TWINKLE (MYANMAR) COMPANY LIMITED

Initial Environmental Examination

Manufacturing of Various Kinds of Bags on CMP Basis

Prepared by
MYANWEI ENVIRONMENTAL SOLUTIONS
MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED

MYANWEI
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Date: 23, 6, 2022

Attention: Dear Director

Environmental Conservation Department

Subject: Initial Environmental Examination (IEE) Report in respect of the Manufacturing of Bags by Twinkle (Myanmar) Company Limited.

IEE report describes the environmental condition of a project, including potential 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.

Mr. Lin Htet Sein
Director
Myanwei Environmental Solutions
Company Limited

Twinkle (Myanmar) Co., Ltd.

Date: 23, 6, 2022

Dear: Director

Environmental Conservation Department

Nay Pyi Taw

Subject: Initial Environmental Examination (IEE) Report in respect of the Manufacturing of Bags

We refer to the captioned IEE, 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 IEE report is accurate and complete
- The IEE report has been prepared in strict compliance with all applicable laws, rules, regulations and procedures in force.

Twinkle (Myanmar) Company Limited will at all times comply fully with all commitment and obligations in the IEE report.

We acknowledge and understand that

Mr. Leung Yu Kei Jackie

Promotor

Twinkle (Myanmar) Co.,Ltd.

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Abbreviation

1. CEMP = Construction Environmental Management Plan
2. CMP = Contract Manufacturing Process
3. CSR = Corporate Social Responsibility
4. ECC = Environmental Compliance Certificate
5. ECD = Environmental Conservation Department
6. EIA = Environmental Impact Assessment
7. EMOP = Environmental Monitoring Plan
8. IEE = Initial Environmental Examination
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. MOECAF = 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

Twinkle (Myanmar) Company Limited အထည်ချုပ်စက်ရုံသည် မြေကွက်အမှတ် (၁၆၇၊၁၆၈) မြေတိုင်းရပ်ကွက်အမှတ၄၉(၂၁)၊ ဂါးတရာစက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ် ၊ရန်ကုန်တိုင်းဒေသကြီးတွင် တည်ရှိသည်။ အဆိုပြုစီမံကိန်းသည် (၁၀၀%) နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှုဖြစ်ပါသည်။ အဆိုပါစက်ရုံသည် အိတ်အမျိုးမျိုး ချုပ်လုပ်ခြင်းလုပ်ငန်းကို CMP စနစ်ဖြင့်ချုပ်လုပ်၍ ပြည်ပသို့တင်ပို့ခြင်းလုပ်ငန်းဖြစ်ပါသည်။ စီမံကိန်းဧရိယာသည် မြေဧရိယာစုစုပေါင်း၄.၆ ဧက (၁၈၆၁၅.၅ စတုရန်းမီတာ) ကျယ်ဝန်းပါသည်။

ရင်းနှီးမြှုပ်နှံမှုလိုင်စင်ကို ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီမှ အတည်ပြုမိန့်အမှတ် (ရကတ-၂၁၁/၂၀၁၉) ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၂၁ ရက်နေ့တွင်ရရှိထားပြီး သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေး၀န်ကြီးဌာန (MONREC)၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၏ စာအမှတ် ရက-၁/၃/၄ (အီးအိုင်အေ) (၁၀၂၂/၂၀၁၉) ၁၄ ရက်၊ ဇွန်လ ၂၀၁၉ခုနှစ်ပါ စာအရ Twinkle (Myanmar) Company Limitedသည် စီမံကိန်း နှင့် စီမံကိန်းပတ်ဝန်းကျင်ဆိုင်ရာ ကာကွယ်မှုများကို ဆောင်ရွက်ရပါမည်။ ထို့အပြင် သယံဇာတနှင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဝန်ကြီးဌာန လက်အောက်ရှိ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန၏ လမ်းညွှန်ချက်အရ ကနဦးပတ်၀န်းကျင်ဆန်းစစ်ခြင်း အစီရ ငံခံစာအားဆောင်ရွက်ရမည် ဖြစ်ပါသည်။ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ပေါ်လစီများ၊ ဥပဒေများ၊ နည်းဥပဒေများ နှင့် လုပ်ထုံးလုပ်နည်းများ အရ ကနဦးပတ်၀န်းကျင်ဆန်းစစ်ခြင်း အစီရ အစီရင်ခံစာအားဆောင်ရွက်ခြင်း၊ ပြင်ဆင်ခြင်း၊ တင်ပြခြင်းများလုပ်ဆောင်ရပါသည်။ Twinkle (Myanmar) Company Limited၏ အိတ်ချုပ်စက်ရုံအတွက် ကနဦးပတ်၀န်းကျင်ဆန်းစစ်ခြင်း အစီအစဉ်ကို Myanwei Environmental Solutions Co., Ltd. မှ အောက်တိုဘာလ ၂၉ရက်၊ ၂၀၁၉ မှ စတင်ဆောင်ရွက်ပေးခဲ့ပါသည်။

လက်ရှိပတ်ဝန်းကျင်အနေအထားကို အကဲဖြတ်ရန် အောက်တိုဘာလ ၂၉ရက်၊ ၂၀၁၉ခုနှစ် တွင် စက်ရုံသို့ ကွင်းဆင်း ဆောင်ရွက်ခဲ့ပါသည်။ စီမံကိန်းဆိုင်ရာ အခြေခံစစ်တမ်းများ ကောက်ယူမှုကို စီမံကိန်း လည်ပတ်စဉ်အတွင်းတွင် ဆောင်ရွက်ခဲ့ပါသည်။ စစ်တမ်းကောက်ယူသည့် အဖွဲ့တွင် အကြံပေးပုဂ္ဂိုလ်များ၊ ပတ်ဝန်းကျင်အရည်အသွေးဆန်းစစ်သူများ ပါဝင်ပါသည်။ အခြေခံ ပတ်ဝန်းကျင်ဆိုင်ရာ စစ်တမ်းများကောက်ယူမှုကို အောက်ပါအတိုင်းခွဲခြား၍ ကောက်ယူခဲ့ပါသည်။ စက်ရုံ၏ ကုန်ထုတ်လုပ်သည့်နေရာတွင် လေထုအရေအသွေး၊ အသံဆူညံမှု၊ အလင်းရောင်ရရှိမှု အခြေအနေများကို တိုင်းတာခဲ့ပါသည်။

အမျိုးအစား	**တိုင်းတာမှု**
လေအရည်အသွေး	(1) Sulfur dioxide (SO2), (2) Nitrogen dioxide (NO2), (3) PM10 and PM2.5
ဆူညံမှု	စက်ရုံတွင်း ဆူညံသံ (LAeq)
အလင်းရောင်ရရှိမှု	အလင်းရောင်ရရှိမှု အခြေအနေ (Lux)

တိုင်းတာမှု ရလဒ်များအရ Sulfur dioxide (SO2), Carbondioxide (CO2), Particulate Matter (PM10) and Nitrogen Dioxide (NO2) သည် အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ လမ်းညွှန်ချက်များ၏ သတ်မှတ်စံချိန်၊ စံညွှန်းများ အတွင်းတွင် ရှိသည်ကို တွေ့ရှိရပါသည်။ အဆောက်အဦးအတွင် တွင် တိုင်းတာသော PM10 and PM2.5 သည် အမျိုးသား ပတ်ဂန်းကျင်ဆိုင်ရာ လမ်းညွှန်ချက်များ၏ အတွင်းတွင် တည်ရှိပါသည်။ သို့သော် အဆောက်အဦးပြင်ပတွင်တိုင်းတာသော PM10 နှင့် PM2.5တွင် PM2.5 သည် သတ်မှတ်စံချိန်အတွင်းရှိ၍ PM10သည် အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ လမ်းညွှန်ချက်များ၏ သတ်မှတ် စံချိန်ထက် အနည်းငယ် ကျော်လွန်နေသည်ကို လေ့လာတွေ့ရှိရပါသည်။ ကုန်ထုတ်လုပ်မှု ဇရိယာရှိ အသံဆူညံမှုသည်လည်း အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ လမ်းညွှန်ချက်များ၏ သတ်မှတ် စံချိန်၊ စံညွှန်းများအောက်တွင်ရှိသည်ကို တွေ့ရှိရပါသည်။ စီမံကိန်းလည်ပတ်သည့်ဇရိယာအတွင်းတွင် အလင်းရောင်တိုင်းတာမှုသည့် သတ်မှတ်စံညွှန်စံချိန်အတိုင်း အလင်းရောင်ရရှိပါသည်။

ရွှေပြည်သာ မြို့နယ်နှင့် သက်ဆိုင်သော လူမှုစီးပွားအခြေအနေ၊ ရုပ်ပတ်ဝန်းကျင်နှင့် ဇီဝပတ်ဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ရာသီဥတုအခြေအနေစသည့် သတင်းအချက်အလက်များ ကို ရွှေပြည်သာမြို့နယ်အထွေထွေ အုပ်ချုပ်ရေးဦးစီးဌာန မှ ရယူ၍ ထိုသတင်းအချက်အလက်များကို အစီရင်ခံစာတွင် ထည့်သွင်းဖော်ပြခဲ့ပါသည်။ အဆိုပြုစီမံကိန်းမြေသည် စက်မှုဇုန်ဇရိယာအတွင်းတွင်တည်ရှိပါသည်။ စီမံကိန်းအနီးတွင် လှိုင်မြစ်တည်ရှိ၍ ၁.၁၉ မိုင် ကွာဝေးပါသည်။ ၂၀၁၉ခုနှစ် စစ်တမ်းအရ လှိုင်သာယာမြို့နယ်၏ လူဦးရေမှာ ၄၄၀,၉၄၉ ဖြစ်ပါသည်။

စီမံကိန်းလုပ်ဆောင်ချက်များကြောင့် ပတ်ဝန်းကျင်ဆိုင်ရာ အရင်းအမြစ်များ၊ စီးပွားဆိုင်ရာ အရင်းအမြစ်များ၊ အမှိုက်စွန့်ပစ်မှု စသည့် သက်ရောက်မှုများဖြစ်ပေါ်လာနိုင်ပါသည်။ စီမံကိန်းလုပ်ဆောင်ချက်ကြောင့်သက်ရောက်မှုများ နှင့် လျော့ချရေးနည်းများ အကျဉ်းချုပ်ကို အောက်တွင်ဖော်ပြထားပါသည်။

အမျိုးအစား	ထိခိုက်မှုအကြောင်းအရာ	အဆင့်သက်မှတ်ချက်	လျော့ချရေး အစီအစဉ်
ပတ်ဝန်းကျင်ညစ်ညမ်းမှု			
လေထုအရည်အသွေး	ကုန်ကြမ်းပစ္စည်းများ၊ ကုန်ချောပစ္စည်းများ သယ်ဆောင်သော ယာဉ်များမှ ဖုန်မှုန့်များ၊ ဖန်လုံအိမ် အာနိသင်ဖြစ်စေသော ဓာတ်ငွေ့များနှင့်ထွက်ရှိ ခြင်း အရေးပေါ်မီးစက်များနှင့် ယာဉ်အသွားအလာမှ ထွက်သော မီးခိုးများ	နည်းပါး	လေညစ်ညမ်းမှုများကိုထိန်းချုပ်ခြင်း၊ ယာဉ်များ၊ မီးစက်များ၊ စက်ပစ္စည်းများကို ပုံမှန်စစ်ဆေးခြင်း။ ယာဉ်များ၊ ကွန်ပရက်ဆာ၊ မီးစက်များကို ကောင်းမွန်စွာပြုပြင်ထိန်းသိမ်းသိမ်းပေးခြင်း
မြေအရည်အသွေး	အင်ဂျင်ဆီများ၊ ဒီဇယ်ဆီများသိုလှောင်ခြင်း နှင့် ဖိတ်ယိုခြင်း	အလွန်နည်းပါး	ထိခိုက်မှုလျော့ချရန်မလိုပါ။

အမျိုးအစား	ထိခိုက်မှုအကြောင်းအရာ	အဆင့်သတ်မှတ်ချက်	လျော့ချရေး အစီအစဉ်
ဆူညံသံနှင့် တုန်ခါမှု	ကုန်ပစ္စည်းထုတ်လုပ်ခြင်းလုပ်ငန်းများတွင် ရှိသော စက်ပစ္စည်းများမှ ဆူညံသံများထွက်ခြင်း	နည်းပါး	မီးစက်၊များထားရှိရန်သီးခြား အသံလုံ အခန်းများ တည်ဆောက်ပေးခြင်း အသံထုတ်လွှတ်မှုနည်းသည့် စက်ကရိယာများ တပ်ဆင်စေခြင်း အသံကာကွယ်ရေးပစ္စည်း (သို့) တစ်ကိုယ်ရေသုံးကာကွယ်ပစ္စည်းများ တပ်ဆင်စေခြင်း
သဘာဝပတ်ဝန်းကျင်			
အပင်၊ သတ္တဝါများ၊ ဂေဟစနစ် ဇလဗေဒ မြေမျက်နှာသွင်ပြင်/ ဘူမိဗေဒ	စက်ရုံသည် စက်မှုဇုန်ဇရိယာတွင် တည်ရှိသောကြောင့် အပင်၊ သတ္တဝါများ၊ ဂေဟစနစ်၊ဇလဗေဒ မြေမျက်နှာသွင်ပြင်/ ဘူမိဗေဒ မြေတိုက်စားခြင်းများ အပေါ် ဆိုးကျိုးသက်ရောက်မှုများ မရှိပါ။	အလွန်နည်းပါး (Insignificant)	ထိခိုက်မှုလျော့ချရန်မလိုပါ။
လူမှုဝန်းကျင်			
မီးဘေးအန္တရာယ်	လျှပ်စစ်တပ်ဆင်ရာတွင် စနစ်တကျတပ်ဆင်မှု မရှိခြင်း ကုန်ကြမ်းပစ္စည်း စွန့်ပစ်ခြင်း၊ ဓာတုပစ္စည်း သိုလှောင်ခြင်း။	အသင့်အတင့်	စက်ရုံ၏မီးဘေးအန္တရာယ်ကာကွယ်ရန်အတွက် မီးသတ်ဘူး၊ မီးသတ်ပိုက်၊ မီးသတ်ခေါင်း များထားရှိခြင်း။ မီးသတ်ဆိုင်ရာစက်ပစ္စည်းကိရိယာများကိုပံ့ပုံမှန်စစ်ဆေးခြင်း၊အရေးပေါ် အခြေနေအတွက် မီးသတ်ရေကန်အဆင်သင့်ထားရှိခြင်း။ စက်ရုံအတွင်းအရေးပေါ် အချက်ပေးစနစ်များ များထားရှိခြင်း။ အရေးပေါ် ထွက်ပေါက်များတွင်တစ်လျောက်တွင် ကုန်ပစ္စည်းများ ပိတ်ဆိုခြင်း မရှိအောင်ရှင်းလင်းထားရှိခြင်း။
ကျန်းမာရေး	တီဘီ နှင့် အခြား ရောဂါများ ကူးစက်မှု အန္တရာယ်	အလွန်နည်းပါး (Insignificant)	ပုံမှန် ကျန်းမာရေး စစ်ဆေးခြင်း၊ ကျန်းမာရေးဆိုင်ရာ အသိပညာပေးခြင်းနှင့် ရှေးဦးသူနာပြုနည်းများကို လုပ်သားများအား သင်တန်းပေးခြင်းများ ပြုလုပ်ခြင်း။

အမျိုးအစား	ထိခိုက်မှုအကြောင်းအရာ	အဆင့်သတ်မှတ်ချက်	လျော့ချရေး အစီအစဉ်
လုပ်ငန်းခွင် အန္တရာယ် ကင်းရှင်းရေး	စက်ပစ္စည်းများ လ လည်ပတ်ခြင်းကြောင့် မတော်တဆ ထိခိုက်မှုများ ဖြ ဖြစ်ပေါ်နိုင်ခြင်း။ ပစ္စည်းတင်ချပြုလုပ်ခြင်း၊ ဖြတ်တောက်ခြင်း၊ ရောနှော ခြင်း၊ ဖိနှိပ်ခြင်း၊ ထုတ်ပိုးခြင်း။ ရေနွေးငွေ့သုံး မီးပူများကြောင့် မတော်တဆ ထိခိုက်မှုများ ဖြစ်ပေါ်နိုင်ခြင်း။	အသင့်အတင့်	အရေးပေါ်အခြေအနေများအတွက် စက်ပစ္စည်းကိုင်တွယ်မှုသင်တန်းပေးခြင်း၊ ကြက်ခြေနီသင်တန်းပေးခြင်း၊ မီးသတ်သင်တန်းပေးခြင်း။ လုပ်ငန်းခွင်တွင်း အလုပ်သမားများ အလင်းရောင် ကောင်းစွာ ရရှိစေရန်နှင့် အမြင်အာရုံမထိခိုက်စေရန် အလင်းရောင်များကို လုံလောက်စွာထားရှိခြင်း။ အလုပ်သမားများအတွက် တစ်ကိုယ်ရေ ကာကွယ်ရေးသုံး ပစ္စည်းများဖြ များဖြစ်သည့် နားကြပ်၊ လက်အိတ်၊ ဦးထုတ်၊ မျက်မှန် များ အသုံးပြုစေခြင်း။ လျှပ်စစ်အန္တရာယ် မဖြစ်စေရန် နှင့် ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ရန် အတွက် ဝန်ထမ်းထားရှိ၍ ပုံမှန်စစ်ဆေးခြင်း။
စွန့်ပစ် အညစ်အကြေး			
စွန့်ပစ်အစိုင်အခဲများ	ကုန်ထုတ်လုပ်သည့် နေရာမှ ထွက်ရှိသော ပိတ်အိုင်းအစများ။ ကုန်ပစ္စည်း ထုတ်ပိုးခြင်းမှထွ ထွက် ရှိသော အိုင်းအစများ။ မီးဖိုချောင် လူနေဆောင် ရုံးခန်းမှ တွက်ရှိသော အမှိုက်များ။	အသင့်အတင့်	စက်ရုံအတွင်း အမှိုက်ပုံးများထားရှိခြင်း။ သတ်မှတ်ထားသောနေရာတွင် အမှိုက်စို၊ အမှိုက်ခြောက်များ ခွဲခြားစွန့်ပစ်ခြင်း။ အမှိုက်များကို ရန်ကုန်မြို့တော် စည်ပင်သာယာရေးကော်မ ကော်မတီနှင့် ချိတ်ဆက်၍ စွန့်ပစ်ခြင်း။
စွန့်ပစ်အရည်	မိလ္လာစနစ်ထားရှိခြင်း။ ရုံးခန်း၊ မီးဖိုချောင် နှင့် လူနေဆောင်များမှ စွန့်ပစ်အရည်များတွက်ရှိခြင်း။	နည်းပါး	ဆီကန်၊ မိလ္လာကန်များ ကိုပုံမှန်စစ်ဆေးခြင်း၊ သန့်စင်ခြင်းများ ပြုလုပ်ခြင်းဖြင့် စွန့်ပစ်အရည်များ စိမ့်ဝင်မှုများကို လျော့ကျစေနိုင်ခြင်း။
အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်း	မော်တော်ယာဉ်များ စက်ပစ္စည်းများ ပြုပြင်ထိန်းသိ းသိမ်းခြင်းမှ ဆီများတွက်ရှိခြင်း။	အလွန်နည်းပါး (Insignificant)	အန္တရာယ်ရှိ စွန့်ပစ်ပစ္စည်းများသိုလှောင်မှု အားထိန်းသိမ်းခြင်း စစ်ဆေးခြင်း။ လုပ်ငန်းခွင်ကျန်းမာရေး လုံခြုံမှုနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာ လိုအပ်ချက်များ နှင့်ကိုက်ညီမှုရှိစေရန် ဓာတုပစ္စည်းများကို စနစ်တကျစွန့်ပစ်ခြင်း။

အမျိုးအစား	ထိခိုက်မှုအကြောင်းအရာ	အဆင့်သက်မှတ်ချက်	လျော့ချရေး အစီအစဉ်
			ဓာတုပစ္စည်းသိုလှောင်သည့် ပုံးခွန်များကို စနစ်တကျ ပြန်လည်အသုံးပြုခြင်း (သို့မဟုတ်) စနစ်တကျစွန့်ပစ်ခြင်း။ အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများကို ရန်ကုန်မြို့တော်စည်ပင် သာယာရေး ကော်မတီ (သို့မဟုတ်) လိုင်စင်ရ အမှိုက်စွန့်ပစ်ရေး ဆိုင်ရာအဖွဲ့အစည်းများ (ဥပမာ DOWA or YCDC) နှင့် ချိတ်ဆက်၍စွန့်ပစ်ခြင်း။

သိသာထင်ရှားသော သက်ရောက်မှုများကိုတွက်ချက်ရာတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုနှင့် ဆန်းစစ်ခြင်းအဖွဲ့အစည်း (IEMA) မှ ချမှတ်ထားသော နည်းလမ်းကို အသုံးပြု၍ ဆန်းစစ်ထားပါသည်။ စီမံကိန်းလုပ်ဆောင်ချက်များပေါ် မူတည်၍ ရလဒ်များ နည်းသည်၊ အလွန်နည်းသည်ကို ဖော်ပြထားပါသည်။ အချို့ရလဒ်များမှာ အသင့်အတင့် ရှိပါသည်။ လူမှုစီးပွားဆိုင်ရာတိုးတက်မှုများအနေဖြင့် ကောင်းမွန်သောသက်ရောက်မှု ရှိသည်ကို တွေ့ရှိရပါသည်။

စီမံကိန်းဖော်ဆောင်သည့်အချိန်အတွင်း ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများ၊ လျော့ချရေးနည်းလမ်းများ၊ အစီအစဉ်များ၊ တိုင်းတာမှုများ စသည့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များကို လုပ်ဆောင်ရပါသည်။ Twinkle (Myanmar) Company Limitedမှ စက်ရုံတွင် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အတွက် အဖွဲ့အစည်းဖွဲ့စည်းခြင်း၊ ပုံမှန်ဆန်းစစ်လေ့လာခြင်းများ ပြုလုပ်သွားမည်ဖြစ်ပါသည်။ ပတ်ဝန်းကျင် လေထုအရည်အသွေး၊ မိလ္လာစနစ်၊ စွန့်ပစ်အစိုင်အခဲ စွန့်ပစ်မှုများကို စက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အဖွဲ့အစည်းမှ ဆန်းစစ်သွားမည်ဖြစ်ပါသည်။ အဆိုပြုစီမံကိန်းမှ လူထုအကျိုးပြုလုပ်ငန်းများ နှင့် အရေးပေါ် ဆောင်ရွက်ချက်များ၊ ဒေသဆိုင်ရာ အကျိုးပြုလုပ်ငန်းများကို လုပ်ဆောင်သွားမည်ဖြစ်ပါသည်။

စီမံကိန်းသည် ဂါးတရာစက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ်တွင်တည်ရှိသည်။ စီမံကိန်းကြောင့် ပတ်ဝန်းကျင် အပေါ် သက်ရောက်မှုများ မရှိပါ။ စီမံကိန်းဆိုင်ရာ သတင်းအချက်အလက်များ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်များကို အောက်ပါ ဝပ်ဆိုက်များမှတစ်ဆင့် လေ့လာနိုင်ပါသည်။

Myanwei website www.myanweiconsulting.com

https://www.facebook.com/Myanwei-Environmental-Solutions-Company-Limited.

EXECUTIVE SUMMARY

The Manufacturing of various kinds of bags factory of Twinkle (Myanmar) Company Limited is located in Land Plot No. (167,168), Myay Taing Block No. 49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region, Myanmar. The said project is 100% foreign direct investment of by Twinkle (Myanmar) Company Limited. The purpose of the investment is to manufacture various kinds of bags on Cutting-Making-Packaging (CMP) System and to export the products fully.

Twinkle (Myanmar) Company Limited has got the YRIC Endorsement No. YGN–211/2019 on 21, June 2019 (Appendix A) and ECD recommendation got from Ministry of Natural Resources and Environmental Conservation (MONREC), Environmental Conservation Department Notification No. YaKa-1/3/4 (EIA) (1022/2019) on 14 June 2019. According to ECD recommendation, Twinkle (Myanmar) Company Limited shall responsible for the preservation of the environment and around the area of the project site. In addition to this, it shall carry out as per instructions made by Ministry of the Natural Resources and Environmental Conservation (MONREC) under Environmental Conservation Department (ECD) in which to conduct an Initial Environmental Examination (IEE). It has to prepare, submit, perform activities in accordance with this IEE, and abide by the environmental policy, Environmental Conservation Law and other environmental related rules and procedures. IEE for manufacturing of various kinds of bags factory to be implemented by Twinkle (Myanmar) Company Limited has been started by Myanwei Environmental Solutions Co., Ltd. (Myanwei) in 29 October 2019.

To determine the existing baseline environmental quality within the project site on October 2019. The field observation for determining the environmental baseline of the proposed project area was undertaken during operation 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. On-site measurement includes indoor air quality, noise level and operation light condition at the factory.

Item	Parameter
Air quality	(1) Sulfur dioxide (SO2), (2) Carbon monoxide (CO), (3) Nitrogen dioxide (NO2), (5) PM10 and PM2.5
Noise level	Indoor sound level (LAeq)
Light Level	Industry light condition (Lux)

The contents of CO_2 and SO_2 concentration level are within the limit of NEQ (emission) guideline but particulate matter ($PM_{2.5}$,) and gases level of Nitrogen Dioxide (NO_2) are also within the National Environmental Quality (Emission) Guideline. Outdoor air quality parameter of Particulate matter (PM_{10}) is a little bit higher than the guideline of NEQG. Noise in the workshop area is acceptable when compared with National Environmental Quality (Emission) Guideline. The result of light measurement at operation area (inside the production sector) is good condition to the acceptable level of standard.

Moreover, secondary data collection of proposed project site area such as socio-economic condition, physical/ biological environment, weather data where be received from official township data was reference by Regional Data of Shwe Pyi Tar Township. The proposed project site is initiated into the industrial zone area. The nearest sensitive water body is about 1.19 miles far from the Hlaing River. In 2019, the population of Shwe Pyi Tar Township is about 440,949 peoples.

The project activities may cause impacts on environmental resources, ecological resources, human and waste disposal. The summary of impacts with respect to project activities and mitigation measures are described as below:

Categories	**Source of Impact**	**Impact Significance**	**Mitigation Measure**
Impact on Environmental Resource			
Air	Dust and GHGs emission from vehicles used for transporting raw materials and final products Emission of smoke from emergency diesel generator and vehicle movement	Low	To control air pollution, the vehicles, generators and machineries have to check and maintain regularly. Ensuring vehicles, compressor and generator are well maintained.
Soil	Engine oil leaks, spills at diesel storage and during fuel refueling.	Very Low (Insignificant)	No Mitigation Measure
Noise and Vibration	Generating noise from the production machinery	Low	Should be build individual room like as generator room, Low noise equipment should be used Should be provide the noise covering equipment or personal protective equipment (PPE) Low noise equipment should be used Should be built individual room like as generator room and so on
Impact on Ecological Resources			
Flora and fauna on terrestrial and aquatic life	Operation of the various kinds of bags factory	Very Low (Insignificant)	No Mitigation Measure
Impact on Human			
Fire	Poor electrical installations Waste disposed area raw materials and chemical storage	Moderate	To provide 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. The emergency fire alarms are installed at the factory

Categories	Source of Impact	Impact Significance	Mitigation Measure
			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.
Occupational Safety	Accidental cases cause by operating machines. Unloading, mixing, cutting, pressing and packaging activities. Accidental cases of thermic fluid heater	Moderate	First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of 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 staffs (handyman) are to be assigned to do regular inspections and take preventive measures.
Health	Risk of infection with Tuberculosis (TB) and other diseases	Very Low (Insignificant)	Manage the regular medical check-ups and health services. Provide the sharing of medical knowledge and first aid trainings.
Waste Generation Impact			
Solid Waste	Residual pieces of fabric scraps from the production lines Waste from packaging materials Waste from kitchen, dormitory and office.	Moderate	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

Categories	Source of Impact	Impact Significance	Mitigation Measure
			Final wastes should be disposed by using YCDC's service.
Liquid Waste	Septic system and sewage. Domestic liquid waste disposal from office, kitchen and dormitory.	Low	Regular inspection and cleaning, oil traps, septic tank and adequate covers for all storage and waste disposal areas can decrease these contaminations.
Hazardous Waste	Used oil and lubricant discharged from the maintenance of vehicles and machines.	Very Low Insignificance	Proper inspection and maintenance in storage of hazardous waste. Dispose of hazardous chemicals and containers in accordance with occupational health, safety and environmental requirements. The empty chemical containers will hand over to suppliers for recycle or appropriate disposal The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (eg., DOWA and YCDC)

Modified method of Institute of Environmental Management and Assessment (IEMA) from United Kingdom is applied in this report to assess the significance of the impacts. Results of analysis mention that most of the project activities are very low/low significant and some are moderate significant to be improved for environmental performance. Social and economic developments are positive impacts of the proposed project.

