

# **Gold Emperor (Myanmar) Company Limited**

## **Environmental Management Plan**

**Manufacturing of Various kinds of Shoes on CMP Basis**

31-Jan-24

# **GOLD EMPEROR (MYANMAR) COMPANY LIMITED**

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Date: 31-1-2024

## **Commitment of Gold Emperor (Myanmar) Company Limited**

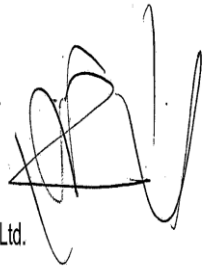
Gold Emperor (Myanmar) Company Limited compliance with EIA procedure (2015) and other related laws/rules.

We believe, to the best of our knowledge at the time of writing, that;

- The EMP report is accurate and complete
- The EMP report has been prepared in strict compliance with all applicable laws, rules, regulations and procedures in force.

Gold Emperor (Myanmar) Company Limited will at all times comply fully with all commitment and obligations in the EMP report.

We acknowledge and understand that



Gold Emperor (Myanmar) Co., Ltd.

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**Abbreviation**

1. CEMP	= Construction Environmental Management Plan
2. CMP	= Contract Manufacturing Process
3. CSR	= Corporate Social Responsibility
4. ECC	= Environmental Compliance Certificate
5. ECD	= Environmental Conservation Department
6. EIA	= Environmental Impact Assessment
7. EMoP	= Environmental Monitoring Plan
8. EMP	= Environmental Management Plan
9. GIIP	= Good International Industry Practices
10. HSE	= Health, Safety and Environment
11. IEE	= Initial Environmental Examination
12. IFC	= International Finance Corporation
13. NEQG	= National Environmental Quality (Emission) Guidelines
14. MIC	= Myanmar Investment Commission
15. MOECA	= Ministry of Environmental Conservation and Forestry
16. MONREC	= Ministry of Natural Resources and Environmental Conservation
17. OEMP	= Operation Environmental Management Plan
18. OSHA	= Occupational Safety and Health Administration
19. PPE	= Personal Protective Equipment
20. WHO	= World Health Organization
21. YCDC	= Yangon City Development Committee
22. YESB	= Yangon City Electricity Supply Board



## အစီရင်ခံစာအကျဉ်းချုပ်

### နိဒါန်း

လူတိုင်းသည် သန့်ရှင်းပြီး ကျန်းမာသည့် နေရာတွင်နေထိုင်လိုကြသည်။ ယခုအချိန်တွင် ကမ္ဘာ့မြေ၏အဓိက စိုးရိမ်ပူပန်မှုမှာ ပတ်ဝန်းကျင် ပြောင်းလဲမှုဖြစ်စဉ်များကြောင့်ဖြစ်သည်။ အဘယ်ကြောင့်ဆိုသော် လူသားတို့၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအပေါ် ပေါ့ဆမှုကြောင့်ဖြစ်သည်။ ထို့ကြောင့် သဘာဝပတ်ဝန်းကျင် ထိခိုက်မှုမဖြစ်စေရေး၊ ရေရှည်စဉ်ဆက်မပြတ် တိုးတက်ကောင်းမွန်ရေးအတွက် စနစ်ကျသော ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်ရှိရန်လိုအပ်ပါသည်။ ထို့ကြောင့် Gold Emperor (Myanmar) Company Limited ၏ ထုတ်လုပ်မှုလုပ်ငန်းအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် (EMP) ကို အကောင်အထည်ဖော်ခဲ့ပါသည်။ EMP ၏ အဓိက ရည်ရွယ်ချက်မှာ ညစ်ညမ်းမှုထိန်းသိမ်းရေး စွန့်ပစ်ပစ္စည်းလျော့ချရေးနှင့် စွန့်ပစ်ပစ္စည်းများကို ပြန်လည်အသုံးပြုရေး အစီအစဉ်များကို အလေးထားဖော်ပြထားပြီး၊ စက်မှုလုပ်ငန်းဆိုင်ရာ တိကျသော ထိန်းချုပ်မှု အစီအမံများအပြင် အခြားအဆိုပြုထားသည့် စက်မှုလုပ်ငန်းသည် အောက်ပါလမ်းညွှန်ချက်များကို လိုက်နာသင့်သည်။

အဆိုပြုလုပ်ငန်းသည် CMP စနစ်ဖြင့် အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်းအတွက် ရင်းနှီးမြှုပ်နှံသော ကုမ္ပဏီဖြစ်ပါသည်။ ရင်းနှီးမြှုပ်နှံမှုလိုင်စင်ကို ရင်းနှီးမြှုပ်နှံမှုလိုင်စင်ကို ၂၀၁၉ခုနှစ်၊ ဩဂုတ်လ၊ ၈ ရက်နေ့တွင်(ထောက်ခံချက်အမှတ်၁၇၇/၂၀၁၉) ဖြင့် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်မှ ရရှိပြီးဖြစ်ပါသည်။ လုပ်ငန်းလည်ပတ်ရန်အတွက် မြန်မာနိုင်ငံသယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဝန်ကြီးဌာန (MONREC) ၏ အတည်ပြုချက်ရယူရန် လိုအပ်ကြောင်း ကော်မရှင်မှ မှာကြားခဲ့ပါသည်။

ထို့ကြောင့် မြန်မာနိုင်ငံ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂)အရ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) ပြုလုပ်ရန်လိုအပ်ကြောင်း ၂၀၂၃ ခုနှစ်၊ အောက်တိုဘာလ၊ ၅ ရက်နေ့တွင် (စာအမှတ်၊ အီးအိုင်အေ-၁/၇/အီးအိုင်အေ မှ အီးအမ်ပီ (၄၇၈၉/၂၀၂၃) ဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ရန်ကုန်တိုင်းဒေသကြီးမှ သဘောထားမှတ်ချက် ရရှိပြီးဖြစ်ပါသည်။ ထို့ကြောင့် EMP အစီအရင်ခံစာအား ဆောင်ရွက်ခဲ့ပါသည်။

### ဥပဒေနှင့် မူဝါဒဆိုင်ရာ အချက်အလက်များ

EMP ရေးဆွဲခြင်း၏ရည်ရွယ်ချက်မှာ နိုင်ငံတော်နှင့် နိုင်ငံတကာမှ ချမှတ်ထားသော ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးအစီအစဉ်များ၊စည်းမျဉ်းစည်းကမ်းများ၊ဥပဒေနှင့်နည်းဥပဒေများကိုလိုက်နာပြီး ပတ်ဝန်းကျင်နှင့်လိုက်ရောညီထွေရှိသောထိခိုက်မှုလျော့ချရေး အစီအစဉ်များပြုလုပ်ရန်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အစီရင်ခံစာရေးသားပြုစုသူများ၏ ကျွမ်းကျင်မှုနယ်ပယ်ဆိုင်ရာ ဖော်ပြချက်များကို ရေးသားဖော်ပြထားပါသည်။ ဥပဒေနှင့် နည်းဥပဒေ အခန်းတွင် MONREC မှ ထုတ်ပြန်ထားသည့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများ၊

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အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များအပြင် စက်ရုံနှင့် ဆက်စပ်သက်ဆိုင်နေပြီးလိုက်နာရမည့် ဥပဒေနှင့် နည်းဥပဒေများ၊ ဒေသတွင်း သို့မဟုတ် အပြည်ပြည်ဆိုင်ရာ သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုပတ်ဝန်းကျင်ဆိုင်ရာ မူဝါဒများ၊ ဆက်စပ်နေသည့် နိုင်ငံတကာသဘောတူချက်များကို အကျဉ်းချုပ်ရေးသားဖော်ပြထားပါသည်။ စက်ရုံအတွင်းလိုက်နာ ဆောင်ရွက်ရမည့် စည်းမျဉ်းစည်းကမ်းများ၊ လုပ်ငန်းခွင် အန္တရာယ်ကင်းရှင်းရေးနှင့် ကျန်းမာရေးဆိုင်ရာ အခြေခံစည်းမျဉ်းစည်းကမ်းများလည်း ထည့်သွင်းဖော်ပြထားပါသည်။ Gold Emperor (Myanmar) Company Limited ၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ကတိကဝတ်များအပြင် ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချရေး မူဝါဒများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။

1. The Constitution Law, 2008
2. The Environmental Conservation Law, 2012
3. The Environmental Conservation Rule, 2014
4. Environmental Impact Assessment Procedure, 2015
5. National Environmental Quality (Emission) Guideline, 2015
6. National Myanmar Environmental Policy, 2019
7. Foreign Investment Law, 2012
8. Foreign Investment Rule, 2013
9. Myanmar Investment Law, 2016
10. Myanmar Investment Rule, 2017
11. Myanmar Insurance Law, 1993
12. Payment of Wages Law, 2016
13. The Payment of Wages Act, 1936
14. Yangon City Development Committee Law, 2018
15. The Amended Law for Factories Act, 1951 (2016)
16. The Private Industrial Enterprise Law
17. The Export and Import Law, 2012
18. The Prevention of Hazard from Chemical and Related Substances Law, 2013

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19. The Underground Water Act
20. Myanmar Fire Brigade Law, 2015
21. Fire Safety Procedure
22. The Electricity Law, 2014
23. Boiler Law, 2015
24. Labor Dispute Settlement Law, 2012
25. The Law Amending the Settlement of Labor Dispute Law, 2019
26. The Social Security Law, 2012
27. The Employment and Skill Development, 2013
28. The Worker’s Compensation Act, 1923
29. The Leave and Holidays Act (1951, partially reused in 2014)
30. The Minimum Wage Law, 2013
31. Public Health Law, 1972
32. Prevention and Control of Communicable Disease Law (1995 Amendment in 2011)
33. Occupational Safety and Health Law, 2019
34. The Law on Standardization
35. လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများဆိုင်ရာ ဥပဒေ (2018)
36. The Motor Vehicles Law, 2015
37. The Conservation of Water Resources and River Law, 2006
38. The Commercial Tax Law (1990 Amended 2014)

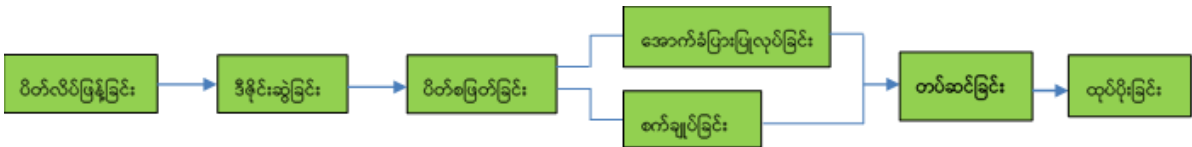
**စီမံကိန်းဆိုင်ရာအချက်အလက်**

ဆောင်ရွက်မည့် လုပ်ငန်းအမျိုးအစား	စီအမ်ပီစနစ်ဖြင့် ဖိနပ်မျိုးမျိုးချုပ်လုပ်ခြင်း
ကုမ္ပဏီမှတ်ပုံတင်အမှတ်	၁၁၉၉၂၈၀၀၁ (၁၁/၀၄/၂၀၁၉)
ရင်းနှီးမြုပ်နှံမှု အမျိုးအစား	၁၀၀ % နိုင်ငံခြားသားရင်းနှီးမြုပ်နှံမှု

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ရှယ်ယာ အမျိုးအစား	သာမန်အစုရှယ်ယာ
မြေအမျိုးအစား	စက်မှုဖုံးမြေ
မြေဧရိယာ	၇.၈၈ ဧက (၃၁၈၈၉.၂၃ စတုဂံမီတာ)
စီမံကိန်း တည်နေရာ	မြေကွက်အမှတ် (၃၀၆၊၃၀၇၊၃၀၈၊၃၀၉)၊ မြေတိုင်းရက်ကွပ်အမှတ် (၂၅)၊ ရွှေလင်ပန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။
ဆက်သွယ်ရန် ဖုန်းနံပါတ်	ဒေါ်ဝင်းဝင်းစံ ၀၉-၇၉၉၁၉၇၂၂၁

အဆိုပြုလုပ်ငန်းအတွက် တည်နေရာနှင့် စက်ရုံအတွင်းပါရှိသည့် အဆောင်များ၊ စားသောက်ဆောင်၊ စတိုးပြုပြင်ထိမ်းသေးရေးအခန်း၊ မီးဖိုချောင်အစရှိသည်တို့ကို သီးခြားဖော်ပြထားပါသည်။ ထို့အပြင် ထုတ်လုပ်မှုနည်းလမ်းများ၊ လိုအပ်သည့်ကုန်ကြမ်းများ၊ နှစ်စဉ်ထွက်ကုန်များ နှင့် စက်ပစ္စည်းများအားဖော်ပြထားပါသည်။ အဆိုပြုလုပ်ငန်း အတွက်လို အပ်သည့် စွမ်းအင်နှင့် အသုံးပြုသည့်ပမာဏများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။ ကျွန်ုပ်လုပ်ငန်းသုံးယာဉ်နှင့် ရုံးသုံးပစ္စည်းများကို ပြည်တွင်းမှ ဝယ်ယူအသုံးပြုပါသည်။ ကုန်ထုတ်လုပ်ခြင်းလုပ်ငန်းမှာ automatic machine နှင့်လူစွမ်းအားကို အသုံးပြုသောလုပ်ငန်းမျိုးဖြစ်ပါသည်။ ထုတ်လုပ်ပုံအဆင့်ဆင့်ကို အောက်ဖော်ပြပါ ပုံပြဇယားဖြင့် ဖော်ပြထားပါသည်။



**အနီးပတ်ဝန်းကျင် အခြေအနေ**

ကနဦးစစ်တမ်းကောက်ယူခြင်းနှင့် ဒေသဆိုင်ရာမှ အချက်အလက်များ ရယူခြင်းသည် အလွန်အရေးကြီးပါသည်။ ပတ်ဝန်းကျင်အရည်အသွေး တိုင်းတာခြင်းကဲ့သို့သော ကနဦးစစ်တမ်း ကောက်ယူခြင်းသည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာတွင် အရေးပါသောအခန်းအဖြစ် တည်ရှိနေသည်။ ထို့အတွက် စီမံကိန်းဒေသသို့ ကွင်းဆင်းလေ့လာမှုများကို ၂၇ရက်နေ့၊ ဒီဇင်ဘာလ၊ ၂၀၂၂ခုနှစ်တွင်လက်တွေ့ကွင်းဆင်းလေ့လာခဲ့ပြီးလိုအပ်သည့် လေအရည်အသွေး၊ ဆူညံမှု၊ အလင်း၊ အပူချိန်နှင့် စိုထိုင်းမှု အစရှိသည့် အချက်အလက်များကို ရယူခဲ့ပါသည်။ ကွင်းဆင်းလေ့လာထားသည် အချက်အလက်များကို သက်ဆိုင်ရာခေါင်းစဉ်အလိုက် အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များနှင့် နှိုင်းယှဉ်၍ ဖော်ပြထားပါသည်။ ထိုနည်းတူ လျှော့ချရမည့်နည်းလမ်းများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။ စီမံကိန်းတည်ရှိရာဒေသရှိ ရာသီဥတု၊ မိုးရေချိန်၊ လူမှုစီးပွားရေးဆိုင်ရာ အချက်အလက်များကိုလဲ ထည့်သွင်း ဖော်ပြထားပါသည်။

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**ပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လျော့ချရေး အစီအစဉ်**

စီမံကိန်းဆောင်ရွက်ချက်များကြောင့် ပတ်ဝန်းကျင်ဆိုင်ရာအရင်းအမြစ်များ၊ ဂေဟဆိုင်ရာ အရင်းအမြစ်များ၊ လူ့စွမ်းအားအရင်းအမြစ်များနှင့် စွန့်ပစ်ပစ္စည်းများ စွန့်ပစ်ခြင်း စသည့်ဖြစ်လာနိုင်သည့် ထိခိုက်မှုများကို ခွဲခြားသတ်မှတ်ပြီး ၎င်းတို့၏ ရလဒ်များကို ထိခိုက်မှုဆန်းစစ်သည့် နည်းလမ်းများကို အသုံးပြု၍ သတ်မှတ်ခဲ့ပါသည်။ စီမံကိန်းအား ထိခိုက်မှုများကို အပိုင်းသုံးပိုင်းခွဲ၍ သတ်မှတ်ထားသည်။ အမျိုးအစားမှာ တည်ဆောက်သည့်ကာလ၊ လုပ်ငန်းလည်ပတ်သည့် ကာလနှင့်လုပ်ငန်း : ဖျက်သိမ်းသည့် ကာလများဖြစ်ပါသည်။ ပတ်ဝန်းကျင်ထိခိုက်မှု လျော့ပါးစေရေး နည်းလမ်းများကိုလဲ ထည့်သွင်း ဖော်ပြထားပါသည်။

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
<p>တည်ဆောက်ရေးကာလ။ ။ပတ်ဝန်းကျင်ထိခိုက်မှုလေ့လာချိန်တွင် စက်ရုံတည်ဆောက်ပြီး လုပ်ငန်းလည်ပတ်နေချိန်ဖြစ်သော်ကြောင့် ဤကာလကိုထည့်သွင်း မဆင်းစားတော့ပါ။</p>			
<p>လုပ်ငန်းလည်ပတ်ခြင်းကာလ</p>			
<p>လေထုညစ်ညမ်းမှု</p>	<ul style="list-style-type: none"> <li>• သယ်ယူပို့ဆောင်ရေးသုံး မော်တော် ယာဉ်တို့ကြောင့် ဖုန်မှုနှင့် ဖန်လုံအိမ်ခါတ်ငွေ့ ထွက်ခြင်း</li> <li>• လုပ်ငန်းခွင်အတွင်းဖုန်မှု ထွက်ခြင်း</li> <li>• မီးဖိုနှင့်ရေခွေးငွေ့ ဘွိုင်လာ တို့မှ မီးခိုးထွက်ခြင်း</li> <li>• အရေးပေါ်သုံးမီးစက်မှာ စွန့်ထုတ်အခိုးအငွေ့ ထွက်ခြင်း</li> </ul>	<p>အသင့်တင့်</p>	<ul style="list-style-type: none"> <li>• ဘွိုင်လာနှင့်မီးစက် တို့တွင် မီးခိုးခေါင်းတိုင် တပ်ဆင်ခြင်းဖြင့် အခိုးအ ငွေ့ ကြောင့် ပတ်ဝန်းကျင် ထိခိုက်မှုကို လျော့ချခြင်း၊</li> <li>• စက်ရုံအတွင်းနှင့် အနီး အနားတွင် သစ်ပင်ပန်းမံ စိုက်ပျိုးခြင်းဖြင့် carbon ထွက်ရှိမှုကို လျော့ချပေးခြင်း၊</li> <li>• NOx ထွက်ရှိမှုနည်းသော နည်းပညာဖြင့် စက်ပစ္စည်း များသုံးခြင်း၊</li> <li>• စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။</li> </ul>
<p>ရေ</p>	<ul style="list-style-type: none"> <li>• မိလ္လာစွန့်ထုတ်ရေ</li> <li>• စက်ပစ္စည်း၊ မော်တော်ယာဉ်များမှ ဆီယိုဖိတ်ခြင်း</li> </ul>	<p>အနည်းငယ်</p>	<ul style="list-style-type: none"> <li>• လက်ရှိရေဆိုးစွန့်ပစ်မှုပုံစံ ဖြစ်သော မိလ္လာစနစ်ကို ပုံမှန်စစ်ဆေးပေးခြင်း၊</li> <li>• မိလ္လာကန်နှင့် မိလ္လာ စနစ်ကို လူဦးရေနှင့် သင့်တင့်သည့် ပမာဏ ရှိရန် စီစဉ်ထားခြင်း၊</li> <li>• ပုံမှန်သန့်ရှင်းရေးပြုလုပ်ပေးခြင်း။</li> </ul>

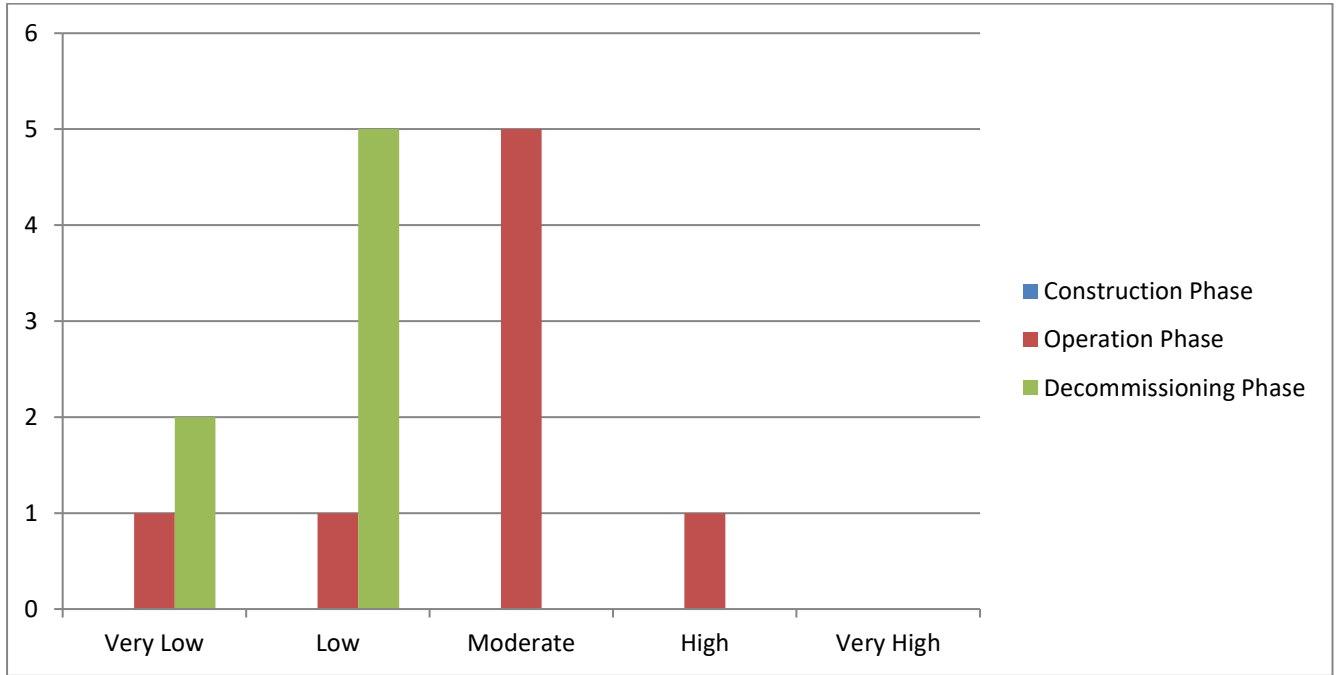
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			<ul style="list-style-type: none"> <li>စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။</li> </ul>
မြေဆီလွှာညစ်ညမ်းမှု	<ul style="list-style-type: none"> <li>မတော်တရားစက်ပစ္စည်း၊ မော်တော်ယာဉ်များမှ ဆီယိုဖိတ်ခြင်း</li> </ul>	အလွန်နည်း	<ul style="list-style-type: none"> <li>စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။</li> <li>မတော်တရား မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။</li> </ul>
ဆူညံသံ	<ul style="list-style-type: none"> <li>ဘို့လ်လာ၊ မီးစက်၊ လေမှုတ်စက် နှင့် မော်တော်ယာဉ် အသုံးပြုမှုကြောင့် ပတ်ဝန်းကျင် ဆူညံမှု</li> </ul>	အသင့်တင့်	<ul style="list-style-type: none"> <li>ဆူညံသံထွက်သောနေရာများကို အကာအကွယ်ဖြင့်ထားရှိခြင်း</li> <li>စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ပေးခြင်း</li> </ul>
မီးဘေးအန္တရာယ်	<ul style="list-style-type: none"> <li>ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျှပ်စစ်သုံးစွဲ ပေါ့လျော့မှု</li> </ul>	မြင့်	<ul style="list-style-type: none"> <li>ကုန်ကြမ်းများအား သီးသန့်ထားရှိခြင်း</li> <li>လျှပ်စစ်သုံးစွဲမှုများအား စနစ်တကျ အသုံးပြုစေခြင်း</li> </ul>
စွန့်ပစ်အမှိုက်	<ul style="list-style-type: none"> <li>ထုတ်လုပ်ရာတွင် ကျန်ရှိသော ပိတ်စ အပိုင်းအစများ၊ မီးဖိုချောင်နှင့် ရုံးတွင်းစွန့်ပစ်ပစ္စည်းများ</li> </ul>	အသင့်တင့်	<ul style="list-style-type: none"> <li>စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပီး သီးခြားစွန့်ပစ်စေခြင်း</li> </ul>
စွန့်ပစ်အရည်	<ul style="list-style-type: none"> <li>နေအိမ်၊ စားသောက်ဆောင်တို့မှစွန့်ထုတ်ရေ၊ မိလ္လာကန်စနစ်</li> </ul>	အသင့်တင့်	<ul style="list-style-type: none"> <li>စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပီး သီးခြားစွန့်ပစ်စေခြင်း</li> </ul>
အန္တရာယ်ရှိအမှိုက်	<ul style="list-style-type: none"> <li>စက်များမှ ဆီယိုဖိတ်မှုများ၊ မော်တော်ယာဉ်များပြုပြင်ထိန်းသိမ်းမှုက ထွက်ရှိသည့်အမှိုက်များ</li> </ul>	အလွန်နည်း	<ul style="list-style-type: none"> <li>စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း</li> </ul>
လူမှုစီးပွားဘဝ	<ul style="list-style-type: none"> <li>ဒေသခံပြည်သူများအတွက် အလုပ်အကိုင်အခွင့်အလမ်းများ ရရှိစေခြင်း</li> </ul>		
<b>လုပ်ငန်းပိတ်သိမ်းခြင်းကာလ</b>			
လေထုညစ်ညမ်းမှု	<ul style="list-style-type: none"> <li>အဆောက်အဦးများ ဖြိုချမှုများ</li> <li>ဖြိုချပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	အနည်းငယ်	<ul style="list-style-type: none"> <li>NOx ထွက်ရှိမှုနည်းသော နည်းပညာဖြင့် စက်ပစ္စည်းများသုံးခြင်း၊</li> <li>စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။</li> </ul>

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<p>ရေ</p>	<ul style="list-style-type: none"> <li>• ဖြိုရပစ္စည်းများနှင့် မိလ္လာဖျက်ဆီးမှုများ</li> </ul>	<p>အနည်းငယ်</p>	<ul style="list-style-type: none"> <li>• ပုံမှန်သန့်ရှင်းရေးပြုလုပ်ပေးခြင်း။</li> <li>• စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။</li> </ul>
<p>ဆူညံသံ စစ်ဆေးမှု</p>	<ul style="list-style-type: none"> <li>• ဖြိုရပစ္စည်းများနှင့် လုပ်ငန်းများ</li> <li>• ပျက်စီးသွားသော ပစ္စည်းများကို သယ်ယူပို့ဆောင်ခြင်း</li> </ul>	<p>အနည်းငယ်</p>	<ul style="list-style-type: none"> <li>• စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။</li> </ul>
<p>မြေဆီလွှာ ညစ်ညမ်းမှု</p>	<ul style="list-style-type: none"> <li>• အဆောက်အဦးနှင့် ဆက်စပ်ပစ္စည်းများ</li> <li>• ဖြိုရပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	<p>အနည်းငယ်</p>	<ul style="list-style-type: none"> <li>• မတော်တမူ မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။</li> </ul>
<p>အမှိုက်စွန့်ပစ်မှု</p>	<ul style="list-style-type: none"> <li>• အဆောက်အဦးများ</li> <li>• ဖြိုရပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	<p>အလွန်နည်း</p>	<ul style="list-style-type: none"> <li>• စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပီး သီးခြားစွန့်ပစ်စေခြင်း</li> </ul>
<p>အန္တရာယ်ရှိအမှိုက်</p>	<ul style="list-style-type: none"> <li>• စက်များမှ ဆီယိုစိမ့်မှုများ၊ မော်တော်ယာဉ်များ ပြုပြင်ထိန်းသိမ်းမှုက ထွက်ရှိသည့်အမှိုက်များ</li> <li>• ဖြိုရပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	<p>အလွန်နည်း</p>	<ul style="list-style-type: none"> <li>• စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း</li> </ul>
<p>မတော်တမံ ထိခိုက်မှုများ</p>	<ul style="list-style-type: none"> <li>• အဆောက်အဦးများ ဖြိုရမှုများ</li> <li>• ဖြိုရပစ္စည်းများ သယ်ယူမှုများ</li> </ul>	<p>အနည်းငယ်</p>	<ul style="list-style-type: none"> <li>• မတော်တမူ မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။</li> </ul>
<p>လူမှုစီးပွားဘဝ</p>	<ul style="list-style-type: none"> <li>• ဒေသခံပြည်သူများအတွက် အလုပ်အကိုင် ခေတ္တရရှိခြင်း</li> </ul>		

**Environmental Management Plan**



**ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်**

အဆိုပြုလုပ်ငန်း၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အတွက် Plan-Do-Check-Act (P D C A) စက်ဝိုင်းဖြင့် အစီစဉ်တကျ ပြုလုပ်သွားမည်ဖြစ်ပါသည်။ အစီအစဉ်တွင် စက်ရုံကြောင့် ဖြစ်ပေါ်စေနိုင်သော ပတ်ဝန်းကျင်နှင့် လူမှုဘဝအပေါ် ဆိုးကျိုးသက်ရောက်မှုများကို လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် စောင့်ကြပ်ကြည့်ရှုရေး အစရှိသည့် အစီအစဉ်များ ပါဝင်ပါသည်။ ၎င်း EMP အစီအစဉ်များကို အကောင်အထည်ဖော်ရန်အတွက် သည် စက်ရုံတွင် ကျန်းမားရေး၊ ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ပတ်ဝန်းကျင်ဆိုင်ရာ အဖွဲ့အစည်းတစ်ခုထားရှိပြီး လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် စောင့်ကြပ်ကြည့်ရှုရေး အစီအစဉ်များကို အကောင်အထည် ဖော်သွားမည်ဖြစ်ပါသည်။ အဆိုပါစက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို ရေရှည်ဖွံ့ဖြိုးတိုးတက်ကောင်းမွန်သော ပတ်ဝန်းကျင် အဖြစ် အကောင်အထည် ဖော်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ဆိုင်ရာ ဆိုးကျိုးသက်ရောက်မှုများကို လျော့နည်းစေရန် စီမံခန့်ခွဲမှုအစီအစဉ်များနှင့် စောင့်ကြပ်ကြည့်ရှုမည့် အစီအစဉ်များကို အောက်ပါအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ အကြောင်းအရာ တစ်ခုချင်းစီအလိုက် ခွဲခြားမှု ပြုလုပ်ထားပါသည်။

၁။ လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန့်ဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

- စက်ရုံတွင် ကာဗွန် နှင့် လေထုညစ်ညမ်းမှု လျော့ချရန် သစ်ပင်ပန်းပင်များ စိုက်ပျိုးထားရှိခြင်း၊
- စက်ရုံအတွင်း မည်သည့် စွန့်ပစ်အမှိုက်များကို မီးရှို့ဖျက်စီးခြင်းအား မပြုလုပ်စေခြင်း၊
- အမှုန်များသောနေရာများတွင် လုပ်ငန်းလုပ်ဆောင်ရမည့် လုပ်သားများကို မျက်နှာအုပ် (Mask) များတပ်ဆင်စေခြင်း။



**Environmental Management Plan**

၂။ ဆူညံမှုထိန်းခြင်းဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

- မီးစက်အသုံးပြုမှုအတွက် အသံလှုပ်ခန်းများဆောက်လုပ်ထားရှိခြင်း၊
- လုပ်ငန်းသုံးပြုသည့်ယာဉ်များကို သတ်မှတ်အရှိန်ထက် ကျော်လွန်၍ မမောင်းနှင်စေခြင်း
- လုပ်ငန်းခွင်အတွင်း လုပ်သားများအတွက် တစ်ကိုယ်ရေသုံး ကာကွယ်ရေးပစ္စည်း (PPE) များလုံလောက်စွာ ထားရှိပေးခြင်း
- လုပ်သားများကို PPE အသုံးပြုမှုနှင့် ပတ်သက်၍ သင်တန်းများပို့ချပေးခြင်းနှင့် ဆူညံသံများသော နေရာတွင် အလုပ်လုပ်စဉ်တွင် PPE များကိုသေချာစွာ အသုံးပြုစေခြင်း

၃။ အမှိုက်စွန့်ပစ်မှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

- စက်ရုံအတွင်း မည်သည့်စွန့်ပစ်ပစ္စည်းများကို မြစ်၊ ချောင်း၊ အင်းအိုင် အတွင်းသို့ မစွန့်ပစ်ရ။
- စွန့်ပစ်ပစ္စည်းများအား ပြန်လည်အသုံးပြုရန်နှင့် အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းအဖြစ် ခွဲခြားစွန့်ပစ်စေခြင်း၊
- အစိုင်အခဲစွန့်ပစ်ပစ္စည်းများ (အဝတ်အစုတ်စ၊ ညှပ်စ) အား ပြည်တွင်းဝယ်ယူသူများထံ ပြန်လည်ရောင်းချစေခြင်း၊
- အိမ်သုံးစွန့်ပစ်အမှိုက်နှင့် လုပ်သားစွန့်ပစ် အမှိုက်များကို YCDC နှင့် နေ့စဉ် စွန့်ပစ်ခြင်း
- အမှိုက်စွန့်ပစ်ခြင်းနှင့် ပတ်သက်၍ သင်တန်းပို့ချပေးခြင်း

၄။ ရေဆိုးစွန့်ပစ်မှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

- စက်ရုံ၏ မိလ္လာစနစ်နှင့် ရေစီးကြောင်းများ နှင့် အနီးဝန်းကျင်ရှိ ရေမြောင်းစနစ်များကို ရေလုံစေခြင်းနှင့် လုံလောက်သော အရွယ်အစား ထားရှိစေခြင်း
- မိလ္လာလိုအပ်ချက်များကို ပုံမှန်စစ်ဆေးပေးခြင်းနှင့် ပြုပြင်ထိန်းသိမ်းခြင်း

၅။ အရေးပေါ်တုန့်ပြန်ရေး အစီအစဉ်

- မီးသတ်ကိရိယာများနှင့် မီးသတ်နည်းစနစ်များကို လုပ်ငန်းဆောင်ရွက်သည့် နေရာတိုင်းတွင် ထားရှိပေးခြင်းနှင့် သိရှိစေခြင်း
- မီးဘေးကာကွယ်ရေး လမ်းကြောင်းမြေပုံ အသေးစိတ်ကို ပြုလုပ်ထားရှိရန်နှင့် လုပ်သားများကို အသိပေးထားခြင်း
- လုပ်သားများကို ငလျင်လှုပ် လျှင် လုပ်ဆောင်ရမည့် အချက်များကို အသိပေးထားခြင်း
- စက်ရုံ၏ ဆေးဘက်ဆိုင်ရာ အဖွဲ့အစည်းမှ ရှေးဦးသူနာပြုစုနည်းများ အတွက် ပြင်ဆင်ထားရှိခြင်း

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- မီးသတ်တပ်ဖွဲ့ ၊ ကယ်ဆယ်ရေးအဖွဲ့များ ဖြင့် လုံခြုံရေးကော်မတီ ဖွဲ့စည်းခြင်း၊ ကော်မတီမှ လုံခြုံရေး စီမံခန့်ခွဲရေး နှင့် ပတ်သက်သည်များ ဆွေးနွေးရန် လစဉ် အစည်းအဝေးများ ပြုလုပ်စေခြင်း

၆။ စွမ်းအင်စီမံခန့်ခွဲမှုအစီအစဉ်

- အပူအအေးထိန်းညှိပေးသည့် ကရိယာများတပ်ဆင်စေခြင်း
- စွမ်းအင်လျော့ချသည့် မီးလုံး၊ မီးချောင်းများတပ်ဆင်စေခြင်း
- စွမ်းအင်လျော့ချသည့်ကရိယာများ တပ်ဆင်ခြင်း
- အသုံးမပြုသည့်အချိန်တွင် စက်ပစ္စည်းများအား ပိတ်ထားခြင်း

၇။ စောင့်ကြပ်ကြည့်ရှုရေး အစီအစဉ်

၈။ လူမှုအကျိုးတူ ပူးပေါင်းပါဝင်မှု အစီအစဉ် CSR Plan

၉။ စွမ်းအင်မြှင့်တင်ခြင်းနှင့် လေ့ကျင့်ရေးအစီအစဉ်

၁၀။ မကျေနပ်မှု ဖြေရှင်းခြင်း နည်းလမ်း

အဆိုပြုလုပ်ငန်း၏ လူထုအကျိုးတူပူးပေါင်းပါဝင်မှုများအဖြစ် အကျိုးအမြတ်၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့်နယ်ပယ်ဖွံ့ဖြိုးတိုးတက်ရေးများတွင်ထည့်ဝင်လှူတန်းသွားမည်ဖြစ်ပါသည်။အဆိုပြုလုပ်ငန်း၏ ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုရေးလုပ်ဆောင်ရမည့်လုပ်ငန်းစဉ်များနှင့်ဖြေရှင်းရမည့်နည်းလမ်းများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။

**အများပြည်သူနှင့်တိုင်ပင်ဆွေးနွေးခြင်း နှင့် ထုတ်ဖော်ခြင်း**

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာဆောင်ရွက်နေချိန်တွင် လူထုတွေ့ဆုံဆွေးနွေးမှုပွဲ အစည်းအဝေးကို ၂၀၂၂ ခုနှစ်၊ ဒီဇင်ဘာလ ၂၉ ရက်နေ့တွင် ပြုလုပ်ခဲ့ပါသည်။ ဤ စီမံကိန်းအတွက် သက်ဆိုင်ရာ အဓိကရုံးများမှာ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန (ECD) ဖြစ်ပါသည်။ ထို့နောက် သက်ဆိုင်ရာတိုင်းဒေသကြီး အဆင့်တွင် အဓိကရုံးများမှာ ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ (YCDC)၊ အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန၊ မီးသတ်ဦးစီးဌာန၊ အထွေထွေအလုပ်သမား ဥပဒေစစ်ဆေးရေးဦးစီးဌာနနှင့် ပြည်သူ့ကျန်းမာရေးဦးစီးဌာန တို့ဖြစ်သည်။

အချိန် နှင့်နေ့ရက်	ကြာသပတေးနေ့၊ ၂၉ရက်၊ ဒီဇင်ဘာလ ၂၀၂၂ ခုနှစ် ၁၀:၀၀- ၁၂:၀၀ နာရီ
နေရာ	အမှတ် (၃၀၆၊၃၀၇၊၃၀၈၊၃၀၉)၊ မြေတိုင်းအမှတ် (၂၅)၊ ရွှေလင်ဗန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး
အခမ်းအနားအစီအစဉ်	<ul style="list-style-type: none"> <li>• စီမံကိန်း၏ နောက်ခံအချက်အလက်များ ရှင်းလင်းတင်ပြခြင်း။</li> <li>• စီမံကိန်းအကြောင်းအရာများရှင်းလင်းတင်ပြခြင်း</li> </ul>

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	<ul style="list-style-type: none"> <li>• ပတ်ဝန်းကျင်ထိခိုက်မှုအကဲဖြတ်ခြင်း၊ လျော့ချခြင်း အစီအစဉ်များရှင်းလင်းတင်ပြခြင်း</li> <li>• ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စောင့်ကြည့်လေ့လာရေး အစီအစဉ်များရှင်းလင်းတင်ပြခြင်း</li> <li>• Gold Emperor (Myanmar) Co., Ltd အားကွင်းဆင်းစစ်ဆေးမှုများ တင်ပြခြင်း</li> <li>• ဆွေးနွေးပွဲတက်သူများ၏ အကြံပြုချက်များ နှင့်မေးခွန်းများအား ပြန်လည်ဖြေကြားခြင်း</li> </ul>
စီစစ်ဆောင်ရွက်သူ	Myanwei Environmental Solutions Company Limited

**နိဂုံးနှင့် အကြံပြုချက်**

အကျဉ်းချုပ်အားဖြင့် ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု အလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက်ကျင့်သုံးရန်တာဝန်များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်တွင် ဖော်ပြရှင်းလင်းတင်ပြထားပါသည်။ စီမံကိန်းနှင့် သက်ဆိုင်သူများအား စီမံကိန်းဆိုင်ရာ အကြောင်းအရာများ ရှင်းလင်းတင်ပြခြင်း၊ အကြံပြုချက်များနှင့် ဆွေးနွေးတင်ပြလာသည့် သဘောထား အကြံဉာဏ်များကိုရယူပြီး အစီအရင်ခံစာတွင် ဖော်ပြထားပါသည်။

**အကြံပြုချက်များအရ-**

- အစီရင်ခံစာတွင် ဖော်ပြထားသည့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် ကတိကဝတ်များကို စီမံကိန်း၏ သက်တမ်းတလျှောက်တွင် အကောင်အထည်ဖော် ဆောင်ရွက်ရမည်။
- အစီအစဉ်နှင့် အရည် စွန့်ပစ်ပစ္စည်းများကို ရန်ကုန်မြို့တော် စည်ပင်သာယာရေးကော်မတီ၏ စည်းကမ်းများအတိုင်း စွန့်ပစ်ရမည်။
- အလုပ်သမားများအား သင့်တော်သော သင်တန်းများပေးခြင်း၊ လုပ်ငန်းခွင်အတွင်း တစ်ကိုယ်ရည် ကာကွယ်ရေး ပစ္စည်းများ အသုံးပြုစေခြင်းများ ဆောင်ရွက်ရမည်။
- ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ်များကို နေ့စဉ်၊ လစဉ်နှင့် နှစ်စဉ် လုပ်ငန်းခွင်အတွင်း လုပ်ဆောင်ရမည်။
- ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ် မှတ်တမ်းများကို သေချာသိမ်းဆည်း၍ တင်ပြရမည်။
- ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒ လမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု အလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက်ရ မည်။

အချုပ်အားဖြင့်ဆိုသော် အဆိုပြုသူသည် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဦးစီးဌာနမှ ညွှန်ကြားလာသော အဆိုပြုချက်များ၊ အကြံပြုချက်များကို လိုက်နာဆောင်ရွက်ရမည်။ ထိရောက်သော

**Environmental Management Plan**

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ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှုကို အဆိုပြုသူမှ ဆောင်ရွက်ရမည်။ အဆိုပြုသူသည် ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒ လမ်းညွှန်ချက်များအတိုင်း လိုက်နာဆောင်ရွက်ရမည်။

## EXECUTIVE SUMMARY

### **Introduction**

Environment Management Plan is required for ensuring sustainable development. It should not affect the surrounding environment adversely. The management plan presented in this chapter needs to be implemented by the proposed expansion of Gold Emperor (Myanmar) Company Limited. The Environment Management Plan (EMP) aims at controlling pollution at source with available and affordable technology followed by treatment measures. Waste minimization and waste recycling measures are emphasized. In addition to the industry specific control measures, the proposed industry should adopt following guidelines.

The project is new investment for manufacturing of High Quality Garment by Contract Manufacturing Process (CMP) basic company from China. The project is issued by the Yangon Region Investment Committee (YRIC) on 8 August 2019 with the Endorsement No. (YGN-177/2019). YRIC notified for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in Manufacturing of Garment on CMP basis under the name of Gold Emperor (Myanmar) Company Limited as a solely owned foreign investment from the China.

According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. EIA-1/7EIA to EMP (4789/2023) on 5 October 2023. Therefore, Gold Emperor (Myanmar) Company Limited conducted EMP report study. The specific objectives of this study are

- ✓ Identify the major impacts that are may arise from the activities of the proposed project on natural environmental and socio-economic environment of the project area
- ✓ Describe the mitigation measures to minimize these impacts
- ✓ Prepare and implement Environmental Management Plan for the project
- ✓ Make sure that EMP is developed sufficiently and sound for the proposed project and
- ✓ Corporate Social Responsibility Plan (CSR Plan) plays an essential part for the improvement of the social welfare of community as well as development of the region.

The proposed project aims to manufacturing sort of garment under CMP system and 100% export to foreign country.

The main purpose of this EMP report is to obey the rule and regulation of Local and International Environmental Protection programs and harmonize with the environmental and also describes the responsible person and his responsibility.

### **Policy, Legal and Institutional Framework**

National Laws and Regulations, international guidelines are referred for Environmental Management Plan of the proposed project.

