

MYANMAR MYANBAG INDUSTRIAL CO., LTD.

Environmental Management Plan

Manufacturing of Various Kinds of Bags on CMP Basis

Date: 15, 5, 2022

Attention: Dear Director

Environmental Conservation Department

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of various kinds of bags by Myanmar Myanbag Industrial Company Limited.

EMP report describes the environmental condition of a project, including significant impact, formulation of mitigation measures and preparation of institutional requirements and environmental monitoring.

Myanwei Environmental Solutions Company Limited has prepared this report with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking into account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

We strongly commit that this report was prepared in compliance with Myanmar Environmental Laws and Regulations.



LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Myanmar Myanbag Industrial Co., Ltd.

Plot No.17, Myay Taing Block No. Zone (1), Industrial Zone, Hlaing
Thar Yar Township, Yangon Region, Myanmar.

Date: 15, 5, 2022

Dear: Director
Environmental Conservation Department
Nay Pyi Taw

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of
Various Kinds of Bags

We refer to the captioned EMP report, which has been prepared by Myanwei Environmental Solutions Co., Ltd. (Third Party Consultant) in 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.

Myanmar Myanbag Industrial Company Limited will at all times comply fully with all commitment and obligations in the EMP report.

We acknowledge and understand that



Mr. Ye Zhen Fa
Promoter

Myanmar Myanbag Industrial Company Limited

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APPENDIX B Transitional Consultant Registration Certificate

APPENDIX C Monitoring Result

APPENDIX D Water Quality Test Result

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. MOECF	= 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

အဆိုပြုလုပ်ငန်းသည် CMP စနစ်ဖြင့်အိတ်အမျိုးမျိုး ချုပ်လုပ်ခြင်းလုပ်ငန်းအတွက် ရင်းနှီးမြှုပ်နှံသော ကုမ္ပဏီဖြစ်ပါသည်။ ရင်းနှီးမြှုပ်နှံမှုလိုင်စင်ကို ၂၀၁၉ခုနှစ်၊ ဒီဇင်ဘာလ၊ ၉ ရက်နေ့တွင် (ထောက်ခံချက်အမှတ် ၂၉၈/၂၀၁၉) ဖြင့် ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှုကော်မတီမှ ရရှိပြီးဖြစ်ပါသည်။ လုပ်ငန်းလည်ပတ်ရန်အတွက် မြန်မာနိုင်ငံသယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးဝန်ကြီးဌာန (MONREC) ၏ အတည်ပြုချက်ရယူရန် လိုအပ်ကြောင်း ကော်မရှင်မှ မှာကြားခဲ့ပါသည်။

ထို့ကြောင့် မြန်မာနိုင်ငံ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂)အရ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) ပြုလုပ်ရန်လိုအပ်ကြောင်း ၂၀၁၉ ခုနှစ်၊ ဒီဇင်ဘာလ၊ ၂၄ ရက်နေ့တွင် (စာအမှတ်၊ ရက-၁/၃/၄ (အီးအိုင်အေ) (၂၅၆၇/၂၀၁၉) ဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ရန်ကုန်တိုင်းဒေသကြီးမှ သဘောထားမှတ်ချက် ရရှိပြီးဖြစ်ပါသည်။ ထို့ကြောင့် EMP အစီအရင်ခံစာရေးဆွဲရန် တတိယအဖွဲ့အစည်းဖြစ်သော Myanwei Environmental Solutions Company Limited မှ တာဝန်ယူရေးဆွဲခဲ့ပါသည်။

EMP အစီအစဉ်တွင် MYANMAR MYANBAG INDUSTRIAL Co., Ltd. ၏ CMP စနစ်ဖြင့် အိတ်အမျိုးမျိုး ချုပ်လုပ်ခြင်း လုပ်ငန်းအတွက် Myanwei Environmental Solutions Company Limited မှ ရေးသားပြုစုထားသော ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာဖြစ်သည်။ အဆိုပါ လေ့လာဆန်းစစ်ခြင်း၏ ရည်ရွယ်ချက်များမှာ-

- ✓ သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုစီးပွားပတ်ဝန်းကျင်အပေါ် စီမံကိန်းဆောင်ရွက်ချက်များကြောင့် ထိခိုက်မှုများကိုလေ့လာရန်။
- ✓ ထိုထိခိုက်မှုများကို လျော့ချနိုင်ရန် လျော့နည်းစေမည့်နည်းလမ်းများကို ဖော်ပြရန်။
- ✓ စီမံကိန်းအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို ပြင်ဆင်ရန်နှင့် အကောင်အထည်ဖော်ရန်။
- ✓ စီမံကိန်းအတွက် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာ လုပ်ဆောင်ရာတွင် လုံလောက်မှုရှိစေရန်။
- ✓ ဒေသခံများ၏ လူမှုရေးသက်သာချောင်ချိမှုများ တိုးမြှင့်ရန်နှင့် ဒေသတွင်း ဖွံ့ဖြိုးတိုးတက်မှုများ အတွက် မရှိမဖြစ်အရေးပါသော လူမှုစီးပွားတာဝန်ယူမှုအစီအစဉ်အား အကောင်အထည်ဖော်ရန်တို့ဖြစ်ပါသည်။

အဆိုပြုထားသော စီမံကိန်း၏ ရည်ရွယ်ချက်သည် CMP စနစ် (ဖြတ်-လုပ်-ထုတ်) စနစ်ကို အသုံးပြု၍ အိတ်အမျိုးမျိုးကို ထုတ်လုပ်ပီး နိုင်ငံခြားသို့ ၁၀၀ % တင်ပို့ရန်ဖြစ်ပါသည်။

ဥပဒေနှင့် မူဝါဒဆိုင်ရာ အချက်အလက်များအကျဉ်းချုပ်

EMP ရေးဆွဲခြင်း၏ ရည်ရွယ်ချက်မှာ နိုင်ငံတော်နှင့် နိုင်ငံတကာမှ ချမှတ်ထားသော ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးအစီအစဉ်များ၊ စည်းမျဉ်းစည်းကမ်းများ၊ ဥပဒေနှင့် နည်းဥပဒေများကို လိုက်နာပြီး ပတ်ဝန်းကျင်နှင့်လိုက်ရောညီထွေရှိသော ထိခိုက်မှုလျော့ချရေး အစီအစဉ်များပြုလုပ်ရန်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာရေးသားပြုစုသူများ၏ ကျွမ်းကျင်မှုနယ်ပယ်ဆိုင်ရာ ဖော်ပြချက်များကို ရေးသားဖော်ပြထားပါသည်။ ဥပဒေနှင့် နည်းဥပဒေ အခန်းတွင် MONREC မှ ထုတ်ပြန်ထားသည့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများ၊ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များအပြင် စက်ရုံနှင့်ဆက်စပ်သက်ဆိုင်နေပြီး လိုက်နာရမည့် ဥပဒေနှင့် နည်းဥပဒေများ၊ ဒေသတွင်း သို့မဟုတ် အပြည်ပြည်ဆိုင်ရာ သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုပတ်ဝန်းကျင်ဆိုင်ရာ မူဝါဒများ၊ ဆက်စပ်နေသည့် နိုင်ငံတကာသဘောတူချက်များကို အကျဉ်းချုပ်ရေးသားဖော်ပြထားပါသည်။ စက်ရုံအတွင်းလိုက်နာ ဆောင်ရွက်ရမည့် စည်းမျဉ်းစည်းကမ်းများ၊ လုပ်ငန်းခွင် အန္တရာယ်ကင်းရှင်းရေးနှင့် ကျန်းမာရေးဆိုင်ရာ အခြေခံစည်းမျဉ်းစည်း ကမ်းများလည်း ထည့်သွင်းဖော်ပြထားပါသည်။ Myanmar Myanbag Industrial Co., Ltd. ၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ကတိကဝတ်များအပြင် ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချရေး မူဝါဒများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။

1. The Constitution Law, 2008
2. The Environmental Conversation Law, 2012
3. The Environmental Conversation 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 Rule, 2017
10. Myanmar Insurance Law, 1993
11. Payment of Wages Law, 2016
12. The Payment of Wages Act, 1936
13. Yangon City Development Committee Law, 2018
14. The Amended Law for Factories Act, 1951 (2016)

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

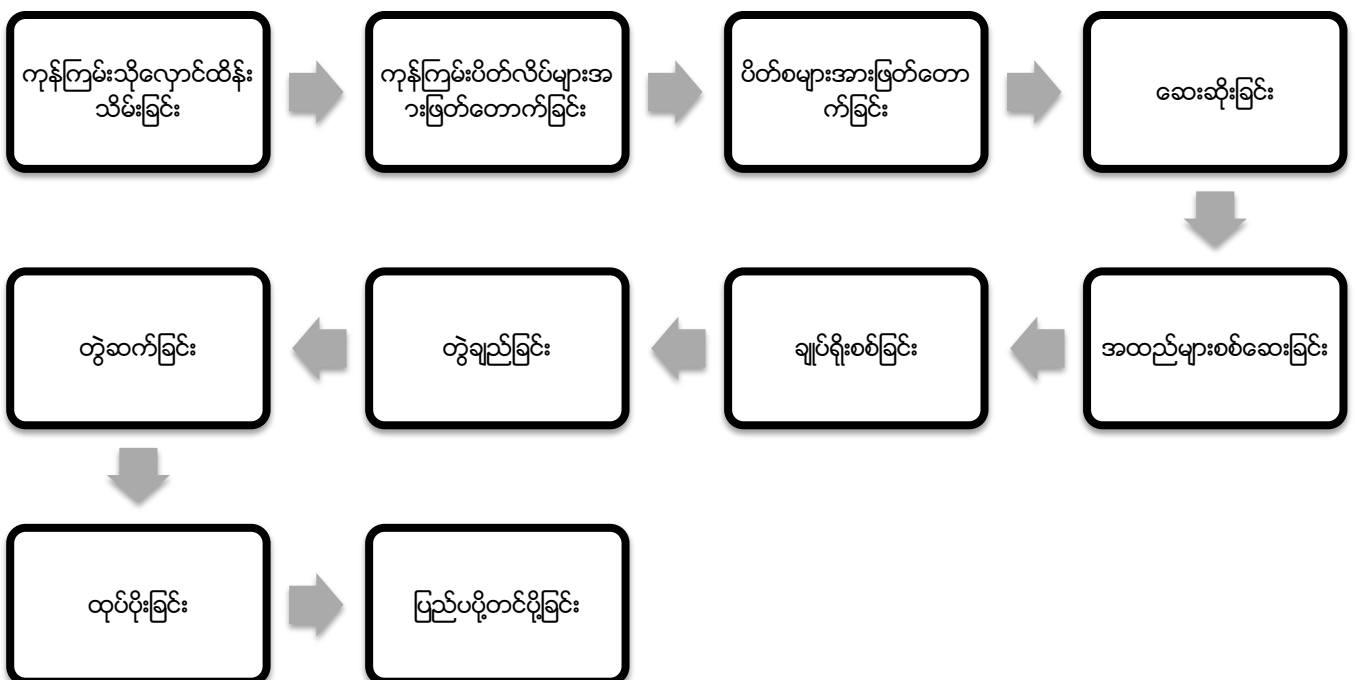
စီမံကိန်းဆိုင်ရာအချက်အလက်အကျဉ်းချုပ်ဖော်ပြချက်

အဆိုပြုထားသော စီမံကိန်း	အိတ်အမျိုးမျိုးချုပ်လုပ်ခြင်းလုပ်ငန်း
ရင်းနှီးမြှုပ်နှံမှုပုံစံ	၁၀၀ % နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှု

Environmental Management Plan

ကုမ္ပဏီအမည်	Myanmar Myanbag Industrial Co., Ltd.
အဆိုပြုရင်းနှီးမြှုပ်နှံမှုကာလ	၃၀ နှစ်
စုစုပေါင်းမြေကွပ်ဧရိယာ	၂.၄၉၃ ဧက (၁၀၀၈၈.၈၁၃ စတုရန်းမီတာ)
မြေနေရာပုံစံ	စက်မှုဇုန်မြေ
တည်ဆောက်မှုကာလ	၁ နှစ်
စီမံကိန်း တည်နေရာ	မြေကွက်အမှတ် ၁၇၊ မြေတိုင်းရပ်ကွက်အမှတ် ၇၆(၁)၊ စက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။
ဆက်သွယ်ရန် ဖုန်းနံပါတ်	၀၉-၆၈၈၁၁၃၁၁၁

အဆိုပြုလုပ်ငန်းအတွက် တည်နေရာနှင့် စက်ရုံအတွင်းပါရှိသည့် အဆောင်များ၊ စားသောက်ဆောင်၊ စတို၊ ပြုပြင်ထိန်းသေးရေးအခန်း၊ မီးဖိုချောင် အစရှိသည်တို့ကိုသီးခြားဖော်ပြထားပါသည်။ထို့အပြင် ထုတ်လုပ်မှုနည်းလမ်းများ၊ လိုအပ်သည့်ကုန်ကြမ်းများ၊ နှစ်စဉ်ထွက်ကုန်များ နှင့် စက်ပစ္စည်းများအား ဖော်ပြထားပါသည်။ အဆိုပြုလုပ်ငန်းအတွက်လိုအပ်သည့် စွမ်းအင်နှင့် အသုံးပြုသည့်ပမာဏများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။ ကျန်လုပ်ငန်းသုံးယာဉ်နှင့် ရုံးသုံးပစ္စည်းများကို ပြည်တွင်းမှ ဝယ်ယူအသုံးပြုပါသည်။ ကုန်ထုတ်လုပ်ခြင်းလုပ်ငန်းမှာ automatic machine နှင့် လူစွမ်းအားကို အသုံးပြုသော လုပ်ငန်းမျိုးဖြစ်ပါသည်။ ထုတ်လုပ်ပုံအဆင့်ဆင့်ကို အောက်ဖော်ပြပါ ပုံပြဇယားဖြင့် ဖော်ပြထားပါသည်။



လုပ်ငန်းမှ ပထမနှစ်မှ ၁၀ နှစ်အတွင်း အိတ်အရေအတွက် (၄၂၀,၀၀၀) မှ (၄၆၂,၀၀၀)အထိ တိုးမြှင့်ထုတ်လုပ်သွားမည်ဖြစ်သည်။ နိုင်ငံခြားသားလုပ်သား (၁၀)ဦး နှင့် နိုင်ငံသား (ပြည်တွင်း) ဝန်ထမ်း (၁၀၀၀)ဦး၊ စုစုပေါင်း ၁၀၁၀ ဦးဖြင့် ဆောင်ရွက်သွားမည်ဖြစ်သည်။

အနီးပတ်ဝန်းကျင် အခြေအနေအကျဉ်းချုပ်ဖော်ပြချက်

ကနဦးစစ်တမ်းကောက်ယူခြင်းနှင့် ဒေသဆိုင်ရာမှအချက်အလက်များရယူခြင်းသည် အလွန်အရေးကြီးပါသည်။ ပတ်ဝန်းကျင်အရည်အသွေး တိုင်းတာခြင်းကဲ့သို့သော ကနဦးစစ်တမ်းကောက်ယူခြင်းသည် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီရင်ခံစာတွင် အရေးပါသောအခန်းအဖြစ် တည်ရှိနေသည်။ ထို့အတွက် စီမံကိန်းဒေသသို့ ကွင်းဆင်းလေ့လာမှုများကို ၃ ရက်၊ မတ်လ၊ ၂၀၂၀ ပြည့်နှစ်တွင်လက်တွေ့ကွင်းဆင်းလေ့လာခဲ့ပြီးလိုအပ်သည့် လေအရည်အသွေး၊ ဆူညံမှု၊ အလင်း၊ အပူချိန်နှင့် စိုထိုင်းမှု အစရှိသည့် အချက်အလက်များကို ရယူခဲ့ပါသည်။ ကွင်းဆင်းလေ့လာထားသည့် အချက်အလက်များကို သက်ဆိုင်ရာခေါင်းစဉ်အလိုက် အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များနှင့် နှိုင်းယှဉ်၍ ဖော်ပြထားပါသည်။ ထိုနည်းတူ လျှော့ချရမည့်နည်းလမ်းများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။ စီမံကိန်းတည်ရှိရာဒေသရှိ ရာသီဥတု၊ မိုးရေချိန်၊ လူမှုစီးပွားရေးဆိုင်ရာအချက်အလက်များကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။

ပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လျှော့ချရေး အစီအစဉ်အကျဉ်းချုပ်ဖော်ပြချက်

စီမံကိန်းဆောင်ရွက်ချက်များကြောင့် ပတ်ဝန်းကျင်ဆိုင်ရာအရင်းအမြစ်များ၊ ဂေဟဆိုင်ရာ အရင်းအမြစ်များ၊ လူ့စွမ်းအားအရင်းအမြစ်များနှင့် စွန့်ပစ်ပစ္စည်းများစွန့်ပစ်ခြင်း စသည့်ဖြစ်လာနိုင်သည့်ထိခိုက်မှုများကို ခွဲခြားသတ်မှတ်ပြီး ၎င်းတို့၏ ရလဒ်များကို ထိခိုက်မှုဆန်းစစ်သည့် နည်းလမ်းများကို အသုံးပြု၍ သတ်မှတ်ခဲ့ပါသည်။ စီမံကိန်းအား ထိခိုက်မှုများကို အပိုင်းသုံးပိုင်းခွဲ၍ သတ်မှတ်ထားသည်။ အမျိုးအစားမှာ တည်ဆောက်သည့်ကာလ၊ လုပ်ငန်းလည်ပတ်သည့်ကာလ နှင့် လုပ်ငန်းဖျက်သိမ်းသည့်ကာလများ ဖြစ်ပါသည်။ ပတ်ဝန်းကျင်ထိခိုက်မှု လျော့ပါးစေရေး နည်းလမ်းများကိုလဲထည့်သွင်းဖော်ပြထားပါသည်။

ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျှော့ချရေးနှင့် ထိန်းချုပ်မှု
တည်ဆောက်ရေးကာလ။ ။ပတ်ဝန်းကျင်ထိခိုက်မှုလေ့လာချိန်တွင် စက်ရုံတည်ဆောက်ပြီး လုပ်ငန်းလည်ပတ်နေချိန်ဖြစ်သော်ကြောင့် ဤကာလကိုထည့်သွင်း မစဉ်းစားတော့ပါ။			
လုပ်ငန်းလည်ပတ်ခြင်းကာလ			
လေထုညစ်ညမ်းမှု	<ul style="list-style-type: none"> သယ်ယူပို့ဆောင်ရေးသုံး မော်တော်ယာဉ်တို့ကြောင့် ဖုန်မှုန့်နှင့် ဖန်လုံအိမ်ဓါတ်ငွေ့ထွက်ခြင်း လုပ်ငန်းခွင်အတွင်းဖုန်မှုန့်ထွက်ခြင်း မီးဖိုမှ မီးခိုးထွက်ခြင်း 	အသင့်တင့်	<ul style="list-style-type: none"> မီးစက် တို့တွင် မီးခိုးခေါင်းတိုင် တပ်ဆင်ခြင်းဖြင့် အခိုးအ ငွေ့ကြောင့် ပတ်ဝန်းကျင် ထိခိုက်မှုကို လျှော့ချခြင်း၊ စက်ရုံအတွင်းနှင့် အနီး အနားတွင် သစ်ပင်ပန်းမံ စိုက်ပျိုးခြင်းဖြင့် carbon ထွက်ရှိမှုကို လျှော့ချပေးခြင်း၊ NOx ထွက်ရှိမှုနည်းသော