The Initial Environmental Examination (IEE) formulated with the anticipated impacts, mitigation measures, management and monitoring plans during all phases are implementing. Twinkle (Myanmar) Company Limited has organized Environmental Management Team to accomplish these plans and to review IEE regularly for improvements and modifications. The project proponent has performed Corporate Social Responsibility (CSR) plan and Emergency Preparedness for the benefits of residents and local community.

The project is located in Watayar Industrial Zone, Shwe Pyi TarTownship and there are no local people affected by project. The project information and this IEE will be accessible to public and stakeholders via.

Myanwei website www.myanweiconsulting.com

https://www.facebook.com/Myanwei-Environmental-Solutions-Company-Limited.

1. INTRODUCTION

1.1. PROJECT BACKGROUND

Twinkle (Myanmar) Company Limited has got the YRIC Endorsement No. YGN–211/2019 on 21, June 2019 from Yangon Region Investment Committee and ECD recommendation got from Ministry of Natural Resources and Environmental Conservation (MONREC), Environmental Conservation Department Notification No. YaKa-1/3/4 (EIA) (1022/2019) on 14 June 2019. According to ECD recommendation, Twinkle (Myanmar) Company Limited shall responsible for the preservation of the environment and around the area of the project site. In addition to this, it shall carry out as per instructions made by Ministry of the Natural Resources and Environmental Conservation (MONREC) under Environmental Conservation Department (ECD) in which to conduct an Initial Environmental Examination (IEE). It has to prepare, submit, perform activities in accordance with this IEE, and abide by the environmental policy, Environmental Conservation Law and other environmental related rules and procedures. Therefore, Twinkle (Myanmar) Company Limited commissioned Myanwei Environmental Solutions Company Limited (Myanwei) for IEE report study.

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

1.2. AIM OF ENVIRONMENTAL MANAGEMENT IN TWINKLE (MYANMAR) COMPANY LIMITED

Environment Management 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 Twinkle (Myanmar) Company Limited. The Environmental Management 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

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

1.3. PROJECT PROPONENT PROFILE

Initial Environmental Examination (IEE) 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 Twinkle (Myanmar) Company Limited. The Initial Environmental Examination (IEE) 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.

This is the information of project proponent from the MIC's registration that is describing in below. The estimated authorized capital investment is 4.089 Million US Dollar. Organization chart of Twinkle (Myanmar) Company Limited is presented in Figure 1-1.

Table 1-1 Information of Twinkle (Myanmar) Company Limited

Investor Name:	Mr. Leung Yu Kei Jackie
Citizenship:	Chinese
Company ID No./ Passport No	K02651972
Address of Registration office:	Flat 178, Block 3, 18 Pik Tin Street, Granville Garden, Tai Wai, N.T.Hong Kong, China.

Table 1-2 Director List

Name	Type	Citizenship	Percentage
Twinkle Leatherwear Holding (B.V.I) Company Limited			100%
Mr. Leung Yu Kei Jackie	Director	Chinese	
Mr. Kan Shu Kit	Director	Chinese	
Mr. Man Ka Kit	Director	Chinese	
Mr. Tsai Fung Hsiang Dennis	Director	Taiwan	
Ms. Yuen Ka Ying	Director	Chinese	

Table 1-3 Salient Features of the Project

Type of Proposed Business	Manufacturing of Various Kinds of Bags on CMP basic
Type of investment	100% foreign investment
Type of Share	Ordinary Share
Type of land	Industrial Land
Total land area	4.6 acres (18615.5 sqm) out of 9.279 acres
Land lease year	25 years
Construction period	1 year
Address	Total Plot No. (167, 168) Out of Plot No. (165,166, 167, 168), Myay Taing Block No. 49, WarTaYar Industrial Zone, Shwe Pyi Thar Township, Yangon Region
Contact person	Ko Khant Lwin (09-777743876)

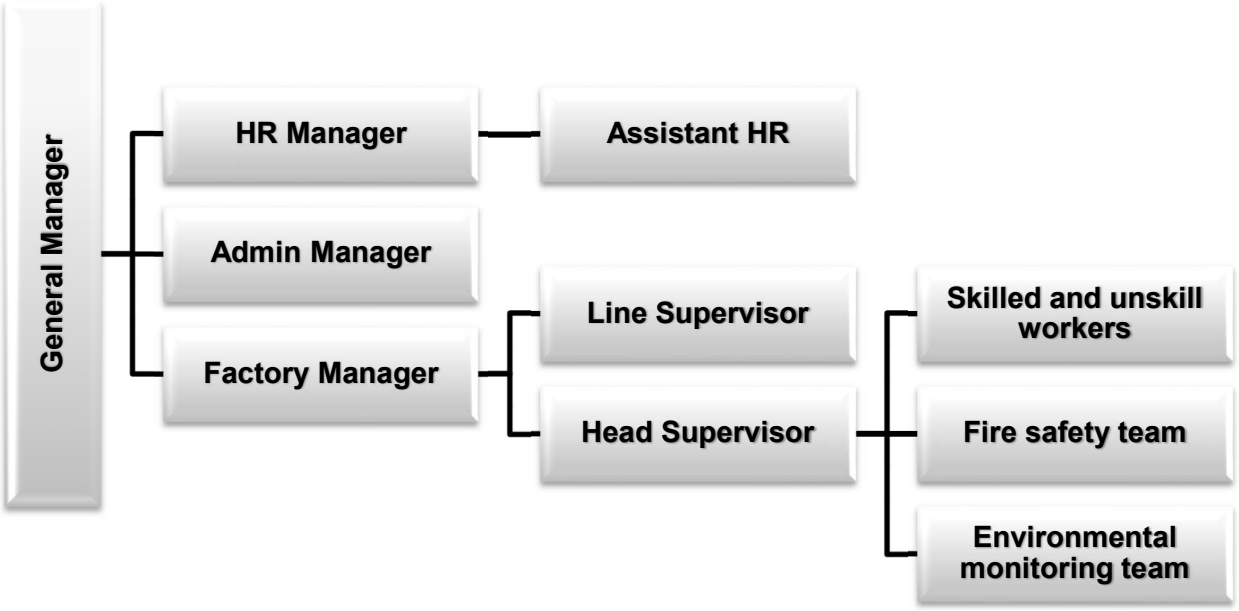


Figure 1-1 Organization Chart of Twinkle (Myanmar) Company Limited

1.3.1. Alternate Project site

No alternative site has been proposed and the proposed project area is situated at Land Plot No. (167/168), Myay Taing Block No. 49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region, which has been designated and already finished the construction phase when we take survey analysis the factory for IEE study. The factory already has endorsement from Myanmar Investment Commissioned project site.

The proposed project investment duration is 25 years and they will close out the project according to their MIC proposal.

1.4. ENVIRONMENTAL CONSULTANT PROFILE

1.4.1. Scope of IEE Study

The IEE study firstly established baseline environmental setting within 100 meters of the project area, including existing conditions of air quality, water quality, noise, weather and local climate, waste, landscape and social assessment. The field studies carried out by Myanwei Environmental Solutions Co., Ltd. conducted field survey, assessment activities, and prepared the report.

A reconnaissance study performed on the proposed project site and baseline environmental data collected from possible sources using the appropriate measuring devices. Data interpretation and analysis based on those collected data for the present and potential future conditions. Suitable measures proposed for the impacts to reduce to acceptable ones.

The proposed factory, Twinkle (Myanmar) Co., Ltd located at the corner of Than Tin Road and Mahar Myaing Road, Watayar Industrial Zone, Shwe Pyi Tar Township. Hlaing River which is the final outlet of liquid waste discharges from the proposed factory and that factor is locating in the industrial zone. The proposed factory discards scrap solid wastes connected with YCDC. Residential areas are

far 1km distance from proposed factory and cannot have impacts on surrounding environments due the implementation of bags manufacturing factory. Air pollution emission from generator is in negligible state and not affect to human settlements but can influence the environment in long term. Figure 1-2 shows the scope of IEE study area and its potential damage range.

Figure 1-2 Scoping the study limit within 1 km distance

1.4.2. The specific objectives of the IEE study are as follows:

- To conduct preliminary examination of the environmental consequences of the project
- To describe the existing environmental condition of the proposed project site
- To collect detailed information about used of process, technology, equipment and machinery for proposed project
- To assess the potential environmental impacts of the proposed project
- To develop environmental management plan (EMP) with site specific environmental mitigation measures and monitoring standards guidelines for the proposed project
- To carry our public consultants to address any issues in concern with implementation of this project

1.5. IDENTIFICATION OF IEE STUDY TEAM

MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED prepares the Initial Environmental Examination (IEE) with the Environmental Management Plan (EMP) for the proposed project. The environmental studies carried out by the Environmental study team and the following is a summary of team member's responsibilities during the study period. Member of IEE study team is shown in Table 1-4.

Myanwei Environmental Solutions Company Limited	No. 36-38, 9th floor (A), Grand Myay Nu Condo, Myay Nu Street, Sanchaung Township, and Yangon, Myanmar.	01-501221 env@myanweiconsulting.com www.myanwweiconsulting.com.

Table 1-4 Member of IEE study team

Name	Qualification	Responsibility
Myanwei Environmental Solutions Co., Ltd.	**Transition Consultant Registration Certificate No. 0069**	**EIA Organization** **No. 36-38, 9th floor (A), Grand Myay Nu Condo, Myay Nu Street, Sanchaung Township, Yangon, Myanmar.** **Website: www.myanwweiconsulting.com** **Ph: 01-501221**
Mr. Lin Htet Sein	MSc (Regional Geology) BSc (Hons) Geology Dip in Environmental Science Certificate in Environmental & Social Assessment Certificate in Environmental Stainability TCR No. 0048	Project Director, Environmental Consultant, Project Management
Dr. Hein Lynn Aung	M.B, B.S (Yangon), Business Management (International Collage of Management Sydney, Australia)	Project Director, Public Health Consultant, Project Management
Ms. Wah Wah Zaw	B.E Material and Metallurgy Engineering Diploma in Environmental Planning and Management M.S Environmental Planning and Management	Senior Environmental Consultant, Social and Environmental Research, Quality control, Environmental Planning and Management
Ms. Khin Thu Zar Myint	B.E(Materials and Metallurgy) Dip in Environmental Planning and Management	Senior Environmental Consultant, Social Research, Public consultation, Social Economic Investigation
Mr. Kyaw Win Han	B.E. Chemical Engineering B. Tech Chemical Engineering	Junior Environmental Consultant, Team Leader of Baseline Survey, Monitoring Measure
Mr. Aung Kyaw Moe	B.E. Chemical Engineering B. Tech Chemical Engineering	Junior Environmental Consultant, Monitoring measure, Document Administration
Mr. Saw Yan Naung	B.E. Chemical Engineering B. Tech Chemical Engineering	Junior Environmental Consultant, Monitoring Measure, Document Administration
Mr. Myat Ko Ko	B.Sc (Hons) Geology M.Sc. Geology (Economic and Mining) Certificate of Environment Management Certificate of Geotechnical Engineering (Myanmar Geoscience Society)	Junior Environmental Consultant, Monitoring Measure, Document Administration

Name	Qualification	Responsibility
Mr. Kaung Sett Lwin	B.Sc (Hons) Geology Certificate of Geotechnical Engineering (Myanmar Geoscience Society)	Junior Environmental Consultant, Monitoring Measure, Document Administration
Ms. Su Myat Hlaing	B.E. Civil Engineering B. Tech Civil Engineering	Environmental Engineer
Mr. Htoo Nanda Aung	B.Sc (Forestry)	Junior Environmental Consultant, Monitoring Measure, Document Administration
Mr. Si Yan Hein	B.Sc (Geology) Certificate of Geotechnical Engineering (Myanmar Geoscience Society)	Junior Environmental Consultant, Monitoring Measure, Document Administration

THE REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

Environmental Conservation Department

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 00068 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

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဦးစီးဌာန

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 တစ်နှစ်သွက်တမ်းတိုးမြှင့်သည်။
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။
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။
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။
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

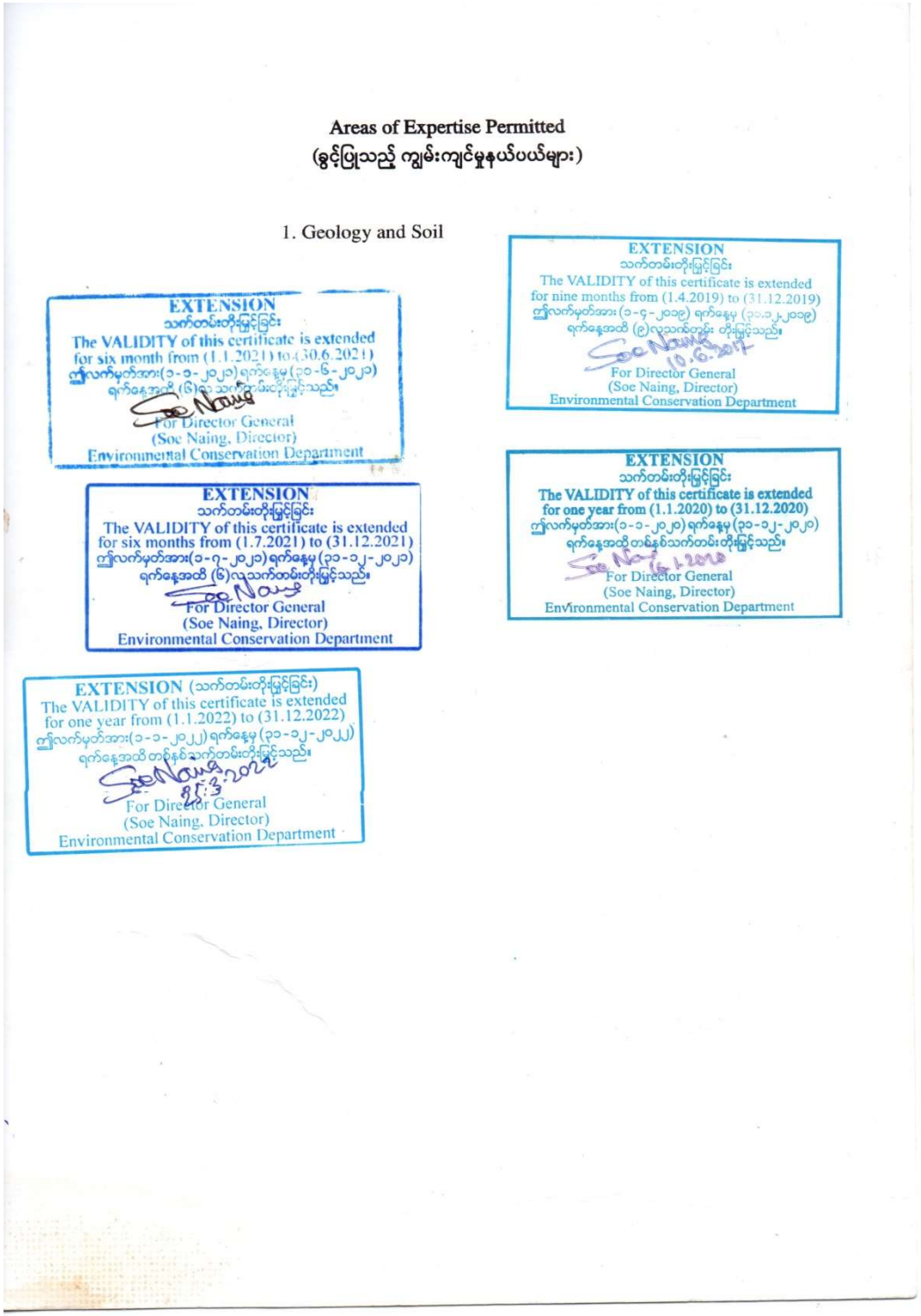
The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၅၁၆/၂၀၁၅ အရ သယ်ဇာတနှင့် 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

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၀၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁.၃.၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

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)လသက်တမ်းတိုးမြှင့်သည်။
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)လသက်တမ်း တိုးမြှင့်သည်။
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)လသက်တမ်းတိုးမြှင့်သည်။
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 တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
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။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

Figure 1-3 Consultant Registration Certificated

2. PROJECT DESCRIPTION

2.1. LOCATION OF PROPOSED PROJECT

The proposed project is located at latitude 16°58'44.75"N and longitude 96°03'22.53"E, Land Plot No. (167,168), Myay Taing Block No. 49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region. The proposed factory uses industrial land type and the total land area are 4.6 acres (18615.5 sqm) out of 9.279 acres. The location map of the proposed project size is shown in Figure 2-1. The proposed project intends to manufacture of various kinds of bags on CMP basic and to export 100% of the finished products. Raw materials for various kinds of bags imported from China, Taiwan, South Korea and Israel.

2.1.1. Project Implementation

Implementation of the proposed project includes (1) construction of factory and office buildings, and warehouses, (2) installation of machinery and equipment, and (3) operation of the said factory. The proposed duration of the investment shall be 25 years. Estimate of construction and operation schedule is shown in Table 2-1.

Table 2-1 Estimate of Construction and Operation Schedule

Phase	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
Construction Phase	→																									
Operation Phase																										
Decommissioning Phase																										→

2.1.2. Decommissioning Phase

The proposed project investment duration is 25 years and they will close out the project according to their MIC proposal. The detail of environmental monitoring plan for decommissioning phase will show in section 7.

2.1.3. Adjacent Condition of Project Site

Free land area is situated east and south of the project site. Two factories are located north of the project site. Buddhist temple is located north west of the project site and three factories are located west of the project site. The project site and other factory of about distance is shown in Table 2-2

Table 2-2 Adjacent Factories of the Project Site

Geographic Location	Name	Distance from Project Site	Nature
North	Champion Bakery Wataya Factory	254 m	War Ta Yar Industrial Zone
	MRT Co., Ltd	680 m	
North East	Cheng Hin Myanmar.Ltd Industry	659m	
North West	Buddhist Temple	460 m	
West	GTIG Apparel Group Factories	685 m	
	China Palette Garment Myanmar Co.,Ltd	852 m	
	Gysen (Myanmar) Apparel Co.,Ltd	890 m	
	Hlain River	1278m	
East	Free Area	140 m	
South	Free Area	95 m	

2.1.4. Site Description of Proposed Project Site

The proposed project is located at latitude 16°58'44.75"N and longitude 96°03'22.53"E, Land Plot No. (167,168), Myay Taing Block No. 49, corner of Mahar Myaing Road and Than Tin Road, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region. Total land area is 4.6 acres (18615.5 sqm) out of 9.279 acres and building on industrial land. The factory area includes four buildings 1 Storey Factory Building (150ft x 280ft), 1 Storey Factory Building (150ft x 280ft), 2 Storey Office Building (150ft x 20ft) and 2 Storey Office Building (150ft x 20ft). Number of people 1,182 employees working at Twinkle (Myanmar) Company Limited factory. Most are local people, who manage the company by their dynamic, enthusiastic, experienced, and cooperative skills. The estimated production rate is from 824,000 to 906,400 pieces per annually of production rate and land lease shall be 25 years.

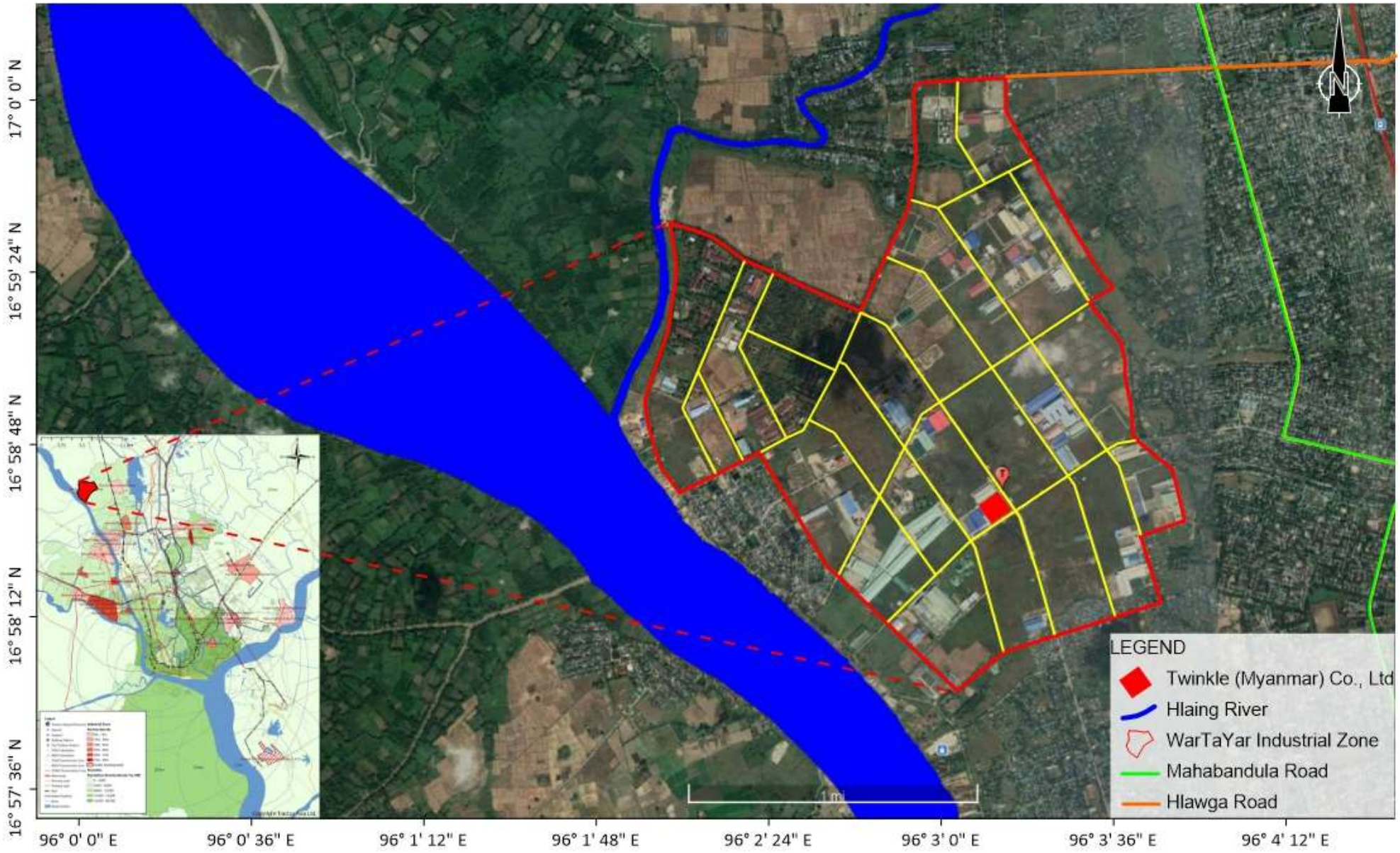


Figure 2-1 Location Map

Figure 2-2 Adjacent Location Map

Figure 2-3 Factory Layout map of Twinkle (Myanmar) Co.,Ltd (Google Source)

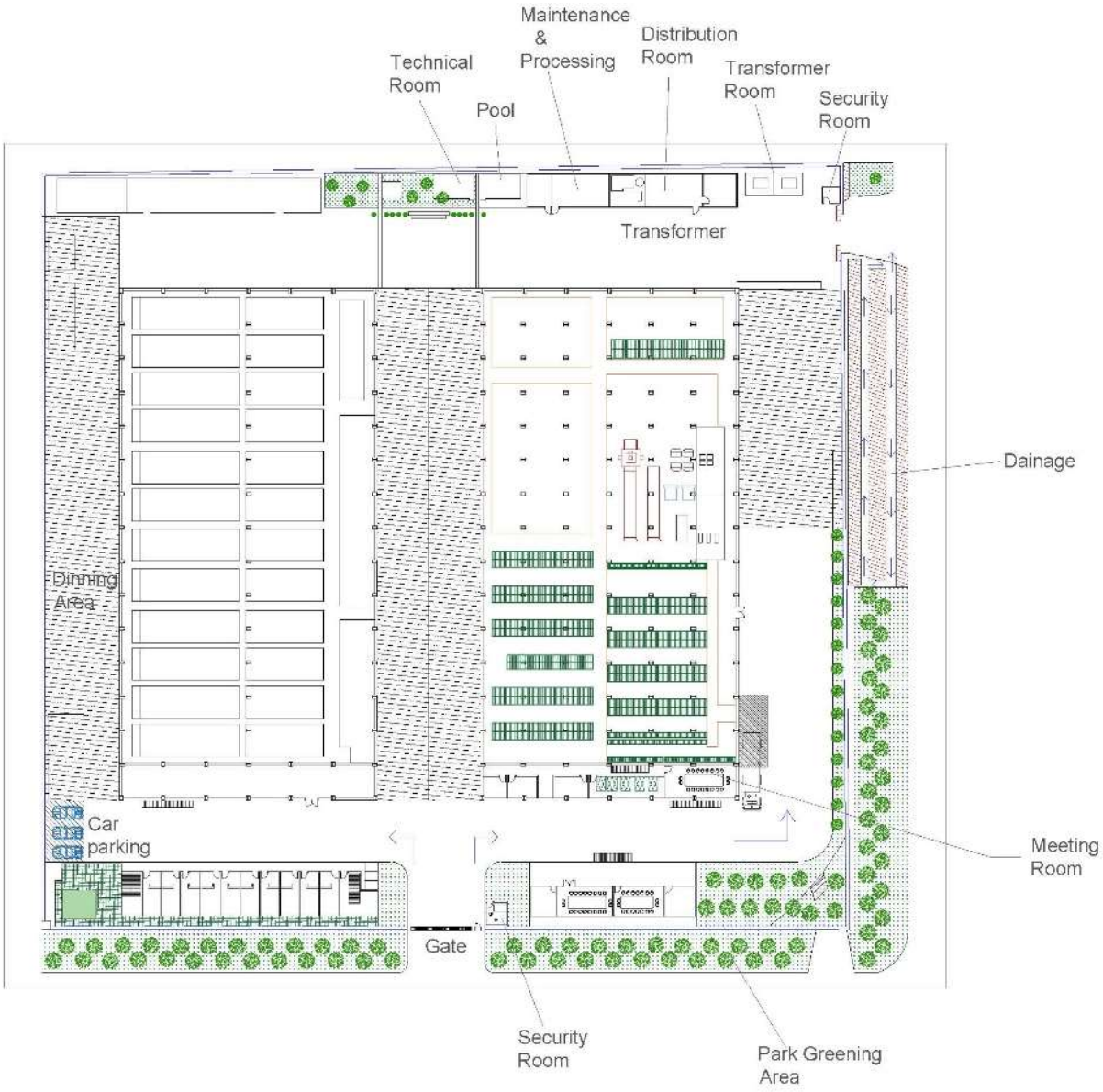


Figure 2-4 Factory Layout Drawing

2.2. PRODUCTION PROCESS

2.2.1. Description of Production Process

The processes of Bags manufacturing in a workshop. Firstly, cutting and preparing components, where semi-finished products originate; then, assembling and checking against quality. If products are good, they are packed and shipped out. Corrective actions are trimming to operate first and move to the staining section then pass to the attaching section after the cementing and checked by quality control supervisor on each line. The stitching process is completed after QC process. Then, Bags packing is completed and prior to shipping to its destinations. Process flow diagram of Twinkle (Myanmar) Company Limited is presented in Figure 2-5.

Detail description is provided as following:

- **Design:** the buyer provides Design. After placing an order buyer send the technical sheet and art-work of an order to the merchandiser. Both do this process manually or by using computer.
- **Pattern Making:** By following technical sheet and art-work, pattern of each Bags style should be made. It's done by both manually and by using computerized method.
- **Fit Sample Making:** The main target of making a fit sample is to follow the details instruction about that Bags style. After making it's sent to the buyer to rectify. It's done by manually.
- **Production Pattern Making:** For bulk production, allowance added here with net dimension. Both do production Pattern Making manually and by using computer.
- **Grading:** During an order confirmation, the buyer suggests about the size ratio of that order. So that order should be graded according to the buyer's instruction. Grading is done by manually or by using computer.
- **Marker Making:** Marker is a very thin paper which contains all the parts of a particular Bags. To make the cutting process easy, it's must be needed. Both can do marker making process manually and by using computer.
- **Fabric Spreading:** To cut the fabric properly fabric is spread in lay form. Fabric Spreading is done by manually or by using computerized method.
- **Fabric Cutting:** Fabrics have to cut here according to marker of Bags. Fabric Cutting process is done by using manual method or computerized method.
- **Cutting Parts Sorting or Bundling:** Here, cutting parts have to sort out or make bundling to send these easily into the next process. This process is done by manually.
- **Sewing:** All the parts of Bags are joined here to make a complete Bags. Sewing process is done by manually.
- **Bags Inspection:** After completing sewing, inspection should be done here to make fault free Bags. Bags Inspection is done by using manual method.
- **Final Inspection:** Finally, the complete Bags are inspected here according to the buyer's specification. Final Inspection is done by manual method.