**Environmental Management Plan**

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1. The Constitution Law, 2008
2. The Environmental Conservation Law, 2012
3. The Environmental Conservation Rule, 2014
4. Environmental Impact Assessment Procedure, 2015
5. National Environmental Quality (Emission) Guideline, 2015
6. National Myanmar Environmental Policy, 2019
7. Foreign Investment Law, 2012
8. Foreign Investment Rule, 2013
9. Myanmar Investment Law, 2016
10. Myanmar Investment Rule, 2017
11. Myanmar Insurance Law, 1993
12. Payment of Wages Law, 2016
13. The Payment of Wages Act, 1936
14. Yangon City Development Committee Law, 2018
15. The Amended Law for Factories Act, 1951 (2016)
16. The Private Industrial Enterprise Law
17. The Export and Import Law, 2012
18. The Prevention of Hazard from Chemical and Related Substances Law, 2013
19. The Underground Water Act
20. Myanmar Fire Brigade Law, 2015
21. Fire Safety Procedure
22. The Electricity Law, 2014
23. Boiler Law, 2015
24. Labor Dispute Settlement Law, 2012
25. The Law Amending the Settlement of Labor Dispute Law, 2019

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26. The Social Security Law, 2012
27. The Employment and Skill Development, 2013
28. The Worker's Compensation Act, 1923
29. The Leave and Holidays Act (1951, partially reused in 2014)
30. The Minimum Wage Law, 2013
31. Public Health Law, 1972
32. Prevention and Control of Communicable Disease Law (1995 Amendment in 2011)
33. Occupational Safety and Health Law, 2019
34. The Law on Standardization
35. လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများဆိုင်ရာ ဥပဒေ (2018)
36. The Motor Vehicles Law, 2015
37. The Conservation of Water Resources and River Law, 2006
38. The Commercial Tax Law (1990 Amended 2014)

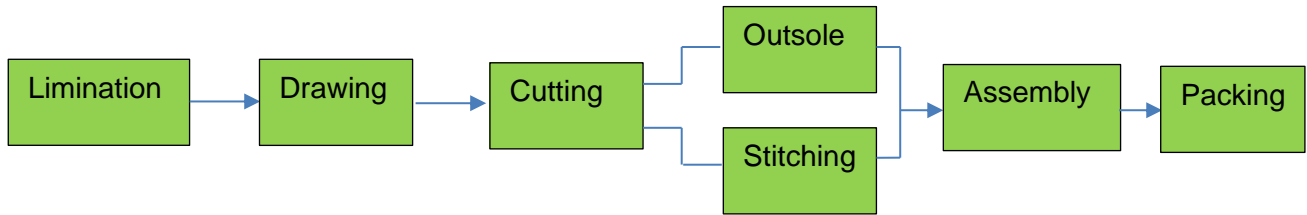
**Project Description**

Type of Proposed Business	Manufacturing of Various Kinds of Shoes on CMP Basis
DICA Registration	119928001 (11/04/2019)
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	7.88 acres (31889.23 sqm)
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Project Location	Land Plot No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region
Contact Name	Daw Win Win San
Phone	09-799197221

The proposed project is located at Yangon region. The total area of project site is 7.88 acres (31889.23 sqm). Main structure is designed into production area for one building. Transformer room, generator room and water treatment plant are separated by main factory building structure. The factory layout plan which is also can be seen in this report. The main product of the Gold Emperor (Myanmar) factory is garment product. The Utilities for proposed factory include electrical power, fuel diesel for

## Environmental Management Plan

emergency used generator and water for domestic use. Electric power is used for the purpose of to provide lighting.



### Production Process of Gold Emperor (Myanmar) Factory

#### Brief Description of Surrounding Environment

Primary data and secondary data collections are very important to assess environmental impacts. Primary data collections (environmental quality measurements and monitoring) play an important role for conducting EMP. Therefore, Myanmar Environmental Solutions Co., Ltd. conducted air quality, temperature and humidity, noise level measurement and light pollution measurement on 27 December, 2022 and compared with the National Environmental Quality (Emission) Guidelines and also described how to reduce the impact and how to maintain the pollutions. Also described the weather conditions, rainfalls and socio-economic component of the proposed project.

#### Potential Environmental Impact and Mitigation Measure

Possible effects, such as impacts on environmental resources, ecological resources, human and waste disposal due to construction, operation and decommissioning processes. Potential impacts for the proposed projects are normally differentiated into three main categories, viz, Construction phase, Operation phase and Decommissioning phase.

The relative importance of each impact is assessed based on the understanding that general mitigation measures will be integrated into the baseline project. Therefore, when the general mitigation measures reduce impacts to the point of rendering them negligible they are excluded from further analysis. Once the significance of the impact is established as more than negligible, it is described and additional, specific mitigation measures may be proposed to allow optimal integration of the project into the environment.

#### Evaluation and Prediction of Significant Impacts

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
<b>Construction Phase; It is not assessed in this phase, because of construction is already completed during EMP preparation.</b>							
<b>Operation Phase</b>							
Air pollution	<ul style="list-style-type: none"> <li>Dust and GHGs emission from vehicles used for transporting raw materials and final products</li> <li>Particulate matters emission from the activities of production process</li> <li>Emission of smoke from steam boiler (rice briquettes) and kitchen</li> </ul>	3	4	2	4	36	Moderate



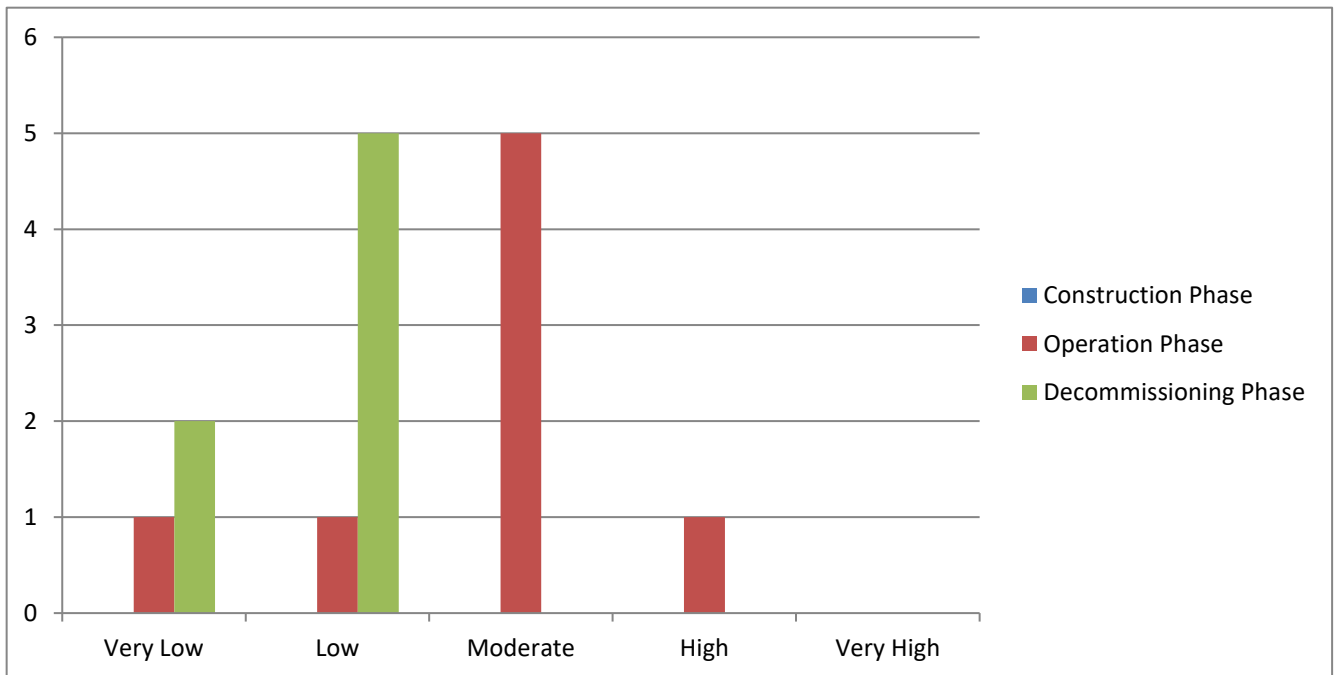
**Environmental Management Plan**

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
	<ul style="list-style-type: none"> <li>Emission from emergency diesel generator</li> </ul>						
Water pollution	<ul style="list-style-type: none"> <li>Sewage disposed of from the toilets</li> <li>Oil spill and grease leaks from transporting vehicles and machinery equipment used in operation phase</li> </ul>	2	4	2	3	24	Low
Soil Contamination	<ul style="list-style-type: none"> <li>Accidental spillage of oil used by vehicles operating</li> </ul>	1	4	1	2	12	Very Low
Noise Pollution	<ul style="list-style-type: none"> <li>Generating noise from the production machinery</li> <li>Noise from the generating of the emergency generators</li> </ul>	3	4	1	4	32	Moderate
Fire Hazard	<ul style="list-style-type: none"> <li>Poor electrical installations</li> <li>waste disposed area</li> <li>Raw materials storage</li> </ul>	3	5	2	4	48	High
Solid waste	<ul style="list-style-type: none"> <li>residual pieces of fabric scraps from the production lines</li> <li>Waste from packaging materials</li> <li>Waste from kitchen, dormitory and office.</li> </ul>	3	4	1	4	32	Moderate
Liquid waste	<ul style="list-style-type: none"> <li>Septic system and sewage.</li> <li>Domestic liquid waste disposal from office, kitchen and dormitory.</li> </ul>	2	4	2	4	32	Moderate
Hazardous waste	<ul style="list-style-type: none"> <li>Engine oil leaks, spills at diesel storage and during fuel refueling.</li> <li>Used oil and lubricant discharged from the maintenance of vehicles and machines.</li> </ul>	2	4	1	2	14	Very Low
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none"> <li>Accidental cases cause by operating machines.</li> <li>Electricity and emergency diesel generators.</li> <li>Unloading, mixing, cutting, pressing and packaging activities.</li> <li>Accidental cases of thermic fluid heater</li> </ul>	3	4	1	4	32	Moderate
Social-economic Condition	<ul style="list-style-type: none"> <li>Job opportunities for local people</li> </ul>	-	-	-	-	-	Positive Impact
<b>Decommissioning Phase</b>							
Air pollution	<ul style="list-style-type: none"> <li>Decommissioning of buildings and related materials</li> <li>Transportation of demolished materials</li> </ul>	3	1	1	4	20	Low
Water pollution	<ul style="list-style-type: none"> <li>Sewage form decommissioning workers</li> <li>Demolition machinery equipment</li> </ul>	3	1	1	3	15	Low
Soil Contamination	<ul style="list-style-type: none"> <li>Decommissioning of buildings and related materials</li> </ul>	3	1	1	3	15	Low

**Environmental Management Plan**

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
	<ul style="list-style-type: none"> <li>Transportation of demolished materials</li> </ul>						
Noise Pollution	<ul style="list-style-type: none"> <li>Decommission activities</li> <li>Transportation of demolished materials</li> </ul>	3	1	1	3	15	Low
Waste disposal	<ul style="list-style-type: none"> <li>Sewage system</li> <li>Demolished debris such as bricks, concrete materials</li> </ul>	2	1	1	3	12	Very Low
Hazardous waste	<ul style="list-style-type: none"> <li>Used lubricants from decommissioning vehicles and machines</li> </ul>	2	1	1	3	12	Very Low
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none"> <li>Decommissioning activities</li> <li>Transportation of demolished materials</li> </ul>	3	1	2	3	18	Low
Social-economic Condition	<ul style="list-style-type: none"> <li>Temporary job opportunities for local people</li> </ul>	-	-	-	-	-	Positive Impact

According to the result of analysis, it can be concluded that most of the project activities have low significance on environment, in all phases. Project activities that can produce solid waste and liquid waste are moderate significance. Moreover, project activities that emit dust and GHGs and accidental cases are moderately significant. Fire hazard potential of the proposed project and noise pollution are highly significant. But this can be prevented or mitigated by using the following mitigation measures. The following figure shows the impact significance of the proposed project.



**Impact significance of the proposed factory project**

## **Environmental Management Plan**

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### **Environment Management Program**

The proposed project of environmental management plan, which need to made the PDCA plan especially Plan-Do-Check-Act cycle. In that plan, it includes not only reducing to the environmental and social-economic impact but also includes the environmental management plan and the monitoring plan. In this EMP to implement the health, safety and occupational for the industry, they need to create a team and to must be implemented that. The EMP for Gold Emperor (Myanmar) has been prepared to address potential issues based upon discussion with factory management, workers, local community's view, stakeholder consultation and from the site visit of experts. The EMP is additional to and compliments the factory's safety management system. The following environmental issues that require environmental management plans based upon the potential impacts of activities by for Gold Emperor (Myanmar) factory are as follows:

#### **1. Air pollution/Dust Management plan**

- The factory must be plant in its premises which reduce the carbon emission by the factory and minimize the air pollution
- Periodic maintenance of generator is conducted
- Prohibiting the burning of waste materials at the project site
- Providing mask to the employees who work in any dusty area
- Installation the windscreens to break up the wind flow

#### **2. Noise Management Plan**

- Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment
- Impose speed limit to track and vehicles at the transportation route.
- Emergency use of diesel generator must be ensured by soundproof
- Noise level monitoring programs must be designed and conducted by trained specialist at production area

#### **3. Solid Waste Management Plan**

- The factory does not dispose the any sort of solid wastes on the factory premises or not dump in the surface water like a local pond, canal or river, etc.
- The solid wastes are stored properly and separately in a certain location in proper manner such as cloth scrap waste need to collect at one place and poly/carton waste should collect at another place. Metal/Hazardous material waste such as fudge electric bulbs and empty chemical container is stored another in separate place of storage area.
- Recycle wastes like cloth scrap, carton box, plastic sheet, etc. are hand over to local buyer for reuse and waste-tracking record shall be kept every day.
- The metal or glass waste of electric bulb is taken by the suppliers to recycle them.
- The daily domestic waste of worker hand-over to YCDC waste collector to collect every day

**Environmental Management Plan**

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- Daily wastes are stored clearly labeled containers and in such a manner that all related personnel are provided proper training about the relevant issues.

**4. Wastewater Management Plan**

- Ensure that drainage lines and sewage system of factory and the nearest public drainage are watertight and sufficient capacity
- Regular check and maintain sewerage facility.
- Clean the factory drainage to avoid odor emission and to avoid the block of water flow
- Regularly monitor and check the discharge temperature from boiler wastewater before directly discharge into factory's final drainage

**5. Emergency Response and Disaster Management Plan**

- The factory management has taken proper measures to handle any emergency situation like fire, earthquake, flood and storm
  - Provision and inspection of firefighting equipment and fire hydrant system in all the sections
  - A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers
  - Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training.
  - Regular fire drill operation is conducted
  - Workers are informed about what to do in earthquake like stay in a safe place such as under table of desk, not to try move outside during earthquake, workers who will be outside during earthquake shall remain stay out of the building, trees, lump post, etc. Other relevant safety instruction of emergency situation it informed to workers by training
  - Workers are aware of dangers from physical hazards such as obstacles covered by floodwater (storm debris, drainage opening, ground erosion) and from displaced reptiles (Snake) or other animals.
  - A medical team has been prepared for primary treatment (First Aid)
  - Prepare an emergency contact directory consisting contact numbers of nearest fire service, local police station, hospitals, etc. and display it in a place that everybody can see it easy.
  - Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management
  - Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety
- 6. Energy Management Plan**
- Installation of timers and thermostats to control heating and cooling
  - Energy saving light installed in different area of the factory for saving energy
  - Used of energy saving devices must be installed

**Environmental Management Plan**

- Ensure that good housekeeping measures such as turning off equipment and lights when not in use
- 7. Environmental Monitoring and Reporting**
  - 8. Corporate Social Responsible (CSR) Plan**
  - 9. Capacity Building and training Plan**
  - 10. Grievance Redress Mechanism**

**Public Consulting Meeting**

Public consultation meeting during preparation of EMP report was conducted on 29, December 2022. The project's stakeholders in this category are key officials or representatives of the regional and local authorities who have direct responsibilities for the administration of the EMP process for environmental and social clearance and issuing operation permits for proposed development projects. For this company, relevant key offices at the national level are Environmental Conservation Department (ECD). Relevant key office at the regional level is Yangon City Development Committee (YCDC), General Administrative Department, Fire Department, General Labor Law Inspection Department and, Public Health Department.

**Schedule of Public Consultation Meeting**

Time and Date	Thursday, 29 December 2022 10:00-12:00
Venue	No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Tharyar Township, Yangon Region.
Agenda	Presentation on the Background Information of Project, Introduction about Environmental Impact Assessment, Impact Assessment and Impact Significant Environmental Impacts and Mitigation Measures Environmental Management Plan Performances of Gold Emperor Co., Ltd. Received and Answer from feedback of participants
Organized by	Myanwei Environmental Solutions Company Limited

**Conclusion & Recommendation**

In Conclusion, the environmental management practices, procedures and responsibilities are defined here in to get full compliance with the existing environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar. All the feed backs, desired and needs of local public recorded in public consultation meetings are well addressed and incorporated in formulation of EMP. It has been figured out that, the proposed garment factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

**Environmental Management Plan**

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This is recommended that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should be implemented throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to YCDC rules and regulation
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.
- Daily, monthly and annual action plan shall be formulated based on this EMP and practiced at operation level.
- Keep full records of environmental management activities and present to annual independent environmental audit.
- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this EMP report. Once concerned authorities approve EMP, effective implementation of EMP by the project proponent is essential. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

**Environmental Management Plan**

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## 1. INTRODUCTION

Environment Management Plan is required for ensuring sustainable development. It should not affect the surrounding environment adversely. The management plan presented in this chapter needs to be implemented by the proposed expansion of Gold Emperor (Myanmar) Company Limited. The Environment Management Plan (EMP) aims at controlling pollution at source with available and affordable technology followed by treatment measures. Waste minimization and waste recycling measures are emphasized. In addition to the industry specific control measures, the proposed industry should adopt following guidelines.

- ✓ Identify the major impacts that are may arise from the activities of the proposed project on natural environmental and socio-economic environment of the project area
- ✓ Describe the mitigation measures to minimize these impacts
- ✓ Prepare and implement Environmental Management Plan for the project
- ✓ Make sure that EMP is developed sufficiently and sound for the proposed project and
- ✓ Corporate Social Responsibility Plan (CSR) plays an essential part for the improvement of the social welfare of community as well as development of the region.

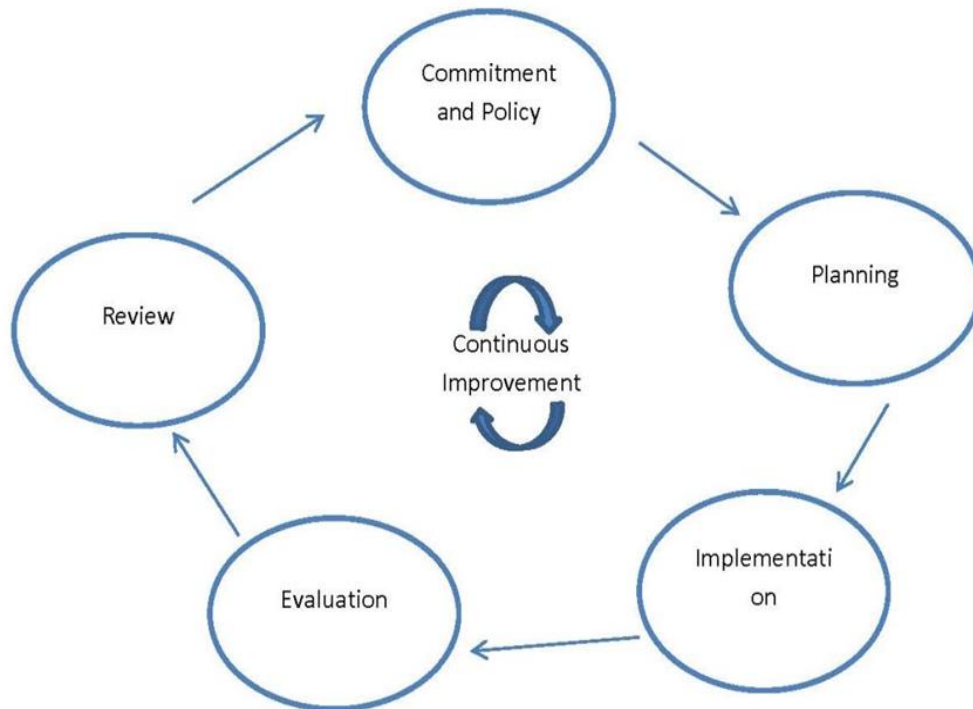
### 1.1. AIM OF ENVIRONMENTAL MANAGEMENT PLAN

- Provide environmental management plan that minimize the environmental impact of the works and identify those responsible for its implementation.
- Define the monitoring program, which assess the implementation.

### 1.2. OBJECTIVE OF ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management System (EMS) is a framework that helps an organization achieves its environmental goals through consistent review, evaluation, and improvement of its environmental performance. The assumption is that this consistent review and evaluation will identify opportunities for improving and implementing the environmental performance of the organization. The EMS itself does not dictate a level of environmental performance that must be achieved; each organization's EMS is tailored to its own individual objectives and targets.

An EMS encourages an organization to continuously improve its environmental performance. The system follows a repeating cycle the organization first commits to an environmental policy, then uses its policy as a basis for establishing a plan, which sets objectives and targets for improving environmental performance. The next step is implementation. After that, the organization evaluates its environmental performance to see whether the objectives and targets are being met. If targets are not being met, corrective action is taken. The results of this evaluation are then reviewed by top management to see if the EMS is working. Management revisits the environmental policy and sets new targets in a revised plan. The company then implements the revised plan. The cycle repeats, and continuous improvement occurs.

**Environmental Management Plan**

**Figure 1-1 Continuous Improvement Circle**

- **Commitment and Policy** – Top management commits to environmental improvement and establishes the organization’s environmental policy. The policy is the foundation of the EMS.
- **Planning** – An organization first identifies environmental aspects of its operations. Environmental aspects are those items, such as air pollutants or hazardous waste that can have negative impacts on people and the environment. An organization then determines which aspects are significant by choosing criteria considered most important by the organization. For example, an organization may choose worker health and safety, environmental compliance, and cost as its criteria. Once significant environmental aspects are determined, an organization sets objectives and targets. An objective is an overall environmental goal (e.g., minimize use of chemical X). A target is a detailed, quantified requirement that arises from the objectives (e.g., reduce use of chemical X by 25% by September 1998). The final part of the planning stage is devising an action plan for meeting the targets. This includes designating responsibilities, establishing a schedule, and outlining clearly defined steps to meet the targets.
- **Implementation** – An organization follows through with the action plan using the necessary resources (human, financial, etc.). An important component is employee training and awareness for all employees. Other steps in the implementation stage include documentation, following operating procedures, and setting up internal and external communication lines.
- **Evaluation** – A company monitors its operations to evaluate whether targets are being met. If not, the company takes corrective action.
- **Review** – Top management reviews the results of the evaluation to see if the EMS is working. Management determines whether the original environmental policy is consistent with the



## **Environmental Management Plan**

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organization's values. The plan is then revised to optimize the effectiveness of the EMS. The review stage creates a loop of continuous improvement for a company.

### **1.2.1. Institutional Requirement**

Gold Emperor (Myanmar) Company Limited will manage the development of the proposed project. The project proponent should appoint Health, Safety and Environment (HSE) issues throughout the duration of the project phases. HSE team is responsible for implementation and monitoring of EMP and Environmental Monitoring Plan (EMP) as well as coordination with local authorities and the nearby communities. The HSE Team also makes regular review of EMP to cover all potential impacts, amendments and modifications.

### **1.2.2. Responsibilities of the EMP**

In order to ensure the sound development and effective implementation of the EMP, it will be necessary to identify and define the responsibilities. The environmental management practices, procedures, and responsibilities are defined herein to get full compliance with the existing environmental policy, laws, rules and regulations of the Republic of the Union of Myanmar. The following entities should be involved in the implementation of this EMP:

**Gold Emperor (Myanmar) Company Limited:** The proponent will be charged with the responsibility for ensuring that the proposed development has been accomplished in an environmentally sound manner. This can be achieved by inclusion of environmental specifications in the tender specifications, selection of environmentally conscious contractors, and supervision to ensure that the objectives of this EMP are met. The implementation of Environmental Management Plan (EMP) process will prepare and follow up by appointed persons for health, safety, and environmental management under the instruction of management team of Gold Emperor (Myanmar) Company Limited for EMP implementation facilities.

**ECD (Yangon Region):** The responsibility of ECD is to exercise general supervision and coordinating over all matters relating to the environment and to be instrumental in providing guidance for recognized regulatory frameworks.

**Third-Party Environmental Consultant:** The environmental consultant will have to ensure that the proposed EMP is up to date and is being followed properly by the proponent. Periodic audits of the EMP will have to be done to ensure that its performance is as expected, by comparing with operating standards so that any corrective actions can be taken.

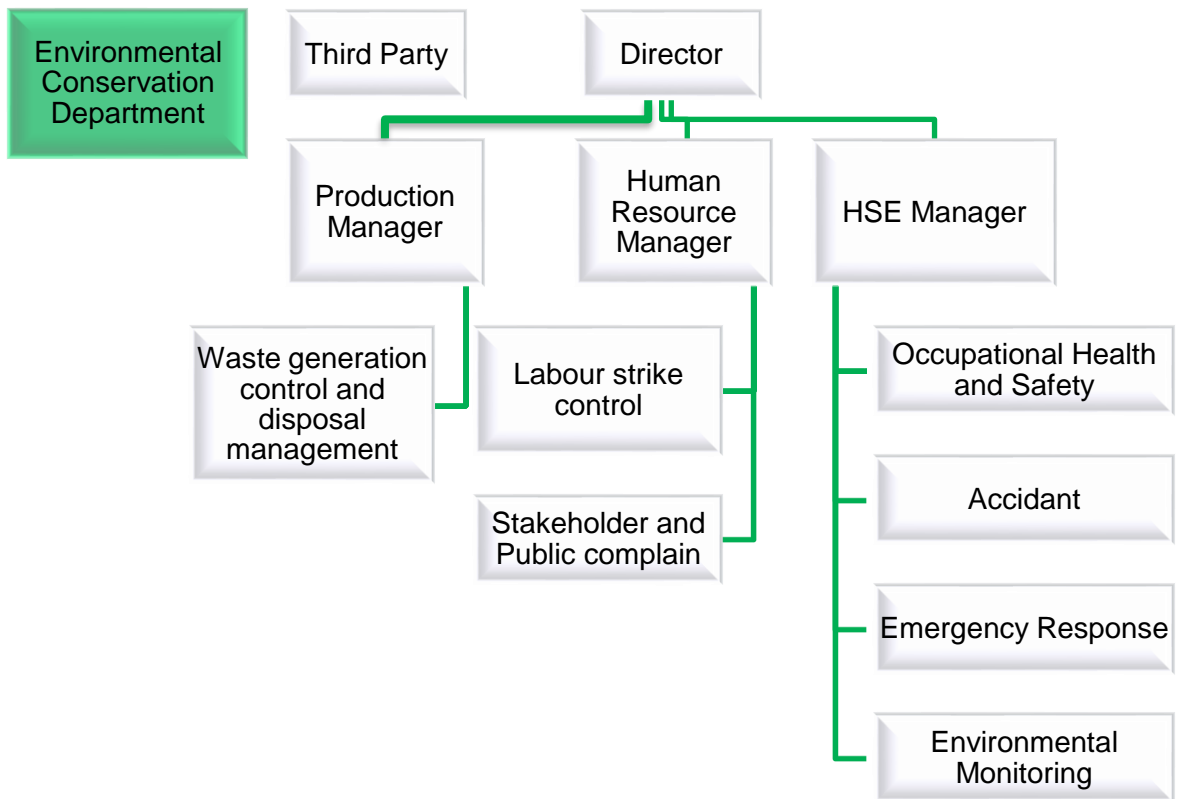
### **1.2.3. Structure and Responsibilities for the EMP Development and Implementation**

The HSE officer is responsible to the HSE components of the project and on matters relating to the implementation of the EMP throughout operation life. The S&E officer will have responsibilities that include:

- Ensure a monitoring system is in place to track and report all health, safety and environmental incidents;
- Carry out a thorough initial site inspection of environmental controls prior to work commencement;

**Environmental Management Plan**

- Record and provide a written report to the General Manager and production team of non-conformances with the EMP and require the HR supervisor to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.



**Figure 1-2 Organization Structure of Environmental Management Plan**

**Table 1-1 Responsibilities of HSE Members**

Roles	Responsibilities
General Manager	The General Manager will be assisted by the Operations Manager and also the HR and HSE Officer. In terms of environmental protection commitments, the Operation Manager will be the key driving force and will be responsible for: <ul style="list-style-type: none"> <li>Establishing overall environmental direction and policy</li> <li>Ensuring the implementation of the EMP</li> <li>Ensuring investigation of all environmental incidents are reviewed and that reports are submitted on time</li> <li>Ensuring an effective system of internal and external communication is in place</li> <li>Providing advice regarding the environmental program</li> </ul>
Operation Manager	The Operation Manager will assist the General Manager in looking into the overall environmental matters during the operational phase of the Project. The Operation Engineer will also be responsible for: <ul style="list-style-type: none"> <li>Adherence to the overall environmental direction and policy</li> <li>Ensuring the implementation of the recommended actions in the investigation of all environmental incidents</li> <li>Managing resources for operation wastes</li> </ul>
HR Manager	The HR Manager will carry out the day-to-day management of workers and social issues in the factory. The HR Manager will be responsible for:

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Roles	Responsibilities
	<ul style="list-style-type: none"> <li>Assisting the management in publicising and implementing corporate and local policies, objectives and programs</li> <li>Maintaining key environmental-related documents and information</li> <li>Communicating/ liaising with the local authorities on environmental issues</li> </ul>
HSE Officer	<p>The HSE Officer will be the key person in charge of all environmental matters pertaining to the site. The HSE Officer will be responsible for:</p> <ul style="list-style-type: none"> <li>Coordinating the implementation of environmental programs, including monitoring of the project site environmental performance</li> <li>Performing periodic internal environmental audits and inspections to ensure compliance with the legal environmental requirements</li> <li>Ensure a monitoring system is in place to track and report all health, safety and environmental incidents;</li> <li>Carry out a thorough initial site inspection of environmental controls prior to work commencement;</li> <li>Record and provide a written report to the General Manager and production team of non-conformances with the EMP and require the HR Manager to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.</li> </ul>

**1.3. EMP STUDY TEAM**

The environmental study was carried out by the study team and the following is a summary of team member’s responsibilities during the study period. Member of EMP study teams is shown in

**Table 1-2 Member of EMP Study Team**

Name	License Number	Expert area	Responsibility
Lin Htet Sein	EIA-AC 053/2023	အထွေထွေပတ်ဝန်းကျင် စီမံခန့်ခွဲခြင်း	Team Leader Environmental Management Program
Dr. Hein Lynn Aung	EIA-AC 052/2023	ကျန်းမာရေး	Reviewer
Saw Yan Naung	EIA-AC 054/2023	လူမှုရေးဆိုင်ရာ လေ့လာခြင်းနှင့် သရုပ်ခွဲဆန်းစစ်ခြင်း	Co-Leader Brief Description of Surrounding Environment Public Consultion
Htun Lin Kyaw	EIA-AC 051/2023	လူမှုရေးဆိုင်ရာ လေ့လာခြင်းနှင့် သရုပ်ခွဲဆန်းစစ်ခြင်း	Co-Leader Project Description Brief Description of Surrounding Environment
Su Myat Hlaing		လျှောက်ထားဆဲ	Environmental Impact and Mitigation Measures

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Kaung Sett Lwin	EIA-AC 055/2023	ဘူမိဆိုင်ရာဆန်းစစ်လေ့လာခြင်း	Policy, Legal and Institutional Framework Brief Description of Surrounding Environment
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**1.4. PROJECT BACKGROUND**

Gold Emperor (Myanmar) Company Limited is an investment for manufacturing of Garment (CMP basic) company from China. The project approved for the investment permit from the Yangon Region Investment Committee (YRIC) on 8 August 2019 with the Endorsement No. (YGN-177/2019).

According to the YRIC permit, which confidential was issued in Subsection (g), Gold Emperor (Myanmar) factory shall responsible for the preservation of the environment and around the area of the project site. In addition to this, it shall carry out as per instructions made by Ministry of the Natural Resources and Environmental Conservation (MONREC) under Environmental Conservation Department (ECD) in which to conduct an Environmental Management Plan (EMP). It has to prepare, submit, perform activities in accordance with this EMP, and abide by the environmental policy, Environmental Conservation Law and other environmental related rules and procedures.

This EMP report is prepared based on the impact identified in EIA procedure (2015). The EMP is prepared provide additional guidance on the means, methods and mechanisms by which such mitigation measures will be implemented. The EMP is one of the most important outputs of the environmental assessment process. The EMP is the synthesis of all proposed mitigate and monitoring actions, set to a timeline with specific responsibility assigned and follow up actions defined. The EMP can be prepared at different times of the project life. Operation environmental management plan is developed to ensure that appropriate environmental practices are followed during a project's operation and decommissioning phases. As the factory is already built operation environmental management plan is designed for this factory.

**1.5. PROJECT PROPONENT PROFILE**

This is the information of project proponent from the MIC's registration that is describing in below Table 1-3 Information of Investor.

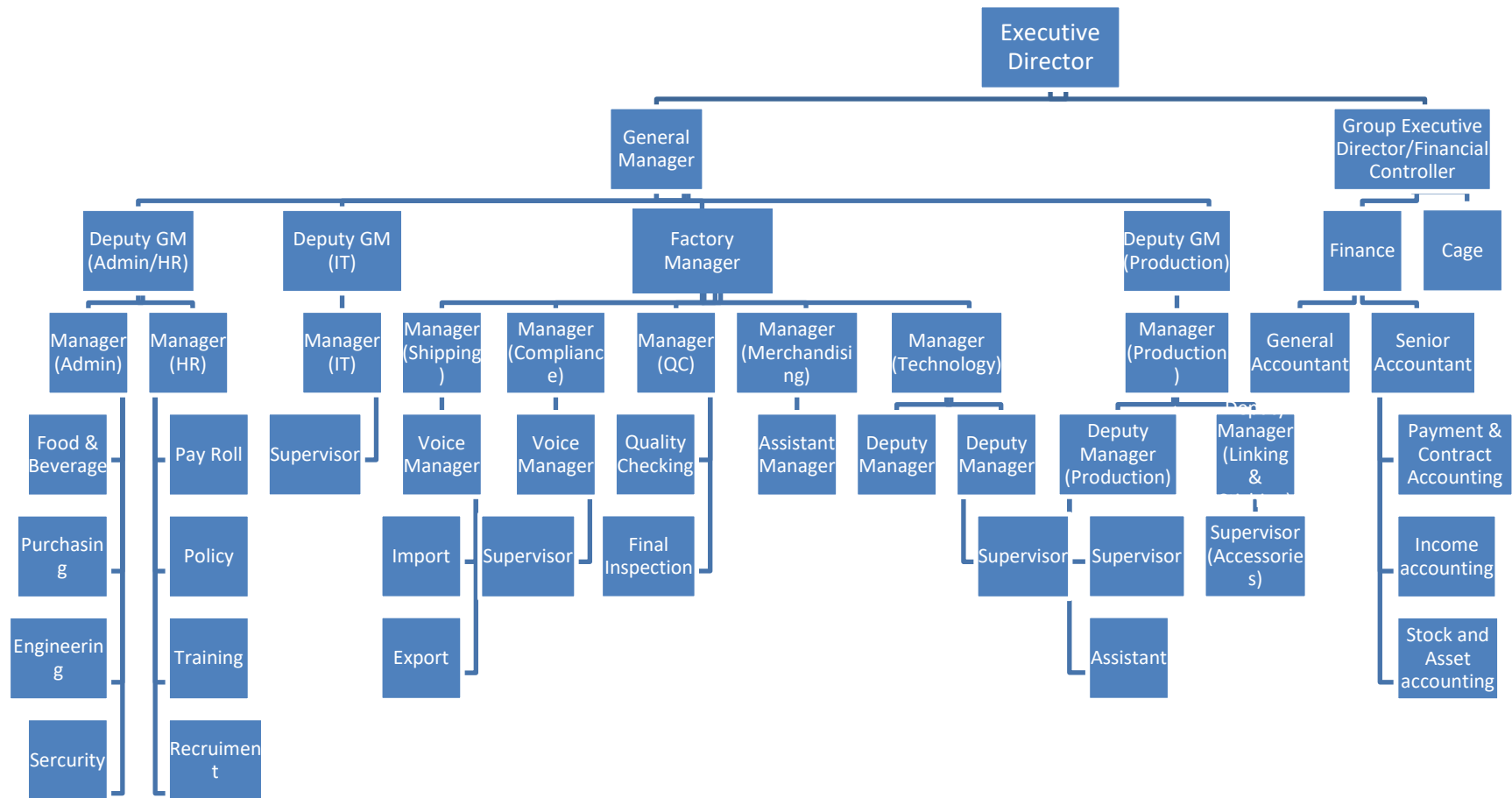
**Table 1-3 Information of Investor**

No	Name of Shareholders	Citizenship	Share Percentage
1	Mr. Zhu Jianyong	Chinese	100%
2	Mr. Zhu Yezhen	Chinese	

**1.5.1. Investment Plan and Salient Features of the Project**

The estimated authorized capital investment is 13.360 million.

**Environmental Management Plan**



**Figure 1-3 Organization Chart of Gold Emperor (Myanmar) Company Limited**

**Environmental Management Plan**

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**Table 1-4 Salient features of the project**

Type of Proposed Business	Manufacturing of Various Kinds of Shoes on CMP Basis
DICA Registration	119928001 (11/04/2019)
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	7.88 acres (31889.23 sqm)
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Project Location	Land Plot No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region
Contact Name	Daw Win Win San
Phone	09-799197221

**Environmental Management Plan****2. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK**

This section provides a brief summary of relevant national environmental legislations established by the MONREC and overview of current local and international environmental and social policies including related international or regional convention for the proposed project.

**2.1. MYANMAR REGULATORY FRAMEWORK**

Myanmar has 24 ministries under the Office of the President as of May 2016. The leading ministries in-charge of environmental and social considerations is the Environmental Conservation Department (ECD) of the MONREC that was reorganized Ministry of Environmental Conservation and Forestry (MOECAF) in April 2016.

The Project proponent will follow and comply the following laws and regulation of Myanmar for the development of the present Project

**2.1.1. Laws and Regulations Related to Environmental and Social Considerations**

Requirements related to environmental (and social) impact management for development projects are described in Table 2-1.

**Table 2-1 List of Myanmar's Law relating to environmental management**

<b>Law and Regulation</b>	<b>Description</b>
National Environmental Policy of Myanmar, (Notification No. 26/94 dated 5 December 1994)	To achieve harmony and balance between socioeconomic, natural resources and environment through the integration of environmental considerations into the development process enhancing the quality of the life of all its citizens.
<b>Constitution 2008</b>	
Section 37, (a)	The Union is the ultimate owner of all lands and all-natural resources above and below the ground, above and beneath the water and in atmosphere in the Union.
Section 37, (b)	The Union shall permit citizens rights of private property, right of inheritance, right of private initiative and patent in accord with the laws.
Section 372	The Union guarantees the right to ownership, the use of property and the right to private invention and patent in the conducting of business if it is not contrary to the provisions of this Constitution and the existing laws.
Section 45	The Union shall protect and conserve natural environment.
Section 390, (a),(b),(c),(d)	Every citizen has the duty to assist the Union in preserving and safeguarding the cultural heritage, conserving the environment, striving for the development of human resources, and protecting and preserving the public property.
<b>Environmental Conservation Law, 30 March 2012</b>	
Objectives	to contract a healthy and clean environmental and to conserve natural and cultural heritage for the benefit of present and future generations; to maintain the sustainable development through effective management of natural resources and to enable to promote international, regional and bilateral cooperation in the matters of environmental conversation.