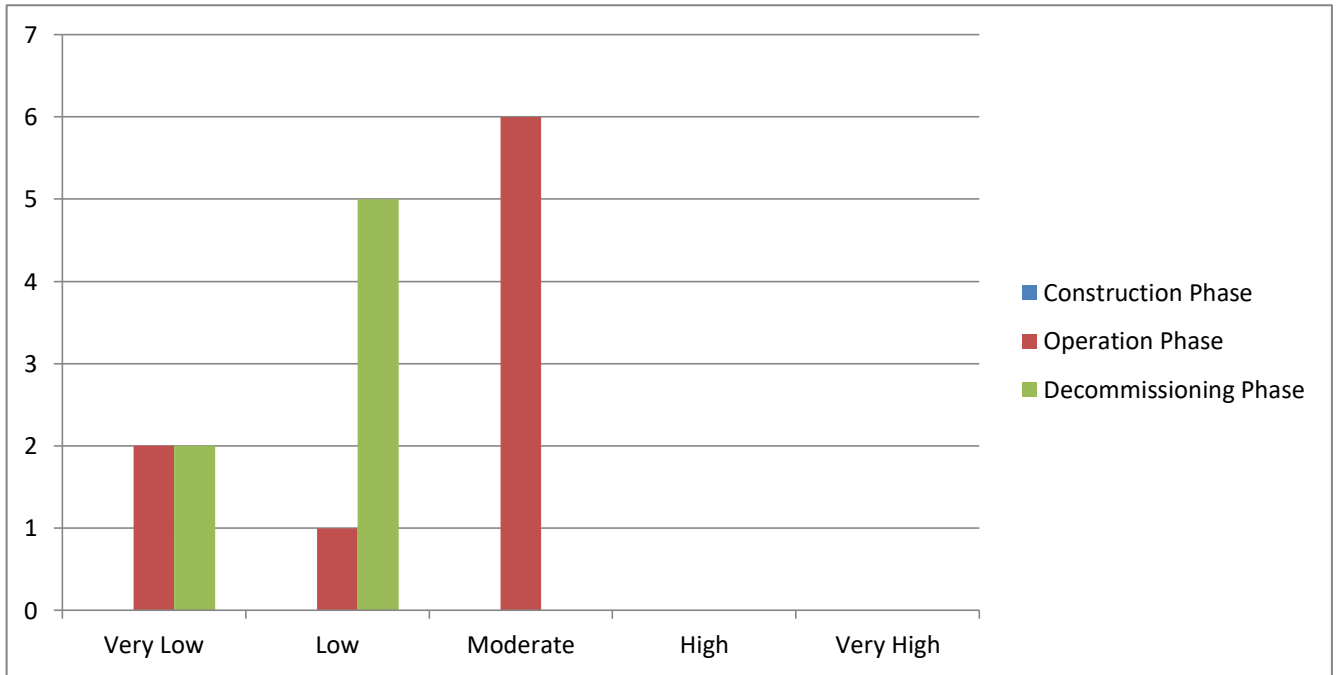
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ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
	<ul style="list-style-type: none"> အရေးပေါ်သုံးမီးစက်မှာ စွန့်ထုတ်အခိုးအငွေ့ ထွက်ခြင်း 		<p>နည်းပညာဖြင့် စက်ပစ္စည်း များသုံးခြင်း၊</p> <ul style="list-style-type: none"> စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။
ရေ	<ul style="list-style-type: none"> မိလ္လာစွန့်ထုတ်ရေ စက်ပစ္စည်း၊ မော်တော်ယာဉ်များမှ ဆီယိုဖိတ်ခြင်း 	အနည်းငယ်	<ul style="list-style-type: none"> လက်ရှိရေဆိုးစွန့်ပစ်မှုပုံစံဖြစ်သော မိလ္လာစနစ်ကို ပုံမှန်စစ်ဆေးပေးခြင်း၊ မိလ္လာကန်နှင့် မိလ္လာ စနစ်ကို လူဦးရေနှင့် သင့်တင့်သည့် ပမာဏရှိရန် စီစဉ်ထားခြင်း၊ ပုံမှန်သန့်ရှင်းရေးပြုလုပ်ပေးခြင်း။ စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။
မြေဆီလွှာညစ်ညမ်းမှု	<ul style="list-style-type: none"> မတော်တဆ စက်ပစ္စည်း၊ မော်တော်ယာဉ်များမှ ဆီယိုဖိတ်ခြင်း 	အလွန်နည်း	<ul style="list-style-type: none"> စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။ မတော်တဆမှု မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။
ဆူညံသံ	<ul style="list-style-type: none"> မီးစက်၊ လေမှုတ်စက် နှင့် မော်တော် ယာဉ် အသုံးပြုမှုကြောင့် ပတ်ဝန်းကျင် ဆူညံမှု 	အသင့်တင့်	<ul style="list-style-type: none"> ဆူညံသံထွက်သောနေရာများကို အကာအကွယ် ဖြင့်ထားရှိခြင်း စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ပေးခြင်း
မီးဘေးအန္တရာယ်	<ul style="list-style-type: none"> ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျှပ်စစ်သုံးစွဲ ပေါ့လျော့မှု 	အသင့်တင့်	<ul style="list-style-type: none"> ကုန်ကြမ်းများအား သီးသန့်ထားရှိခြင်း လျှပ်စစ်သုံးစွဲမှုများအား စနစ်တကျ အသုံးပြုစေခြင်း
စွန့်ပစ်အမှိုက်	<ul style="list-style-type: none"> ထုတ်လုပ်ရာတွင် ကျန်ရှိသော ပိတ်စ အပိုင်းအစများ၊ မီးဖိုချောင်နှင့် ရုံးတွင်းစွန့်ပစ်ပစ္စည်းများ 	အသင့်တင့်	<ul style="list-style-type: none"> စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပြီး သီးခြားစွန့်ပစ်စေခြင်း
စွန့်ပစ်အရည်	<ul style="list-style-type: none"> နေအိမ်၊ စားသောက်ဆောင် တို့မှစွန့်ထုတ်ရေ၊ မိလ္လာကန်စနစ် 	အသင့်တင့်	<ul style="list-style-type: none"> စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပြီး သီးခြားစွန့်ပစ်စေခြင်း
အန္တရာယ်ရှိအမှိုက်	<ul style="list-style-type: none"> စက်များမှ ဆီယိုစိမ့်မှုများ၊ မော်တော်ယာဉ်များပြုပြင်ထိန်းသိမ်းမှုက ထွက်ရှိသည့်အမှိုက်များ 	အလွန်နည်း	<ul style="list-style-type: none"> စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း
လူမှုစီးပွားဘဝ	<ul style="list-style-type: none"> ဒေသခံပြည်သူများအတွက် အလုပ်အကိုင်အခွင့်အလမ်းများ 		

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ပတ်ဝန်းကျင် လက္ခဏာ	လုပ်ငန်းလုပ်ဆောင်မှု	ထိခိုက်မှုအဆင့်	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
	ရရှိစေခြင်း		
လုပ်ငန်းပိတ်သိမ်းခြင်းကာလ			
လေထုညစ်ညမ်းမှု	<ul style="list-style-type: none"> အဆောက်အဦများ ဖြိုချမှုများ ဖြိုချပစ္စည်းများ သယ်ယူမှုများ 	အနည်းငယ်	<ul style="list-style-type: none"> NOx ထွက်ရှိမှုနည်းသော နည်းပညာဖြင့် စက်ပစ္စည်း များသုံးခြင်း၊ စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။
ရေ	<ul style="list-style-type: none"> ဖြိုချပစ္စည်းများနှင့် မိလ္လာဖျက်ဆီးမှုများ 	အနည်းငယ်	<ul style="list-style-type: none"> ပုံမှန်သန့်ရှင်းရေးပြုလုပ်ပေးခြင်း။ စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။
မြေဆီလွှာညစ်ညမ်းမှု	<ul style="list-style-type: none"> အဆောက်အဦနှင့် ဆက်စပ်ပစ္စည်းများ ဖြိုချပစ္စည်းများ သယ်ယူမှုများ 	အနည်းငယ်	<ul style="list-style-type: none"> မတော်တဆမှု မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။
အမှိုက်စွန့်ပစ်မှု	<ul style="list-style-type: none"> အဆောက်အဦများ ဖြိုချပစ္စည်းများ သယ်ယူမှုများ 	အလွန်နည်း	<ul style="list-style-type: none"> စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပြီး သီးခြားစွန့်ပစ်စေခြင်း
အန္တရာယ်ရှိအမှိုက်	<ul style="list-style-type: none"> စက်များမှ ဆီယိုစိမ့်မှုများ၊ မော်တော်ယာဉ်များပြုပြင်ထိန်းသိမ်းမှုက ထွက်ရှိသည့်အမှိုက်များ ဖြိုချပစ္စည်းများ သယ်ယူမှုများ 	အလွန်နည်း	<ul style="list-style-type: none"> စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း
မတော်တဆ ထိခိုက်မှုများ	<ul style="list-style-type: none"> အဆောက်အဦများ ဖြိုချမှုများ ဖြိုချပစ္စည်းများ သယ်ယူမှုများ 	အနည်းငယ်	<ul style="list-style-type: none"> မတော်တဆမှု မဖြစ်စေရန် ထိန်းသိမ်းခြင်း။
လူမှုစီးပွားဘဝ	<ul style="list-style-type: none"> ဒေသခံပြည်သူများအတွက်အလုပ်အကိုင် ခေတ္တရရှိခြင်း 		

Environmental Management Plan



ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်အကျဉ်းချုပ်ဖော်ပြချက်

အဆိုပြုလုပ်ငန်း၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အတွက် Environmental Management System (EMS) 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 အကောင်အထည်ဖော်သွားမည်ဖြစ်ပါသည်။ အဆိုပါစက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို ရေရှည်ဖွံ့ဖြိုးတိုးတက်ကောင်းမွန်သော ပတ်ဝန်းကျင် အဖြစ် အကောင်အထည်ဖော်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ဆိုင်ရာ ဆိုးကျိုးသက်ရောက်မှုများကို လျော့နည်းစေရန် စီမံခန့်ခွဲမှု အစီအစဉ်များနှင့် စောင့်ကြပ်ကြည့်ရှုရမည့် အစီအစဉ်များကို အောက်ပါအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ အကြောင်းအရာတစ်ခုချင်းစီအလိုက် ခွဲခြားထားပါသည်။

၁။ လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန့်ဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၂။ ရေသုံးစွဲမှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၃။ ရေဆိုးစွန့်ပစ်မှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၄။ အမှိုက်စွန့်ပစ်မှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၅။ ဆူညံမှုထိန်းခြင်းဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၆။ အရေးပေါ်တုန့်ပြန်ရေး အစီအစဉ်

၇။ စောင့်ကြပ်ကြည့်ရှုရေး အစီအစဉ်

၈။ လူမှုအကျိုးတူ ပူးပေါင်းပါဝင်မှု အစီအစဉ် CSR Plan

၉။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အတွက် ငွေကြေးလျာထားမှု

၁၀။ မကျေနပ်မှု ဖြေရှင်းခြင်း နည်းလမ်း

အဆိုပြုလုပ်ငန်း၏ လူထုအကျိုးတူပူးပေါင်းပါဝင်မှုများအဖြစ် အကျိုးအမြတ်၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်ပယ်ဖွံ့ဖြိုးတိုးတက်ရေးများတွင် ထည့်ဝင်လှူဒါန်းသွားမည်ဖြစ်ပါသည်။ အဆိုပြုလုပ်ငန်း၏ ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုရေးလုပ်ဆောင်ရမည့် လုပ်ငန်းစဉ်များနှင့် ဖြေရှင်းရမည့်နည်းလမ်းများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။

သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးခြင်းအကျဉ်းချုပ်

သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးခြင်း အစီအစဉ်ကို ၁၈ ရက်၊ မတ်လ၊ ၂၀၂၀ ခုနှစ်တွင် အနော်ရထာ စီမံခန့်ခွဲရေးရုံး၊ အနော်ရထာ စက်မှုဇုန်တွင် ပြုလုပ်ခဲ့ပါသည်။ တွေ့ဆုံပွဲ အစည်းဝေးတွင် သက်ဆိုင်ရာ အစိုးရအဖွဲ့ရုံး၏ တာဝန်ရှိပုဂ္ဂိုလ်များ၊ စက်မှုဇုန်စီမံခန့်ခွဲမှုကော်မတီ၏ တာဝန်ရှိပုဂ္ဂိုလ်များမှ လိုအပ်သည်များကို အကြံပေးခြင်း၊ စီမံကိန်း၏ အစီရင်ခံစာတွင် လိုအပ်သည်များကို ဖြည့်စွက်ပေးရန် အကြံပြုချက်များပေးခဲ့ပါသည်။ ပြုလုပ်ခဲ့သည့် အစီအစဉ်အကျဉ်းကိုပါ ထည့်သွင်းဖော်ပြထားပါသည်။

အချိန်	ဗုဒ္ဓဟူးနေ့၊ မတ်လ ၁၈ရက်၊ ၂၀၂၀ ပြည့်နှစ်။
နေရာ	အနော်ရထာ စီမံခန့်ခွဲရေးရုံး၊ အနော်ရထာ စက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်မြို့။
အစီအစဉ်အကျဉ်း	<ul style="list-style-type: none"> စက်ရုံနောက်ခံအကြောင်း စက်ရုံလုပ်ငန်းအကြောင်း ပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လျော့ချရေးအစီအစဉ် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်နှင့် စောင့်ကြပ်ကြည့်ရှုမှုအစီအစဉ် အမေးအဖြေကဏ္ဍ

နိဂုံး

နိဂုံးချုပ်အားဖြင့် ယခုစီမံကိန်းသည် ဆက်လုပ်ရေးကာလ၊ လုပ်ငန်းလည်ပတ်သည့်ကာလနှင့် လုပ်ငန်းဖျက်သိမ်းသည့် ကာလသုံးခုလုံးတွင် ဒေသခံပြည်သူများကိုအလုပ်အကိုင် အခွင့်အလမ်းများ ဖန်တီးပေးနိုင်သည်။ ကာလသုံးခုလုံးတွင် ဖြစ်ပေါ်လာနိုင်သော ထိခိုက်မှုများကို လျော့ချနိုင်မည့် နည်းလမ်းများနှင့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အား အကောင်အထည်ဖော်ခြင်းဖြင့် လျော့ချနိုင်သည်။ ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှု အစီအစဉ်အား စီမံကိန်း၏ ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေးကို စောင့်ကြပ်ကြည့်ရှုရန် မဖြစ်မနေ အကောင်အထည်ဖော်ပေးရမည်။ စီမံကိန်းကောင်အထည်ဖော်သူသည် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာနမှ ယခုအစီရင်ခံစာအား စစ်ဆေးပီးနောက် ပြန်လည်ပေးပို့လာသော

သဘောထားမှတ်ချက်နှင့် အကြံပြုချက်များကိုလိုက်နာရမည်။ ထို့ပြင် စီမံကိန်းအကောင်အထည်ဖော်သူသည် မြန်မာနိုင်ငံ၏ ပတ်ဝန်းကျင်နှင့် သက်ဆိုင်သောမူဝါဒများ၊ ဥပဒေများ၊ နည်းဥပဒေများ၊ သတ်မှတ်ချက်များကို လိုက်နာရန်လိုအပ်ပါသည်။

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 MYANMAR MYANBAG INDUSTRIAL Co., Ltd. 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 bags by Contract Manufacturing Process (CMP) basic company from China. The project is issued by the Yangon Region Investment Committee (YRIC) on 9 December, 2019 with the Endorsement No. (YGN- 298/2019). 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 various kinds of bags on CMP basis under the name of MYANMAR MYANBAG INDUSTRIAL CO., LTD.

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. Yaka- 1/3/4 (EIA) (2567/2019) on 24 December 2019. Therefore, Myanmar Myanbag Industrial CO., LTD. commissioned Myanwei Environmental Solutions Company Limited for 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 of the various kinds of bags 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.

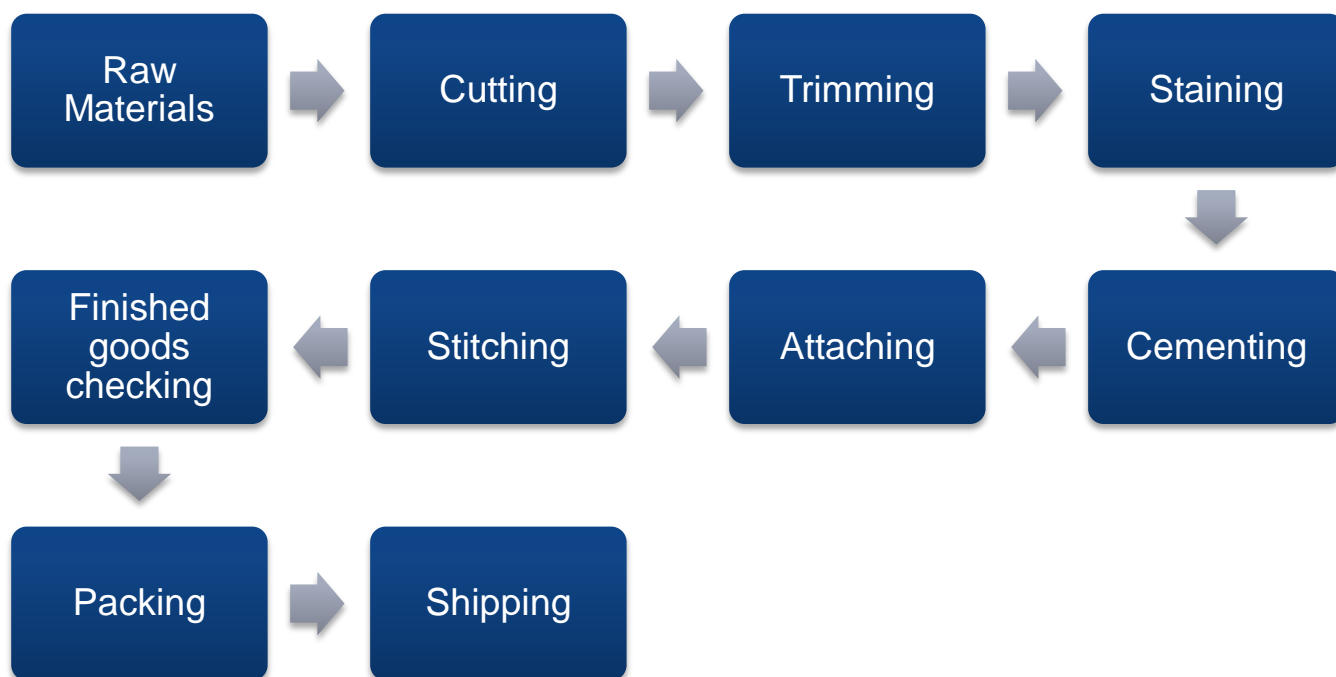
1. The Constitution Law, 2008
2. The Environmental Conversation Law, 2012
3. The Environmental Conversation Rule, 2014
4. Environmental Impact Assessment Procedure, 2015
5. National Environmental Quality (Emission) Guideline, 2015
6. National Myanmar Environmental Policy, 2019
7. Foreign Investment Law,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

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

Project Description

Type of Proposed Business	Manufacturing of various kinds of bags on CMP basis
Type of investment	100% Foreign Investment
Name of Company	MYANMAR MYANBAG INDUSTRIAL Co., Ltd.
Land lease year	30 years
Total land area	2.493 acres (100,88.813 sq-meter)
Type of land	Industrial Land
Construction Period	1 year
Address of Proposed Project	Plot No. (17), Myay Taing Block No. Zone 1, Industrial Zone, Hlaing Thar Yar Township, Yangon region.
Contact Person	09-688113101

The proposed project is located at Yangon region. The total area of project site is 2.493 acres (10088.813 square meters). 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 that also can be seen in this report. The main product of the Myanmar Myanbag Industrial Co., Ltd. is bags. The Utilities for proposed factory include electrical power, fuel oil for emergency used generator and water for domestic use. Electric power is used for the purpose of to provide lighting.



Production Process of Myanmar Myanbag Industrial Co., Ltd.

Production rate of Myanmar Myanbag Industrial Co., Ltd. is produced between first year of operation and ten-years operation as 420,000 to 462,000 pieces annually. It is required of work force (10) foreign technician and (1000) local employees for first year operation to 10years operation.

Brief Description of Surrounding Environment

Primary data and secondary data collections are very imported to assess environmental impacts. Primary data collections (environmental quality measurements and monitoring) play an important role for conducting EMP. Therefore, Myanwei Environmental Solutions Company Limited conducted air quality, temperature and humidity, noise level measurement and light pollution measurement on 3 March 2020 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.

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 Perdition of Significant Impacts

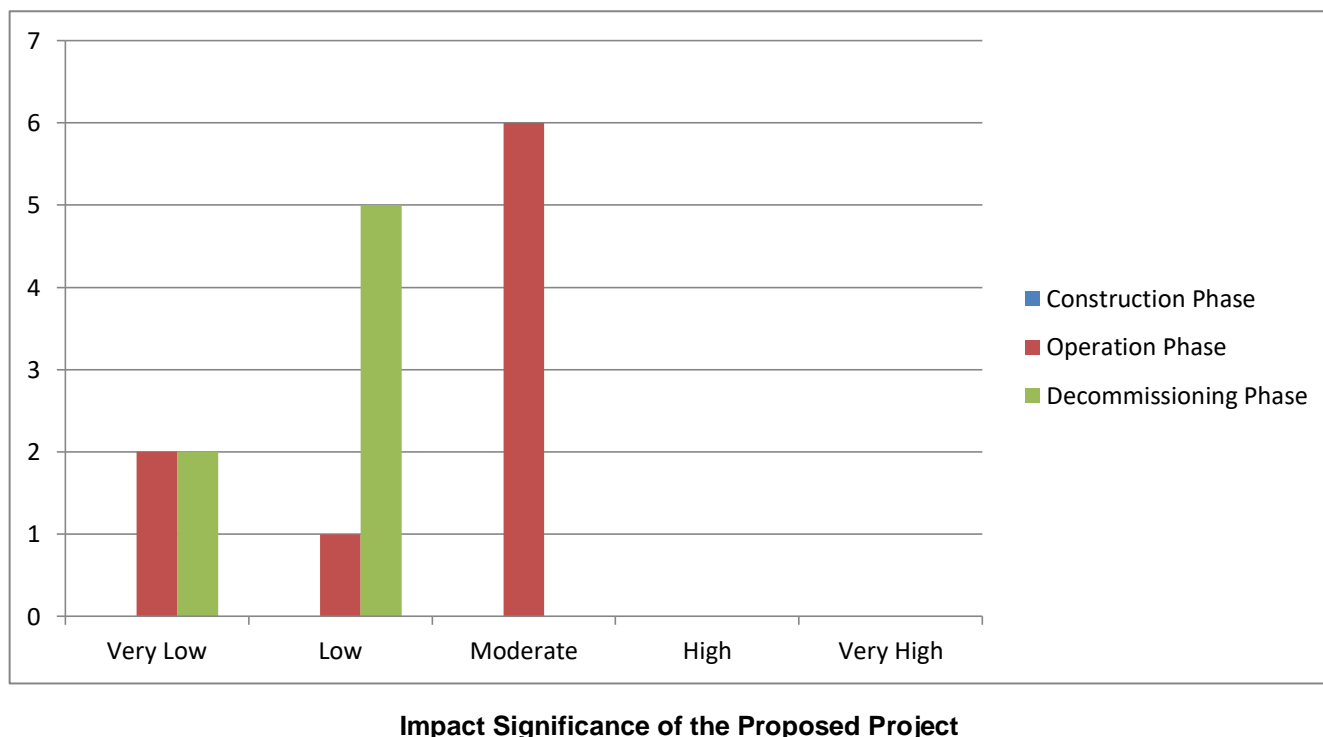
Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
Construction Phase; It is not assessed in this phase, because of construction is already completed during EMP preparation.							
Operation Phase							
Air pollution	<ul style="list-style-type: none">Dust and GHGs emission from vehicles used for transporting raw materials and final productsParticulate matters emission from the activities of production processEmission of smoke from kitchen and emergency diesel generator	3	4	2	4	36	Moderate
Water pollution	<ul style="list-style-type: none">Sewage disposed of from the toiletsOil spill and grease leaks from transporting vehicles and machinery equipment used in operation phase	2	4	2	3	24	Low
Soil Contamination	<ul style="list-style-type: none">Accidental spillage of oil used by vehicles operating	1	4	1	2	12	Very Low
Noise Pollution	<ul style="list-style-type: none">Generating noise from the production machineryNoise from the generating of the emergency generators	3	4	1	4	32	Moderate
Fire Hazard	<ul style="list-style-type: none">Poor electrical installationswaste disposed areaRaw materials storage	3	5	2	4	40	Moderate
Solid waste	<ul style="list-style-type: none">residual pieces of fabric scraps from the production linesWaste from packaging materialsWaste from kitchen, dormitory and office.	3	4	1	4	32	Moderate
Liquid waste	<ul style="list-style-type: none">Septic system and sewage.Domestic liquid waste disposal from office, kitchen and dormitory.	2	4	2	4	32	Moderate
Hazardous waste	<ul style="list-style-type: none">Engine oil leaks, spills at diesel storage and during fuel refueling.Used oil and lubricant discharged from the maintenance of vehicles and machines.	2	4	1	2	14	Very Low
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none">Accidental cases cause by operating machines.Electricity and emergency diesel generators.Unloading, mixing, cutting, pressing and packaging activities.Accidental cases of thermic fluid heater	3	4	1	4	32	Moderate
Social-economic Condition	<ul style="list-style-type: none">Job opportunities for local people	-	-	-	-	-	Positive Impact

Environmental Management Plan

Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
Decommissioning Phase							
Air pollution	<ul style="list-style-type: none">Decommissioning of buildings and related materialsTransportation of demolished materials	3	1	1	4	20	Low
Water pollution	<ul style="list-style-type: none">Sewage form decommissioning workersDemolition machinery equipment	3	1	1	3	15	Low
Soil Contamination	<ul style="list-style-type: none">Decommissioning of buildings and related materialsTransportation of demolished materials	3	1	1	3	15	Low
Noise Pollution	<ul style="list-style-type: none">Decommission activitiesTransportation of demolished materials	3	1	1	3	15	Low
Waste disposal	<ul style="list-style-type: none">Sewage systemDemolished debris such as bricks, concrete materials	2	1	1	3	12	Very Low
Hazardous waste	<ul style="list-style-type: none">Used lubricants from decommissioning vehicles and machines	2	1	1	3	12	Very Low
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none">Decommissioning activitiesTransportation of demolished materials	3	1	2	3	18	Low
Social-economic Condition	<ul style="list-style-type: none">Temporary job opportunities for local people	-	-	-	-	-	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.