- **Bags Packing:** Complete Bags are packed here by using buyers instructed poly bag. Bags packing are done by using manual method.
- **Shipment:** After completing all the required processes it's finally send to the buyer.

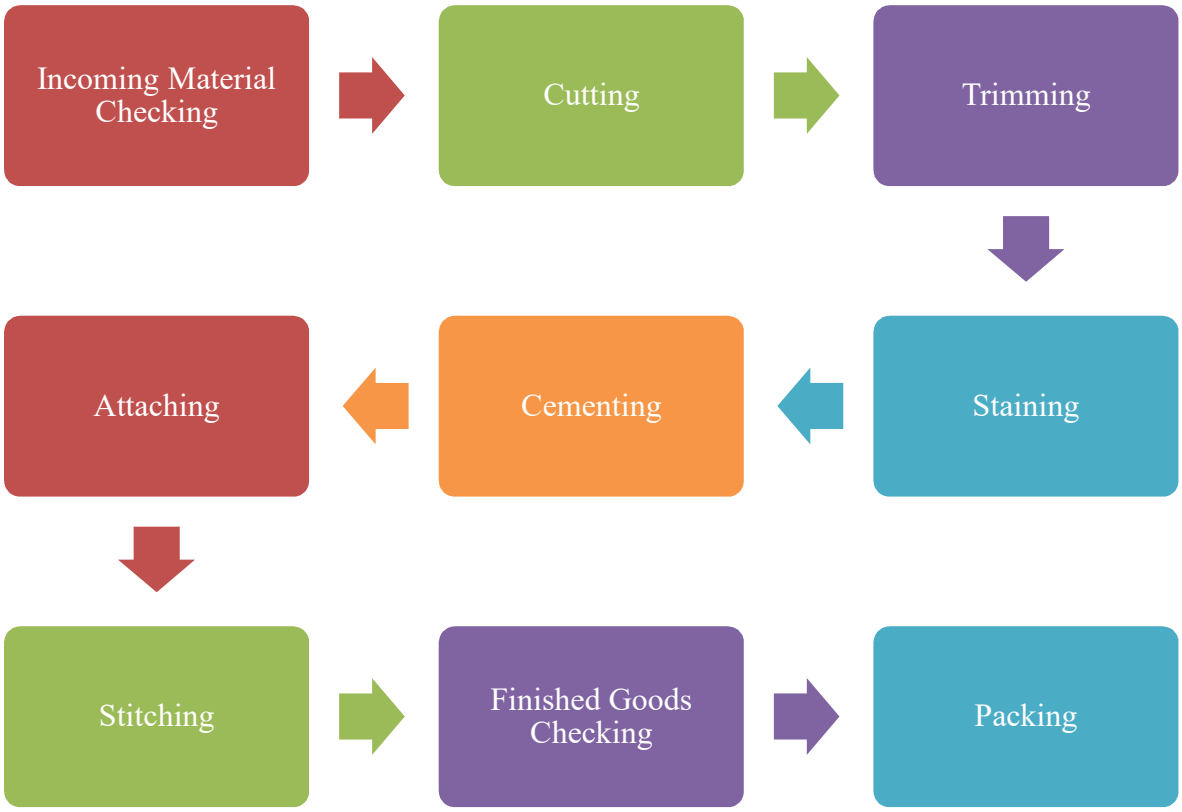
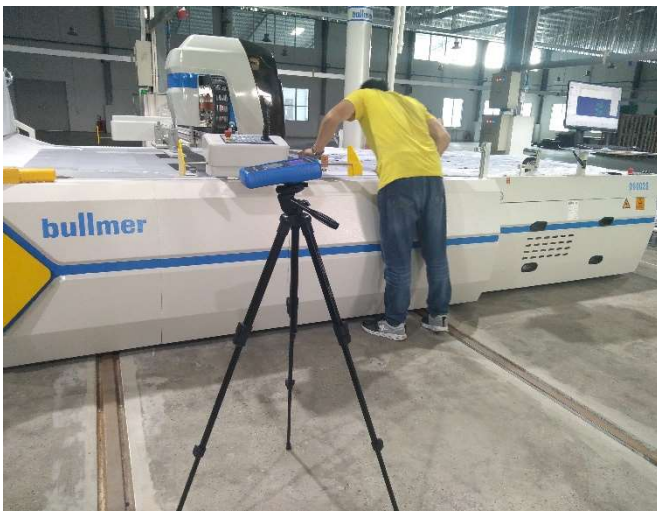


Figure 2-5 Production flow diagram

Fabric Warehouse

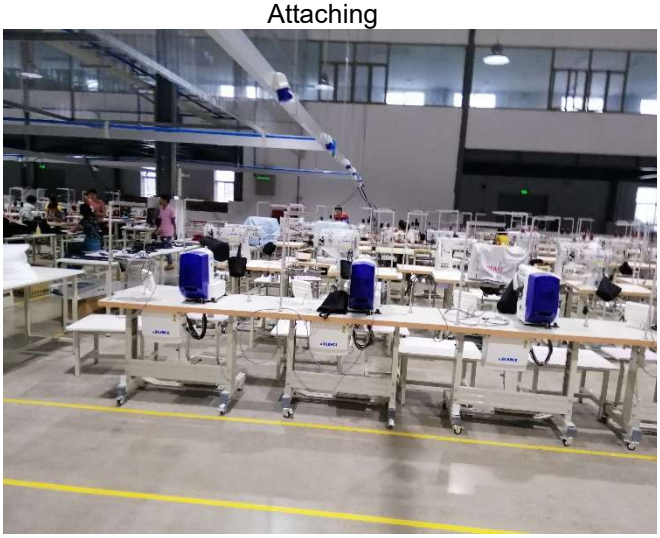


Cutting


Sewing Section


Attaching


Stitching Section


Quality Control

Packing Section

Figure 2-6 Production process

2.2.2. Products

The main products of the factory are Fabric Pod Array, Backpack, Brief Case, Messenger Bag, and Duffel Bag variety presented in Table 2-3. The products materials are systematically packaged and

produced not affect the environment. The products materials are systematically packaged is shown in Figure 2-7.

Table 2-3 Annual Production Rate

No	Particular	Unit	Year 1	Year 2	Year 3	Year 4	Year 5-10
1	Backpack	Pcs	400,000	400,000	400,000	440,000	440,000
2	Brief Case	Pcs	100,000	100,000	100,000	110,000	110,000
3	Messenger Bag	Pcs	90,000	90,000	90,000	99,000	99,000
4	Duffel Bag	Pcs	10,000	10,000	10,000	11,000	11,000
5	Travel Kit	Pcs	10,000	10,000	10,000	11,000	11,000
6	Golf Head Cover	Pcs	80,000	80,000	80,000	88,000	88,000
7	Trolley Case	Pcs	90,000	90,000	90,000	99,000	99,000
8	Leather Portfolio	Pcs	20,000	20,000	20,000	22,000	22,000
9	Leather Ladies Bag	Pcs	10,000	10,000	10,000	11,000	11,000
10	Leather Travel Kit	Pcs	10,000	10,000	10,000	11,000	11,000
11	Trial-production #1	Pcs	2,000	2,000	2,000	2,200	2,200
12	Trial-production #2	Pcs	2,000	2,000	2,000	2,200	2,200
	Total	Pcs	824,000	824,000	824,000	906,400	906,400

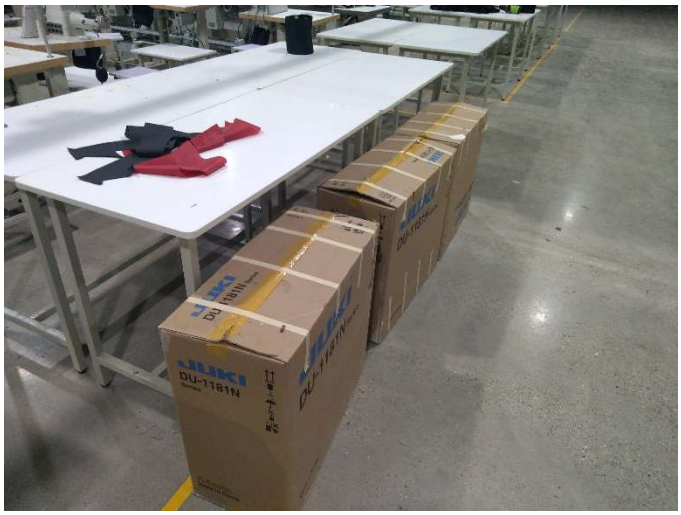


Figure 2-7 Product And Package Photos

2.3. UTILITIES

2.3.1. Raw Material

The main materials for production of bags are Fabric, lining material, Binding Tape, PET Film, Elastic, Webbing and Metal Hardware, etc., which are imported from China, Taiwan, Korea, Columbia, France and Thailand and finished goods will be exported to these countries. Annual raw material requires for production process provided in Table 2-4. Pu material and PVC material should be carefully packaged and stored with storage box to a safe working area and environmental. Raw materials storage photo is shown in Figure 2-8.

Table 2-4 Raw material require for a piece of product and annual requirement

No	Particular	Unit	Year -(1-3)	Year –(4-10)
1	Pu Material	YARDS	32,800	36,080
2	Leather	SQFT	5,700	6,270
3	Cotton	YARDS	32,000	35,200
4	Tpu	YARDS	3,200	3,520
5	PVC Material	YARDS	90,600	99,660
6	Nylon Fabric	YARDS	252,100	277,310
7	Polyester Fabric	YARDS	537,100	590,810
8	Polyester Lining	YARDS	1,590,700	1,749,770
9	Elastic Lining	YARDS	210,000	231,000
10	Faux Fur lining	YARDS	16,000	17,600
11	Eva	YARDS	184,400	202,840
12	Salpa	YARDS	109,000	119,900
13	PVC Piping	YARDS	2,703,000	2,973,300
14	Non-Woven Fabric	YARDS	343,900	378,290
15	Transparent Tape	YARDS	21,300	23,430

No	Particular	Unit	Year -(1-3)	Year –(4-10)
16	Elastic Rubber	YARDS	207,000	227,700
17	Mesh	YARDS	304,600	335,060
18	PEP Foam	YARDS	703,600	773,960
19	PU Foam	YARDS	226,600	249,260
20	Velcro	YARDS	421,000	463,100
21	Metal Zipper	YARDS	168,000	184,800
22	Nylon Zipper	YARDS	4,307,000	4,737,700
23	Plastic Zipper	YARDS	656,000	721,600
24	Zip Puller	PCS	8,570,000	9,427,000
25	Lock	SETS	240,000	264,000
26	Metal Ring	PCS	1,040,000	1,144,000
27	Metal Buckle	PCS	880,000	968,000
28	Metal Hook	PCS	880,000	968,000
29	Metal Slider Buckle	PCS	880,000	968,000
30	Metal Handle	PCS	640,000	704,000
31	Metal Studs	SETS	540,000	594,000
32	Plastic Ring	PCS	2,160,000	2,376,000
33	Plastic Buckle	PCS	2,240,000	2,464,000
34	Plastic Hook	PCS	2,080,000	2,288,000
35	Plastic Slider Buckle	PCS	1,760,000	1,936,000
36	Plastic Handle	PCS	320,000	352,000
37	Plastic Studs	SETS	1,640,000	1,804,000
38	Magnetic Button	SETS	240,000	264,000
39	Magnetic	SETS	320,000	352,000
40	Snap Button	SETS	1,250,000	1,375,000
41	Rivets	SETS	3,840,000	4,224,000
42	Button	PCS	220,000	242,000
43	Mold	PCS	1,160,000	1,276,000
44	Eyelet	PCS	3,920,000	4,312,000
45	Cotton Webbing	YARDS	270,000	297,000
46	Nylon Webbing	YARDS	2,092,000	2,301,200
47	Webbing Binding	YARDS	13,885,000	15,273,500
48	Rubber Gasket	PCS	3,740,000	4,114,000
49	Metal Logo	PCS	520,000	572,000
50	Rubber Logo	PCS	560,000	616,000
51	Thread	ROLL	205,600	226,160
52	Elastic Strap	YARDS	463,600	509,960

No	Particular	Unit	Year -(1-3)	Year –(4-10)
53	Inviolable Tie	PCS	1,160,000	1,276,000
54	Hangtag	PCS	1,000,000	1,100,000
55	Sealing Tape	ROLL	99,400	109,340
56	Silica Gel	PCS	2,320,000	2,552,000
57	Sticker	PCS	2,000,000	2,200,000
58	PE Bag	PCS	1,160,000	1,276,000
59	Air Bag	PCS	20,000	22,000
60	Carton	PCS	1,000,000	1,100,000
61	Cardboard	PCS	480,000	528,000
62	Stuffing Paper	KGS	78,400	86,240
63	PVC Piping	YARDS	2,506,000	2,756,600
64	PE Board	YARDS	92,000	101,200
65	PP Board	YARDS	14,400	15,840
66	Card Board	PCS	1,545,000	1,699,500
67	Chip Board Paper	KGS	56,500	62,150
68	Dust Bag	PCS	840,000	924,000
69	PP Rope	KGS	16,800	18,480
70	Copying Tissue	KGS	78,400	86,240
71	Yellow Glue	KGS	14,900	16,390
72	Universal Glue	KGS	11,700	12,870
73	Glue	KGS	19,200	21,120
74	Edge Oil	KGS	16,100	17,710
75	Materials Of Edge Painting	KGS	16,100	17,710
76	Woven Label	PCS	1,560,000	1,716,000
77	Label	PCS	1,160,000	1,276,000
78	Alarm Labels	PCS	840,000	924,000
79	Micro Pack	PCS	1,000,000	1,100,000
80	Mildew Sticker	PCS	1,000,000	1,100,000
81	Paper	KGS	56,500	62,150
82	Paper Pattern	PCS	1,160,000	1,276,000
83	Reinforcement	YARDS	224,000	246,400
84	Packing Box	PCS	1,160,000	1,276,000
85	Reinforcing Band	YARDS	1,350,000	1,485,000
86	420D (Fabrics)	YARDS	224,000	246,400
87	The Oil of Machine	KGS	1,400	1,540
88	Thread Oil	KGS	1,400	1,540
89	Masking Tape	PCS	24,000	26,400

No	Particular	Unit	Year -(1-3)	Year –(4-10)
90	Self-Adhesive Paper	PCS	24,000	26,400
91	Cleaning Agent	KGS	34,800	38,280
92	Polyester Fabric	KGS	11,600	12,760
93	Plastic Oilcan	PCS	1,160,000	1,276,000
94	Edge Painting Box	PCS	1,160,000	1,276,000
95	Glue Gun	PCS	1,160,000	1,276,000
96	Hot Melt Glue	PCS	29,700	32,670
97	Drying Agent	PCS	1,160,000	1,276,000
98	Poly Tube	KGS	24,000	26,400
99	PC Plastic	KGS	62,400	68,640
100	ABS Plastic	KGS	50,400	55,440
101	PC Film	KGS	20,000	22,000
102	Wheel	PCS	320,000	352,000
103	Handle system	SETS	80,000	88,000
104	Screw	PCS	1,760,000	1,936,000
105	Washer	PCS	1,760,000	1,936,000

Figure 2-8 Raw Material Storage Photo

2.3.2. Machinery and Equipment

For the production lines, the categories of machinery lists are divided into three stages: cutting, sewing and inspection machinery. For production process, the usage of machinery is for Preparing and Injection. The operation machinery equipment day is 262 days. For operation process, the usage of machinery was not installed the boiler system. The usage of iron is only electric iron for pieces of cutting fabric spreading. The detail use of machinery for production process is shown in the following Table 2-5.

Table 2-5 Machinery for Production Line

No.	Machinery Name	Asset	Quantity
1	Spreader Machine	Set	2
2	Automatic cutter	Set	1
3	Monistat	Set	1
4	Computer-controlled Cycle Machine (PLK-G2010R)	Set	16
5	Computer-controlled Cycle Machine (H3020R)	Set	16
6	Computer-controlled Cycle Machine (MLK-H6040)	Set	15
7	Sewing Machine	Set	300
8	Cylinder-bed Sewing Machine (LS1341)	Set	130
9	Cylinder-bed Sewing Machine (PFAFF-335-G-39/21)	Set	90
10	Column Sewing Machine	Set	15
11	Twin Needle Machine	Set	30
12	Computer-controlled Barracking Sewing	Set	12
13	Long Arm Sewing Machine	Set	2
14	Zigzag Sewing Machine	Set	2
15	Sewing Arm Cutting Press Machine	Set	5
16	Moving Head Press Machine	Set	5
17	Four-column Hydraulic Cutting Machine	Set	3
18	Press Machine	Set	2
19	Air-floating Spreading Table	Set	2
20	Auto Belt Cutting Machine	Set	3
21	Strip Cutting Machine	Set	1
22	Strip Cutter	Set	1
23	Skiving Machine	Set	5
24	Splitting Machine	Set	2
25	Embossed Machine	Set	5
26	Paper Cutting Machine	Set	1
27	High Frequency Machine	Set	3
28	Button Press Machine	Set	12
29	Riveting Machine	Set	8
30	Culling & Sewing Machine	Set	2
31	Ultrasonic cutting Machine	Set	3
32	Fully Automated Edge Stain Machine And Drying Tunnel	Set	2
33	Auto Gluing And Folding Lining Zipper Windows	Set	2
34	Finished Product Oven	Set	1

No.	Machinery Name	Asset	Quantity
35	Double Pneumatic Embossed Machine	Set	2
36	Floor Stand Grinder	Set	5
37	Drying Oven Machine	Set	6
38	Gong Mark Machine	Set	3
39	Thread Cutter	Set	12
40	Dehumidifier	Set	10
41	Air storage tank	Set	2
42	Air Filter	Set	2
43	Air Compressor	Set	1
44	Flip Strap Machine	Set	2
45	Barrack Machine	Set	2
46	Gliding Machine	Set	15
47	Auto spraying Machine	Set	5
48	Environment Testing Chamber Machine	Set	1
49	Wet & Dry Testing Machine	Set	1
50	Ten site Testing Machine	Set	1
51	Wear-Resistant Tester Machine	Set	1
52	Color Light Box	Set	1
53	Scorch Twisting	Set	1
54	Zipper Test Machine	Set	1
55	Water resistance Tester	Set	1
56	Drop Test Machine	Set	1
57	Vibration Testing Machine	Set	1
58	Fluorescent X-ray Analyzer	Set	1
59	Cloth Inspection Machine	Set	1
60	Paper Pattern Machine	Set	2
61	Kraft Paper Machine	Set	6
62	Air Brush Tool	Set	20
63	Automatic Zipper Head Pulling Machine	Set	2
64	Coding Machine	Set	5
65	Hot Melt Glue Machine	Set	5
66	Ultrasonic Welding	Set	3
67	Fusing Machine	Set	2
68	Hot air gun	Set	10
69	Wrapping Machine	Set	1
70	Taping Machine	Set	1
71	Edge Stain Machine	Set	10

No.	Machinery Name	Asset	Quantity
72	Belt Knife Cutting Machine	Set	1
73	Piping Cut Teeth Machine	Set	1
74	Splitter Thread	Set	2
75	Needle	Pcs	50000
76	Sewing Machine Accessories	Set	10000
77	Automatic cutter Knife	Pcs	3000
78	Automatic cutter Accessories	Set	200
79	Fork-Lift (1500Kg)	Pcs	5
80	Hammer	Pcs	600
81	Tool / Cutter	Pcs	1000
82	Mold	Set	2000
83	Cutter Mold	Pcs	1000
84	Material of Cutter Mold	Pcs	1500
85	Tool Box	Set	20
86	Electric stacker Machine	Set	4
87	Working Progress Data Collector	Set	1000
88	Electronic Scale	Pcs	10
89	Screw Drive	Pcs	50
90	Electric Saw	Set	1
91	Machine Tool	Set	1
92	Mechanical slicer	Set	1
93	Chemical Storage	Set	2
94	Scissors	Pcs	1000
95	Screw (for Machinery)	Pcs	3000
96	Electric Iron	Set	20
97	Electric Scissors	Set	2

2.3.3. Human Resource

The proposed Factory of Twinkle (Myanmar) Company Limited has the employees more than 90% are local people, who manage the company by their dynamic, enthusiastic, experienced, and cooperative skills. Currently, working period is from 8:00 am to 4:00pm. One shift (8 hours + overtime 2 hours). Management and team member detail of human resource is mentioned in Table 2-6 .

Table 2-6 Employment List

No	Particular	Local	Foreign
1	Factory Manager	4	1

No	Particular	Local	Foreign
2	Financial Manager		1
3	Shipping Manager		1
4	Purchasing Manager	3	1
5	Human Resources Manager	3	1
6	Merchandiser		1
7	Quality Control	25	1
8	Store Supervisor		1
9	Sampling Technician		8
10	Production Technician		7
11	Quality Control Technician		10
12	Store Keeper	10	
13	Driver	2	
14	Security Staff	10	
15	Cleaner	5	
16	Skill and Semi skill Workers	300	
17	Unskilled Workers	750	
18	Translator	15	
19	Fire Safety Officer	2	
Total		1,182	

2.3.4. Water Requirement

The project was use groundwater for domestic use and firefighting. The factory gets water from the two tube wells installed inside the factory compound. Tube well depth is estimated about 87 feet and tube well is located north of the factory (16˚58'47.47''N and 96˚03'20.61''E). Another tube well depth is estimated about 91 feet and tube well is located north of the factory (16˚58'47.41''N and 96˚03'20.54''E). The groundwater stores in the three storage tanks on one-ground tanks with capacity of 30,000 gallons for firefighting and two overhead tanks with capacity of 6,000 gallons for domestic use. (See in Figure 2-9). So the water usage is enough for the project.

Currently 1,182 employees are at day shift workers (8:00 am to 5:00 pm). Based on world average, the average daily domestic demands in commercial/industrial settings range between 20 gallons per day per employee. Since the factory has a maximum of 1,182 workers, factory water needs ranged from 30,720 gallons per day.

The factory has two separated water distribution systems comprising domestic use system and fire water system. Fire water distribute via main type to distribute water for fire-fighting equipment such as, sprinkler system, fire hose within the factory by firewater pump with capacity of 833 gallons per minute. The domestic use of water is treated by filtration system by oxidation tower, chlorine-dosing system; de-iron filter (FRP), carbon filter, and cartridge filter. Treated water pumps to be stored in the overhead tanks with 6,000 gallons on the water tower then water distribute to the factory operation area via pipes by gravity.

Figure 2-9 Water Supplying System

2.4. FACILITIES

2.4.1. Electricity and Fuel Requirement

The proposed project intended to get required electricity supply form Yangon City Electricity Supply Board (YESB) and distributed by 315kVA transformer. Another source of energy 375 kVA and 250 kVA generator swill also be kept as the emergency generator if normal electricity supply could not provide for the proposed project.

Required petrol and diesel for vehicles and generator are purchased from the nearest petrol station. Fuel requirement for proposed Twinkle (Myanmar) Company Limited is about 500 liters per month and estimated electricity usage is about 65,000 kwh per year. To handle the leakage and spillage of the diesel, an interception with sand is kept under the tank.

Figure 2-10 Electricity Facilities

2.4.2. Fire Hazards Protect Facility

Fire extinguishers, fire hose reels and fire hydrants are installed in the factory for fire emergency cases. Regular inspection for existing firefighting equipment must be done. In case of fire emergency, underground water storage tank for fire frightening is also constructed with the capacity of 30,000 gallons at the proposed area. The emergency contact numbers of township and district fire services department must be printed and tagged at easily visible places for fire emergency cases. The emergency fire alarms are installed at the factory for alerting the workers in case of fire. The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases. In addition, the project proponent has plans to provide trainings on firefighting for the workers by a professional or otherwise by sending to training courses. The plan to install fire alarm system and fire-frightening system are mentioned in Figure 2-11.

Figure 2-11 Firefighting and safety plan

2.4.3. Ventilation System

The factory ventilation systems consist of natural ventilation system and mechanical ventilation system. The mechanical ventilation system is provided in office room, production area, canteen and warehouse area. Twinkle (Myanmar) Company Limited use to hydraulic air-cooled oil coolers.

Figure 2-12 Ventilation System Photo

2.4.4. Liquid Waste Control Plan

The factory plan has kitchen, canteen and toilet facilities attached in various buildings of the factory. In the kitchen, separated drainage lines are provided to flow wastewater from the activities washing and cooking, etc. And around the compound area of the project area, drainages are also provided and maintain to flow storm water (rain water, snow and surface 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 2-13. Besides, the factory plans to use separate wastewater channels, septic type toilet system. Liquid waste 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 2-13 Drainage System

2.4.5. Solid Waste Management Facility

The factory provides separate garbage bins at each building. All of the solid wastes will be collected and stored in waste bin: the cutting wastes will be disposed by using YCDC's service. The

factory will produce only bags product. So the hazardous waste is not produced from the production process and the factory. All of the factory solid wastes should be collected in a particular area or relevant room. The amount of disposal is about 1 ton per month. The solid wastes will be systematically collected and discharged once in three days by using YCDC's service.

Figure 2-14 Waste Storage Photo

3. 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.

3.1. MYANMAR REGULATORY FRAMWORK

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

3.1.1. Laws and Regulations Related to Environmental and Social Considerations

Requirements related to environmental (and social) impact management for development projects are described in Table 3-1.

Table 3-1 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;
Provisions of Duties and Powers relating to the Environmental Conservation of the Ministry: Section 7	(a) To specify categories and classes of hazardous wastes generated from the production and use of chemicals or other hazardous substances in carrying out industry, agriculture, mineral production, sanitation and other activities; (b) To prescribe categories of hazardous substances that may affect significantly at present or in the long run on the environment; (c) To promote and carry out the establishment of necessary factories and stations for the treatment of solid wastes, effluents and emissions which contain toxic and hazardous substances; (j) To prescribe the terms and conditions relating to effluent treatment in industrial estates and other necessary places and buildings and emissions of machines, vehicles and mechanisms; (m) To lay down and carry out a system of EIA and SIA as to whether or not a project or activity to be undertaken by any Government department, organization or person may cause a significant impact on the environment; (o) To manage to cause the polluter to compensate for environmental impact, cause to contribute fund by the organizations which obtain benefit from the natural environmental service system, cause to contribute a part of the benefit from the businesses which explore, trade and use the natural resources in environmental conservation works.
Chapter VI Environmental Quality Standards: Section10	The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards: (a) suitable surface water quality standards in the usage in rivers, streams, canals, springs, marshes, swamps, lakes, reservoirs and other inland water sources of the public; (b) water quality standards for coastal and estuarine areas; (c) underground water quality standards; (d) atmospheric quality standards; (e) noise and vibration standards; (f) emissions standards; (g) effluent standards; (h) solid wastes standards; (i) other environmental quality standards stipulated by the Union Government.
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	A person or organization operating business in the industrial estate or business in the SEZ or category of business stipulated by the Ministry: (a) is responsible to carry out by contributing the stipulated cash or kind in the relevant combined scheme for the environmental conservation including the management and treatment of waste;

	(b) shall contribute the stipulated users 'charge s or management fees for the environmental conservation according to the relevant industrial estate, SEZ and business organization; (c) shall comply with the directives issued for environmental conservation according to the relevant industrial estate, SEZ or business.
Section 24	The project proponent has to allow relevant governmental organization or department to inspect whether performing is conformity with the terms and condition include in prior permission, stipulated by the ministry, or not.
Section 25	The project proponent has to comply with the terms and conditions include in prior permission.
Section 29	The project proponent has to abide by the stipulations included in the rules, regulations, by-law, order, notification and procedure, which are issued by said law.
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 IEE or IEE 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	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. 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 The project proponent has to fully implement all commitments of project and conditions included in IEE. 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, IEE and all conditions, under paragraph 103. 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. 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. 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 IEE with abiding the all conditions included in ECC, relevant laws & rules and this procedure, under paragraph 106. The project proponent has to submit, as soon as possible, the failures of his or her responsibility, other implementation, ECC or IEE. 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. The project proponent has to submit the monitoring report dually or prescribed time by Ministry in line with the schedule of IEE, under paragraph 108. The project proponent has to prepare the monitoring report in accord with the rule 109. 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. 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. 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. The project proponent has to allow inspector to inspect the contractor and sub-contractor who implement on behalf of project, under paragraph 117.
Screening: Section 23	a) The project proponent shall submit the Project Proposal to the Ministry for Screening. b) The Ministry will send the Project Proposal to the Environmental Conservation Department to determine the need for environmental assessment. 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: i) An EIA Type Project, or ii) An IEE Type Project, or iii) A Non IEE or EIA Type, and therefore not required to
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 Environmental Policy of Myanmar (2019)	

National Environmental Policy Vision & mission	Vision A clean environment, with healthy and functioning ecosystem, that ensures includes development and wellbeing for all people in Myanmar. Mission To establish national environmental policy principle for guiding environmental protection and sustainable development and for mainstreaming environmental consideration into all polices, laws, regulation, plans, strategic, programmes and projects in Myanmar.
Foreign Investment Law, 2012	
Section 8	(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. (b) Development of employment activities (l) Protection and conservation of the environment. (q) Appearing the required modern services for the Union and citizens.
Section 17	(a) To abide by the existing laws of the Republic of the Union of Myanmar. (b) To carry out the business by forming a company under the existing laws of Myanmar by the investor. (h) To carry out not to cause environmental pollution or damage in accord with existing laws in respect of investment business. (k) To carry out the systematic transfer of high technology relating to the business which are carried out by the investor to the relevant Basis, departments or organizations in accord with the contract.
Foreign Investment Rule, 2013	
Rule 54	The promoter or investor shall: (a) comply with Environmental Protection Law in dealing with environmental protection matters related to the business; (b) shall carry out socially responsible investment in the interest of the Union and its people; (c) shall co-operate with authorities for occasional or mandatory inspection; (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; (e) shall enforce Safety and Health
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)	Section 15 - If the project proponent uses the owned vehicles the project owner has to ensure the insurance for the injured person.