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Section 3	<p>(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;</p> <p>(d) to reclaim ecosystems as may be possible which are starting to degenerate and disappear;</p> <p>(e) to enable to manage and implement for decrease and loss of natural resources and for enabling the sustainable use beneficially;</p>
Provisions of Duties and Powers relating to the Environmental Conservation of the Ministry: Section 7	<p>(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;</p> <p>(b) To prescribe categories of hazardous substances that may affect significantly at present or in the long run on the environment;</p> <p>(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;</p> <p>(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;</p> <p>(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 department, organization or person may cause a significant impact on the environment;</p> <p>(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.</p>
Chapter VI Environmental Quality Standards: Section10	<p>The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards:</p> <p>(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;</p> <p>(b) water quality standards for coastal and estuarine areas;</p> <p>(c) underground water quality standards;</p> <p>(d) atmospheric quality standards;</p> <p>(e) noise and vibration standards;</p> <p>(f) emissions standards;</p> <p>(g) effluent standards;</p> <p>(h) solid wastes standards;</p> <p>(i) other environmental quality standards stipulated by the Union Government.</p>
Section 14	<p>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.</p>
Section 15	<p>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.</p>



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Section 16	A person or organization operating business in the industrial estate or business in the SEZ or category of business stipulated by the Ministry: (a) is responsible to carry out by contributing the stipulated cash or kind in the relevant combined scheme for the environmental conservation including the management and treatment of waste; (b) shall contribute the stipulated user's charge s or management fees for the environmental conservation according to the relevant industrial estate, SEZ and business organization; (c) shall comply with the directives issued for environmental conservation according to the relevant industrial estate, SEZ or business.
Section 24	The project proponent has to allow relevant governmental organization or department to inspect whether performing is conformity with the terms and condition include in prior permission, stipulated by the ministry, or not.
Section 25	The project proponent has to comply with the terms and conditions include in prior permission.
Section 29	The project proponent has to abide by the stipulations included in the rules, regulations, by-law, order, notification and procedure, which are issued by said law.
<b>Environmental Conservation Rules, 2014</b>	
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.
Sub-rule (a) of rule 69	The project proponent has to avoid emit, discharge or dispose the materials which can pollute to environment, or hazardous waste or hazardous material prescribed by notification in the place where directly or indirectly injure to public.
Sub-rule (b) of rule 69	The project proponent has to avoid performing to damage to ecosystem and the environment generated by said ecosystem.
<b>Environmental Impact Assessment Procedure (December 2015)</b>	
Objectives	<p>The project proponent has to be liable for all adverse impacts caused by doing or emitting of project owner or contractor, sub-contractor, officer, employee, representative or consultant who is appointed or hired to perform on behalf of project owner, under sub-paragraph (a) of paragraph 102.</p> <p>The project proponent has to support, after consulting with effected persons by project, relevant government organization, government department and other related persons, to resettlement and rehabilitation for livelihood until the effected persons by the project receiving the stable socio-economy which is not lower than the status in pre-project, under sub-paragraph (b) of paragraph 102</p> <p>The project proponent has to fully implement all commitments of project and conditions included in EMP. Moreover the project proponent has to be liable for contractor and sub-contractor who perform on behalf of him/her have to fully abide by the relevant laws, rules, this procedure, EMP and all conditions, under paragraph 103.</p>

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	<p>The project proponent has to be liable and fully &amp; effectively implement all requirements included in ECC, relevant laws and rules, this procedure and standards under rule 104.</p> <p>The project proponent has to inform the completed information, after specifying the adverse impacts caused by the project, from time to time, under paragraph 105.</p> <p>The project proponent has to continuously monitor all adverse impacts in the pre-construction phrase, construction phrase, operation phrase, suspension phrase, closure phrase and post-closure phrase, moreover has to implement the EMP with abiding the all conditions included in ECC, relevant laws &amp; rules and this procedure, under paragraph 106.</p> <p>The project proponent has to submit, as soon as possible, the failures of his or her responsibility, other implementation, ECC or EMP. If dangerous impact caused by this failure or failure should be known by the Ministry the project proponent has to submit within 24 hours and other than this situation has to submit within 7 days from knowing it, under paragraph 107.</p> <p>The project proponent has to submit the monitoring report dually or prescribed time by Ministry in line with the schedule of EMP, under paragraph 108.</p> <p>The project proponent has to prepare the monitoring report in accord with the rule 109.</p> <p>The project proponent has to show this monitoring report in public place such as library, hall and website and office of project for the purpose to know this report by public within 10 days from the date which the report is submitted to the Ministry. Moreover, has to give the copy of this report, by email or other way which way agreed with the asked person, to any asked person or organization, under paragraph 110.</p> <p>The project proponent has to allow inspector to enter and inspect in working time and if it is needed by Ministry has to allow inspector to enter and inspect in the office and work-place of project and other work-place related to this project in any time, under paragraph 113.</p> <p>The project proponent has to allow inspector to immediately enter and inspect in any time if it is emergency or failure to implement the requirements related to social or environment or caused to it, under paragraph 115.</p> <p>The project proponent has to allow inspector to inspect the contractor and sub-contractor who implement on behalf of project, under paragraph 117.</p>
<p>Screening: Section 23</p>	<p>(a) The project proponent shall submit the Project Proposal to the Ministry for Screening.</p> <p>(b) The Ministry will send the Project Proposal to the Environmental Conservation Department to determine the need for environmental assessment.</p> <p>(c) Following the preliminary Screening and verification that the Project Proposal contains all required documents and related materials, subject to Articles 8, 9, 10, 11, 26 and 27 the Department shall make a determination in accordance with Annex 1 = Categorization of Economic Activities for Assessment Purpose's, taking into account Article 25 and the additional factors listed in Article 28 in order to designate the Project as one of the following, and then submit it to the Ministry:</p> <p>(i) An EIA Type Project, or</p> <p>(ii) An IEE Type Project, or</p> <p>(iii) A Non IEE or EIA Type, and therefore not required to</p>

**Environmental Management Plan**

<b>National Environmental Quality (Emission) Guidelines (NEQG) (December 2015)</b>	
Objectives	To provide the basis for regulation and control of noise and vibration, air emissions, and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health.
<b>National Environmental Policy of Myanmar (2019)</b>	
National Environmental Policy Vision & mission	<p>Vision</p> <p>A clean environment, with healthy and functioning ecosystem, that ensures includes development and wellbeing for all people in Myanmar.</p> <p>Mission</p> <p>To establish national environmental policy principle for guiding environmental protection and sustainable development and for mainstreaming environmental consideration into all polices, laws, regulation, plans, strategic, programmes and projects in Myanmar.</p>
<b>Myanmar Investment Law, 2016</b>	
Chapter XII Rights to be used land Section 50	<p>(a)An Investor who obtains permit or endorsement under this Law has the right to obtain a long-term lease of land or building from the owner if it is private land or building, or from the relevant government departments or government organization if it is land managed by the government, or land or building owned by the Union in accordance with the stipulations in order to do investment. Citizen investors may invest in their own land or building in accordance with relevant laws.</p> <p>(d)The investor shall register the land lease contract at the Office of Registry of Deeds in accordance with the Registration Act.</p>
Chapter XIII Employment of Staff and Workers Section 51	<p>The investor:</p> <p>(a) may appoint of any citizen who is a qualified person as senior manager, technical and operational expert, and advisor in his investment within the Union in accordance with the Laws;</p> <p>(b) shall appoint them to replace, after providing for capacity building programs in order to be able to appoint citizens to different level positions of management, technical and operational experts, and advisors;</p> <p>(c) shall appoint only citizens for works which does not require skill;</p> <p>(d) shall appoint skilled citizen and foreign workers, technicians, and staff by signing an employment contract between employer and employee in accordance with the labor laws and rules;</p> <p>(e) shall ensure to obtain the entitlements and rights in the labor laws and rules, including minimum wages and salary, leave, holiday, overtime fee, damages, compensation of the workman, social welfare, and other insurance relating to workers in stipulating the rights and duties of employers and employees and occupational terms and conditions in the employment contract;</p> <p>(f) shall settle disputes arising among employers, among workers, between employers and workers, and technicians or staff in the investment in accordance with the applicable laws.</p>
Chapter XVI Responsibilities of Investors Section 65	<p>The Investor:</p> <p>(f) shall not make any significant alteration of topography or elevation of the land on which he is entitled to lease or to use, without the approval of the Commission;</p>

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	<p>(g) shall abide by applicable laws, rules, procedures and best standards practiced internationally for this investment so as not to cause damage, pollution, and loss to the natural and social environment and not to cause damage to cultural heritage;</p> <p>(i) shall close and discontinue the investment only after payment of compensation to employees in accordance with applicable laws for any breach of employment contracts, closure of investment, sale and transfer of investment, discontinuation of investment, or reduction of workforce;</p> <p>(j) shall pay wages and salaries to employees in accordance with applicable laws, rules, procedures, directives and so forth during the period of suspension of investment for a credible reason;</p> <p>(k) shall pay compensation and indemnification in accordance with applicable laws to the relevant employee or his successor for injury, disability, disease and death due to the work;</p> <p>(l) shall supervise foreign experts, supervisors and their families, who employ in their investment, to abide by the applicable laws, rules, orders and directives, and the culture and traditions of Myanmar;</p>
Chapter XVII Insurance Section 73	The investor shall ensure the types of insurance stipulated in the provision of the rules at any insurance enterprise which is entitled to carry out insurance businesses within the Union.
<b>Myanmar Investment Rules, 2017</b>	
Rule 202	The project proponent has to comply with the conditions of the permit issued by the MIC and applicable laws when making the investment
Rule 203	The project proponent has to fully assist while negotiating with the authority for settling the grievance of the local community which has been affected due to investment
Rule 206.	The project proponent has to submit the passport, expert evidence or document of degree and profile to the MIC office for approval if decide to appoint a foreigner as senior management, technician expert or consultant according to subsection (a) of section 51 of Myanmar Investment Law
Myanmar Insurance Law (1993)	<p>Section 15 - If the project proponent uses the owned vehicles the project owner has to ensure the insurance for the injured person.</p> <p>Section 16 - The project proponent has to ensure insurance to compensate for general damages because the project may cause damages to the environment and injury to the public.</p>
<b>Payment of Wages Law (2016)</b>	
Section 3 & 4	The project proponent has to pay the wages in accord with section 3 and 4 of said law,
Section 5	The project proponent has to submit with the agreements of employees & reasonable ground to the department if it is difficult to pay because of force majeure included in a natural disaster
Section 7-13	The project proponent has to abide by the provisions of section 7 to 13 in the chapter (3) in respect of deduction from wages.
Section 14	The project proponent has to pay the overtime fees, prescribed by law, to the employees who work over working hours

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Section 7-13	The project proponent has to abide by the provisions of section 7 to 13 in the chapter (3) in respect of deduction from wages.
Section 14	The project proponent has to pay the overtime fees, prescribed by law, to the employees who work over working hours
<b>Yangon City Development Committee Law (2018)</b>	
Section (317)	The proponent shall not block the natural river channel, change the course, and disrupt the water channel, filling with soil within the city boundaries without the consent of the Committee
Section (318)	The project proponent shall not construct buildings, factories, and industries without sewage, toilet, septic tanks, and wastewater treatment system
Section (322)	The project proponent is not allowed to make activities that will produce noise pollution, water pollution, air pollution, and soil pollution to impact the environment within the city's boundaries
<b>The Amended Law for Factories Act, 1951 (2016)</b>	
Hygiene in Working Environment: Section 3	Mentions responsibilities of employer and manager regarding waste disposal, ventilation, extreme temperature, dust and gas generation, minimum space for each worker, lighting, portable drinking water and toilets for employees.
Safety in Working Environment: Section 4	States responsibilities of employer and manager concerning with machine guarding, personal protective equipment, housekeeping, aisles and exits, chemical storage and fire protection system to avoid accident.
<b>The Private Industrial Enterprise Law, 1990</b>	
Basic Principles: Section 3	<p>Private Industrial Enterprises shall be conducted in accordance with the following basic principles:</p> <p>(a) to enhance the higher proportion of the manufacturing value added in the gross national product and value of services, and to increase the production of the respective economic enterprises which are related to the industrial enterprise;</p> <p>(b) to acquire modern technical know-how for raising the efficiency of industrial enterprises and to establish the sale of finished goods produced by the industrial enterprise not only in the local market, but also in the foreign market;</p> <p>(d) to cause narrowing down of the gap between rural development and urban development by causing the development and improvement of industrial enterprises;</p> <p>(e) to cause opening up of more employment opportunities;</p> <p>(f) to cause avoidance of or reduction of the use of technical know-how which cause environmental pollution;</p> <p>(g) to cause the use of energy in the most economical manner.</p>

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<b>The Export and Import Law (2012)</b>	
Objectives	The objectives of this law are as follows: (a) To enable to implement the economic principles of the State successfully. (b) To enable to lay down the policies relating to export and import that supports the development of the State. (c) To cause the policies relating to export and import of the State and activities are to be in conformity with the international trade standards. (d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.
Prohibitions: Section 5	No persons shall export or import restricted, prohibited and banned goods.
Prohibitions: Section 6	Without obtaining license, no person shall export or import the specified goods which are to obtain permission.
Prohibitions: Section 5	A person who obtained any license shall not violate the conditions contained in the license.
<b>The Prevention of Hazard from Chemical and Related Substances Law, 2013</b>	
<p>This law was enacted with the objectives of</p> <ol style="list-style-type: none"> <li>a. To protect from being damaged the natural environment resources and being hazardous any living beings by chemical and related substances;</li> <li>b. To supervise systematically in performing the chemical and related substances business with permission for being safety;</li> <li>c. To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically;</li> <li>d. To perform the sustainable development for the occupational safety, health and environmental conservation.</li> </ol> <p>Regarding the chemical management and storage, currently, regulations governing chemicals management are divided between various Acts, 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.</p>	
<b>Underground Water Act</b>	
<p>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.</p>	
<b>Myanmar Fire Brigade Law (2015)</b>	
<p>The Pyidaungsu Hluttaw enacted this law-by-law No.11/2015 on the date of 17th March, 2015 with the following objectives</p> <ol style="list-style-type: none"> <li>(a) to take precautionary and preventive measures and loss of state own property, private property, cultural heritage and the live and property of public due to fire and other natural disasters</li> <li>(b) to organize fire brigade systemically and to train the fire brigade</li> <li>(c) to prevent from fire and to conduct release work when fire disaster, natural disaster, epidemic disease or any kind of certain danger occurs</li> <li>(d) to educate, organize and inside extensively so as to achieve public corporation</li> <li>(e) to participate if in need for national security, peace for the citizens and law and order</li> </ol>	
<b>Section-8 Fire Safety Procedures</b>	



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Rule17	<p>The relevant Government Department or organization shall, for the purpose of precaution and prevention obtain the approval of the Fire force Department before granting permission for the following cases:</p> <ol style="list-style-type: none"> <li>a. Constructing three-storied and above buildings market and condominium buildings,</li> <li>b. Operating hotel, motel, guest house enterprise</li> <li>c. Constructing factory, workshop, storage facilities and warehouse</li> <li>d. Operating business expose to fire hazard by using in inflammable materials or explosive materials</li> <li>e. Producing and selling fire-extinguishing apparatuses</li> <li>f. Doing transport business, public utility vehicles train, airplane, helicopter, vessel, ship, tonkin tug</li> </ol>
Rule18	<p>The relevant government department or organization shall obtain the opinion of the Fire Services Department for the purpose of fire precaution and prevention, when laying down plans for construction for town, village and downtown or village development plans</p>
<b>Boiler Law (2015)</b>	
Chapter (2) Objective	<p>The objectives of this law are as follows:</p> <ol style="list-style-type: none"> <li>(a) To obtain boilers in compliance with Myanmar Standards or International Standards</li> <li>(b) To prevent the country and citizens from hazards caused by boiler accidents</li> <li>(c) To use boilers in compliance with Myanmar Standards or International Standards within the country</li> <li>(d) To develop boiler technology and to produce experts capable of manufacturing, handling, repair, and maintenance of boilers</li> <li>(e) To optimize the use of boilers through effective utilization of fuel energy</li> <li>(f) To reduce the environmental, social and health impacts through long-lasting use of boilers.</li> </ol>
Chapter (3) 4. With the permission of the Ministry, the inspector general can:	<p>Notify the inspection methods and instructions according to the national or international standards for safe operations of boilers in line with this law, procedures and instructions</p> <p>Only the results obtained from the prescribed boiler standards and inspection methods will be approved.</p>
Chapter (4). Boiler Registration	<ol style="list-style-type: none"> <li>5. Anybody who would like to use a boiler in any kind of business should be registered.</li> <li>6. Boiler should be manufactured according to Myanmar Standards or International Standards.</li> <li>7. Those who would like to apply for boiler registration according to Section 5 should apply to the inspector with the application, documents and vouchers related to boiler</li> <li>8. If the application regarding registration of boiler according to Section 7, the Registration Officer should conduct necessary inspection and submit results of the findings to the Inspector General.</li> <li>9. The Inspector General should assess and inspect the submission of the Registration Officer according to Section 8 and could allow or reject for registration of the boiler.</li> <li>10. The Inspector General shall define boiler size according to heated surface area in accordance with adopted procedures.</li> </ol>

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Chapter (13) Prohibitions	<p>59. According to Section 21, nobody must alter, change, deface, deform or make embossed registration unnoticeable illegitimately.</p> <p>60. Nobody is allowed to repair a boiler without boiler repair certificate.</p> <p>61. Nobody is allowed to maintain a boiler without boiler maintenance certificate.</p> <p>62. Nobody must alter safety relief valve in order to exceed the allowable pressure due to his consent or direction given by the owner.</p> <p>63. Nobody must manufacture boilers against Section 25, Subsection 25 (a) and (b) enacted.</p>
<b>The Electricity Law (2014)</b>	
<p>In 2014, the new Electricity Law, a comprehensive piece of legislation covering licensing, a new regulatory commission, standards, inspection, tariff, and restrictions, replaced the Electricity Law of 1984. The Electricity Law divides projects into “small” (up to 10 MW), “medium” (between 10 MW to 30 MW) and large (upwards of 30 MW); the states and regions can issue permits for small and medium power plants. In case these plants are not connected to the national grid, the Union Government Ministry is not the primary authority involved. The authorities have a legal right to use land for the purpose of power plants under the Electricity Law, and have the right to expand and maintain their facilities. The law also provides that the authorities can build transmission lines in accordance with existing laws.</p>	
<b>Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)</b>	
<p>The Pyidaungsu Hluttaw hereby enacts this Law for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly.</p>	
<b>The Social Security Law (2012)</b>	
<p>The Social Security Law, enacted in 2012, was amended the Social Security Act in 1954. It stipulates the formation and implementation of social security systems.</p>	
Section 53(a)	<p>The employers and workers shall co-ordinate with the Social Security Board or insurance agency in respect of keeping plans for safety and health in order to prevent employment injury, contracting disease and decease owing to occupation and in addition to safety and educational work of the workers and accident at the establishment;</p>
<b>Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)</b>	
<p>This law was enacted for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly. It stipulates that employer in which more than 30 workers are employed shall form the workplace coordinating committee consisting of the representatives of workers and the representatives of employer.</p>	
Section 23	<p>A party, employer or worker, may complain individual dispute relating to his grievance to the Conciliation Body and if he is not satisfied with the conciliation of such body in accord with stipulated manners, may apply to the competent court in person or by the legal representative.</p>
Section 24	<p>The relevant Conciliation Body shall, in respect of the collective dispute known or received by the complaint of either party, employer or worker, in respect of the dispute; information sent by the Minister or the Region or State Government or any other means, carry out as follows: (a) conciliating so as to be settled within three days, not including the official holidays, from the day of knowing or receipt of such dispute; (b) concluding mutual agreement if the settlement is reached in conciliating under sub-section (a), before the Conciliation Body.</p>
Section 25	<p>The Conciliation Body shall refer the collective dispute which does not reach settlement to the relevant Arbitration Body and inform the persons relating to the dispute.</p>



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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	The project proponent has to not close the work without negotiation, discussion on dispute in accord with this law, decision by Tribunal
Section 51	The project proponent has to pay the compensation decided by Tribunal if violates any act or any emission to omission to damage the interest of labour by reducing of product without efficient cause.
Section 46	Any employer who violates any prohibition contained in sections 38 and 39 shall, on conviction, be punished with a fine for a minimum of one-lakh kyats.
<b>The employment and skill development (2013)</b>	
This law was enacted for safeguarding the right of workers or having skillful of workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly. Employer shall conduct occupational training to enhance the skills of workers.	
Section 5	The project proponent has to appoint employees with the contract in line with the provision of section 5 of said law.
Section 14	Employer shall conduct occupational training to enhance the skills of workers who are to be employed as well as workers who are presently employed in accordance with the requirements of the enterprise and the policy of the Skills Development Agency.
<b>The Worker's Compensation Act, 1923</b>	It stipulates that employer is required to make payments to employees who become injured or who die in any accidents arising during and in consequence of their employment. Such compensation also must be made for diseases which arise as a direct consequence of employment, such as carpal tunnel syndrome.
<b>The Payment of Wages Act, 1936</b>	The Payment of Wage Act defines the payment obligation to the workers employed in the factories or railway administration. It stipulates the method of payment stating that the payment should be made in cash on a regular payday, and allows legal action against delayed payment or un-agreeable deduction.
<b>The Leave and Holidays Act (1951, partially revised in 2014)</b>	This act has been used as the basic framework for leaves and holidays for workers with minor amendment in 2006 and 2014. This defines the public holidays that every employee shall be granted with full payment. It also defines the rules of leaves for workers including medical leave, earned leave and maternity leave.
<b>The Minimum Wage Law (2013)</b>	The minimum wage law, passed in March 2013, was replaced the 1949 Minimum Wage Act. The law provides a framework for minimum wage determination: the presidential office establishing a tripartite minimum wage committee shall decide minimum wage with industrial variation based on a survey on living costs of workers possibly every two years. This also stipulates equal payment.
<b>Public Health Law (1972)</b>	<b>Chapter 2; Prevention of Public Health</b>
Objectives	To ensure the public health include not only employees but also resident people and cooperation with the authorized person or organization of health department. This law focuses as follows

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	<p>The project owner has to cooperate with the authorized person or organization in line with the section 3 and 5 of said law.</p> <p>The project proponent has to abide by any instruction or stipulation for public health under the section 3 of said law.</p> <p>The project proponent has to allow any inspection, anytime, anywhere if it is needed under the section 5 of said law.</p>
<b>Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)</b>	
Chapter 2 Prevention	<p>4. When a Principal Epidemic Disease of a Notifiable Disease occurs; Immunization and other necessary measures shall be undertaken by the Department of Health, in order to control the spread thereof;</p> <p>The public shall abide by measures undertaken by the Department of Health under sub-section (a).</p>
Chapter 4 Environmental Sanitation	<p>For prevention of the outbreak of Communicable Disease and effective control of Communicable Disease when it occurs, the public shall under the supervision and guidance of the health officer of the relevant area, undertake the responsibility of carrying out the following environmental sanitation measures.</p> <p>Indoor, outdoor sanitation or inside the fence outside the fence sanitation;</p> <p>Well, ponds and drainage sanitation;</p> <p>Proper disposal of refuse and destruction thereof by fire;</p> <p>Construction and use of sanitary latrines;</p> <p>Other necessary environmental sanitation measures.</p>
<b>Occupational Safety and Health Law (2019)</b>	
Purpose:	To effectively implement measures related to safety and health in every industry and to set occupational safety and health standards;
Section-26 Sub-section (e)	The project proponent has to provide adequate and relevant personal protective equipment to workers free of charge and make them wear it during work so as not to expose workers to any serious occupational diseases or hazards
Section-26 Sub-section (1)	The project proponent has to arrange and display occupational safety and health instructions, warning signs, notices, posters, and signboards.
Section-30 Sub-section (a)	The worker shall wear or use at all times any protective clothes, equipment and tools provided by the employer for the purpose of safety and health.
Section-30 Sub-section (d)	The worker shall proper and systematic use any equipment and tools, machines, any parts of the machines, vehicles, electricity and other substances being used at the workplace.
Section-30 Sub-section (e)	The worker shall take reasonable care for the safety and health of himself/ herself and of other persons who may be affected by his/ her acts or omissions at work.
<b>The law on Standardization</b>	
Objectives	<p>The Objectives of this Law are as follows:</p> <ul style="list-style-type: none"> <li>to enable to determine Myanmar Standard</li> <li>to enable to support export promotion by enhancing quality of production organizations and their product, production processes and services</li> <li>to enable to protect the consumers and user by guaranteeing imports and products are not lower than prescribed standard, and safe from health hazards</li> </ul>

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	<p>to enable to support protection of environment related to products, production process and services from impact, and conservation of natural resources</p> <p>to enable to protect manufacturing, distributing and importing the disqualified goods which do not meet the prescribed standard and those which are not safe and endangered to the environment</p> <p>to support on establishing the ASEAN Free Trade Area and to enable to reduce technical barriers to trade</p> <p>to facilitate technological transfer and innovation by using the standards for the development of national economic and social activities in accordance with the national development programme.</p>
Chapter 7 Taking Action by Committee No. 19	<p>The committee may, if it is found out that holder of certificate of certification violates any term or condition contained in the relevant recommendation, pass any of the following administrative order:</p> <p>warning</p> <p>suspending the certificate of certification for limited period</p> <p>cancelling the certificate of certification</p>
<b>လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သောဝတ္ထုပစ္စည်းများဆိုင်ရာဥပဒေ (၂၀၁၈)</b>	
ရည်ရွယ်ချက်	<p>လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများကို စနစ်တကျပြုလုပ်ခြင်း၊ တင်သွင်းခြင်း၊ သယ်ယူခြင်း၊ သိုလှောင်ခြင်းနှင့် သုံးစွဲခြင်းတို့ပြုနိုင်ရန်၊</p> <p>ယမ်းဘီလူးနှင့် ဆက်စပ်သုံးပစ္စည်းများ အသုံးပြုသည့် လုပ်ငန်းခွင်ဘေးအန္တရာယ် ကင်းရှင်း၍ လုံခြုံမှုရှိစေရန်၊</p> <p>လုပ်ငန်းခွင်သုံး ပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများ ပြုလုပ်သုံးစွဲမှုများကို စနစ်တကျ ကြီးကြပ်နိုင်ရန်။</p>
အခန်း ၇ တားမြစ်ချက်များ အမှတ် ၁၈	<p>လိုင်စင်ရရှိသူနှင့် ခွင့်ပြုချက်ရရှိသူ မည်သူမျှ စစ်ဆေးရေးအရာရှိချုပ် သို့မဟုတ် စစ်ဆေးရေးအရာရှိ၏ စစ်ဆေးခြင်းကို ခံယူရန် ငြင်းပယ်ခြင်းမပြုရ။</p>
အမှတ် ၁၉ (ခ)	<p>ပုဒ်မ ၈ အရ ကာကွယ်ရေးဌာနကောင်စီ အမှုဆောင်အဖွဲ့၏ အတည်ပြုချက်မရရှိဘဲ လုပ်ငန်းခွင် ပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများကို ဖျက်ဆီးခြင်းမပြုရ။</p>
အမှတ် ၁၉ (ဂ)	<p>ဤဥပဒေအရ ထုတ်ပြန်သည့် နည်းဥပဒေ၊ စည်းမျဉ်း၊ စည်းကမ်း၊ အမိန့်ကြော်ငြာစာ၊ အမိန့်နှင့် ညွှန်ကြားချက်များနှင့်အညီ ဆောင်ရွက်ရန် ပျက်ကွက်ခြင်း မရှိစေရ။</p>
<b>The Motor Vehicles Law (2015)</b>	
Objectives	<p>When the constructions periods and if it is needed in operation and production period for all vehicles</p> <ul style="list-style-type: none"> <li>The project proponent has to promise to abide by the nearly all provisions of said law and rules, especially the provisions related to air pollution, noise pollution and life safety.</li> </ul>
<b>The Conservation of Water Resources and Rivers Law (2006)</b>	
Aims	<p>The aims of this Law are as follows:</p> <ul style="list-style-type: none"> <li>(a) to conserve and protect the water resources and rivers system for beneficial utilization by the public;</li> <li>(b) to smooth and safety waterways navigation along rivers and creeks;</li> </ul>

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	(c) to contribute to the development of State economy through improving water resources and river system; (d) to protect environmental impact.
Chapter 5 Prohibitions No. 8	No person shall: (a) carry out any act or channel shifting with the aim to ruin the water resources and rivers and creeks. (b) cause the wastage of water resources wilfully.
No. 10	No person shall anchor the vessels where vessels are prohibited from anchoring in the rivers and creeks.
No.11 (a)	No person shall: dispose of engine oil, chemical, poisonous material and other materials which may cause environmental damage, or dispose of explosives from the bank or from a vessel which is plying, vessel which has berthed, anchored, stranded or sunk.
No. 12	No person shall carry out growing of garden, digging, filling, silt trapping, closing pond, dyke building or erecting spur in the river-creek boundary, bank boundary and waterfront boundary without the permission of the relevant government department and organization.
No. 15	No person shall carry out the construction of switchback, dockyard, wet dockyard, water-tight dockyard, building of jetty, pier, landing stage or vessel landing by drainage in the river-creek boundary, bank boundary and waterfront boundary without the permission of the Directorate.
<b>The Commercial Tax Law (1990) Amended 2014</b>	
Chapter 5 Registration and Intimation of Commencement of Enterprise 11 (b)	Any Person who commences operation of a goods production enterprise or service enterprise shall furnish letter of intimation on the commencement of the operation as such to the relevant Township Revenue Officer as stipulated by regulations.
Chapter 6 Monthly Payment of Tax and Sending of Three-Monthly Return 12 (a)	Any person who has taxable proceed of sale or receipt from service within a year, shall pay due monthly tax within ten days after the end of the relevant month. Moreover, a three-monthly return shall be furnished to the relevant Township Revenue Officer within one month after the end of relevant three-month.
12 (b)	The Township Revenue Officer may intimate any person to pay due monthly tax and send three-monthly return if there is cause to consider that he has taxable proceed of sale or receipt from service within a year.
12 (c)	If it is failed to pay tax under sub-section (a) or (b), or if there is cause to consider that the tax paid is less than the tax payable, the Township Revenue Officer may, based on the information received, estimate and claim the tax payable or the additional tax payable.
12 (d)	The tax paid under sub-section (a), (b) or (c) shall be set-off from the tax due in the assessment.

**2.2. NATIONAL ENVIRONMENTAL QUALITY (EMISSION) GUIDLINES**

As specified in the EIA Procedure, all projects are obliged to use, comply with and refer to applicable national guidelines or standards or international standards adopted by the Ministry. As specified in the EIA Procedure, following project approval a project shall commence implementation strictly in accordance with the project EMP and any additional requirements set out in the project ECC,

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which will encompass conditions relating to emissions. While these Guidelines generally apply to all projects subject to the EIA Procedure, it is the prerogative of the Ministry to decide how the Guidelines should be applied to existing projects as referred to in the EIA Procedure.

According to the Environmental Conservation Law, MOECAF shall set standards of environmental qualities as agreed by the Union Government and the Environmental Conservation Committee to provide the basis for regulation and control of noise and vibration, air emissions and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health.

### 2.2.1. General Guidelines

General guidelines of related environmental impact guideline for proposed project are -

#### 2.2.1.1. Air emission

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: (i) emissions do not result in concentrations that reach or exceed national ambient quality guidelines and standards, or in their absence current World Health Organization (WHO) Air Quality Guidelines<sup>1</sup> for the most common pollutants as summarized below; and (ii) emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards (i.e. not exceeding 25 percent of the applicable air quality standards) to allow additional, future sustainable development in the same air shed. Industry-specific guidelines summarized hereinafter shall be applied by all projects to ensure that air emissions conform to good industry practice. Reference should be made to WHO's Air Quality Guidelines for Europe<sup>2</sup> for air pollutants not included in the following Table 2-2.

**Table 2-2 WHO's Air Quality Guideline**

Parameter	Averaging Period	Guideline Value
Nitrogen Dioxide	1-year	40
	1-hour	200
Ozone	8-hour	100
Particulate Matter PM10 <sup>a</sup>	1-year	10
	24-hour	50
Particulate Matter PM2.5 <sup>b</sup>	1-year	10
	24-hour	25
Sulfur dioxide	24-hour	20
	10-minute	500

<sup>a</sup> Particulate matter 10 micrometers or less in diameter

<sup>b</sup> Particulate matter 2.5 micrometers or less in diameter

#### 2.2.1.2. Wastewater

Industry-specific guidelines apply during the operations phase of projects and cover direct or indirect discharge of wastewater to the environment. They are also applicable to industrial discharges to sanitary (domestic) sewers that discharge to the environment without any treatment. Wastewater generated from project operations includes process wastewater, wastewater from utility operations, runoff from process and storage areas, and miscellaneous activities including wastewater from

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laboratories, and equipment maintenance shops. Projects with the potential to generate process wastewater, sanitary sewage, or storm water should incorporate the necessary precautions to avoid, minimize, and control adverse impacts to human health, safety or the environment. Industry-specific guidelines summarized hereinafter shall be applied by all projects, where applicable, to ensure that effluent emissions conform to good industry practice.

For project types where industry-specific guidelines are not set out in these Guidelines, the following general guideline values, or as stipulated on a case-by-case basis, apply during project operations.

**Table 2-3 Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges (general application)<sup>1</sup>**

Parameter	Unit	Guideline Values
5-day Biochemical oxygen demand	mg/l	50
Ammonia	mg/l	10
Arsenic	mg/l	0.1
Cadmium	mg/l	0.1
Chemical oxygen demand	mg/l	250
Chlorine (total residual)	mg/l	0.2
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Copper	mg/l	0.5
Cyanide (free)	mg/l	0.1
Cyanide (total)	mg/l	1
Fluoride	mg/l	20
Heavy metals (total)	mg/l	10
Iron	mg/l	3.5
Lead	mg/l	0.1
Mercury	mg/l	0.01
Nickel	mg/l	0.5
Oil and grease	mg/l	10
pH	S.U. <sup>a</sup>	6-9
Phenols	mg/l	0.5
Selenium	mg/l	0.1
Silver	mg/l	0.5
Sulphide	mg/l	1
Temperature increase	°C	<3 <sup>b</sup>
Total coliform bacteria	100 ml	400

<sup>1</sup> Pollution prevention and abatement handbook. 1998. Toward cleaner production. World Bank Group in collaboration with United Nations Environment Programme and the United Nations Industrial Development Organization.

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Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

<sup>b</sup> At the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

**2.2.1.3. Noise levels**

Noise prevention and mitigation measures should be taken by all projects where predicted or measured noise impacts from a project facility or operation exceed the applicable noise level guideline at the most sensitive point of reception. Noise impacts should not exceed the levels shown below, or result in a maximum increase in background levels of three decibels at the nearest receptor location off-site.

**Table 2-4 Noise Levels of National Environmental Quality (Emission) Guideline**

Receptor	One Hour LAeq (dBA) <sup>a</sup>	
	Daytime 07:00 – 22:00 (10:00 – 22:00 for Public Holidays)	Nighttime 22:00 – 07:00 (22:00 – 10:00 for Public Holidays)
	Residential, institutional, education	55
Industrial, commercial	70	70

<sup>a</sup> Equivalent continuous sound level in decibels

**2.2.2. Garment, Textile and Leather Products Manufacturing**

This guideline applies to textile manufacturing using natural fibers, synthetic fibers (made entirely from chemicals), and regenerated fibers (made from natural materials by processing these materials to form a fiber structure). It does not include polymer synthesis and natural raw material production.

**2.2.2.1. Effluent levels**

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/l	30
Absorbable organic halogens	mg/l	1
Ammonia	mg/l	10
Cadmium	mg/l	0.02
Chemical oxygen demand	mg/l	160
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Cobalt		0.5
Color		7 (436 nm <sup>a</sup> , yellow) 5 (525 nm, red)



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		3 (620 nm, blue)
Copper	mg/l	0.5
Nickel	mg/l	0.5
Oil and grease	mg/l	10
Pesticides		0.05-010 <sup>b</sup>
pH	S.U. <sup>c</sup>	6-9
Phenol	mg/l	0.5
Sulfide	mg/l	1
Temperature increase	°C	<3 <sup>d</sup>
Total coliform bacteria	100 ml	400
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

a Nanometers

b 0-05 mg/l for total pesticides (organ phosphorus pesticides excluded); 0.10 mg/l for organ phosphorus pesticides

c Standard Unit

d b at the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

**2.2.2.2. Air emission levels**

Parameter	Unit	Guideline Value
Ammonia	mg/Nm <sup>3a</sup>	30
Carbon disulfide	mg/Nm <sup>3</sup>	150
Chlorine	mg/Nm <sup>3</sup>	5
Formaldehyde	mg/Nm <sup>3</sup>	20
Hydrogen sulfide	mg/Nm <sup>3</sup>	5
Particulates	mg/Nm <sup>3</sup>	50 <sup>b</sup>
Volatile organic compounds	mg/Nm <sup>3</sup>	2/20/50/75/100/1 150 <sup>c, d</sup>

a Milligrams per normal cubic meter at specified temperature and pressure

b as the 30-minute mean for stack emissions

c Calculate as Total carbon

d As the 30-minute mean for stack emissions; 2 mg/Nm<sup>3</sup> for volatile organic compounds classified as carcinogenic or mutagenic with mass flow greater than or equal to 10 g/hr; 20 mg/Nm<sup>3</sup> for discharges of halogenated volatile organic compounds with a mass flow equal or greater than 100 g/hr; 50 mg/Nm<sup>3</sup> for waste gases from drying of large installations (solvent consumption > 15 tons/year); 75 mg/Nm<sup>3</sup> for coating application processes for large installations (solvent consumption > 15 tons/year); 100 mg/Nm<sup>3</sup> for small installations (solvent consumption < 15 tons/year); if solvent is recovered from emissions and reused, the guideline value is 150 mg/Nm<sup>3</sup>

**2.2.3. IFC EHS Guidelines**

The EHS Guidelines<sup>1</sup> by International Finance Cooperation (IFC) are technical reference documents with general and industry-specific examples of Good International Industry practice (GIIP), as defined in IFC's Performance Standard 3: Resources Efficiency and Pollution Prevention. The EHS Guidelines contain the performance levels and measures that are normally acceptable to IFC, and that are generally considered to be achievable in new facilities at reasonable costs by existing technology.



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There are two kinds of guidelines, General EHS Guidelines and Industry Sector Guidelines. The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors in the following section: (1) Environment, (2) Occupational Health and Safety, (3) Community Health and Safety and (4) Construction and Decommissioning. Table 2-5 shows the contents of the section of Community Health and Safety.

**Table 2-5 Community health and safety contents**

Contents	Brief Description
Water Quality and Availability	Drinking water sources should at all times be protected so that they meet or exceed applicable national acceptability standards or in their absence the current edition of WHO Guidelines for Drinking-Water Quality. Project activities should not compromise the availability of water for personal hygiene needs and should take account of potential future increases in demand. The overall target should be the availability of 100 liters per person per day.
Structural Safety of Project Infrastructure	Reduction of potential hazards is best accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a project (1) inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure (2) incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire, and (3) application of locally regulated or internationally recognized building codes, standards and regulations, and mitigation measures.
Traffic Safety	Traffic safety should be promoted by all project personnel during displacement to and from the workplace, and during operation of project equipment on private or public roads. Prevention and control of traffic related injuries and fatalities should include the adoption of safety measures that are protective of project workers and of road users, including those who are most vulnerable to road traffic accidents.
Transport of Hazardous Materials	Projects should have procedures in place that ensure compliance with local laws and international requirements applicable to the transport of hazardous materials.
Disease Prevention	Recommended interventions against the communicable diseases at the project level include (1) providing surveillance and active screening and treatment of workers, (2) preventing illness among workers in local communities by undertaking health awareness and education initiatives, training health workers in disease treatment and conducting immunization programs for workers, and (3) providing treatment through standard case management in on-site or community health care facilities.
Emergency preparedness and Response	All projects should have an Emergency preparedness and Response Plan that is commensurate with the risks of the facility and that includes the following basic elements: (1) Administration (policy, purpose, distribution, definitions, etc.) (2) Organization of emergency areas (command centers, medical stations, etc. (3) Roles and responsibilities, (4) Communication systems, (5) Emergency response procedures, (6) Emergency resources, (7) Training and updating, (8) Checklists (role and action list and equipment checklist), and (9) Business Continuity and Contingency.

### 2.3. INSTITUTIONAL ARRANGEMENT

The Ministry of Environmental Conservation and Forestry (MOECA) was reformed as the Ministry of Natural Resources and Environmental Conservation (MONREC) on 30th March, 2016 in order to undertake both environmental and natural resources conservation and management more effectively. Under Section 3 of the Environmental Impact Assessment Procedure (2015), pursuant to section 21 of the law and Articles 52, 53 and 55 of the Environmental Conservation Rules, all projects and project

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expansions undertaken by any organization, which may cause impact on environmental quality that, are required to obtain prior permission. This is to be in accordance with section 21 of the Environmental Conservation Law, and Article 62 of the Environmental Conservation Rules, having the potential to cause adverse impacts, that are required to undertake IEE or EIA or to develop an EMP, and to obtain an Environmental Compliance Certificate (ECC) in accordance with this EIA procedure.

### **3. PROJECT DISCRIPTION**

#### **3.1. LOCATION OF PROPOSED PROJECT**

The Project site is located at Land Plot No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region. The proposed project is lying between 16°54'55.81" N and 96°04'31.00" E. The location of the project is shown in Figure 3-1.

#### **3.2. PROJECT IMPLEMENTATION**

The proposed factory is 100% foreign investment by Gold Emperor (Myanmar) Company Limited. The proposed factory is located at Land Plot No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region. The project site covers 7.88 acres that is flat land and the land plot is square shape and elevation is above 30m mean sea level. The Hlaing River which is 0.45 kilometers far from the project is flowing from north to south. The construction stage which is initiated from 2019 to 2021 and the construction time may be 2 years. The commercial running operation stage started in January, 2022. The factory aims to manufacture of various kinds of shoes on CMP Basis.

Brief of project implementation will be separated by three phases;

- i. Construction phase: 2 years (Already finished in 2022)
- ii. Operation phase: 50 years-
- iii. Decommission/Rehabilitation Phase: 1 year (depend on land owner)

##### **3.2.1. Site Description of Proposed project site**

The total land area is 7.88 acres (31889.23 sqm) and main factory buildings, warehouse, kitchen, canteen, maintenance house, etc. which were built on its land area. Also factory layout drawing is able to seen in Figure 3-2 and Figure 3-3.



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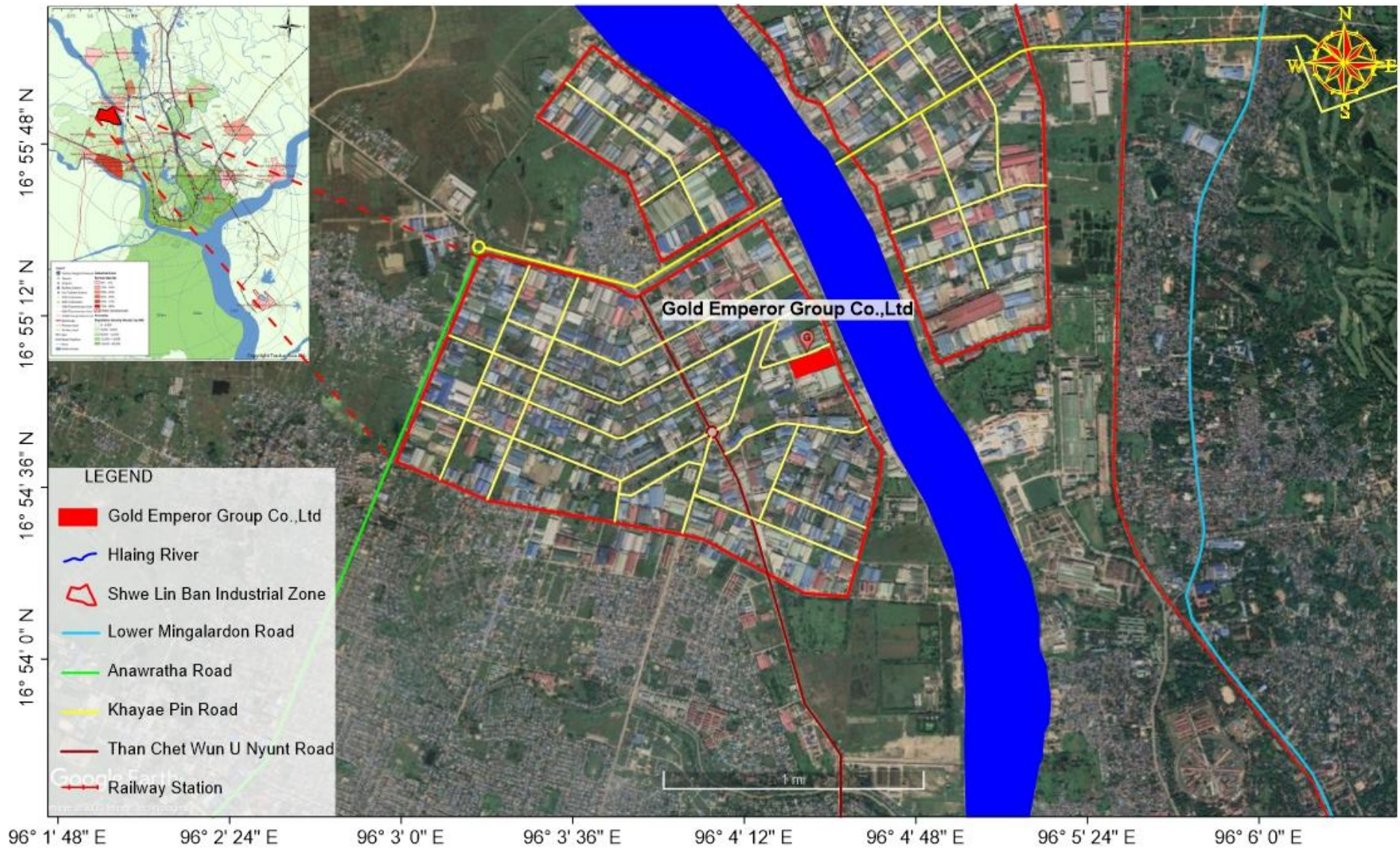


Figure 3-1 Location Map



**Environmental Management Plan**



**Figure 3-2 Factory Layout Map**

Environmental Management Plan

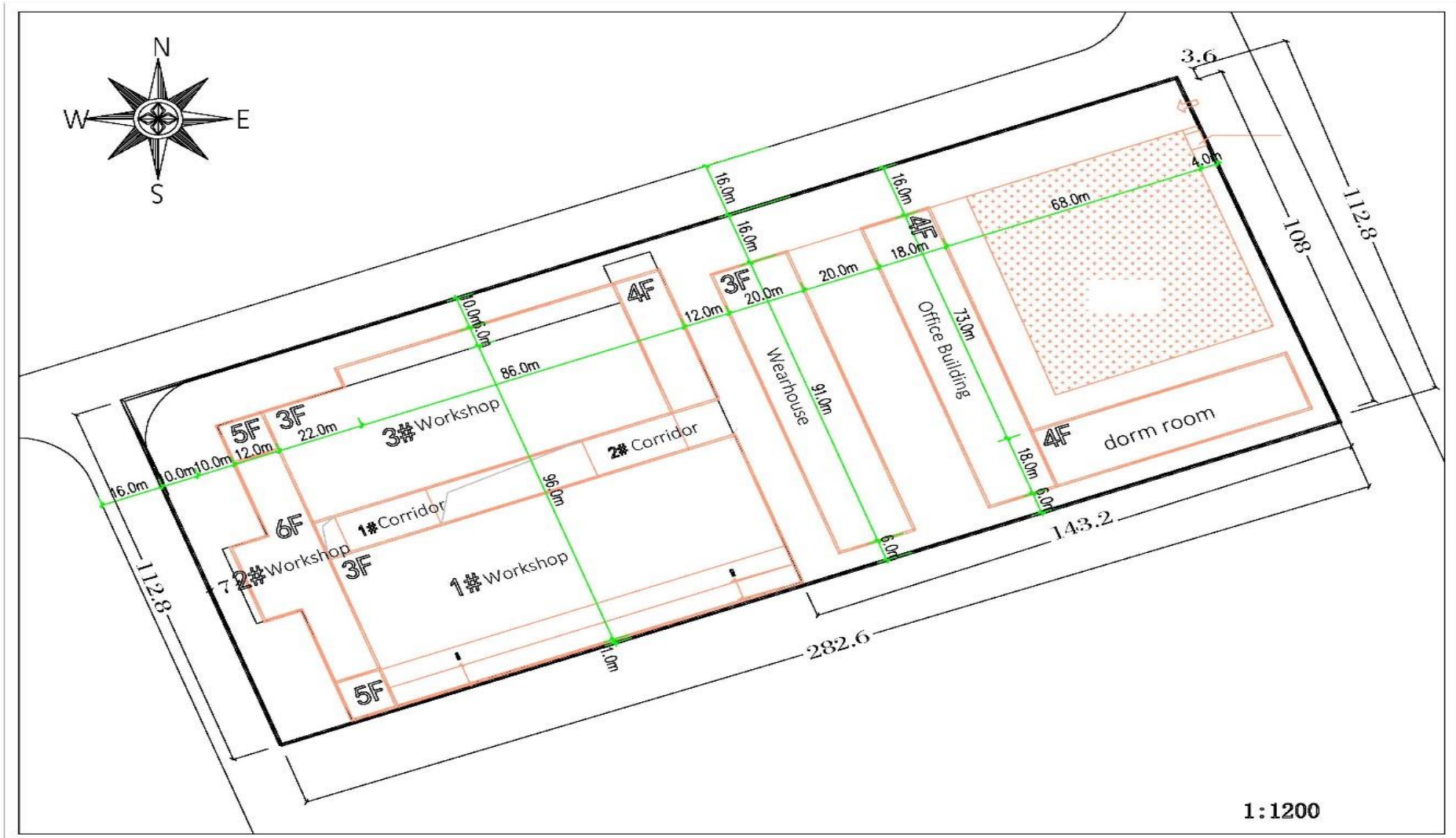


Figure 3-3 Factory Layout Drawing

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### 3.2.2. Production Process

The production process will be carried out by installing fully automatic systems control of each process machine or complete processing line. The product designs will be different depending on order requirement. The CMP system is a form of production on consignment in which the main raw materials. The production stages are as follow:

**Fabric Limination:** The first stage, the fabric from raw material storage area is liminated by using laminating machines.