Environmental Management Plan



Environment Management Program

The proposed project of environmental management plan, which need to do an Environmental Management System (EMS). 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 MYANMAR MYANBAG INDUSTRIAL CO., LTD. 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 MYANMAR MYANBAG INDUSTRIAL CO., LTD. are as follows:

1. Air pollution/Dust Management plan
2. Water Consumption Management Plan
3. Wastewater Management Plan
4. Solid Waste Management plan
5. Noise Management
6. Emergency Response plan
7. Environmental Monitoring and Reporting
8. Corporate Social Responsible (CSR) Plan
9. Budget Plan
10. Grievance Redress Mechanism

Public Consulting

This chapter presents results of public consultation and information disclosure conducted for the Myanmar Myanbag Industrial Co., Ltd. Public participation can consider as the required element of the EMP process. In this study various stakeholder participation were made. Public consultation during

Environmental Management Plan

preparation of EMP report was conducted on February 7, 2020, 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 factory, relevant key offices at the national level are Environmental Conservation Department (ECD) and Industry Supervision and Inspection Department. Relevant key office at the regional level is Yangon City Development Committee (YCDC), General Administrative Department, Fire Department, Factories and General Labor Law Inspection Department, Public Health Department, Industrial Supervision and Inspection Department.

Time and Date	Wednesday, March 18, 2020 10:30-12:30
Venue	Ahnawyahtar Management Office, Ahnawyahtar Industrial Zone, Hlaing Tharyar Township, Yangon.
Agenda	Presentation on the Background Information of Project, Project Description, Impact Assessment, Environmental Mitigation Environmental Management Plan and Monitoring Plan Received and Answer from feedback of participants

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 bags manufacturing 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.

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

- 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.

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 MYANMAR MYANBAG INDUSTRIAL CO., LTD. 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 specific objectives of this study are

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- ✓ 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. PROJECT BACKGROUND

The project is new investment for manufacturing of various kinds of bags on CMP Basis from China. The Yangon Region Investment Committee (YRIC) issues the project on 9 December 2019 with the Endorsement No. (YGN- 298/2019). The committee must issue the notification 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 various kinds of bags on CMP Basis under the name of MYANMAR MYANBAG INDUSTRIAL CO., LTD.

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 EMP to meet the environmental assessment requirements of Notification No. Yaka-1/3/4 (EIA) (2567/2019) on 24 December 2019. Therefore, MYANMAR MYANBAG INDUSTRIAL CO., LTD. commissioned to Myanwei Environmental Solutions Company Limited for EMP report study.

1.1.1. Project Proponent Profile

This is the information of project proponent from the MIC's registration that is describing in below Table 1-1 and Table 1-2.

Table 1-1 Information of Investor

Investor Name:	Mr. Ye, Zhen Fa
ID NUMBER	EG 8664971
Citizenship:	Chinese

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Address of Registration office:	No.10, Dasong Village, Daxi Town, Pinghe Country, Zhangzhou City, Fujian Province, China
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1.1.2. Director List

Name of Shareholder	Citizenship	Share Percentage
Quanzhou Hengde Bags & Luggage Manufacturing Co., Ltd. Representative by; Mr. Lin jin Biao	China	50%
Quanzhou Hengde Bags & Luggage Manufacturing Co., Ltd. Representative by; Mr. Lin Xuan Wan Mr. Ye Zhen Fa	China China	50%

1.1.3. Investment Plan and Salient Features of the Project

The estimated authorized capital investment is 0.876 Million US Dollar (Table 1-2). Organization chart of MYANMAR MYANBAG INDUSTRIAL CO., LTD. is presented in Figure 1-1.

Table 1-2 Salient Features of the Project

Type of Proposed Business	Manufacturing of various kinds of bags on CMP basis
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	2.493 acres (100,88.813 sq-meter)
Total building area	Two Buildings Factory Building (120ft × 240ft) Factory Building (120ft × 240ft)
Land lease year	30 years
Construction period	1 year
Operation starting date	30 years investment permit
Address	Plot No. (17), Myay Taing Block No. Zone (1), Industrial Zone, Hlaing Thar Yar Township, Yangon Region.
Contact person	09-688113101

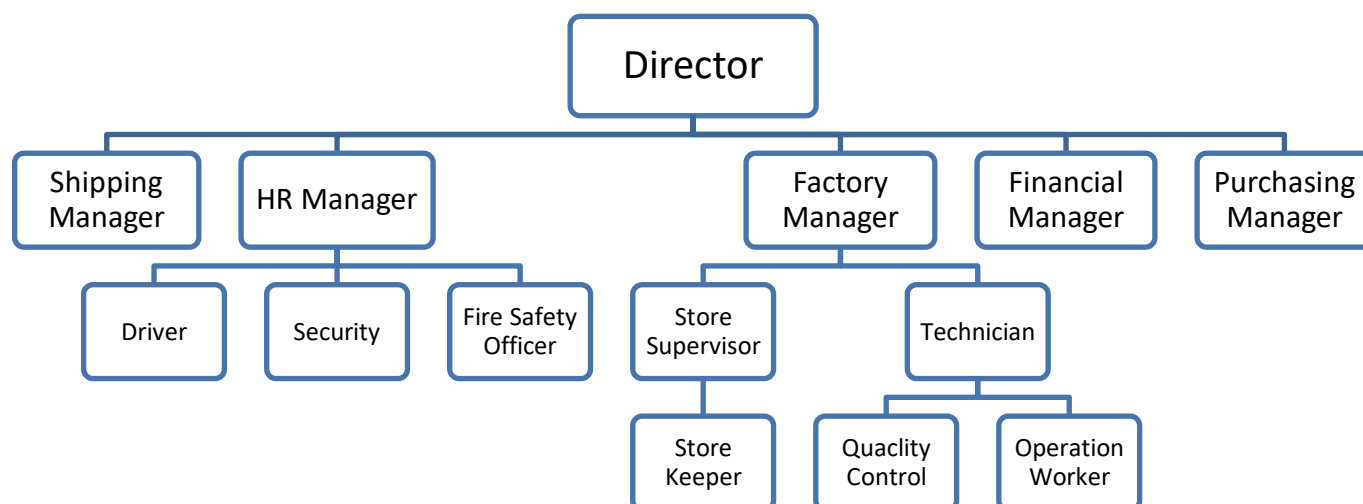


Figure 1-1 Organization Chart of MYANMAR MYANBAG INDUSTRIAL CO., LTD.

1.2. ENVIRONMENTAL CONSULTANT PROFILE

Myanwei Environmental Solutions Company Limited prepares the EMP for the proposed project. The field studies were carried out by MYANWEI having experiences in conducting environmental assessments for various types of projects in Myanmar. The MYANWEI (Environmental team) conducted field survey, assessment activities, and prepared the report. A reconnaissance study was performed on the proposed project site and baseline environmental data were also collected from possible sources using the appropriate measuring devices. Data interpretation and analysis were made based on those collected data for the present and potential future conditions. Suitable measures were proposed for the impacts to be mitigated to reduce to acceptable ones. The environmental study was carried out by the study team and the following is a summary of team member responsibilities during the study period.

Table 1-3 Member of EMP Study Team

Member List	Responsibility
Dr. Hein Lynn Aung (Director) M.B, B.S (Yangon), Master of Management from Australia	Health Impact Assessment, Mitigation and Monitoring Report Reviewing
Mr. Lin Htet Sein (Environmental Consultant) MSc (Regional Geology) BSc (Hons) Geology	Base Line Data Collecting Management, Project Description, Legal Assessment, Impact Assessment, Mitigation Measure, Monitoring plan, Report Preparation and Reviewing
Mr. Kyaw Win Han (Member) B.E. Chemical Engineering B. Tech Chemical Engineering	Baseline Data Monitoring, Site Surveying Communication with Stakeholder in Project Area
Mr. Aung Kyaw Moe (Member) B.E. Chemical Engineering B. Tech Chemical Engineering	Report Writing, Secondary Data Study
Mr. Saw Yan Naung (Member)	Baseline Data Monitoring, Site Surveying,

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Member List	Responsibility
B.E. Chemical Engineering B. Tech Chemical Engineering	Communication with Stakeholder in Project Area
Mr. Myat Ko Ko (Member) B.Sc (Hons) Geology M.Sc (Economic & Mining Geology)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Mr. Si Yan Hein (Member) B.Sc (Geology)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Ms. Khin Thuzar Myint (Member) B.E. Materials and Metallurgy Engineering Diploma in Environmental Planning and Management	Report Writing, Secondary Data Study
Mr. Htoo Nanda Aung (Member) B.Sc (Forestry)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Ms. Wah Wah Zaw (Member) B.E. Material and Metallurgy Diploma in Environmental Planning and Management M.S Environmental Planning and Management	Report Writing, Secondary Data Study
Mr. Kaung Sett Lwin (Member) BSc (Hons) Geology	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area

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 (MOECF) in April 2016.

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

Law and Regulation	Description
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.
Constitution 2008	
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.
Environmental Conservation Law, 30 March 2012	
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.
Section 3	c) to enable to emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefit of present and future generations; (d) to reclaim ecosystems as may be possible which are starting to degenerate and disappear; (e) to enable to manage and implement for decrease and loss of natural resources and for enabling the sustainable use beneficially;

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Law and Regulation	Description
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: Section 10	<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	A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards.
Section 15	The owner or occupier of any business, material or place which causes a point source of pollution shall install or use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution. If it is impracticable, it shall be arranged to dispose the wastes in accord with environmentally sound methods.
Section 16	<p>A person or organization operating business in the industrial estate or business in the SEZ or category of business stipulated by the Ministry:</p> <p>(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;</p> <p>(b) shall contribute the stipulated users' charges or management fees for the environmental conservation according to the relevant industrial estate, SEZ and business organization;</p> <p>(c) shall comply with the directives issued for environmental conservation</p>

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Law and Regulation	Description
	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.
Environmental Conservation Rules, 2014	
Rules 58	The Ministry shall form the EIA Report Review Body with the experts from the relevant Government departments, organizations.
Rules 59	The Ministry may assign duty to the Department to scrutinize the report of EIA prepared and submitted by any organization or person relating to EIA and report through the EIA Report Review Body.
Rules 61	The Ministry may approve and reply on the EIA report o IEE or EMP with the guidance of the Committee.
Sub-rule (a) of rule 68	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 68	The project proponent has to avoid performing to damage to ecosystem and the environment generated by said ecosystem.
Environmental Impact Assessment Procedure (December 2015)	
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> <p>The project proponent has to be liable and fully & 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 & rules and this procedure, under paragraph 106.</p>

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Law and Regulation	Description
	<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>
Screening: Section 23	<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 Purposes', 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>
National Environmental Quality (Emission) Guidelines (NEQG) (December 2015)	
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.
National Myanmar Environmental Policy (2019)	

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Law and Regulation	Description
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 policies, laws, regulation, plans, strategic, programmes and projects in Myanmar.</p>
Foreign Investment Law, 2012	
Section 8	<p>(a) To support the primary objectives of the national economic development plan, and for businesses that cannot yet be run by the State and citizens or businesses that have insufficient funds and technology.</p> <p>(b) Development of employment activities</p> <p>(l) Protection and conservation of the environment.</p> <p>(q) Appearing the required modern services for the Union and citizens.</p>
Section 17	<p>(a) To abide by the existing laws of the Republic of the Union of Myanmar.</p> <p>(b) To carry out the business by forming a company under the existing laws of Myanmar by the investor.</p> <p>(h) To carry out not to cause environmental pollution or damage in accord with existing laws in respect of investment business.</p> <p>(k) To carry out the systematic transfer of high technology relating to the business which are carried out by the investor to the relevant enterprises, departments or organizations in accord with the contract.</p>
Foreign Investment Rule, 2013	
Rule 54	<p>The promoter or investor shall:</p> <p>(a) comply with Environmental Protection Law in dealing with environmental protection matters related to the business;</p> <p>(b) shall carry out socially responsible investment in the interest of the Union and its people;</p> <p>(c) shall co-operate with authorities for occasional or mandatory inspection;</p> <p>(d) shall exercise due diligence to be in conformity and harmony with norms and standards prescribed by relevant Union Ministry in conducting construction of factories, workshops, buildings, and other activities;</p> <p>(e) shall enforce Safety and Health</p>
Myanmar Investment Rules, 2017	
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</p>

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Law and Regulation	Description
	environment and injury to the public.
Payment of Wages Law (2016)	
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
Yangon City Development Committee Law (2018)	
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
The Amended Law for Factories Act, 1951 (2016)	
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.
The Private Industrial Enterprise Law, 1990	
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>

Law and Regulation	Description
The Export and Import Law (2012)	
Objectives	<p>The objectives of this law are as follows:</p> <p>a) To enable to implement the economic principles of the State successfully.</p> <p>b) To enable to lay down the policies relating to export and import that supports the development of the State.</p> <p>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.</p> <p>d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.</p>
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.
The Prevention of Hazard from Chemical and Related Substances Law, 2013	
<p>This law was enacted with the objectives of:</p> <p>a. To protect from being damaged the natural environment resources and being hazardous any living beings by chemical and related substances;</p> <p>b. To supervise systematically in performing the chemical and related substances business with permission for being safety;</p> <p>c. To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically;</p> <p>d. To perform the sustainable development for the occupational safety, health and environmental conservation.</p> <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>	
Underground Water Act	
<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>	
Myanmar Fire Brigade Law (2015)	
<p>The Pyidaungsu Hluttaw enacted this law by Law No.11/2015 on the date of 17th March, 2015 with the following objectives :</p> <p>(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</p> <p>(b) to organize fire brigade systemically and to train the fire brigade</p> <p>(c) to prevent from fire and to conduct release work when fire disaster, natural disaster, epidemic disease or any kind of certain danger occurs</p> <p>(d) to educate, organize and inside extensively so as to achieve public corporation</p> <p>(e) to participate if in need for national security, peace for the citizens and law and order</p>	
Section-8 Fire Safety Procedures	
Rule17	The relevant Government Department or organization shall, for the purpose of precaution and prevention obtain the approval of the Fire Force Department

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Law and Regulation	Description
	<p>before granting permission for the following cases:</p> <ul style="list-style-type: none"> a. Constructing three-storied and above buildings market and condominium buildings, b. Operating hotel, motel, guest house enterprise c. Constructing factory, workshop, storage facilities and warehouse d. Operating business expose to fire hazard by using in inflammable materials or explosive materials e. Producing and selling fire-extinguishing apparatuses f. Doing transport business, public utility vehicles train, airplane, helicopter, vessel, ship, tonkin tug
Rule18	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
The Electricity Law (2014)	
<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>	
Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)	
<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>	
The Social Security Law (2012)	
<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)	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;
Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)	
<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	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.
Section 24	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

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Law and Regulation	Description
	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.
Section 25	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.
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 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.
The Employment and Skill Development (2013)	
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.
The Worker's Compensation Act, 1923	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.
The Payment of Wages Act, 1936	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.
The Leave and Holidays Act (1951, partially revised in 2014)	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.
The Minimum Wage Law (2013)	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

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Law and Regulation	Description
	equal payment.
Public Health Law (1972)	Chapter 2; Prevention of Public Health
Objectives	<p>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</p> <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>
Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)	
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>
Occupational Safety and Health Law (2019)	
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.
The law on Standardization	
Objectives	The Objectives of this Law are as follows:

Environmental Management Plan

Law and Regulation	Description
	<p>to enable to determine Myanmar Standard</p> <p>to enable to support export promotion by enhancing quality of production organizations and their product, production processes and services</p> <p>to enable to protect the consumers and user by guaranteeing imports and products are not lower than prescribed standard, and safe from health hazards</p> <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>
လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သောဝတ္ထုပစ္စည်းများဆိုင်ရာဥပဒေ (၂၀၁၈)	
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	လိုင်စင်ရရှိသူနှင့် ခွင့်ပြုချက်ရရှိသူ မည်သူမျှ စစ်ဆေးရေးအရာရှိချုပ် သို့မဟုတ် စစ်ဆေးရေးအရာရှိ၏ စစ်ဆေးခြင်းကို ခံယူရန် ငြင်းပယ်ခြင်းမပြုရ။
အမှတ် ၁၉ (ခ)	ပုဒ်မ ၈ အရ ကာကွယ်ရေးဌာနကောင်စီ အမှုဆောင်အဖွဲ့၏ အတည်ပြုချက်မရရှိဘဲ လုပ်ငန်းခွင် ပေါက်ကွဲစေတက်သော ဝတ္ထုပစ္စည်းများကို ဖျက်ဆီးခြင်းမပြုရ။
အမှတ် ၁၉ (ဂ)	ဤဥပဒေအရ ထုတ်ပြန်သည့် နည်းဥပဒေ၊ စည်းမျဉ်း၊ စည်းကမ်း၊ အမိန့်ကြော်ငြာစာ၊ အမိန့်နှင့် ညွှန်ကြားချက်များနှင့်အညီ ဆောင်ရွက်ရန် ပျက်ကွက်ခြင်း မရှိစေရ။
The Motor Vehicles Law (2015)	
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"> 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.
The Conservation of Water Resources and Rivers Law (2006)	

Environmental Management Plan

Law and Regulation	Description
Aims	The aims of this Law are as follows: (a) to conserve and protect the water resources and rivers system for beneficial utilization by the public; (b) to smooth and safety waterways navigation along rivers and creeks; (c) to contribute to the development of State economy through improving water resources and river system; (d) to protect environmental impact.
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.
The Commercial Tax Law (1990) Amended 2014	
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.
12 (e)	The tax payable on goods imported under sub-section (c) of section 4 of

Law and Regulation	Description
	the Law shall be collected together with the customs duties by the Customs Department in accord with the manner of collecting customs duties.

2.2. INTERNATIONAL GUIDELINES

Organization's Guidelines, World Bank Safeguard Policies, IFC Performance Standards and National Environmental Quality (Emission) Guidelines (2015) are referred for EMP of the proposed factory project.

2.3. COMMITMENT OF MYANMAR MYANBAG INDUSTRIAL CO., LTD.

MYANMAR MYANBAG INDUSTRIAL CO., LTD. shall be 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 Natural Resources and Environmental Conservation (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. MYANMAR MYANBAG INDUSTRIAL CO., LTD. shall be responsible for the environmental assessment of factory development as follows:

- Monitoring the factory area operations according to EMP and Environmental Monitoring Plan (EMP)
- Submitting environmental monitoring reports to ECD
- 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

3. PROJECT DESCRIPTION

3.1. LOCATION

MYANMAR MYANBAG INDUSTRIAL Co., Ltd. is located at Plot No. (17), Myay Taing Block No. Zone (1), Industrial Zone, Hlaing Thar Yar Township, Yangon Region. Location map is as shown in Figure 3-1.

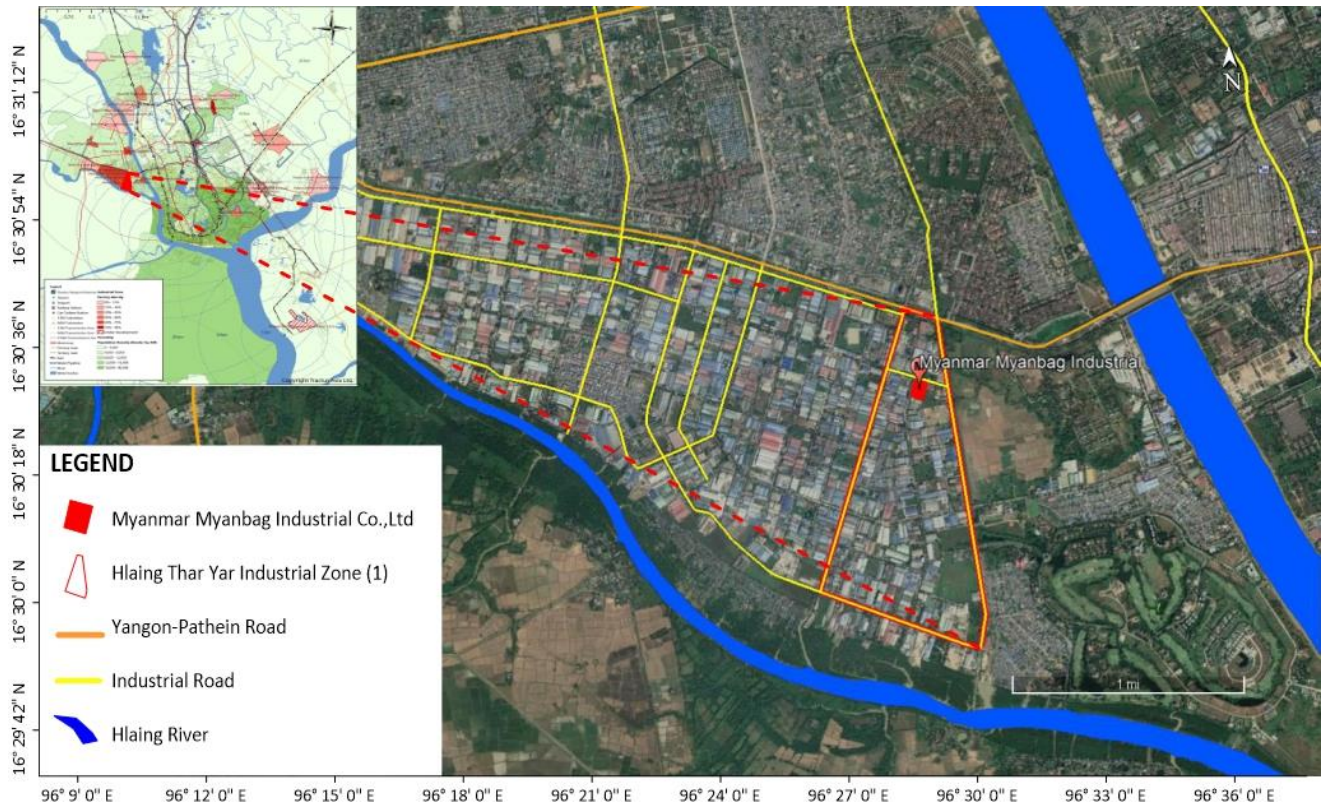


Figure 3-1 Location Map

3.2. OBJECTIVES OF THE PROJECT

The proposed project intends to manufacture bag on CMP basic and to export 100% of the finished products. Sanmar and Everest will supply raw materials for bags manufacturing. Sanmar and Everest agrees to supply to ready make products and pay CMP charges to MYANMAR MYANBAG INDUSTRIAL CO., LTD.