	Section 16 - The project proponent has to ensure insurance to compensate for general damages because the project may cause damages to the environment and injury to the public.
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 employers 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	Private Industrial Basis shall be conducted in accordance with the following basic principles: - (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 Basis which are related to the industrial enterprise; (b) to acquire modern technical know-how for raising the efficiency of industrial Basis 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; (d) to cause narrowing down of the gap between rural development and urban development by causing the development and improvement of industrial Basis; (e) to cause opening up of more employment opportunities; (f) to cause avoidance of or reduction of the use of technical know-how which cause environmental pollution;

	(g) to cause the use of energy in the most economical manner.
The Export and Import Law (2012)	
Objectives	The objectives of this law are as follows: a) To enable to implement the economic principles of the State successfully. b) To enable to lay down the policies relating to export and import that supports the development of the State. c) To cause the policies relating to export and import of the State and activities are to be in conformity with the international trade standards. d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.
Prohibitions: Section 5	No persons shall export or import restricted, prohibited and banned goods.
Prohibitions: Section 6	Without obtaining license, no person shall export or import the specified goods which are to obtain permission.
Prohibitions: Section 5	A person who obtained any license shall not violate the conditions contained in the license.
The Prevention of Hazard from Chemical and Related Substances Law, 2013	
This law was enacted with the objectives of: a. To protect from being damaged the natural environment resources and being hazardous any living beings by chemical and related substances; b. To supervise systematically in performing the chemical and related substances business with permission for being safety; c. To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically; d. To perform the sustainable development for the occupational safety, health and environmental conservation. Regarding the chemical management and storage, currently, regulations governing chemicals management are divided between various Acts, 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.	
Underground Water Act	
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.	
Myanmar Fire Brigade Law (2015)	
The Pyidaungsu Hluttaw enacted this law by Law No.11/2015 on the date of 17th March, 2015 with the following objectives: (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 (b) to organize fire brigade systemically and to train the fire brigade (c) to prevent from fire and to conduct release work when fire disaster, natural disaster, epidemic disease or any kind of certain danger occurs (d) to educate, organize and inside extensively so as to achieve public corporation (e) to participate if in need for national security, peace for the citizens and law and order	
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 before granting permission for the following cases: 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)	
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.	
Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)	
The Pyidaungsu Hluttaw hereby enacts this Law for safeguarding the right of workers or having good relationship between employers and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly.	
The Social Security Law (2012)	
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.	
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)	
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.	
Section 23	A party, employers 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, employers or worker, in respect of the dispute; information sent by the Minister or the Region or State Government or any other means, carry out as follows: (a)

	conciliating so as to be settled within three days, not including the official holidays, from the day of knowing or receipt of such dispute; (b) concluding mutual agreement if the settlement is reached in conciliating under sub-section (a), before the Conciliation Body.
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 f violates any act or any emission to omission to damage the interest of labour by reducing of product without efficient cause.
Section 46	Any Employer who violates any prohibition contained in sections 38 and 39 shall, on conviction, be punished with a fine for a minimum of one-lakh kyats.
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 equal payment.
Public Health Law (1972)	**Chapter 2; Prevention of Public Health**
Objectives	To ensure the public health include not only Employees but also resident people and cooperation with the authorized person or organization of health department. This law focuses as follows The project owner has to cooperate with the authorized person or organization in line with the section 3 and 5 of said law. The project proponent has to abide by any instruction or stipulation for public health under the section 3 of said law. The project proponent has to allow any inspection, anytime, anywhere if it is needed under the section 5 of said law.
Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)	
Chapter 2 Prevention	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 there of; The public shall abide by measures undertaken by the Department of Health under sub-section (a).
Chapter 4 Environmental Sanitation	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; - Indoor, outdoor sanitation or inside the fence outside the fence sanitation; Well, ponds and drainage sanitation; Proper disposal refuse and destruction there of by fire; Construction and use of sanitary latrines; Other necessary environmental sanitation measures.
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:

	to enable to determine Myanmar Standard to enable to support export promotion by enhancing quality of production organizations and their product, production processes and services to enable to protect the consumers and user by guaranteeing imports and products are not lower than prescribed standard, and safe from health hazards to enable to support protection of environment related to products, production process and services from impact, and conservation of natural resources 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 to support on establishing the ASEAN Free Trade Area and to enable to reduce technical barriers to trade 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.
Chapter 7 Taking Action by Committee No. 19	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: warning suspending the certificate of certification for limited period cancelling the certificate of certification
လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သောဂတ္တုပစ္စည်းများဆိုင်ရာဥပဒေ (၂၀၁၈)	
ရည်ရွယ်ချက်	လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတက်သော ဂတ္တုပစ္စည်းများကို စနစ်တကျပြုလုပ်ခြင်း၊ တင်သွင်းခြင်း၊ သယ်ယူခြင်း၊ သိုလှောင်ခြင်းနှင်း သုံးစွဲခြင်းတို့ပြုနိုင်ရန်၊ ယမ်းဘီလူးနှင့် ဆက်စပ်သုံးပစ္စည်းများ အသုံးပြုသည့် လုပ်ငန်းခွင်ဘေးအန္တရာယ် ကင်းရှင်း၍ လုံခြုံမှုရှိစေရန်၊ လုပ်ငန်းခွင်သုံး ပေါက်ကွဲစေတက်သော ဂတ္တုပစ္စည်းများ ပြုလုပ်သုံးစွဲမှုများကို စနစ်တကျ ကြီးကြပ်နိုင်ရန်။
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 ဂတ္တုပစ္စည်းများကို ဖျက်ဆီးခြင်းမပြုရ။
အမှတ် ၁၉ (ဂ)	ဤဥပဒေအရ ထုတ်ပြန်သည့် နည်းဥပဒေ၊ စည်းမျဉ်း၊ စည်းကမ်း၊ အမိန့်ကြော်ငြာစာ၊ အမိန့်နှင့် ညွှန်ကြားချက်များနှင့်အညီ ဆောင်ရွက်ရန် ပျက်ကွက်ခြင်း မရှိစေရ။
The Motor Vehicles Law (2015)	
Objectives	When the constructions periods and if it is needed in operation and production period for all vehicles • 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)	

Aims	The aims of this Law are as follows: to conserve and protect the water resources and rivers system for beneficial utilization by the public; to smooth and safety waterways navigation along rivers and creeks; to contribute to the development of State economy through improving water resources and river system; 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 intimidation 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 the Law shall be collected together with the customs duties by the Customs Department in accord with the manner of collecting customs duties.

3.2. INTERNATIONAL GUIDELINES

Organization's Guidelines, World Bank Safeguard Policies, IFC Performance Standards and National Environmental Quality (Emission) Guidelines (2015) are referred for IEE of the proposed factory project. Objective of the guidelines are to provide the basic for regulation and control of air, noise and effluent discharges from various source in order to prevent pollution for purpose of protection of human health and ecosystem. Environmental Laws will comply with all applicable from Twinkle (Myanmar) Co., Ltd.

3.3. NATIONAL ENVIRONMENTAL QUALITY (EMISSION) GUILDLINES

As specified in the EIA Procedure, all projects are obliged to use, comply with and refer to applicable national guidelines or standards or international standards adopted by the Ministry. As specified in the EIA Procedure, following project approval a project shall commence implementation strictly in accordance with the project EMP and any additional requirements set out in the project ECC, which will encompass conditions relating to emissions. While these Guidelines generally apply to all projects subject to the EIA Procedure, it is the prerogative of the Ministry to decide how the Guidelines should be applied to existing projects as referred to in the EIA Procedure.

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

3.3.1. General Guidelines

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

3.3.1.1. Air emission

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: (i) emissions do not result in concentrations that reach or exceed national ambient quality guidelines and standards, or in their absence current World Health Organization (WHO) Air Quality Guidelines1 for the most common pollutants as summarized below; and (ii) emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards (i.e. not exceeding 25 percent of the applicable air quality standards) to allow additional, future sustainable development in the same air shed. Industry-specific guidelines summarized hereinafter shall be applied by all projects to ensure that air emissions conform to good industry practice. Reference should be made to Air Quality Guidelines of National Environmental Quality (Emission) Guideline for Europe2 for air pollutants not included in the following Table 3-2.

Table 3-2 Air Quality Guideline of National Environmental Quality (Emission) Guideline

Parameter	Averaging Period	Guideline Value
Nitrogen Dioxide	1-year 1-hour	40 200
Ozone	8-hour	100

Particulate Matter PM10[a]	1-year 24-hour	10 50
Particulate Matter PM2.5[b]	1-year 24-hour	10 25
Sulfur dioxide	24-hour 10-minute	20 500

3.3.1.2. Wastewater

Industry-specific guidelines apply during the operations phase of projects and cover direct or indirect discharge of wastewater to the environment. They are also applicable to industrial discharges to sanitary (domestic) sewers that discharge to the environment without any treatment. Wastewater generated from project operations includes process wastewater, wastewater from utility operations, runoff from process and storage areas, and miscellaneous activities including wastewater from laboratories, and equipment maintenance shops. Projects with the potential to generate process wastewater, sanitary sewage, or storm water should incorporate the necessary precautions to avoid, minimize, and control adverse impacts to human health, safety or the environment. Industry-specific guidelines summarized hereinafter shall be applied by all projects, where applicable, to ensure that effluent emissions conform to good industry practice.

For project types where industry-specific guidelines are not set out in these Guidelines, the following general guideline values, or as stipulated on a case-by-case basis, apply during project operations. Guide line value of wastewater and drinking water is shown in Table 3-3 and Table 3-4.

Table 3-3 Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges

Parameter	Unit	Guideline Values
5-day Biochemical oxygen demand	mg/l	50
Ammonia	mg/l	10
Arsenic	mg/l	0.1
Cadmium	mg/l	0.1
Chemical oxygen demand	mg/l	250
Chlorine (total residual)	mg/l	0.2
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Copper	mg/l	0.5
Cyanide (free)	mg/l	0.1
Cyanide (total)	mg/l	1
Fluoride	mg/l	20
Heavy metals (total)	mg/l	10
Iron	mg/l	3.5
Lead	mg/l	0.1
Mercury	mg/l	0.01
Nickel	mg/l	0.5

Oil and grease	mg/l	10
pH	S.U.[a]	6-9
Phenols	mg/l	0.5
Selenium	mg/l	0.1
Silver	mg/l	0.5
Sulphide	mg/l	1
Temperature increase	°C	<3[b]
Total coliform bacteria	100 ml	400
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

Table 3-4 Drinking Water Quality Standard (WHO Guidelines)

Parameter	Unit	Guideline Values
Colour	TCU	5
Turbidity	NTU	10
pH	mg/l	6.5 To 8.5
Total Hardness	mg/l	300
Calcium	mg/l	75
Magnesium	mg/l	30
Copper	mg/l	0.05
Iron	mg/l	0.3
Manganese	mg/l	0.1
Chlorides	mg/l	250
Sulphates	mg/l	150
Nitrates	mg/l	45
Fluoride	mg/l	0.6 To 1.2
Phenols	mg/l	0.001
Mercury	mg/l	0.001
Cadmium	mg/l	0.01
Selenium	mg/l	0.01
Arsenic	mg/l	0.05
Cyanide	mg/l	0.05
Lead	mg/l	0.1
Zinc	mg/l	5.0
Chromium	mg/l	0.05

3.3.1.3. Noise levels

Noise prevention and mitigation measures should be taken by all projects where predicted or measured noise impacts from a project facility or operation exceed the applicable noise level guideline at the most sensitive point of reception. Noise impacts should not exceed the levels shown below, or result in a maximum increase in background levels of three decibels at the nearest receptor location off-site. Noise levels of NEQG value is shown in Table 3-5.

Table 3-5 Noise Levels of National Environmental Quality (Emission) Guideline

Receptor	**One Hour LAeq (dBA)[a]**	
	Daytime 07:00 – 22:00 (10:00 – 22:00 for public holidays)	**Nighttime 22:00 – 07:00 (22:00 – 10:00 for public holidays)**
Residential, institutional, education	55	45
Industrial, commercial	70	70

[a] Equivalent continuous sound level in decibels

3.3.1.4. Air emission levels

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

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

3.3.1.5. Illuminating Engineering Society of North America Lighting Handbook

Area / Task / Process	Illuminace levels (lux)
Exterior calculating, walkways, stores, main entrances and exit roads, car parking, internal factory roads, etc.	20-50
Boiler house, transformer yards, furnace rooms, entrances, corridors, stairs, etc.	70-100
Calculation area in industry, stores, stock rooms and canteen.	100-150
Coarse Work	200-300
Medium work	300-500

Area / Task / Process	Illuminace levels (lux)
Fine Work	500-1500
Very fine minute and precise work	1500-3000

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

3.4. Policy And Legal Framework Including International Conventions, Treaties And Agreements, And International Standards, Guidelines

International Conventions, Treaties and Agreements Myanmar has signed a number of international treaties related to the environment which may have implications for the Project. These include:

a) Plant Protection Agreement for the Asia and Pacific Region; Vienna Convention for the Protection of the Ozone Layer; Montreal Protocol on Substances that Deplete the Ozone Layer;

b) London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer;

c) United Nations Framework Convention on Climate Change (UNFCCC); United Nations Convention to Combat Desertification;

d) International Civil Aviation Organization: ANNEX 16 Annex to the Convention on International Civil Aviation Environmental Protection Vol. I, II, Aircraft Noise;

e) Vienna Convention for the Protection of Ozone Layer;

f) Montreal Protocol on Substances that Deplete the Ozone Layer;

g) Convention Concerning the Protection of the World Cultural and Natural Heritage;

h) Convention on Biological Diversity (CBD); International Tropical Timber Agreement (ITTA);

i) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);

j) ASEAN Agreement on the Conservation of Nature and Natural Resources; Catagena Protocol on Bio-safety

k) Kyoto Protocol to the United Nations Framework Convention on Climate Change; Ramsar Convention on Wetlands; and

l) Copenhagen Amendment to Montreal Protocol on Substances that deplete the Ozone Layer.

m) United Nations Declaration on the Rights of Indigenous People

International Standards and Guidelines

The following international standards, guidelines, policies and procedures are referred to, in preparation of this Report:

a) UNEP Environmental Impact Assessment Training Resource Manual

b) European Bank for Reconstruction and Development (Sub-sectoral Environmental and Social Guidelines)

c) International Finance Corporation, World Bank Group (Environmental, Health, and Safety Guidelines)

d) NHS, Health, Scotland (Health Impact Assessment in Practice)

e) BS 14001:2004 Environmental management systems - Requirements with guidance for use

f) Principles of Environmental Impact Assessment Best Practice International Association for Impact Assessment

g) OHSAS 18001, Occupational Health and Safety Assessment

3.5. National Sustainable Development Strategy

The National Sustainable Development Strategy (NSDS) is part of a broader programme of the UN Sustainable Development Commission set up after the World Summit on Sustainable Development in 2002.Every country, including Myanmar, that signed Agenda 21 at the Earth Summit in Rio de Janeiro in 1992, agreed to develop an NSDS by 2010 in line with the Millennium Development Goals (MDGs). UNEP provided funding for Myanmar to develop an NSDS. The main aim of the process was to develop an NSDS in line with international standards by meeting the MDGs and ensure that environmental and social impacts are mitigated when implementing development projects. Myanmar's NSDS was published in August 2009. The three goals described in Myanmar's NSDS are sustainable management of natural resources, integrated economic development and sustainable social development. Specific strategies are outlined under each goal. For example, the goal for Sustainable Management of Natural Resources suggests strategies for forest resource management, sustainable energy production and consumption, biodiversity conservation, sustainable freshwater resources management, sustainable management of land resources, sustainable management for mineral resources utilization, and so on.

3.6. Project's Environmental and Social Standard

Principle 17 of the Rio Declaration on Environment and Development stated; 'Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of competent national authority'.

3.7. The Evolving Scope Of EIA Process And Practice

In the early stages of EIA, only the biophysical impacts of proposals were considered (such as effects on air and water quality, flora and fauna, noise levels, climate and hydrological systems). Increasingly EIA processes are used to analyses a range of impact types within a single framework, include social, health, and economic aspects, e.g. social impact assessment (SIA), health impact assessment (HIA) and risk assessment. However, this trend toward integrated assessment for decision-making is by no means universal or uniform. Even in EIA systems where this trend is well established, the degree and extent of integration varies with legal requirements and accepted practice. Despite a lack of internationally consistent practice, integrated impact assessment, linking biophysical and socio-economic effects, is identified as an important priority in Agenda 21.

3.8. United Nations Declaration On The Rights Of Indigenous Peoples

Myanmar has endorsed the United Nations Declaration on the Rights of Indigenous Peoples in September 2007 as one of 144 states. Article 32 describes indigenous peoples' right to free and prior informed consent (FPIC): "States shall consult and co-operate in good faith with the Indigenous Peoples concerned through their own representative institutions in order to obtain FPIC prior to approval of any project affecting their land or territories". Article 10 and Article 26 elaborate on forcible relocation of indigenous people, the need for FPIC and land rights. It is required to ensure conformance to all relevant international environmental and social conventions in relation to this project.

3.9. World Bank Classification

World Bank Operational Directive on EIA, which is illustrative and provides a framework for screening.

Category A: for projects likely to have significant adverse environmental impacts that are serious (i.e., irreversible, affect vulnerable ethnic minorities, involve involuntary resettlement, or affect cultural heritage sites), diverse, or unprecedented, or that affect an area broader than the sites of facilities subject to physical works. A full EIA is required.

Category B: for projects likely to have adverse environmental impacts that are less significant than those of Category A projects, meaning that few if any of the impacts are likely to be irreversible, that they are site-specific, and that mitigation measures can be designed more readily than for Category A projects. Normally, a limited EIA will be undertaken to identify suitable mitigation and management measures, and incorporate them into the project.

Category C: for projects that are likely to have minimal or no adverse environmental impacts. No EIA is required.

3.10. Directive 2011/92/Eu Of The European Parliament And Of The Council Of 13 December 2011 On The Assessment Of The Effects Of Certain Public And Private Projects On The Environment

The EIA Directive (85/337/EEC) has been in force since 1985 and applies to a wide range of defined public and private projects, which also respectively list projects subject to mandatory EIA and non-mandatory EIA.

Usually this kind of major projects, will warrant a full EIA, because they are known or considered to have potentially significant adverse impacts on the environment; for example, on human health and

safety, rare or endangered species, protected areas, fragile or valued ecosystems, biological diversity, air and water quality, or the lifestyle and livelihood of local communities.

3.11. IFC EHS GUIDELINES

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

There are two kinds of guidelines, General EHS Guidelines and Industry Sector Guidelines. The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors in the following section: (1) Environment, (2) Occupational Health and Safety, (3) Community Health and Safety and (4) Construction and Decommissioning. Table 3-6 shows the contents of the section of Community Health and Safety.

Table 3-6 Community health and safety contents

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

Contents	Brief Description
	resources, (7) Training and updating, (8) Checklists (role and action list and equipment checklist), and (9) Business Continuity and Contingency.

3.12. INSTITUTIONAL ARRANGEMENT

The Ministry of Environmental Conservation and Forestry (MOECAF) was reformed as the Ministry of Natural Resources and Environmental Conservation (MONREC) on 30th March, 2016 in order to undertake both environmental and natural resources conservation and management more effectively. Under Section 3 of the Environmental Impact Assessment Procedure (2015), pursuant to section 21 of the law and Articles 52, 53 and 55 of the Environmental Conservation Rules, all projects and project expansions undertaken by any organization, which may cause impact on environmental quality that, are required to obtain prior permission. This is to be in accordance with section 21 of the Environmental Conservation Law, and Article 62 of the Environmental Conservation Rules, having the potential to cause adverse impacts, that are required to undertake IEE or EIA or to develop an EMP, and to obtain an Environmental Compliance Certificate (ECC) in accordance with this EIA procedure.

3.13. COMMITMENT OF TWINKLE (MYANMAR) COMPANY LIMITED

Twinkle (Myanmar) Company Limited has made the commitments and responsible for the preservation of the environment at and around the area of project site. In addition to this, it shall carry out as per instructions made by Ministry of MONREC in which to conduct an IEE 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 IEE and be abided by the environment policy, Environmental Conservation Law, National Environmental Quality (Emission) Guidelines for air water, noise and other environmental related rules and procedures.

- Monitoring the factory area operations according to IEE and Environmental Monitoring Plan (EMoP)
- 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 services
- To carry out fire safety assessment and ensure adequate and appropriate fire safety measures for employees

4. BRIEF DESCRIPTION OF SURROUNDING ENVIRONMENT

4.1. SETTING OF THE STUDY LIMIT

In the IEE study, it is necessary to establish baseline information on the environmental settings of an area which could receive directly and/or indirectly impacts from the project. The baseline information serves two purposes. Firstly, it uses in conjunction with the information on the project, for identification of potential impacts of the project and assessment of their significance. Secondly, it serves as the benchmark for evaluating environmental and social management performance of the project construction and operation. The IEE study area for this project is roughly defined to be the area within a 1 km radius of the center of the project site.

This chapter describes environmental and socio-economic settings of the study area based on available information collected during field survey and secondary data from Township General Administration Department.

4.2. METHODOLOGY FOR DATA COLLECTION AND ANALYSIS

The followings methodologies are used for Initial Environmental Examination (IEE) for this report preparation;

- Onsite Measurements and Analysis – Baseline parameters such as air quality monitoring, Indoor temperature, humidity, operation light conditions, noise and water quality of the project site.
- Secondary data collection of proposed project site area – Socio economic condition, physical/biological environment, and weather data are collected from official township data of Shwe Pyi Tar Township, Yangon Region.

4.3. ENVIRONMENTAL BASELINE STUDY

The field observation for determining the environmental baseline of the proposed project area was undertaken during operation 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.

4.3.1. Site survey and Environmental Monitoring

The baseline environmental quality at the Project Site and its immediate surroundings was established by groundwater, wastewater, ambient air quality samples, noise and indoor temperature and humidity measurements at immediate surrounding areas. To determine the existing baseline environmental quality within the project site on 29 October 2019.

The overall conditions of air quality, water quality, soil quality, and noise levels are quoted from the project. The summary of the field survey for overall conditions is shown in Table 4-1.

Table 4-1 Summary of Environmental Survey

Item	Parameter
Air Quality	(1) Sulfur dioxide (SO2), (2) Nitrogen dioxide (NO2), (3) PM10 and PM2.5
Noise level	Indoor sound level (LAeq)
Light Level	Industry light condition (Lux)

4.3.2. Air Quality

To determine the existing baseline ambient air quality status within the project site on 29, October 2019, 8-hours of working period air pollutants level, which include dust (PM_{10} and $PM_{2.5}$) and gases (SO_2, NO_2) were measured at the selected site using the Oceanus AQM-09 air monitoring station. To reveal the existing status of baseline air quality, the average ambient air qualities measured were compared with National Environmental Quality (Emission) Guideline. The measurement location point is situated at latitude 16°58'44.75"N and longitude 96°03'22.53"E.

Table 4-2 Observed air quality results

Parameters	Observed value	Guideline value	Unit	Organization	Period
Indoor Air Quality					
PM_{10}	47.21	50	$\mu g/m^3$	NEQG	24 hrs
$PM_{2.5}$	21.79	25	$\mu g/m^3$	NEQG	24 hrs
Outdoor Air Quality					
PM_{10}	57.75	50	$\mu g/m^3$	NEQG	24 hrs
$PM_{2.5}$	24.97	25	$\mu g/m^3$	NEQG	24 hrs
CO	9.2	10	$\mu g/m^3$	NEQG	8 hrs
SO_2	87.8	500	$\mu g/m^3$	NEQG	10 min
NO_2	52.91	200	$\mu g/m^3$	NEQG	1 hr

NEQG = National Environmental Quality (Emission) Guideline

Figure 4-1 Outdoor and Indoor Air Quality Measurement photo

4.3.3. Water Quality

Ground water quality measurement was conducted at the point where ground water inlet to the water filter tank and outlet after groundwater passed through the water filter tank. The pH and other parameters values are within the guideline. Monitoring result is shown in Table 4-3. Water quality monitoring result is shown in Appendix B.

Table 4-3 Water Quality Result

No	Parameters	Result	Units	Guideline
1	pH	7.1		6.5-8.5
2	Colour (True)	Nil	TCU	15 TCU
3	Turbidity	Nil	NTU	5 NTU
4	Conductivity	88	Micro S/cm	
5	Total Hardness	10	mg/l as CaCO3	500 mg/l as CaCO3
6	Calcium Hardness	8	mg/l as CaCO3	
7	Magnesium Hardness	2	mg/l as CaCO3	
8	Total Alkalinity	20	mg/l as CaCO3	
9	Phenolphthalein Alkalinity	Nil	mg/l as CaCO3	
10	Carbonate (CaCO3)	Nil	mg/l as CaCO3	
11	Bicarbonate(HCO3)	20	mg/l as CaCO3	
12	Iron	0.05	mg/l	0.3 mg/l
13	Chloride (as CL)	24	mg/l	250 mg/l
14	Sodium chloride (as NaCL)	40	mg/l	
15	Sulphate (as SO4)	Nil	mg/l	500 mgl
16	Total Solids	45	mg/l	1500mg/l
17	Total Suspended Solids	1	mg/l	
18	Total Dissolved Solids	44	mg/l	1000 mg/l

No	Parameters	Result	Units	Guideline
19	Manganese	Nil	mg/l	0.05 mg/l
20	Phosphate	Nil	mg/l	
21	Phenolphthalein Acidity	2	mg/l	
22	Methyl Orange Acidity	Nil	mg/l	
23	Salinity	0.1	ppt	

4.3.4. Noise Level

The Noise level was measured by using Digital Sound Level Meter for parameter of A-weighted loudness equivalent (LAeq). Noise survey was located in project site.

Table 4-4 Location of Noise Level Survey Point

Survey point	Coordinates	Type of survey point	Measurement Result	NEQ Guideline
Noise level	16°58'44.75"N 96°03'22.53"E	Operation area	68.07 dB	70 dBA

4.3.4.1. Survey method

Measurement of noise level was conducted by referring to the recommendation of the International Organization for Standardization (ISO 1996-1/2003 & 1996-2/2007). The instrument used for noise measurement was set at the height of 1.2 m. A-weighted loudness equivalent level was measured automatically every 20 seconds and recorded in a memory card. Survey result of Noise level (LAeq) along the survey point is presented in Table. Noise level measured in the operation area is between in the guideline limit.