**Drawing Patterns:** Making the patterns according to the desired design of various shoes.

**Cutting:** All the pieces that the pattern maker drew from the last are cut. After being cut, the pieces are taken to place where they are made to have uniform thickness.

**Outsole:** In this sector, outsole team make adds several pieces of sheeted rubber together, that will later form the entire outsole.

**Stitching:** Stitching joins the pieces together in what is known as the outer area of the shoe. In this section, the pieces are made with the necessary folds and glue is added to secure them until the parts can be sewn together with threads.

**Assembly:** It is a three-step process. First wrap the upper over the last and prepare it to have the outsole attached to it. Then, glue is added to adhere the toe region of the upper. Second, the sides of the footwear are closed, and third the heel area is closed as well.

**Packing:** Finally, the shoe is prepared for packing. Insoles and laces are added and then the shoe proceeds to be quality checked and packaged. Once all details are verified, the shoe are put in the shoe bag/box.

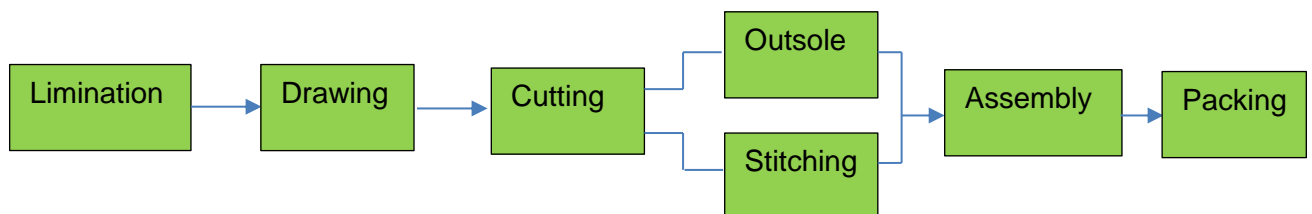


Figure 3-4 Production flow diagram of Gold Emperor (Myanmar) Company Limited



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Raw Materials



Lamination



Outsole Section



Stitching Section

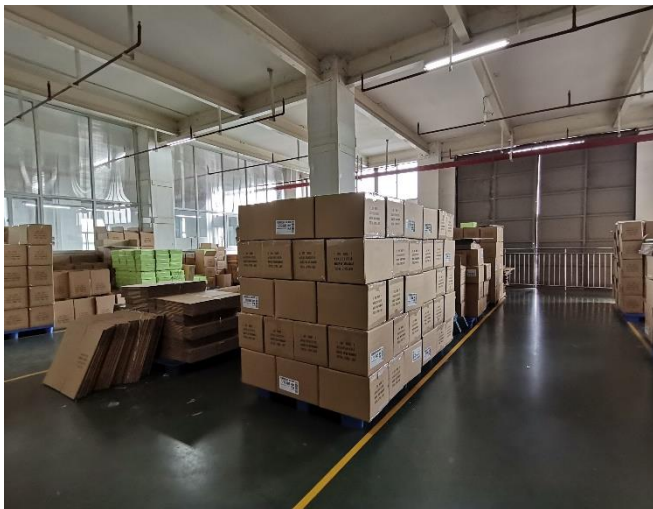




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Assembly Section



Packing Section

**Figure 3-5 Production Photos of Gold Emperor (Myanmar) Company Limited**

**3.2.3. Products**

Gold Emperor (Myanmar) Company Limited will produce various types of shoes on CMP Basis. The products are famous brands which are based in Sweden and Germany countries. The names of products are PUMA, H&M and Deichmann SE. The company will put the label of “Made in Myanmar” on the products and will export to the EU countries and the United State. Annual production rate of the products is shown in Table 3-1 Annual Production Rate.

**Table 3-1 Annual Production Rate**

Particular	Unit	Year 1-3	Year 4	Year 5	Year 6-10
Female middle boots	Pairs	2,050,000	2,255,000	2,225,000	2,225,000
Female slippers	Pairs	1,040,000	1,144,000	1,144,000	1,144,000
Woman shoes	Pairs	2,280,000	2,508,000	2,508,000	2,508,000
Woman sandals	Pairs	2,730,000	3,003,000	3,003,000	3,003,000
Childrens boots	Pairs	750,000	825,000	825,000	825,000



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Childrens shoes	Pairs	70,000	77,000	77,000	77,000
Female boots	Pairs	800,000	880,000	880,000	880,000
Female booties	Pairs	1,230,000	1,353,000	1,353,000	1,353,000
Childrens sandals	Pairs	300,000	330,001	330,001	330,002
<b>Total</b>		<b>11,250,000</b>	<b>12,375,000</b>	<b>12,375,001</b>	<b>12,375,002</b>



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**Figure 3-6 Products Photos of Proposed Project**

**3.3. UTILITIES**

**3.3.1. Raw Material**

Main raw materials for production will be imported from China. Raw materials will be stored in the warehouse. Required raw materials and chemicals are imported from China. Raw material requirement and chemical usage are expressed in Table 3-3. Raw materials supplying process is not affected to environment.

**Table 3-2 List of Raw Materials Requirement**

No	Particular	Unit	Female middle boots	Female slippers	Women's shoes	Women's sandals	Children's boots	Children's shoes	Female boots	Female booties	Children's sandals
1.	Fabric	M	0.138	0.0476	0.099	0.0275	0.1657	0.0925	0.3854	0.161	0.0512
2.	Lining	M	0.1058	0	0.0543	0.0237	0.0772	0.0512	0.3312	0.0984	0.0331
3.	Fence, back cover, bottom, wrapper, midsole	M	0.057	0.067	0.0943	0.0583	0.0358	0.0347	0.0753	0.0839	0.0296
4.	Fake hair	M					0.0373				
5.	Interlining	M	0.2916	0.1487	0.2025	0.0797	0.296	0.1567	0.5159	0.4094	0.0921

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No	Particular	Unit	Female middle boots	Female slippers	Women's shoes	Women's sandals	Children's boots	Children's shoes	Female boots	Female booties	Children's sandals
6.	Hot melt film	Pcs	0.028		0.024	0.0041	0.0231	0.0398	0.0363	0.0303	0.0046
7.	Elastic	M	1.1		0.14	1.34		0.205	0.125		0.034
8.	Buckle, drill, ironing	Pcs		2792	2	4	10	4	18		2
9.	Nylon thread	M	26.2	2	17	8.3	37.3	8.9	51.2	22.5	8.601
10.	Outsole	Pair	1	1	1	1	1	1	1	1	1
11.	Midsole	Pair	1	1	1	1	1	1	1	1	
12.	Heel	Pair			1	1		1	1		
13.	Foot bed	Pair		1							
14.	Studs	Pcs	2		6	8	30	8	10	2	
15.	Glue	Kg	0.15	0.078	0.083	0.0836	0.0768	0.06	0.125	0.0658	
16.	Pull head	Pcs	2				2		2		
17.	Zipper	Pair	1				1		1		
18.	Scotch tape	M	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
19.	Boot liner	Pair	1				1	1	1	1	
20.	Coated white paper	Pcs	4	3	6	4	3	2	4	4	
21.	Partition	Pcs	1	1	1	1	1	1	1		
22.	Mold inhibitor	Kg	0.0024	0.002	0.002	0.002	0.0024	0.001	0.0024	0.002	
23.	Shoe box	Pcs	1	1	1	1	1	1	1	1	
24.	Outer box	Pcs	0.125	0.125	0.167	0.125	0.125	0.125	0.125	0.125	

**Table 3-3 Chemical Usage**

No.	Code No	Nx	Type of Chemical	Kg	Quantity	Total Kg
1	1205781	NX-TR66	ဆေးရည်	15 Kg	65	975 Kg



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2	120592	NX-792	ဆေးရည်	15 Kg	65	975 Kg
3	1205781	NX-794B	ဆေးရည်	15 Kg	6	90 Kg
4	1201114	NX-03C	ဆေးရည်	14 Kg	23	310 Kg
5	120500030	NX-3530	EVA ဆေးရည်	15 Kg	18	258 Kg
6	120400001	NX-RFE	ဆေးရည်	15 Kg	1	23.25 Kg
7	120500038	NX-105	ဆေးရည်	15 Kg	13	195 Kg
8	120500106	NX-206PP	ဆေးရည်	15 Kg	1	20 Kg
9	120500103	NX-303	ဆေးရည်	15 Kg	1	15 Kg
10	121100007	NX-313	ဆေးရည်	20 Kg	10	200 Kg
11	1201190	NX-90	ကော်ဖြူ	20 Kg	125	2500 Kg
12	120400006	NX-50	ဆေးရည်	20 Kg	3	60 Kg
13	120171	NX-62	ကော်ကြည်	15 Kg	354	5310 Kg
14	129900027	NX-RIV	ဆေးရည်	16 Kg	4	67.2 Kg
15	120100001	NX-620	ကော်ဝါ	15 Kg	467	7005 Kg
16	120105	NX-1013B	ကော်စိမ်း	11 Kg	206	2266 Kg
17	120100006	NX-103HW	ကော်စိမ်း ပန်းရောင်	11 Kg	40	440 Kg
18	120100085	NX-295D	ကော်	15 Kg	2	30 Kg
19	120300033	NX-2022	ဆေးရည်	15 Kg	2	30 Kg
20	1201129.3	NX-7391	ဖျန်းကော်	18 Kg	93	1674 Kg
21	K 20300001	NX-201	သန့်ရည်	13 Kg	52	670 Kg
22	K - 120126		ကော်ဖြူ			18900 Kg
23	120300001	7188	ကော်ဖျက်ရည်	180 Kg	9	1527 Kg
24	120300001	မန့်ကန် 783	မို့မတတ်ဆေး	180 Kg	1	153 Kg
25	12120327	ဝမ်ယိထုံ	ချည်ကျဲရည်	180 Kg	1	150 Kg
26	120400005	စိမ့်ညံ့ကျို	ဆေးရည်	25 Kg	2	50 Kg
27	120500016	ရှောက်ဖောက်ကျို	ဆေးရည်	25 Kg	2	50 Kg
28	120500018	iHeir-Js	မို့မတတ်ဆေး	25 Kg	2	50 Kg
29	091400001	iHeir sPray	မို့မတတ်ဆေး	25 Kg	26	848 Kg

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30	1201108	ရှားကုမိ	ကော်အကြည်	120 Kg		
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**3.3.2. Machinery and Equipment**

Gold Emperor (Myanmar) Company Limited will install automation systems for fully automatic systems control of each process machine or complete processing line. List of operation accessories and machinery required and imported from China for the proposed project are listed in Table 3-5 and machine photos are described in Figure 3-6. The office equipment, utilities, the materials for bathroom and vehicles will purchase from local. The power distribution equipment, server machine room accessories, cable, cable tray, air dust materials and other equipment will be imported from China. The fire-fighting equipment, steel structure materials will also import from China.

**Table 3-4 List of Machinery and Equipment in Proposed Factory**

No.	Description	HS Code	Unit	Qty
1.	Last Slipping Machine	8453	Set	3
2.	Fold Ironing Machine	8451	Set	3
3.	Automatic Oil Pressure Type Heel-Lasting Machine	8453	Set	2
4.	Auto High-Speed Refrigerating Machine	8453	Set	1
5.	Forming Flow Chart	8462	Pcs	1
6.	Fully Automatic Cementing Toe-Lasting Machine	8453	Set	6
7.	Marking Machine	8479	Set	6
8.	Flattening Machine	8479	Set	12
9.	Heel-Shaping Machine	8459	Set	1
10.	Steam Heating and Setting Machine	8451	Set	3
11.	Walled Sole Attaching Machine	8453	Set	1
12.	Insole Molding Machine	8453	Set	3
13.	Infrared oven (1 meter)	8516	Set	3
14.	Infrared oven (1.5 meter)	8516	Set	19
15.	Infrared oven (2 meter)	8516	Set	9
16.	Polisher	8460	Set	2
17.	Hydraulic truck	8426	Set	8
18.	Cementing machine	8417	Set	3
19.	Grinding machine	8460	Set	6
20.	Toe fuse and pressing machine	8451	Set	1
21.	Single-needle roller machine	8452	Set	165
22.	Double-needle roller machine	8453	Set	30
23.	Pressing sewing machine for heel	8452	Set	15
24.	Zigzag stitching machine	8452	Set	15

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No.	Description	HS Code	Unit	Qty
25.	Glue spraying machine	8424	Set	15
26.	Trimming machine	8479	Set	15
27.	Drying machine	8479	Set	15
28.	Computerized sewing machine	8447	Set	5
29.	Sewing table	8452	Set	130
30.	Hydraulic cutting machine	8441	Set	12
31.	Round knife peeling machine	8208	Set	15
32.	Fully automatic gluing and vamp folding machine	8451	Set	9
33.	Forming machine (double head)	8477	Set	3
34.	Cutting line	8461	Set	1
35.	Midsole flow line	4016	Set	1
36.	Automatic high-speed middle plate milling	8459	Set	1
37.	Forced gluing machine (soft wheel)	8479	Set	3
38.	Single-cylinder midsole setting machine	8453	Set	4
39.	Laser cutting machine	8456	Set	1
40.	Single-head bottom roughing machine	8461	Set	4
41.	Vertical oven	8417	Set	1
42.	Dehumidifier	8479	Set	1
43.	Forklift (3 Ton)	8427	Set	2
44.	Disc injection molding machine	8477	Set	5
45.	Mixing bucket	8479	Set	2
46.	Grinder	8457	Set	1
47.	Paint spraying line	8424	Pcs	2
48.	Shoe last recycling line	3926	Pcs	3
49.	Quick delivery line	8418	Pcs	3
50.	Cooling tower	8419	Set	1
51.	Laminating machine (Net belt)	8422	Set	1
52.	Double-groove laminator(basic)	8443	Set	1
53.	Strip cutter	8463	Set	1
54.	Strip gluing machine	3506	Set	1
55.	Elastic striping machine	4016	Set	1
56.	Blanking machine	8462	Set	1
57.	Skinning machine	8438	Set	2
58.	Gilding press	8443	Set	2

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No.	Description	HS Code	Unit	Qty
59.	107 Laminator	8422	Set	2
60.	Hydraulic machine	8462	Set	1
61.	Hot melt thinning machine	8479	Set	1
62.	Assembly line (10 meters)	8479	Set	1
63.	Oven with 1.5 meters length	7019	Set	2
64.	Thermo compressor	8414	Set	1
65.	Strong gluing machine (Hard turbine with graft adhesive)	8441	Set	2
66.	Insole covering machine (all-in package)	8453	Set	2
67.	Automatically gluing and sole attaching covering machine (half package)	8479	Set	1
68.	107laminator (soft roller)	8439	Set	1
69.	107Laminator (hard roller)	8439	Set	1
70.	Assembly line (16 meters)	8475	Pcs	2
71.	Size setting machine	8453	Set	1
72.	type gearing machine	3926	Set	2
73.	Pneumatic cutting off machine	8441	Set	1
74.	Shoe box breaking machine	4819	Set	2



Marking machine



Flattening machine



Fully automatic cementing toe-lasting machine



Strong cementing machine



Grinding machine



Glue spraying machine



**Environmental Management Plan**



Fully automatic gluing



Automatic high speed middle plate milling



Midsole flow line



Midsole laminating machine  
Forced gluing machine (soft wheel)



Infrared oven



Midsole laminating machine  
Forced gluing machine (soft wheel)



Midsole edge cutting machine



Air compressor



Generator



LV outgoing cabinet Transformer  
(1001kVA)



LV incoming cabinet Capacitor  
compensation cabinet (300kvar)



LV incoming cabinet Capacitor  
compensation cabinet (300kvar)



Last slipping machine



Fold ironing machine



Heel-nailing machine

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Automatic oil pressure type heel-lasting machine



Auto high-speed refrigerating machine



Forming flow chart



Heel-shaping machine



Vacuum vulcanizing machine



Walled sole attaching machine



Insole molding machine



Infrared oven



Hydraulic truck



Cementing machine



Strong cementing machine



Drying machine



Exhausting system



Hot melt toe activation machine



Single-needle roller machine

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Double-needle roller machine



Pressing sewing machine for heel



Zigzag stitching machine



Computerized sewing machine



Sewing table



Hydraulic cutting machine



Round knife peeling machine



Fully automatic gluing and vamp folding machine



Forming machine (double head)



Cutting line



Hydraulic cutting machine



Riveting machine



Single-cylinder midsole setting machine



Single-head bottom roughing machine



Trimming machine

**Figure 3-7 Machinery and Equipment Photos of Proposed Project**

**Environmental Management Plan****3.3.3. Human Resource**

The number of people 1291 employees will be required in the proposed project during the operation stage. The technicians and experts will be foreigner who manage the company by their dynamic, enthusiastic, experienced, and cooperative skills. Most are local people and description of position and amount of employees list are presented in Table 3-6 Employment Schedule of Gold Emperor (Myanmar) Company Limited.

**Table 3-5 Employment Schedule of Gold Emperor (Myanmar) Company Limited**

Item	Designation/Rank	Citizen			Foreign		
		Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
1.	Operation Manager				5	3	2
2.	Quality Control	40	60	99	10	8	7
3.	Pattern Cutting Technician				10	7	5
4.	Sampling Technician				15	10	5
5.	Production Line Supervisor				10	7	7
6.	Secretary	2	2	2			
7.	Factory Manager	1	1	1			
8.	Financial Manager	1	1	1			
9.	Shipping Manager	1	1	1			
10.	Purchasing Manager	1	1	1			
11.	Human Resources Manager	1	1	1			
12.	Human Resources Staff	5	5	5			
13.	Store Supervisor	1	1	1			
14.	Store Keeper	18	18	18			
15.	Driver	6	6	6			
16.	Security staff	6	10	15			
17.	Cleaner	14	14	14			
18.	Skill and semiskill workers	700	1190	2447			
19.	Unskilled workers	400	989	838			
20.	Translator	6	6	6			
21.	Fire safety officer	2	2	2			
<b>Total</b>		<b>1241</b>	<b>2358</b>	<b>3530</b>	<b>50</b>	<b>32</b>	<b>26</b>

**3.3.4. Water Requirement**

The project has been used two tube wells and the water was pumped to the storage tank. The water will be stored in the overhead tank and underground water tank. The fire-fighting water storage tank that can store 50,000 gallons. The estimated water usage may have 3,962 gallons per day. During operation phase, most of the water is consumed for washing the glue plastic box and other facility requirements. Under production stage, the project has been used the tube wells for necessary manufacturing, domestic uses and firefighting. The expected water usage for the factory was used



### Environmental Management Plan

144,263,426 gallons per year and the water resource was used systematically. For drinking water, the R.O system will be installed.



Figure 3-8 Water storage tank supply

#### 3.3.5. Wastewater Management Plan

Under operation stage, only small amount of wastewater will be emitted by washing of glue plastic box and the cleaning process of raw materials. These effluents will be collected separately and managed to dispose by connecting third-party organization. The toilet system is septic system and about 70 toilets is now installing in the project. The waste from the toilets will be disposed by connecting the Pollution Control and Cleansing Department of the Yangon City Development Committee (YCDC). Only domestic effluent will discharge into factory drainage channel which is further discharged to the storm water channel.



**Environmental Management Plan****Figure 3-9 Sedimentation Tank****3.3.6. Electricity and Fuel Requirement**

Most of the electricity will be obtained from the national grid and that will reduce the diesel consumption to some extent. The project was received electric power from Yangon Electrical Supply Corporation (YESC) by installing 400 KVA and 315 KVA transformers from Hlaing Thar Yar Industrial Zone. The four generators (1077, 1200, 220, 120 KW) are also installed to run operation during electricity cut off. The estimate electricity usage will be about 7,875,000 kW per year for the production stage of the project.

**Figure 3-10 Transformers of Proposed Project**



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**Figure 3-11 Electricity Facilities at Gold Emperor (Myanmar) Factory**

**3.4. GENERATION OF WASTE, EMISSION AND DISTURBANCES**

The project will be generated solid waste, liquid waste, and hazardous waste from the operation of the factory. Detail description of waste generation and waste amount are shown in Table 3-6.

**Environmental Management Plan****Table 3-6 Waste generation and waste amount of Gold Emperor (Myanmar) Company Limited**

Waste		Type of wastes	Estimated waste amount	Source of generation
<b>Operation phase</b>				
Solid waste	Re-usable	Residual pieces of fabric scraps	15% a roll of fabric (kg)	Production line and cutting line
		Raw material cutting wastes	280 kg / month	
		Disposed packaging materials, paper or plastic wrapping	136 kg / month	Materials store and supply packaging
	Non re-usable	Food residues, domestic waste	324.18 kg / day*	Canteen, Kitchens, dormitory
Liquid waste		Sanitary discharge water	79.8 m <sup>3</sup> /day*	Toilet facility, kitchen and canteen
Hazardous waste		Residual chemicals, use chemical container		Chemical usage and store area
		Oil leakage and spills	-	Operation of generator and movements of vehicles

The domestic wastewater generation was based on typical wastewater generation rate of 0.1 m<sup>3</sup> per person per day (Metcalf & Eddy, 2004)

The Yangon City solid waste generation rate as of 2012 is 0.39 kg per person per day (Pollution Control and Cleansing Department, Yangon City Development Committee, 2014).

**3.5. DECOMMISSIONING PHASE**

The proposed project investment duration is 50 years and their extendable year is 10 years in two times recommended by the Yangon Region Government. The project will be closed out according to their MIC proposal. During the decommission phase, the project will follow the rules and regulations to reduce the impacts on the environment.



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**3.6. COMMITMENT OF GOLD EMPEROR (MYANMAR) COMPANY LIMITED**

Gold Emperor (Myanmar) Company Limited has made the commitments and responsible for the preservation of the environment at and around the area of project site. In addition to this, it shall carry out as per instructions made by Ministry of MONREC in which to conduct an EMP which describe the measure to be taken for preventing, mitigation and monitoring significant environment impacts resulting from the implementation and operation of proposed project or business or activity has to be prepared and submitted and to perform activities in accordance with this EMP and be abided by the environment policy, Environmental Conservation Law and other environmental related rules and procedures.

- (a) The accuracy and completeness of the EMP,
- (b) That the EMP has been prepared in strict compliance with applicable laws including this Procedure
- (c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EMP Report.

Gold Emperor (Myanmar) Company Limited shall be responsible for the environmental assessment of factory development as follows:

- Monitoring the factory area operations according to EMP and Environmental Monitoring Plan (EMoP)
- Submitting environmental monitoring reports to ECD frequency less than every 6 months.
- Planning and implementation of CSR activities
- To set up welfare plan such as staff medical checkup, training program and public talk for getting knowledge, risk prevention, bonus and social security service
- To carry out fire safety assessment and ensure adequate and appropriate fire safety measures for employees.

## **4. BRIEF DESCRIPTION OF SURROUNDING ENVIRONMENT**

The purpose of this Chapter is to predict how environmental and socio-economic conditions will affect because of the implementation of the proposed Project. This requires a sound understanding of the baseline conditions at the project site, which established through desktop study research, site surveys, primary data collection and projections for future developments. Findings provide the current and future characteristics of the project site and the value and vulnerability of the key environmental and socio-economic resources and receptors. The following sections provide a description of the environmental and socio-economic aspects of the project.

### **4.1. METHODOLOGY FOR DATA COLLECTION AND ANALYSIS**

The followings methodologies are used for Environmental Management Plan (EMP) for this report preparation;

- Onsite Measurements and Analysis – Baseline parameters such as Indoor temperature, humidity, operation light conditions, noise and water quality of the project site during operation phase were measured onsite. The analyzed results are mentioned in this chapter.
- Secondary data collection of proposed project site area – Socio economic condition, physical/biological environment, and weather data are collected from official township data of Hlaing Thar Yar Township, Yangon Region.

### **4.2. PHYSICAL COMPONENT IN PROJECT AREA**

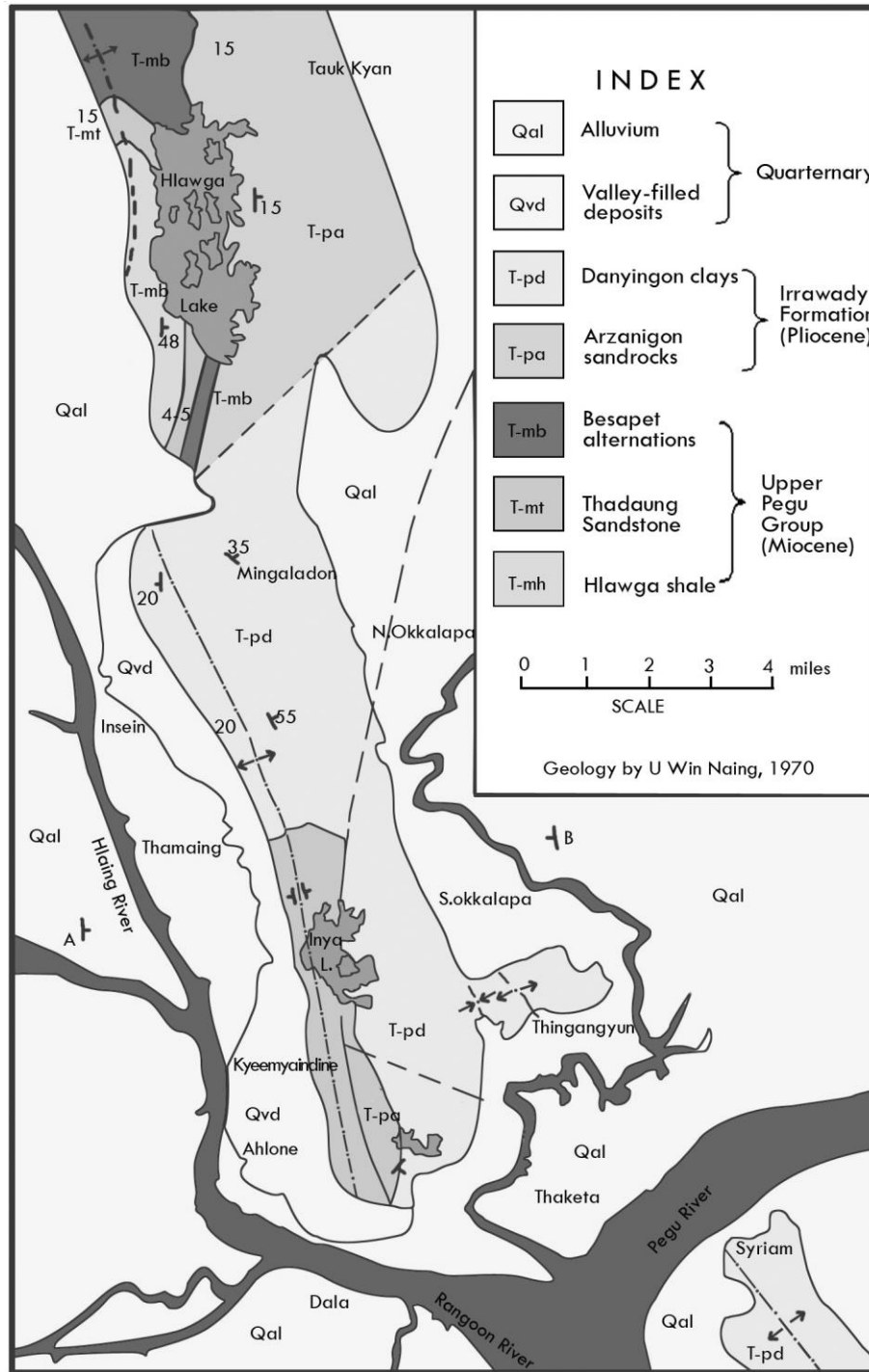
#### **4.2.1. Topography**

The proposed project area is situated in Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, and its topographic condition is flat. The proposed project site is primarily agricultural land, but now is initiated into the industrial zone area.

#### **4.2.2. Geology**

The Yangon area is underlain by alluvial deposits (Pliocene to Recent), the non-marine fluvial sediments of Irrawaddy formation (Pliocene), and hard, massive sandstone of Pegu series (early-late Miocene). Alluvial deposits are composed of gravel, clay, silts, sands and laterite which lie upon the eroded surface of the Irrawaddy formation at 3-4.6 m above mean sea level (MSL). The rock type in Yangon is mainly soft rocks, which consist of sandstone, shale, lime stones and conglomerate. Geological map of Yangon Regional area is shown in Figure 4-1. <sup>[2]</sup>

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**Figure 4-1 Geological Map of Yangon Region**

**4.2.3. Tectonics**

Yangon is situated in the southern part of the Central Lowland which is one of the three major tectonic provinces of Myanmar. The Taungnio Range of the Gyophyu catchments area of Taikkyi District, north of Yangon, through the Thanlyin Ridge, south of Yangon forming a series of isolated hills probably resulted from the progressive deformation of the Upper Miocene rocks as the eastern continuation of the subduction or stretching and compression along the southern part of the Central Basin and regional uplifting of the Pegu Yoma (Aung Lwin 2012). [2]

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**4.2.4. Soil**

The underlying soil type at the Project Site and its surroundings is characterized as the Meadow and Meadow Alluvial Soil. Meadow Soil is soil which occurs near the river plains exposed to occasional tidal floods, is non-carbonate and usually contains a large amount of salt. Both materials mainly comprise silty clay loam and neutral soil rich in plant nutrient. The upper layers (approximately 0 to 7 m) of the soil at the Project Site comprise largely of cohesive layers with traces of sand and gravel, followed by sand layers with low silt content and trace gravel from 7 to 35 m. The lower layers comprise denser silt layer with traces of sand and gravel from approximately 57 to 70 m. Standard Penetration Test (SPT) results obtained from testing at the Project Site indicate that the soil strength generally increases with depth. The STP results showed that the current soil quality can accommodate the construction of the Project.

[2]

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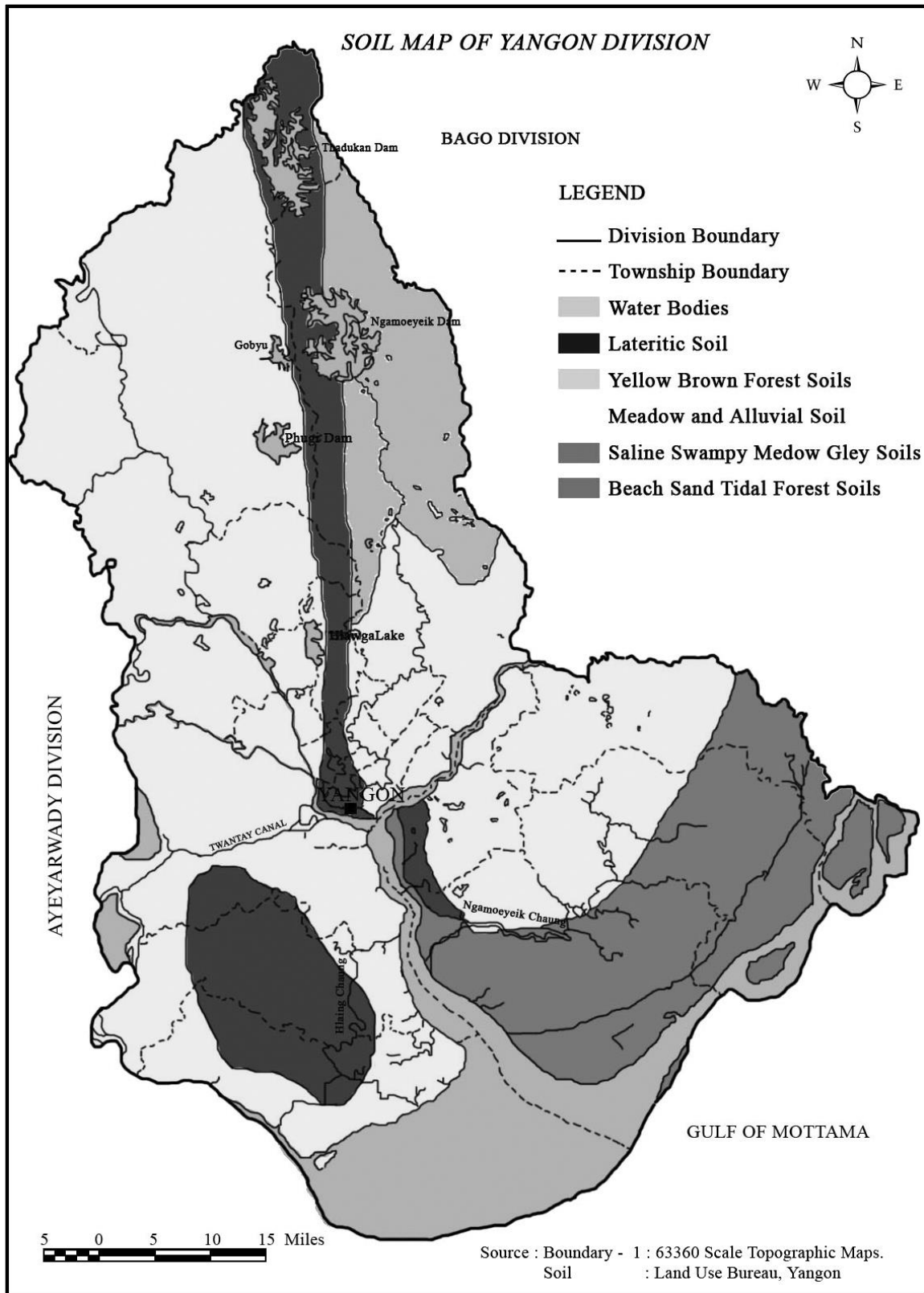


Figure 4-2 Soil map of Yangon (Source: Land use of Bureau of Yangon)

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### 4.2.5. Hydrogeology

Yangon is rich in groundwater resources conserved by unconsolidated Tertiary-Quaternary deposits. In Yangon, groundwater is mostly extracted from Valley filled deposits and Ayeyarwady sandstones.

**Groundwater:** Groundwater availability is generally based on the distribution of permeable and relatively impermeable rocks. The nature of openings in the rocks determines permeability of rocks. Based on local geological considerations, potential groundwater source of Yangon can be roughly divided into two sub regions, namely the low potential area and high potential area. Low potential areas are areas with those rock units of Hlawga Shale, Thadugan Sandstones and Basepet Alternation of upper Pegu Group (Miocene epoch) and Danyingon Clays of Irrawaddy rocks. These rocks and formations are a dense, massive and consolidated nature and have impervious characteristic. High potential areas are underlain by Pliocene Series and recent Formations. High potential area covers approximately 85 percent of the Yangon city including Pabedan. Stand pipe piezometers were installed at a depth of up to 30 m from the existing ground level while a pumping well was installed upon completion of the soil investigation works. Based on the results recorded up to the 8th of December 2012, stabilized groundwater level was observed to range between 0.49 m MSL to -1.81 m MSL4.

**Water Supply:** The Yangon City Development Committee (YCDC) has an overall responsibility for the management and distribution of water for Yangon City. Presently, YCDC's water supply is obtained from two main sources: (1) reservoir (Hlawga, Gyobu, Pugyi and Ngameoyeik reservoirs) and, (2) groundwater from YCDC's tube wells. Water from these sources is utilized to varying degrees. Areas not supplied with water from the YCDC rely on shallow surface wells and private boreholes. Water supply for the Project Site will be obtained from onsite borewells for both construction and operations due to the poor reliability of municipal supply. Permitting is part of the Planning Consent Application currently underway. The boreholes will be provided and operated by the Developer.

**Hydrology:** The Project Site lies along the catchment of the Pazundaung River which flows east of the site in a southerly direction to converge into the Yangon River. The Yangon River (also known as the Rangoon River or Hlaing River) is formed by the confluence of the Pegu and Myitmaka rivers and flows into the Gulf of Martaban which is part of the larger Andaman Sea. The river flows along a 40 km stretch flowing from southern Myanmar as an outlet of the Ayeyarwady River into the Ayeyarwady delta. A small portion of the Bago River (the estuary) lies within the Yangon Division. The Pazundaung Creek and Bago River joins the Yangon River and from there, flow towards the southwestern direction into Andaman Sea. <sup>[2]</sup>

### 4.2.6. Climate and Meteorology

Yangon has a tropical monsoon climate under the Koppen climate classification system. The city typically experiences a distinct rainy season from the month of May through to October when a substantial amount of precipitation occurs; and dry season, which commences from November and ends in April. During the course of a year, average temperatures show some variance with average highs ranging from 26 °C to 36 °C and average lows occurring between 18 °C and 25 °C. The hottest period is between February and May, with little or no rain. At the end of this season, generally from March to April, the average monthly temperature reaches the upper 30°C. The average temperatures in Yangon

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range from 24 °C to 36 °C in April during the hot season and it ranges from 18 °C to 32 °C in January during the cooler season.

**Rainfall and Relative Humidity:** The climate of Myanmar follows a typical monsoon pattern. Historically, the average annual mean rainfall for Yangon is 2,681 mm with the annual average rainy days of 129.3 days. During the course of 2013, the Department of Meteorology and Hydrology (Myanmar) reported an annual precipitation of approximately 2700 mm. The month with the most precipitation was in July. The relative humidity was generally higher from May to October 2013. The dry season occurs from November to April. Based on the historical weather for the last twelve months in Yangon, no precipitation was observed in December 2012, February 2013 and March 2013. The least humid month of the last 12 months was February 2013 with an average daily low humidity of 34%, and the most humid month was September with an average daily high humidity of 80%.

The proposed project is located at, Hlaing Thar Yar Township and Yangon Region. The climate condition of Hlaing Thar Yar Township in which the project lies is the dry season, starts in December and ends in March. The raining season starts in June and ends in September and the cold season follow with the cooler, drier months of October to January. The highest temperature ranging 42°C and low range 27°C reference from Township Meteorology data, Regional Data of Hlaing Thar Yar Township. 2012 to 2017 Yearly data of rainfall and temperature is presented in Table 4-1. The weather condition during 21 June 2019 shows the average temperature of 36.43 °C while the average humidity is 75.5 percent Table 4-2. <sup>[1]</sup>

**Table 4-1 Annual rainfall and temperature**

Year	Rainfall		Temperature	
	Raining day	Rainfall value	Summer season Max (°C)	Winter season Min (°C)
2012-2013	121	53.46	41	27
2013-2014	131	61.25	40	26
2014-2015	128	58.35	39	25
2015-2016	113	48.45	40	26
2016-2017	126	56.97	41	27

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**Table 4-2 Relative humidity and temperature measure at factory**

Date and Time	Description	Result value	Environmental parameter air station guideline
27 December 2022 (8:00 am to 4:00 pm)	Relative Humidity RH %	60 % (%)	Present condition
	Temperature	32 °C	Present condition

**Wind Speed and Direction.** Based on 2013 data, it was reported that the month with the highest wind speed was April 2013 with an average wind speed of 3 m/s while the least windy month was December 2012 with an average wind speed of 1m/s. The highest sustained wind speed was 54 m/s, occurring on September 19, 2013 and the highest daily mean wind speed was 4 m/s, occurred on May 14, 2013.

**Natural Hazards:** Myanmar is exposed to multiple natural hazards including cyclones, earthquakes, floods and fire. It has been periodically exposed by natural disasters. The Yangon District



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is in the vicinity of the southern section of the Sagaing Fault which has not been active in the past 50 to 75 years indicating that the faults may be under accumulating stress increasing the potential for an earthquake to occur. The Sagaing Fault is the most prominent active fault in Myanmar trending roughly north to south. It has been the originator of a large proportion of destructive earthquakes in Myanmar. The Project Site is also located in an earthquake zone and therefore the building construction design needs to cater for this hazard with adequate planning on emergency response procedures. Myanmar is exposed to cyclones and associated storm surges from the Bay of Bengal. Annually, there are approximately 10 tropical storms in the Bay of Bengal from April to December. Severe cyclones occur during the pre-monsoon period of April to May and post-monsoon period of October to December. The threat of flooding usually occurs in three waves each year: June, August and late September to October.

### 4.2.7. Air Quality

To determine the existing baseline ambient air quality status within the project site on 27, December 2022, 24-hours of working period air pollutants level, which include dust (PM<sub>10</sub> and PM<sub>2.5</sub>) and gases (NO<sub>2</sub>, O<sub>3</sub>, CO, SO<sub>2</sub>, CO<sub>2</sub>) were measured at the selected site using the OCEANUS AQM-09 air monitoring station. To reveal the existing status of baseline air quality, the average ambient air qualities measured were compared with National Environmental Quality (Emission) Guideline and international ambient air quality standard (NAAQS, ACGIH) guidelines. The measurement location point is situated at latitude 16°54'54.08"N and Longitude 96°4'30.24"E.

It was observed that the air quality of NO<sub>2</sub>, O<sub>3</sub>, CO, SO<sub>2</sub>, CO<sub>2</sub> concentration levels and particulate matters (PM<sub>10</sub> and PM<sub>2.5</sub>) within the National Environmental Quality (Emission) Guideline <sup>[3]</sup>

**Table 4-3 Observed air quality results**

No	Parameters	Average Value	Guideline Value	Unit	Period
1	PM <sub>10</sub>	16.06	50	µg/m <sup>3</sup>	24 - hour
2	PM <sub>2.5</sub>	10.89	25	µg/m <sup>3</sup>	24 - hour
3	SO <sub>2</sub>	0.10	20	µg/m <sup>3</sup>	24 - hour
4	NO <sub>2</sub>	11.28	200	µg/m <sup>3</sup>	1 - hour
5	CO <sub>2</sub>	2.25	-	ppm	-
6	CO	0.36	-	ppm	24 - hour
7	O <sub>3</sub>	3.36	-	µg/m <sup>3</sup>	8 - hour

NEQ = National Environmental Quality (Emission) Guideline

NAAQS = National Ambient Air Quality Standards were developed by the U.S. EPA

ACGIH = the American Council of Governmental Industrial Hygienists recommends



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**Figure 4-3 Air Quality Measurement at the Project Site**

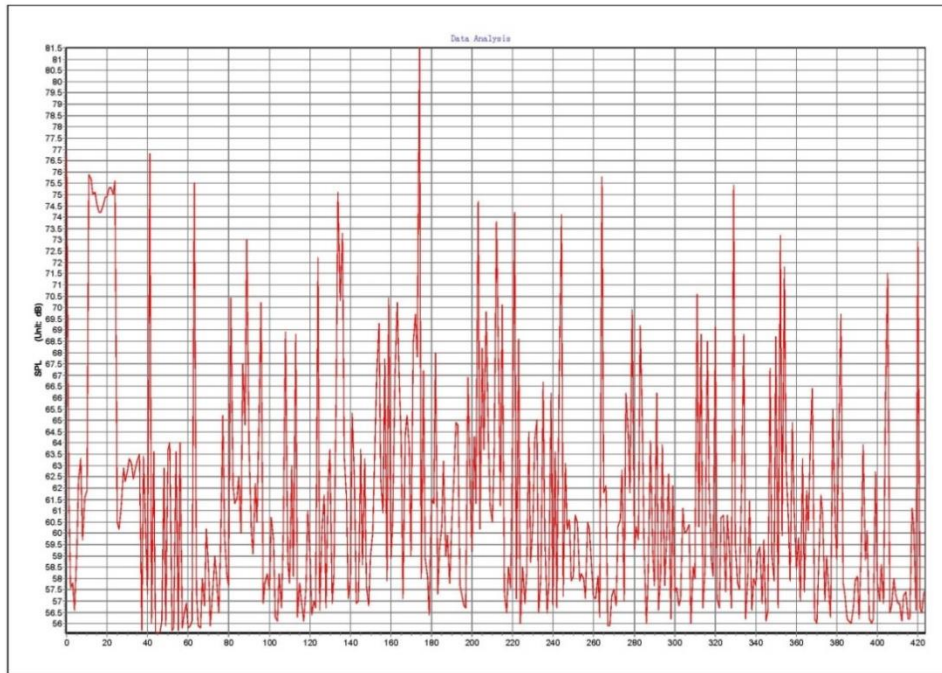
**4.2.8. Noise**

The Noise level was measured by using Digital Sound Level Meter for working hours on 27 December 2022. The average noise level in the project site area is presented in Table 4-4 compared with NEQG guideline. However, according to the Noise source monitoring at operation area (inside the production sector) of noise level is exceeding the acceptable level of National Environmental Quality (Emission) Guideline. Noise level is exceeding because of near machinery in operation time.