3.2.1. Site Description of the Project Site

The total area of project site is 2.493 acres (10088.813 square meters). Main structure is designed into office area for one building and QC department, sewing department, cutting department and iron department for production building. Transformer room and generator room are separated by main factory building structure. The factory layout plan can be seen in Figure 3-3.

Environmental Management Plan



1.Dormitory, Kitchen 2.Generator room 3.Security Gate 4.Purified Water System 5.Clinic 6.Sewing Line, QC Area
7.Office 8.Cutting Area 9.Warehouse 10.Maintenance Department

Figure 3-2 Aerial Photo

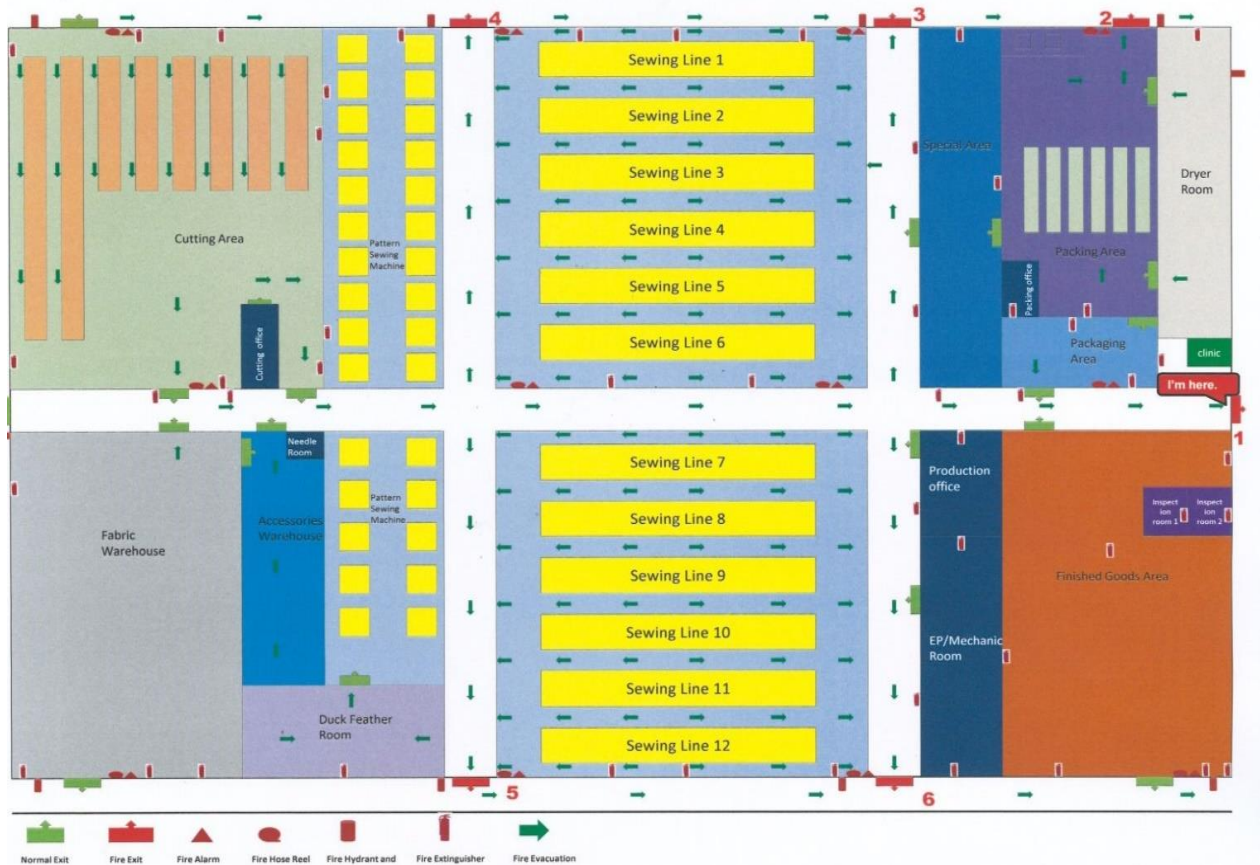


Figure 3-3 Factory Layout Drawing

3.3. PROJECT OPERATION

Construction phase of the factory is started in December 2019 according to the YRIC's Endorsement. The operation phase of the factory is started in December 2020 and the validity of endorsement is 30 years. Myanmar Myanbag Industrial Company Limited will close the factory as their MIC proposal.

Table 3-1 Myanmar Myanbag Industrial Company Limited's Project Life Span

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	Infinity	
Construction Phase																																
Operation Phase																																
Decommissioning Phase																																

3.3.1. Production Process

The process flow diagram for bags manufacturing is shown in Figure 3-4. The raw materials are cut and trimming and cementing which are attached when cemented. And then stitching to finished goods. Finally, these are packed and shipping to the buyer.

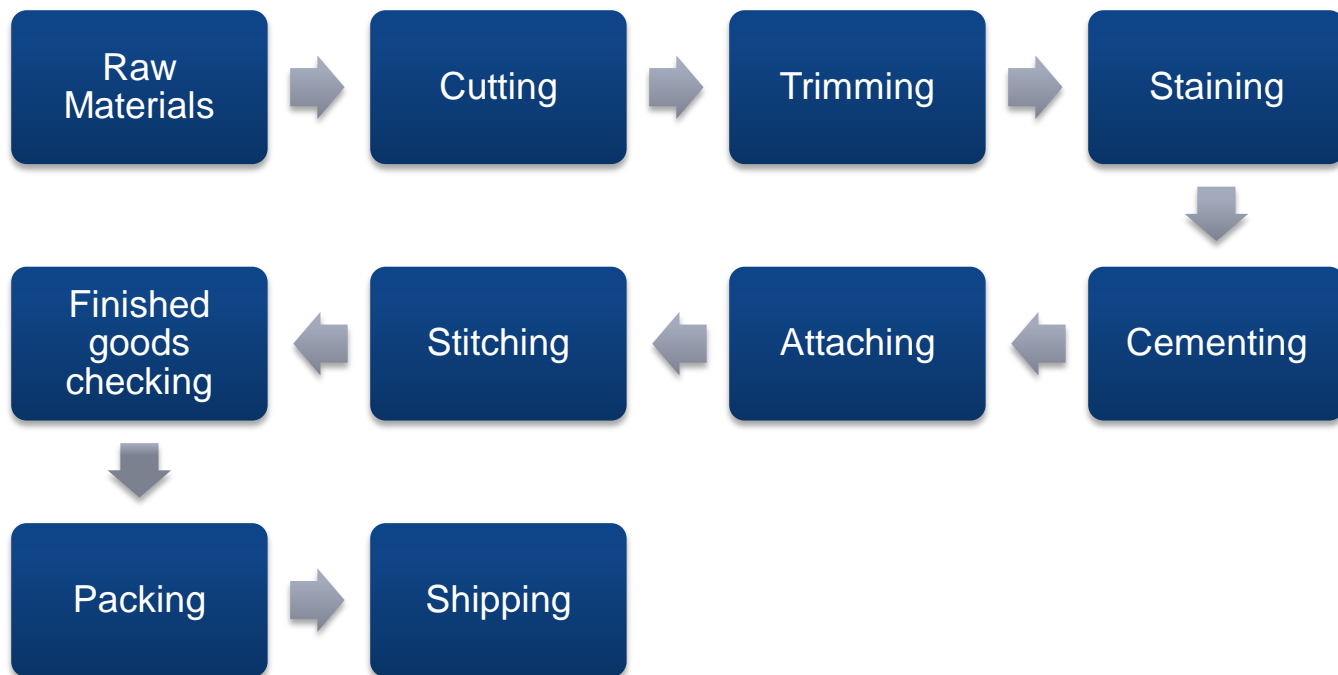


Figure 3-4 Process Flow Diagram of MYANMAR MYANBAG INDUSTRIAL CO., LTD.



Raw Materials



Cutting



Sewing



Quality Control



Packing

Figure 3-5 Production Process Photos of MYANMAR MYANBAG INDUSTRIAL COMPANY LIMITED

3.3.2. Products

The products of MYANMAR MYANBAG INDUSTRIAL CO., LTD. is various kinds of bags. Table 3-2 is described in annual production rate.

Table 3-2 Annual Production Rate

No.	Particular	Unit	Year 1-3	Year 4-10
1.	P705.71*Bobby XL (Backpack)	Pcs	100,000	110,000
2.	P705.29*Bobby X (Backpack)	Pcs	200,000	220,000
3.	P705.70*Bobby S (Backpack)	Pcs	80,000	88,000
4.	BB22933 (Diaper Bag)	Pcs	20,000	22,000

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No.	Particular	Unit	Year 1-3	Year 4-10
5.	BB22780 (Diaper Bag)	Pcs	20,000	22,000



P705.71(BACKPACK)



P705.29(BACKPACK)



P705.70(BACKPACK)



BB22933(DIAPER BAG)



BB22780(DIAPER BAG)

Figure 3-6 Product Photo

3.4. UTILITIES

The Utilities for proposed factory include electrical power, fuel oil for emergency used generator and water for general uses. Electric power is used for the purpose of to run the machinery and to provide lighting.

3.4.1. Raw Material

The main Raw Materials are fabric, which are imported from China. Annually raw materials require for product is described in Table 3-3.

Table 3-3 List of Raw Material Requirement (Annually)

No.	Particular	Unit	Year-1 to 3	Year-4 to 5	Year-6 to 10
1	Rpet Pu Fabric	Yards	108,400	119,240	119,240
2	Pvc Fabric	Yards	12,200	13,420	13,420
3	Lining	Yards	19,800	21,780	21,780
4	Rpet Lining	Yards	322,800	355,080	355,080

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No.	Particular	Unit	Year-1 to 3	Year-4 to 5	Year-6 to 10
5	Rfid Fabric	Yards	17,400	19,140	19,140
6	Pu Leather	Yards	21,040	23,144	23,144
7	Tpe Fabric	Yards	1,440	1,584	1,584
8	Non Woven Fabric	Yards	39,960	43,956	43,956
9	Mesh	Yards	24,480	26,928	26,928
10	Sandwish Mesh	Yards	50,100	55,110	55,110
11	Eva	M2	67,420	74,162	74,162
12	Pe Foam	M2	104,700	115,170	115,170
13	Sponge	M2	145,620	160,182	160,182
14	Zipper Tape	Yards	690,380	759,418	759,418
15	Zipper Head	Pcs	3,720,000	4,092,000	4,092,000
16	Webbing	Yards	1,473,800	1,621,180	1,621,180
17	Elastic Tape	Yards	328,300	361,130	361,130
18	Plastic Button	Pcs	380,000	418,000	418,000
19	Metal Button	Pcs	760,000	836,000	836,000
20	Usb	Pcs	380,000	418,000	418,000
21	Tpe Usb Line	Pcs	380,000	418,000	418,000
22	Plastic Hardware	Pcs	800,000	880,000	880,000
23	Eva Handle	Pcs	380,000	418,000	418,000
24	Pe Board	Pcs	3,420,000	3,762,000	3,762,000
25	Paper Board	M2	2,600	2,860	2,860
26	Selicon Patch	Pcs	760,000	836,000	836,000
27	Velcro	Yards	149,300	164,230	164,230
28	Inside Label	Pcs	580,000	638,000	638,000
29	Thread	Yards	67,720	74,492	74,492
30	Woven Label	Pcs	800,000	880,000	880,000
31	Hangtag	Pcs	2,740,000	3,014,000	3,014,000
32	Hangtag Pin	Pcs	80,000	88,000	88,000
33	Hangtag Rope	Pcs	760,000	836,000	836,000
34	Polybag	Pcs	380,000	418,000	418,000
35	Carton	Pcs	380,000	418,000	418,000
36	Selica Gel	Pcs	80,000	88,000	88,000
37	Barcode Sticker	Pcs	380,000	418,000	418,000

3.4.2. Machinery and equipment

Lists of machinery and equipment required for the MYANMAR MYANBAG INDUSTRIAL CO., LTD. is following in Table 3-4. They are 224 days running annually.

Table 3-4 List of Machinery

No.	Particular	HS Code	Unit	Quantity
1.	Hydraulic Cutting Machine	8441	Set	4
2.	Industrial Sewing Machine	8452	Set	8
3.	Industrial Sewing Machine	8452	Set	48
4.	Industrial Sewing Machine	8452	Set	208
5.	Industrial Sewing Machine	8452	Set	16
6.	Industrial Sewing Machine	8452	Set	16
7.	Industrial Sewing Machine	8452	Set	2
8.	Industrial Sewing Machine	8452	Set	8
9.	Industrial Sewing Machine	8452	Set	8
10.	Industrial Sewing Machine	8452	Set	2
11.	Industrial Sewing Machine	8452	Set	40
12.	Broken cloth machine	8452	Set	1
13.	Cutting machine	8441	Set	1
14.	Electric drill	8467	Set	1
15.	Strapping machine	8422	Set	1
16.	Clap machine	9019	Set	1
17.	Industrial Sewing Machine	8452	Set	2
18.	Nail machine	8463	Set	4
19.	Hydraulic cutting machine	8441	Set	4
20.	Three Phase Motor	8501	Set	74
21.	Electronic control accessories	8708	Pcs	8
22.	Broken machine crossbar	8463	Pcs	1
23.	Crossbar	7308	Pcs	1
24.	High-head sewing machine table	8452	Pcs	28
25.	Twin-needles machine table	8453	Pcs	8
26.	Industrial Sewing Machine Table	8452	Pcs	124
27.	Pattern machine board	8451	Pcs	16
28.	Industrial Sewing Machine Table	8452	Pcs	4
29.	Peeling machine board	8438	Pcs	1
30.	High-head sewing machine Plate rack	8452	Pcs	4
31.	High-head sewing machine Plate rack	8452	Pcs	24
32.	Industrial Sewing Machine Plate rack	8452	Pcs	137
33.	Industrial Sewing Machine Plate rack	8452	Pcs	4
34.	Pattern stand	4421	Pcs	8
35.	Wooden board of Hydraulic Cutting Machine	8441	Pcs	4
36.	Industrial Sewing Machine Plastic Table Drawer	8452	Pcs	7

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No.	Particular	HS Code	Unit	Quantity
37.	Industrial Sewing Machine Plastic Table Drawer	8452	Pcs	1
38.	Treadle Rod or Industrial Sewing Machine	8452	Pcs	26
39.	Sewing Machine Motor Belt Size40	8452	Pcs	16
40.	Sewing Machine Motor Belt Size54	8452	Pcs	8
41.	Sewing Machine Motor Belt Size37	8452	Pcs	2
42.	Sewing Machine Motor Belt Size55	8452	Pcs	10
43.	Sewing Machine Motor Pulley Size55	8452	Pcs	66
44.	Sewing Machine Motor Pulley Size60	8452	Pcs	8
45.	Motor plug	8708	Pcs	74
46.	Small Solid Rubber Wheel For Sewing Machine	8410	Pcs	11
47.	Small Solid Rubber Wheel For Sewing Machine	8410	Pcs	1
48.	Tape pack	3919	Pcs	1

3.4.3. Human Resource

Human resource required by foreign experts/technicians and local persons for administrative and production process are about 1010 persons during 10 years (Table 3-5). Currently there are total 523 employees and one shift (8 hours + overtime 2 hours) of production is running for operation.

Table 3-5 Employment Schedule

No.	Particular	Local			Foreign		
		Year 1	Year 2	Year 3-10	Year 1	Year 2	Year 3-10
1.	Human Resources Manager	1	1	1			
2.	Accountant	3	3	3			
3.	Quality Control	5	5	5			
4.	Driver	2	2	2			
5.	Cleaner	2	2	2			
6.	Security	2	2	2			
7.	Store Keeper	3	3	3			
8.	Skill and Semiskilled worker	580	580	580			
9.	Unskilled worker	400	400	400			
10.	Translator	1	1	1			
11.	Fire Safety Officer	1	1	1			
12.	Factory Manager				1	1	1
13.	Purchasing Manager				1	1	1
14.	Financial Manager				1	1	1
15.	Quality Control Supervisor				1	1	1
16.	Sampling Technician				2	2	2
17.	Patterning Technician				6	1	1

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No.	Particular	Local			Foreign		
		Year 1	Year 2	Year 3-10	Year 1	Year 2	Year 3-10
18.	Mechanic				2	2	2
19.	Merchandiser				1	1	1
Total		1000	1000	1000	15	10	10

3.4.4. Water

Hlaing Thar Yar Industrial zone (1) has no centralized water supply system and the factory gets water from the two tube wells installed inside the factory compound. Groundwater from this tube wells are pumped in the storage tanks for the factory and domestic use. The main water use in the proposed project is for domestic usage such as for personal washing, food preparation, and washing of utensils. Drinking water will be provided by outsource suppliers. Figure 3-7 is described by water storage tank and drinking water supply for MYANMAR MYANBAG INDUSTRIAL CO., LTD.



Figure 3-7 Drinking Water Supply

3.4.5. Electricity and Fuel Requirement

The proposed project is waiting to get required electricity supply form Yangon City Electricity Supply Board (YESB). The Current source of energy are 500 kVA transformer and (500 and 100 kVA generators are used for not only production but also the whole factory. In this factory, generators are put on separating. 100 gallons per month of diesel are used for this generator.



Figure 3-8 Electricity System at MYANMAR MYANBAG INDUSTRIAL CO., LTD.

3.5. GENERATION OF WASTE, EMISSION AND DISTURBANCES

3.5.1. Status of the Factory

MYANMAR MYANBAG INDUSTRIAL CO., LTD. is using ground water for both industrial and household purpose, which is supplied by deep tube well. The factory also has generators for electricity generation. The fuel used in the industry is Diesel. The sanitary liquid waste of the factory is stored in septic tank.

The major pollution caused by the factory's operation are water pollution by discharging liquid waste generated in wet process i.e. air pollution by generator's effluent gas emission, noise pollution created during the operation of generator and other machines.

Solid wastes (recycle waste) such as broken machine parts, paper box, fabric scraps, etc. are hand over to local waste buyer. Although the factory causes some pollution but also has a positive side and that is the factory has created employment for many people, due to this factory local community has built up daily.

3.5.2. Industrial Wastes

Wastes generated from the bags manufacturing factory are cloth scraps of 50% from cutting section, 35% from sewing section and 15% from packing section. In addition, packing waste of plastic sheet, carton box and fabric paper tube are generated from cutting line and packing section. Total amount of waste about maximum 40 kg per day are generated from operation process.

3.5.3. Human wastes

The number of staff and workers required in the day shift for the factory is maximum 523 persons during operation. Solid waste generated from maximum number of operators and office staffs with assumption of waste generation rate at 203.97 kg/day was calculated based on solid waste generation rate of 0.39 kg/person/day¹.

Domestic wastewater generated by maximum amount of 523 persons with assumption rate 52.3 m³/day was calculated based on domestic wastewater generated rate of 0.1 m³/person/day². This water will be released in operation hour discharge to septic tank or factory drainage.

¹ 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).

² The domestic wastewater generation was based on typical wastewater generation rate of 0.1 m³ per person per day (Metcalf & Eddy, 2004)

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, and 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. ENVIRONMENTAL BASELINE STUDY

The field observation for determining the environmental baseline of the proposed project area was undertaken during construction period. The survey team consists of the senior consultant and environmental quality team. The baseline data collected regarding the environmental condition of the project area was conducted in the following section.

4.3. PHYSICAL COMPONENT

4.3.1. Topography

The proposed project area is situated Industrial Zone (1), 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.

4.3.2. Geology

Alluvial deposits (Pleistocene to Recent), the non-marine fluvialtile sediments of Irrawady formation (Pliocene), and hard, massive sandstone of Pegu series (early-late Miocene) underlie the Yangon area. 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, limestones and conglomerate. Geological map of Yangon Regional area is shown in Figure 4-1.