Figure 4-2 Noise Level Measurement Photo

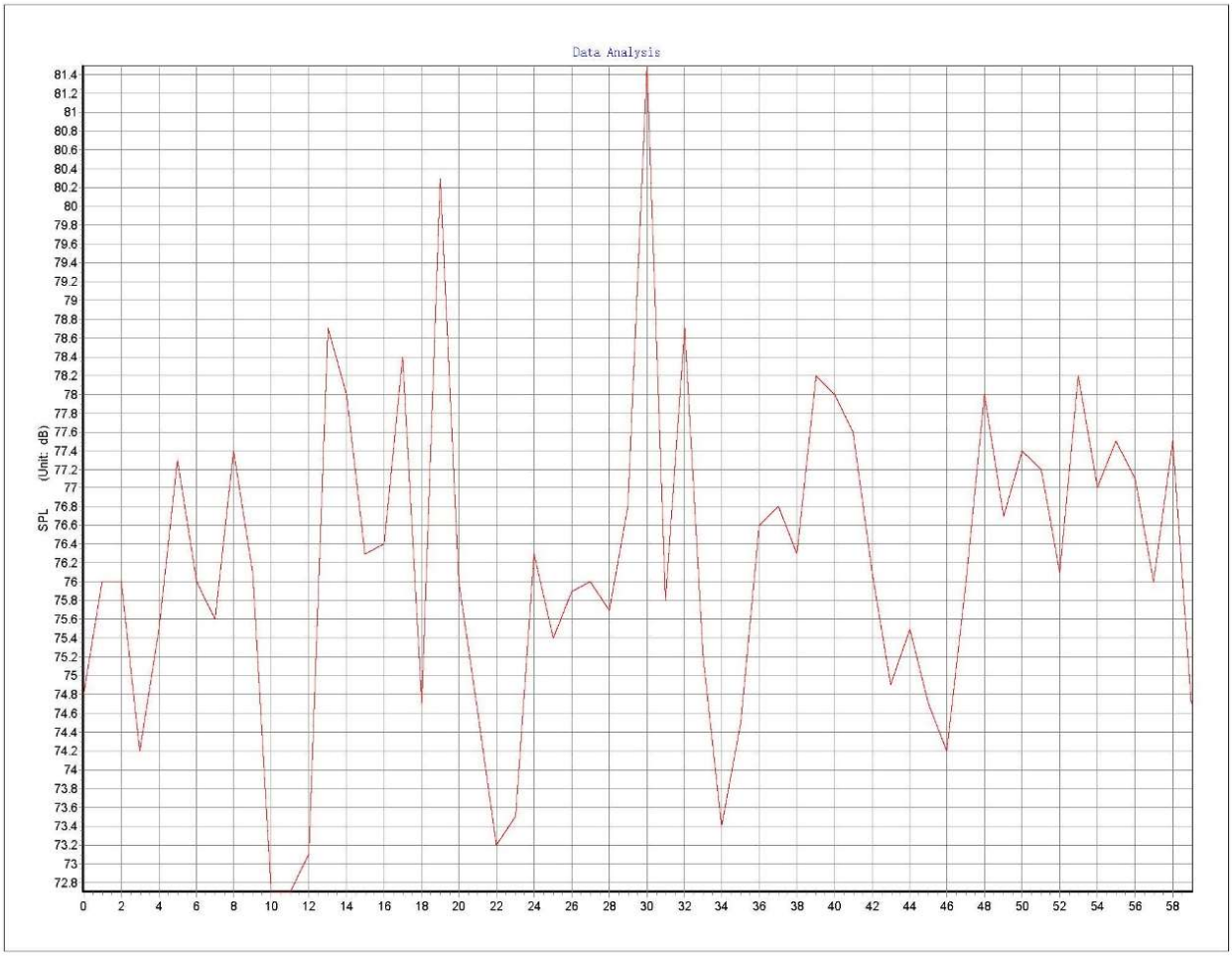


Figure 4-3 Noise Level Result Graph

4.3.5. Light

Activities of the workers in various kinds of bags factory are highly dependent on the quality of light. Therefore, the consultant conducted the light measurement in various kinds of bags factory is presented in below. The illustrates the recommended illumination and limiting glare index applicable to typical works (fairly severe to very severe tasks) in various kinds of bags factory is provided in Table 4-5. Appropriate lighting is the need for every department, irrespective to the task being handled. Although, there are some areas where focus on maintaining proper illumination is very crucial in a various kinds of bags factory, like the inspection points (on-floor and in stores), sampling, iron section and the finishing section, as these areas are crucial to the quality of the production. The tasks involved in these areas require high levels of worker focus and accurate lighting ensures 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 good condition to the acceptable level of standard.

Table 4-5 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

Visual test	Illumination (lux)	Glare index
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

Source: Konigsberg, et al. 1975

Figure 4-4 Light Quality Measurement at Twinkle (Myanmar) Company Limited

Table 4-6 Light Measurement in Twinkle (Myanmar) Company Limited

No	Measure area	Unit	Measure value	Standard	Type of Light
1	Sewing Section	Lux	856	400	LED tube light
2	Cutting Section	Lux	769	1000	LED tube light

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

4.3.6. Indoor Temperature and Humidity

The indoor temperature and humidity condition during 29 October 2019 shows the average temperature of 37.8 °C while the average humidity is 67.57 % as shown in Table 4-7 and Figure 4-5.

Table 4-7 Temperature and Humidity Measurement at Factory

Date and Time	Description	Result value	Environmental parameter air station guideline
29 October 2019 (1:00 pm to 5:00 pm)	Relative Humidity RH %	67.57 (%)	Present condition
	Temperature	37.8 °C	Present condition

Figure 4-5 Temperature and Humidity Measurement in Operation Area

4.4. PHYSICAL COMPONENT (SECONDARY DATA)

4.4.1. Topography

Yangon area is the largest; most populated and urbanized area in Myanmar. There are thirty-three townships in Yangon city were located at the convergence on the Yangon and Bago River region about 34 km away from the Gulf of Martaban. The proposed project area is situated at Watayar Industrial Zone, Shwe Pyi TarTownship, and its topographic condition is flat and accessible for transportation. The proposed project site is primarily agricultural land, but now is initiated into the industrial zone area.

4.4.2. Geology

In Yangon area mainly composed of Pegu Group, Irrawaddy Formation and Alluvium. Alluvial deposits (Pliestocene 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 4-6.

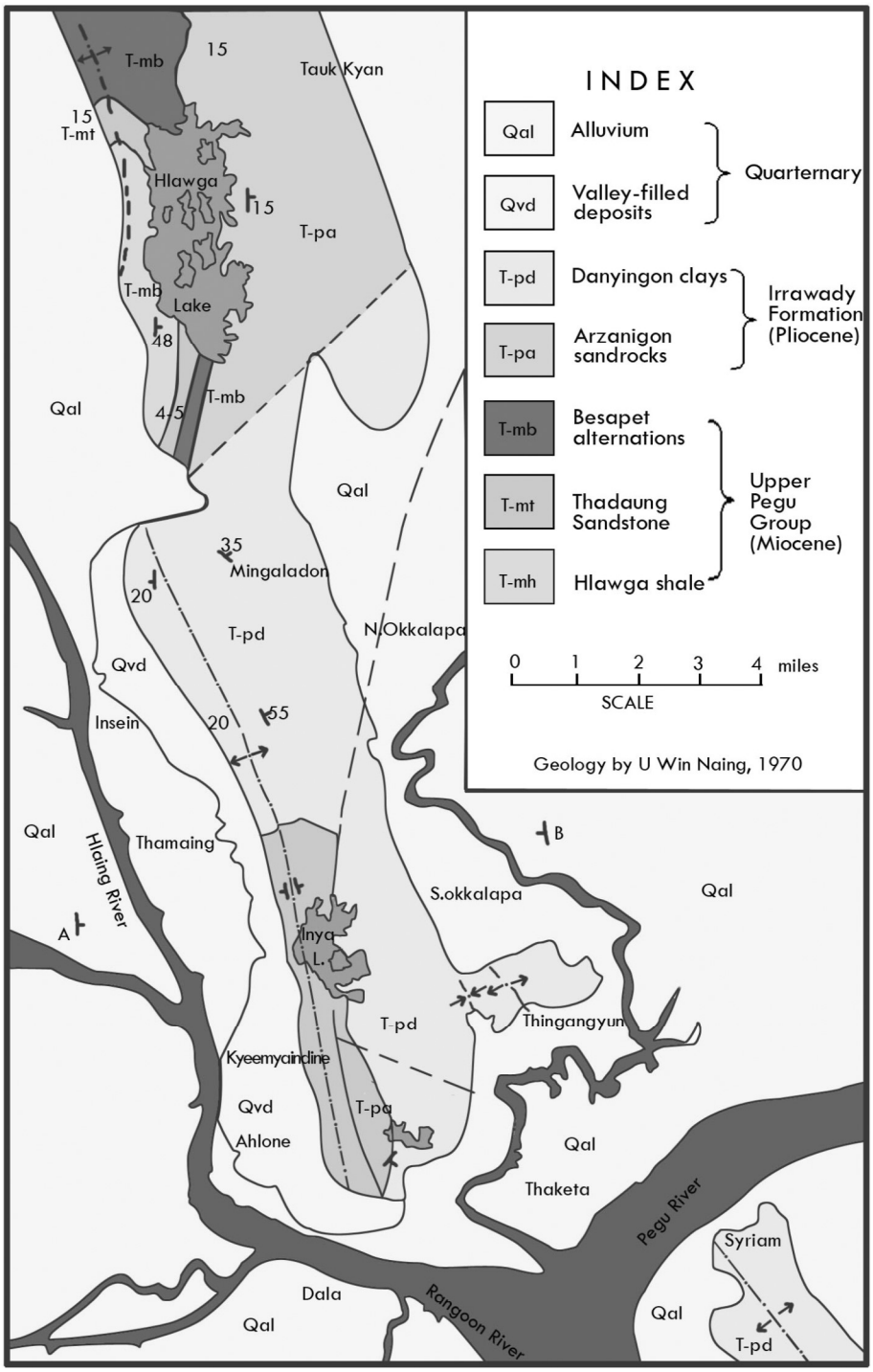


Figure 4-6 Geological Map of Yangon Region

4.4.3. 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).

4.4.4. Soil

The underlying soil type at the Project Site and its surroundings is characterized as the Meadow and Meadow Alluvial Soil. Meadow Soil is soil which occurs near the river plains exposed to occasional tidal floods is non-carbonate and usually contains a large amount of salt. Both materials mainly comprise silty clay loam and neutral soil rich in plant nutrient. The upper layers (approximately 0 to 7 m) of the soil at the Project Site comprise largely of cohesive layers with traces of sand and gravel, followed by sand layers with low silt content and trace gravel from 7 to 35 m. The lower layers comprise denser silt layer with traces of sand and gravel from approximately 57 to 70 m. Standard Penetration Test (SPT) results obtained from testing at the Project Site indicate that the soil strength generally increases with depth. The STP results showed that the current soil quality can accommodate the construction of the Project. [2]

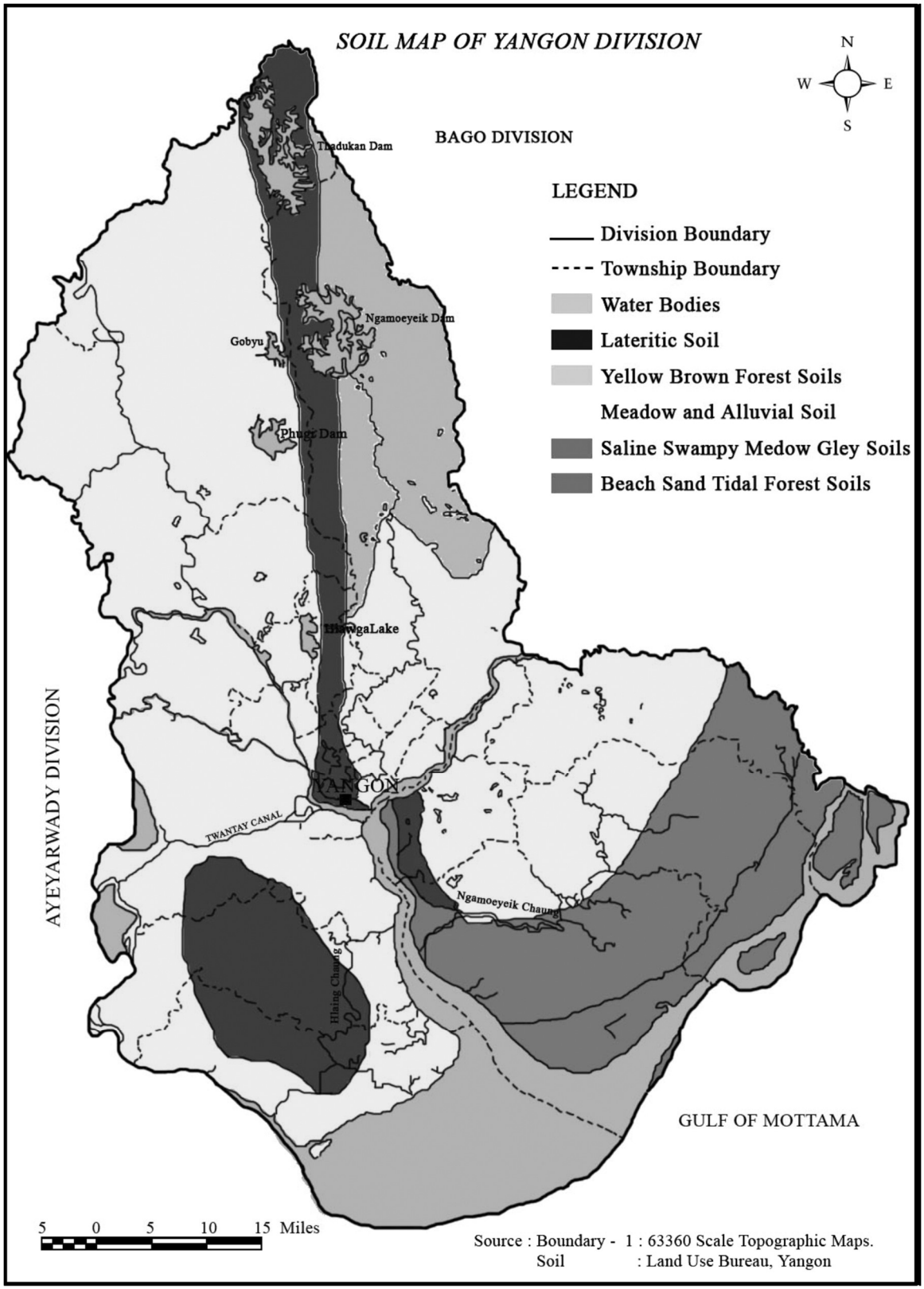


Figure 4-7 Soil Map of Yangon (Source: Land use of Bureau of Yangon)

4.4.5. Hydrogeology

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

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

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

Hydrology: The Project Site lies along the catchment of the 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.

4.4.6. Climate and Meteorology

4.4.6.1. Average Weather in Yangon

In Yangon, the wet season is oppressive and overcast, the dry season is muggy and partly cloudy, and it is hot year-round. Over the course of the year, the temperature typically varies from 67 °F to 97 °F and is rarely below 62 °F or above 101 °F. [6]

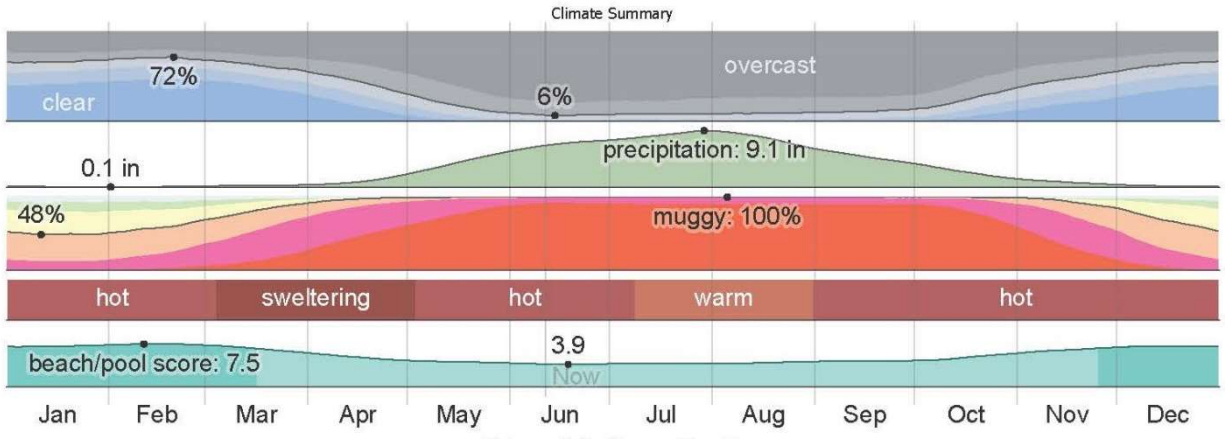


Figure 4-8 Climate Summary of Yangon Region

4.4.6.2. Temperature

The hot season lasts for 2.0 months, from March 2 to May 3, with an average daily high temperature above 95 °F. The hottest day of the year is April 11, with an average high of 97 °F and low of 78 °F.

The cool season lasts for 3.9 months, from June 2 to September 29, with an average daily high temperature below 87 °F. The coldest day of the year is January 10, with an average low of 67 °F and high of 88 °F.

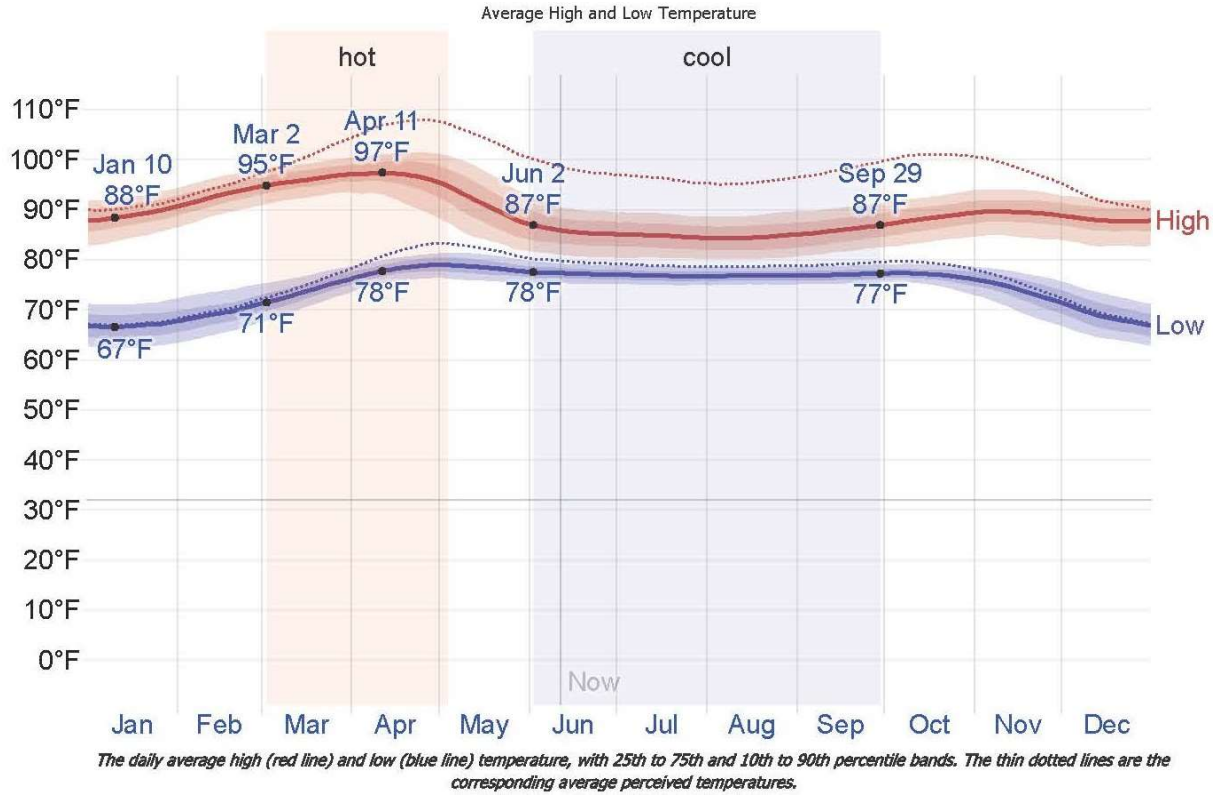


Figure 4-9 Average temperature of Yangon Region

4.4.6.3. Clouds

In Yangon, the average percentage of the sky covered by clouds experiences extreme seasonal variation over the course of the year. In clearer part of the year in Yangon begins around November 2 and lasts for 5.6 months, ending around April 22. On February 20, the clearest day of the year, the sky is clear, mostly clear, or partly cloudy 72% of the time, and overcast or mostly cloudy 28% of the time.

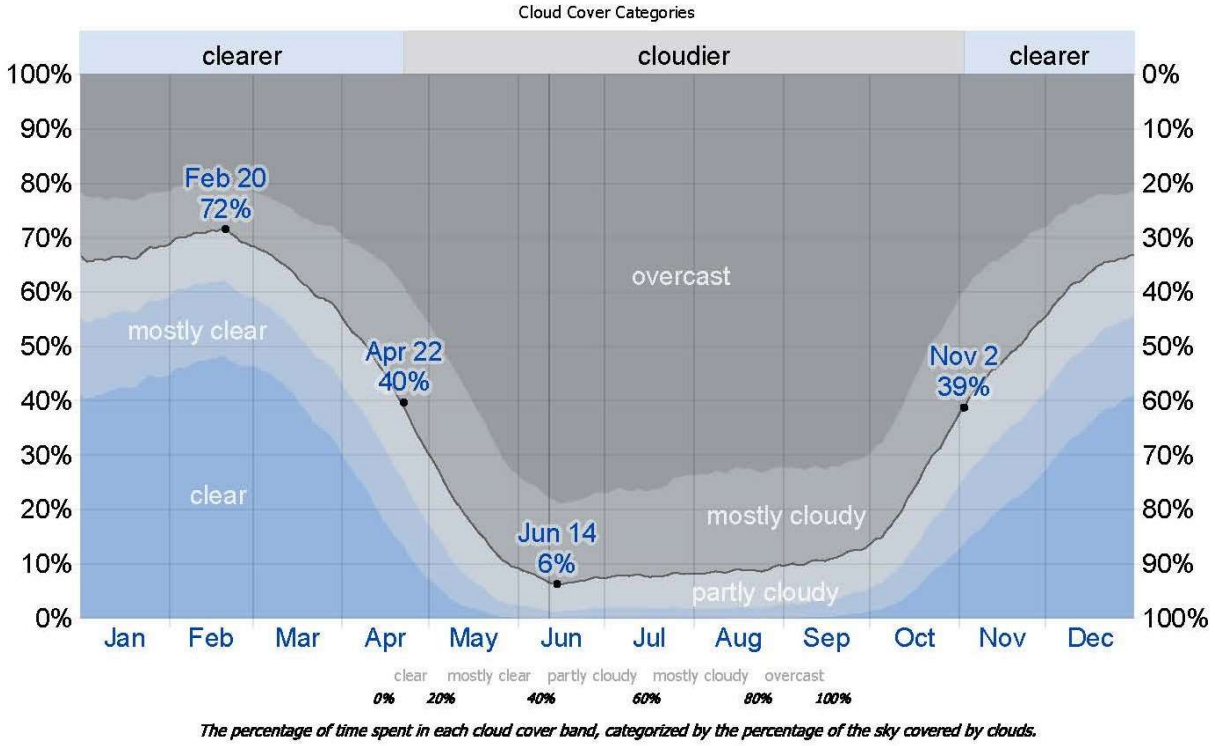


Figure 4-10 Cloud Cover Categories

4.4.6.4. Rainfall

To show variation within the months and not just the monthly totals, we show the rainfall accumulated over a sliding 31-day period centered on each day of the year. Yangon experiences extreme seasonal variation in monthly rainfall. The rainy period of the year lasts for 7.7 months, from April 5 to November 28, with a sliding 31-days rainfall of at least 0.5 inches. The most rain falls during the 31 days centered around July 30, with an average total accumulation of 9.1 inches. The rainless period of the year lasts for 4.3 months, from November 28 to April 5. The least rain falls around February 1, with an average total accumulation of 0.1 inches.

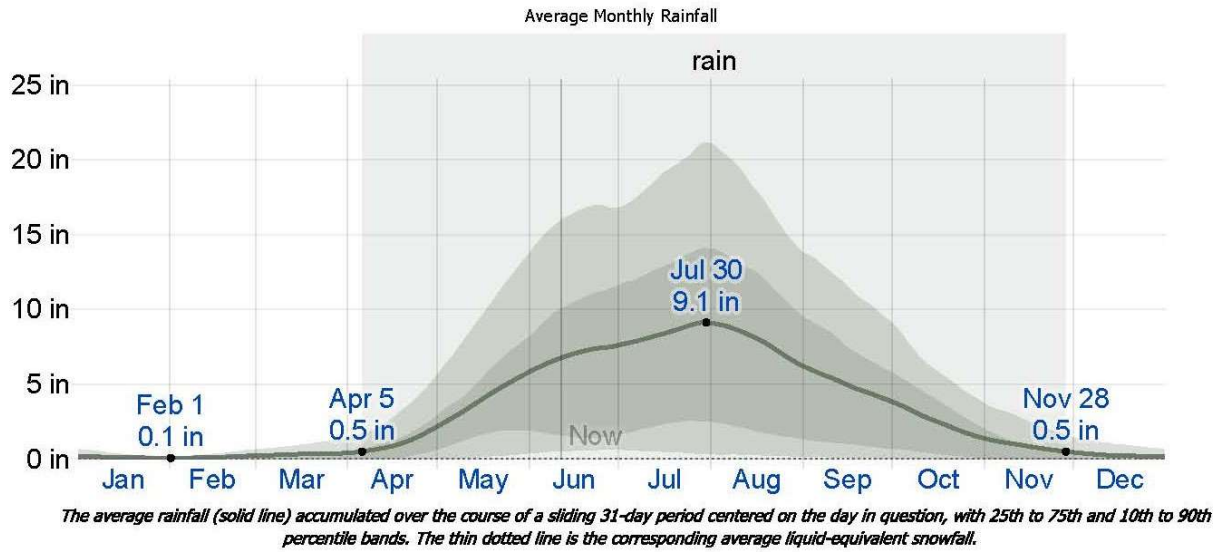


Figure 4-11 Average Monthly Rainfall at Yangon Region

Table 4-8 Annual Rainfall and temperature

Year	Rainfall		Temperature	
	Raining day	Rainfall value	Summer season Max (°C)	Winter season Min (°C)
2017-2018	102	105.4	41°C	27°C
2018-2019	88	84.8	40°C	26°C

Source: Department of Administrative Shwe Pyi TarTownship, Regional data (www.gad.gov.mm.com)

4.4.6.5. Humidity

We base the humidity comfort level on the dew point, as it determines whether perspiration will evaporate from the skin, thereby cooling the body. Lower dew points feel drier and higher dew points feel more humid. Unlike temperature, which typically varies significantly between night and day, dew point tends to change more slowly, so while the temperature may drop at night, a muggy day is typically followed by a muggy night.

Yangon experiences extreme seasonal variation in the perceived humidity. The muggier period of the year lasts for 10 months, from February 22 to December 23, during which time the comfort level is muggy, oppressive, or miserable at least 61% of the time. The muggiest day of the year is August 5, with muggy conditions 100% of the time. The least muggy day of the year is January 11, with muggy conditions 48% of the time.

