံမှုနှင့်ကူးသန်းရောင်းဝယ်ရေးဘဏ်" (MICB) သို့မဟုတ် "နိုင်ငံခြားငွေများကို တရားဝင် ရောင်းဝယ်ခွင့်ပြုမိန့်ရရှိပတားသောပုဂ္ဂလိကဘဏ်များ" ၏ ငွေစာရင်းသို့ မပျက်မကွက်ပေးသွင်းမည်ဖြစ်ကြောင်း ဝန်ခံကတိပြုပါသည်။

(စ) ယင်းသို့ပေးသွင်းထားရှိသည့် နိုင်ငံခြားငွေများကို နိုင်ငံတော်မှသတ်မှတ်ခွင့်ပြုထားသည့် နိုင်ငံခြားငွေလဲလှယ်ခြင်းဥပဒေ၊ နည်းဥပဒေများ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် အခါအားလျော်စွာ ပြဋ္ဌာန်းလာသော ညွှန်ကြားချက်များအတိုင်းလဲလှယ်ပြီး၊ လုပ်ငန်းလိုအပ်ချက်နှင့် မိမိလုပ်ငန်းအတွက် အလုပ်သမားများ၏ လုပ်အားခများအား ပေးဆောင်မည်ဖြစ်ကြောင်း ဝန်ခံကတိပြုပါသည်။

(ဆ) ဟိုတယ်လုပ်ငန်းကို ဆောင်ရွက်ရာတွင်လည်း အမျိုးသားယဉ်ကျေးမှုနှင့် ပတ်သက်၍ ထိန်းသိမ်းသွားနိုင်ရေးအတွက် ဟိုတယ်နှင့်ခရီးသွားလာရေးလုပ်ငန်းဝန်ကြီးဌာနမှ ချမှတ်သော ညွှန်ကြားချက်များအတိုင်း လိုက်နာဆောင်ရွက် ပါမည်ဟု ဝန်ခံကတိပြုပါသည်။

၂။ ထို့အပြင် ကျွန်မတို့၏ "ဆန်တမ်အင်းလေး ရီဆော့ ကုမ္ပဏီ လီမိတက်" "SANCTUM INLE RESORT COMPANY LIMITED" အနေဖြင့် နိုင်ငံတော်အစိုးရမှပြဋ္ဌာန်းထားသော ဥပဒေများ၊ နည်းဥပဒေများ၊ လုပ်ထုံးလုပ်နည်းများ၊ စည်းကမ်းဥပဒေများ၊ အမိန့်များ၊ ညွှန်ကြားချက်များနှင့် အခါအားလျော်စွာ ပြဋ္ဌာန်းထားသောအမိန့်များ၊ စည်းမျဉ်းစည်းကမ်းများ၊ ညွှန်ကြားချက်များကိုလည်း လိုက်နာဆောင်ရွက်မည်ဖြစ်ကြောင်း ထပ်ဆင့်ဝန်ခံကတိပြုပါသည်။

ရိုသေလေးစားစွာဖြင့်
လျှောက်ထားသူ

(ဒေါ်စုစုတင်)
မန်နေးဂျင်းဒါရိုက်တာ
ဆန်တမ်အင်းလေး ရီဆော့ ကုမ္ပဏီ လီမိတက်

Appendix 9: Laboratory result of Tube well water

ISO TECH LABORATORY

Laboratory Technical Consultant: U Saw Christopher Maung
B.Sc Engg: (Civil), Dip S.E (Delft) Lecturer of YIT (Retd), Consultant (Y.C.D.C), LWSE 001.
Former Member (UNICEF, Water quality monitoring & Surveillance Myanmar)

WTL-RE-001
Issue Date - 01-12-2012
Effective Date - 01-12-2012
Issue No - 1.0/Page 1 of 2

W1114 040

WATER QUALITY TEST RESULTS FORM

Client	E - Guard Enviromental Services Co.,Ltd.
Nature of Water	Ground Water (ISO - GW - 02) Mine Thaut
Location	Inlay Initial Enviromental Examination (IEE) Project
Date and Time of collection	4.11.2014
Date and Time of arrival at Laboratory	5.11.2014
Date and Time of commencing examination	6.11.2014
Date and Time of completing	8.11.2014