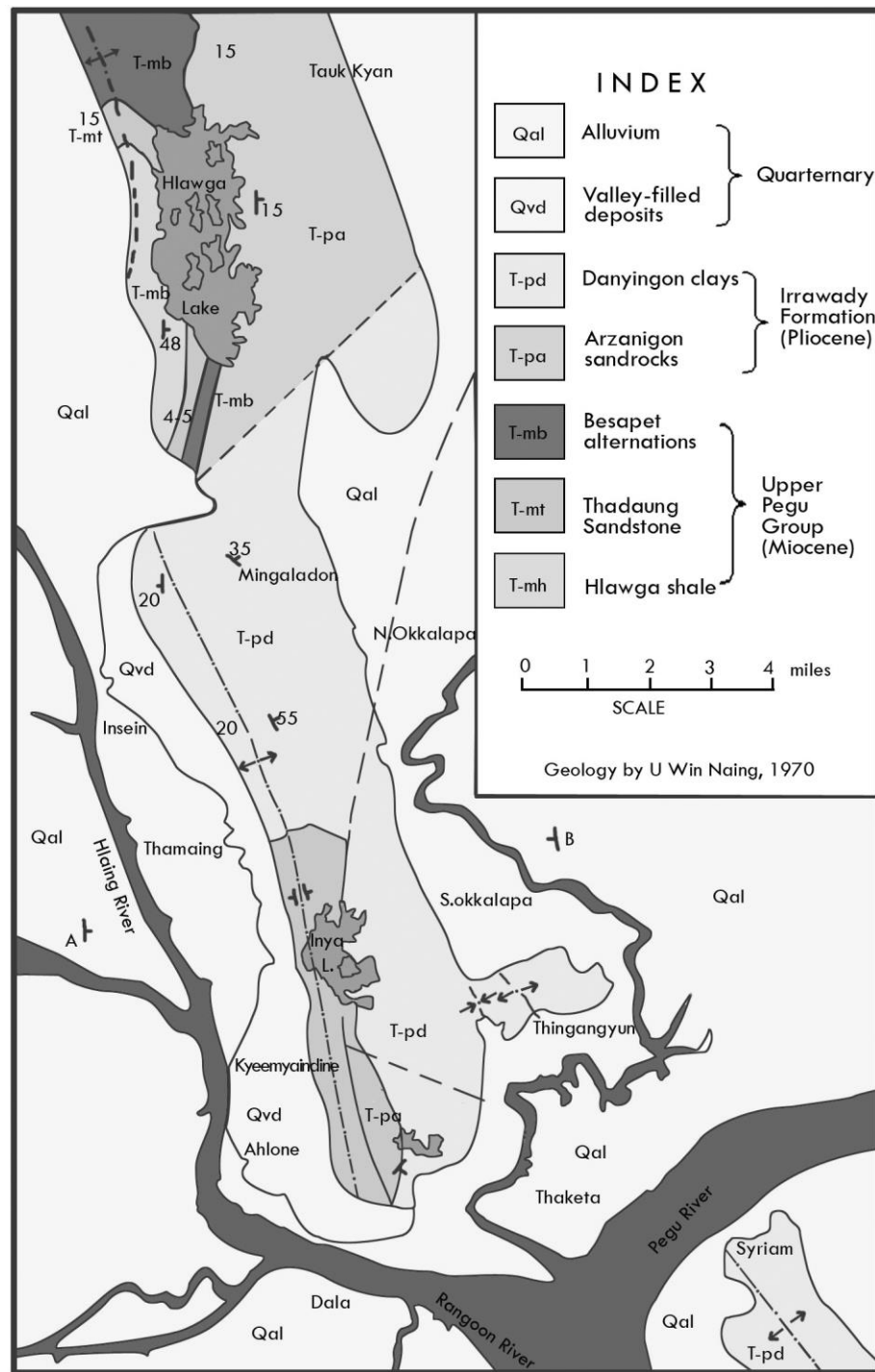


Figure 4-1 Geological Map of Yangon Region

4.3.3. 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).

4.3.4. 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 salty 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 could accommodate the construction of the Project.

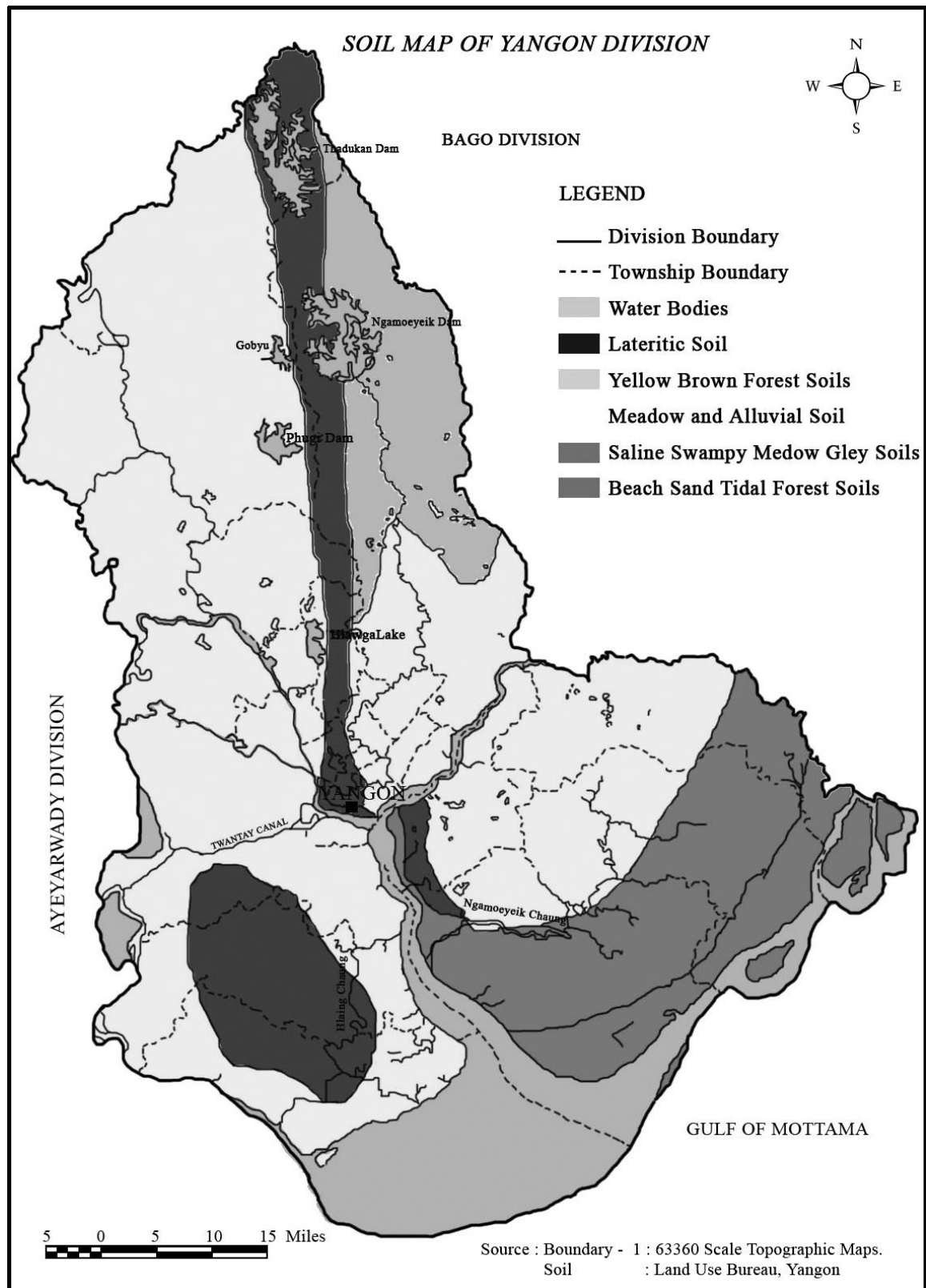


Figure 4-2 Soil Map of Yangon (Source: Land use of Bureau of Yangon)

4.3.5. 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 MSL.

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 Hlaing River which flows North to South. 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.

4.3.6. 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 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.

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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 Shwe Lin Ban Industrial Zone, Hlaing Thar Yar Township, Yangon Region. The climate condition of Hlaing Thar Yar Township is the dry season of area in which the project lies 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 38°C and low range 30°C reference from Township Meteorology data, Regional Data of Hlaing Thar Yar Township. 2013 to 2017 Yearly data of rainfall and temperature is presented in Table 4-1. The weather condition during 3 March 2020 shows the average temperature of 37.035 °C while the average humidity is 27.88 percent Table 4-2.

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 Proposed Project

Date and Time	Description	Result value	Environmental parameter air station guideline
25 March 2020 (10:00 am to 4:00 pm)	Relative Humidity RH %	27.88 (%)	Present condition
	Temperature	37.035 °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 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

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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.

4.4. BASELINE ENVIRONMENTAL MONITORING

The baseline environmental quality at the Project Site and its immediate surroundings was established by groundwater, wastewater and ambient air quality samples; as well as noise measurements at immediate surrounding areas. The data is presented below.

4.4.1. Temperature and Humidity

The weather condition during 3 March 2020 shows the average temperature of 37.035 °C while the average humidity is 27.88 % and its cloudy day. There were partly cloudy on the day between 10:00 am and 4:00 pm and the wind speed is 15 to 25 km/h SW direction.

Table 4-3 Relative Humidity and Temperature Measure at MYANMAR MYANBAG INDUSTRIAL CO., LTD.

Date and Time	Description	Result value	Environmental parameter air station guideline
3 March 2020 (10:00 am to 4:00 pm)	Relative Humidity RH %	27.88 (%)	Present condition
	Temperature	37.035 °C	Present condition

4.4.2. Air Quality

To determine the existing baseline ambient air quality status within the project site on 3 March 2020, 24-hours of working period air pollutants level, which include dust (PM₁₀ and PM_{2.5}). 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°54'38.64"N and longitude 96°4'12.95"E.

It was observed that the air quality of SO₂, CO and O₃ concentration level are within the limit of NEQ (emission) guideline but particulate matter PM₁₀ is within the guideline and gases level of Nitrogen Dioxide (NO₂) and particulate matter PM_{2.5} are a little exceed the National Environmental Quality (Emission) Guideline.

Table 4-6 Observed Air Quality Results

Parameters	Observed value	Guideline value	Unit	Organization	Working Period
PM ₁₀	44.4	50	µg/m ³	NEQG	8 hrs
PM _{2.5}	34.4	25	µg/m ³	NEQG	8 hrs
SO ₂	70.96	500	NEQG	NEQG	8 hrs

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Parameters	Observed value	Guideline value	Unit	Organization	Working Period
NO ₂	398.23	200	NEQG	NEQG	8 hrs
O ₃	52.5	100	NEQG	NEQG	8 hrs
CO	0.3	10	NEQG	NEQG	8 hrs

NEQ = National Environmental Quality (Emission) Guideline



Figure 4-3 Air Quality Measurement at the Project Site

4.4.3. Noise

The Noise level was measured by using Digital Sound Level Meter for working hours on 3 March 2020. The average noise level in the project site area is presented in Table 4-4 compared with NEQ 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.

Table 4-4 Noise Level Measurement Result

Date and Time	Location	GPS value	Result value	Guideline
3 March 2020 (10:00 am to 4:00 pm)	Operation area	16°51'6.22"N 96° 4'58.18"E	66.83 dBA	70 dBA

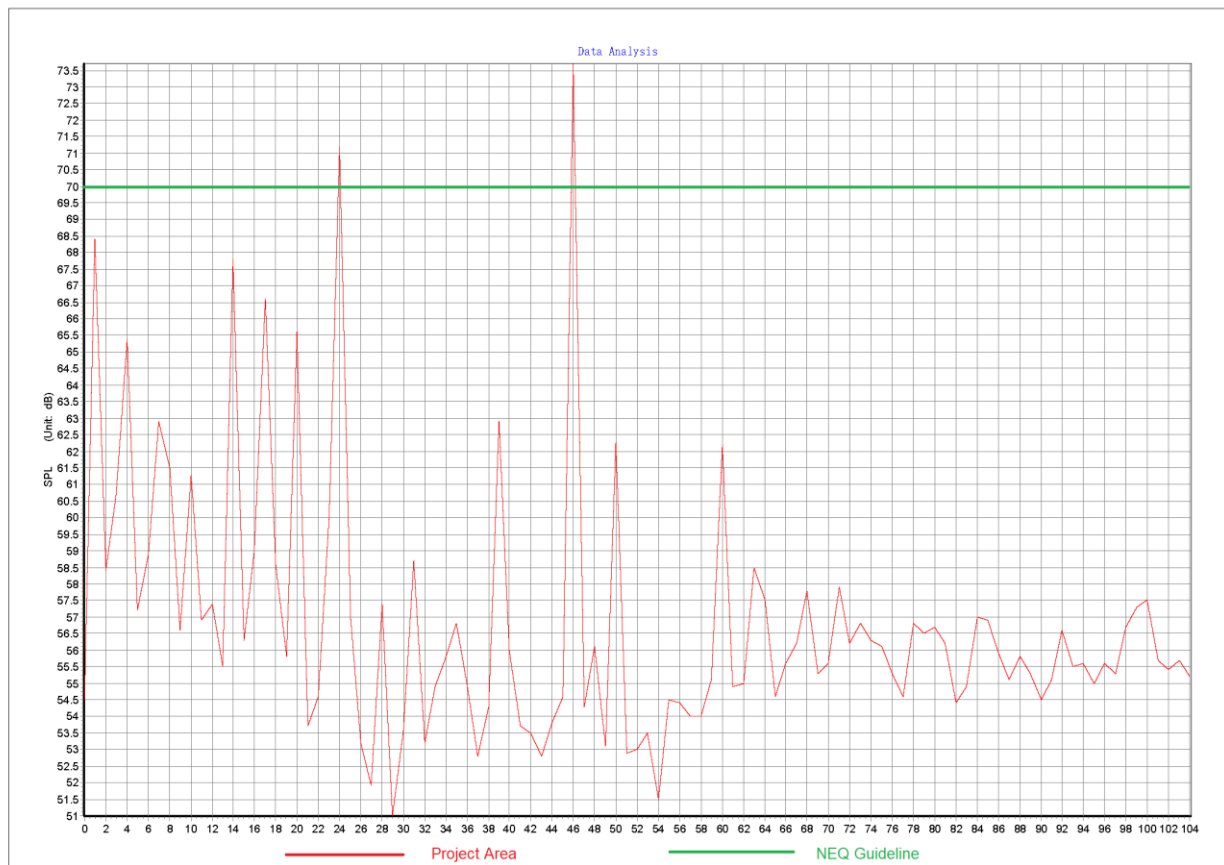


Figure 4-4 Noise Level Result Graph



Figure 4-5 Sound Level Measurement Photo

4.4.4. Ground Water Quality

The baseline data on ground water quality were collected on March 6, 2020 with respect to WHO Guidelines for Drinking Water Standard and Laboratory analysis results can be seen in (Table 4-6). Which affected by the project, was studied with the aim of understanding, preventing and minimizing water pollutions in the public water sources so as to ensure human health and biodiversity.

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Water quality is one of the key factors affecting the environment and health. Analyzed results of groundwater result compare with Drinking water guideline,

The collected samples (ground water from treated water station at the factory) were tested at ISO Tech Laboratory.

Table 4-5 Coordinated Point of Water and Wastewater Collection Point

Water Parameter	GPS Value	Location
Ground Water	16°51'6.22"N and 96° 4'58.18"E	Within proposed site of Ground water tank

4.4.4.1. Ground water result

Table 4-6 Ground Water Quality Laboratory Results

No	Parameter	Unit	Water result	Drinking standard
1	pH		6.8	6.5-8.5
2	Colour (True)	TCU	Nil	15 TCU
3	Turbidity	NTU	Nil	5 NTU
4	Conductivity	Micro S/cm	42	
5	Total Hardness	mg/l as CaCO ₃	10	500 mg/l as CaCO ₃
6	Calcium Hardness	mg/l as CaCO ₃	8	
7	Magnesium Hardness	mg/l as CaCO ₃	2	
8	Total Alkalinity	mg/l as CaCO ₃	14	
9	Phenolphthalein Alkalinity	mg/l as CaCO ₃	Nil	
10	Carbonate (CaCO ₃)	mg/l as CaCO ₃	Nil	
11	Bicarbonate (HCO ₃)	mg/l as CaCO ₃	14	
12	Iron	mg/l	0.03	0.3 mg/l
13	Chloride (as CL)	mg/l	6	250 mg/l
14	Sodium Chloride (as NaCL)	mg/l	10	
15	Sulphate (as SO ₄)	mg/l	Nil	500 mg/l
16	Total Solids	mg/l	21	1500 mg/l
17	Total Suspended Solids	mg/l	Nil	
18	Total Dissolved Solids	mg/l	21	1000 mg/l
19	Manganese	mg/l	Nil	0.05 mg/l
20	Phosphate	mg/l	Nil	
21	Phenolphthalein Acidity	mg/l	3	
22	Methyl Orange Acidity	mg/l	Nil	
23	Salinity	ppt	0.1	

NG= No guideline

4.4.5. Light

Activities of the workers in the bags manufacturing factory are highly dependent on the quality of light. Therefore, the consultant conducted the light measurement in the bags manufacturing factory

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is presented in Table 4-7. The illustrates the recommended illumination and limiting glare index applicable to typical works (fairly severe to very severe tasks) in bags manufacturing factory is provided.

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 bags manufacturing 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 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 4-7 Recommended Illumination and Limiting Glare Index based on IES Code, 1968

Visual test	Illumination (lux)	Glare index
Casual seeing	100	28
Rough task with large detail	200	25-28
Ordinary task medium detail	400	25
Fairly severe task, small detail (e.g. drawing office, sewing)	600	19-22
Severe, prolonged task, very small detail (e.g. fine assembly, hand tailoring)	900	16-22
Very severe, prolonged task, very small detail (e.g. gem cutting, hosiery mending, gauging very small parts)	1,300 -2,000	13-16

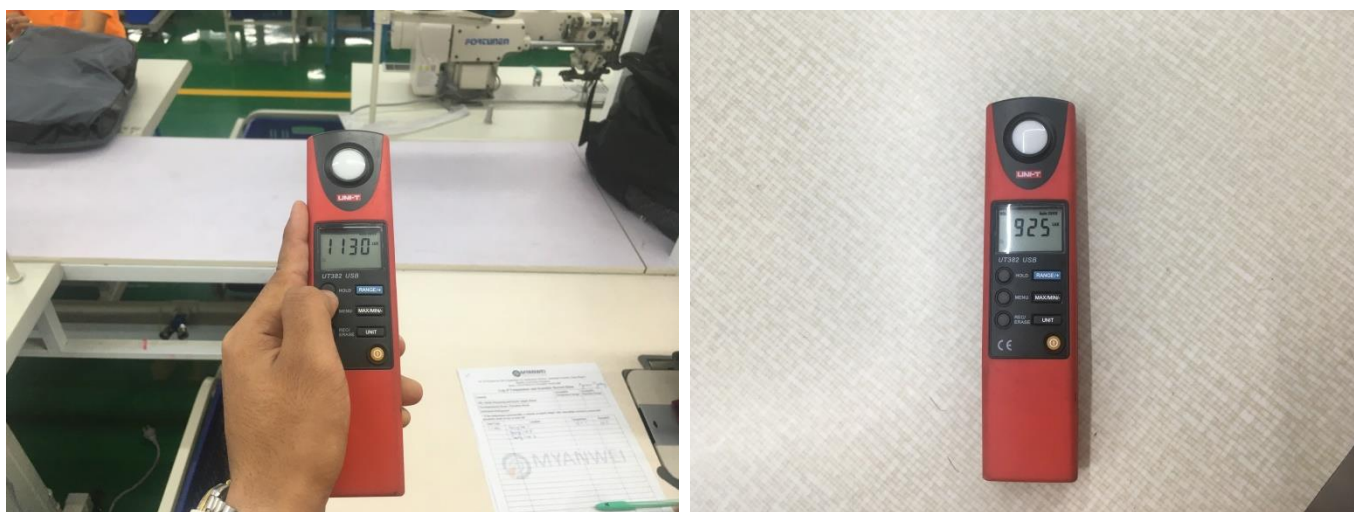


Figure 4-6 Light Quality Measurement

Table 4-8 Result of Light Measurement at MYANMAR MYANBAG INDUSTRIAL CO., LTD.

No.	Location	Measure value (Lux)	Standard*
1.	Warehouse	917	500
2.	Cutting	884	1000

No.	Location	Measure value (Lux)	Standard*
3.	Sewing	1159	400
4.	Quality Control	1112	600
5.	Packing Area	952	600

4.5. BIOLOGICAL COMPONENT

The proposed project site is not located in or near a sensitive ecosystem as the proposed project area is situated in the Hlaing Thar Yar industrial zone (1). 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.

4.6. SOCIO-ECONOMIC COMPONENT

4.6.1. Population

MYANMAR MYANBAG INDUSTRIAL CO., LTD. is located across Hlaing Thar Yar Township in Yangon Region. In 2017, the population of Hlaing Thar Yar Township is about 414,209 peoples as present in Table 4-9.

Table 4-9 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
Total	138,332	151,222	289,554	59,837	64,818	124,655	198,169	216,040	414,209

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

4.6.2. Religion

The different kinds of religion present in Hlaing Thar Yar Township are shown in Table 4-10. More than 90% of the people living in the township are Buddhists.

Table 4-10 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)

4.6.3. 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

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- 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

4.6.4. Public Infrastructure and Access

4.6.4.1. Communication and Transportation

Major transportation route in Hlaing Thar Yar Township are railway, port, and car road as presented in Table 4-11.

Table 4-11 Transportation Route

Categories	Township		Miles
	From	to	
Sail	Pan Hlaing River and Hlaing confluence	Ngwe pin Lae Industrial	8
Bus line (61,23,68,16,6,69,17,74,20,52,53,54,67) City Bus	WYTU	Downtown area	
Car (Yangon - Patheingyi road)	King Ba Yin Naung bridge	Mya Sein yaung Stream	5.4
Car (Yangon – Nyaung U road)	Aung zaya Bridge	BOC traffic circle	3.2
Car (King Anawattar Road)	Shwe Pyi Thar Bridge	Thamakone Traffic circle	4.6

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

4.6.4.2. Electricity

The electricity demand of Hlaing Thar Yar Township is higher and higher due to the normally increased in population and infrastructure.

4.6.4.3. 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 4-12.

Table 4-12 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
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)

4.6.4.4. 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 4-13 and Table 4-14.

Table 4-13 Common Diseases in the Hlaing Thar Yar Township

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

Table 4-14 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 Townships, Regional data (www.gad.gov.mm.com)

4.7. 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.

5. 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
Magnitude (M)	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
Duration (D)	0 - 1 year	2 - 5 year	6 - 15 year	Life of operation	Post Closure
Extent (E)	Limited to the site	Limited to the local area	Limited to the region	National	International
Probability (P)	Very improbable	Improbable	Probable	Highly probable	Definite

Then, the Significant Point (SP) is 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 be categorized as follows:

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

5.2. IMPACT IDENTIFICATIONS

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.