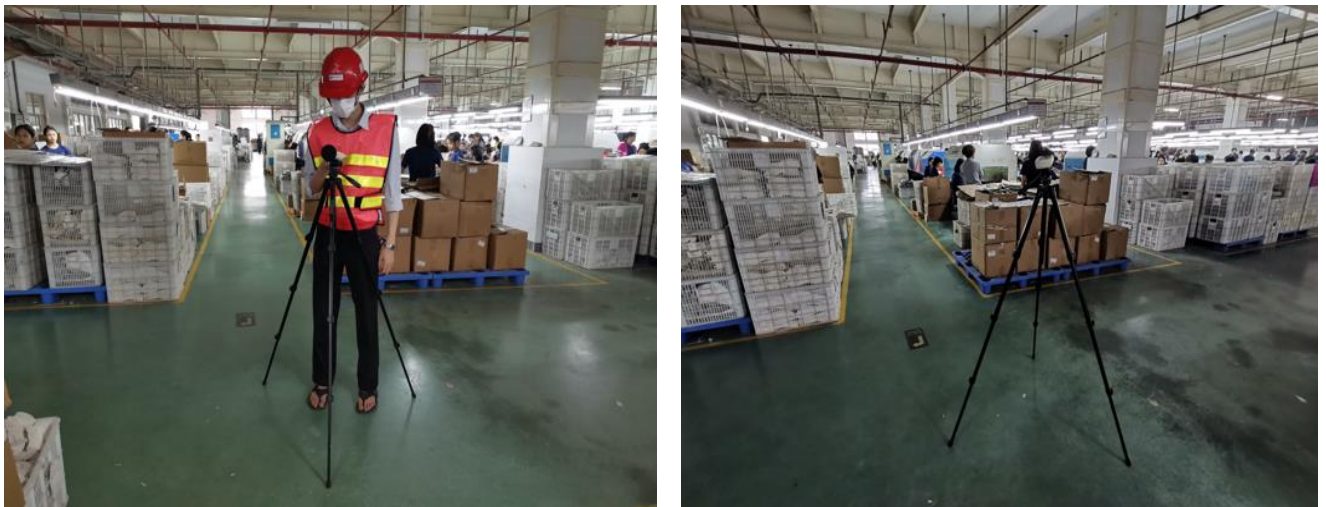
**Table 4-4 Noise level measurement result**

Date and Time	Location	GPS Value	Result Value	NEQ Guideline
27 December 2022 (8:00 AM to 4:00 PM)	Sewing Area	16°54'54.35"N 96° 4'27.77"E	61.35 dBA	70 dBA

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**Figure 4-4 Noise level result graph**



**Figure 4-5 Sound level measurement photo**

**4.2.9. Light**

Activities of the workers in the garment factory are highly dependent on the quality of light. Therefore, the consultant conducted the light measurement in the garment factory is presented in Figure 4-6. The illustrates the recommended illumination and limiting glare index applicable to typical works (fairly severe to very severe tasks) in garments factory is provided in Table 4-5.

Appropriate lighting is the need for every department, irrespective to the task being handled. Although, there are some areas where focus on maintaining proper illumination is very crucial in a garment factory, like the inspection points (on-floor and in stores), sampling, and the finishing section, as these areas are crucial for the quality of the production. The tasks involved in these areas require

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high levels of worker focus and accurate lighting to ensure lower errors and defects passing on to the next stage.

However, according to the result of light measurement at operation area (inside the production sector) is in good condition and at the acceptable level of standard.

**Table 4-5 Recommended illumination and limiting glare index based on IES Code, 1968**

Department	Type if Light	Wattage of Light	Lux Level
Fabric Store	Fluorescent tube light	40 W	300
Sewing floor	LED tube light	20 W (T8)	400
Cutting floor	LED tube light	22W (T8)	1000
Finishing	LED tube light	28W (T8)	600
Inspection points	LED tube light	28W (T8)	900 (expect 1500 at audit tables)
Sampling	LED tube light	22W (T8)	500
Office areas	Fluorescent tube light	36 W (T)	300



**Figure 4-6 Light quality measurement**

**Table 4-6 Result of light measurement in Gold Emperor (Myanmar) Factory**

No.	Measure area	Unit	Result	Standard	Remark
1	Cutting Area	Lux	707	1000	Normal
2	Warehouse	Lux	113.2	300	Normal
3	Quality Control	Lux	961	600	Slightly Above
4	Sewing Area	Lux	970	600	Slightly Above
5	Packing Area	Lux	614	600	Slightly Above

\* Lighting standards and codes usually provide recommended illuminance ratios between the task area and its surroundings (EN 12464-1 2002) (CIBSE 1997) (IESNA 2000, 676708).



**Environmental Management Plan****4.2.10. Ground Water Quality**

According to tube well-1 analyzed result, all the result is under WHO drinking water guideline except total dissolved solids (TDS), chloride, lead and manganese as shown in Table4-7. As tube well is new and the suspended solids are not settled enough, the total suspended solids (TDS) amount is exceeded the guidelines. Chloride occurs naturally in groundwater but is found in greater concentrations where seawater and run-off from road salts. Lead rarely occurs naturally in water; it usually gets into the water from the delivery system. The water delivery system which is used brass usually contains low lead levels, the lead can still dissolve into the water, especially when the fixtures are new. So, the lead is from the delivery system. Manganese occurs naturally in many surface water and groundwater sources and in soils that may erode into these waters. According to analyzed tube well-2 result, the result of total dissolved solids, chloride and manganese are more than the drinking water guideline.

**Table 4-7 Coordinated point of groundwater collection point**

No	Characteristics	Drinking Water Standards World Health Organization (WHO)	(Point -1)		
			Units	Result	Remarks
1	pH	6.5-8.5	S.U	6.3	In Acid Range
2	Apparent Colour	-	H.U	4	-
3	Total Dissolved Solids (TDS)	≤500	mg/L	556	Above limit
4	Chloride	≤250	mg/L	8600	Above limit
5	Free Cyanide	-	mg/L	<0.01	-
6	Nitrate	≤10	mg/L	2	Normal
7	Total Phosphorous	-	mg/L	8.7	-
8	Arsenic	≤0.01	mg/L	0	Normal
9	Cadmium	≤0.005	mg/L	ND	LOD=0.01
10	Copper	≤1	mg/L	ND	LOD=0.02
11	Iron	≤0.3	mg/L	<0.1	Normal
12	Lead	≤0.01+	mg/L	0.1	Above limit
13	Manganese	≤0.4	mg/L	4.8	Above limit
14	Zinc	≤3	mg/L	0.04	Normal
15	Fluoride	≤1.5	mg/L	0.15	Normal

**Table 4-8 Tube Well Water Quality Analysis (Tube well-2)**

No	Characteristics	Drinking Water Standards World Health Organization (WHO)	(Point -1)		
			Units	Result	Remarks
1	pH	6.5-8.5	S.U	6	In Acid Range

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No	Characteristics	Drinking Water Standards World Health Organization (WHO)	(Point -1)		
			Units	Result	Remarks
2	Apparent Colour	-	HU	68	-
3	Total Dissolved Solids (TDS)	≤500	mg/L	784	Above limit
4	Chloride	≤250	mg/L	1020	Above limit
5	Free Cyanide	-	mg/L	<0.01	-
6	Nitrate	≤10	mg/L	2	Normal
7	Total Phosphorous	-	mg/L	7.2	-
8	Arsenic	≤0.01	mg/L	0	Normal
9	Cadmium	≤0.005	mg/L	ND	LOD=0.01
10	Copper	≤1	mg/L	ND	LOD=0.02
11	Iron	≤0.3	mg/L	0.16	Normal
12	Lead	≤0.01	mg/L	ND	LOD=0.1
13	Manganese	≤0.4	mg/L	9	Above limit
14	Zinc	≤3	mg/L	0.03	Normal
15	Fluoride	≤1.5	mg/L	0.17	Normal

**4.2.11. Wastewater**

According to the wastewater analysis results shown in Table 4-9, all of the list parameter are good and within the limit of NEQ (emission) guideline. However, physic-chemical properties of wastewater effluent parameter of Turbidity, Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD) and Total Suspended Solid (TSS) are exceeding the EQEG. Wastewater effluent results of the whole factory and wastewater generated from washing glue plastic box are compared with EQEG. In this Factory project, wastewater from proposed factory's final drainage before discharge into public drainage. In addition, in terms of lab results for boiler discharged water quality of pH, Turbidity, Total Dissolved Solid (TDS), Total Solids, Chloride, Hardness, Iron and Manganese are within the EQEG.

According to the laboratory result of wastewater from factory drainage, the concentration of BOD, COD and TSS are above the EQEG. Other parameters are below the guideline limit. The results are expressed in the following Table 4-9.

**Table 4-9 Wastewater Laboratory Test Result compared with NEQG**

No	Quality Parameters	Results	Units	Standard
1	pH	6.4	S. U	6 - 9
2	Turbidity	1710	FAU	-
3	TDS	1203	mg/L	2000
4	TSS	437	mg/L	50
5	Total Solids	1640	mg/l	-

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No	Quality Parameters	Results	Units	Standard
6	Chloride	161	mg/l	-
7	Hardness	150	mg/l	-
8	BOD	320	mg/l	50
9	COD	710	mg/l	250
10	Iron	1.3	mg/l	3.5
11	Manganese	1.4	mg/l	2

National Environmental Quality (Emission) Guideline

NG= No guideline

**4.3. BIOLOGICAL COMPONENT**

The proposed project site is not located in or near a sensitive ecosystem as the proposed project area is situated in the Shwe Lin Ban industrial zone. The Project Site is a built-environment and the species of flora surveyed at the site are native species uncommon to the Yangon area. There were no protected species or species of conservation value identified.

**4.4. SOCIO-ECONOMIC COMPONENT****4.4.1. Population**

Gold Emperor (Myanmar) factory is located across Hlaing Thar Yar Township in Yangon Region. In 2017, the population of Hlaing Thar Yar Township is about 414,209 people as present in Table 4-10. <sup>[1]</sup>

**Table 4-10 Population of Males and Females at Hlaing Thar Yar Township (2017)**

Item	Older 18 year			Younger 18 year			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Urban	105,075	119,903	224,978	44,884	49,782	94,666	149,959	169,685	319,644
Rural	33,257	31,319	64,576	14,953	10,536	29,989	48,210	46,355	94,565
<b>Total</b>	<b>138,332</b>	<b>151,222</b>	<b>289,554</b>	<b>59,837</b>	<b>64,818</b>	<b>124,655</b>	<b>198,169</b>	<b>216,040</b>	<b>414,209</b>

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**4.4.2. Religion**

The different kinds of religion present in Hlaing Thar Yar Township are shown in Table 4-11. More than 90% of the people living in the township are Buddhists. <sup>[1]</sup>

**Table 4-11 Religion in Hlaing Thar Yar Township (2017)**

Township	Buddhist	Christian	Hindu	Muslim	Total
Hlaing Tharyar	395,789	6,400	8,320	3,700	414,209

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**Environmental Management Plan****4.4.3. Local Economy**

Among regional towns, Hlaing Thar Yar Township has a variety of businesses and services operating in the community with other businesses/services, based in the region. Most of the source of livelihood in the Township is employment of factory. Services and facilities available include:

- post office
- beauticians
- butcher
- hairdressers
- furniture and electrical store
- restaurants
- cafes
- shoe and clothing shops
- industrial services
- pharmacy
- veterinarian
- bus service
- gift stores
- music store
- pubs and bars
- florist

**4.4.4. Public Infrastructure and Access****4.4.4.1. Communication and Transportation**

Major transportation route in Haling Thar Yar Township are railway, port, and car road as presented in Table 4-12. <sup>[1]</sup>

**Table 4-12 Transportation route**

Categories	Township		Miles
	From	to	
Sail	Pan Hlaing River	Shwe Lin Ban Industrial Zone	8
Bus line (61,23,68,16,6,69,17,74,20,52,53,54,67) City Bus	WYTU	Downtown area	
Car (Yangon-Pathein Road)	King Ba Yin Naung bridge	Mya Sein yaung Stream	5.4
Car (Yangon – Nyaung Tone road)	Aung zaya Bridge	BOC traffic circle	3.2
Car (King Anawattar Road)	Shwe Pyi Thar Bridge	Ta Ma Gone Circle	4.6

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)



**Environmental Management Plan**

## 4.4.4.2. Electricity

The electricity demand of Hlaing Thar Yar Township is higher and higher due to the normally increased in population and infrastructure. <sup>[1]</sup>

## 4.4.4.3. Education

Location of major schools were situated i.e. basic education primary school (B.E.P.S.), basic education middle school (B.E.M.S), basic education high school (B.E.H.S) and university, in the Hlaing Thar Yar Township. The name and the located village tract/ ward of schools are described in Table 4-13. <sup>[1]</sup>

**Table 4-13 List of major school in Hlaing Thar Yar Township**

No.	Name of School	Location
1	West Yangon Technological University	Outside Padan Village Tract
2	BEHS (1)	NO (2) ward
3	BEHS (2)	No (12) ward
4	BEHS (3)	NO (17). Ward
5	BEHS (4)	NO (5) ward
6	BEHS (5)	NO (7) ward
7	BEHS (6)	Yae Okken
8	BEHS (7)	NO (16) ward
9	BEHS (8)	NO (20) ward
10	BEMS (Branch) (1)	NO (6). Ward
11	BEMS (Branch) (2)	Nyaung Village Tract
12	BEMS (Branch) (3)	Dine Su, Nyaung Village
13	BEMS (Branch) (4)	NO (6) ward
14	BEMS (Branch) (5)	NO (1) ward
15	BEMS (Branch) (6)	NO (10) ward
16	BEMS (Branch) (7)	Outside Padan Village Tract
17	BEMS (Branch) (8)	NO (18) ward
18	BEMS (Branch) (9)	Shwe Lin Pan Village Tract
19	BEMS (Branch) (10)	NO (9). Ward
20	BEMS (Branch) (11)	NO (12). Ward
21	BEMS (Branch) (12)	NO (18). Ward
22	BEMS (Branch) (13)	NO (15). Ward
23	BEMS (Branch) (14)	NO (14). Ward
24	BEMS (Branch) (15)	NO (13). Ward
25	BEMS (Branch) (16)	NO (11). Ward
26	BEMS (Branch) (17)	NO (7). Ward
27	BEMS (Branch) (18)	NO (11). Ward

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No.	Name of School	Location
14	BEPS (1 to 32)	Hlaing Thar Yar
15	Pre School (1 to 6)	Hlaing Thar Yar

Source: Department of Administrative Hlaing Thar Yar Township, Regional data (www.gad.gov.mm.com)

**4.4.4.4. Health Status**

The diseases of high prevalence reported in 2013 are Tuberculosis (TB), followed by Acute Respiratory Infection (ARI), Diarrhea, TB and snakebites. With reference to the Township Health Profile 2014 of Hlaing Thar Yar Township, no accidental work injuries reported to the township hospital in 2013. The common diseases are shown in Table 4-14.

**Table 4-14 Common Diseases in the Hlaing Thar Yar Township**

Disease	Hlaing Tharyar	
	Morbidity	Mortality
Malaria (Per 100000P)	-	-
Dysentery	21	-
Diarrhea (Per 100000P)	37	-
TB (Sputum+) (Per 10000P)	67	-
Hepatitis	5	-

**Table 4-15 Lists of hospital in the Hlaing Thar Yar Township**

Hospital Name	Beds/Services	Responsible
Township Hospital	200	Government
Cottage Hospital (Shwe Lin Pan)	16	Government
Pan Hlaing	95	Private
Tun Foundation	20	Private
Total	330	-

Source: Department of Administrative Hlaing Thar Yar, Regional data (www.gad.gov.mm.com)

**4.5. CULTURAL AND VISUAL COMPONENTS**

Hlaing Thar Yar Township is growing into a busy and vibrant community. The population fluctuates; however, there has been steady growth over the last decade. It tends to be a stopover on a journey rather than a destination. It has a number of sites that are interesting; however, there is no main attraction. Visitors to the town are generally visiting for work, investment or family reasons. <sup>[1]</sup>

**Environmental Management Plan****5. POTENTIAL ENVIRONMENTAL IMPACT AND MITIGATION MEASURES****5.1. METHODOLOGY FOR THE ASSESSMENTS**

The assessment of each impact is based on consideration of the magnitude, duration, spatial and frequency of activities, which are going to be carried out during three phases and characteristics of the project site. The assessment is qualitative and the significance of each impact is classified into 5 categories in overall.

The following methodology has been applied to assess the environmental impacts of the factory mainly on air, water, land, biodiversity, including human beings. Each source of impact has been assessed by four parameters, magnitude, duration, extent and probability and each assess point have 5 scales as mentioned in Table 5-1.

**Table 5-1 Impact assessment parameters and its scale**

Assessment	Scale				
	1	2	3	4	5
<b>Magnitude (M)</b>	Insignificant	small and will have no effect on working environment	Moderate and will result in minor changes on working environment	High and will result in significant changes on working environment	Very high and will result in permanent changes on working environment
<b>Duration (D)</b>	0 - 1 year	2 - 5 year	6 - 15 year	Life of operation	Post Closure
<b>Extent (E)</b>	Limited to the site	Limited to the local area	Limited to the region	National	International
<b>Probability (P)</b>	Very improbable	Improbable	Probable	Highly probable	Definite

Then, the Significant Point (SP) calculated by following formula.

$$\text{Significant Point (SP)} = (\text{Magnitude} + \text{Duration} + \text{Extent}) * \text{Probability}$$

Impact Significance: Based on calculated significant point, impact significance can categorize as follows:

Significant Point (SP)	Impact Significance
<15	Very Low
15-29	Low
30-44	Moderate
45-59	High
60	Very high

**Environmental Management Plan**

**5.2. IMPACT IDENTIFICATION**

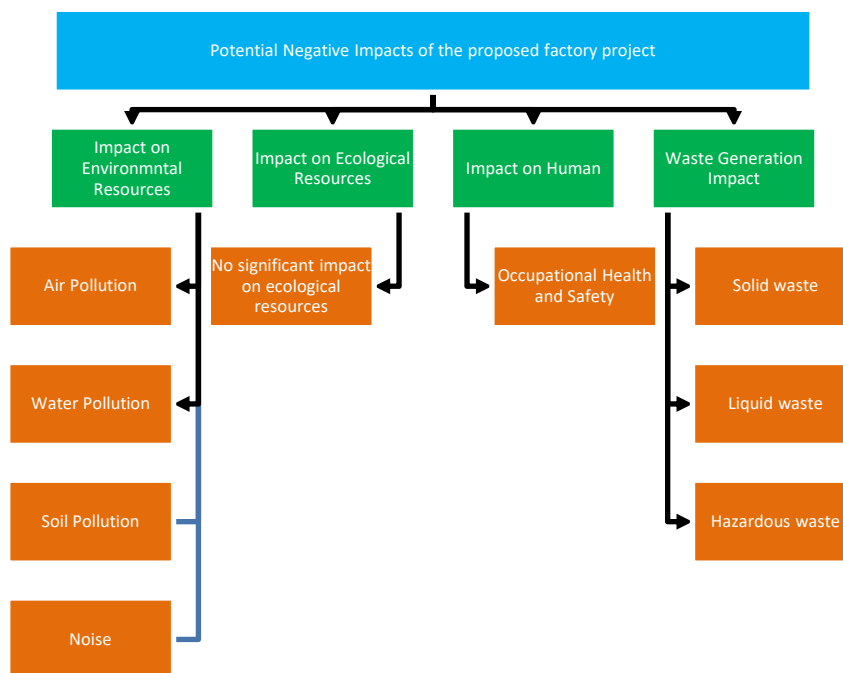
The development of infrastructure for the proposed project likely to happen changes in the local environment in terms of physical, biological and socio-economic aspects along with the perspective on both positive and negative impacts. The potential environmental impacts brought by various activities of proposed factory project will be identified and judged by site surveying with checklist, meeting with client team, including plant manager and supervisor, representatives from the factory operators and assessing the environmental baseline information for operation and decommissioning phases along with its mitigation measure.

**5.2.1. Positive Impact**

During the project implementation, local people can get job opportunities in administrative sectors, office works, transportation sectors, skill and unskilled workers, etc. Due to the implementation of the project, there will be employment opportunities especially for workers from the local community. Employees will also improve more in their professional knowledge and skills. The net effect of job creation is the improvement of the livelihoods and living standards of the beneficiaries and poverty reduction, development of local people’s livelihood. Cause of the proposed project is located in Shwe Lin Ban Industrial Zone, there may have business opportunities to local people. Local people can have a market by selling foods, snacks and drinks nearby the factory.

**5.2.2. Negative Impact**

The following Figure 5-1 briefly described the potential negative impacts of the proposed project. There are four main types of impacts; impact on environmental resources, impact on ecological resource, impact on human and impact of waste generation.



**Figure 5-1 Potential negative impact affect from proposed factory project**

**Environmental Management Plan**

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**5.1. POTENTIAL ENVIRONMENTAL IMPACT DURING CONSTRUCTION AND DECOMMISSIONING PHASE**

Construction phase: The project factory is already constructed during environmental assessment study and site visit. Therefore, the proposed project is located in industrial zone and already finished the construction, the potential impact on environment is not assessed and affected must be caused the construction period.

Decommissioning phase: The proposed duration of the investment shall be 50 years. The term of the Lease shall be initial 10 years commencing from the date of signing of the Lease Agreement between Local owner and Gold Emperor (Myanmar) Company Limited. for proposed project site for 31889.23 sqm meter of land. The project of land and building will be restitution to land owner after close the operation. Therefore, the assessment study cannot be needed for environmental impact assessment during decommission phase.

These two phases of operation shall be represented by land owner. If the owner will be demolished their factory, they will need mitigation and monitoring plan for environmental impact. Therefore, environmental assessment team presented for monitoring plan during decommissioning phase.

**5.2. IMPACT ON ENVIRONMENTAL RESOURCES****5.2.1. Impact on Water Quality**

During the construction period, water consumption is for implementation of the construction works and domestic water usage by construction workers. Surface water and ground water could be contaminated from the several activities of construction works such as mixing of the concrete, wetting of dry surfaces, washing of the equipment, etc. Moreover, oil spill from the vehicles and machinery can pollute water quality and can enter into the ground water and run into near river during the rainy season. However, the project factory is already constructed during environmental assessment study and site visit. Therefore, impact on water quality is not assessed for this project.

During operation phase of garment manufacturing factory, there is no water use for processing purpose. Tube well is the main source of raw water for factory waster use. The raw water is provided for the whole factory use of general office facilities such as canteen, toilets and kitchen. Moreover, sewage disposed from the employees, staffs, oils spill and grease leakage from transporting vehicles and machinery equipment used in operating the production of garment can seriously pollute the quality of underground water source. But the factory plans to use separate waste water channels, septic type toilet system and sewage treatment plants in accordance with YCDC guidelines to avoid potential contaminations and hazards by waste water and sewages. So, it can cause low impact to the water quality.

During the decommissioning phase, oil spill from the demolished vehicles and machinery can penetrate into the ground water quality. Water can also be contaminated by activities related with decommissioning works and waste disposed by workers.

**5.2.2. Impact on Soil Quality**

During the construction phase, the excavation works from the construction activities must be the major impact on soil. The soil is compacted by the vehicles and the solid waste disposal improperly

## Environmental Management Plan

by the workers can affect the soil quality. Oil spillage from the vehicles could be also polluted to the soil. However, the project factory is already constructed during environmental assessment study and site visit. Therefore, impact on water quality is not assessed for this project.

During the operational phase, there is no significant impact on soil quality due to garment manufacturing activities because concrete road facilities have been implemented at the whole project site area. However, there may be effect on soil if wastes from the operation period are disposed improperly.

During the decommissioning phase, transportation of decommissioning materials and transferred of heavy machinery may happen oil leakage and lubricants, and thus it can lead to impact on soil. Moreover, hazardous releases of materials or oil utilized in the infrastructure can contaminate the existing soil during the decommissioning phase.

### 5.2.3. Impact on Air Quality

The project factory is already constructed during environmental assessment study and site visit. During construction phase, dust emission was addressed as potential environmental impact and is expected to be non-significant because the construction phase is a short-term affect. So, we are not assessed potential environmental impact during construction phase.

During the operation phase, there is no emission of smoke from the process of production. Particulate matters are generated during cutting and pressing the raw materials. But that particles amount is low. Dust particles, CO<sub>2</sub> and SO<sub>2</sub> would be emitted from the activities of loading, unloading and transportation of the raw materials and final product. Various activities as cooking from kitchen, using air conditioners in office building, storage of raw materials, vehicles movements, operating diesel generators and boiler combustion would also be a factor slightly affecting to air quality.

Though main electricity source for the factory is the national grid line, sound-proof diesel generators will be set-up in case of electricity shortages. So, 400 KVA and 315 KVA of standby generator will be used for both operation and administration appliances. The proposed project will use annually 1,860 gallons of diesel for vehicles such as transportation vehicle and emergency use of a generator. The following table shows the amount of CO<sub>2</sub> emission coming from the combustion of fuels.

Burning diesel or other fuels creates exhaust gasses. Diesel generators produce carbon dioxide (CO<sub>2</sub>), nitrogen oxide (NO<sub>x</sub>), and particulate matter. These generators and boiler release this into the atmosphere and substantially reduce air quality in the nearby regions. Every liter of fuel has 0.73 kg of pure carbon, 2.6 kg of carbon dioxide released per liter of diesel fuel.

### Category of GHGs Assessment

Category	Range
Negligible	no GHG assessment necessary
Low	< 20 kt/y CO <sub>2</sub> -equivalent per year
Medium-Low	20 – 100 kt CO <sub>2</sub> - equivalent per year
Medium-High	100 kt – 1 Mt CO <sub>2</sub> - equivalent per year
High	>1 Mt CO <sub>2</sub> -e equivalent per year

Source: EBRD GHG Assessment Methodology, 2010

**Environmental Management Plan****CO<sub>2</sub> Emission by the Uses of Fuel**

No.	Type	Amount(gallon/year)	Equivalent CO <sub>2</sub> emission (Kilotons)	Status
1	Diesel for generator	1,860	0.018	Negligible
2	Fuel for Boiler	11670.46	0.1149	Negligible

Furthermore, likewise the construction phase, negative impact on ambient air quality such as emissions of dust particles emission from the movement of vehicles used for carrying decommissioned materials and gaseous emission from these vehicles and machines can be expected during the decommissioning phase of the proposed project after its lifespan, 50 years.

**5.2.4. Impact of Noise**

During the construction phase, significant impact on noise and vibration to surrounding environment must be generated from the movements of vehicles, operating the machinery, excavation activities and transportation of equipment and construction materials by heavy trucks. However, the project factory is already constructed during environmental assessment study and site visit. Therefore, the proposed project is located in industrial zone and already finished the construction, the potential impact on noise and vibration is not assessed and short-term affect must be caused the construction period is temporary.

During the operation phase, noise impact may be a significant impact for Garment production sectors. The significant sources of noise impact activities are the operation of various machinery and equipment listed in for sewing line, cutting line and the emergency used of generator, vehicles and automobile movements (short-term noise) will be noise impacts sources. According to the noise results of 8 hours continuously measurement, at the source of operation area inside the factory and within the factory area are slightly exceeding the noise level of 70 dB of NEQ (emission) guideline. Therefore, no obvious influence can be caused expected to environment.

During the decommissioning phase, the heavy vehicles, machineries and equipment used for decommissioning activities can affect the noise level and vibration of the area.

**5.3. IMPACT ON ECOLOGICAL RESOURCES**

The proposed project is located in the industrial zone. Therefore, there is no wildlife, forests, protected area, coastal resource or mangrove area and rare and endangered species are found around the project area. The nearest water body is Pan Hlaing River which is running south to north and later join into the Hlaing River in the east.

**5.4. IMPACT ON HUMAN****5.4.1. Socio-economic**

The proposed project is the long-term investment in the industrial sector. Most of the impacts of the proposed project on socio-economic environment may be positive. Implementation of proposed project may create temporary employment during construction and decommissioning phases and permanent jobs in the operation phase. Subsequently, socio-economic standards of local people will be increased and eventually it may lead to the economic growth at local and regional level.



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### **5.4.2. Occupational Health and Safety**

During the construction phase, significant accidents and injuries like electric shocks, falling from heights, chemical exposure, crushing injury, fire hazards can be occurred due to the construction activities including metal grinding and cutting, concrete work and welding the metals. Moreover, accidents and injuries to workers and local communities could be caused from heavy vehicles movement for the transport of construction materials and equipment. Small injuries due to slips, headache and sickness must be caused of the noise, air pollution and odor could also be affected to the workers and local people. However, the project factory is already constructed during environmental assessment study and site visit. Therefore, impact on water quality is not assessed for this project.

During the operation phase, using the machinery for production process can get injuries. Noise from the generating of the machine and generator may also affect the health of people working in the project area. Fire and explosion hazards are mainly cause from the storage of raw materials and poor management of waste disposal. The usage of fuel must carefully handle because spillage and leakage of oil and grease can cause ignition of fire. Domestic wastewater or grey water produced from canteen, kitchen and toilets will cause enormous breeding of mosquitos, which can lead to diseases like malaria and dengue fever, if not carefully managed.

During the decommissioning phase, activities related with decommissioning process can cause injuries and can affect the health of decommissioning workers

#### **5.4.1. Waste Disposal**

##### **5.4.1.1. Solid Waste**

During the construction and decommissioning phase, various kinds of solid wastes will be generated. These wastes will be collected and clean every day to avoid any undesirable working condition and environmental impacts. Based on their types (glass, metal, plastic, wood, cement residues, oil spills and paper based), these solid wastes will be collected separately in rubbish bins and regular and proper disposal will be done in accordance with YCDC guidelines.

In the operation phase, major solid wastes of the proposed garment factory may be generated form production lines, cutting and packaging. Factory shall use textile, thread and carton box as raw materials. The residual pieces of the fabric scraps from the production lines and cutting line used carton box, plastic sheet from the packaging is the main source of solid waste. In addition to factory solid waste, canteen, kitchen and dormitory will produce solid wastes mainly personal remnants, household wastes and food residues.

##### **5.4.1.2. Liquid Waste**

There may be expected no significant liquid waste from the construction and decommissioning phase. The main source of the liquid waste of these two phases may be from the sanitary wastewater.

During the operation phases, sanitary wastewater from the usage of toilet facilities, kitchen and canteens will be discharged as liquid waste. All of the liquid waste will be collected in septic tanks which are attached with proper sewage treatment tanks (as mentioned in factory site plan) and regular monitoring should be done in cooperation with YCDC and follow the YCDC guidelines for proper disposal.

**Environmental Management Plan****5.5. PROJECT ACTIVITIES AND ITS SIGNIFICANT IMPACTS**

The relative importance of each impact is assessed based on the understanding that general mitigation measures will be integrated into the baseline project. Therefore, when the general mitigation measures reduce impacts to the point of rendering them negligible they are excluded from further analysis. Once the significance of the impact is established as more than negligible, it is described and additional, specific mitigation measures may be proposed to allow optimal integration of the project into the environment.

**Table 5-2 Evaluation and Perdition of Significant Impacts**

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
<b>Construction Phase; It is not assessed in this phase, because of construction is already completed during EMP preparation.</b>							
<b>Operation Phase</b>							
Air pollution	<ul style="list-style-type: none"> <li>Dust and GHGs emission from vehicles used for transporting raw materials and final products</li> <li>Particulate matters emission from the activities of production process</li> <li>Emission of smoke from steam boiler (rice briquettes) and kitchen</li> <li>Emission from emergency diesel generator</li> </ul>	3	4	2	4	36	Moderate
Water pollution	<ul style="list-style-type: none"> <li>Sewage disposed of from the toilets</li> <li>Oil spill and grease leaks from transporting vehicles and machinery equipment used in operation phase</li> </ul>	2	4	2	3	24	Low
Soil Contamination	<ul style="list-style-type: none"> <li>Accidental spillage of oil used by vehicles operating</li> </ul>	1	4	1	2	12	Very Low
Noise Pollution	<ul style="list-style-type: none"> <li>Generating noise from the production machinery</li> <li>Noise from the generating of the emergency generators</li> </ul>	3	4	1	4	32	Moderate
Fire Hazard	<ul style="list-style-type: none"> <li>Poor electrical installations</li> <li>waste disposed area</li> <li>Raw materials storage</li> </ul>	3	4	2	4	36	Moderate
Solid waste	<ul style="list-style-type: none"> <li>residual pieces of fabric scraps from the production lines</li> <li>Waste from packaging materials</li> <li>Waste from kitchen, dormitory and office.</li> </ul>	3	4	1	4	32	Moderate
Liquid waste	<ul style="list-style-type: none"> <li>Septic system and sewage.</li> <li>Domestic liquid waste disposal from office, kitchen and dormitory.</li> </ul>	2	4	2	4	32	Moderate
Hazardous waste	<ul style="list-style-type: none"> <li>Engine oil leaks, spills at diesel storage and during fuel refueling.</li> <li>Used oil and lubricant discharged from the maintenance of vehicles and machines.</li> </ul>	2	4	1	2	14	Very Low

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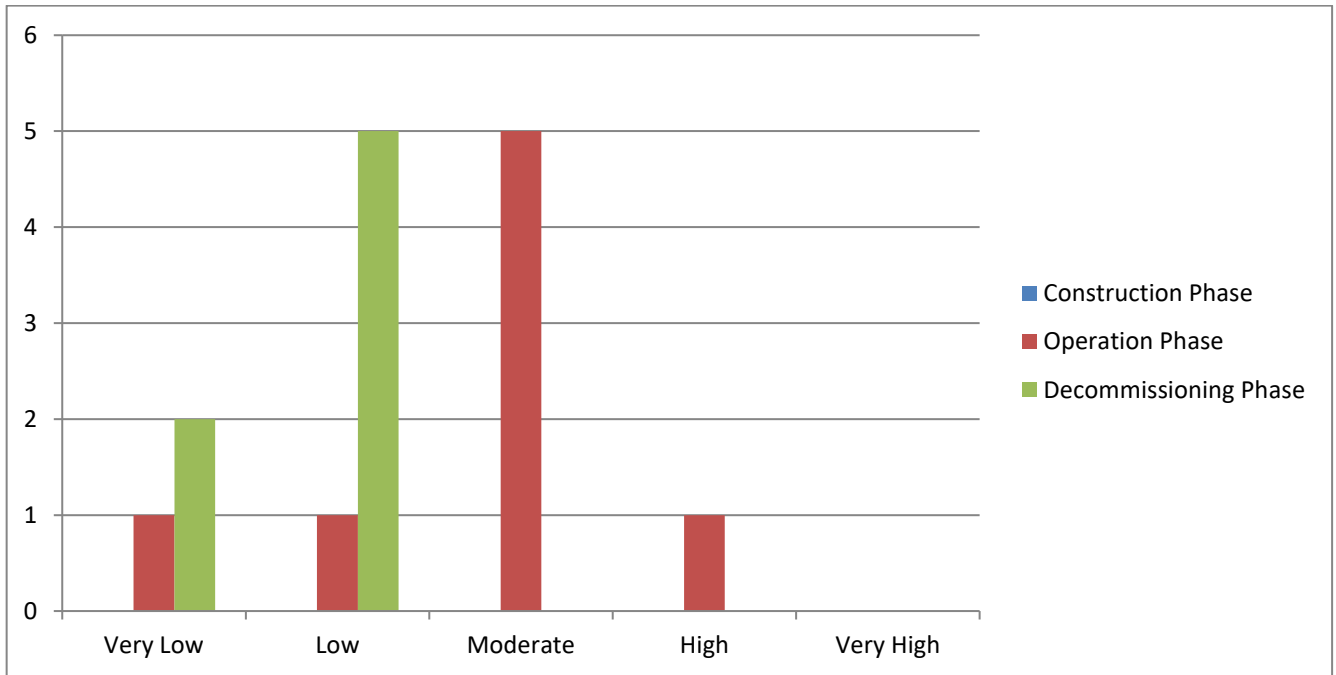
Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none"> <li>Accidental cases cause by operating machines.</li> <li>Electricity and emergency diesel generators.</li> <li>Unloading, mixing, cutting, pressing and packaging activities.</li> <li>Accidental cases of thermic fluid heater</li> </ul>	3	4	1	4	32	Moderate
Social-economic Condition	<ul style="list-style-type: none"> <li>Job opportunities for local people</li> </ul>	-	-	-	-	-	Positive Impact
<b>Risk Assessment</b>							
Electrical failures	<ul style="list-style-type: none"> <li>Aging Equipment. According to the 2019 Plant Engineering Maintenance Study, aging equipment is the leading cause of equipment failure, accounting for 40 percent of unplanned downtime in plants.</li> <li>Operator Error.</li> <li>Lack of Preventive Maintenance.</li> <li>Over-Maintenance.</li> </ul>	2	4	1	2	14	Very Low Insignificance
Equipment malfunctioning	<ul style="list-style-type: none"> <li>Improper operation. Failure to perform preventive maintenance</li> <li>Too much preventive maintenance.</li> <li>Failure to continuously monitor equipment.</li> </ul>	3	4	1	3	24	Low
Mechanical and structure failures	<ul style="list-style-type: none"> <li>Industrial machine failure includes things like bearing failure, metal fatigue, corrosion, misalignment, and general surface degradation.</li> <li>Incorrect selection of materials.</li> <li>Errors in design calculation and detailing.</li> <li>Improper construction techniques and insufficient quality control and supervision.</li> <li>Chemical attacks on concrete structures.</li> <li>External mechanical factors.</li> </ul>	3	4	1	3	24	Low
<b>Decommissioning Phase</b>							
Air pollution	<ul style="list-style-type: none"> <li>Decommissioning of buildings and related materials</li> </ul>	3	1	1	4	20	Low

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Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
	<ul style="list-style-type: none"> <li>Transportation of demolished materials</li> </ul>						
Water pollution	<ul style="list-style-type: none"> <li>Sewage form decommissioning workers</li> <li>Demolition machinery equipment</li> </ul>	3	1	1	3	15	Low
Soil Contamination	<ul style="list-style-type: none"> <li>Decommissioning of buildings and related materials</li> <li>Transportation of demolished materials</li> </ul>	3	1	1	3	15	Low
Noise Pollution	<ul style="list-style-type: none"> <li>Decommission activities</li> <li>Transportation of demolished materials</li> </ul>	3	1	1	3	15	Low
Waste disposal	<ul style="list-style-type: none"> <li>Sewage system</li> <li>Demolished debris such as bricks, concrete materials</li> </ul>	2	1	1	3	12	Very Low
Hazardous waste	<ul style="list-style-type: none"> <li>Used lubricants from decommissioning vehicles and machines</li> </ul>	2	1	1	3	12	Very Low
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none"> <li>Decommissioning activities</li> <li>Transportation of demolished materials</li> </ul>	3	1	2	3	18	Low
Social-economic Condition	<ul style="list-style-type: none"> <li>Temporary job opportunities for local people</li> </ul>	-	-	-	-	-	Positive Impact

According to the result of analysis, it can be concluded that most of the project activities have low significance on environment, in all phases. Project activities that can produce solid waste and liquid waste are moderate significance. Moreover, project activities that emit dust and GHGs and accidental cases are moderately significant. Fire hazard potential of the proposed project and noise pollution are highly significant. But this can be prevented or mitigated by using the following mitigation measures. The following figure shows the impact significance of the proposed project.

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**Figure 5-2 Impact significance of the proposed factory project**

**5.6. MITIGATION MEASURES OF IMPACT ON ENVIRONMENTAL RESOURCES**

**5.6.1. Recommended Air Impact Mitigation Measures**

During the operation phases, ventilation system of the factory is enough for the workers cause the proponent has installed Moist Fan around the factory building. To control air pollution, the vehicles, generators and machineries have to check and maintain regularly. Since the factory compound area is paved with concrete, dust emission from the movements of vehicles and cars is not significant. The project proponent must install good exhaust system at the kitchen to reduce adverse impacts of indoor air quality. The factory uses chimney for generator and steam boiler through which the flue gas is emitted for reducing the impact of stack emission on environment. Monitoring and check installed cyclones and ventilation system. The factory has planted trees in its premises to reduce carbon emission and thus minimize air pollution. Ensuring vehicles, compressor and generator are well maintained.

During the decommissioning phases, the impact on air quality can be controllable and reduced to minimum level and minimized dust emissions from material handling sources. Sprinkling water on the top soil can reduce dust emission from the demolishing activities. In the proposed project area, vehicle movements should be limit and maintain and check the vehicles and machineries regularly. Burning the demolished materials and residual wastes must not be allowed.

**5.6.2. Mitigation Measure of Impact on Water**

During the operation phase, water discharge from the factory site will be treated by silts track tank before discharging. Water effluent levels should be within acceptable limit of the National Environmental Quality (Emissions) Guidelines values. The factory plan has kitchen, canteen and toilet facilities attached in various buildings of the factory. In the kitchen, separated drainage lines are provided to flow wastewater from the activities washing and cooking, etc. And around the compound area of the project area, drainages are also provided and maintain to flow storm water (rain water, snow and surface



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water). The compound area of the factory is paved with concrete and the drainages are covered and holes are there to flow the storm water. The existing drainage at the project area can be seen in Figure 5-3. Besides, the factory plans to use separate wastewater channels, septic type toilet system. Wastewater from the dining room, canteens and toilet facilities are collected in septic tanks which are attached with sewer treatment plant and the proponent will connect and cooperate with YCDC to be carried out for disposing of these septic tank wastes. To mitigate the impact on water, the drainages around the compound area of the factory have to maintain and clean regularly. Spillage and leakages of oil and grease should also be minimized.



**Figure 5-3 Drainage and Septic tank in project area**

During the decommissioning phases, appropriate sanitary facilities should be provided for demolishing workers. An accidental spill of fuel and oil should be avoided. Wastes generated from the demolishing activities should not be disposed directly into the drainage channels.

### 5.6.3. Mitigation Measure of Impact on Soil Contaminate

During the operation phase, the compound area of the factory area will be paved with concrete and hence, contamination due to the oil spillage at this area is insignificant. But refilling fuel must be done with great care for preventing spillage.

During the decommissioning phase, impact on soil can be mitigated by using modernized machineries, these machines would be maintained regularly and isolated maintenance area would be



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identified. Any accidental spills of fuel, oil or other hazardous waste must be avoided. Construction wastes and demolishing debris should be disposed properly.

### **5.6.4. Mitigation Measure of Impact on Noise**

During the operation phase, the regular maintenance plans for vehicles, machines generators should be provided to mitigate impact on noise. Using modernized low noise machines should be used if possible. Noise impact to employees shall be minimized by providing earmuffs and ear plugs to those working near the noisy machines.

During the decommissioning phases, temporary noise pollution can be controlled by planning regular maintenance for decommissioning vehicles and machines. Moreover, construction and decommissioning activities should not be worked during nighttime.