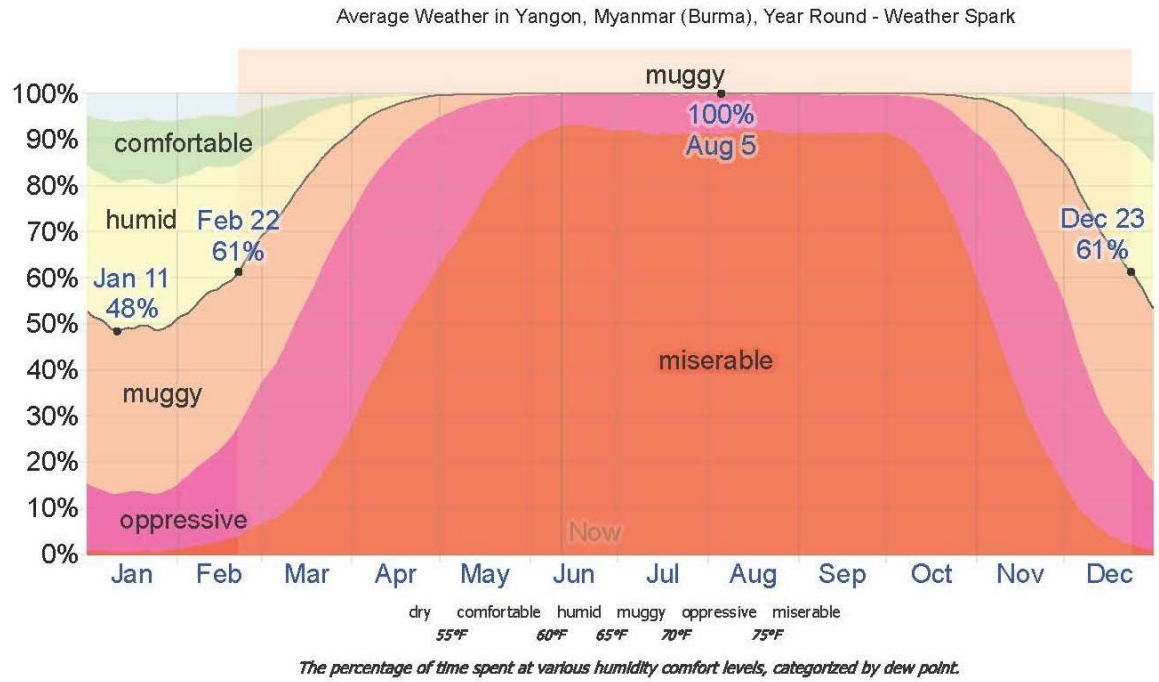


Figure 4-12 Humidity of Yangon

4.4.6.6. Wind

This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly depended on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages. The average hourly wind speed in Yangon experiences significant seasonal variation over the course of the year. The winder part of the year lasts for 4.1 months, from May 1 to September 4, with average wind speeds of more than 8.2 miles per hour. The windiest day of the year is June 24, with an average hourly wind speed of 10.6 miles per hour. The calmer time of year lasts for 7.9 months, from September 4 to May 1. The calmest day of the year is January 9, with an average hourly wind speed of 5.8 miles per hour.

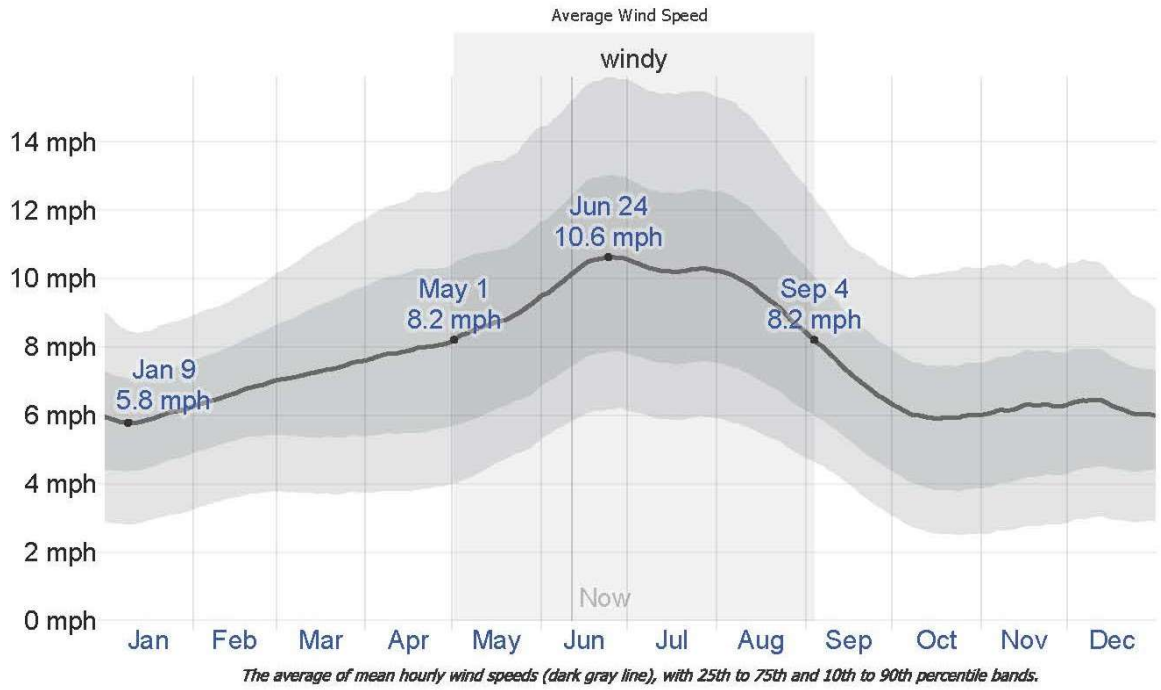


Figure 4-13 Average Wind Speed in Yangon

4.5. BIOLOGICAL COMPONENT (SECONDERY DATA)

As the proposed project area is located in Watayar industrial zone, project-based land type is industrial land and the information of ecological resources is very unlikely. There is no forests, protected areas and coastal lines within 1km distance of the proposed project area. The proposed project site is not located in or near a sensitive ecosystem.

Ecological Resources	Existing condition
Fisheries, aquatic biology	The nearest river is Hlaing river. Fresh water fish species are residing in the river
Wildlife	Non existence
Forests	Non existence
Rare or endangered species	Non existence
Protected areas	Non existence
Historical heritages	Non existence
Coastal resources	Non existence

4.6. SOCIO-ECONOMIC COMPONENT

4.6.1. Population

Twinkle (Myanmar) Company Limited is located across Shwe Pyi TarTownship in Yangon Region. In 2019, the population of Shwe Pyi Tar Township is about 440,949 people as present in Table 4-9.

Table 4-9 Population of Males and Females at Shwe Pyi Tar Township (2019)

Item	Over 18 year			Under 18 year			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Urban	110193	125186	235379	49964	55193	105157	160157	180379	340536
Rural	34642	32707	67349	16488	16576	33065	51130	49283	100413
Total	144835	157893	302728	66452	71769	138221	211287	229662	440949

Source: Department of Administrative Shwe Pyi Tar Township, Regional data (www.gad.gov.mm.com)

4.6.2. Religion

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

Table 4-10 Religion in Shwe Pyi Tar Township (2019)

Township	Buddhist	Christian	Hindu	Muslim	Other	Total
Shwe Pyi Tar	422529	6400	8320	3700	440949	422529

Source: Department of Administrative Shwe Pyi Tar Township, Regional data (www.gad.gov.mm.com)

4.6.3. Local Economy

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

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

4.6.4. Public Infrastructure and Access

4.6.4.1. Communication and Transportation

Major transportation route in Shwe Pyi Tar Township are railway, port, and car road as presented in Table 4-11.

Table 4-11 Transportation Route

Categories	Township		Miles
	From	to	
Railway (Yangon-Pyay railway)	Hlwaga	1 ward	4/2
Inland water way	18 wards	Hlawga	4.2
Bus line (39,40,42,44,65,69,72,73,74,77)	Hlawga	Downtown area	
Car (No 4. Main road)	1 ward	Hlawga	

Source: Department of Administrative Shwe Pyi Tar Township, Regional data (www.gad.gov.mm.com)

4.6.4.2. Electricity

The electricity demand of Shwe Pyi Tar Township is higher and higher due to the normally increased in population and infrastructure. [1]

4.6.4.3. Education

Location of major schools was 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 West Yangon Technological University, in the Shwe Pyi Tar 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 Shwe Pyi Tar Township

No.	Name of School	Location
1	Computer University Yangon	Kyaung Gone Village Tract
2	BEHS (1)	No 6. Ward
3	BEHS (2)	Hlawga Village Tract
4	BEHS (3)	No 8. Ward
5	BEHS (4)	Zee Gone Village Tract
6	BEMS (Branch) (2)	No 19. Ward
7	BEMS (Branch) (3)	No 5. Ward
8	BEMS (Branch) (4)	No 9. Ward
9	BEMS (Branch) (8)	No 23. Ward
10	BEMS (1)	Hlawga Village
11	BEMS (5)	No 15. Ward
12	BEMS (6)	No 17. Ward
13	BEMS (7)	No 9. Ward
14	BEMS (9)	No 11. Ward
15	BEMS (10)	No 14. Ward
16	BEPS (1-43)	Shwe Pyi Thar Township

Source: Department of Administrative Shwe Pyi Tar Township, Regional data (www.gad.gov.mm.com)

4.6.4.4. Health Status

The diseases of high prevalence reported in 2019 are Tuberculosis (TB), followed by Acute Respiratory Infection (ARI), Diarrhea, TB and snakebites. With reference to the Township Health Profile 2019 of Shwe Pyi Tar Township, no accidental work injuries reported to the township hospital in 2019. The common diseases are shown in Table 4-13.

Table 4-13 Common Diseases in the Shwe Pyi TarTownship

Diseases	Shwe Pyi Tar Township	
	Morbidity	**Mortality**
Malaria (Per 100000P)	-	13
Dysentery	37	-
Diarrhea (Per 100000P)	21	-
TB (Sputum+) (Per 10000P)	67	-
Hepatitis	5	-

Table 4-14 Lists of Hospital in Shwe Pyi TarTownship

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	331	-

Source: Department of Administrative Shwe Pyi Tar Township, Regional data (www.gad.gov.mm.com)

4.7. CULTURAL AND VISUAL COMPONEMTS

Shwe Pyi Tar 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. IMPACT IDENTIFICATION

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

5.1.1. Positive Impact

During the project implementation, at least 1000 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 Watayar 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.

5.1.2. 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.

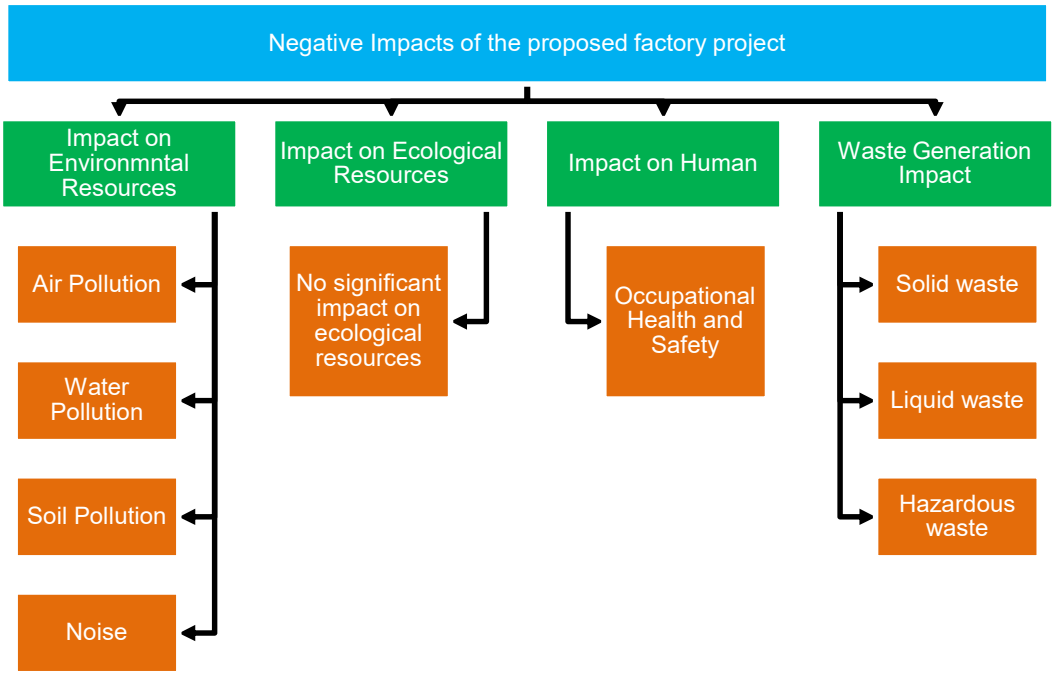


Figure 5-1 Potential Negative Impact Affect from Proposed Project

5.2. 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) calculated by following formula.

Significant Point (SP) = (Magnitude + Duration + Extent) * Probability

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

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

5.3. POTENTIAL ENVIRONMENTAL IMPACT DURING CONSTRUCTION & DECOMMISSIONING PHASE

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

Decommissioning phase: The proposed duration of the investment shall be 25 years. The term of the Lease shall be initial 5 years commencing from the date of signing of the Lease Agreement between Local owner and Twinkle (Myanmar) Company Limited for proposed project site for 4.6 acres of land and extendable for ten years in 2 times. The project of land and building will be restitution to land owner after close the operation. Therefore, the assessment study cannot be need for environmental impact assessment during decommission phase.

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

5.4. SIGNIFICANT IMPACTS OF PROJECT ACTIVITY AND MITIGATION MEASURE

The project activities, their impacts and significance of impact are provided in Table 5-2.

Table 5-2 Evaluation and Perdition of Significant Impacts and Mitigation Measures on Operation phase

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
Impact on Environmental Resource									
Air	• Dust and GHGs emission from vehicles used for transporting raw materials and final products • Emission of smoke from emergency diesel generator and vehicle movement	2	4	1	3	21	Low	• Air pollution in atmosphere and surrounding environments. • Inhaling them can increase the chance you'll have health problems. • People with heart or lung disease, older adults and children are at greater risk from air pollution.	• To control air pollution, the vehicles, generators and machineries have to check and maintain regularly. • Ensuring vehicles, compressor and generator are well maintained.
Soil	• Engine oil leaks, spills at diesel storage and during fuel refueling.	1	4	1	1	6	Very Low	• The factory compound area was paved with concrete and hence, contamination due to the oil spillage at this area is insignificant.	• No Mitigation Measure
Noise and Vibration	• Generating noise from the operation	2	4	1	2	14	Very Low	• The factory not operate heavy machinery	• Should be build individual room like as generator room,

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
	machines and generators.							• The major noise source of CMP basic operation activities such as cutting, sewing, attaching and packaging by respective machines. • There is insignificant impact on surrounding environment.	• Low noise equipment should be used • Should be provide the noise covering equipment or personal protective equipment (PPE) • Low noise equipment should be used • Generators and electricity distribution rooms should be placed separately to main building.
Impact on Ecological Resources									
Flora and fauna on terrestrial and aquatic ecosystem	Operation of the various kinds of bags factory	1	4	1	1	6	Very Low	• Not Significant Impact on Ecological Resources and Biodiversity.	• No Mitigation Measure
Impact on Human									
Fire	• Poor electrical installations • Assembly raw materials and the extra fabric cuts in disciplinary in an area.	3	4	1	4	32	Moderate	• Serious damage to project and even injury and death.	• To provide 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.

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
									• 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.
Occupational Safety	• Accidental cases cause by operating machines. • Unloading, mixing, cutting, pressing and packaging activities. • Accidental cases of thermic fluid heater	3	4	1	3	24	Low	• Accident in workplace (physical injuries or even death) can occur during operation.	• First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of 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 staffs (handyman) are to be assigned to do regular inspections and take preventive measures.

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
Health	• Risk of infection with Tuberculosis (TB) and other diseases	2	4	1	2	14	Very Low	• Change in demographic structure, new diseases form immigrant workers • To cause a range of health problems ranging from stress, poor concentration, productivity losses in the workplace, and communication difficulties and fatigue from lack of sleep, to more serious issues	• Manage the regular medical check-ups and health services. • Provide the sharing of medical knowledge and first aid trainings.
Waste Generation Impact									
Solid Waste	• 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	• Surrounding environmental pollution and soil contamination	• 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.
Liquid Waste	• Septic system and sewage.	2	4	2	2	16	Low	• Contamination of soil, surface water, ground water	• Regular inspection and cleaning, oil traps, septic tank and adequate covers for all storage

Categories	Source of Impact	Significant of Potential Impacts					Impact Significance	Reason	Mitigation Measure
		M	D	E	P	SP			
	• Domestic liquid waste disposal from office, kitchen and dormitory.								and waste disposal areas can decrease these contaminations.
Hazardous Waste	• Used oil and lubricant discharged from the maintenance of vehicles and machines. • Used glue for stitching process	2	4	1	2	14	Very Low	• Reduce the risk of contamination from fuels, oils and hazardous wastes • Response effectively to incident and accident	• Proper inspection and maintenance in storage of hazardous waste. • Dispose of hazardous chemicals and containers in accordance with occupational health, safety and environmental requirements. • The empty chemical containers will hand over to suppliers for recycle or appropriate disposal • The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (eg., DOWA and YCDC)

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.

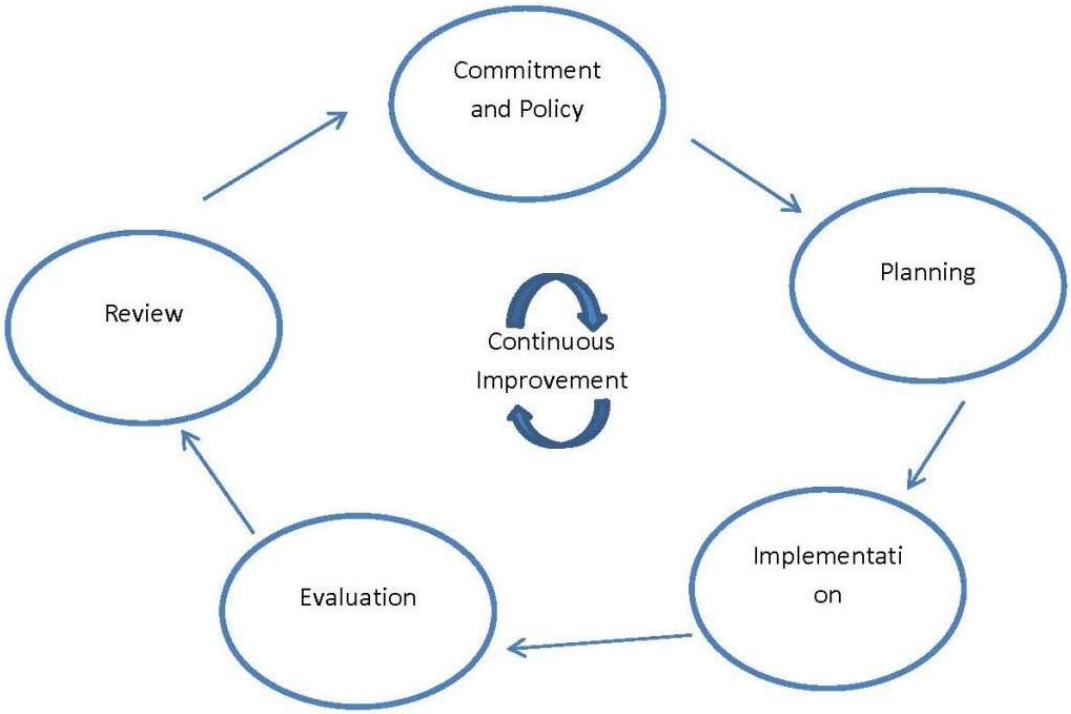


Figure 6-1 Continuous Improvement Circle

- **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

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.

6.2. INSTITUTIONAL REQUIREMENT

In order to ensure the sound development and effective implementation of the IEE, 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 IEE:

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

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

Third-Party Environmental Consultant: The environmental consultant will have to ensure that the proposed IEE is up to date and is being followed properly by the proponent. Periodic audits of the IEE 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.

6.3. STRUCTURE AND RESPONSIBILITIES FOR THE IEE DEVELOPMENT AND IMPLEMENTATION

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

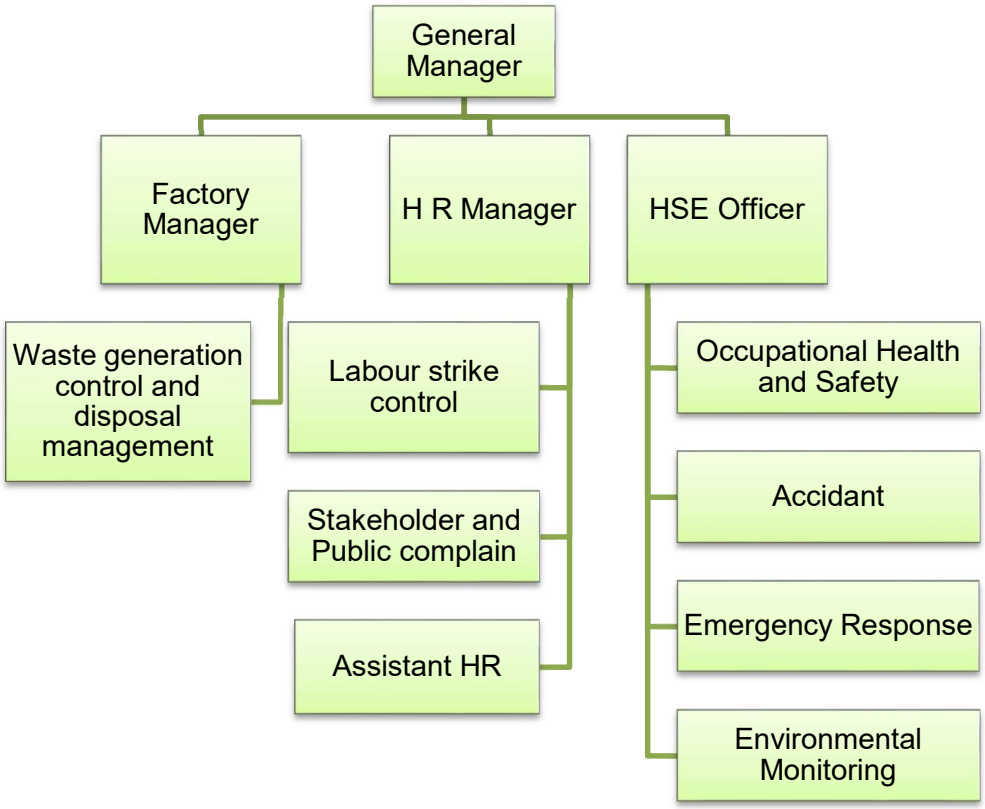


Figure 6-2 Organization Structure of IEE Implementation

Table 6-1 Responsibilities of HSE members

Roles	Responsibilities
General Manager	The General Manager will be assisted by the Factory Manager and also the HR and HSE Officer. In terms of environmental protection commitments, the Operation Manager will be the key driving force and will be responsible for: • Establishing overall environmental direction and policy • Ensuring the implementation of the IEE • Ensuring investigation of all environmental incidents are reviewed and that reports are submitted on time • Ensuring an effective system of internal and external communication is in place • Providing advice regarding the environmental program

Roles	Responsibilities
Factory Manager	The Factory Manager will assist the General Manager in looking into the overall environmental matters during the operational phase of the Project. The Operation Engineer will also be responsible for: • Adherence to the overall environmental direction and policy • Ensuring the implementation of the recommended actions in the investigation of all environmental incidents • Managing resources for operation wastes
H R Manager	The HR Manager will carry out the day-to-day management of workers and social issues in the factory. The HR Manager will be responsible for: • Assisting the management in publicising and implementing corporate and local policies, objectives and programs • Maintaining key environmental-related documents and information • Communicating/ liaising with the local authorities on environmental issues
HSE Officer	The HSE Officer will be the key person in charge of all environmental matters pertaining to the site. The HSE Officer will be responsible for: • Coordinating the implementation of environmental programs, including monitoring of the project site environmental performance • Performing periodic internal environmental audits and inspections to ensure compliance with the legal environmental requirements • 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 IEE and require the HR Manager to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the IEE.

6.4. ENVIRONMENTAL MANAGEMENT PROCESS

The EMP for Twinkle (Myanmar) Company Limited has been prepared to added potential issues based upon discussion with factory management, workers, local community view, stakeholder consultation and the site visit. The EMP is additional to and compliments the factory's safety management system. The following environmental impact issues which require environmental management plans based upon the potential impacts activities of Twinkle (Myanmar) Company Limited are as follows:

6.4.1. 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	

6.4.2. 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)
	Parameters	Sound Decibel
Estimated Cost	500,000 Kyats per year	
Responsible Person	HSE Manager or Environmental Management Team of Twinkle (Myanmar) Company Limited.	

6.4.3. 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	Must be provide fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases. Must be indicated the emergency exit and assembly point in public area. Regular inspection for existing firefighting equipment must be done. In case of fire emergency, water storage tank for fire frightening. 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.
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 Twinkle (Myanmar) Company Limited.

6.4.4. 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	First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for emergency cases of 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 (PPE) 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. Manage the drainage systems of the factory to prevent health risk of the workers. 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.
Monitoring and Reporting	Weekly check fire extinguishers and water hydrant in position Daily inspect that all fire exist are open 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 Twinkle (Myanmar) Company Limited.

6.4.5. 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

6.4.6. 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	

6.4.7. Hazardous 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	Proper inspection and maintenance in storage of hazardous waste. Dispose of hazardous chemicals and containers in accordance with occupational health, safety and environmental requirements. The empty chemical containers will hand over to suppliers for recycle or appropriate disposal

	The hazardous wastes are transported by specially licensed carriers and disposed in a licensed faculty (e.g. DOWA and YCDC)
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 Program 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 Twinkle (Myanmar) Company Limited

6.4.8. Energy 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.
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	The factory management has taken proper measures to handle any emergency situation like fire, earthquake, flood and storm Provision and inspection of firefighting equipment and fire hydrant system in all the sections A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training. Regular fire drill operation is conducted Workers are informed about what to do in earthquake like stay in a safe place such as under table of desk, not to try move outside during earthquake, workers who will be outside during earthquake shall remain stay out of the building, trees, lump post, etc. Other relevant safety instruction of emergency situation it informed to workers by training Workers are aware of dangers from physical hazards such as obstacles covered by floodwater (storm debris, drainage opening, ground erosion) and from displaced reptiles (Snake) or other animals. A medical team has been prepared for primary treatment (First Aid) Prepare an emergency contact directory consisting contact numbers of nearest fire service, local police station, hospitals, etc. and display it in a place that everybody can see it easy. Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety
Monitoring & Reporting	Weekly check fire extinguishers and water hydrant in position Daily inspect that all fire exist are open Servicing fire extinguisher and records accidents,
Estimated cost	Approximately 1,500,000 Kyats per year
Responsibility	Manager and EHS officer Arrange firefighting training after every 3 months

	Responsible for fire control and response Monitoring daily danger warning and bans

6.4.9. 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.
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	The factory management has taken proper measures to handle any emergency situation like fire, earthquake, flood and storm Provision and inspection of firefighting equipment and fire hydrant system in all the sections A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training. Regular fire drill operation is conducted Workers are informed about what to do in earthquake like stay in a safe place such as under table of desk, not to try move outside during earthquake, workers who will be outside during earthquake shall remain stay out of the building, trees, lump post, etc. Other relevant safety instruction of emergency situation it informed to workers by training Workers are aware of dangers from physical hazards such as obstacles covered by floodwater (storm debris, drainage opening, ground erosion) and from displaced reptiles (Snake) or other animals. A medical team has been prepared for primary treatment (First Aid) Prepare an emergency contact directory consisting contact numbers of nearest fire service, local police station, hospitals, etc. and display it in a place that everybody can see it easy. Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety
Monitoring & Reporting	Weekly check fire extinguishers and water hydrant in position Daily inspect that all fire exist are open Servicing fire extinguisher and records accidents,
Estimated cost	Approximately 1,500,000 Kyats per year
Responsibility	Manager and EHS officer Arrange firefighting training after every 3 months Responsible for fire control and response Monitoring daily danger warning and bans

6.5. ENVIRONMENTAL MONITORING PLAN AND REPORTING

The IEE 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 IEE. Table 6-2 is provided the environmental monitoring schedule for Twinkle (Myanmar) Company Limited. The factory submits monitoring report to the Ministry not less frequently than every six (6) months, as provided in a schedule in the IEE.

Table 6-2 Environmental Monitoring Plan During Operation Phase

Issues	Parameter	Frequency	Estimated Cost (Kyats)	Area to be monitored	Responsible Person/Organization
Common	Monitoring of mitigation measures	Yearly (3 years after operation)	3,000,000/year	The project	(Factory Manager) Twinkle (Myanmar) Company Limited
Air quality	SO2, NO2, CO, CO2, PM2.5, PM10	Biannually monitoring and reporting to ECD (first 3 years after operation)	1,000,000/year	Point in the factory (16°58'44.75"N 96°03'22.53"E)	(HSE Officer) Twinkle (Myanmar) Company Limited
Noise Quality	Noise level in decibel (dBA)	Once per month	500,000/year	Point in the factory (16°58'44.75"N 96°03'22.53"E)	(HSE Officer) Twinkle (Myanmar) Company Limited
Light intensity	Illuminance	Monthly	200,000/year	Sewing cutting and QC areas	(HSE Officer) Twinkle (Myanmar) Company Limited
Waste Generation	Solid waste, Liquid waste and Hazardous waste	weekly	840,000/year (35,000/track load)	Disposal area in the factory compound (Recycle store and waste store)	(Factory Manager) Environmental Management Team of Twinkle (Myanmar) Company Limited
Fire Hazardous	Visual inspection, firefighting equipment	Monthly	600,000/year	At the factory	(Factory Manager, HR Manager and HSE Officer) Twinkle (Myanmar) Company Limited

Table 6-3 Environmental Monitoring Plan during Decommissioning Phase

Issues	**Parameter**	**Frequency**	**Estimated Cost (Kyats)**	**Area to be monitored**	**Responsible Person/Organization**
Air quality	SO2, NO2, CO, CO2, PM2.5, PM10	One time during this phase	500,000	A suitable point of project area	Land Owner
Noise	Noise level in decibel (dBA)	One time during this phase	150,000	A suitable point of operation site	Land Owner

6.6. CAPACITY BUIDLING AND TRAINNING PLAN

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

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

6.6.1. Assignment of responsibilities

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

6.6.2. Emergency procedures

Emergency procedures are operating instructions for employees to follow in emergency case

About work safety in the concerned processing, the management team should

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

6.6.3. Training for Emergencies

The type, amount and frequency of training vary, depending upon the task's employees proposed to do. Although training must provide to employees at least annually, safety meetings and drills shall conduct at more intervals.