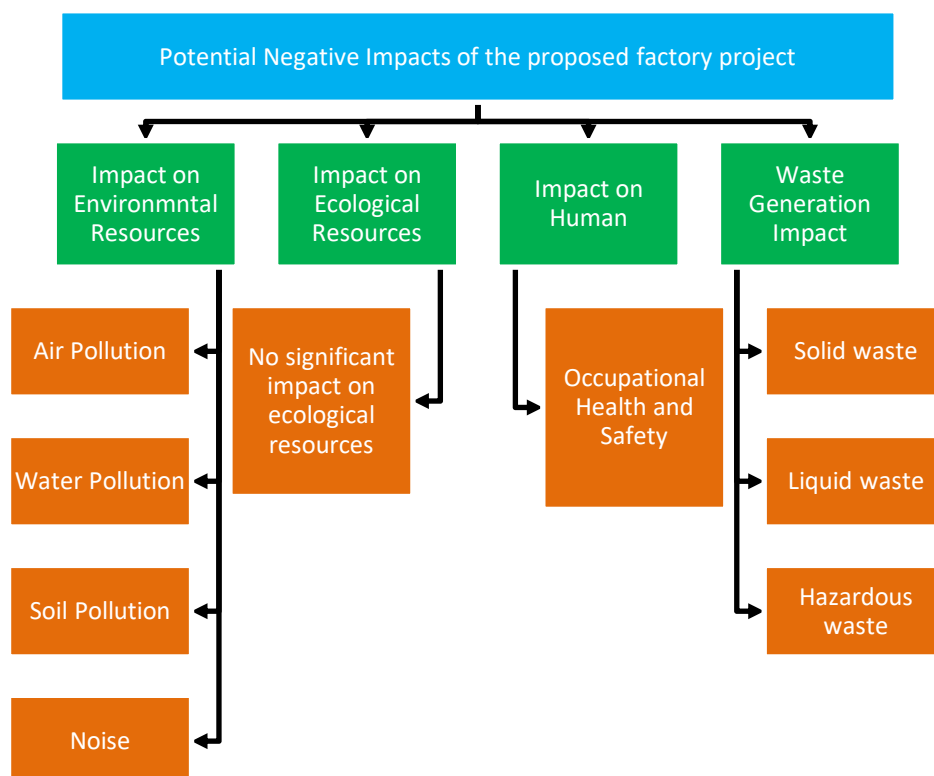


Figure 5-1 Potential Negative Impact Affect from Proposed Project

5.3. IMPACT ON ENVIRONMENTAL RESOURCES

5.3.1. 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. Therefore, 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. However, that particles amount is low. Dust particles, CO₂ and SO₂ 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 and operating diesel generators 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, 100 kVA and 500 kVA of standby generator will be used for both operation and administration appliances. The proposed project will use annually 1,200 gallons of diesel for vehicles such as transportation vehicle and emergency use of a generator. The following table shows the amount of CO₂ emission coming from the combustion of fuels.

Burning diesel or other fuels creates exhaust gasses. Diesel generators produce carbon dioxide (CO₂), nitrogen oxide (NO_x), and particulate matter. These generators 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 ₂ -equivalent per year
Medium-Low	20 – 100 kt CO ₂ - equivalent per year
Medium-High	100 kt – 1 Mt CO ₂ - equivalent per year
High	>1 Mt CO ₂ -e equivalent per year

Source: EBRD GHG Assessment Methodology, 2010

CO₂ Emission by the Uses of Fuel

No.	Type	Amount(gallon/year)	Equivalent CO ₂ emission (Kilotons)	Status
1	Diesel for generator	1200	0.0141	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.

5.3.2. 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 bags 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 bags 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.

5.3.3. 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 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 bags 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.

5.3.4. 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 bags 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.

5.4. 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 flows from North to South and flows to Yangon River.

5.5. IMPACT ON HUMAN

5.5.1. 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.

5.5.2. 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.

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

5.5.3. Waste Disposal

5.5.3.1. 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 bags manufacturing factory may be generated from 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 are 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.

5.5.3.2. 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.

5.6. 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	
Construction Phase; It is not assessment in this phase, because of construction is already completed during EMP preparation.							
Operation Phase							
Air pollution	• Dust and GHGs emission from	2	4	2	3	24	Low

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Environmental Impact	Project Activities	Significant of Potential Impacts					Impact Significance
		M	D	E	P	SP	
	vehicles used for transporting raw materials and final products <ul style="list-style-type: none"> • Particulate matters emission from the activities of production process • Emission of smoke from kitchen • Emission from emergency diesel generator 						
Water pollution	<ul style="list-style-type: none"> • Sewage disposed of from the toilets • Oil spill and grease leaks from transporting vehicles and machinery equipment used in operation phase 	2	4	2	3	24	Low
Soil Contamination	<ul style="list-style-type: none"> • Accidental spillage of oil used by vehicles operating 	1	4	1	2	12	Very Low
Noise Pollution	<ul style="list-style-type: none"> • Generating noise from the production machinery • Noise from the generating of the emergency generators 	2	4	1	3	21	Moderate
Fire Hazard	<ul style="list-style-type: none"> • Poor electrical installations • waste disposed area • Raw materials storage 	3	5	2	4	40	Moderate
Solid waste	<ul style="list-style-type: none"> • residual pieces of fabric scraps from the production lines • Waste from packaging materials • Waste from kitchen, dormitory and office. 	3	4	1	4	32	Moderate
Liquid waste	<ul style="list-style-type: none"> • Septic system and sewage. • Domestic liquid waste disposal from office, kitchen and dormitory. 	2	4	2	4	32	Moderate
Hazardous waste	<ul style="list-style-type: none"> • Engine oil leaks, spills at diesel storage and during fuel refueling. • Used oil and lubricant discharged from the maintenance of vehicles and machines. 	2	4	1	2	14	Very Low
Occupational Health and Safety (Accidents, Injuries)	<ul style="list-style-type: none"> • Accidental cases cause by operating machines. • Electricity and emergency diesel generators. • Unloading, mixing, cutting, pressing and packaging activities. • Accidental cases of thermic fluid heater 	3	4	1	4	32	Moderate
Social-economic Condition	<ul style="list-style-type: none"> • Job opportunities for local people 	-	-	-	-	-	Positive Impact
Decommissioning Phase							
Air pollution	<ul style="list-style-type: none"> • Decommissioning of buildings and related materials • Transportation of demolished 	3	1	1	4	20	Low

Environmental Management Plan

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

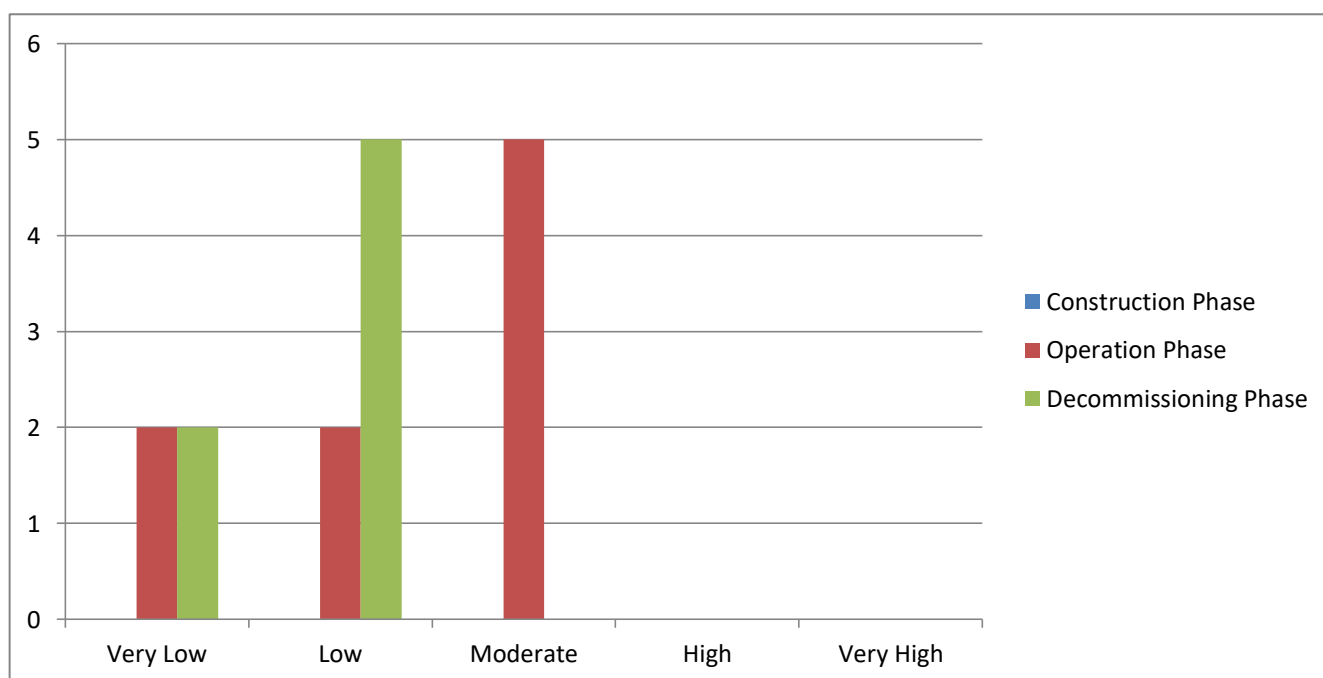


Figure 5-2 Impact Significance of the Proposed Project

5.7. MITIGATION MEASURES OF IMPACT ON ENVIRONMENTAL RESOURCES

5.7.1. 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 through which the flue gases are emitted for reducing the impact of stack emission on environment. Monitoring and check installed cyclones and ventilation system. 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.

5.7.2. 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 canteen and toilet facilities attached in various buildings of the factory. And around the compound area of the project area, drainages are also provided and maintain to flow storm water (rain water, snow and surface 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

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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 Drainages 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.

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

5.7.4. 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.

5.8. MITIGATION MEASURES OF IMPACT ON HUMAN

5.8.1. 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 25,000 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 below.





Figure 5-4 Firefighting Plan and Escape plan

5.8.2. 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 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 8hours exposure a day with 5dB trading rates. The limits are mentioned in. According to OSHA, the maximum allowable noise level for workers is 90 dB (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, 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

5.8.3. First Aid Guidelines and Facilities

A well-organized and proper first aid system is implanted to provide immediate first aid to anyone who is injured in the workplace and had also conducted the first aid training by Myanmar Red Cross Society. Adequate number of first-aid kits are listed and made available at all workplaces and contacts of medical providers, hospitals will be notified. The followings are some of the contents in a sample first aid kit.

- Bandage
- Adhesive Tape
- Antiseptic wipe
- Burn dressing and treatment items
- Cold pack
- CPR barrier
- Sterile wound dressings
- Sterile eye coverings
- Scissors, tweezers, compress

5.8.4. 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.



Figure 5-5 Garbage Bin Photos

6. ENVIRONMENTAL MANAGEMENT PLAN

6.1. OBJECTIVE OF ENVIRONMENTAL MANAGEMENT PLAN

An Environment 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.

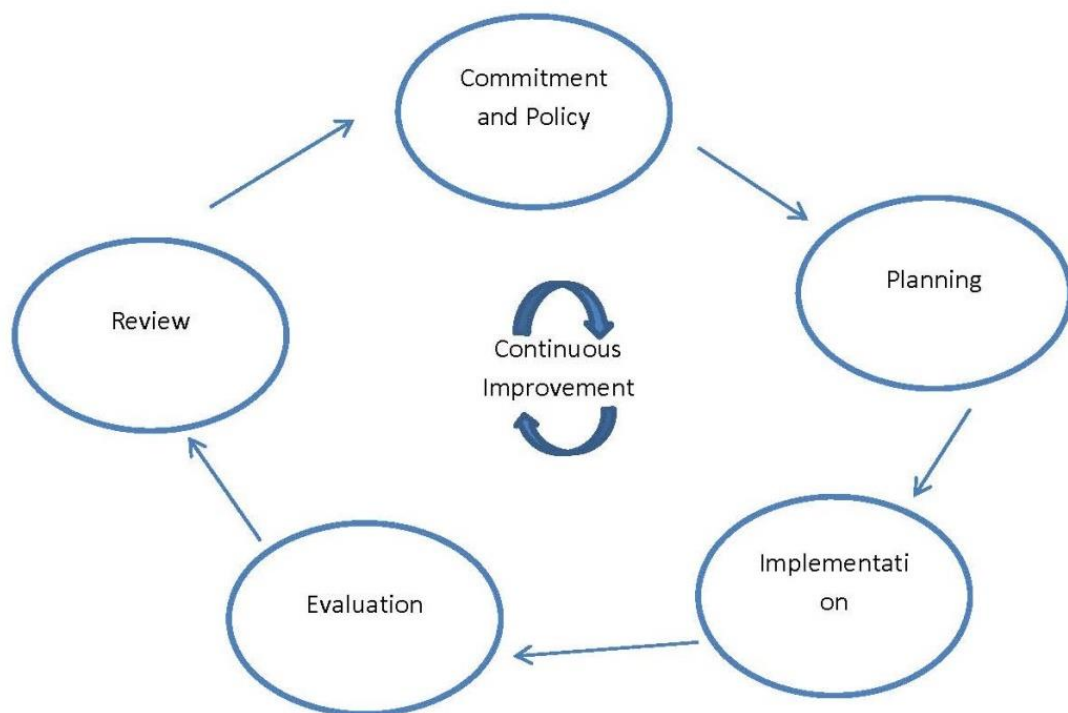


Figure 6-1 Continuous Improvement Circle

- **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

Environmental Management Plan

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 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.

6.1.1. Institutional Requirement

MYANMAR MYANBAG INDUSTRIAL CO., LTD. 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 (EMoP) 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:

MYANMAR MYANBAG INDUSTRIAL CO., LTD.: 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 MYANMAR MYANBAG INDUSTRIAL CO., LTD. for EMP implementation facilities.

Environmental Management Plan

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

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;
- 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.

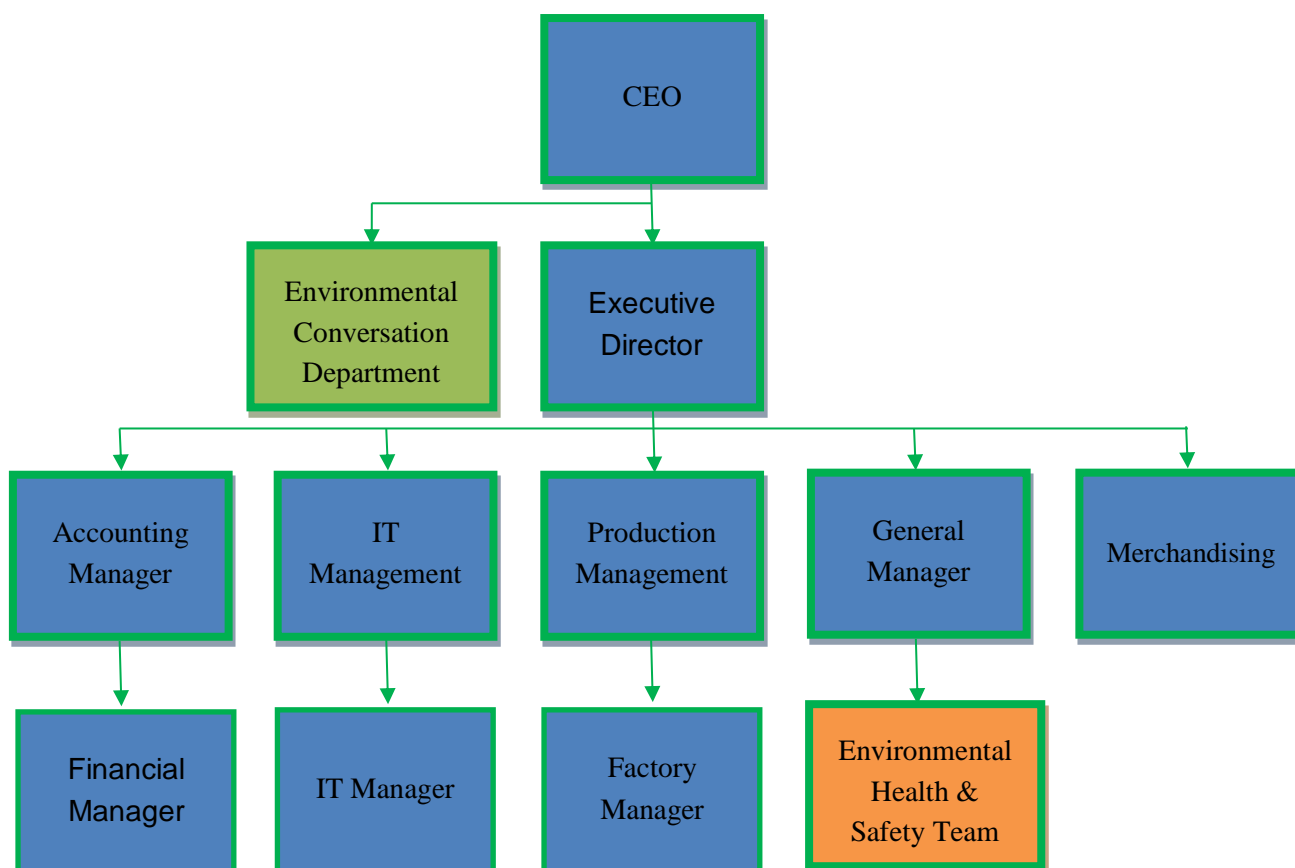


Figure 6-2 Organization Structure of Environmental Management

6.2. ENVIRONMENTAL IMPACT MITIGATION PLAN FOR THE OPERATION PHASE

According to the impact assessment occurred in during the operation phase mentioned in **Chapter 5** and environmental issues associated with the operational phase primarily include the following issues:

1. Impact of gases emission
2. Impact of noise from operation of machinery, air compressor and generator operation
3. Impact of electricity consumption
4. Impact of solid waste and wastewater discharge
5. Occupational health & safety for employees

Although the proposed MYANMAR MYANBAG INDUSTRIAL Co., Ltd. has a number of adverse impacts on the surrounding environment, all of impacts will be reduced to some extent by related proper mitigation measures. However, the unavoidable impacts would evolve from Occupational Health and Safety of workers in the aspect of physical hazards with long-term and short-term working. Therefore, mitigation plan of operation phase is mentioned in Table 6-1. These activities shall be carried out to show that the factory operations comply with the maximum allowable environmental norms and standards.

Table 6-1 Environmental Impact Mitigation Plan

Components	Recommended mitigation measures	Residual Impact	Time Frame	Responsible Person
Air & Dust Pollution	<ul style="list-style-type: none"> Plant and grass plantation programs must be provided at project site Diesel consumption of generator must be managed and monitored to reduce the expense and CO2 emission Installation of windscreens to break up the wind flow 	Very Low	Throughout Operation Phase	HSE Coordinator
Noise Generation <ul style="list-style-type: none"> Operation of machineries and equipment Emergency Use of Generator 	Ensure all the machineries are well maintained to reduce noise <ul style="list-style-type: none"> Heavy duty muffler systems on heavy equipment Emergency use of diesel generator must be ensured by soundproof Noise level monitoring programs must be designed and conducted by trained specialists at production area 	Very Low	Throughout Operation Phase	HSE Coordinator
Water pollution and issues	Install water meter for internal control of water consumption <ul style="list-style-type: none"> Channeling and retention of water to reduce erosion and situation Collection and treatment of sewage and organic waste Increased recycling and reuse of water 	Low	Throughout Operation Phase	HSE Coordinator

Environmental Management Plan

Components	Recommended mitigation measures	Residual Impact	Time Frame	Responsible Person
	<ul style="list-style-type: none"> Neutralization and sedimentation of wastewater Dewatering of sludge and appropriate disposal of solids 			
Effect of sewage effluents from the factory processing	<ul style="list-style-type: none"> Properly designed and installed the sewage effluents treatments facilities to prevent any hazard to public health or contamination of land, nearest surface water and ground water Ensure that lines and sewage system of factory drainage and the nearest public drainage are watertight and sufficient capacity Regular monitoring the sewage treatment facilities and follow the NEQE guideline Clean the factory's drainage to avoid odor emission and to avoid the block of water flow 	Low	Throughout Operation Phase	HSE Coordinator
Chemical discharges and spills	<ul style="list-style-type: none"> Develop spill prevention plants Develop traps and containment system and chemically treat discharges on site 	Low	Throughout Operation Phase	HSE Coordinator
Biological	<ul style="list-style-type: none"> Installation of systems to discourage nesting or perching of birds in dangerous environments Increased employee awareness to sensitive areas 	Low	Throughout Operation Phase	HSE Coordinator
Waste Disposal	<ul style="list-style-type: none"> Use of less excessive and more environmentally friendly packaging materials Regularly inspection must be carried out of all bulk containment on site prevent leakage and product loss Train both cleaners and employees for proper good housekeeping practice at production area Regular check the temporary storage site of generated solid waste from the whole factory All employee must be followed and practiced by the principle of waste reduction, recycling, recovery and reusing Solvents and Oil waste must be collected by designated jerry cans Provide appropriate control devices in storage of solvents, diesel to avoid possible leakages Dispose at permitted areas specially designed to receive the waste Separate areas must prepare for 	Low	Throughout Operation Phase	HSE Coordinator

Environmental Management Plan

Components	Recommended mitigation measures	Residual Impact	Time Frame	Responsible Person
	rejected products, waste materials and chemicals. <ul style="list-style-type: none"> All waste must be disposed of any applicable environmental regulation Ensure that all inside and outside areas, buildings, facilities and equipment are kept clean and in good state to function as intended and to prevent contamination 			
Occupational Health and Safety <ul style="list-style-type: none"> Accident and incidents leading to serious injuries Exposure of Noise Risk of increase in road accidents Electrical Hazards Risk of fire 	<ul style="list-style-type: none"> Monitor and strict of employee and workers to wear the uniform and full personal protective equipment (PPE) during working at operation area Arrange appropriate health check-up facilities Measure the PM 10 and PM2.5 concentrations in production area by quarterly and compare with NEQ (emission) guideline Plant must implement the safety and health program designed to identify, evaluate, monitor and control safety and health hazards All employee must not be exposed at noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection. Use of hearing protection must be enforced actively when the equipment sound level over 8 hours reaches 85 dB (A) Ensure all rooms are well ventilated and Lighting Ensure factory laws are strictly followed Clearly display warning signs or symbols for dangerous areas at the factory Monitoring plan must be prepared by accredited professionals Regular maintenance of the road and Use of traffic signs The employee must review and assess known and suspected presence of biological agents at the work place and implement appropriate safety measures, monitoring, training, and training verification programs 	Low	Throughout Operation Phase	HSE Coordinator/ Operation Manger

6.3. ENVIRONMENTAL MANAGEMENT PLAN

The EMP for MYANMAR MYANBAG INDUSTRIAL CO., LTD. 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 Plan

environmental management plans based upon the potential impacts of activities by MYANMAR MYANBAG INDUSTRIAL CO., LTD. are as follows:

6.3.1. Air Pollution/Dust Management Plan

Objective	To minimize the adverse impact to air quality caused by stack gas emission from generator and also dust management generated from vehicular movement. To comply with relevant government rules	
Relevant Government Law and Rule	National Environmental Quality (Emission) Guideline 2015, Motor Vehicles Act (2015)	
Time Frame	Entire life spans of proposed project operation	
Management Action	Must be plant around the proposed project to reduce carbon emission Should be prohibited burning of waste material at the proposed project site Must be control air pollution, the vehicles, generators and machineries have to check and maintain regularly. The factory should use chimney for generator through which the flue gas is emitted for reducing the impact of stack emission on environment. Must be ensuring vehicles, compressor and generator are well maintained.	
Monitoring and Reporting	Frequency	Biannually
	Monitoring Point	Indoor and Outdoor of proposed project
	Parameters	PM _{2.5} , PM ₁₀ , SO ₂ , NO ₂ , O ₃ , CO
Estimated Cost	1,000,000 Kyats per year	
Responsible Person	Management of the proposed factory; Head of maintenance: Total implementation of above of air pollution management plan Production manager: Air quality in the production area is good enough Manager: To hire organization/ independent third-party testing air quality EHS officer: Monitor the hygiene of ambient air quality in surrounding of the factory	

6.3.2. Noise Management Plan

Objective	To maintain low noise exposures, such that human health and well-being are protected. The specific objectives of noise management are to develop criteria for the maximum safe noise exposure levels, and to promote noise assessment and control as part of environmental health programmes.	
Relevant Government Law and Rule	National Environmental Quality (Emission) Guideline 2015	
Time Frame	Throughout the project life	
Management Action	Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment Impose speed limit to track and vehicles at the transportation route. Provide sufficient personal protective equipment (PPE) at the work place All the related personnel will be provided proper training about the relevant issues and ensure PPE wear during working in noisy area.	
Monitoring and Reporting	Frequency	Biannually
	Monitoring Point	Two points in operation area (especially cutting and sewing)

Environmental Management Plan

	Parameters	Sound Decibel
Estimated Cost	500,000 Kyats per year	
Responsible Person	HSE Manager or Environmental Management Team of Myanmar Myanbag Industrial Company Limited.	