## **5.7. MITIGATION MEASURES OF IMPACT ON HUMAN**

### **5.7.1. Mitigation Measures on Fire Hazard**

The project proponent has provided fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases. Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening is also constructed with the capacity of 3,000 gallons at the proposed area. The emergency contact numbers of township and district fire services department must be printed and tagged at easily visible places for fire emergency cases. The emergency fire alarms are installed at the factory for alerting the workers in case of fire. The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases. In addition, the project proponent has plans to provide trainings on firefighting for the workers by a professional or otherwise by sending to training courses. The plan to install fire alarm system and fire-frightening system are mentioned in Figure 5-4.



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**Figure 5-4 Firefighting Equipments**

**5.7.2. Mitigation Measure for Occupational Health and Safety**

The proposed project has a clinic and a nurse. Medicines and first aid kits are provided in this clinic. Moreover, these medicines and first aid kits are provided for emergency cases of workers. First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for workers. According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers. Personal Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are provided for each department. To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures. The project proponent must manage the drainage systems of the factory to prevent health risk of the workers.

The Occupational Safety and Health Administration (OSHA) have recommended permissible noise exposure limit for industrial workers, which is based on 90 dB (A) for 8 hours exposure a day with 5dB trading rates. According to OSHA, the maximum allowable noise level for workers is 90 dB (A) for 8 hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas, need to provide if actual noise level monitoring results are more than 90 dB (A) at the work site for working time hours for 8 hours.

**Table 5-3 Permissible exposure of noise limits**

Total Time of Exposure Per Day in Hours	Noise Level dB(A)
8	90
6	92
4	95
3	97
5	100
1	105
½	110
¼	115

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**5.7.3. Mitigation Measure of Waste Generation**

During the operation phase, the project proponent provides separate garbage bins at each building. All of the solid wastes will be collected separately in garbage based on their types and stored in relevant separated waste houses: Non-hazardous Waste Production related house, Hazardous Waste Production related house, Non- Hazardous Waste Non-Production related house and Hazardous Waste Non-Production related house and final wastes will be disposed by using YCDC's service.

During the decommissioning phase, some of demolished solid wastes must be recycled and the other solid wastes should be stored in dedicated waste storage area in the project site and transferred to YCDC for final disposal.

## 6. ENVIRONMENTAL MANAGEMENT PROGRAM

### 6.1. OBJECTIVE OF ENVIRONMENTAL MANAGEMENT PLAN

The objective of the environmental management is to ensure potential environmental issues are managed by proper mitigation measures in compliance with the relevant laws and regulations stipulated by national authorities. Environmental management is based on the basic principles of management known as the P-D-C-A cycle (Figure 6-1). Environmental management consists of four related tasks as described below:

- Plan (P) - What need to be done

Mitigation measures for the potential environmental impacts of the factory such as air emission, noise, solid waste, wastewater and health and safety at work are described in this chapter. The Project Proponent will follow the plan for the mitigation measures according to the scheduled time.

- Do (D) - Implement the plan

The mitigation measures for the potential environmental impacts will be implemented appropriately by the Project Proponent as described in this chapter.

- Check (C) - Monitor and evaluate the results of implementation

The effectiveness of the mitigation measures will be monitored, evaluated and documented.

- Act (A) - Taking corrective actions to improve the results, if found inadequate

If nonconformities are noted with reference to the environmental monitoring benchmarks, corrective actions need to be planned to mitigate the existing environmental impacts.

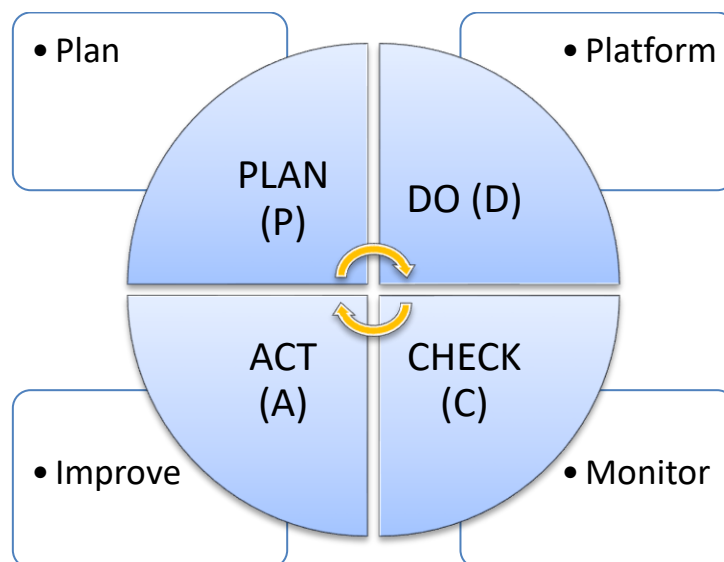


Figure 6-1 PDCA cycle

#### 6.1.1. Institutional Requirement

Gold Emperor (Myanmar) Company Limited will manage the development of the proposed project. The project proponent should appoint Health, Safety and Environment (HSE) issues throughout the duration of the project phases. HSE team is responsible for implementation and monitoring of EMP

## **Environmental Management Plan**

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and Environmental Monitoring Plan (EMP) as well as coordination with local authorities and the nearby communities. The HSE Team also makes regular review of EMP to cover all potential impacts, amendments and modifications.

### **6.1.2. Responsibilities of the EMP**

In order to ensure the sound development and effective implementation of the EMP, it will be necessary to identify and define the responsibilities. The environmental management practices, procedures, and responsibilities are defined herein to get full compliance with the existing environmental policy, laws, rules and regulations of the Republic of the Union of Myanmar. The following entities should be involved in the implementation of this EMP:

**Gold Emperor (Myanmar) Company Limited:** The proponent will be charged with the responsibility for ensuring that the proposed development has been accomplished in an environmentally sound manner. This can be achieved by inclusion of environmental specifications in the tender specifications, selection of environmentally conscious contractors, and supervision to ensure that the objectives of this EMP are met. The implementation of Environmental Management Plan (EMP) process will prepare and follow up by appointed persons for health, safety, and environmental management under the instruction of management team of Gold Emperor (Myanmar) Company Limited for EMP implementation facilities.

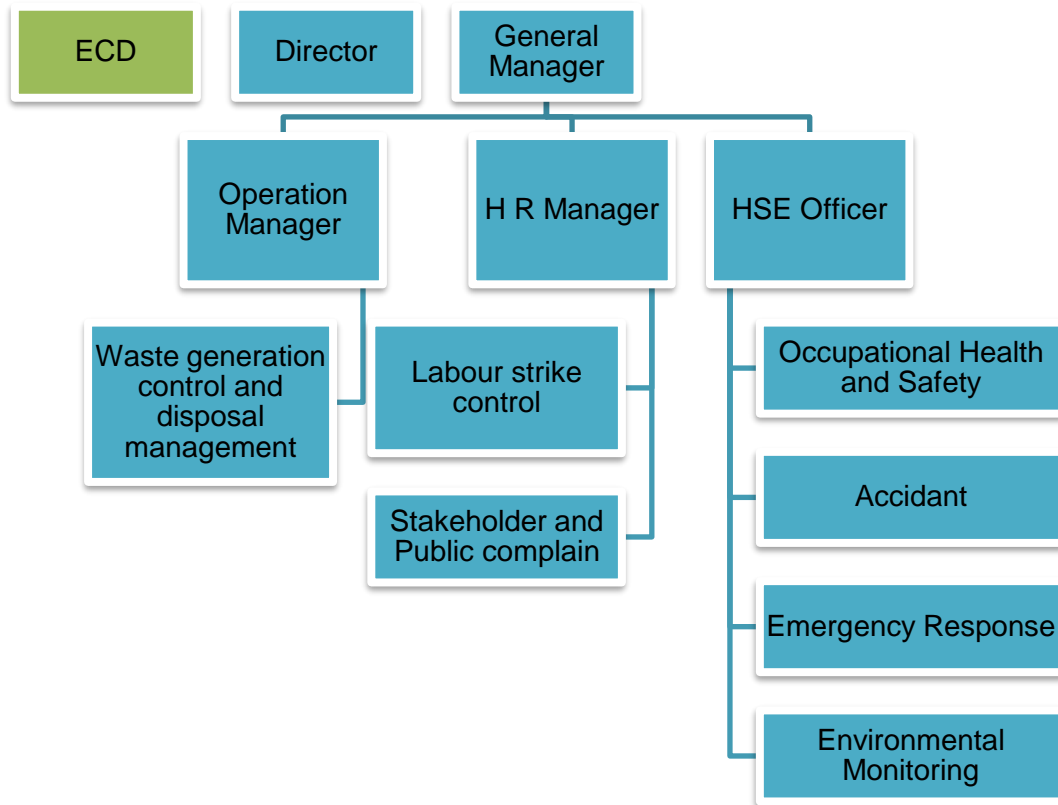
**ECD (Yangon Region):** The responsibility of ECD is to exercise general supervision and coordinating over all matters relating to the environment and to be instrumental in providing guidance for recognized regulatory frameworks.

**Third-Party Environmental Consultant:** The environmental consultant will have to ensure that the proposed EMP is up to date and is being followed properly by the proponent. Periodic audits of the EMP will have to be done to ensure that its performance is as expected, by comparing with operating standards so that any corrective actions can be taken.

### **6.1.3. Structure and Responsibilities for the EMP Development and Implementation**

Gold Emperor (Myanmar) Company Limited shall manage the development of the proposed project. The project proponent should appoint Health, Safety and Environment (HSE) issues throughout the duration of the project phases. HSE team is responsible for implementation and monitoring of EMP and Environmental Monitoring Plan as well as coordination with local authorities and the nearby communities. The HSE Team also makes regular review of EMP to cover all potential impacts, amendments and modifications. The HSE officer is responsible to the HSE components of the project and on matters relating to the implementation of the EMP throughout operation life.

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**Figure 6-2 Organization Structure of Environmental Management Plan**

**Table 6-1 Responsibilities of HSE members**

Roles	Responsibilities
General Manager	<p>The General Manager will be assisted by the Operations Manager and also the HR and HSE Officer. In terms of environmental protection commitments, the Operation Manager will be the key driving force and will be responsible for:</p> <ul style="list-style-type: none"> <li>• Establishing overall environmental direction and policy</li> <li>• Ensuring the implementation of the EMP</li> <li>• Ensuring investigation of all environmental incidents are reviewed and that reports are submitted on time</li> <li>• Ensuring an effective system of internal and external communication is in place</li> <li>• Providing advice regarding the environmental program</li> </ul>
Operation Manager	<p>The Operation Manager will assist the General Manager in looking into the overall environmental matters during the operational phase of the Project. The Operation Engineer will also be responsible for:</p> <ul style="list-style-type: none"> <li>• Adherence to the overall environmental direction and policy</li> <li>• Ensuring the implementation of the recommended actions in the investigation of all environmental incidents</li> <li>• Managing resources for operation wastes</li> </ul>
HR Manager	<p>The HR Manager will carry out the day-to-day management of workers and social issues in the factory. The HR Manager will be responsible for:</p> <ul style="list-style-type: none"> <li>• Assisting the management in publicising and implementing corporate and local policies, objectives and programs</li> <li>• Maintaining key environmental-related documents and information</li> </ul>



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Roles	Responsibilities
	<ul style="list-style-type: none"> <li>Communicating/ liaising with the local authorities on environmental issues</li> </ul>
HSE Officer	<p>The HSE Officer will be the key person in charge of all environmental matters pertaining to the site. The HSE Officer will be responsible for:</p> <ul style="list-style-type: none"> <li>Coordinating the implementation of environmental programs, including monitoring of the project site environmental performance</li> <li>Performing periodic internal environmental audits and inspections to ensure compliance with the legal environmental requirements</li> <li>Ensure a monitoring system is in place to track and report all health, safety and environmental incidents;</li> <li>Carry out a thorough initial site inspection of environmental controls prior to work commencement;</li> <li>Record and provide a written report to the General Manager and production team of non-conformances with the EMP and require the HR Manager to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.</li> </ul>

**6.2. -ENVIRONMENTAL MANAGEMENT ACTION**

The EMP Gold Emperor (Myanmar) Company Limited has been prepared to address potential issues based upon discussion with factory management, workers, local community view, Stakeholder consultation and from the site visit of experts. The EMP is additional to and compliments the factory's safety management system. The following environmental issues that require environmental management plans based upon the potential impacts of activities Gold Emperor (Myanmar) Company Limited are as follows:

**6.2.1. Air Pollution/Dust Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>To minimize the adverse impact to air quality caused by stack gas emission from generator and also dust management generated from vehicular movement.</li> <li>To comply with relevant government rules</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Nil complaints relating to air quality management</li> <li>Extraction equipment maintained as per maintenance schedule</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>National Environmental Quality (Emission) Guidelines (2015)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>The factory must be plant in its premises which reduce the carbon emission by the factory and minimize the air pollution</li> <li>Periodic maintenance of generator is conducted</li> <li>Prohibiting the burning of waste materials at the project site</li> <li>Providing mask to the employees who work in any dusty area</li> <li>Installation the windscreens to breakup the wind flow</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>700,000 Kyats per year</li> </ul>
Responsibility	<p>Management of the factory;</p> <ul style="list-style-type: none"> <li>Head of maintenance-Total implementation of above of air pollution management plan</li> <li>Production manager-Air quality in the production area is good enough</li> <li>Manager -To hire organization/independent third party testing air quality</li> </ul>

**Environmental Management Plan**

	<ul style="list-style-type: none"> <li>EHS officer-Monitor the hygiene of ambient air quality in surrounding of the factory</li> </ul>
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**6.2.2. Water Consumption Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>The water consumption management is aimed at minimizing ground water use</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Prohibitions on accessing and using underground water without a license</li> <li>Water consumption saving of general water use from groundwater</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>The Underground Water Act (1930)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>Install water meter for internal control of water consumption</li> <li>All staff trains and makes aware conservation practices and proper methods of water use must be place in toilets and other areas of water consumption</li> <li>The contamination of water is avoided by suitable management of oil and fuel used in machineries and vehicles</li> <li>Trees plantation surrounding the factory</li> </ul>
Estimate Cost	<ul style="list-style-type: none"> <li>100,000 Kyat per year</li> </ul>
Responsibility	<ul style="list-style-type: none"> <li>Manager</li> <li>Arrange audit on water usage controls environmental officer</li> </ul>

**6.2.3. Wastewater Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>Prevent pollution underlying groundwater sources</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>Implement an environmental friendly sewerage system</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>National Environmental Quality (Emission) Guidelines (2015)</li> <li>YCDC Guidelines</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>Ensure that drainage lines and sewage system of factory and the nearest public drainage are watertight and sufficient capacity</li> <li>Regular check and maintain sewerage facility.</li> <li>Clean the factory's drainage to avoid odor emission and to avoid the block of water flow</li> <li>Regularly monitor and check the discharge temperature from boiler wastewater before directly discharge into factory's final drainage</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>500,000 Kyats per year</li> </ul>
Responsibility	<ul style="list-style-type: none"> <li>Manager -To hire organization/independent third-party testing wastewater quality</li> <li>EHS officer-Monitor the condition of factory's drainage and sewerage system</li> </ul>

**Environmental Management Plan****6.2.4. Fire Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>To ensure that fire control practices are implemented on site to minimise the risk of fire from site operations and bush fires</li> </ul>
Relevant government law and rule	Myanmar Fire Brigade Law 2015
Time Frame	<ul style="list-style-type: none"> <li>Entire life spans of proposed project operation</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>Must be provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases.</li> <li>Must be indicated the emergency exit and assembly point in public area.</li> <li>Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening.</li> <li>The emergency fire alarms are installed at the factory for alerting the workers in case of fire.</li> <li>The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases.</li> </ul>
Monitoring & Reporting	To check monthly Visual inspection, Firefighting equipment (fire extinguish, firefighting hose, portable fire pumps, fire hose reels, fire monitor and firefighting nozzles)
Estimated cost	500,000 Kyats per year
Responsibility	HSE Manager, Operation Manager or Environmental Management Team of Gold Emperor (Myanmar) Company Limited

**6.2.5. Solid waste management Plan**

Objectives:	<ul style="list-style-type: none"> <li>To minimize waste generation by developing strategies for the management and disposal of all waste in a manner that is sustainable and sensitive to the environment</li> <li>To comply government waste management policy</li> </ul>
Performance Indicator:	Nil complaints relating to noise nuisance
Relevant government law and rule	<ul style="list-style-type: none"> <li>YCDC guidelines</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>The factory does not dispose any kind of solid waste on the factory premises or not dump in the surface water like local pond, canal or river, etc.</li> <li>The solid wastes are stored properly and separately in a certain location in proper manner such as cloth scrap waste need to collect at one place and poly/carton waste should collect at another place. Metal/Hazardous material waste such as fudge electric bulbs, empty chemical container are stored another in separate place of storage area.</li> <li>Recycle wastes like cloth scrap, carton box, plastic sheet, etc. are hand over to local buyer for reuse and waste-tracking record shall be kept every day.</li> <li>The metal or glass waste of electric bulb is taken by the suppliers to recycle them.</li> <li>The daily domestic waste of workers hand over to YCDC waste collector to collect every day</li> <li>Daily wastes are stored clearly labeled containers and in such a manner that all related personnel are provided proper training about the relevant issues.</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>50,000 Kyats per month</li> </ul>

**Environmental Management Plan**

Responsibility	<p>Manager (HR)</p> <ul style="list-style-type: none"> <li>• Responsible for overall site cleanliness and waste management</li> <li>• Regular waste collection to minimize excessive waste storage</li> </ul>
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**6.2.6. Noise Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>• To avoid nuisance noise to nearby residents generated from generator and other machineries.</li> <li>• To comply with noise standard of National Environmental Quality (Emission) Guideline</li> </ul>
Performance Indicator:	Nil complaints relating to noise nuisance
Relevant government law and rule	<ul style="list-style-type: none"> <li>• National Environmental Quality (Emission) Guidelines (2015)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>• Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment</li> <li>• Impose speed limit to track and vehicles at the transportation route.</li> <li>• Provide sufficient personal protective equipment (PPE) at the work place</li> <li>• All the related personnel will be provided proper training about the relevant issues and ensure PPE wear during working in noisy area.</li> </ul>
Estimated Cost	<ul style="list-style-type: none"> <li>• 500,000 Kyats per year</li> </ul>
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>• To hire organization/independent third-party testing noise level</li> <li>• Ensure that all workers use PPE during operation</li> </ul>

**6.2.7. Emergency Response Plan and Disaster Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>• Reduce the risk of accidents at the factory area</li> </ul>
Performance Indicator:	<ul style="list-style-type: none"> <li>• Establish a safe working environment</li> </ul>
Relevant government law and rule	<ul style="list-style-type: none"> <li>• The Employment and Skill Development Law (August 2013)</li> <li>• ILO guide to Myanmar Labour Law (2017)</li> </ul>
Management Plan	<ul style="list-style-type: none"> <li>• The factory management has taken proper measures to handle any emergency situation like fire, earthquake, flood and storm</li> <li>• Provision and inspection of firefighting equipment and fire hydrant system in all the sections</li> <li>• A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers</li> <li>• Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training.</li> <li>• Regular fire drill operation is conducted</li> <li>• Workers are informed about what to do in earthquake like stay in a safe place such as under table of desk, not to try move outside during earthquake, workers who will be outside during earthquake shall remain stay out of the building, trees, lump post, etc. Other relevant safety instruction of emergency situation it informed to workers by training</li> </ul>

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	<ul style="list-style-type: none"> <li>Workers are aware of dangers from physical hazards such as obstacles covered by floodwater (storm debris, drainage opening, ground erosion) and from displaced reptiles (Snake) or other animals.</li> <li>A medical team has been prepared for primary treatment (First Aid)</li> <li>Prepare an emergency contact directory consisting contact numbers of nearest fire service, local police station, hospitals, etc. and display it in a place that everybody can see it easy.</li> <li>Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management</li> <li>Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety</li> </ul>
Estimated cost	<ul style="list-style-type: none"> <li>Approximately 1,500,000 Kyats per year</li> </ul>
Responsibility	<p>Manager and EHS officer</p> <ul style="list-style-type: none"> <li>Arrange firefighting training after every 3 months</li> <li>Responsible for fire control and response</li> <li>Monitoring daily danger warning and bans</li> </ul>

**6.2.8. Occupational safety and health management plan**

Objective	<ul style="list-style-type: none"> <li>To provide a broad framework for improving standards of workplace health and safety to reduce work-related injury and illness.</li> </ul>
Relevant Government Law and Rule	Public Health Law (1972), Prevention and Control of Communicable Diseases Law 1995 (Amendment 2011), Occupational Safety and Health Law (2019)
Time Frame	<ul style="list-style-type: none"> <li>Entire life spans of proposed project</li> </ul>
Management Action	<ul style="list-style-type: none"> <li>First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of workers.</li> <li>According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers.</li> <li>Personal Protective Equipment (PPE) like earmuffs, safety gloves, helmets and goggles are provided for each department.</li> <li>To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures.</li> <li>Manage the drainage systems of the factory to prevent health risk of the workers.</li> <li>The maximum allowable noise level for workers is 90dB(A) for 8hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas.</li> </ul>
Monitoring and Reporting	<ul style="list-style-type: none"> <li>Weekly check fire extinguishers and water hydrant in position</li> <li>Daily inspect that all fire exist are open</li> <li>Servicing fire extinguisher and records accidents</li> </ul>
Estimated Cost	500,000 Kyats per year
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team of Gold Emperor (Myanmar) Company Limited.

**Environmental Management Plan****6.2.9. Energy Management Plan**

Objectives:	<ul style="list-style-type: none"> <li>To improve energy efficiency, reduce cost, optimize capital investment, reduce environmental and greenhouse gas emissions, and conserve natural resources</li> </ul>
Relevant government law and rule	National Energy Management Committee (Myanmar Energy Master Plan 2015)
Time Frame	Once in a year throughout the factory life
Management Plan	<ul style="list-style-type: none"> <li>Installation of timers and thermostats to control heating and cooling</li> <li>Energy saving light installed in different area of the factory for saving energy</li> <li>Used of energy saving devices must be installed</li> <li>Ensure that good housekeeping measures such as turning off equipment and lights when not in use</li> </ul>
Monitoring & Reporting	Conduct annual energy efficiency of adult to find out the scope for energy saving
Estimated cost	Approximately 100,000 Kyats per year
Responsibility	<p>Manager</p> <ul style="list-style-type: none"> <li>To arrange energy audit technical personnel</li> <li>To monitor and record electricity consumption, other related energy issues and take necessary actions if any problem arises</li> </ul>

**6.3. ENVIRONMENTAL MANAGEMENT PLAN FOR DECOMMISSIONING PHASE**

The following environmental issues which require environmental management plans for decommissioning phase are as follows:

**6.3.1. Air Pollution/ Dust Management Plan**

Objective	<ul style="list-style-type: none"> <li>➤ To comply with relevant government rules</li> </ul>
Relevant Government Law and Rule	<ul style="list-style-type: none"> <li>➤ National Environmental Quality (Emission) Guideline 2015,</li> <li>➤ Motor Vehicles Act (2015)</li> </ul>
Time Frame	<ul style="list-style-type: none"> <li>➤ During the decommissioning phase</li> </ul>
Management Action	<ul style="list-style-type: none"> <li>➤ Spraying water to prevent dust from spreading into the air while demolishing building and transporting materials.</li> <li>➤ Provision of Personal Protective Equipment (PPE) to employees in the workplace.</li> </ul>
Monitoring and Reporting	Frequency                      One time
	Monitoring Point              At the project area
	Parameters                      PM <sub>2.5</sub> , PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>2</sub> , O <sub>3</sub>
Estimated Cost	500,000 Kyats
Responsibility	Gold Emperor (Myanmar) Company Limited



**Environmental Management Plan****6.3.2. Noise Management Plan**

Objective	➤ To maintain low noise exposures, such that human health and well-being are protected.
Relevant Government Law and Rule	➤ National Environmental Quality (Emission) Guideline 2015
Time Frame	➤ During the decommissioning phase
Management Action	➤ Provision of Personal Protective Equipment (PPE) to employees in the workplace.
Monitoring and Reporting	Frequency                      One time
	Monitoring Point              At the project area
	Parameters                      Noise level
Estimated Cost	250,000 Kyats
Responsibility	Gold Emperor (Myanmar) Company Limited

**6.3.3. Solid Waste Management Plan**

Objective	➤ To minimize waste generation by developing strategies for the management and disposal of all waste in a manner that is sustainable and sensitive to the environment
Relevant Government Law and Rule	➤ National Waste Management Strategy and Master Plan (2018-2030)
Time Frame	➤ During the decommissioning phase
Management Action	➤ Some of demolished solid wastes will be stored in dedicated waste storage area in the project site and transferred to Township Municipal.
Monitoring and Reporting	Frequency                      One time
	Monitoring Point              At the project area
	Parameters                      Solid waste
Estimated Cost	50,000 Kyats
Responsibility	Gold Emperor (Myanmar) Company Limited

**6.4. ENVIRONMENTAL MONITORING SCHEDULE AND REPORTING**

The EMoP cell members responsible may conduct daily, weekly or monthly general inspections of the project area and facilities. The objectives are to identify non-compliances to EMoP. Table 6-2 is provided the environmental monitoring schedule for Gold Emperor (Myanmar) Company Limited. The

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factory submits monitoring report to the Ministry not less frequently than every six (6) months, as provided in a schedule in the EMP,

**Table 6-2 Environmental monitoring schedule for. Gold Emperor (Myanmar) Company Limited**

Issues	Parameter	Frequency	Area to be monitored	Monitoring Cost (MMK)	Responsible section
<b>Operation Phase</b>					
Air quality	PM2.5, PM10, SO <sub>2</sub> , NO <sub>2</sub> , CO <sub>2</sub> , CO	Biannually monitoring and reporting to ECD (throughout the operation period )	Outdoor and Indoor of proposed project	700,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited
Water Quality	pH, BOD, COD,TDS, Temp, Oil and Grease, Chlorine, Arsenic	Biannually	At the factory	300,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited
Noise	Noise level in decibel (dBA)	Biannually monitoring and reporting to ECD (through out the operation period	Two points (point source in operation area and sensitive receptor)	300,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited
Solid Waste	Cutting line and Packing section Canteen, Kitchens, dormitory	Monthly	Recycle house and waste house and at the factory office	50,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited
Liquid waste	Toilet facility, kitchen and canteen	Weekly	Recycle house and waste house and at the factory office	50,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited
Hazardous waste	Chemical usage and store area Operation of generator and movements of vehicles	Monthly	Storage area	100,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited
Fire Hazardous	Visual inspection, firefighting equipment	Monthly	At the factory	500,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited

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Issues	Parameter	Frequency	Area to be monitored	Monitoring Cost (MMK)	Responsible section
Light intensity	Illuminance	Monthly	At the production line (especially cutting and QC)	50,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited
Occupational Safety and Health Management plan	health and safety	Weekly	At the factory and project area	100,000 Kyats	Environmental Management Team's Gold Emperor (Myanmar) Company Limited
<b>Decommissioning Phase</b>					
Air quality	SO <sub>2</sub> , NO <sub>2</sub> , CO, CO <sub>2</sub> , PM <sub>2.5</sub> , PM <sub>10</sub>	One time during this phase	One point in the production area	1,000,000 Kyats	Project Proponent
Noise	Noise level in decibel (dBA)	One time during this phase	One points in demolishing area	200,000 Kyats	Project Proponent
Rehabilitation	Recovering and Revegetation		All decommissioning area		Project Proponent

**6.5. CORPORATE SOCIAL RESPONSIBILITY (CSR) PLAN**

The CSR activities have the objective to uplift quality of life and gain favorable relations from all communities in the operation area. The CSR program for Gold Emperor (Myanmar) Company Limited textile factory consists of three main sectors; Health, Education and Community Development Sector. CSR activities are conducted in compliance with MIC's guideline for implementation of CSR program.

Gold Emperor (Myanmar) Company Limited will contribute 2% of our Net Profit to social welfare activities that will help society and country of Myanmar. Our social welfare activities shall include training of our employees such as on job training to be more qualified, language (Chinese) training on weekends with experienced teachers and providing necessary healthcare such as medical checkups and giving proper medical knowledge about deceases and its prevention. Part of our CSR activity such as donations will also contribute to public school around our factory Table 6-3.

**Table 6-3 CSR plan at Gold Emperor (Myanmar) Company Limited**

No	Particle	Contribution
1	Public school	0.5%
2	Non-profit training	1
3	Employees healthcare	0.5%

**6.5.1. Public School**

We will contribute 0.5% of our net profit to the public school near the factory to be a part of creating the better community. We will also work together with the school to understand more about the needs and we will also ensure that our contributions will be used in the most effective and efficient way for the society.

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### **6.5.2. Non-profit Training**

We will contribute 1% of our net profit for the trainings of our Employees. Our trainings include job-related trainings, language trainings and safety trainings. The main objective of our trainings are that we want our garment with their work but also improving their other skills such as language and promoting knowledge about safety measures and occupational health employees to be not only become more productive and more qualified.

### **6.5.3. Healthcare**

One of our main concern is the well-being of our employees. We will contribute 0.5% of our net profit for the healthcare which includes medical checkup for the employees and providing health education to our workers.

## **6.6. CAPACITY BUILDING AND TRAINING PLAN**

The emergency preparedness is vital, as quick, and correct response is necessary in case of emergency to reduce injuries, harm, and other damage. Care should be given for during processing activities in order to prevent synthetic errors and accidental cases (e.g., electricity shock and fire hazards).

The emergency response plans should be established for handling all foreseeable emergencies in the workplace and must provide the following;

### **6.6.1. Assignment of responsibilities**

All senior staff such as a line/production manager or safety officer should be assigned to lead the emergency response team and charged with the duties of (1) assessing the emergency and taking necessary actions (2) overseeing the implementation of the emergency response plan (3) organizing regular drill (4) ensuring all emergency equipment is well maintained.

### **6.6.2. Emergency procedures**

Emergency procedures are operating instructions for employees to follow in emergency case About work safety in the concerned processing, the management team should

- (a) Identify and list out all possible emergency situations in the workplace
- (b) Assess the effects and impacts of the emergency situations
- (c) Establish emergency response plans
- (d) Provide and maintain emergency equipment and other necessary resources
- (e) Ensure that staff are familiarized with the arrangements in case of emergencies by providing procedural instructions and employee training and organizing drills

### **6.6.3. Training for Emergencies**

The type, amount and frequency of training varies, depending upon the task's employees are expected to perform. Although training must be provided to employees at least annually, safety meetings and drills should be conducted at more frequent intervals.

Regardless of the specific type of facility, training should include, though not be limited to the following;

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- ✚ Hazard recognition and prevention (fire, explosion, etc.)
- ✚ Proper use of fire extinguishers
- ✚ Emergency reporting procedures
- ✚ Preventive maintenance
- ✚ Hazardous materials spill response
- ✚ First Aid

### 6.6.4. Fire Prevention and Protection

The fire prevention and protection program must address the following topics:

**Prevention;** policies, practices and procedures designed to keep the conditions necessary for a fire from coming together

- Hot work permits
- Lockout/tag out policies
- Design specifications for storage of flammable materials

**Severity reduction;** policies, practices and procedures designed to reduce the spread of fire and end the fire.

- Emergency plans
- Alarm systems
- Portable fire extinguishers
- Fire Protection Equipment

**Cleanup;** policies, practices and procedures designed to return the affected area to an operational level and reduce other losses created by improper cleanup

- First aid
- Removal of debris to an appropriate waste site
- Equipment and facility repair

### 6.6.5. Fire Protection Equipment

1. **Explosion Suppression Systems:** Explosion suppression systems should be used in unusually hazardous areas such as elevator legs, boots, and head, or in areas such as bins, distributors, and tanks.
2. **Portable Fire Extinguishers:** All buildings within a facility must have fully charged and operable portable fire extinguishers. If employees are expected to use portable extinguishers or other firefighting equipment against incipient fires, they must be trained to use the equipment. Training must include the following:
  - Correct type of extinguisher to use on different classes of fire
  - Proper techniques for use of the equipment to extinguish a fire
3. **Standpipes and Hoses:** All areas within a facility that are above 75 feet from ground level and in which combustible materials other than grain are stored should have wet or dry standpipes and hoses installed.
4. **Automatic Sprinkler Systems:** Automatic sprinkler systems are recommended in areas containing combustible materials.

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5. Fire Hydrants: All grain and feed mill facilities should have adequate public or private fire hydrants on site. Each fire hydrant should have an adequate water supply.

### 6.6.6. Fire Safety and Evacuation Plan

Fire Evacuation plans should include the following information

- Emergency escape routes must be clearly shown on floor plans and workplace maps
  - Employers must know that their employees know the emergency escape routes
  - Procedures for employees who must remain to operate critical equipment before evacuating
  - Identification and assignment of personnel responsible for rescue or emergency medical aid
- Fire Safety Plans should include the following information:

1. Procedure for reporting a fire or other emergency
2. Site plans indicating the following
  - The Occupancy assembly point
  - The locations of fire hydrants
  - The normal routes of fire department vehicles access
3. Floor Plans identifying the locations of the following
  - Exits
  - Primary evacuation routes
  - Secondary evacuation routes
  - Accessible egress routes
  - Areas of refuge
  - Exterior area for assisted rescue
  - Manual fire alarm boxes
  - Portable fire extinguishers
  - Occupant-use hose stations
  - Fire alarm annunciators and controls

The following American National Fire Fighting Association (NFFA) Standards must be following.

**Table 6-4 American National Fire Fighting Association (NFFA) Standards**

No.	Parameters	Proposed Capacity	Remark
1	Fire water flow	14+ bars	
2	Deluging rate	12.0 liters/m <sup>2</sup> /min	
3	Foam rate	10.0 liters/m <sup>2</sup> /min	
4	Maximum water pressure	190 liters/min	For storage area

**Emergency evacuation Drill:** An exercise performed to train staff and occupants and to evaluate their efficiency and effectiveness in carrying out emergency excavation procedures

**Employee Training and Response Procedures:** Employee shall be trained in the fire emergency procedure described in their fire evacuation and fire safety plans and training should be based on these plans;



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**Frequency:** Employee shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the fire code official upon request.

**Employee Training Program:** Employee shall be trained in fire prevention, evacuation and fire safety in accordance with the following sections.

**Fire Prevention Training** - Employee shall be apprised of the fire hazards of the materials and processes to which they are exposed. Each employee shall be instructed in the proper procedures for preventing fires in the conduct of their assigned duties

**Evacuation Training** – Employees shall be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas and procedures for evacuation

**Fire Safety Training** – Employee assigned fire-fighting duties shall be trained to know the locations and proper use of portable fire extinguishers or other manual fire-fighting equipment and the protective clothing or equipment required for its safe and proper use.

### **6.6.7. Site Fire Control**

1. Alert other people through fire alarm
2. If small, control using an extinguisher
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. Once out of the building, stay out. Do not allow people to go back into the burning building to collect valuables. While evacuating the building, close doors (but do not lock) to slow down the spread of fire
7. Obey all instructions
8. Proceed to an emergency evacuation area (Muster Point)

### **6.6.8. Employee Information and Training**

Employees must be informed about any operations in their work area where hazardous chemicals or materials are present. They must also be informed about the locations and availability of the hazard communication program, list of chemicals and SDSs. Employees must receive training on the following:

- Methods for detecting the presence or release of a hazardous chemical, such as monitoring devices and the visual
- appearance or odor of the chemical
- Physical and health hazards of chemicals in their work area
- How to protect themselves using work practices, emergency procedures and personal protective equipment
- How to interpret the information on the labels and MSDS.

### **6.6.9. Health and Safety Training Plan for Worker**

Health and Safety Training plan currently used and provided in Gold Emperor (Myanmar) Company Limited to all employees and workers by trainings internally and externally. Specific trainings

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are recommended and conducted according to the health and safety guidelines to enhance worker's health and to prevent all potential risks and hazards might occur in the factory. All required trainings related to health and the respective departments propose safety or operational parts, top management makes decision and HR organizes and conducts the trainings.

**Table 6-5 Training Plan Used in Gold Emperor (Myanmar) Company Limited**

No.	Health and Safety Guidelines	Training needs
1.	Management	General fire and emergency response plan, evacuation. All training materials and procedures covering health and safety for workers and employees
2.	Machine safety and noise management	Training for machine operations to all operators Use of PPE and proper use of any necessary protection Maintenance and Emergency procedures
3.	Environment safety	Understanding and training on recognition and maintenance not to affect environment
4.	Material storage and safety	Safety use of related devices and machines Use of necessary protections in working areas Sanitation work
5.	Fire Safety	Firefighting and evacuating training and practices Firefighting materials/ devices use
6.	First Aid	first aid / CPR/ AED training from providers (Outsource) training on hazard of pathogens

#### 6.6.10. Emergency Contact Number of Hlaing Thar Yar Township

Gold Emperor (Myanmar) Company Limited is located Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township. The Emergency contact number of Haling Thar Yar Township is presented in the following Table 6-6.

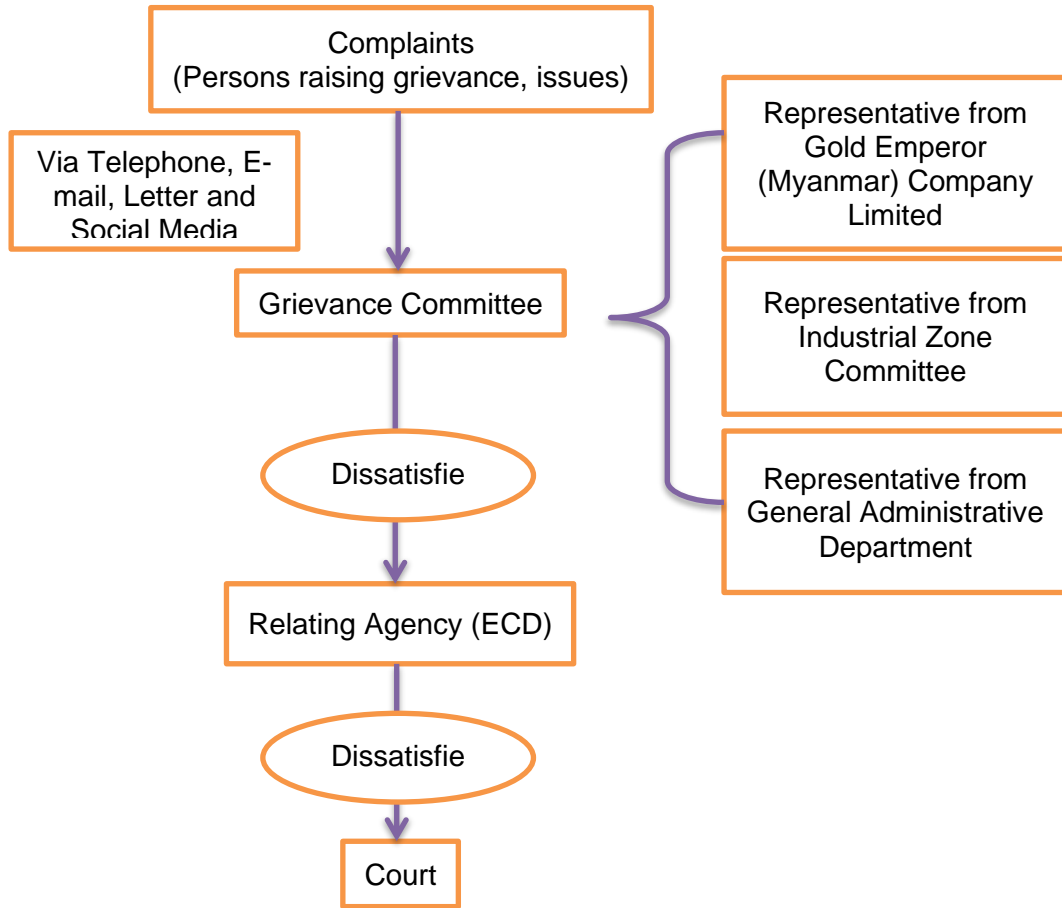
**Table 6-6 Emergency Contact Number**

Hlaing Thar Yar Fire Station	01-645017
Haling Thar Yar General Hospital	01-640814
Hlaing Thar Yar Police Station	01-645016

### 6.7. GRIEVANCE REDRESS MECHANISM (GRM)

People who live near the project affected area or stakeholders can complain about the problems and impacts that they suffer; they can complain through Grievance Committee, which includes the responsible persons of by Gold Emperor (Myanmar) Company Limited representative from Shwe Lin Ban Industrial Zone and representative from General Administration Department (Hlaing Thar Yar Township). Small issues will be solved at the Grievance Committee stage and other unsolved problems will be submitted to higher responsible authorities and finally the responsible person decided by the court in legal terms. The following diagram (Figure 6-3) show steps of Grievance Redress Mechanism of Proposed Factory Project.

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**Figure 6-3 Grievance Redress Mechanism flow diagram**

**Environmental Management Plan****7. PUBLIC CONSULTATION****7.1. METHODOLOGY AND APPROACH**

This chapter presents results of public consultation and information disclosure conducted for the Gold Emperor (Myanmar) Co.,Ltd. Public participation can be considered as the required element of the EMP process. In this study various stakeholder's participation was made.

Public consultation during preparation of EMP report was conducted on 29, December, 2022, following the EIA procedure. The project's stakeholders in this category are key officials or representatives of the regional and local authorities who have direct responsibilities for the administration of the EMP process for environmental and social clearance and issuing operation permits for proposed development projects.

For this company, relevant key offices at the regional level is Environmental Conservation Department (ECD) and the township level are Public Health Department and Fire Services Department. Public consultation carried out after the presentation on the project, followed by questions, answers and discussion. U Htun Lin Kyaw presented EMP study and findings in public consultation meeting. Summary of public consultation meeting is presented in Table 7-1 and Table 7-2.

**Table 7-1 Summary of Public Consultation Meeting**

Time and Date	Thursday, 29 December 2022 10:00-12:00
Venue	No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Tharyar Township, Yangon Region.
Agenda	<p>Presentation on the Background Information of Project, Introduction about Environmental Impact Assessment, Impact Assessment and Impact Significant Environmental Impacts and Mitigation Measures Environmental Management Plan Performances of Gold Emperor Co., Ltd.</p> <ul style="list-style-type: none"> <li>Received and Answer from feedback of participants</li> </ul>
Organized by	Myanwei Environmental Solutions Company Limited

**7.2. RECOMMEND SUGGESTION AND COMMENT**

Public Consultation Meeting for the EMP of Gold Emperor (Myanmar) Co., Ltd. was held on 29<sup>th</sup> December 2022. The detailed of the meeting, including the meeting time, venue and names of participated attended the consultation meeting are listed in APPENDIX G


After the presentation, the floor opened for questions and answers. Most of the government stakeholders are suggested for good monitoring measure during operation.