Results of Water Analysis			WHO Drinking Water Guideline (Geneva - 1993)
pH	7.5		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	5	NTU	5 NTU
Conductivity		micro S/cm	
Total Hardness	198	mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
Calcium Hardness		mg/l as $CaCO_3$	
Magnesium Hardness		mg/l as $CaCO_3$	
Total Alkalinity	250	mg/l as $CaCO_3$	
Phenolphthalein Alkalinity		mg/l as $CaCO_3$	
Carbonate ($CaCO_3$)		mg/l as $CaCO_3$	
Bicarbonate (HCO_3)		mg/l as $CaCO_3$	
Iron	0.29	mg/l	0.3 mg/l
Chloride (as CL)	3	mg/l	250 mg/l
Sodium chloride (as NaCL)		mg/l	
Sulphate (as SO_4)		mg/l	200 mg/l
Total Solids		mg/l	1500 mg/l
Suspended Solids		mg/l	
Dissolved Solids		mg/l	1000 mg/l
Manganese		mg/l	0.05 mg/l
Phosphate		mg/l	
Phenolphthalein Acidity		mg/l	
Methyl Orange Acidity		mg/l	
Salinity		ppt	

Remark: This certificate is issued only for the receipt of the test sample.

Tested by
Signature:
Name: Zaw Hein Oo
~~B.Sc (Chemistry)~~
Chemist
~~ISO TECH Laboratory~~

Approved by
Signature:
Name: Soe Thit
~~B.E (Civil) 1980,~~
Technical Officer
~~ISO TECH Laboratory~~

(a division of WEG Co.,Ltd.)
No.18, Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar.
Ph: 01-640955, 09-73225175, 09-73242162, Fax: 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

Appendix 10: Detailed result of hourly environmental dust monitoring of the hotel site

No.	Times	Average			Maximum			Minimum		
		TSP	PM10	PM2.5	TSP	PM10	PM2.5	TSP	PM10	PM2.5
1	10:00-11:00	65.76	39.31	26.04	83.6	45.80	33.40	39.9	31.1	20.5
2	11:00-12:00	83.58	40.79	22.44	146.8	54.80	30.80	30	25.5	16.8
3	12:00-13:00	56.19	32.61	21.38	91.7	39.80	26.10	39.4	22.8	14.6
4	13:00-14:00	51.70	25.76	13.23	103.6	36.40	15.40	18.5	16.4	10
5	14:00-15:00	53.87	24.53	10.41	166.3	61.90	12.00	21.6	14.3	8.6
6	15:00-16:00	104.58	44.84	12.08	309.9	129.30	19.00	22.5	16.3	9
7	16:00-17:00	303.08	192.23	58.88	1113.6	741.50	139.70	28.9	23.1	12
8	17:00-18:00	2165.56	1501.54	185.64	6500	5771.70	628.40	531.2	314.3	47.7
9	18:00-19:00	269.68	185.55	40.60	1191.9	904.80	133.80	131.4	70.8	26.6
10	19:00-20:00	91.891667	63.92	26.54	149.5	108.40	41.90	56.2	36.6	20.3
11	20:00-21:00	104.62	73.48	26.58	318.1	182.40	47.90	40.8	37	20.3
12	21:00-22:00	59.33	46.14	26.49	110.1	89.20	68.90	42	33.2	19.2
13	22:00-23:00	71.33	53.12	28.50	144.1	107.40	61.30	36.9	32.2	18.1
14	23:00-0:00	56.36	47.50	33.33	162.5	127.60	94.10	26.3	25.2	17.5
15	0:00:0-1:00	62.09	51.18	21.08	316.2	246.70	43.60	25.1	22.7	17.2
16	1:00:0-2:00	31.53	26.14	18.40	50.2	30.70	19.60	24.4	23.6	17.5
17	2:00:0-3:00	26.58	24.96	19.39	31.1	28.70	20.30	24.5	23.7	18.9
18	3:00:0-4:00	29.28	27.35	21.58	36.3	35.90	30.00	23.9	23.8	18.8
19	4:00:0-5:00	39.72	36.72	27.95	66.7	55.70	35.60	26.8	26.3	21
20	5:00:0-6:00	60.49	50.94	28.04	117.2	90.30	39.50	33.3	32.6	22.6
21	6:00:0-7:00	130.77	107.71	62.50	249.7	202.10	127.70	48.3	45.2	29.5
22	7:00:0-8:00	198.25	150.05	61.63	390	284.70	101.00	84.3	78.9	47.1
23	8:00:0-9:00	254.98	142.81	47.31	1128.5	584.00	93.40	50.5	46.8	31.9
24	9:00-10:00	354.89	140.11	43.07	1927.6	626.90	61.50	71.6	50.2	33.2
	24 Hours	**196.92**	**130.39**	**36.79**	**621.05**	**441.11**	**80.20**	**61.60**	**44.69**	**21.62**

Appendix 11: Detailed result of measurement of day and night noise level of hotel site