6.3.3. Fire Management Plan

Objective	To ensure that fire control practices are implemented on site to minimise the risk of fire from site operations and bush fires	
Relevant Government Law and Rule	Myanmar Fire Brigade Law 2015	
Time Frame	Entire life spans of proposed project operation	
Management Action	<p>Must be provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases.</p> <p>Must be indicated the emergency exit and assembly point in public area.</p> <p>Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening.</p> <p>The emergency fire alarms are installed at the factory for alerting the workers in case of fire.</p> <p>The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases.</p>	
Monitoring and 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	1,200,000 Kyats per year	
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team of Myanmar Myanbag Industrial Company Limited.	

6.3.4. Occupational Safety and Health Management Plan

Objective	To provide a broad framework for improving standards of workplace health and safety to reduce work-related injury and illness.	
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	Entire life spans of proposed project	
Management Action	<p>First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of workers.</p> <p>According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers.</p> <p>Personal Protective Equipment (PPE) like earmuffs, safety gloves, helmets and goggles are provided for each department.</p> <p>To prevent electric shock hazards, electrical maintenance staff (handyman) is to be assigned to do regular inspections and take preventive measures.</p> <p>Manage the drainage systems of the factory to prevent health risk of the workers.</p> <p>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.</p>	
Monitoring and Reporting	<p>Weekly check fire extinguishers and water hydrant in position</p> <p>Daily inspect that all fire exist are open</p>	

Environmental Management Plan

	Servicing fire extinguisher and records accidents
Estimated Cost	1,000,000 Kyats per year
Responsible Person	HSE Manager, Operation Manager or Environmental Management Team of Myanmar Myanbag Industrial Company Limited.

6.3.5. Solid Waste Management Plan

Objective	To assess the activities involved for the proposed and determine the type, nature and estimated volumes of waste to be generated To identify any potential environmental impacts from the generation of waste at the site
Relevant Government Law and Rule	Yangon City Development Committee Law (2018), National Waste Management Strategy and Action Plan (Draft 2018)
Time Frame	Entire life spans of proposed project
Management Action	Must be 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 storage area Final wastes should be disposed by using YCDC's service.
Monitoring and Reporting	Daily waste has to be collected and handover to YCDC waste collector The inventory record of waste disposal will be maintained as proof for proper management as designed
Estimated Cost	50,000 Kyats per month
Responsible Person	Manager (HR) Responsible for overall site cleanliness and waste management Regular waste collection to minimize excessive waste storage

6.3.6. Liquid Waste Management Plan (Wastewater)

Objective	To implementation plan for the management of liquid waste from collection, through treatment and resource recovery, to residual disposal
Relevant Government Law and Rule	Yangon City Development Committee Law (2018), National Environmental Quality (Emission) Guidelines (2015), Underground Water Act
Time Frame	Entire life spans of proposed project
Management Action	Regular inspection and cleaning, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.
Monitoring and Reporting	Frequency Biannually
	Parameters pH, Turbidity, Conductivity, Iron, Sulpahte, TSS, TDS, Manganese, COD, BOD, Cyanide, Copper, Zinc, Carbonate
	Proper maintenance of drainage and sewerage system will be conducted periodically
Estimated Cost	500,000 Kyats per year
Responsible Person	Manager: To hire organization/ Independent third-party testing wastewater quality EHS officer: Monitor the condition of factory's drainage and sewerage system

Environmental Management Plan

6.3.7. Hazard Waste Management Plan

Objective	To avoid environmental pollution and adverse health effects due to its improper handing & disposal.
Relevant Government Law and Rule	Yangon City Development Committee Law (2018), Explosive Ordnance Disposal Law (2018)
Time Frame	Entire life spans of proposed project
Management Action	<p>Proper inspection and maintenance in storage of hazardous waste.</p> <p>Dispose of hazardous chemicals and containers in accordance with occupational health, safety and environmental requirements.</p> <p>The empty chemical containers will hand over to suppliers for recycle or appropriate disposal</p> <p>The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (e.g. DOWA and YCDC)</p>
Monitoring and Reporting	Any hazardous materials purchased should include a Material Safety Data Sheet (MSDS), otherwise known as a Safety Data Sheet (SDS) or Product Safety Data Sheet (PSDS). By mandate of the World Health Organization's Inter-Organization Programme for the Sound Management of Chemicals (IOMC), all manufacturers of hazardous materials are required to provide a MSDS so that end users can treat the materials properly.
Estimated Cost	1,000,000 Kyats per year
Responsible Person	HSE Manager or Environmental Management Team of Myanmar Myanbag Industrial Company Limited

6.3.8. Energy Management Plan

Objectives:	To improve energy efficiency, reduce cost, optimize capital investment, reduce environmental and greenhouse gas emissions, and conserve natural resources
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 Action	<p>Installation of timers and thermostats to control heating and cooling</p> <p>Energy saving light installed in different area of the factory for saving energy</p> <p>Used of energy saving devices must be installed</p> <p>Ensure that good housekeeping measures such as turning off equipment and lights when not in use</p>
Monitoring & Reporting	Conduct annual energy efficiency of adult to find out the scope for energy saving
Estimated cost	Approximately 1,000,000 Kyats per year
Responsibility	<p>Manager</p> <p>To arrange energy, audit technical personnel</p> <p>To monitor and record electricity consumption, other related energy issues and take necessary actions if any problem arises</p>

6.3.9. Emergency Response and Disaster Management Plan

Objectives:	To reduce the harmful effects of all hazards, including disasters. The World Health Organization defines an emergency as the state in which normal procedures are interrupted, and immediate measures (management) need to be taken to prevent it from becoming a disaster, which is even harder to recover from.
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Environmental Management Plan

Relevant government law and rule	The Employment and Skill Development Law (August 2013), ILO guide to Myanmar Labour Law (2017)
Time Frame	Entire life spans of the factory operation
Management Action	<p>The factory management has taken proper measures to handle any emergency situation like fire, earthquake, flood and storm</p> <p>Provision and inspection of firefighting equipment and fire hydrant system in all the sections</p> <p>A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers</p> <p>Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training.</p> <p>Regular fire drill operation is conducted</p> <p>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</p> <p>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.</p> <p>A medical team has been prepared for primary treatment (First Aid)</p> <p>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.</p> <p>Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management</p> <p>Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety</p>
Monitoring & Reporting	<p>Weekly check fire extinguishers and water hydrant in position</p> <p>Daily inspect that all fire exist are open</p> <p>Servicing fire extinguisher and records accidents,</p>
Estimated cost	Approximately 1,500,000 Kyats per year
Responsibility	<p>Manager and EHS officer</p> <p>Arrange firefighting training after every 3 months</p> <p>Responsible for fire control and response</p> <p>Monitoring daily danger warning and bans</p>

6.4. ENVIRONMENTAL MONITORING SCHEDULE AND REPORTING

The EMP 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 EMP. Table 6-2 is provided the environmental monitoring schedule for MYANMAR MYANBAG INDUSTRIAL CO., LTD. The 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 MYANMAR MYANBAG INDUSTRIAL CO., LTD.

Issues	Parameter	Frequency	Area to be monitored	Monitoring cost	Responsible Organization
Operation Phase					
Common	Monitoring of mitigation	Yearly (3 years after)	The project	2,500,000 Kyats	Environmental Management

Environmental Management Plan

Issues	Parameter	Frequency	Area to be monitored	Monitoring cost	Responsible Organization
	measures	operation)			Team's Myanmar Myanbag Industrial Company Limited
Air quality	SO ₂ , NO ₂ , CO, CO ₂ , PM _{2.5} , PM ₁₀	Biannually monitoring and reporting to ECD (first 3 years after operation)	Outdoor and Indoor of proposed project	500,000 Kyats	Environmental Management Team's Myanmar Myanbag Industrial Company Limited
Waste Generation	Solid waste, Liquid waste and Hazardous waste	Weekly	Recycle house and waste house and at the factory office	1,000,000 Kyats	Environmental Management Team's Myanmar Myanbag Industrial Company Limited
Fire Hazardous	Visual inspection, firefighting equipment	Monthly	At the factory	500,000 Kyats	Environmental Management Team's Myanmar Myanbag Industrial Company Limited
Noise	dBA	Biannually monitoring and reporting to ECD	Operation Area	300,000 Kyats	Environmental Management Team's Myanmar Myanbag Industrial Company Limited
Water Quality	pH, Turbidity, Conductivity, Iron, Sulphate, TSS, TDS, Manganese, COD, BOD, Cyanide, Copper, Zinc, Carbonate	Biannually	At the factory	500,000 Kyats	Environmental Management Team's Myanmar Myanbag Industrial Company Limited
Light intensity	Illuminance	Monthly	At the production line (especially cutting and QC)	500,000 Kyats	Environmental Management Team's Myanmar Myanbag Industrial Company Limited
Decommissioning Phase					
Air quality	SO ₂ , NO ₂ , CO, CO ₂ , PM _{2.5} , PM ₁₀	One time during this phase	One point in the demolishing area	1,000,000 Kyats	Land Owner
Noise	Noise level in decibel (dBA)	One time during this phase	One points in demolishing area	500,000 Kyats	Land Owner
Rehabilitation	Recovering and		All		Land Owner

Environmental Management Plan

Issues	Parameter	Frequency	Area to be monitored	Monitoring coast	Responsible Organization
	Revegetation		decommissioning area		

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 MYANMAR MYANBAG INDUSTRIAL CO., LTD. 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.

MYANMAR MYANBAG INDUSTRIAL 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 (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 (Table 6-3).

Table 6-3 CSR Plan at MYANMAR MYANBAG INDUSTRIAL CO., LTD.

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.

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 bags 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. BUDGET PLAN FOR ENVIRONMENTAL MANAGEMENT AND MONITORING

This section describes the budget plans for the environmental management and environmental monitoring by the project proponent. On the other hand, MYANMAR MYANBAG

Environmental Management Plan

INDUSTRIAL CO., LTD. will take necessary environmental mitigation measures and its expenses for the environmental management not only at the construction and operation phases but also at the closing phase in accordance with their responsibility for the studies of recommendation.

The following table shows the expenditures for the implementation of Environmental Management Plan for operation phase annually. Estimation cost for EMP implementation is presented in Table 6-4.

Table 6-4 Cost estimation for EMP implementation

No.	Item	Frequency/Times	Cost (USD)
Mitigation Plan			
1	Maintenance of air ventilation system	Once per year	200 per year
2	Grass plantation within the area of factory compound	Once per three month	70 per three month
3	Solid waste disposal	12	1000 per year
4	Purchase of Personal Protective Equipment (PPE)	Once per half a year	150 per half a year
5	Medical Check-up and Health Insurances	Once per year	500 per year
Emergency Preparedness			
1	Fire extinguisher	Once per month	300 per month
2	Fire alarm system	Once per month	
3	First Aid Kits	Once per month	
Monitoring Plan			
1	Wastewater	2	200 per year
2	Noise level	2	300 per year
3	Environmental compliance auditing	1	1,000 lump sum

6.1. 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 MYANMAR MYANBAG INDUSTRIAL CO., LTD. representative from Hlaing Thar Yar Industrial Zone (1) 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.

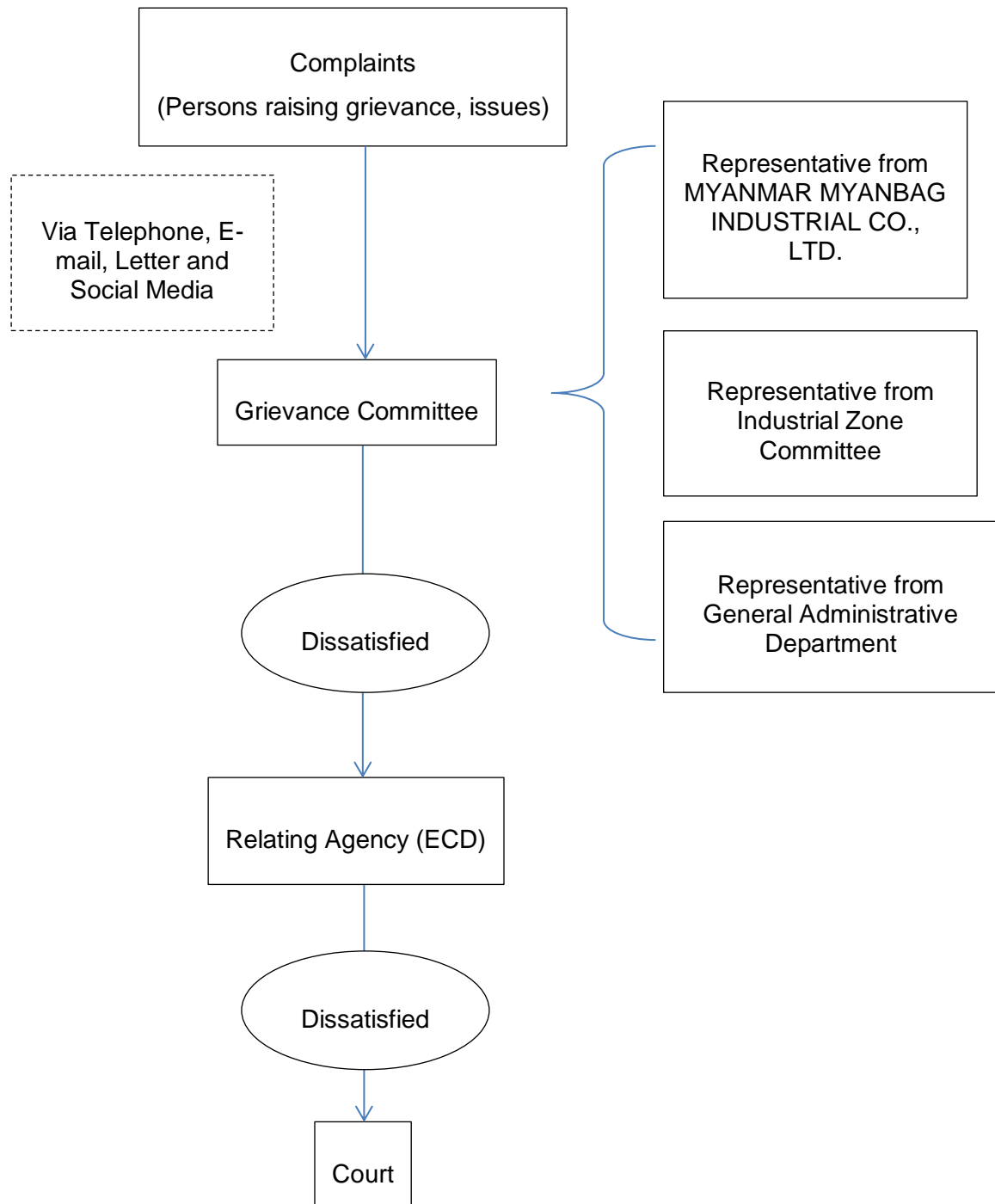


Figure 6-3 Grievance Redress Mechanism Flow Diagram

7. PUBLIC CONSULTATION

7.1. PUBLIC CONSULTATION PROCESS

This chapter presents results of public consultation and information disclosure conducted for the MYANMAR MYANBAG INDUSTRIAL CO., LTD. Public participation can be considered as the required element of the EMP process. In this study various stakeholder participation were made.

Public consultation during preparation of EMP report was conducted on 18, March 2020, 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 factory, relevant key offices at the national level are Environmental Conservation Department (ECD) and Industry Supervision and Inspection Department.

Relevant key office at the regional level is Yangon City Development Committee (YCDC), General Administrative Department, Fire Department, Factories and General Labor Law Inspection Department, Public Health Department, Industrial Supervision and Inspection Department.

Public consultation carried out after the presentation on the project, followed by questions, answers and discussion. Saw Yan Naung presented EMP study and findings from MYANWEI, after the presentation following question and answer section. Summary of public consultation meeting is presented Table 7-1 is shown the consultation meeting photo. **(PCM attendant list and presentation power point slide are described in Appendix)**

Table 7-1 Summary of Public Consultation Meeting

Time and Date	Wednesday, March 18, 2020 10:30-12:30
Venue	Ahnawyahtar Management Office, Ahnawyahtar Industrial Zone, Hlaing Tharyar Township, Yangon.
Agenda	Presentation on the Background Information of Project, Project Description, Impact Assessment, Environmental Mitigation Environmental Management Plan and Monitoring Plan Received and Answer from feedback of participants

7.2. RECOMMEND SUGGESTION AND COMMENT

After the presentation, the floor opened for questions and answers. There is no question and comment for presentation and EMP draft report, because the project is sample manufacturing of various kinds of bags on CMP Basis.

Suggestion; U Htun Naing Win; Director (General Administration Office)

- To provide 2% of net profit for CSR program according to MIC's guideline for implementation of CSR program for education, health, society, and environment.

Suggestion; U Vial Ngaih Lian; Public Health Department

Environmental Management Plan

- Factory workers shall be aware for using the person protective equipment
- To provide long time care of medical checking for workers
- To provide the medicines for aliment and must be enough the medicines for injuries
- To provide the PPE to the employees who work in that factory and
- To provide the nurse who is not only reality nurse but also got the experience in concerning filed.
- To provide healthy drinking water for employees

Suggestion; U Kyaw Kyaw; Assistant supervisor (Environmental Conservation and Cleaning Department-Industrial Section) YCDC

- To compliance with YCDC procedure for solid waste management and disposed process
- To implement the sufficient septic tank design for workers





Figure 7-1 Public Consultation Meeting Photos

8. CONCLUSION & RECOMMENDATION

8.1. CONCLUSION

Environmental Management Plan (EMP) has been prepared for MYANMAR MYANBAG INDUSTRIAL CO., LTD. is located at Plot No. (17), Myay Taing Block No. Zone (1), 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 bags manufacturing.

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) Guideline (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 bags manufacturing 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. RECOMMENDATION

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

- 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.

9. REFERENCES

- [1] General Administrative Department (Hlaing Thar Yar Township), Hlaing Thar Yar Township Data (2017).
- [2] Hla Hla Aung, "Potential Seismicity of Yangon Region (Geological Approach), "Yangon Surface Displacement as Detected by Insar Time Series Analysis" July 2011.
- [3] Ministry of Natural Resources and Environmental Conversation (MONREC), "Environmental Impact Assessment Procedure" December 2015.
- [4] Ministry of Natural Resources and Environmental Conversation (MONREC), "National Environmental Quality (Emission) Guidelines" December 2015.
- [5] Specifications for accident prevention signs and tags, regulations (standards 29-CFR), Occupational Safety and Health Administration.

APPENDIX A

Company Document of MYANMAR MYANBAG INDUSTRIAL CO., LTD.