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**Table 7-2 Suggestion and Comment of Public Consultation Meeting**



<p>U Htun Lin Kyaw Myanwei Environmental Solutions Company Limited</p>	<p>ကျွန်တော်က Myanwei Environmental Solutions Company Limited မှာ Environmental Specialist အဖြစ် တာဝန်ယူ ထမ်းဆောင်နေတဲ့ ထွန်းလင်းကျော်ဖြစ်ပါတယ်ခင်ဗျာ။ ကျွန်တော် ဒီနေ့ ရှင်းလင်းတင်ပြမှုအကြောင်းအရာ ကတော့ Gold Emperor (Myanmar) Company Limited ၏ CMP စနစ်ဖြင့် ဖိနပ်အမျိုးမျိုး ထုတ်လုပ်ခြင်းလုပ်ငန်းအတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း အစီရင်ခံစာအား ရှင်းလင်းတင်ပြသွားပါမယ်ခင်ဗျာ။ ပထမ ဦးစွာ ဆွေးနွေးတင်ပြမည့် အကြောင်းအရာများမှာ Gold Emperor (Myanmar) Company Limited အား မိတ်ဆက်ပေးခြင်း၊ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းအစီရင်ခံစာနှင့် ပတ်သက်သော အကြောင်းအရာများအား မိတ်ဆက်ခြင်း၊ သက်ရောက်မှု ဆန်းစစ်ခြင်းရလဒ်များနှင့် ထိခိုက်မှုအဆင့် သတ်မှတ်ချက်များ၊ ပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှုများနှင့် ဖြေလျှော့ရေးနည်းလမ်းများ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စက်ရုံ၏ဆောင်ရွက်ချက်များတို့ ဖြစ်ပါတယ်။ စက်ရုံ၏ တည်နေရာဝန်းကျင်ပြုခြေပုံများ၊ လုပ်ငန်း၏ ထုတ်လုပ်ပုံအဆင့်ဆင့်၊ ထုတ်ကုန်ပစ္စည်းများအား အသေးစိတ်ရှင်းလင်းတင်ပြခဲ့ပါသည်။ ထို့အပြင် ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ် ချက်များအား စက်ရုံတွင်းဆူညံသံတိုင်းတာခြင်း၊ ပတ်ဝန်းကျင် လေထုတိုင်းတာခြင်းနှင့် လုပ်ငန်းခွင်အတွင်း ရေအရည်အသွေး တိုင်းတာခြင်း တို့ဖြင့် ရှင်းလင်းဆွေးနွေးခဲ့ပါသည်။ လျှော့ချမည့် နည်းလမ်းများ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုများနှင့် စီမံကိန်း၏ ဆောင်ရွက်ချက်များကို ရှင်းလင်းတင်ပြခဲ့ပါသည်။ ၎င်းသက်ရောက်မှုများနှင့် ဖြေလျှော့ရေးနည်းလမ်းများအား သက်ရောက်မှုတစ်ခုချင်းစီ</p>	
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	<p>အလိုက် ရှင်းလင်းဆွေးနွေးသွားခဲ့ပါသည်။                  ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်အား                  အသေးစိတ်ရှင်းလင်းတင်ပြခဲ့ပါသည်။ ထို့ပြင် စက်ရုံ၏                  ဆောင်ရွက်ချက်များအား ဓာတ်ပုံမှတ်တမ်းများဖြင့်                  ရှင်းလင်းတင်ပြခဲ့ပါသည်။</p>	
<p>U Aung Ngwe (ရုံးအဖွဲ့မှူး) ရွှေလင်ပန်း                  စက်မှုဇုန်စီမံခန့်ခွဲရေးရုံး</p>	<p>ပတ်ဝန်းကျင်ဆန်းစစ်မှုအစီရင်ခံစာပါ အချက်များအား စက်ရုံအနေဖြင့်                  အမှန်တကယ်လိုက်နာဆောင်ရွက်သွားရန် လိုအပ်ပါကြောင်း အကြံပြု                  ဆွေးနွေးခဲ့ပါသည်။ စက်ရုံအနေဖြင့် ဝန်ထမ်းအင်အား များသည့်အတွက်                  ဝန်ထမ်းများ၏ ကျန်းမာရေးကို ဆရာဝန်နှင့် တစ်ပတ် (သို့မဟုတ်)                  တစ်လ လျှင် တစ်ကြိမ်ခန့် စမ်းသပ်စစ်ဆေးသင့်ပါကြောင်း                  အကြံပြုဆွေးနွေးခဲ့ပါ သည်။ အလုပ်သမားများနှင့် လုပ်ငန်းရှင်ကြား                  ပြဿနာဖြစ်ပွားမှု လျော့ နည်းစေရေးအတွက် အလုပ်သမား                  အသစ်ခန့်အပ်တိုင်း EC စာချုပ် ချုပ်ဆို သွားရန်                  အကြံပြုတင်ပြခဲ့ပါသည်။</p>	



**Environmental Management Plan**

<p>U Pyae Phyo Kyaw (ဒု-ရုံးအဖွဲ့မှူး) ရွှေလင်ပန်း စက်မှုဇုန်စီမံခန့်ခွဲရေးရုံး</p>	<p>စက်ရုံ၏ ရေမြောင်းစနစ်နှင့် ပတ်သက်၍ စက်ရုံဝင်းအတွင်းရှိ ရေမြောင်းများကိုသာမက စက်ရုံဘေးပတ်ဝန်းကျင်ရှိ ရေမြောင်းများအားလည်း ရေစီးဆင်းမှု ကောင်းစေရေး အလေးထားဆောင်ရွက်သင့်ကြောင်း အကြံပြု တင်ပြခဲ့ပါသည်။ Chemical ပစ္စည်းများ ထားရှိသည့် နေရာတွင် သတိပေးဆိုင်းဘုတ်များ ကပ်ထားသင့်ပါကြောင်းနှင့် စက်ရုံတွင် Fire Safety Manager ထားရှိသင့်ပါကြောင်း ဆွေးနွေးခဲ့ပါသည်။ ဝန်ထမ်းများအား မီးဘေးအန္တရာယ် ကာကွယ်ထိန်းချုပ်ရေး သင်တန်းများအား သက်ဆိုင်ရာ မီးသတ်ဌာနနှင့် ပူးပေါင်း၍ လေ့ကျင့်ပေးသင့်ပါကြောင်း အကြံပြုဆွေးနွေးခဲ့ပါသည်။</p>	
<p>U Htun Lin Kyaw Myanwei Environmental Solutions Company Limited</p>	<p>ဦးပြည့်ဖြိုးကျော်၏ တင်ပြဆွေးနွေးမှုများနှင့် ပတ်သက်၍ စက်ရုံ၏ Chemical ပစ္စည်းများ သိုလှောင်သည့်နေရာတွင် သတိပေးဆိုင်း ဘုတ်များ ထားရှိပါကြောင်း၊ MSDS၊ လိုင်စင်အထောက်အထားများ အား အစီရင်ခံစာတွင် ထည့်သွင်းဖော်ပြသွားမည် ဖြစ်ကြောင်း ပြန်လည်ရှင်းလင်းဆွေးနွေးခဲ့ပါသည်။</p>	

**Environmental Management Plan**

<p>U Kyaw Soe (Assistant Director) Environmental Conservation Department</p>	<p>ဤ အစီရင်ခံစာ ရေးဆွဲတင်ပြရသည့် အကြောင်းအရင်းများ၊ Procedure နှင့် Process များအား ရှင်းလင်းတင်ပြပြီး အတည်ပြု ချက်ရရှိပြီးပါက ECC လက်မှတ်ရရှိမည် ဖြစ်ကြောင်း၊ ဖိနပ်ကော်ကပ်ခြင်း မှ ညှော်နံများ ထွက်ရှိနိုင်သဖြင့် အလုပ်သမားများ၏ ကျန်းမာရေးကို ထိခိုက်နိုင်သောကြောင့် ဘေးကင်းလုံခြုံမှုရှိစေရေး စီမံဆောင်ရွက်ထား သင့်ပါကြောင်း၊ အတည်ပြုချက်ရရှိပြီးပါက Monitoring report ဆက်လက်ဆောင်ရွက်ရမည်ဖြစ်ကြောင်း၊ ယခုလက်ရှိ Data နှင့် Monitoring report ရှိ Data များအရ Impact များအား နှိုင်းယှဉ် ဖော်ပြရမည် ဖြစ်ကြောင်းနှင့် သိရှိလိုသည်များ မေးမြန်းနိုင်ပါကြောင်း ဆွေးနွေးပြောကြားခဲ့ပါသည်။</p>	
<p>U Tin Tun Naing (Purchase Department Head) Gold Emperor (Myanmar) Co., Ltd.</p>	<p>တက်ရောက်ပေးပါသော လူကြီးမင်းများအား အထူးကျေးဇူးတင်ရှိပါ ကြောင်းနှင့် လူကြီးမင်းတို့၏ ဆွေးနွေးအကြံပြုချက်များအား လေးစား လိုက်နာဆောင်ရွက်သွားမည်ဖြစ်ပါကြောင်း ပြောကြားခဲ့ပါသည်။</p>	

## **8. CONCLUSION & RECOMMANTATION**

### **8.1. CONCLUSION**

Environmental Management Plan (EMP) has been prepared for Gold Emperor (Myanmar) Company Limited factory is located Land Plot No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region. The main objective of the study is focused specially on the required environmental management measures or creating environmentally friendly workplace. An EMP has been carried out for the factory according to the requirement of the proponent as it has been made for garment product manufacturing factory.

Thus, the factory management can take proper mitigation steps against adverse environmental impacts by following this EMP. The necessary measure to mitigate impact regarding different environmental parameter such as air, water, waste, noise has been proposed in this EMP.

However, all necessary implementation measures to mitigate adverse environmental, health and safety impacts have already been taken to meet National Environmental Quality (Emission) Guidelines (2015). On the other, the factory has positive impacts in terms of environmental in the operation phase. Further, this will indirectly help in boosting up the national economic condition through foreign investment. An outline of EMP has been given in the present report to mitigate/enhance the impacts, which occurs during operation phase of the factory.

The effective implementation of the mitigation measures proposed will ensure towards good environmental management within the proposed project area. Furthermore, the environmental monitoring plan prepared as part of the EMP will provide adequate opportunities to address any residual impacts during the operation phase.

In conclusion, it has been figured out that, the proposed garment factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

### **8.2. RECOMMANTATION**

This is recommended that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should be implemented throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to YCDC rules and regulation
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.
- Daily, monthly and annual action plan shall be formulated based on this EMP and practiced at operation level.
- Keep full records of environmental management activities and present to annual independent third-party environment audit.

**Environmental Management Plan**

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- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this EMP report. Once concerned authorities approve EMP, effective implementation of EMP by the project proponent is essential. The Project Proponent shall submit monitoring report to the Ministry every six (6) months, as provided in a schedule in the EMP. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

**Environmental Management Plan**

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## **9. REFERENCE**

- [1] General Administrative Department (Hlaing Thar Yar Township), Hlaing Thar Yar Township Data (2017).
- [2] Ministry of Natural Resources and Environmental Conversation (MONREC), "Environmental Impact Assessment Procedure" December 2015.
- [3] Ministry of Natural Resources and Environmental Conversation (MONREC), "National Environmental Quality (Emission) Guidelines" December 2015.



**APPENDIX A**  
**Company Registrations**



ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်  
Certificate of Incorporation

**GOLD EMPEROR (MYANMAR) CO., LTD.**  
Company Registration No. 119928001

မြန်မာနိုင်ငံကုမ္ပဏီများဥပဒေ ၂၀၁၇ အရ  
**GOLD EMPEROR (MYANMAR) CO., LTD.**  
အား ၂၀၁၉ ခုနှစ် ဧပြီလ ၁၁ ရက်နေ့တွင်  
အစုရှယ်ယာအားဖြင့် တာဝန်ကန့်သတ်ထား သည့် အများနှင့်မသက်ဆိုင်သောကုမ္ပဏီ  
အဖြစ် ဖွဲ့စည်းမှတ်ပုံတင်ခွင့်ပြုလိုက်သည်။

This is to certify that  
**GOLD EMPEROR (MYANMAR) CO., LTD.**  
was incorporated under the Myanmar Companies Law 2017 on 11 April  
2019 as a Private Company Limited by Shares.

ကုမ္ပဏီမှတ်ပုံတင်အရာရှိ

Registrar of Companies

ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန

Directorate of Investment and Company Administration





# Myanmar Investment Commission Permit



Form (3)

P000118

## THE REPUBLIC OF THE UNION OF MYANMAR

Myanmar Investment Commission

### PERMIT

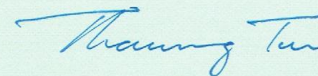
Permit No. 177/2019

Dated 8 August 2019

This permit is issued by the Myanmar Investment Commission in accordance with Section 25 (c) of the Myanmar Investment Law.

- (1) Investor Name MR. ZHU, JIANYONG
- (2) Citizenship CHINESE
- (3) Residential Address PUZHONG ROAD C11, TONGREN GARDEN LU CHENG DISTRICT, WENZHOU, ZHEJIANG, THE PEOPLE'S REPUBLIC OF CHINA
- (4) Name and Address of Principal Organization GOLD EMPEROR GROUP CO., LTD., NO.1288, 2<sup>ND</sup> BINHAI ROAD, ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE, WENZHOU, THE PEOPLE'S REPUBLIC OF CHINA
- (5) Place of Incorporation THE PEOPLE'S REPUBLIC OF CHINA
- (6) Type of Business MANUFACTURING OF VARIOUS KINDS OF SHOES ON CMP BASIS
- (7) Place(s) of Investment Project PLOT NO. 306,307,308,309, MYAY TAING BLOCK NO.25, SHWE LIN BAN SETHMU MYO, HLAING THAR YAR TOWNSHIP, YANGON REGION
- (8) Foreign Capital Amount US\$ 13.360 MILLION
- (9) Period for Foreign Capital to be brought in WITHIN TWO YEARS FROM THE DATE OF ISSUANCE OF MIC PERMIT
- (10) Total Amount of Capital (Kyat) EQUIVALENT IN KYAT OF US\$ 13.360 MILLION
- (11) Construction/Preparation Period 2 YEARS
- (12) Validity of Permit 50 YEARS
- (13) Form of Investment WHOLLY FOREIGN OWNED
- (14) Name of Company Incorporated in Myanmar GOLD EMPEROR (MYANMAR) COMPANY LIMITED



  
(Thaug Tun)  
Chairperson

# Directorate of Investment and Company Administration



DIRECTORATE OF INVESTMENT AND COMPANY ADMINISTRATION  
Myanmar Companies Online (MyCO)

HOME MYCO GUIDES COMPANY SEARCH HELP- LOGOUT WELCOME, GOLD EMPEROR (MYANMAR) SHOES CO.,LTD

## COMPANY PROFILE

+NEW FILING ORDER DOCUMENTS PRINT CERTIFICATE

<b>Company Name (English)</b> GOLD EMPEROR (MYANMAR) CO., LTD.	<b>Company Name (Myanmar)</b>	<b>Registration Number</b> 119928001	<b>Registration Date</b> 11/04/2019
<b>Company Type</b> Private Company Limited by Shares	<b>Status</b> Registered	<b>Foreign Company</b> Yes	<b>Small Company</b> -

FILING HISTORY ADDRESSES OFFICERS SHAREHOLDINGS COMPANY AUTHORITY MEMBERS DOCUMENTS

Document No.	Form/Filing Type	Filing Date	Effective Date
12633890011	A-1 - Application for incorporation as a private company limited by shares	10/04/2019	11/04/2019

FILING HISTORY ADDRESSES OFFICERS SHAREHOLDINGS COMPANY AUTHORITY MEMBERS DOCUMENTS

Type	Address	Effective Date
Principal Place Of Business In Union		11/04/2019
Registered Office In Union	SHWE LIN BAN INDUSTRIAL ZONE MYAY TAING BLOCK NO. 25, PLOT NO.306/307/308/309 HLAING THAR YAR TOWNSHIP, YANGON, Myanmar	11/04/2019

FILING HISTORY ADDRESSES OFFICERS SHAREHOLDINGS COMPANY AUTHORITY MEMBERS DOCUMENTS

Name	Type	Nationality	N.R.C. (For Myanmar Citizens)	Effective Date
ZHU JIANYONG	Director	China	E72494397	11/04/2019
ZHU YEZHEN	Director	China	EA7467132	11/04/2019

### Officer Details

Close

Officer Type	Appointment Date	Effective Date
Director	11/04/2019	11/04/2019
<b>Full Name in English</b>	<b>Former Name in English</b>	
ZHU JIANYONG		
<b>Full Name in Myanmar</b>	<b>Former Name in Myanmar</b>	
<b>Nationality</b>	<b>N.R.C. (for Myanmar citizens)/Passport(for foreign individuals)</b>	
China	E72494397	
<b>Other Nationalities, if applicable</b>	<b>Business Occupation</b>	
<b>Gender</b>	<b>Date of Birth</b>	
Male	12/01/1966	
<b>Phone number</b>	<b>Email address</b>	
0086-577-56999999	zq@goldemperor.com	
<b>Address</b>		
PUZHONG ROAD C 11, TONGREN GARDEN LUCHEG DISTRICT, WENZHOU, ZHEJIANG, China		

### Officer Details

Close

Officer Type	Appointment Date	Effective Date
Director	11/04/2019	11/04/2019
<b>Full Name in English</b>	<b>Former Name in English</b>	
ZHU YEZHEN		
<b>Full Name in Myanmar</b>	<b>Former Name in Myanmar</b>	
<b>Nationality</b>	<b>N.R.C. (for Myanmar citizens)/Passport(for foreign individuals)</b>	
China	EA7467132	
<b>Other Nationalities, if applicable</b>	<b>Business Occupation</b>	
<b>Gender</b>	<b>Date of Birth</b>	
Male	24/06/1988	
<b>Phone number</b>	<b>Email address</b>	
0086-577-56999999-77998	kevin@goldemperor.com	
<b>Address</b>		
SHANGPIN APARTMENT, 629 STATION AVENUE ROOM 1502, BUILDING 1 LUCHEG DISTRICT, WENZHOU, ZHEJIANG, China		

FILING HISTORY	ADDRESSES	OFFICERS	SHAREHOLDINGS	COMPANY AUTHORITY	MEMBERS	DOCUMENTS
Total Shares Issued by Company 300000		Currency of Share Capital USD				
<b>ULTIMATE HOLDING COMPANY</b>						
Company Name		Registration Number			Jurisdiction of Incorporation	
<b>SHARE CAPITAL STRUCTURE</b>						
Share Class	Class Title	Total No. Shares	Total Amount Paid	Total Amount Unpaid		
ORD	Ordinary	300,000	1,000	29,999,000		

FILING HISTORY	ADDRESSES	OFFICERS	SHAREHOLDINGS	COMPANY AUTHORITY	MEMBERS	DOCUMENTS
Account Number	Account Name	Status	Request Date	Authority Start Date	Authority End Date	
112799763	GOLD EMPEROR (MYANMAR) SHOES CO.,LTD	Active	08/04/2019	08/04/2019	<a href="#">Revoke</a>	

FILING HISTORY	ADDRESSES	OFFICERS	SHAREHOLDINGS	COMPANY AUTHORITY	MEMBERS	DOCUMENTS
<b>Individual Members</b>						
Name	Nationality	N.R.C / Passport Number				
<b>Corporate Members</b>						
Name	Registration Number	Jurisdiction Of Incorporation				
GOLD EMPEROR GROUP CO., LTD.	91330301609311239Y(2/2)	China				

FILING HISTORY	ADDRESSES	OFFICERS	SHAREHOLDINGS	COMPANY AUTHORITY	MEMBERS	DOCUMENTS
Type	Form	Date				
Copy of Officers ID's	A-1 - Application for incorporation as a private company limited by shares	11/04/2019				
Certificate of Incorporation	A-1 - Application for incorporation as a private company limited by shares	11/04/2019				

## Member Details

Close

### Company Name

GOLD EMPEROR GROUP CO., LTD.

### Registration Number

91330301609311239Y(2/2)

### Jurisdiction Of Incorporation

China

### Address

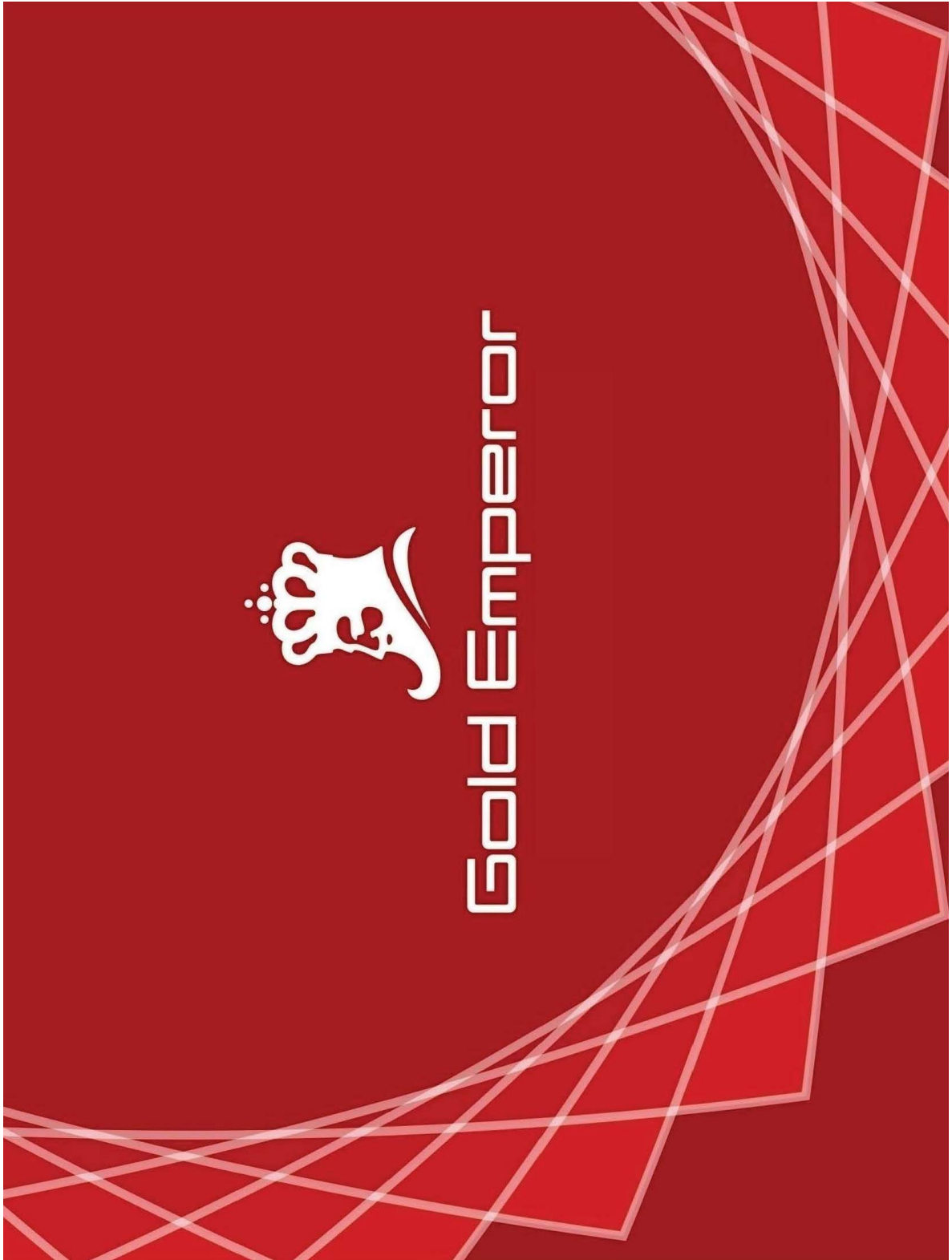
THE 2ND ROAD , BINHAI WENZHOU  
ECO.& TECH.DEV.ZONE  
NO.1288  
-, ZHEJIANG, China

## Shareholdings

Share Class	Class Description	Total No. Shares	Total Amount Paid	Total Amount Unpaid
ORD	Ordinary	300,000	1,000	29,999,000



## Gold Emperor's Company Profile



## **Mission & Vision**

### **Core value & Management principle**



#### **Mission:**

Offering our customers footwear products with optimal cost-performance ratio.

#### **Vision:**

To be the world leading footwear manufacturer; Continuously create values for our customers, shareholders and the society, Also, constantly improve the living standard of our employees.

#### **Core value & Management principle:**

- 1, Good faith and Integrity;
- 2, Orientated by market and centering on customer;
- 3, Quality equals to the self-respect of every employee of Gold Emperor,  
it is also the foundation of the enterprise's vitality;
- 4, High efficient execution;
- 5, Encourage innovation, continuous improvement;
- 6, Teamwork Spirit, Joint Development, Sharing of Success.

## Company Profile



Gold Emperor Group Co., Ltd. was established in 1993 at Wenzhou Eco. & Tech. Dev. Zone. The company is a footwear manufacturer integrating R&D and production with total building area 235,000m<sup>2</sup>, 22 production lines, and 6,500 employees at moment. Our annual production capacity is 25 million pairs.



Gold Emperor Group Headquarters Overview





## Development History

**1986**

Mr. John Zhu initially built a small family workshop which covered 100m<sup>2</sup> only. And at that time, he concurrently worked as designer, purchaser, manager and salesman etc.

**1993**

He introduced the first production line from Taiwan, the factory came into shape preliminarily, and Wenzhou Gold Emperor Shoes Co., Ltd. was established.

**1995**

Gold Emperor Shoes Co., Ltd. was relocated to the new factory building at Wenzhou Eco. & Tech. Dev. Zone which had 3 production lines, and products were mainly sold to markets in China and Russia.

**1999**

Gold Emperor exited Russia market, and began to sell products to Japan and Spain.





## Development History

**2002**

We started cooperation with Paramont (Nine West), and got comprehensive training from them on product development, shoe production process, production technology and standard etc, and gradually established and improved our quality control system.

**2003**

Gold Emperor began to establish business cooperation relationship with Deichmann Group.

**2004**

We moved to the new factory located at Binhai Industrial Zone.

**2005-2014**

Cooperated with Deichmann Group only.

**2015 up to now**

Mainly working with Deichmann Group and Aldo Group.

# Production Headquarters



Our Production Headquarters is composed of Gold Emperor Group Co., Ltd. and Jinlong Branch located at Binhai Industrial Park of Wenzhou Eco. & Tech. Dev. Zone and has 5,000 employees and 22 assembling lines at moment.



Production Headquarters



Jinlong Branch



Headquarters Assembling Workshop

## Jinyi Branch



Jinyi brand: In 2014, we invested 5 million Yuan to renovate the old building. Now we have more than 1,000 employees there, and mainly process upper stitching.



Factory Building



Stitching Workshop



Stitching Workshop



## Leather Shoe Workshop



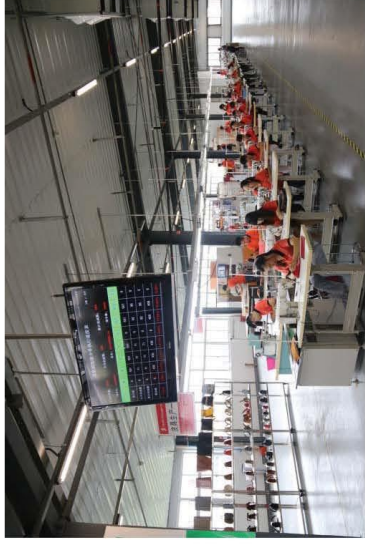
In order to meet market demand better, Gold Emperor established a leather shoe workshop in October, 2015, and specially hired skillful and experienced leather shoe technicians and management team, set up two leather shoe production lines, specializing in producing all kinds of lady's leather shoes.



## Bag Production Line



In order to enrich our product categories, in 2018, we set up the first bag production line equipped with advanced automation edge-inking machine with capability to produce various bags in different level.

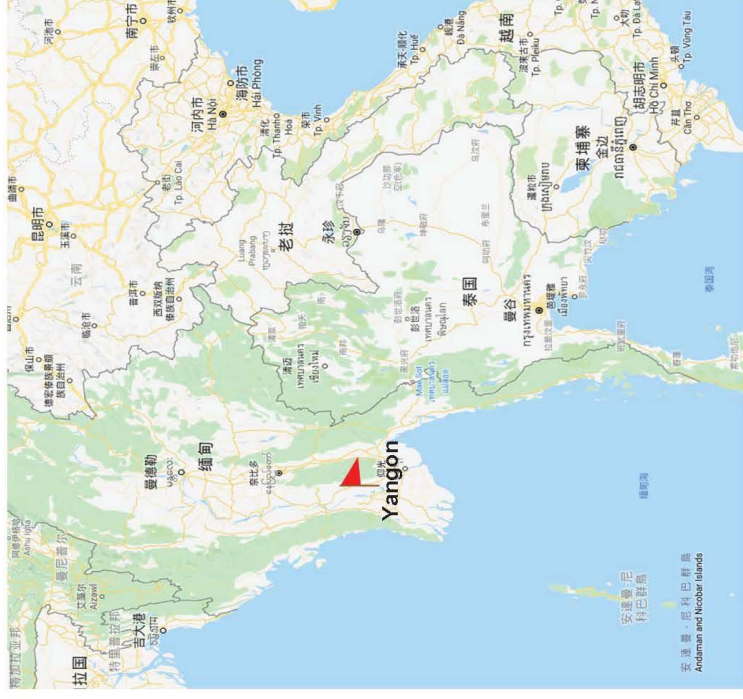




## New Factory in Southeast Asia



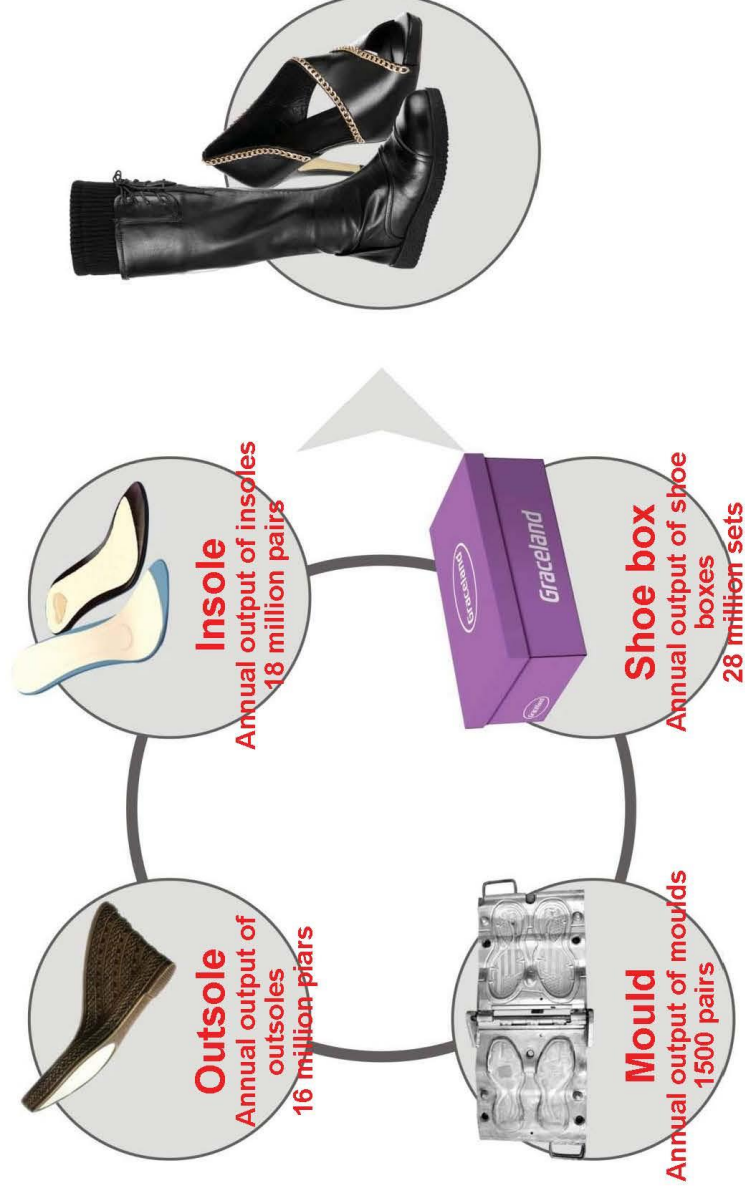
Due to the continuous increase of labor cost year by year in China, to share the advantage of labors and EU duty-free preferential policy for the imports from some countries of Southeast Asia, and to keep the competitiveness of our products, Gold Emperor Group is building a new factory with building area 40,000 square meters and scale of 10 production lines located at Yangon, Myanmar. The new factory is planned to start footwear and bag production latest at end of 2019.



# Upstream Supply Chain



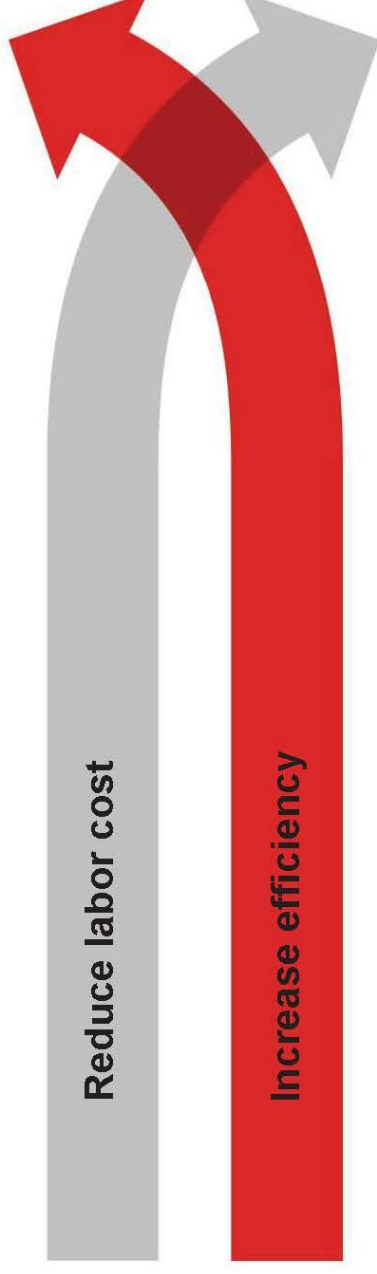
Since 2008, Gold Emperor started to expand upstream supply chain, including outsoles, insoles, moulds and shoe boxes.





## Technology Innovation

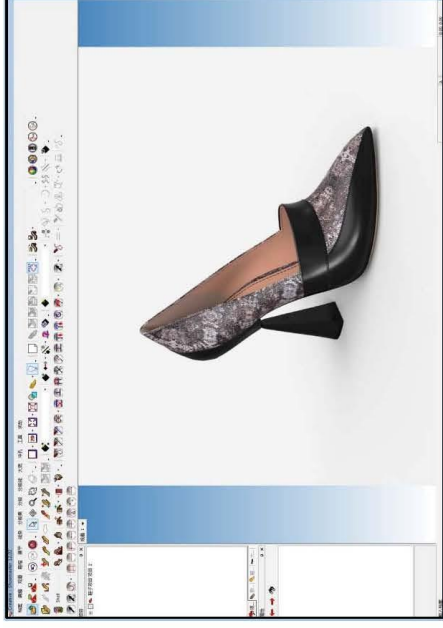
In recent years, with the continuous increase of labor cost in China, the price competition pressure we are facing is higher and higher. Therefore, we have taken some innovative measures in regards to cost & labor reducing and efficiency improvement etc., and have gotten some achievements.



## Technology Innovation



The company has a R&D and sample-making team with more than 300 employees, daily output of samples 120 pairs, and annually developed new products more than 5,000 styles.



Gold Emperor has adopted Shoemaster design software and 3D+ software to develop new products.



Development efficiency is improved by using the Shoemaster design software and cutting machine together.

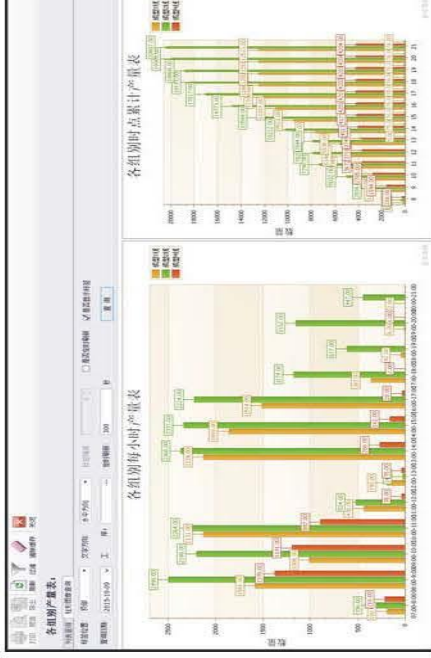
# Technology Innovation



## RFID quality traceability system



RFID technology can follow the whole course shoe production processes and trace abnormal quality point to point, thus enhance employees' responsibility.



Through the data collected by RFID, we can realtime check the dynamic information of production execution.



# Intelligent Logistics

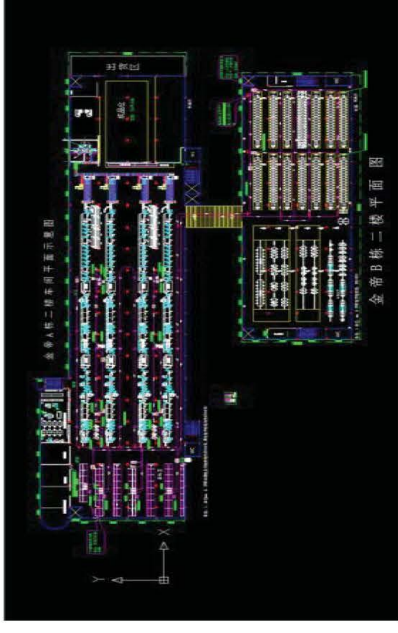


## AGV Intelligent Vehicle

AGV intelligent vehicle is a wheeled mobile robot equipped with an electromagnetic or optical automatic steering apparatus, traveling along the guided path, namely, an unmanned vehicle that can provide a variety of transfer functions.



AGV small vehicle already has a successful pilot to send glue, uppers and shoe components at our assembling workshops.



AGV is planned to apply for material distribution and transportation in each of our workshop, replacing manual carrying.



# Intelligent Logistics



## Automatic Packing & Transferring – Intelligent Spatial Warehousing System.

In the end of 2014, we invested more than 10 million Yuan on “Automatic Packing & Transferring – Intelligent Spatial Warehousing System”, achieving unmanned operations such as automatic packing, robot arm piling, spatial warehouse storage, intelligent warehouse entering and exit, which greatly reduced labor intensity and mover.



Robot palletizer in automatic packing system.



Spatial warehouse, saving space and labor.



## Automatic Equipments

Each year, we keep investing in automatic and intelligent production equipments to constantly improve product quality and efficiency and reduce labor.



Computer Stitching Machine



Laser Machine



Automatic Cutting Machine



Automatic Shoebox Folding Machine



Punching Machine

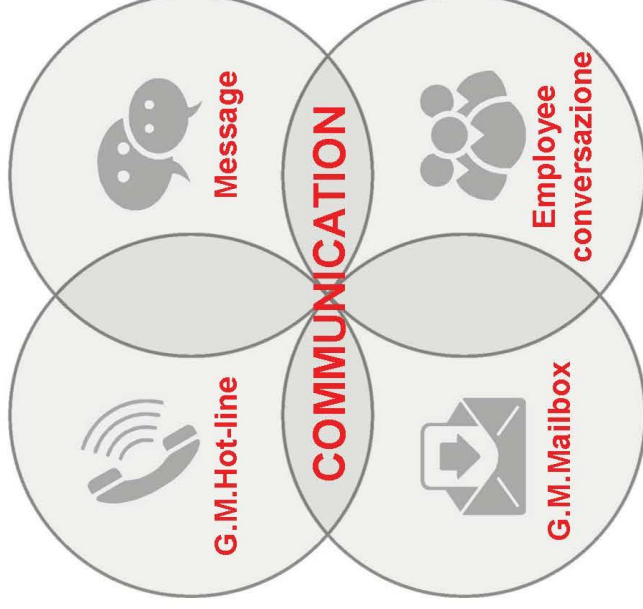


Color Printing Machine

# Caring for employees



## Listening-Communication-Improvement Communication Channel



Employee representatives meeting



Gold Emperor had established a "charity foundation" which by far has aided more than 300 needy employees to solve their extremely urgency in life.



## Gold Emperor “Family” Culture



Gold Emperor also held various activities to enrich employees' spare time after satisfying their eating, accommodation and transportation etc.



Caring for employees' kids



Employees from different minorities

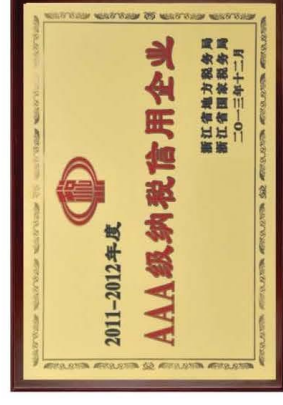
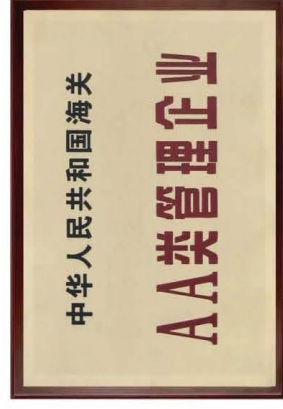


Golden Autumn Banquet Performance

## Enterprise Honors



Gold Emperor has passed certification of the ISO9001 quality management system, the ISO14001 environment management system, the audit of BSCI and Disney, and has won such honors as “The Customs AA Type Management Enterprise” and “AEO Enterprise” issued by China General Administration of Customs, “Credit Management Grade AA Enterprise” issued by State General Administration of Quality Supervision and “Grade AAA Tax Payment Credit Enterprise” issued by Zhejiang Province Tax Bureau.





# APPENDIX B

## Letter of Undertaking

### Letter of Undertaking

To  
Chairman  
Myanmar Investment Commission

Dear Sir,

**After the issuance date of the Myanmar Investment Commission Endorsement:**

Gold Emperor (Myanmar) Co., Ltd. shall abide by Responsibilities of Investors as per Section 65 and Insurance as per Section 73 of Myanmar Investment Law 2016.

We, Gold Emperor (Myanmar) Co., Ltd. undertakes that our company will perform the permitted investment for 50 years in accordance with the Myanmar Investment Law 2016.

We, Gold Emperor (Myanmar) Co., Ltd. undertakes that our company shall pay due income taxes in accordance with the Union Tax Law 2018 for employees whose salary exceeds more than Myanmar Kyats 4,800,000 per year.

**With this undertaking letter, our company has declared the followings:**

Our intended factory will be located at Plot No. (306, 307, 308, 309), Myay Taing Block No. 25, Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region . Our type of business is Manufacturing Of various kinds of Shoes on CMP Basis.

Raw Materials will be imported from China and finished goods will be exported to EU countries and the United States

We will need 2 years of Construction Period before the Commencement of Operation.

We, hereby, grant, Daw Shwe Pyae Eain (NRC No. 12/Ba Ha Na(N) 099750), (Contact +95 9 421016798 as an authorized person to perform the matter of Power of Attorney on behalf of Gold Emperor (Myanmar) Co., Ltd.

Sincerely Yours,



Mr. Zhu Jianyong  
Promoter  
Gold Emperor (Myanmar) Co., Ltd.

### **Fire Safety and Evacuation Plan**

Gold Emperor (Myanmar) Co., Ltd. shall abide by the guidelines and instructions of Myanmar Fire Services Department and obtain any required license or permit from Myanmar Fire Services Department.

In case of emergency, fire hoses will be equipped with emergency water pumps with the supply of water from underground water tanks. Fire extinguishers will be placed at various standby positions. Fire Drill Instructions and Evacuation Plan will be posted at every sections of the factory. At the beginning of every month, Fire Safety Officers will conduct Fire Drill Practice and demonstrate how to use fire prevention equipment.

### **Environmental Control Plans**

We will follow in accordance with Law, Regulation, Procedure and Directives Prescribed for environmental control. Gold Emperor (Myanmar) Co., Ltd. shall be have responsible for the protection as well as perseveration of environment in and around the area of the project site Gold Emperor (Myanmar) Co., Ltd. shall be able to control pollution of air, water and land and not to cause environment degradation. Our Company takes necessary measures in order to fulfill environmental protection. The Factory grounds as well as the approach roads will have suitable shady side walks, flowering plants and trees and ever green labours.



Mr. Zhu Jianyong  
Promoter  
Gold Emperor (Myanmar) Co., Ltd.

# APPENDIX C

## Employee's Welfare Plan

### Gold Emperor (Myanmar) Co., Ltd. Employees' Welfare Plan

Gold Emperor (Myanmar) Co., Ltd. is a 100% Foreign investment established under the Myanmar Investment Law and the Myanmar Company Law, whose registered office is situated at Plot No. (306, 307, 308, 309), Myay Taing Block No. 25, Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region. The company aimed to produce and Manufacturing Of various kinds of Shoes on CMP Basis with a number (3638) of staff. In order that the staff may enjoy proper welfare commensurate with that of a prestigious company set up a plan for its employees as it's .....

1. Staff Transportation  
For all employees who live far away from the factory, commuter buses will be rented by the company and the staff will be transported free of charge.
2. Uniform  
All employees would be supplied with uniforms free of charge twice a year
3. Health Care  
An infirmary will be set up within the factory compound and stocked with appropriate medicines. Qualified nurses will be hired by the company so that in emergency cases employees could be treated free of charge. In addition, a water purification system will be installed for staff drinking water. Appropriate sanitation facilities will be installed in the factory and regular disinfection work carried out.
4. Risk Prevention  
Evacuation plan in case of emergency would be drafted and explained to all employees so that in case of emergency namely: earthquake, fire and other natural or manmade disasters injury or death could be avoided.
5. Bonus  
Based on the performance of the company, annual bonus will be declared and paid out to each employee before the Myanmar New Year (Water Festival). The amount of bonus will be in accordance with the amount of profit earned by the company.
6. Training  
On job training course for un-skill and semi-skill workers will be arranged three times per year. Off job training for skill workers and middle management level will be sent to relevant training centers. Occasionally, potential workers would be dispatched to overseas training in developing countries.