Project Name : Measuring for air quality by Inle Hotels
Location :Sanctum Inle Hotel
Lat: 20º 34' 19" N
Long: 96º 56' 37"E
Measured By: MyoKyawHtun
Interval : 30 Seconds (24 Hrs)
12/12/2014 09:00 PM To 13/12/2014 01:20 AM

No.	Date	Time	Mean Value	Weight	Day/ Night
1	12/12/2014	09:05:00-10:05:00	57.3	A	Day
2	12/12/2014	10:05:30-11:05:00	56.3	A	Day
3	12/12/2014	11:05:30-12:05:00	56.1	A	Day
4	12/12/2014	12:05:30-13:05:00	51.8	A	Day
5	12/12/2014	13:05:30-14:05:00	57.3	A	Day
6	12/12/2014	14:05:30-15:05:00	57.7	A	Day
7	12/12/2014	15:05:30-16:05:00	58.2	A	Day
8	12/12/2014	16:05:30-17:05:00	57.1	A	Day
9	12/12/2014	17:05:30-18:05:00	53.6	A	Day
10	12/12/2014	18:05:30-19:05:00	54.5	A	Day
11	12/12/2014	19:05:30-20:05:00	54.7	A	Day
12	12/12/2014	20:05:30-21:05:00	54.5	A	Day
13	12/12/2014	21:05:30-22:05:00	54.4	A	Day
14	12/12/2014	22:05:30-23:05:00	54.7	A	Night
15	12/12/2014	23:05:30-00:05:00	53.4	A	Night
16	13/12/2014	00:05:30-01:05:00	44.2	A	Night
17	13/12/2014	01:05:30-02:05:00	41.7	A	Night
18	13/12/2014	02:05:30-03:05:00	42.0	A	Night
19	13/12/2014	03:05:30-04:05:00	42.9	A	Night
20	13/12/2014	04:05:30-05:05:00	43.8	A	Night
21	13/12/2014	05:05:30-06:05:00	44.3	A	Night
22	13/12/2014	06:05:30-07:05:00	48.4	A	Day
23	13/12/2014	07:05:30-08:05:00	53.9	A	Day
24	13/12/2014	08:05:30-09:05:00	53.0	A	Day

Appendix 12: Detailed list of machineries and equipment for hotel

Annexure No. (V)

PROPOSAL FORM (1) REF-ITEM 8(a)(vi), 8(b)(iii), 9 (g)

TOTAL SUPPLIES REQUIREMENT

TO BE IMPORTED

Currency in MMK

S/n	DESCRIPTION	SPECIFICATION	QUANTITY	UNIT PRICE	TOTAL PRICE
1	Mattress Protector (King) 200*200		80	19.90	1,592.00
2	Mattress Protector King 240*200		100	23.00	2,300.00
3	Mattress Protector (Single) 120*200		70	12.50	875.00
4	Mattress Topper (Overlay) (King 200*200)		100	82.00	8,200.00
5	Mattress Topper (Overlay) 240*200		50	100.00	5,000.00
6	Mattress Topper (Overlay) (Single) 120*200		100	52.00	5,200.00
7	Mattress King (200*200*26)		100	345.00	34,500.00
8	Mattress King Single (split table - 120*200*26)		60	211.00	12,660.00
9	Mattress King Single (split table - 100*200*26)= Villas		70	182.00	12,740.00
10	Bed Sheet (King) 342*302		60	32.00	1,920.00
11	Bed Sheet (King) 290*290		400	28.00	11,200.00
12	Bed Sheet (Single) 220*290		500	24.00	12,000.00
13	Duvet (King) 270*235 (7 extra for King single)		170	66.00	11,220.00
14	Duvet (Single) 190*235 (2 extra for emergency)		450	48.00	21,600.00
15	Duvet Cover (King) 270*235		400	39.50	15,800.00
16	Duvet Cover (Single) 190*235		400	30.00	12,000.00
17	Back Pillow 55*75		400	45.00	18,000.00
18	Front Pillow 45*65		400	41.00	16,400.00
19	Back Pillow Cover 55*75		1,300	4.10	5,330.00
20	Front Pillow Cover 45*65		1,300	3.55	4,615.00
21	Baby duvet 85*150		100	17.20	1,720.00
22	Baby bed sheet 65*195		15	8.10	121.50
23	Baby duvet cover 80*150		15	12.50	187.50
24	Baby pillow cover 35*50		15	1.25	18.75
25	Baby pillow 35*50		15	2.45	36.75
26	Bath towel - White. 80*160 -850gm/pcs		200	10.62	2,124.00
27	Hand towel - White. 40*70		200	1.87	374.00
28	Face towel - White. 34*34		200	0.80	160.00
29	Bath mat - White. 50*70		200	4.00	800.00
30	Bathrobe		200	14.80	2,960.00
31	Restroom towels. 30*30		700	0.50	350.00
32	Bath towel Spa. 100*200 (Color TBA)		300	22.23	6,669.00
33	Hand towel Spa. 40*70 (Color TBA)		300	2.40	720.00
34	Face towel Spa. 34*34 (Color TBA)		550	0.92	506.00
35	Face towel (25*25) - Welcome (Color TBA)		130	0.50	65.00
36	Bathmats 50*70 (Color TBA)		130	5.50	715.00
37	Restaurant Napkins (56*56)		1,300	1.37	1,781.00
38	Wine Napkins		300	1.20	360.00
39	Table Clothes		360	20.00	7,200.00
40	Face towel Welcome (25*25)		800	0.50	400.00
41	Extra Bed/ Rollaway Bed (100*200*35)		5	315.00	1,575.00
42	Dinner Plate	31 cm	120	5.45	654.00
43	Starter Plate for Buffet use	27 cm	300	2.95	885.00
44	Plate for Buffet Dissert (Medium)	21 cm	240	2.25	540.00