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

- Hazard recognition and prevention (fire, explosion, etc.)
- Proper use of fire extinguishers
- Emergency reporting procedures
- Preventive maintenance
- Using method of Rubber wood log sawing machines
- Hazardous materials spill response
- First Aid

6.6.4. Fire Prevention and Protection

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

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

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

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

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

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

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

6.6.5. Fire Protection Equipment

1. Explosion Suppression Systems: Explosion suppression systems should be utilizing in unusually hazardous areas such as elevator legs, boots and head, or in areas such as bins, distributors and tanks.

2. Portable Fire Extinguishers: All buildings within a facility must have fully charged and operable portable fire extinguishers. If employees are required to use portable extinguishers or other firefighting equipment against incipient fires, they are need to be train to use the equipment. Training must include the following:
   - Correct type of extinguisher to use on different classes of fire
   - Proper techniques for use of the equipment to extinguish a fire
3. Standpipes and Hoses: All areas within a facility that are above 75 feet from ground level and in which combustible materials other than grain are stored should have wet or dry standpipes and hoses installed.

4. Automatic Sprinkler Systems: Automatic sprinkler systems are recommending in areas containing combustible materials.

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

6.6.6. Fire Safety and Evacuation Plan

Fire Evacuation plans should include the following information

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

Fire Safety Plans should include the following information:

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

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

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

No.	Parameters	Proposed Capacity	Remark
1	Fire water flow	14 bars	
2	Deluging rate	12.0 liters/m2/min	
3	Foam rate	10.0 liters/m2/min	
4	Maximum water pressure	190 liters/min	For storage area

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

Employee Training and Response Procedures: Employee shall train in the fire emergency procedure described in their fire evacuation and fire safety plans and training should base on these plans;

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

Employee Training Program: Employee should train in fire prevention, evacuation and fire safety in accordance with the following sections.

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

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

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

6.6.7. Site Fire Control

1. Alert other people through fire alarm
2. If small, control by using an extinguisher
3. Contact fire brigade if not under controllable circumstance
4. Attend to human life in immediate danger
5. For electrical fires turn off power before fighting
6. Once out of the building, stay out. Do not allow people to go back into the burning building to collect valuables. While evacuating the building, close doors (but do not lock) to slow down the spread of fire
7. Obey to all instructions
8. Specify to an emergency evacuation area (Assemblage Point)

6.6.8. Employee Information and Training

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

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

6.6.9. Health and Safety Training Plan for Worker

Health and Safety Training plan currently used and provided in Twinkle (Myanmar) Company Limited to all employees and staff workers by efficient trainings internally and externally. Specific trainings are recommending and conducting according to the health and safety guidelines to enhance worker's health and to prevent all potential risks and hazards might occur in the factory. All required trainings related to health and the respective departments propose safety or operational parts, top management makes decision and HR organizes and conducts the trainings.

Table 6-5 Training Plan Used in Twinkle (Myanmar) Company Limited

No.	Health and Safety Guidelines	Training needs
1.	Management	General fire and emergency response plan, evacuation. All training materials and procedures covering health and safety for workers and employees
2.	Machine safety and noise management	Training for machine operations to all operators Use of PPE and proper use of any necessary protection

No.	Health and Safety Guidelines	Training needs
		Maintenance and Emergency procedures
3.	Environment safety	Understanding and training on recognition and maintenance not to affect environment
4.	Material storage and safety	Safety use of related devices, chemicals and machines Use of necessary protections in working areas Sanitation work
5.	Fire Safety	Firefighting and evacuating training and practices Firefighting materials/ devices use
6.	First Aid	first aid / CPR/ AED training from providers (Outsource) training on hazard of pathogens

6.7. GRIEVANCE REDRESS MECHANISM (GRM)

People who live near the project affected area or stakeholders can complain about the problems and impacts that they suffer; they can complain though Grievance Committee, which includes the responsible persons of Twinkle (Myanmar) Company Limited representative from Watayar Industrial Zone and representative from General Administration Department (Shwe Pyi Tar 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.

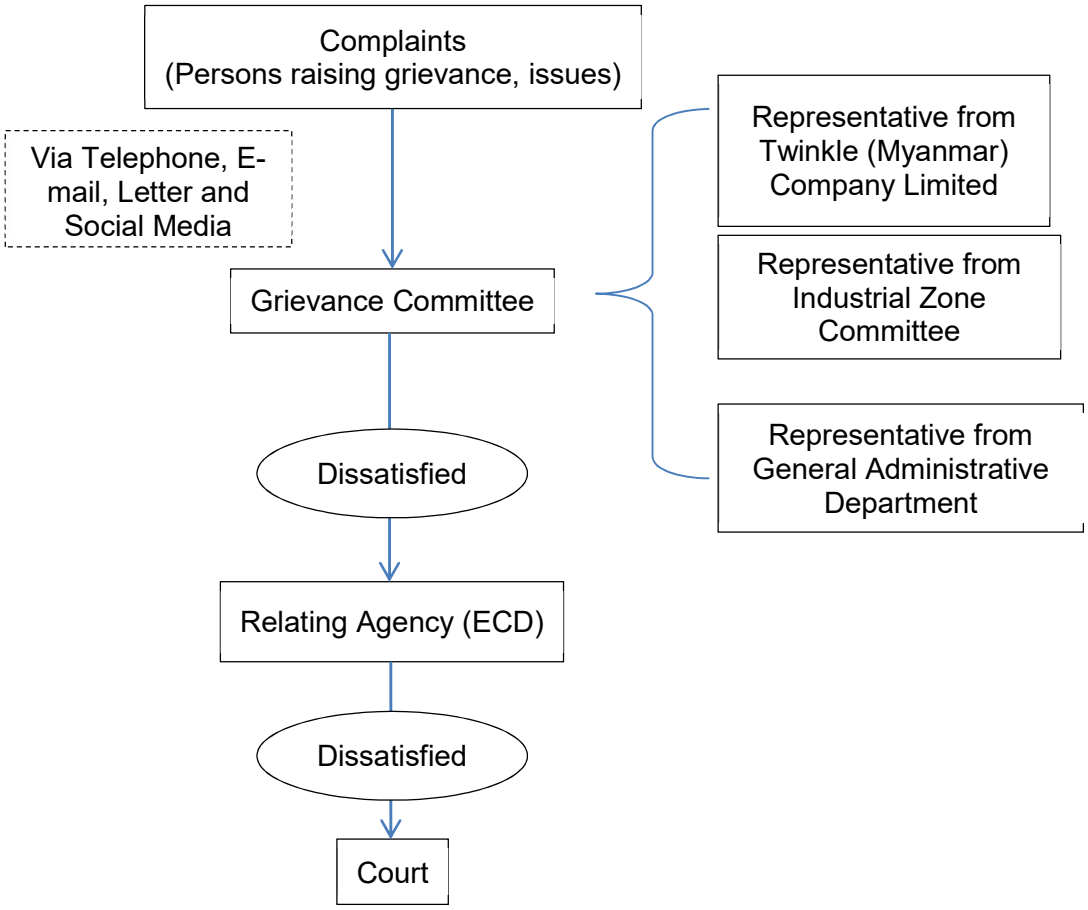


Figure 6-3 Grievance Redress Mechanism flow diagram

7. PUBLIC CONSULTATION AND DISCLOSURE

7.1. PUBLIC CONSULTATION PROCESS

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

Public consultation during preparation of IEE report was conducted on 10, December 2019, 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 IEE 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. U Aung Kyaw Moe presented IEE studies and findings from Myanwei, after the presentation following questions and answer section. Summary of public consultation meeting is presented in Table 7-1.

Objective of IEE

- Project Description
- Existing Environment and Monitoring
- Potential Impact and Mitigation measures
- Cooperative Social Responsibility (CSR)

Table 7-1 Summary of Public Consultation Meeting

Time and Date	Friday, 10 December 2019 10:30-12:30
Venue	Industrial Zone Committee Office, Watayar Zone’s Meeting Room.
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. RECOMMENDS SUGGESTION AND COMMENTS

After the presentation, the floor opened for questions and answers. There is no question and comment for presentation for IEE report, because the project is the manufacturing of various kind of bags

that proposed factory emitting a small volume of emissions and discharges is negligible. In addition, Watayar Industrial Zone Committee Pre - Chairman advice to fix the CSR plans and

U Myo Thein, Shwe Pyi Thar Zone (1), Zone Committee

- He advices to take care of each employee's health and equality
- He also urges more to the discipline in discharging solid and liquid wastes.

7.3. 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 Twinkle (Myanmar) Company Limited 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.

Twinkle (Myanmar) Company Limited will contribute 2% of our Net Profit to social welfare activities that will help society and country of Myanmar. Our social welfare activities shall include training of our employees such as on job training to be more qualified, language training on weekends with experienced teachers and providing necessary healthcare such as medical checkups and giving proper medical knowledge about deceases and its prevention. Part of our CSR activity such as donations will also contribute to public school around our factory Table 7-2.

Table 7-2 CSR Plan at Twinkle (Myanmar) Company Limited

No	Particle	Contribution	Estimated Cost (Kyats)
1	Public school	0.5%	2,500,000/year
2	Non-profit training	1%	5,000,000/year
3	Employees healthcare	0.5%	2,500,000/year

7.3.1. 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.

7.3.2. 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 manufacturing of various kinds of 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.

7.3.3. Healthcare

One of our main concerns 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.

8. CONCLUSION & RECOMMENTATION

8.1. CONCLUSION

Initial Environmental Examination (IEE) has been prepared for Twinkle (Myanmar) Company Limited is located at Land Plot No. (167/168), Myay Taing Block No. 49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region. The main objective of the study is focused specially on the required environmental management measures or creating environmentally friendly workplace. An IEE has been carried out for the factory according to the requirement of the proponent as it has been made for manufacturing of various kinds of bags on CMP basis.

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

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 IEE 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 IEE will provide adequate opportunities to address any residual impacts during the operation phase.

In conclusion, it has been figured out that, the proposed various kinds of bags factory are 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. RECOMMENTATION

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 IEE and practiced at operation level.
- Keep full records of environmental management activities and present to annual independent third-party environment audit.

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

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this IEE report. Once concerned authorities approve IEE, effective implementation of IEE 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. REFERENCE

[1] General Administrative Department (Shwe Pyi Tar Township), Shwe Pyi Tar Township Data (2019).

[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 Conservation (MONREC), “Environmental Impact Assessment Procedure” December 2015.

[4] Ministry of Natural Resources and Environmental Conservation (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.

[6] https;//weatherspark.com/y/112503/Average-Weather-in-Yangon-Myanmar-(Burma)-Year-Round.

APPENDIX A
Company Document's Twinkle (Myanmar) Company Limited

ပုံစံ (၅-ခ)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီ

အတည်ပြုမိန့်

အတည်ပြုမိန့်အမှတ် ရကတ- ၂၁၁/၂၀၁၉ ၂၀၁၉ ခုနှစ် ဇွန် လ ၂၁ ရက်

ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှု ကော်မတီသည် မြန်မာနိုင်ငံ ရင်းနှီးမြှုပ်နှံမှု ဥပဒေ ပုဒ်မ-၂၅ အရ ဤအတည်ပြုမိန့်ကိုထုတ်ပေးလိုက်သည် -

(၁) ရင်းနှီးမြှုပ်နှံသူအမည် MR. LEUNG YU KE JACKIE

(၂) နိုင်ငံသား CHINESE

(၃) နေရပ်လိပ်စာ FLAT 17B, BLOCK-3, 18 PIK TIN STREET , GRANVILLE GARDEN, TAI WAI , N.T. HONG KONG

(၄) ပင်မအဖွဲ့အစည်းအမည်နှင့်လိပ်စာ TWINKLE LEATHERWEAR HOLDING (B.V.I) CO., LTD, EAST ASIA CHAMBERS.PO.BOX 901,THE OFFICES OF EAST ASIA CORPORATE SERVICES (B.V.I) LIMITED, ROAD TOWN, TORTOLA, BRITISH VIRGIN ISLANDS

(၅) ဖွဲ့စည်းရာအရပ် BRITISH VIRGIN ISLANDS

(၆) ရင်းနှီးမြှုပ်နှံသည့်လုပ်ငန်းအမျိုးအစား CMP စနစ်ဖြင့် အိတ်အမျိုးမျိုး ထုတ်လုပ်ခြင်း လုပ်ငန်း

(၇) ရင်းနှီးမြှုပ်နှံသည့်အရပ်ဒေသ(များ) မြေကွက်အမှတ်- (၁၆၇၁၆၆) ၊ မြေတိုင်း ရပ်ကွက်အမှတ် - ၄၉ ၊ ဝါးတစ်ရာ စက်မှုဇုန် ၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်း ဒေသကြီး

(၈) နိုင်ငံခြားမတည်ငွေရင်း ပမာဏ အမေရိကန်ဒေါ်လာ ၄.၀၀၉ သန်း

(၉) နိုင်ငံခြားမတည်ငွေရင်းယူဆောင်လာရမည့်ကာလ အတည်ပြုမိန့် ရရှိသည့် နေ့မှ ၁ နှစ် အတွင်း

(၁၀) စုစုပေါင်း မတည်ငွေရင်းပမာဏ(ကျပ်) အမေရိကန်ဒေါ်လာ ၄.၀၀၉ သန်းနှင့် ညီမျှသော မြန်မာကျပ်ငွေ

(၁၁) တည်ဆောက်မှု/ ပြင်ဆင်မှုကာလ ၁ နှစ်

(၁၂) အတည်ပြုမိန့်သက်တမ်း ၂၅ နှစ်

(၁၃) ရင်းနှီးမြှုပ်နှံမှုပုံစံ ရာခိုင်နှုန်းပြည့် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု

(၁၄) မြန်မာနိုင်ငံတွင်ဖွဲ့စည်းမည့်ကုမ္ပဏီအမည် TWINKLE (MYANMAR) COMPANY LIMITED

YRIC2112019

(ဖြိုးမင်းသိန်း)

ဥက္ကဋ္ဌ

Form (5-B)

THE REPUBLIC OF THE UNION OF MYANMAR

Yangon Region Investment Committee

ENDORSEMENT

Endorsement No. YGN – 211/2019 Date 21 June 2019

This endorsement is issued by Yangon Region Investment Committee according to the section 25 of the Myanmar Investment Law–

(1) Name of Investor MR. LEUNG YU KE JACKIE

(2) Citizenship CHINESE

(3) Residence Address FLAT 17B, BLOCK-3, 18 PIK TIN STREET , GRANVILLE GARDEN, TAI WAI , N.T. HONG KONG

(4) Name and Address of Principle TWINKLE LEATHERWEAR HOLDING (B.V.I) CO., LTD, EAST ASIA CHAMBERS.PO.BOX 901,THE OFFICES OF EAST ASIA CORPORATE SERVICES (B.V.I) LIMITED, ROAD TOWN, TORTOLA, BRITISH VIRGIN ISLANDS

(5) Place of Incorporation BRITISH VIRGIN ISLANDS

(6) Type of business MANUFACTURING OF VARIOUS KINDS OF BAGS ON CMP BASIS

(7) Place(s) of investment Project PLOT NO – (167,168) , MYAY TAING BLOCK NO – 49, WAR TA YAR INDUSTRIAL ZONE , SHWE PYI THAR TOWNSHIP, YANGON REGION

(8) Amount of Foreign Capital US$ 4.089 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$ 4.089 MILLION

(11) Construction/ Preparation Period ONE YEAR

(12) Validity of Endorsement 25 YEARS

(13) Form of Investment WHOLLY FOREIGN OWNED

(14) Name of Company Incorporated in Myanmar TWINKLE (MYANMAR) COMPANY LIMITED

YRIC2112019

21/6/2019

(Phyo Min Thein)

Chairman

Confidential

Republic of the Union of Myanmar ★ Yangon Region Investment Committee ★
No. 454-i
Date 21.6.19

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

Fax: 01- 658264

Our ref: YRIC -1 /E- 211/2019(454-i)

Date : 21 June 2019

Subject: **Decision of the Yangon Region Investment Committee on the Endorsement for Manufacturing of Various Kinds of Bags on CMP basis under the name of Twinkle (Myanmar)Company Limited**

Reference: Twinkle (Myanmar)Company Limited's letter date 10th June 2019

1. The Yangon Region Investment Committee, at its meeting (9/2019) held on 12th June 2019, approved the Endorsement for investment in Manufacturing of Various Kinds of Bags on CMP basis under the name of Twinkle (Myanmar) Company Limited submitted by Twinkle Leatherwear Holding (B.V.I) Co., Ltd (100%) 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 stated in the following paragraphs:

(a) The term of an Endorsed project shall be twenty-five (25) years commencing from the date of the issuance of the Endorsement by the Yangon Region Investment Committee.

(b) The term of the Lease Agreement for land and building shall be initial five (5) years and extendable for two times for ten (10) years commencing from the date of signing of the Lease Agreement between U Tin Maung Thein, U Tin Maung Zaw, U Tin Maung Myint, Daw Than Than Aye (Lessor) and Twinkle (Myanmar) Company Limited (Lessee).

Confidential

(c) The annual rent for the land and building shall be USD 226476.00 (United States Dollar two hundred and twenty-six thousand, four hundred and seventy-six only) calculated at the rate of USD 12.166 per square meter per year measuring of the total area of 18615.5 square meters (4.6 acres) out of 9.279 acres.

(d) Twinkle (Myanmar) Company Limited may submit the 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) Twinkle (Myanmar) Company Limited shall use its best efforts to achieve a timely realization of the work stated in the Endorsement application.

(f) Twinkle (Myanmar) 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) Twinkle (Myanmar) Company Limited shall carry out 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) Twinkle (Myanmar) Company Limited shall submit to the Myanmar Investment Commission any 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.

(i) Twinkle (Myanmar) Company Limited shall have to abide by the Fire Services Department's rules, regulations, directives and instructions Moreover, fire prevention measure shall have to be undertaken such as water storage tank, fire hooks, sand bags, fire extinguishers and provide training to use the fire fighting equipment and also to appoint fire safety officer.

(j) Twinkle (Myanmar) Company Limited, which has benefitted from the Endorsement or enjoyment of exemptions or reliefs, shall submit an annual report in the prescribed form to the Myanmar Investment Commission within three (3) months at 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) Twinkle (Myanmar) 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.

3. Twinkle (Myanmar) Company Limited shall carry out in accordance with the stipulations of the relevant Union Ministries, governmental department and governmental organizations to obtain license, permit or registration as per section 65(d) of Myanmar Investment Law.

4. Twinkle (Myanmar) Company Limited shall submit five (5) copies of all approvals, licences, permits and similar authorizations relevant to the initial implementation of the investment and the Lease Agreement for land and building to the Yangon Region Investment Committee.

24/6/2019

(Phyo Min Thein)

Chairman

Twinkle (Myanmar) Company Limited

cc: 1. The Office of the Union Government

2. Office of the Government of the Republic of the Union of Myanmar

3. Ministry of Home Affairs

4. Office of the Myanmar Investment Commission

5. Ministry of Natural Resources and Environmental Conservation

6. Ministry of Labour, Immigration and Population

7. Ministry of Industry
8. Ministry of Commerce
9. Ministry of Planning and Finance
10. Ministry of Investment and Foreign Economic Relations
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
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

APPENDIX B
ENVIRONMENTAL QUALITY MONITORING RESULTS

Ambient Air Quality

MYANWEI ENVIRONMENTAL SOLUTIONS
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)9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	TWINKLE (MYANMAR) COMPANY LIMITED.
Project Location:	Land Plot No. (167,168), Myay Taing Block No. 49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region.
Sampling Date:	29 October, 2019
Sampling Time:	11:00 am to 5:00 pm
Sampling Condition:	-
Sampling By:	Myanwei Environmental Solutions Company Limited.

Instrument	Type	Sampling Rate	Location
OCEANUS-AQM-09	PM, NO_2, SO_2, CO Detector	0-999.9 (µg/M^3)	Operation Area (Outdoor + Indoor)

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)
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

Location	GPS Value	Parameters	Observed Value	Unit	Guideline Value
Outdoor Area					
Production Area	16°58'45.85"N 96°03'22.24"E	PM10	57.75	µg/m3	50
		PM2.5	24.97	µg/m3	25
		SO_2	87.8	µg/m3	500
		NO_2	52.91	µg/m3	200
		CO	9.2	µg/m3	35

Location	GPS Value	Parameters	Observed Value	Unit	Guideline Value
Indoor Air Quality	16°58'45.22"N 96°03'20.97"E	PM10 PM2.5	47.21 21.79	µg/m3 µg/m3	50 25

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Noise Quality

MYANWEI ENVIRONMENTAL SOLUTIONS

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)9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	TWINKLE (MYANMAR) COMPANY LIMITED.
Project Location:	Land Plot No. (167,168), Myay Taing Block No. 49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region.
Sampling Date:	29 October, 2019
Sampling Time:	11:00 am To 5:00 pm
Sampling Condition:	-
Sampling By:	Myanwei Environmental Solutions Company Limited.

Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30 -130 dB	16°58'44.75"N 96°03'22.53"E

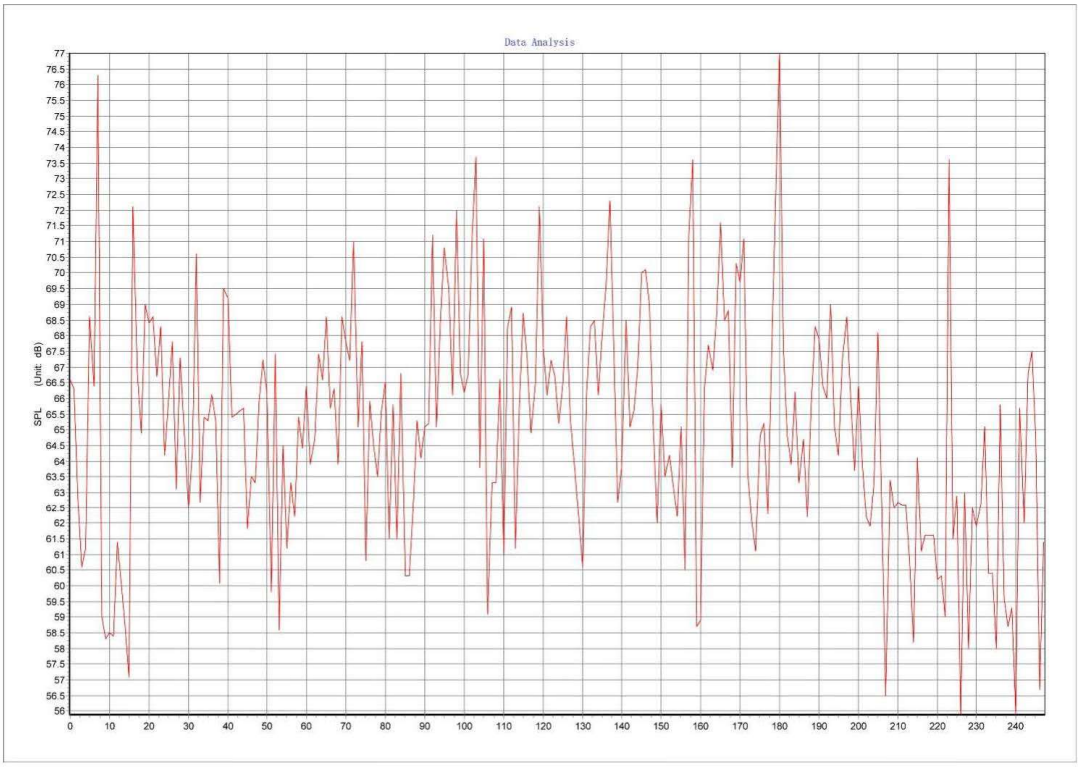
No	Place	Unit	Result	Standard	Remark
1	Operation Area	dBA	68.07	70 dBA	Normal

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



Light Quality Result

MYANWEI ENVIRONMENTAL SOLUTIONS
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)9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting.com

Project Name:	TWINKLE (MYANMAR) COMPANY LIMITED.
Project Location:	Land Plot No. (167,168), Myay Taing Block No. 49, War Ta Yar Industrial Zone, Shwe Pyi Thar Township, Yangon Region.
Sampling Date:	29 October, 2019
Sampling Time:	1:00 pm to 5:00 pm
Sampling Condition:	-
Sampling By:	Myanwei Environmental Solutions Company Limited.