7. Hostel (Accommodation)

We, Gold Emperor (Myanmar) Co., Ltd. will be provided accommodation for our senior management level employees and based on the labour law of the country, other benefits such as leave (sick leave, annual leave etc.) would be drawn up and included in the Employees' welfare plan accordingly.

With Best Regards,

A handwritten signature in black ink, appearing to be 'Zhu Jianyong', written in a cursive style.

Mr. Zhu Jianyong  
Promoter  
Gold Emperor (Myanmar) Co., Ltd.

## APPENDIX D

### Corporate Social Responsibility Planning (CSR Plan)

#### Gold Emperor (Myanmar) Co., Ltd.

#### Corporate Social Responsibility Plan

We, Gold Emperor (Myanmar) Co., Ltd. will contribute 2% of our Net Profit to social welfare activities that will help society and country of Myanmar. Our social welfare activities shall include training of our employees such as on job training to be more qualified, language (English, Chinese) training on weekends with experienced teachers and providing necessary healthcare such as medical checkups and giving proper medical knowledge about diseases and its prevention. Part of our CSR activity such as donations will also contribute to public school around our factory.

No	Partical	Contribution %
1	Public School	0.5%
2	Non-profit Training	1%
3	Employees ( Healthcare )	0.5%

#### Proposed Corporate Social Responsibility Activities

##### Public School

We will contribute 0.5% of our net profit to the public school near the factory to be a part of creating the better community. We will also work together with the school to understand more about the needs and we will also ensure that our contributions will be used in the most effective and efficient way for the society.

##### Non-profit Training

We will contribute 1% of our net profit for the trainings of our Employees. Our trainings include job-related trainings, language trainings and safety trainings. The main objective of our trainings are that we want our product with their work but also improving their other skills such as language and promoting knowledge about safety measures and occupational health employees to be not only become more productive and more qualified.



Healthcare

One of our main concern is the well-being of our employees. We will contribute 0.5% of our net profit for the healthcare which includes medical checkup for the employees and providing health education to our workers.

With Best Regards,

A handwritten signature in black ink, appearing to be 'Zhu Jianyong', written over a faint, light-colored watermark or background.

Mr. Zhu Jianyong  
Promoter  
Gold Emperor (Myanmar) Co., Ltd.

# APPENDIX E

## Monitoring Result

### Air Result



No (28), Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.  
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	Gold Emperor (Myanmar) Company Limited
Project Location:	Land Plot No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region
Sampling Date:	December 27, 2022
Sampling Time:	10:00 AM to 4:00 PM
Sampling Condition:	
Sampling By:	Environmental Team Represented by Myanwei Environmental Solutions Company Limited.

Instrument	Type	Sampling Rate	Location
OCEANUS-AQM-09	Environmental Perimeter Air Station	1 second to 21 weeks	Operation Area

#### National Environmental Quality (Emission) Guideline

Parameter	Averaging period	Guideline value	Unit
PM <sub>10</sub> <sup>a</sup>	1-year	20	(µg/m <sup>3</sup> )
	24-hour	50	
PM <sub>2.5</sub> <sup>b</sup>	1-year	10	(µg/m <sup>3</sup> )
	24-hour	25	
O <sub>3</sub>	8 hour	100	(µg/m <sup>3</sup> )
NO <sub>2</sub>	1-year	40	(µg/m <sup>3</sup> )
	1-hour	200	
SO <sub>2</sub>	24-hour	20	(µg/m <sup>3</sup> )
	10-min	500	

a. Particulate matter 10 micrometer or less in diameter  
b. Particulate matter 2.5 micrometer or less in diameter

#### Monitoring Result

Parameters	Observed value	Guideline value	Unit	Organization	Period
<b>Air Quality Monitoring</b>					
PM <sub>10</sub>	16.06	50	µg/m <sup>3</sup>	NEQG	24 - hour
PM <sub>2.5</sub>	10.89	25	µg/m <sup>3</sup>	NEQG	24 - hour
SO <sub>2</sub>	0.10	20	µg/m <sup>3</sup>	NEQG	24 - hour
NO <sub>2</sub>	11.28	200	µg/m <sup>3</sup>	NEQG	1 - hour
CO <sub>2</sub>	2.25	-	ppm	NEQG	-
CO	0.36	-	ppm	NEQG	24 - hour
O <sub>3</sub>	3.36	-	µg/m <sup>3</sup>	NEQG	8 - hour

**LIN HTET SEIN**  
**DIRECTOR**  
**MYANWEI ENVIRONMENTAL SOLUTIONS**  
**COMPANY LIMITED.**

## Light Result



No (28), Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.  
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting .com

Project Name:	Gold Emperor (Myanmar) Company Limited
Project Location:	Land Plot No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region
Sampling Date:	December 27, 2022
Sampling Time:	10:00 AM to 4:00 PM
Sampling Condition:	
Sampling By:	Environmental Team Represented by Myanwei Environmental Solutions Company Limited.

Instrument	Type	Sampling Rate	Location
Unit-T (Luminometer)	UT380 Series	100 times/second	Operation Area

No.	Measure area	Unit	Result	Standard	Remark
1	Cutting Area	Lux	707	1000	Normal
2	Warehouse	Lux	113.2	300	Normal
3	Quality Control	Lux	961	600	Slightly Above
4	Sewing Area	Lux	970	600	Slightly Above
5	Packing Area	Lux	614	600	Slightly Above

### IESNA Lighting Handbook

Department	Type of Light	Wattage of Light	Lux Level
Warehouse	Fluorescent tube light	40W	300
Sewing floor	LED tube light	20 W (T8)	400
Cutting floor	LED tube light	22 W (T8)	1000
Finishing	LED tube light	28 W (T8)	600
Inspection points	LED tube light	28 W (T8)	900 (expect 1500 at audit tables)
Sampling	LED tube light	22 W (T8)	500
Office areas	Fluorescent tube light	36 W (T)	300

**LIN HTET SEIN**  
DIRECTOR  
MYANWEI ENVIRONMENTAL SOLUTIONS  
COMPANY LIMITED.

## Noise result



(28), Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.  
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting .com

Project Name:	Gold Emperor (Myanmar) Company Limited
Project Location:	Land Plot No. (306, 307, 308, 309), Myay Tine Block No. (25), Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region
Sampling Date:	December 27, 2022
Sampling Time:	10:00 AM to 4:00 PM
Sampling Condition:	
Sampling By:	Environmental Team Represented by Myanwei Environmental Solutions Company Limited.

Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30-130 dB	16°54'54.35"N 96° 4'27.77"E

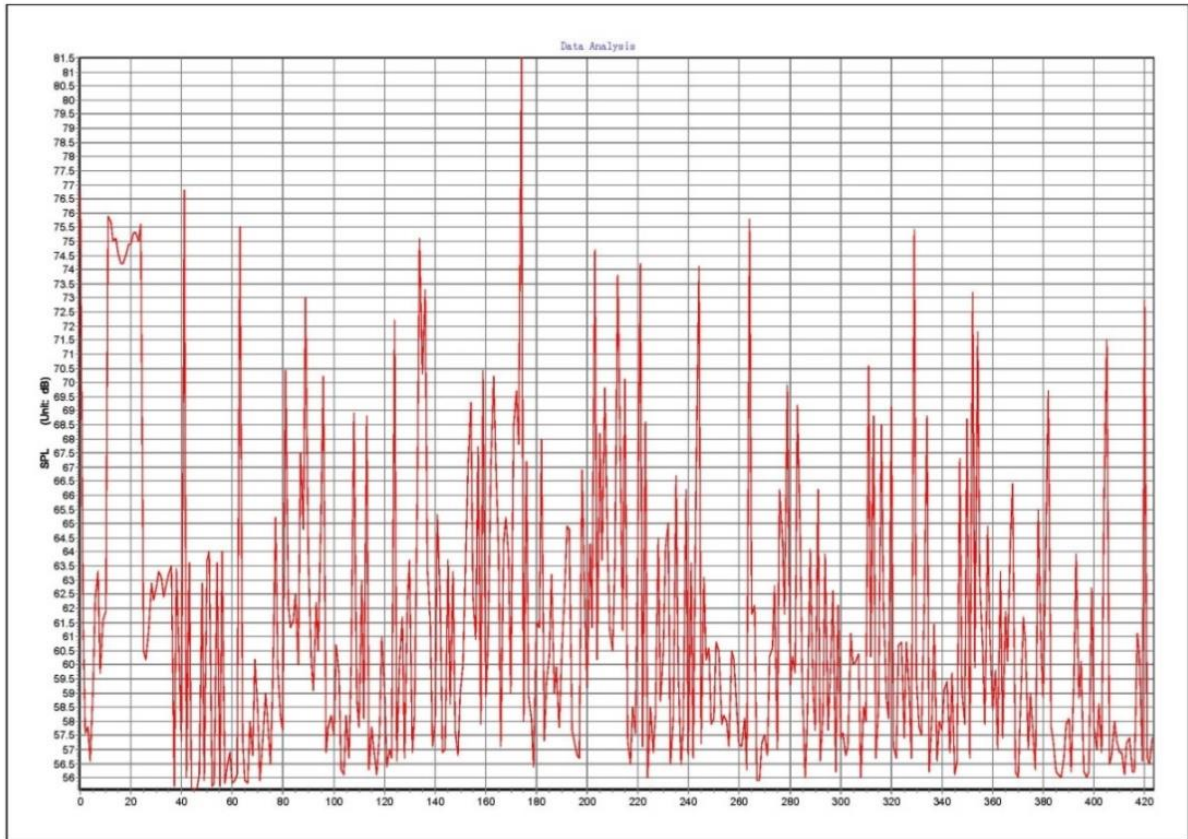
No.	Place	Unit	Result	Standard	Remark
1.	Sewing Area	dBA	61.35 dBA	70 dBA	Normal

### National Environmental Quality (Emission) Guideline

Receptor	One Hour Laeq (dBA)	Guideline value
	Daytime	Nighttime
	7:00-22:00 (10:00-22:00 for public holidays)	22:00-07:00 (22:00 -10:00 for public holidays)
Residential, Institutional, Educational	55	45
Institutional, Commerical	70	70

LIN HTET SEIN  
DIRECTOR  
MYANWEI ENVIRONMENTAL SOLUTIONS  
COMPANY LIMITED.

# Monitoring Graph







မူရင်း

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ  
ဆောက်လုပ်ရေးဝန်ကြီးဌာန၊ မြို့ရွာနှင့်အိုးအိမ်ပုံ၊ မြို့ရေးဦးစီးဌာန



မြို့ ရန်ကင်း.....

ညွှန်ကြားရေးမှူးချုပ်

ဦးပင်လျှော်



၆၆၂ ၀၆၂၀

ညွှန်ကြားရေးမှူးချုပ်

ဒုတိယ ညွှန်ကြားရေးမှူးချုပ်

ဦးစင်စိန်

၇/၁၀

ဒုတိယညွှန်ကြားရေးမှူးချုပ်

ညွှန်ကြားရေးမှူး

ဦးရွှေအောင်

တို့

၇/၁၀

ညွှန်ကြားရေးမှူး

ရွှေမှောက်၌ ခပ်ပိုင်၍ အဆိုပါ ညွှန်ကြားရေးမှူးချုပ်၊

ဒုတိယညွှန်ကြားရေးမှူးချုပ်နှင့် ညွှန်ကြားရေးမှူးတို့ လက်မှတ်ရေးထိုးသည်။

အသိသက်သေ

ဒုတိယညွှန်ကြားရေးမှူး(မြေနှင့်အခွန်)

ဦးမြင့်လွင်

အငှားစာချုပ်ရသူ ဦး ရှုတ် (အလှူအတန်း) ဦးမြင့်လွင် က လက်မှတ်ရေးထိုးသည်။

၆၆၂ ၀၆၂၀  
အငှားစာချုပ်ရသူ

အသိသတ်သေ

၁၆ ဦးမြင့်လွင်၊ ၁၅ ညွှန်ကြားရေးမှူးချုပ်၊ ၁၅ ညွှန်ကြားရေးမှူးချုပ်၊ ၁၅ ညွှန်ကြားရေးမှူးချုပ်

၇/၁၀

(အငှားစာချုပ်)

အထက်တွင် ရည်ညွှန်းထားသည့်အတိုင်း

အငှားစာချုပ်ရသူ

နှင့်မြေဦး မြေပုံဖြစ်သော လူနေရပ်ကွက်အမှတ် ၂၅၅ နှင့် ၂၅၆

မြေတိုင်းရပ်ကွက်အမှတ် ၂၅၅

..... ဦးစောကြီး/မြည်နယ်၊ ..... ဦးစောကြီး၊ ခရိုင်/မြို့နယ် အတွင်းရှိ ..... တန်းစား

မြေကွက်အမှတ် ၂၅၅၊ ၂၅၆ ဖြစ်သည့် မူးတွဲပါမြေပုံနှင့် မှင်နီမြေ ပြထားသော အလှူအတန်း ..... ၅၅၆ ဝေ

အနံ ၅၀၀ ..... ပေ ခန့်ရှိသော အလှူအတန်း -

အရှေ့လားသော် ..... လမ်း၊

အနောက်လားသော် ..... မြေကွက်အမှတ် ၂၀၆၊ ၂၀၇

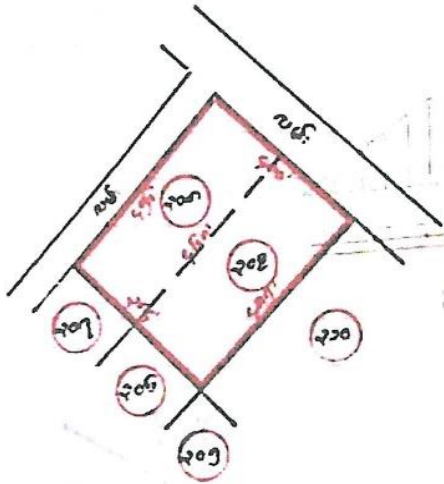
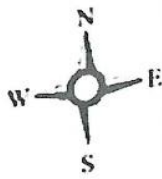
တောင်လားသော် ..... မြေကွက်အမှတ် ၂၀၅၊ ၂၀၈

မြောက်လားသော် ..... လမ်း၊

အတွင်းရှိ မြေအလှူအတန်း ..... ၅၅၆ ဝေ ( ၀ တွဲရန်ပေး ၅၅၆ ဝေ )



စာတမ်း



၂၀၁၃ / ၁၄ ခုနှစ်သုံး ပြေပုံ/မြေ ပြေစာရင်းမှ ရေးကူးသော  
မှန်ကန်ကြောင်း သက်သေခံသည့် မြေပုံစာရင်းပြ

စာမည်ပေါက် **ဒီးပွင့် (၁) အေဇဂျက် (၁) ဒီးပွင့်ဘွေ**

မြေတိုင်းရပ်ကွက်အမှတ် **၂၅**

လူနေရပ်ကွက်အမှတ် **ဂျော်ပျံ**

မြေကွက်အမှတ် **၃၀၈ + ၃၀၉**

မြေအမျိုးအစား **နှစ် (၆၀) / ဖြေငှာအချဉ်**

စာလုံး... **၄၀၀** ... အနံ့ ... **၄၀၀** ...  
ဧရိယာ **၂၇၀၂၇.၀၀** စတ **၄.၀၈၇**

မြို့နယ် **ကျိပ်သာ**

စကေး **၁ ကမ္ဘာ = ၃၀၀ မေ**

ထုတ်ပေးသည့်အခွဲအမှတ်

*(Signature)*  
(အကြီးအကဲ) **ဒေါ်အိန်းခင်**  
အမှတ် - **၄**  
မြေပုံစာရင်း **၄၁၃၉**

*(Signature)*  
အကြီးအကဲ **ဒေါ်အိန်းခင်**  
အမှတ် - **၄**  
မြေပုံစာရင်း **၄၁၃၉**











၂၀၁၃ / ၁၄ ခုနှစ်သုံး ပြေပုံ/မြေ ပြေစာရင်းမှ ရေးကူးသော  
ကောက်ခံချက်မိတ္တူပြေပုံ/မြေပုံစာရင်းပြစ်၍ တိကျမှန်ကန်ကြောင်း  
ထောက်ခံပါသည်။ (မြေပုံစာရင်းအမှတ် ၄၁၃၉)

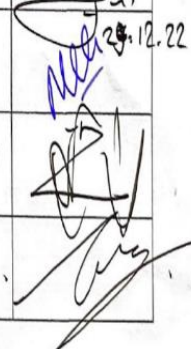
**APPENDIX G**  
**Public Consultation Meeting**

**GOLD EMPEROR (MYANMAR) COMPANY LIMITED**

လူထုတွေ့ဆုံဆွေးနွေးပွဲအခမ်းအနားသို့တက်ရောက်သူများစာရင်း

နေ့စွဲ - ၂၉ရက်၊ ဒီဇင်ဘာလ၊ ၂၀၂၂ ခုနှစ်



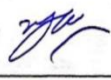

စဉ်	အမည်	ရာထူး	ဌာန/အဖွဲ့အစည်း	ဆက်သွယ်ရန်ဖုန်းနံပါတ်	လက်မှတ်
၁။	ဦး ဒေါက်စွာ	ဦးစွာ	စီမံခန့်ခွဲရေးဦးစီးဌာန	441488986	
၂။	ဦးဗြဟ္မာဗြူးကျော်	ဗဟိုအဖွဲ့	စီမံခန့်ခွဲရေးဦးစီးဌာန	09253554759	
၃။	ဦးကျော်ကျော်	စာအုပ်ရေးဆရာ	ဒေါက်တာ	0989334179	
၄။	ဦးကျော်စွာ	A D	ပူးတွဲရေးဦးစီးဌာန	0943129763	
၅။	ဦးစောစိုင်းဝင်း	ဦးစီး	"	09-78586654	
၆။	ဒေါ်သင်းသင်းစု	ဒုတိယဦးစီး	"	09450063187	
၇။	ဒေါ်ဝင်းဝင်းစိမ်း	HR & Admin Manager	Gold Emperor (Myanmar) Co Ltd.	09799197221	
၈။	ဦးခင်မာမာ	Safety & Health Officer	"	09-963668666	
၉။	Wang Hongshan	General manager	Gold Emperor (Myanmar) Co Ltd.	09. 886274961	
၁၀။	Pin Tun Ming	Purchase department head	"	09-258526833	

၂၉.၁၂.၂၂  


# GOLD EMPEROR (MYANMAR) COMPANY LIMITED

## လူထုတွေ့ဆုံဆွေးနွေးပွဲအခမ်းအနားသို့တက်ရောက်သူများစာရင်း

နေ့စွဲ - ၂၉ရက်၊ ဒီဇင်ဘာလ၊ ၂၀၂၂ ခုနှစ်

စဉ်	အမည်	ရာထူး	ဌာန/အဖွဲ့အစည်း	ဆက်သွယ်ရန်ဖုန်းနံပါတ်	လက်မှတ်
၁။	Lynn Thar Thung.	Environmental specialist	Myanwei Environmental Solutions	09-766077658	
၂။	Sa Myat Hlaing	Environmental Engineer	Myanwei	09-767135884	
၃။	Hkun Lin Kyaw	Environmental specialist	"	09-448841090	
၄။	Kaung Sett Lwin	Environmental Specialist	Myanwei Environmental Solutions Co., Ltd.	09787939673	
၅။					
၆။					
၇။					
၈။					
၉။					
၁၀။					





No. 49 (B), Inya Yeik Thar Street, Mayangone Township, Yangon Region, The Republic of the Union of Myanmar.  
 Office: (+95) 95185776, Mobile: (+95) 9421137569; Website: www.myanweiconsulting.com

ဖိတ်စာလက်ခံရရှိခြင်း

စဉ်	နာမည်	ဌာန/အဖွဲ့အစည်း	ဆက်သွယ်ရန်ဖုန်း	လက်မှတ်
X	၁. ဦးသန်းထွဋ်ဇော်	လုပ်ငန်း	၀၇-၄၄၃၁၆၀၇၇၁	
X	၂. ဦးအောင်စော	အလုပ်ရုံမှူး၊ အလုပ်သမား လစာခံစားရေးဦးစီးဌာန	၀၇-၇၆၀၅၄၈၇၇	
X	၃. ဒေါ်အောင်စန်း	လုပ်ငန်း	၀၇-၈၇၄၇၅၄ ၂၇	
✓	၄. မင်းဇင်ဦ	အိမ်ထောင်ရေးဦးစီးဌာန	၀၇-၂၅၄၆၃၃၆၃၀	
✓	၅. ဦးကျော်စွာ	အဖွဲ့အစည်း	၄၄၂၄၆၆၆၆	
✓	ECD			

၂၀၂၂-၂၀၂၃



**APPENDIX H**  
**Fire Fighting Train Certificate and Photos**

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ပြည်ထဲရေးဝန်ကြီးဌာန

မီးသတ်ဦးစီးဌာန



**မီးဘေးလုံခြုံရေးစစ်ဆေးထောက်ခံချက်**

အမှတ်စဉ်( ၂၅၂၅ )

ရက်စွဲ၊ ၂၀၂၀ ပြည့်နှစ်၊ မတ်လ ၂၃ ရက်  
 ၁။ ရန်ကုန် တိုင်းဒေသကြီး/ပြည်နယ်၊ လှိုင်သာယာ မြို့နယ်၊ မြေတိုင်းရပ်ကွက်အမှတ် (၂၅)၊  
 ရွှေလင်ဗန်းစက်မှုဇုန် ရပ်ကွက်/ကျေးရွာ၊ နဝဒေးမင်းကြီးလမ်းနှင့် ဆရာရမ်းလမ်းထောင့်  
 အမှတ် မြေကွက်အမှတ်(၃၀၆+၃၀၇)၊ ဝိုင်ရှင် ဦး/ဒေါ် GOLD EMPEROR (MYANMAR) CO., LTD ၏  
 Steel Structure (၃+၆)ထပ်+Lift ပါ (ဖိနပ်စက်ရုံ+ရိုးခန်း) အဆောက်အဦအတွက် ဤဌာန၏ (၂၂-၈-၂၀၁၉ )  
 ရက်စွဲပါ စာအမှတ်၊ ၁၆၆၁/ ၁၀၀ / ၅၂ / ဦး ၁ ဖြင့် သတ်မှတ်ပေးထားသည့် မီးဘေးလုံခြုံရေးဆိုင်ရာ  
 ပြဌာန်းချက်များအား ( ၁-၃-၂၀၂၀ )ရက်နေ့တွင် စစ်ဆေးသည့်အခါပြည့်စုံစွာဆောင်ရွက်ထားကြောင်း  
 စစ်ဆေးတွေ့ရှိရသည်။

- ၂။ ဤထောက်ခံချက်သည် စစ်ဆေးသည့်နေ့မှစ၍ (၃)နှစ်အထိသာ အကျုံးဝင်သည်။
- ၃။ ထို့ပြင် မီးသတ်ဦးစီးဌာနမှ အခါအားလျော်စွာ ထပ်မံစစ်ဆေးချိန်တွင် မီးဘေးလုံခြုံရေးဆိုင်ရာ  
 ပြဌာန်းချက်များကို လိုက်နာဆောင်ရွက်ခြင်းမရှိပါက ဤထောက်ခံချက်ကို ပြန်လည်ရတ်သိမ်းသွားမည်ဖြစ်ပြီး  
 အဆောက်အဦအားအသုံးပြုသူ(သို့မဟုတ်)ဝိုင်ရှင်သည် မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ဥပဒေအရအရေးယူခြင်းခံရမည်။

**မှတ်ချက်။** ဤထောက်ခံချက်အား လွှဲပြောင်းသုံးစွဲခြင်းမပြုရ။ အဆောက်အဦအား မူလရည်ရွယ်ချက်မှ  
 ပြောင်းလဲအသုံးပြုပါက ထောက်ခံချက်အသစ် ထပ်မံလျှောက်ထားရမည်။

၂၀၂၀.၃.၂၀  
 ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)  
 (သိန်းထွန်းဦး၊ ညွှန်ကြားရေးမှူး)





Fire Fighting Training




Fire Fighting Training




Fire Fighting Training

# APPENDIX I

## First Aid Training Certificates and Photos





Sr.No : C185 /BFA/2022

This is certify that  
Chit Preet Nara  
၇/၆/၂၀၂၂  
 successfully completed

### BASIC FIRST AID TRAINING ( 10 /2022 )

conducted by Yangon Region Red Cross Supervisory Committee.

The course was held from 14.6.2022 to 16.6.2022  
 at Gold Empress (Myanmar) Co., LTD


*The Training Topics included the following*


<ol style="list-style-type: none"> <li>1.Red Cross Movement</li> <li>2.First Aid Concept</li> <li>3.Victim Assessment</li> <li>4.Wounds and Bleeding</li> <li>5.Shock</li> <li>6.Burns and Scalds</li> <li>7.Poisoning</li> </ol>	<ol style="list-style-type: none"> <li>8.Animals Bite and Stings</li> <li>9.Unconscious and Recovery Position</li> <li>10. Basic Life Support and Choking</li> <li>11. Musculoskeletal Injuries and RICE Procedure</li> <li>12. Dressing and Bandaging</li> <li>13. Handling and Transportation</li> <li>14. First Aid for Covid - 19</li> </ol>
---	--

The course included theory and practical exercises.

*[Signature]*  
 Chief of First Aid Instructor  
 Yangon Region

*[Signature]*  
 Chairman of the Red Cross Supervisory Committee  
 Yangon Region





Sr.No : C185 /BFA/2022

This is certify that  
Aye Aye Naing  
၁၇/၆/၂၀၂၂  
 successfully completed

### BASIC FIRST AID TRAINING ( 10 /2022 )

conducted by Yangon Region Red Cross Supervisory Committee.

The course was held from 14.6.2022 to 16.6.2022  
 at Gold Empress (Myanmar) Co., LTD

*The Training Topics included the following*

<ol style="list-style-type: none"> <li>1.Red Cross Movement</li> <li>2.First Aid Concept</li> <li>3.Victim Assessment</li> <li>4.Wounds and Bleeding</li> <li>5.Shock</li> <li>6.Burns and Scalds</li> <li>7.Poisoning</li> </ol>	<ol style="list-style-type: none"> <li>8.Animals Bite and Stings</li> <li>9.Unconscious and Recovery Position</li> <li>10. Basic Life Support and Choking</li> <li>11. Musculoskeletal Injuries and RICE Procedure</li> <li>12. Dressing and Bandaging</li> <li>13. Handling and Transportation</li> <li>14. First Aid for Covid - 19</li> </ol>
---	--

The course included theory and practical exercises.

*[Signature]*  
 Chief of First Aid Instructor  
 Yangon Region

*[Signature]*  
 Chairman of the Red Cross Supervisory Committee  
 Yangon Region



**First Aid Training Photos**



## APPENDIX J

### LIST OF COMMITMENT

**Gold Emperor (Myanmar) Company Limited** ၏ **CMP** စနစ်ဖြင့် ဖိနပ်အမျိုးမျိုး ချုပ်လုပ်ခြင်း လုပ်ငန်းအတွက် လုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းကြောင့်

ဖြစ်ပေါ်လာနိုင်သော သဘာဝပတ်ဝန်းကျင်၊ လူမှုဘဝနှင့် ကျန်းမာရေးထိခိုက်မှုများရှိခဲ့ပါက လျှော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့်တားဆီးရေးအစီအစဉ်များကို **ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု**

**အစီအစဉ် (Environmental Management Plan-EMP)** တွင်ပါဝင်ရမည့်အချက်များကို အကောင်အထည်ဖော်စီမံဆောင်ရွက်သွားမည်ဖြစ်ကြောင်း အောက်ဖော်ပြပါ ဇယားဖြင့်

အကျဉ်းချုပ်စာရင်းပြုစု ဖော်ပြထားပါသည်။

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
နိဒါန်း	၁	ရည်ရွယ်ချက် လုပ်ငန်းလုပ်ဆောင်မှုများကြောင့်ဖြစ်ပေါ်လာသည့်ပတ်ဝန်းကျင်ထိခိုက်မှုအပေါ် လျှော့ချရန်။ ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမည့်အစီအစဉ်အား အကောင်အထည်ဖော်ခြင်း။ ရည်မှန်းချက်	အခန်း(၁)



ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
		<p>သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှုစနစ်သည် ပတ်ဝန်းကျင်ဆိုင်ရာစွမ်းဆောင်ရည်ကိုစဉ်ဆက်မပြတ်ပြန်လည်သုံးသပ်ခြင်း၊ စွမ်းဆောင်ရည်မြှင့်တင်ခြင်းဖြင့်အောင်မြင်စေရန်လုပ်ဆောင်ပေးသော စနစ်တစ်ခုဖြစ်ပါသည်။</p> <p>သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာစွမ်းဆောင်ရည်ကိုမြှင့်တင်ရန် ပြန်လည်သုံးသပ်ခြင်းနှင့်အကဲဖြတ်ခြင်း။</p> <p>သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှုစနစ်သည်သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာစွမ်းရည်ကို မြှင့်တင်ရန် စဉ်ဆက်မပြတ်ပံ့ပိုးပေးသည်။</p>	

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
	၁.၁	<p>အဆိုပြုလုပ်ငန်း၏နောက်ခံအကြောင်းအရာ Gold Emperor (Myanmar) Company Limited ၏CMPစနစ်ဖြင့်ဖိနပ်အမျိုးမျိုးချုပ်လုပ်ခြင်းလုပ်ငန်းဖြစ်ပြီး နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှုလုပ်ငန်းဖြစ်သည်။ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီ (YRIC)ထောက်ခံချက်အမှတ် (YGN-177/2019) သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန၏ ၂၀၂၃ ခုနှစ်၊ အောက်တိုဘာလ၊ ၅ရက်နေ့တွင် စာအမှတ်၊ EIA-၁/၇/ EIA to EMP (၄၇၈၉/၂၀၂၃)၊ ဖြင့်ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ရေးဆွဲရန် သဘောထားပြန်ကြားခြင်း။</p>	အခန်း (၁.၃)
မူဝါဒ၊ဥပဒေနှင့်အဖွဲ့အစည်းဆိုင်ရာမူဘောင် များ	၂	<p>သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ ၂၀၁၂ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနည်းဥပဒေ(၂၀၁၄) ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း(၂၀၁၅) မြန်မာနိုင်ငံမှချမှတ်ထားသောစက်ရုံနှင့်သက်ဆိုင်သည့်အခြား လိုက်နာဆောင်ရွက်ရမည့်လုပ်ထုံးလုပ်နည်း၊ဥပဒေ၊နည်းဥပဒေနှင့်မူဝါဒများ</p>	အခန်း(၂)

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
		အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု)လမ်းညွှန်ချက် ၂၀၁၅နှင့်နိုင်ငံတကာပတ်ဝန်းကျင်ဆိုင်ရာစံသတ်မှတ်ချက်နှင့်ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များ။	
စီမံကိန်းအကြောင်းအရာဖော်ပြချက်	၃	အမှတ်(၃၀၆၊၃၀၇၊၃၀၈၊၃၀၉)၊မြေတိုင်းအမှတ်(၂၅)၊ရွှေလင်ဗန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ရန်ကုန်တိုင်းဒေသကြီး။	အခန်းခွဲ (၃.၁)
	၃.၁	မြေဧရိယာသည် ၇.၈၈ ဧက (၃၁၈၈၉.၂၃ စတုရန်းမိုင်) ဖြစ်သည်။	အခန်းခွဲ(၃.၂.၁)
	၃.၂	အဆိုပြုလုပ်ငန်း၏ထုတ်ကုန်သည် ဖိနပ်အမျိုးမျိုး ချုပ်လုပ်ခြင်းလုပ်ငန်းဖြစ်ပါသည်။	အခန်းခွဲ(၃.၂.၃)
	၃.၃	အဆိုပြုလုပ်ငန်းအတွက် အဓိကကုန်ကြမ်းများဖြစ်သော Fabrics, Lining, Interlining, Elastic and other related materials များကို တရုတ်နိုင်ငံမှ တင်သွင်းမည် ဖြစ်သည်။	အခန်းခွဲ(၃.၃.၁)
	၃.၄	အဆိုပြုလုပ်ငန်းသည် လုပ်သားစုစုပေါင်း ၁၂၉၁ဦး တို့ဖြင့်ဖိနပ်အမျိုးမျိုးချုပ်လုပ်ခြင်းလုပ်ငန်းကိုဆောင်ရွက်သွားမည်ဖြစ်ပါသည်။	အခန်းခွဲ(၃.၃.၃)

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
ပတ်ဝန်းကျင်အရည်အသွေးတိုင်းတာမှု	၄	အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု)လမ်းညွှန်ချက်(၂၀၁၅) နှင့် နိုင်ငံတကာပတ်ဝန်းကျင်ဆိုင်ရာစံသတ်မှတ်ချက်များနှင့်ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုဆိုင်ရာလမ်းညွှန် ချက်များကို အခြေခံလေ့လာတိုင်းတာထားပါသည်။	အခန်း(၄)
လေအရည်အသွေး	၄.၁	အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု)လမ်းညွှန်ချက်(၂၀၁၅) နှင့်ထုတ်လွှတ်အစိုးအငွေ့(Air Emission)လမ်းညွှန်သတ်မှတ်ချက်တို့ဖြင့် နှိုင်းယှဉ်ဖော်ပြထားပါသည်။	အခန်းခွဲ(၄.၂.၇)
ဆူညံသံ	၄.၂	အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေးထုတ်လွှတ်မှုလမ်းညွှန်ချက်(၂၀၁၅) ၏ အမြင့်ဆုံးလက်ခံနိုင်သည့် ဆူညံသံ အဆင့် (Noise level)စက်မှုဇုန် ဧရိယာတွင် 70 One hour LAeq (dBA) ဖြင့်နှိုင်းယှဉ်ဖော်ပြထားပါသည်။	အခန်းခွဲ (၄.၂.၈)
အလင်းရောင်ရရှိမှု	၄.၃	Illumination and Limiting Glare Index based on IES Code, 1968 ဖြင့် နှိုင်းယှဉ်ဖော်ပြထားပါသည်။	အခန်းခွဲ (၄.၂.၉)

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
ဒေသဆိုင်ရာအချက်အလက်များ	၄.၄	လှိုင်သာယာမြို့နယ်အုပ်ချုပ်ရေးမှူးရုံးမှအချက်အလက်များကို ဖော်ပြထားပါသည်။	အခန်းခွဲ(၄.၄.၁- ၄.၄.၄)
ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းနှင့် လျှော့ချရေးနည်းလမ်းများ	၅	<b>ဆန်းစစ်ခြင်းနည်းလမ်း</b> သိသာထင်ရှားသောသက်ရောက်မှု*(ကျယ်ပြန့်မှု +အချိန်+ပမာဏ) =ဖြစ်နိုင်ချေ	အခန်း (၅.၁)
	၅.၁	<b>ကောင်းကျိုး</b> အလုပ်အကိုင်အခွင့်အလမ်းပေါများလာခြင်း၊ လမ်းပန်းဆက်သွယ်ရေးကောင်းမွန်လာခြင်း၊ နည်းပညာများ တိုးတက်လာခြင်း။ <b>ဆိုးကျိုး</b> သဘာဝပတ်ဝန်းကျင်အရင်းအမြစ်များ၊ဂေဟစနစ်အရင်းအမြစ်များ၊ လူသားများအပေါ်ထိခိုက်မှုများ၊ အမှိုက်စွန့်ပစ် ခြင်းကြောင့်ထိခိုက်မှုများ။	အခန်း(၅.၂.၁- ၅.၂.၂)



ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု	၆	Gold Emperor (Myanmar) Company Limited ၏စက်ရုံစီမံခန့်ခွဲရေးအဖွဲ့အတွက်၊(EMP) ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်သက်ဆိုင်ရာအမြင်၊ဒေသခံလူထုများ၏အလုပ်သမားများ၊ တာဝန်ရှိသူတို့၏အကြံပြုချက်များနှင့်ကွင်းဆင်းလေ့လာသူများမှ ဆွေးနွေးတိုင်ပင်မှုတို့အပေါ်အခြေခံပီးဆောင်ရွက်သွားမည်ဖြစ်သည်။ကင်းရှင်းရေးစီမံခန့်ခွဲမှု ဘေးအန္တရာယ် စက်ရုံ၏အတွင်း EMPတွင် ထည့်သွင်းဖော်ပြထားပါသည်။	အခန်း(၆)
စောင့်ကြပ်ကြည့်ရှုမှု	၇	အဆိုပြုစီမံကိန်းသည်ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှုအစီရင်ခံစာအားဝန်ကြီးဌာနသို့ဖိလ တစ်ကြိမ်တင်ပြရမည်။	အခန်း (၆.၄)
လေအရည်အသွေးစစ်ဆေးမှု	၇.၁	<ul style="list-style-type: none"> <li>• PM2.5, PM 10, SO<sub>2</sub>, NO<sub>2</sub>, CO<sub>2</sub>, CO</li> <li>• တစ်နှစ် ၂ကြိမ်</li> <li>• အဆိုပြုလုပ်ငန်းစက်ရုံဝန်းအတွင်း</li> </ul>	ဇယား (၆.၂)

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
ရေအရည်အသွေးစစ်ဆေးမှု	၇.၂	<ul style="list-style-type: none"> <li>pH, BOD, COD, TDS, Temp, Oil and Grease, Chlorine, Arsenic</li> <li>တစ်နှစ် ၂ကြိမ်</li> <li>အဆိုပြုလုပ်ငန်း/စက်ရုံဝန်းအတွင်း</li> </ul>	ဇယား (၆.၂)
ဆူညံသံစစ်ဆေးမှု	၇.၃	<ul style="list-style-type: none"> <li>ဆူညံသံအဆင့် (dBA)အတိုင်း</li> <li>အဆိုပြုလုပ်ငန်း/စက်ရုံဝန်းအတွင်း</li> <li>နှစ်စဉ်</li> </ul>	ဇယား (၆.၂)
အစိုင်အခဲစွန့်ပစ်ပစ္စည်းများထွက်ရှိမှု စစ်ဆေးမှု အခြေအနေ	၇.၄	<ul style="list-style-type: none"> <li>ဖြတ်တောက်ခြင်းနှင့် ထုတ်ပိုးခြင်းအပိုင်း၊ ကန်တင်း၊ မီးဖိုခန်း၊ အိပ်ဆောင်</li> <li>လစဉ်</li> <li>အဆိုပြုလုပ်ငန်း/စက်ရုံဝန်းအတွင်း</li> </ul>	ဇယား (၆.၂)
စွန့်ပစ်အရည်ထွက်ရှိမှုအခြေအနေ	၇.၅	<ul style="list-style-type: none"> <li>အိမ်သာ၊မီးဖိုချောင် နှင့်စားဖိုဆောင်</li> <li>အပတ်စဉ်</li> <li>စက်ရုံဝန်းအတွင်း</li> </ul>	ဇယား (၆.၂)

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
ဘေးအန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများထွက်ရှိမှုအခြေအနေ	၇.၆	<ul style="list-style-type: none"> <li>• သိုလှောင်ဧရိယာအတွင်း</li> <li>• လစဉ်</li> </ul>	ဇယား (၆.၂)
မီးဘေးအန္တရာယ်စစ်ဆေးမှု	၇.၇	<ul style="list-style-type: none"> <li>• မီးငြိမ်းသတ်ရေးကိရိယာများ</li> <li>• လစဉ်</li> <li>• စက်ရုံအတွင်း</li> </ul>	ဇယား (၆.၂)
စက်ရုံအတွင်း အလင်းရောင်ရရှိမှုအခြေအနေ	၇.၈	<ul style="list-style-type: none"> <li>• အလင်းရောင်</li> <li>• လစဉ်</li> <li>• ကုန်ပစ္စည်းဖြတ်တောက်ခြင်း၊အရည်အသွေးစစ်ဆေးခြင်းကဲ့သို့သော လုပ်ငန်းများလုပ်ကိုင်သည့်နေရာ</li> </ul>	ဇယား (၆.၂)
လုပ်ငန်းခွင်ဘေးအန္တရာယ် ကင်းရှင်းရေးနှင့်ကျန်းမာရေး	၇.၉	<ul style="list-style-type: none"> <li>• အလုပ်သမားများလုပ်ငန်းခွင်ဘေးအန္တရာယ် ကင်းရှင်းရေးနှင့်ကျန်းမာရေး စစ်ဆေးခြင်း</li> <li>• အပတ်စဉ်</li> <li>• အဆိုပြုလုပ်ငန်း/စက်ရုံဝန်းအတွင်း</li> </ul>	ဇယား (၆.၂)

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
လူထုအကျိုးတူပူးပေါင်းပါဝင်မှု	၈	<p>အဆိုပြုလုပ်ငန်းသည်လူထုအကျိုးပြုပူးပေါင်းပါဝင်မှုကိုကျန်းမာရေး၊ ပညာရေးနှင့်နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးအတွက်မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်က ချမှတ်သည့်အတိုင်းကုမ္ပဏီ၏အကျိုးအမြတ် ၂ရာခိုင်နှုန်းအားနှစ်စဉ်ထည့်ဝင်သွား မည်ဖြစ်သည်။</p>	အခန်း (၆.၅)
မကျေနပ်မှုများနှင့်ပြဿနာများကို ဖြေရှင်းခြင်း	၉	<p>စီမံကိန်းအနီးပတ်ဝန်းကျင်နေထိုင်သောသူများ သက်ဆိုင်သူများသည်(သို့) သူတို့ခံစားနေရသောပြဿနာများနှင့်သက်ရောက်မှုများနှင့်ပတ်သက်၍ ဖြေရှင်းမှုများပြုလုပ်ရန်။</p> <p>စက်ရုံ၏တာဝန်ရှိသူများ၊စက်မှုဇုန်စီမံခန့်ခွဲရေးကော်မတီ၊အုပ်ချုပ်ရေးဦးစီးဌာနတို့ဖြင့် ပူးပေါင်းချိတ်ဆက်လုပ်ဆောင်ခြင်း။</p> <p>ကော်မတီအဆင့်တွင်အခြားမဖြေရှင်းနိုင်သောပြဿနာများကို တာဝန်ရှိအာဏာပိုင်များသို့တင်ပြပြီးတရားရေးအရအဆုံးအဖြတ် ပြုလုပ်မည်ဖြစ်သည်။</p>	အခန်း (၆.၇)

ကတိကဝတ်၏အတိုချုပ်အမည်	အမှတ်စဉ်	ကတိကဝတ်အားရှင်းလင်းချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
အများပြည်သူနှင့်တိုင်ပင်ဆွေးနွေးခြင်း	၁၀	<p>သက်ဆိုင်သူများနှင့်တွေ့ဆုံဆွေးနွေးခြင်းအစီအစဉ်ကို ကြာသပတေး၊ ဒီဇင်ဘာလ ၂၉ ရက်နေ့၊ ၂၀၂၂ ခုနှစ်တွင်၊ အမှတ်(၃၀၆၊၃၀၇၊၃၀၈၊၃၀၉)၊မြေတိုင်းအမှတ်(၂၅)၊ရွှေလင်ဗန်းစက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ရန်ကုန်တိုင်းဒေသကြီးတွင်ပြုလုပ်ခဲ့ပါသည်။</p> <p>တွေ့ဆုံပွဲအစည်းအဝေးတွင်သက်ဆိုင်ရာအစိုးရအဖွဲ့ရုံး၏တာဝန်ရှိပုဂ္ဂိုလ်များ၊ စက်မှုဇုန်စီမံခန့်ခွဲမှုကော်မတီ၏တာဝန်ရှိပုဂ္ဂိုလ်များလိုအပ်သည်များကိုအကြံပေးခြင်း၊ စီမံကိန်း၏အစီရင်ခံစာတွင်လိုအပ်သည်များကိုဖြည့်စွက်ပေးရန် အကြံပြုချက်များပေးခဲ့ပါသည်။</p>	အခန်း (၇)
နိဂုံးနှင့်သုံးသပ်ချက်	၁၁	<p>အကျဉ်းချုပ်အားဖြင့်ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်၏လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာဥပဒေ၊နည်းဥပဒေ၊စည်းမျဉ်းစည်းကမ်းများနှင့်ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်းပတ်ဝန်းကျင်ဆိုင်ရာစီမံခန့်ခွဲမှုအလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့်လိုက်နာဆောင်ရွက်ကျင့်သုံးရန်တာဝန်များကိုပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်တွင်ဖော်ပြရှင်းလင်းတင်ပြထားပါသည်။</p>	အခန်း(၈)