Form (5-B)

THE REPUBLIC OF THE UNION OF MYANMAR

Yangon Region Investment Committee

ENDORSEMENT


Endorsement No. YGN -298/2019

Date 9 December 2019

This endorsement is issued by Yangon Region Investment Committee in accordance with Section 25(d) of the Myanmar Investment Law-

- (1) Name of Investor MR. YE, ZHEN FA
- (2) Citizenship CHINESE
- (3) Residence Address NO.10, DASONG VILLAGE, DAXI TOWN, PINGHE COUNTY, ZHANGZHOU CITY, FUJIAN PROVINCE, THE PEOPLE'S REPUBLIC OF CHINA
- (4) Name and Address of Principal Organization QUANZHOU HENGXUAN IMP. & EXP. TRADING CO., LTD. BUILDING 1, 4TH FLOOR, TIANXIANG TONGYUAN STREET, PLASTIC HARDWARE CO., LTD, XUNMEI INDUSTRY FENGZE ZONE, QUANZHOU CITY, 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 BAGS ON CMP BASIS
- (7) Place(s) of investment Project PLOT NO. 17, MYAY TAING BLOCK NO. ZONE (1), INDUSTRIAL ZONE, HLAING THAR YAR TOWNSHIP, YANGON REGION
- (8) Foreign Capital Amount US\$ 0.876 MILLION
- (9) Period for Foreign Capital to be brought in WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF ENDORSEMENT
- (10) Total Amount of Capital (Kyat) EQUIVALENT IN KYAT OF US\$ 0.876 MILLION
- (11) Construction/ Preparation Period 1 YEAR
- (12) Validity of Endorsement 30 YEARS
- (13) Form of Investment WHOLLY FOREIGN OWNED
- (14) Name of Company Incorporated in Myanmar MYANMAR MYANBAG INDUSTRIAL COMPANY LIMITED




(Phyto Min Thein)
Chairman



ပုံစံ (၅-ခ)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီ
အတည်ပြုမိန့်

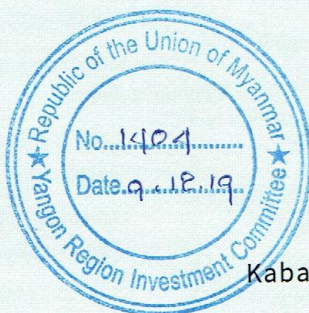
အတည်ပြုမိန့်အမှတ် ရကတ-၂၉၈/၂၀၁၉ ၂၀၁၉ ခုနှစ် ဒီဇင်ဘာလ ၈ ရက်
ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှု ကော်မတီသည် မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ဥပဒေ
ပုဒ်မ-၂၅(ဃ) အရ ဤအတည်ပြုမိန့်ကိုထုတ်ပေးလိုက်သည် -

- (၁) ရင်းနှီးမြှုပ်နှံသူ/ကမကထပြုသူအမည် MR. YE, ZHEN FA
- (၂) နိုင်ငံသား CHINESE
- (၃) နေရပ်လိပ်စာ NO.10, DASONG VILLAGE, DAXI TOWN, PINGHE COUNTY, ZHANGZHOU CITY, FUJIAN PROVINCE, THE PEOPLE'S REPUBLIC OF CHINA
- (၄) ပင်မအဖွဲ့အစည်းအမည်နှင့်လိပ်စာ QUANZHOU HENGXUAN IMP. & EXP. TRADING CO., LTD. BUILDING 1, 4TH FLOOR, TIANXIANG TONGYUAN STREET, PLASTIC HARDWARE CO., LTD, XUNMEI INDUSTRY FENGZE ZONE, QUANZHOU CITY, THE PEOPLE'S REPUBLIC OF CHINA
- (၅) ဖွဲ့စည်းရာအရပ် THE PEOPLE'S REPUBLIC OF CHINA
- (၆) ရင်းနှီးမြှုပ်နှံသည့်လုပ်ငန်းအမျိုးအစား CMP စနစ်ဖြင့် အိတ်အမျိုးမျိုး ထုတ်လုပ်ခြင်း လုပ်ငန်း
- (၇) ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ) မြေကွက် အမှတ် (၁၇) ၊ မြေတိုင်းရပ်ကွက် အမှတ် - ဇန်(၁)၊ စက်မှုဇုန် ၊ လှိုင်သာယာ မြို့နယ်၊ ရန်ကုန်တိုင်း ဒေသကြီး
- (၈) နိုင်ငံခြားမတည်ငွေရင်း ပမာဏ အမေရိကန်ဒေါ်လာ ၀.၈၇၆ သန်း
- (၉) နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ အတည်ပြုမိန့် ရရှိသည့် နေ့မှ ၁ နှစ်အတွင်း
- (၁၀) စုစုပေါင်း မတည်ငွေရင်းပမာဏ(ကျပ်) အမေရိကန်ဒေါ်လာ ၀.၈၇၆ သန်း နှင့် ညီမျှသော မြန်မာကျပ်ငွေ
- (၁၁) တည်ဆောက်မှုကာလ ၁ နှစ်
- (၁၂) ရင်းနှီးမြှုပ်နှံမှုခွင့်ပြုသည့်သက်တမ်း ၃၀ နှစ်
- (၁၃) ရင်းနှီးမြှုပ်နှံမှုပုံစံ ရာခိုင်နှုန်းပြည့်နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု
- (၁၄) မြန်မာနိုင်ငံတွင်ဖွဲ့စည်းမည့်ကုမ္ပဏီအမည် MYANMAR MYANBAG INDUSTRIAL COMPANY LIMITED



YRIC 2982019

(ဖြိုးမင်းသိန်း)
ဥက္ကဋ္ဌ



Confidential

THE REPUBLIC OF THE UNION OF MYANMAR
YANGON REGION INVESTMENT COMMITTEE

Plot No. 49, Seinlae May Street,

Kabar Aye Pagoda Road, Yankin Township, Yangon

Tel : 01- 658263

Our ref : YRIC -1 /E-298/2019(၂၀၄)

Fax: 01- 658264

Date : 9 December 2019

Subject: Decision of the Yangon Region Investment Committee regarding an Endorsement for manufacturing of various kinds of bags on CMP basis under the name of Myanmar Myanbag Industrial Company Limited.

Reference: Myanmar Myanbag Industrial Company Limited's letter dated 31/10/2019

1. The Yangon Region Investment Committee, at its (20/2019) meeting held on 3/2/2019, approved the Endorsement for investment for manufacturing of various kinds of bags on CMP under the name of Myanmar Myanbag Industrial Company Limited submitted by Quanzhou Hengde Bags & Luggage Manufacturing Co., Ltd. (50%) and Quanzhou Hengxuan IMP. & EXP. Trading Co., Ltd(50%) from British Virgin Islands as a wholly foreign owned investment in accordance with the Myanmar Investment Law and Rules.
2. The terms and conditions of the Endorsement are as follows:
 - (a) The term of an Endorsed project shall be thirty (30) years commencing from the date of the issuance of the Endorsement by the Yangon Region Investment Committee.
 - (b) The term of the land and building Lease Agreement shall be an initial ten (10) years commencing from the date of the agreement between U Maung Maung (Lessor) and Myanmar

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Confidential

- 2 -

Myanbag Industrial Company Limited (Lessee) and shall be extendable for a period of ten (10) years, and a further consecutive period of ten (10) years by mutual agreement between the Lessor and the Lessee subject to the approval of the Yangon Region Investment Committee.

- (c) The annual rent for land and building shall be Kyat 252.00 million (Kyat two hundred and fifty-two million only) for the total area of the land measuring 2.493 acres.
- (d) Myanmar Myanbag Industrial Company Limited may submit an application form for the right to use land under Chapter XII and exemptions and reliefs under Sections 75, 77 and 78 of the Chapter XVIII of Myanmar Investment Law.
- (e) Myanmar Myanbag Industrial Company Limited shall use its best efforts to achieve a timely realization of the work stated in the Endorsement application.
- (f) Myanmar Myanbag Industrial Company Limited shall obey and respect the responsibilities of investors under Section 65 of Myanmar Investment Law and Chapter XX of Myanmar Investment Rules.
- (g) Myanmar Myanbag Industrial Company Limited shall carry out of prevention, mitigation and monitoring of significant environmental impacts according to the type of investment activities in accordance with the relevant laws, rules, regulations and procedures.
- (h) Myanmar Myanbag Industrial Company Limited shall abide by the Fire Services Department's rules, regulations, directives and

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instructions. Moreover, Myanmar Myanbag Industrial Company Limited shall undertake fire prevention measure such as the appropriate placement of water storage tank, fire hooks, sand bags, and fire extinguishers , and training will be provided to all employees regarding the use of fire fighting equipment. Myanmar Myanbag Industrial Company Limited shall also appoint a specific individual who shall be called the Fire Safety Officer (FSO) who shall be designated responsible for on-site safety and coordination within the organization.


- (i) Myanmar Myanbag Industrial Company Limited shall submit to the Myanmar Investment Commission any sublease, mortgage, transfer of shares or transfer of the business to any person during the investment period in accordance with Section 72 of Myanmar Investment Law and Rule 191 of Myanmar Investment Rules.
- (j) Myanmar Myanbag Industrial Company Limited shall submit an annual report in the prescribed form to the Myanmar Investment Commission within three months of the end of the financial year in accordance with Rule 196 of Myanmar Investment Rules and shall disclose a summary of the report on its website or the Myanmar Investment Commission's website.
- (k) Myanmar Myanbag Industrial Company Limited must, during the operation period under the Endorsement of the Yangon Region Investment Committee, submit its operating report quarterly in the prescribed form in accordance with Rule 197 of Myanmar Investment Rules.

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Confidential

- 4 -

3. Myanmar Myanbag Industrial Company Limited shall carry out in accordance with the laws, regulations and stipulations of relevant Union Ministries, governmental department and governmental organizations the obtaining of any licence, permit or registration as per Section 65(d) of Myanmar Investment Law.
4. Myanmar Myanbag Industrial Company Limited shall submit five (5) copies of all approvals, licences, permits and similar authorizations relevant to the initial implementation of the investment and Lease Agreement to the Yangon Region Investment Committee.


(Phyo Min Thein)
Chairman

Myanmar Myanbag Industrial Company Limited

- cc:
1. The Office of the Union Government
 2. Ministry of Home Affairs
 3. Ministry of Office of the Union Government
 4. Ministry of Natural Resources and Environmental Conservation
 5. Ministry of Labour, Immigration and Population
 6. Ministry of Commerce
 7. Ministry of Planning, Finance and Industry
 8. Ministry of Investment and Foreign Economic Relations
 9. Central Bank of Myanmar
 10. Office of the Myanmar Investment Commission
 11. Chairman, CMP Enterprises Supervision Committee
 12. Director General, Department of Environmental Conservation
 13. Director General, Directorate of Labour
 14. Director General, Department of Immigration

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Confidential

- 5 -

15. Director General, Directorate of Industrial Supervision and Inspection
16. Director General, Department of Trade
17. Director General, National Archives Department
18. Director General, Customs Department
19. Director General, Internal Revenue Department
20. Director General, Directorate of Investment and Company Administration
21. Monitoring and Supervision Division, Directorate of Investment and
Company Administration

Confidential

APPENDIX B

Transitional Consultant Registration Certificate



THE REPUBLIC OF THE UNION OF MYANMAR
Ministry of Natural Resources and Environmental Conservation
Environmental Conservation Department



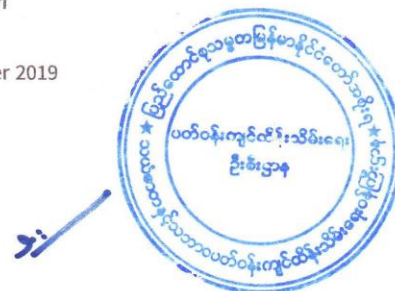
CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION
(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 10068 Date 24 MAY 2019

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the organization under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို ထုတ်ပေးလိုက်သည်။)

- | | |
|--|--|
| (a) Name of Organization
(အဖွဲ့အစည်းအမည်) | Myanwei Consulting Co., Ltd. |
| (b) Name of the representative in the organization
(အဖွဲ့အစည်းကိုယ်စားလှယ်၏အမည်) | U Nyan Lynn Aung |
| (c) Citizenship of the representative in the organization
(အဖွဲ့အစည်းကိုယ်စားလှယ်၏နိုင်ငံသား) | Myanmar |
| (d) Identity Card /Passport Number of the representative person in the organization
(အဖွဲ့အစည်းကိုယ်စားလှယ်၏ မှတ်ပုံတင်/ နိုင်ငံကူးလက်မှတ် အမှတ်) | 12/Sakhana(N)056196 |
| (e) Address of organization
(ဆက်သွယ်ရန်လိပ်စာ) | No. 28, Myay nu street, Sanchaung Township,
Yangon, Myanmar.
Mobile phone: 09440251888
E mail: ceo@myanweiconsulting.com |
| (f) Type of Consultancy
(အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား) | Organization |
| (g) Duration of validity
(သက်တမ်းကုန်ဆုံးရက်) | 31 December 2019 |



Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Facilitation of meeting,
2. Land use,
3. Legal analysis,
4. Geology and soil,
5. Occupational Safety and Health,
6. Public Health



EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended
for one year from (1.1.2020) to (31.12.2020)
ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀)
ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended
for six month from (1.1.2021) to (30.6.2021)
ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁)
ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended
for six months from (1.7.2021) to (31.12.2021)
ဤလက်မှတ်အား (၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁)
ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended
for one year from (1.1.2022) to (31.12.2022)
ဤလက်မှတ်အား (၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂)
ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
Soe Naing 25.3.2022
For Director General
(Soe Naing, Director)
Environmental Conservation Department



REPUBLIC OF THE UNION OF MYANMAR
Ministry of Natural Resources and Environmental Conservation
CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION
(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

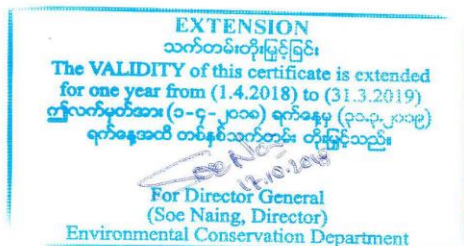


No. 0048 Date

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၅၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

- | | |
|---|---|
| (a) Name of Consultant
(အကြံပေးပုဂ္ဂိုလ်အမည်) | U Lin Htet Sein |
| (b) Citizenship
(နိုင်ငံသား) | Myanmar |
| (c) Identity Card / Passport Number
(မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်) | 7/ Tha Ka Na (N) 101377 |
| (d) Address
(ဆက်သွယ်ရန်လိပ်စာ) | No.54, Room No.704, Waizayantar Tower,
Waizayantar Road, Thingangyun Township,
Yangon.
lin.tbs@gmail.com , 09 421137569 |
| (e) Organization
(အဖွဲ့အစည်း) | Total Business Solution Co., Ltd. |
| (f) Type of Consultancy
(အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား) | Person |
| (g) Duration of validity
(သက်တမ်းကုန်ဆုံးရက်) | 31 March 2018 |



Director General

Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Geology and Soil

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended
for six month from (1.1.2021) to (30.6.2021)
ဤလက်မှတ်အား (၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁)
ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended
for six months from (1.7.2021) to (31.12.2021)
ဤလက်မှတ်အား (၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁)
ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION (သက်တမ်းတိုးမြှင့်ခြင်း)
The VALIDITY of this certificate is extended
for one year from (1.1.2022) to (31.12.2022)
ဤလက်မှတ်အား (၁-၁-၂၀၂၂) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၂)
ရက်နေ့အထိ တစ်နှစ် သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended
for nine months from (1.4.2019) to (31.12.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁-၁၂-၂၀၁၉)
ရက်နေ့အထိ (၉)လ သက်တမ်း တိုးမြှင့်သည်။
Soe Naing
10.6.2017
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended
for one year from (1.1.2020) to (31.12.2020)
ဤလက်မှတ်အား (၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀)
ရက်နေ့အထိ တစ်နှစ် သက်တမ်းတိုးမြှင့်သည်။
Soe Naing
1.1.2020
For Director General
(Soe Naing, Director)
Environmental Conservation Department

APPENDIX C

Monitoring Result

Light Result



Plot No. (36, 38), Room No. 9A, 9th floor, Grand Myay Nu Condominium, 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:	Myanmar Myanbag Industrial Company Limited
Project Location:	Plot No. 17, Myay Taing Block No. Zone (1), Industrial Zone, Hlaing Thar Yar Township, Yangon Region.
Sampling Date:	3 March, 2020
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
Uni-T (Luminometer)	UT380 Series	100 times/second	16°51'6.22"N 96°4'58.18"E

No	Measure area	Unit	Result	Standard	Remark
1	Warehouse	Lux	917	500	Above
2	Cutting	Lux	884	1000	Below
3	Sewing	Lux	1159	400	Above
4	Quality Control	Lux	1112	600	Above
5	Packing Area	Lux	952	600	Above

IESNA Lighting Handbook

Department	Type of 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	22 W (T8)	1000
Finishing	LED tube light	28 W (T8)	600
Inspection points	LED tube light	28 W (T8)	900 (except 1500 at audit tables)
Sampling	LED tube light	22 W (T8)	500
Office areas	Fluorescent tube light	36 W (T)	300


LIN HTE SEIN
 DIRECTOR
 MYANWEI ENVIRONMENTAL SOLUTIONS
 COMPANY LIMITED.

Noise Result



Plot No. (36, 38), Room No. 9A, 9th floor, Grand Myay Nu Condominium, 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:	Myanmar Myanbag Industrial Company Limited
Project Location:	Plot No. 17, Myay Taing Block No. Zone (1), Industrial Zone, Hlaing Thar Yar Township, Yangon Region.
Sampling Date:	3 March, 2020
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°51'6.22"N 96°4'58.18"E

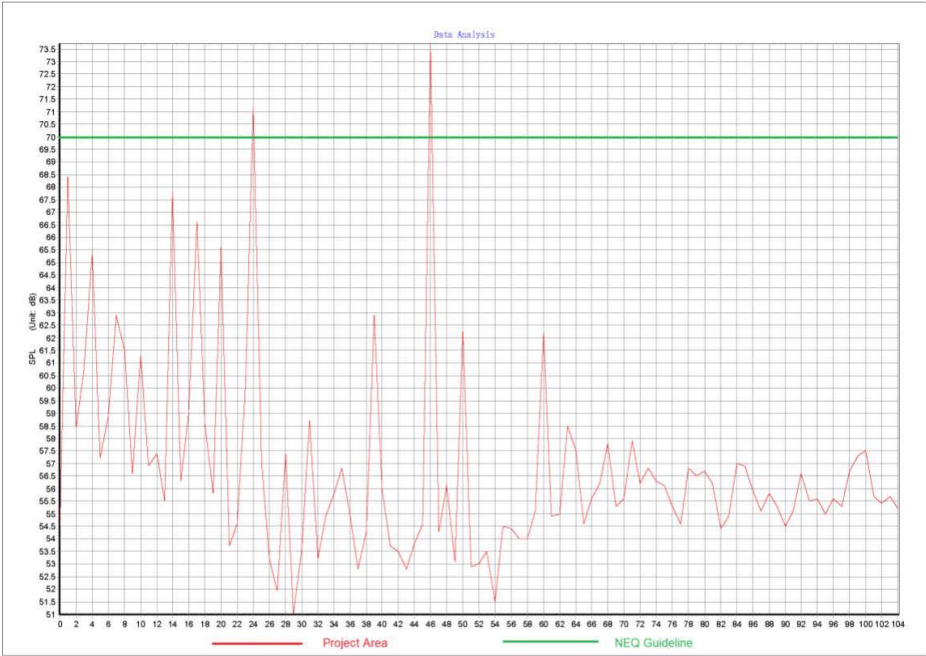
No	Place	Unit	Result	Standard	Remark
1	Operation Area	dBA	66.83 dBA	70 dBA	Normal

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
Industrial, Commercial	70	70


LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Monitoring Graph



Air Result



Plot No. (36, 38), Room No. 9A, 9th floor, Grand Myay Nu Condominium, 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:	Myanmar Myanbag Industrial Company Limited
Project Location:	Plot No. 17, Myay Taing Block No. Zone (1), Industrial Zone, Hlaing Thar Yar Township, Yangon Region.
Sampling Date:	3 March, 2020
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	PM, O ₃ , NO ₂ , SO ₂ , CO Detector	0-999.9 (µg/M ³)	Operation Area (Outdoor)

National Environmental Quality (Emission) Guideline

Parameter	Averaging period	Guideline value	Unit
PM 10 ^a	1-year 24-hour	20 50	(µg/M ³)
PM 2.5 ^a	1-year 24-hour	10 25	(µg/M ³)
O ₃ ^a	8-hour	100	(µg/M ³)
NO ₂ ^a	1-year 1-hour	40 200	(µg/M ³)
SO ₂ ^a	24-hour 10-min	20 500	(µg/M ³)
CO ^b	15-min 30-min 1-hour 8-hour	100 60 30 10	(µg/M ³)

a. Values from air quality guidelines-global update 2005; particulate matter, ozone, nitrogen dioxide and sulfur dioxide.

b. Values from air quality guidelines for Europe, 2nd edition.

Monitoring Result

Parameters	Observed value	Guideline value	Unit	Organization
PM ₁₀	44.4	50	µg/m ³	NEQG
PM _{2.5}	34.4	25	µg/m ³	NEQG
SO ₂	70.96	500	µg/m ³	NEQG

NO ₂	398.23	200	µg/m ³	NEQG
O ₃	52.5	100	µg/m ³	NEQG
CO	0.3	10	µg/m ³	NEQG

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

APPENDIX D

Water Quality Test Result



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

W0120 872

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

WATER QUALITY TEST RESULTS FORM

Client Myanmar Myanmarbag
Nature of Water Treated Water
Location Hlaing Thar Yar Township
Date and Time of collection 29.1.2020
Date and Time of arrival at Laboratory 29.1.2020
Date and Time of commencing examination 30.1.2020
Date and Time of completing 1.2.2020

Results of Water Analysis

WHO Drinking Water Guideline (Geneva - 1993)

pH	6.8		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	Nil	NTU	5 NTU
Conductivity	42	micro S/cm	
Total Hardness	10	mg/l as CaCO ₃	500 mg/l as CaCO ₃
Calcium Hardness	8	mg/l as CaCO ₃	
Magnesium Hardness	2	mg/l as CaCO ₃	
Total Alkalinity	14	mg/l as CaCO ₃	
Phenolphthalein Alkalinity	Nil	mg/l as CaCO ₃	
Carbonate (CaCO ₃)	Nil	mg/l as CaCO ₃	
Bicarbonate (HCO ₃)	14	mg/l as CaCO ₃	
Iron	0.03	mg/l	0.3 mg/l
Chloride (as CL)	6	mg/l	250 mg/l
Sodium chloride (as NaCL)	10	mg/l	
Sulphate (as SO ₄)	Nil	mg/l	500 mg/l
Total Solids	21	mg/l	1500 mg/l
Total Suspended Solids	Nil	mg/l	
Total Dissolved Solids	21	mg/l	1000 mg/l
Manganese	Nil	mg/l	0.05 mg/l
Phosphate	Nil	mg/l	
Phenolphthalein Acidity	3	mg/l	
Methyl Orange Acidity	Nil	mg/l	
Salinity	0.1	ppt	

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

Tested by Hein
Signature: Zaw Hein Oo
Name: B.Sc (Chemistry)
Sr. Chemist

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

(a division of WEG Co.,Ltd.) ISO TECH Laboratory

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