Annexure No. (V)(A)

PROPOSAL FORM (1) REF-ITEM 8(a)(vi), 8(b)(iii), 9 (g)

TOTAL SUPPLIES REQUIREMENT

TO BE IMPORTED

Currency in MMK

S/n	DESCRIPTION	SPECIFICATION	QUANTITY	UNIT PRICE	TOTAL PRICE
45	Bread & Butter Plate	17 cm	300	1.58	474.00
46	Soup Plate	23 cm	48	4.69	225.12
47	Pasta Plate	27 cm	36	5.45	196.20
48	Noodle Soup Bowl	20 cm- 950 oo	24	8.31	199.44
49	Noodle Bowl	950oo	24	8.79	210.96
50	Fruit Bowl	30 cm -350oo	240	1.88	451.20
51	Cereal Bowl	14.5cm - 600oo	24	2.26	54.24
52	Vegetable Bowl	26 cm-2800 oo	35	14.76	516.60
53	Soup Bowl	18 cm-650oo	24	2.50	60.00
54	Cereal Bowl	14.5cm - 560oo	60	2.38	142.80
55	Salad Bowl Small Cole Elaw Dish	9 cm-1900oo	60	1.35	81.00
56	Dipping Sauce Bowl	9 cm-600oo	95	1.14	108.30
57	Condiment Cup	160oo	10	3.43	34.30
58	Egg Plate	12 cm	48	1.49	71.52
59	Tea Pot 0.450 Lt Body with Ltd (set of 2)	450oo	36	8.15	293.40
60	Coffee Pot 0.650 Lt Body with Ltd(Set of 2)	650oo	35	9.04	316.40
61	Coffee Cup	200oo	300	1.88	564.00
62	Coffee Cup Saucer	15 cm	300	1.23	369.00
63	Espresso Cup	90 oo	35	1.05	36.75
64	Espresso Cup Saucer	12 cm	35	0.88	30.80
65	Creamer	150oo	72	1.68	120.96
66	Salt Shaker	no emboss	72	1.43	102.96
67	Pepper Shaker	no emboss	72	1.43	102.96
68	Sugar Packet Holder	220oo	72	1.80	129.60
69	Ashtray with 2 notches	9 cm	48	2.21	106.08
70	Soya Sauce/ Butter Dish	30oo	192	0.60	115.20
71	Tooth Pick Holder	-	48	1.25	60.00
72	DUO Oval Platter	33 cm	48	6.84	328.32
73	DUO Oval Platter	28 cm	48	5.69	273.12
74	SQ,SC Square Tray	29 cm	36	7.84	282.24
75	SQ,SC Square Salad Bowl	24 cm	48	5.94	285.12
76	SQ,SC Square Salad Bowl	2250oo	36	12.34	444.24
77	SQ,SC Rectangular Tray	15.5 x 35cm	36	5.99	215.64
78	Can Cup 200oo Fartar Followare Collection	250oo	300	1.88	564.00
79	Multi Purpose Saucer 15cm Fartar Followare Collection	16 cm	300	1.23	369.00
80	Coffee/Tea Spoon from WNK Chatsworth Line	14.5cm	350	0.93	325.50
81	SQ/SC Rectangular Tray ' Fruit Set Up'	13.5 x 27cm	48	3.78	181.44
	Total Amount in USD		**16,800**		**252,516.91**
	Total Amount in MMK				**242,416,233.60**
	Total (MMK in Million)				**242.42**

Foreign exchange rate is applied as 960kyats/USD.