Instrument	Type	Sampling Rate	Location
Uni-T (Luminometer)	UT380 Series	100 times/second	16°58'44.75"N 96°03'22.53"E

No	Measure area	Unit	Result	Standard	Remark
1	Cutting Section	Lux	769	1000	Below
2	Sewing Section	Lux	856	400	Above

IESNA Lighting Handbook

Area / Task / Process	Illuminance levels (lux)
Exterior calculating, walkways, stores, main entrances and exit roads, car parking, internal factory roads, etc.	20-50
Boiler house, transformer yards, furnace rooms, entrances, corridors, stairs, etc.	70-100
Calculation area in industry, stores, stock rooms and canteen.	100-150
Coarse Work	200-300
Medium work	300-500
Fine Work	500-1500
Very fine minute and precise work	1500-3000

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 HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Water Quality Result

ISO TECH LABORATORY

ISO 9001:2015 Cert. No.688283

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

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

W0622 360

WATER QUALITY TEST RESULTS FORM

Client: Twinkle (Myanmar) Co.,Ltd.
Nature of Water: RO Water
Location: Plot No. (167 / 168), Myay Taing Block No.49, Shwe Pyi Thar Township.
Date and Time of collection: 13.6.2022
Date and Time of arrival at Laboratory: 13.6.2022
Date and Time of commencing examination: 14.6.2022
Date and Time of completing: 16.6.2022

Results of Water Analysis			WHO Drinking Water Guideline (Geneva - 1993)
pH	7.1		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	Nil	NTU	5 NTU
Conductivity	88	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	20	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)	20	mg/l as $CaCO_3$	
Iron	0.05	mg/l	0.3 mg/l
Chloride (as CL)	24	mg/l	250 mg/l
Sodium Chloride (as NaCL)	40	mg/l	
Sulphate (as SO_4)	Nil	mg/l	500 mg/l
Total Solids	45	mg/l	1500 mg/l
Total Suspended Solids	1	mg/l	
Total Dissolved Solids	44	mg/l	1000 mg/l
Manganese	Nil	mg/l	0.05 mg/l
Phosphate	Nil	mg/l	
Phenolphthalein Acidity	2	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
Signature:
Name: Zaw Hein
B.Sc (Chemistry)
Sr.Chemist
ISO Tech Laboratory

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

(a division of WEG Co.,Ltd.)
No.18. Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar.
Ph: 01-640955, 09-880100172, 09-880100173, 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

APPENDIX C
Fire Safety Certificate and Land Use Permit

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်

ပြည်ထဲရေးဝန်ကြီးဌာန

မီးသတ်ဦးစီးဌာန

ပြည်ထဲရေးဝန်ကြီးဌာန
စာအမှတ်
ရက်စွဲ
မီးသတ်ဦးစီးဌာန

မီးဘေးလုံခြုံရေးစစ်ဆေးထောက်ခံချက်

အမှတ်စဉ်(၂၃၁၃)

ရက်စွဲ၊ ၂၀၁၉ ခုနှစ်၊ နိုဝင်ဘာလ ၂၀ ရက်

ရန်ကုန် တိုင်းဒေသကြီး/ပြည်နယ်၊ ရွှေပြည်သာ မြို့နယ်၊ ဝါးတစ်ရာစက်မှုဇုန် ရပ်ကွက်/ကျေးရွာ၊ မဟာမြိုင် လမ်း၊ အမှတ် (၁၆၇၊ ၁၆၈)၊ ပိုင်ရှင်ဦး/ဒေါ် ဦးတင်မောင်သိန်း+(၃)ဦး ၏ Steel Structure(၁½)ထပ်(၂)လုံး(ကျောပိုးအိတ်စက်ရုံ)+RCC(၂)ထပ်(Hostel)+RCC(၁)ထပ်(Office)+RCC(၁)ထပ်(Canteen)+RCC(၁)ထပ်(Generator) အဆောက်အဦအတွက်ဤဌာန၏(၇-၈-၂၀၁၈)ရက်စွဲပါ စာအမှတ်၊ ၆၃၄၊၆၄၀ / ၁၀၀ / ၅၂ / ဦး ၁ ဖြင့်သတ်မှတ်ပေးထားသည့်မီးဘေးလုံခြုံရေးဆိုင်ရာ ပြဋ္ဌာန်းချက်များအား(၅-၁၀-၂၀၁၉)ရက်နေ့တွင် စစ်ဆေးသည့်အခါပြည့်စုံစွာဆောင်ရွက်ထားကြောင်းစစ်ဆေးတွေ့ရှိရသည်။

၂။ ဤထောက်ခံချက်သည် စစ်ဆေးသည့်နေ့မှစ၍ (၃)နှစ်အထိသာ အကျုံးဝင်သည်။

၃။ ထို့ပြင် မီးသတ်ဦးစီးဌာနမှ အခါအားလျော်စွာ ထပ်မံစစ်ဆေးချိန်တွင် မီးဘေးလုံခြုံရေးဆိုင်ရာ ပြဋ္ဌာန်းချက်များကို လိုက်နာဆောင်ရွက်ခြင်းမရှိပါက ဤထောက်ခံချက်ကို ပြန်လည်ရုတ်သိမ်းသွားမည်ဖြစ်ပြီး အဆောက်အဦအားအသုံးပြုသူ(သို့မဟုတ်)ပိုင်ရှင်သည် မြန်မာနိုင်ငံမီးသတ်တပ်ဖွဲ့ ဥပဒေအရ အရေးယူခြင်းခံရမည်။

မှတ်ချက်။ ဤထောက်ခံချက်အား လွှဲပြောင်းသုံးစွဲခြင်းမပြုရ။ အဆောက်အဦအား မူလရည်ရွယ်ချက်မှ ပြောင်းလဲအသုံးပြုပါက ထောက်ခံချက်အသစ် ထပ်မံလျှောက်ထားရမည်။

၂၀-၁၁-၁၉

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
(သိန်းထွန်းဦး ၊ ညွှန်ကြားရေးမှူး)

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်
ပြည်ထဲရေးဝန်ကြီးဌာန
မီးသတ်ဦးစီးဌာန

စာအမှတ်၊ ၁၆၂၂/ ၁၀၀ / ၅၅ / ဦး ၁
ရ က် စွဲ ၊ ၂၀၁၉ ခုနှစ်၊နိုဝင်ဘာလ ၂၀ ရက်

ဦးတင်မောင်သိန်း+(၃)ဦး
အမှတ်(၁၆၇၊၁၆၈)၊မဟာမြိုင်လမ်း၊
ဝါးတစ်ရာစက်မှုဇုန်၊ရွှေပြည်သာမြို့နယ်

အကြောင်းအရာ။ **ဆောက်လုပ်ပြီးသော အဆောက်အဦအတွက် မီးဘေးလုံခြုံရေးစစ်ဆေး ထောက်ခံချက် (Fire Safety Certificate)ထုတ်ပေးခြင်း**

ရည် ညွှန်း ချက်။ (၁) မီးသတ်ဦးစီးဌာန၏(၇.၈.၂၀၁၈)ရက်စွဲပါစာအမှတ်၊၆၃၄၊၆၄၀/၁၀၀/၅၂/ ဦး၁
(၂) သက်ဆိုင်သူ၏(၂၉.၈.၂၀၁၉)ရက်စွဲပါလျှောက်လွှာ

ရန်ကုန်တိုင်းဒေသကြီးရွှေပြည်သာမြို့နယ်၊ ဝါးတစ်ရာစက်မှုဇုန်၊ မဟာမြိုင်လမ်း၊ အမှတ်(၁၆၇၊၁၆၈)တွင်ဦးတင်မောင်သိန်း+(၃)ဦးအမည်ဖြင့်Steel Structure(၁°/၂)ထပ်(၂)လုံး (ကျောပိုးအိတ်စက်ရုံ)+RCC(၂)ထပ်(Hostel)+RCC(၁)ထပ်(Office)၊ RCC(၁)ထပ်၊ (Canteen) RCC (၁)ထပ် (Generator) အဆောက်အဦ မီးဘေးလုံခြုံရေးဆောင်ရွက်ထားရှိမှုနှင့် စပ်လျဉ်း၍ဤဌာန၏ရည်ညွှန်းချက်(၁)ပါ အကြံပြုချက်(၁၂)ချက်စီကို လိုက်နာဆောင်ရွက်မှုရှိကြောင်းစစ်ဆေးတွေ့ရှိသည့်အတွက် မီးဘေးလုံခြုံရေး စစ်ဆေးထောက်ခံချက်(Fire Safety Certificate)ကိုထုတ်ပေးလိုက်ပါသည်။

ညွှန်ကြားရေးမှူးချုပ်(ကိုယ်စား)
(သိန်းထွန်းဦး ၊ ညွှန်ကြားရေးမှူး)

မိတ္တူကို
ရန်ကုန်တိုင်းဒေသကြီးမီးသတ်ဦးစီးမှူးရုံး၊
မြောက်ပိုင်းခရိုင်မီးသတ်ဦးစီးမှူးရုံး၊အင်းစိန်မြို့နယ်၊
မြို့နယ်မီးသတ်ဦးစီးမှူးရုံး၊ရွှေပြည်သာမြို့နယ်၊
မျှော်စာတွဲ၊
လက်ခံစာတွဲ။

BCC(2018)641

Land Use Permit

၇-၆-၂၀၁၁
=၁၀၀၂၅/-
၂၀၁၁-၂၀၁၂ (ဒုတိယအကြိမ်)

ပြည်ထောင်စုမြန်မာနိုင်ငံတော်အစိုးရ
ဆောက်လုပ်ရေးဝန်ကြီးဌာန
မြို့ပြနှင့်အိုးအိမ်ဖွံ့ဖြိုးရေးဦးစီးဌာန **မူရင်း**
ရန်ကုန်မြို့

"စက်မှုလက်မှုလုပ်ငန်းအတွက် မြေအသုံးပြုခွင့်"

တဆင့်လွှဲပြောင်း/ရောင်းချ/ပေါင်နှံ/ပေးကမ်းခွင့်မရှိရ

၁။ ဦး တင် မောင် သိန်း

ရန်ကုန်မြို့ ဦး ထွန်း အောင် ၏ သား ၂။ ဦး တင် မောင် ဇော်

အမျိုးသားမှတ်ပုံတင်အမှတ် ၁၂/လမတ(နိုင်)၀၀၇၂၁၆ သမီး ဒေါ်မြင့်သ ... အား ... မြို့

မြေတိုင်းရပ်ကွက်အမှတ် ၁၂/လမတ(နိုင်)၀၂၆၀၀၃ (၅၉) စရိယာခန့်မှန်းခြေ ၆.၂၇၆ ဧက

မြေကွက်အမှတ် ၁၆၅၊၁၆၆၊၁၆၇၊၁၆၈ မြေ (၁) ကွက်ကို အ ထွေ ထွေ စက် မှု

လုပ်ငန်းအတွက် အဆောက်အအုံဆောက်လုပ် အသုံးပြုရန် အောက်ပါစည်းကမ်း ချက်များဖြင့် ဖူးတွဲပါမြေပုံအရ ၂၀၁၁ ခုနှစ် စက်တင်ဘာ လ (၁၆) ရက်နေ့မှစ၍ ခွင့်ပြုလိုက်သည်။

စက်မှုလက်မှုလုပ်ငန်း

(၁) အ ထွေ ထွေ စက် မှု လုပ်ငန်းအတွက် အသုံးပြုခွင့်ရသော မြေကွက်တွင် မြေလက်ခံရရှိပြီးသည့်နေ့မှ (၃) လအတွင်း အဆောက်အဦး စတင်ဆောက်လုပ်အသုံးပြုရမည်။

(၂) စက်မှုလက်မှုမြေကွက်အတွင်း အ ထွေ ထွေ စက် မှု အဆောက်အဦးမှတပါး ခွင့်ပြုထားသူ၏ ကြိုတင်ခွင့်မရှိဘဲ အခြားလူနေအိမ် စသည်များကို ဆောက်လုပ်ခွင့်မပြုရ။

(၃) စက်မှုလက်မှုမြေအတွင်း စက်မှုလုပ်ငန်းမှတပါး အခြားလုပ်ငန်းများအတွက် အသုံးမပြုရ။

(၄) စက်မှုလက်မှုမြေကွက်ရသူသည် မြေကွက်ကိုခွဲစိတ်ခြင်း၊ တဆင့်လွှဲပြောင်း/ရောင်းချ/ပေါင်နှံ/ပေးကမ်းခြင်း လုံးဝမပြုလုပ်ရ။

(၅) သုံးလပတ်ကျသင့်မြေငှားခ ငွေ (၁၀၁၂၅/) တိတိ ကို ကြိုတင်ပေးဆောင်ရမည်။

(၆) စက်မှုလက်မှုမြေကွက်ရသူသည် သတ်မှတ်ထားသော မြေခွန်မြေခများကို မှန်ကန်စွာပေးဆောင်ရမည့်အပြင် အခြားအခါအားလျော်စွာ သတ်မှတ်ထားသော စည်းကမ်းများကို လိုက်နာရမည်။

(၇) စက်မှုလက်မှုလုပ်ငန်း အဆောက်အဦးဆောက်လုပ်ခွင့်ပြုသော သက်တမ်းသည် ၂၀၁၄ ခုနှစ် စက်တင်ဘာ လ (၁၅) ရက်နေ့တွင် ကုန်ဆုံးမည်။ အသုံးပြုခွင့်ကာလ ကုန်ဆုံးသောအခါ အမြဲတမ်းဆက်လက်အသုံးပြုခွင့် ရလိုပါက မြေငှားစာချုပ် လျှောက်ထားနိုင်ခွင့်ရှိသည်။

၃။ ဦး တင် မောင်မြင့်၊ ၁၂/လမတ(နိုင်)၀၂၀၆၀၃(ဘ) ဦး ထွန်း အောင်
၄။ ဒေါ်သန်း သန်း အေး၊ ၁၂/လမတ(နိုင်)၀၀၇၂၆၆(ဘ) ဦး ထွန်း အောင်

ရှုရင်း

(၈) စက်မှုလက်မှု အသုံးပြုခွင့်ရသူသည် သတ်မှတ်ထားသော စည်းကမ်းများကို လိုက်နာရန် ပျက်ကွက်ပါက ခွင့်ပြုထားသော မြေကွက်ကို ဆောက်လုပ်ထားသော အဆောက်အဦနှင့်တကွ မြို့ရွာနှင့်အိုးအိမ်ဖွံ့ဖြိုးရေးဦးစီးဌာနမှ ပြန်လည်သိမ်းယူနိုင်ခွင့်ရှိသည်။

(၉) စက်မှုလက်မှု အလုပ်ရုံများ မဆောက်လုပ်မီ စနစ်တကျရှိစေရန် အဆောက်အဦ ပုံစံနှင့် မြေကွက်ပေါ်တွင် အဆောက်အဦအနေအထားပြ ပုံစံတို့ကို ရန်ကုန်မြို့တော်စည်ပင်သာယာရေးကော်မတီ၏ အတည်ပြုချက်ကို ရယူရမည်။

(၁၀) စက်မှုလက်မှုမြေကွက်များတွင် အောက်ပါအတိုင်းချန်လှပ်၍ အဆောက်အဦ ဆောက်လုပ်ရမည် -

(က)	အလျား × အနံ	--------------	၁၅၀ ပေ × ၁၀၀ ပေရှိ မြေကွက်တွင်
	မျက်နှာစာ	--------------	၂၅ ပေ
	နောက်ဖေး	--------------	၇ ပေ
	ဘေးဘက်	--------------	၈ ပေ
(ခ)	အလျား × အနံ	--------------	၆၀ ပေ × ၄၀ ပေရှိ မြေကွက်တွင်
	မျက်နှာစာ	--------------	၉ ပေ
	နောက်ဖေး	--------------	၇ ပေ
	ဘေးဘက်	--------------	၄ ပေ

စက်ရုံအဆောက်အဦးမဆောက်လုပ်ပါက ... မြေ ... ပြန်လည်သိမ်းယူမည်။

ညွှန်ကြားရေးမှူးချုပ် (ကိုယ်စား)
(ဟန်ချိုဦး - ဒုတိယညွှန်ကြားရေးမှူး)
မြေနှင့်အခွန်ဌာနခွဲ

<u>မြေအသုံးပြုခွင့်ရသူ၏ လက်မှတ်</u>

စာအမှတ်၊ ၁ နပတ / မခ / မအခ / ဂုပသ (စက်မှုဇုန်) [illegible] / ဘိုင်စင် / ၄၀ / ၂၀၀ ([illegible])
ရက်စွဲ ၊ ၂၀၁၁ ခုနှစ် [illegible] လ ([illegible]) ရက်

APPENDIX D
Power Point Presentation Slides

WELLGREEN OUTDOOR (MYANMAR) COMPANY LIMITED ၏ CMP
စနစ်ဖြင့်
အိတ် အမျိုးမျိုးချုပ်လုပ်ခြင်းလုပ်ငန်း

ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်မှု အစီရင်ခံစာ (မူကြမ်း) အတွက်
သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးပွဲ အခမ်းအနား။

မေလ၊ ၂၀၂၁ ခုနှစ်။
Preparaed By
Myanwei Environmental Solutions Co., Ltd

အစည်းအဝေး အကြောင်းအရာ

၁။ WELLGREEN OUTDOOR (MYANMAR) COMPANY LIMITED အား မိတ်ဆက်ခြင်း
၂။ ကနဦးပတ်ဝန်းကျင်ဆန်းစစ်မှု အစီအစဉ်အား မိတ်ဆက်ခြင်း
၃။ သက်ရောက်မှုဆန်းစစ်ခြင်း ရလဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ
၄။ ပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှုများနှင့် ဖြေလျှော့ရေးနည်းလမ်းများ
၅။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် နှင့်
၆။ စက်ရုံ၏ဆောင်ရွက်ချက်များ

WELLGREEN OUTDOOR (MYANMAR) COMPANY LIMITED စက်ရုံပြင်ပအဆောက်အဦးပုံစံ

GT INDUSTRIAL (MYANMAR) COMPANY LIMITED

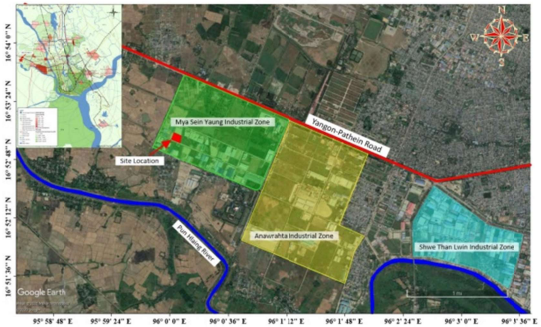
လုပ်ငန်းအမျိုးအစား	CMP စနစ်ဖြင့် အိတ် အမျိုးမျိုးချုပ်လုပ်ခြင်းလုပ်ငန်း။
ခွင့်ပြုမိန့်အမှတ်	(ခွင့်ပြုမိန့်အမှတ်- ရကတ-၂၉၁/၂၀၁၉)၂၀၁၉ ခုနှစ်၊ နိုဝင်ဘာလ။
ရင်းနှီးမြှုပ်နှံမှု	၁၀၀ ရာခိုင်နှုန်း နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု။
မြေဧရိယာ	မြေဧရိယာစုစုပေါင်း- ၄.၁၄၁ ဧက (၁၆,၇၅၈.၀၃၂ စတုရန်း မီတာ)
အဆောက်အအုံ	(၁၉၆.၁ ပေ x ၁၁၈.၁ ပေ) တစ်ထပ်အဆောက်အဦးတစ်လုံး။ (၁၂၀ ပေ x ၂၀၀ ပေ x ၃၇ ပေ) တစ်ထပ်အဆောက်အဦးတစ်လုံး။
ရင်းနှီးမြှုပ်နှံသည့်ကာလ	နှစ် ၂၆ ရင်းနှီးမြှုပ်နှံမှု။
စက်ရုံလိပ်စာ	မြေကွက်အမှတ် (အေ-၆)၊ မြေတိုင်းရပ်ကွက်အမှတ်-၂၁၊ မြစိမ်းရောင်စက်မှုဇုန်၊ လှိုင်သာယာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး။

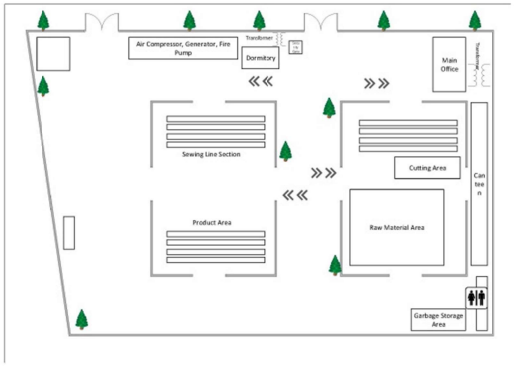
1

လုပ်ငန်းလည်ပတ်ရန်အခြေခံလိုအပ်ချက်များ

ရေအသုံးပြုမှုအခြေအနေ	
ရေအရင်းအမြစ်	အဝီစိတွင်းရေ (၃ တွင်း)
အဓိကလိုအပ်ချက်	
ခန့်အပ်မည့်လုပ်သားဦးရေ	၂၆၂ ဦး
အဓိကကုန်ကြမ်း	ပိတ်လိပ်အမျိုးမျိုး၊ လေဘယ်၊ သားရေကြိုး၊ ဇစ်အမျိုးမျိုး နှင့် ဆက်စပ်ပစ္စည်းများ။
နှစ်စဉ်ထွက်ကုန်ပစ္စည်းပမာဏ	နှစ်စဉ် ပျမ်းမျှထုတ်ကုန်အရေအတွက် သိန်းငါးဆယ်ကျော်။

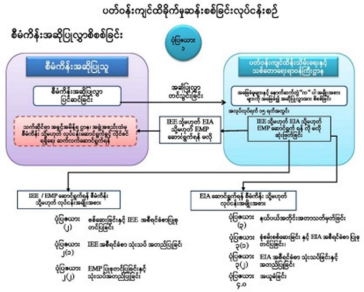
WELLGREEN OUTDOOR (MYANMAR) COMPANY LIMITED ၏စီမံကိန်းတည်နေရာ



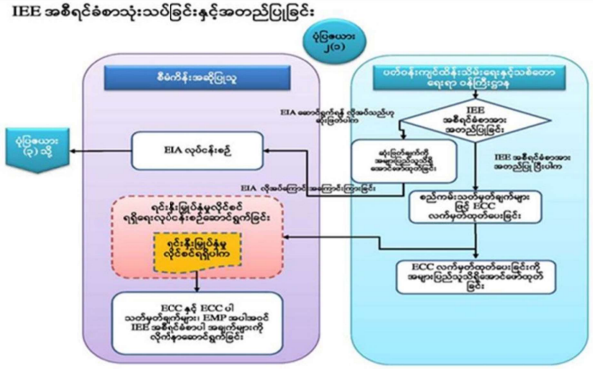


ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု လုပ်ငန်းအား မိတ်ဆက်ခြင်း

ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု လုပ်ငန်းစဉ်



IEE အစီရင်ခံစာသုံးသပ်ခြင်းနှင့်အတည်ပြုခြင်း



ရန်ကုန်တိုင်းဒေသကြီးရင်းနှီးမြှုပ်နှံမှုကော်မတီအတည်ပြုမိန့်

ပတ်ဝန်းကျင်သဘောထားမှတ်ချက်

သက်ရောက်မှုဆန်းစစ်ခြင်းရလာဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ

စီမံကိန်းပတ်ဝန်းကျင်အနေအထား

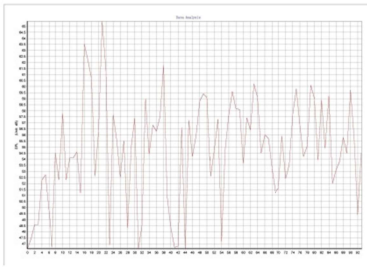
စဉ်	အကြောင်းအရာ	ဖော်ပြချက်
၁။	ကိုဩဒိနိတ်အမှတ်	မြောက်လတ္တီကျူ ၁၆°၅၂′၄၁.၀၂″နှင့် အရှေ့လောင်ဂျီကျူ ၉၅°၅၉′၅၉.၂၅″
၂။	ရာသီဥတုအခြေအနေ	ရန်ကုန်တိုင်းဒေသကြီး နှစ်စဉ်ပျမ်းမျှအပြင်ဆုံးအပူချိန် ၄၁°C၊ အနိမ့်ဆုံးအပူအချိန် ၂၆°C
၃။	စက်ရုံနေရာတွင်မြေအသုံးချမှု	စက်မှုလုပ်ငန်းနှင့်သက်ဆိုင်သောမြေအသုံးချမှုပုံစံ (စက်မှုရုန်)
၄။	လမ်းပန်းဆက်သွယ်ရေး	ရန်ကုန်-ပုသိမ် ကားလမ်း
၅။	သစ်တောဧရိယာ	မရှိ
၆။	ကန့်သတ်ကာကွယ်ထားသော ဧရိယာ	မရှိ
၇။	တိုင်းတာမှုရလဒ်	❑ ဆူညံသံ တိုင်းတာခြင်း ❑ လေထုအရည်အသွေး တိုင်းတာခြင်း ❑ အပူချိန် နှင့် စိုထိုင်းမှု အရည်အသွေး တိုင်းတာခြင်း ❑ ရေအရည်အသွေး

ဆူညံသံတိုင်းတာမှု

Date & Time	Location	GPS location	Noise Result	NEQ Guideline
16, December, 2020	Operation Area	16°52'41.02"N 95°59'59.25"E	54.74 dBA	70 dBA

အထက်ဖော်ပြပါ ဆူညံသံတိုင်းတာမှုရလဒ်များအရ
Wellgreen Outdoor (Myanmar) Company Limited.၏ဆူညံသံများမှာ National Environmental Quality (Emission) Guildline အတွင်းတည်ရှိနေသည်ကို ဆန်းစစ်တွေ့ရှိရပါသည်။


Wellgreen Outdoor (Myanmar) Company Limited ၏ဆူညံသံတိုင်းတာမှုပြ ဂရပ်



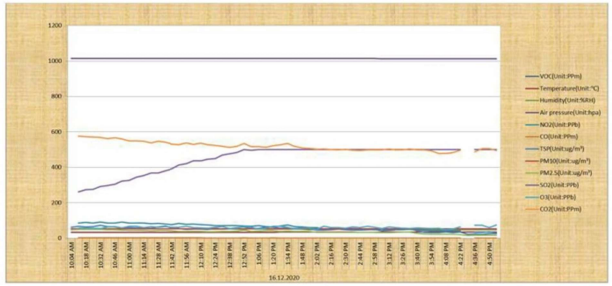
လေထုတိုင်းတာမှု

Parameters	Observed Value	Guideline Value	Unit	Organization	Period
PM_{10}	45.35	50	$\mu g/m^3$	NEQG	24 hrs
$PM_{2.5}$	32.18	25	$\mu g/m^3$	NEQG	24 hrs
SO_2	447.56	500	$\mu g/m^3$	NEQG	10 minutes
NO_2	63.53	200	$\mu g/m^3$	NEQG	1 hour


လေထုတိုင်းတာမှုမတ်တမ်းများ

စီမံကိန်းဇရိယာအတွင်းလေထုတိုင်းတာမှုပြဂရပ်

Air Quality Monitoring Graph

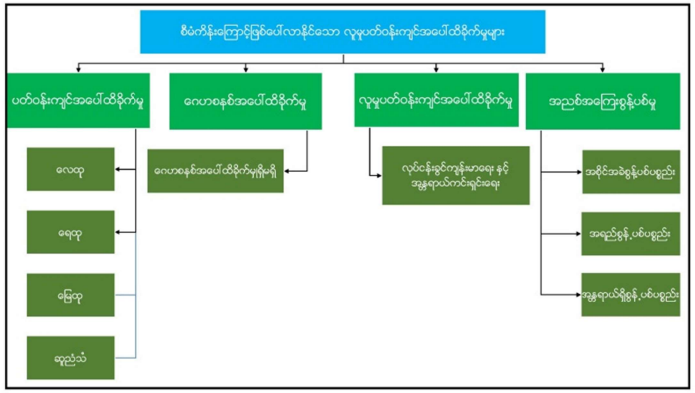


အလင်းရောင်တိုင်းတာမှု

No.	Location	Measure value (Lux)	Standard*	Remark
1	Warehouse Area	350	300	Above
2	Cutting	1120	1000	Above
3	Sewing & Attaching	1028	600	Above
4	QC Area	1292	900	Above
5	Packing Area	550	600	Below

စက်ရုံအတွင်းအလင်းရောင်တိုင်းတာမှုမှတ်တမ်းများ

ပတ်ဝန်းကျင်အပေါ်သက်ရောက်မှုများနှင့် ဖြေလျှော့ရေးနည်းလမ်းများ



သက်ရောက်မှု	စီမံကိန်းဆောင်ရွက်ချက်	လျှော့နည်းစေရန် အရေးယူဆောင်ရွက်မှု
စီမံကိန်းလည်ပတ်ချိန်		
လေထု	မီးစက်၊မော်တော်ယာဉ်များမှ မီးခိုးများထွက်ခြင်း။	မီးစက် အတွက် မီးခိုး ခေါင်းတိုင်အသုံးပြုစေခြင်း၊ မော်တော်ယာဉ်၊ မီးစက်များကို ပုံမှန် စစ်ဆေးခြင်း။
ဆူညံသံ	မီးစက်၊ အပ်ချုပ်စက်နှင့် မော်တော်ယာဉ် အသုံးပြုမှုတို့ကြောင့် ပတ်ဝန်းကျင်အပေါ် ဆူညံမှု	ဆူညံသံထွက်သောနေရာများကို အကာအကွယ်ဖြင့် ထားရှိခြင်း စက်ရုံဝန်ထမ်းများကို PPEအပြည့်စုံအထောက်ပံ့ပေးခြင်း
မီးဘေး	ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျှပ်စစ်သုံးစွဲ ဓါတ်လျှော့မှု	ကုန်ကြမ်းများအား သီးသန့်ထားရှိခြင်း လျှပ်စစ်သုံးစွဲမှုများအား စနစ်တကျ အသုံးပြုစေခြင်း
ကျန်းမာရေးစောင့်ရှောက်မှု	လုပ်ငန်းလည်ပတ်ခြင်းကြောင့် မတော်တဆထိခိုက်မှုဖြစ်ပေါ်ခြင်း။	အရေးပေါ်အခြေအနေများအတွက် ပစ္စည်းကိုင်တွယ်မှု သင်တန်းပေးခြင်း။ တစ်ကိုယ်ရေကာကွယ်သုံးပစ္စည်းများအသုံးပြုစေခြင်း
စွန့်ပစ်ပစ္စည်း (အစိုင်အခဲ၊ အရည်)	ထုတ်လုပ်ရာတွင်ကျန်ရှိသော ချည်မျှင်အပိုင်းအစများ။ နေအိမ်၊ စားသောက်ဆောင် တို့မှစွန့်ထုပ်ရေ၊ မိလ္လာကန်စနစ်	စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်ပြီး သီးခြားစွန့်ပစ်စေခြင်း စွန့်ပစ်အရည်များအားသီးခြားရေနုတ်မြောင်းတွေဖြင့်စွန့်ပစ်ခြင်း။
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်းများ	စက်များမှဆီယိုစိမ့်မှုများ၊ နိုင်လွန်ပိတ်စများ၊ တစ်ခြားမီးလောင်လွယ်သောအမှိုက်များ	စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း

သက်ရောက်မှု	စီမံကိန်းဆောင်ရွက်ချက်	လျှော့နည်းစေရန် အရေးယူဆောင်ရွက်မှု
စီမံကိန်းပိတ်သိမ်းချိန်		
လေထု	အဆောက်အဦးဖြိုချမှု၊ သယ်ယူမှုများ	လျှော့ချရန်မလိုပါ။
မြေထု	မြေပေါ်မြေအောက်အပေါ်သက်ရောက်မှုမရှိနိုင်ပါ	လျှော့ချရန်မလိုပါ။
ဆူညံသံ	ဆူညံသံများမဖြစ်ပေါ်နိုင်ပါ။	လျှော့ချရန်မလိုပါ။
လုပ်ငန်းခွင် ဘေးအန္တရာယ်	လုပ်ငန်းခွင်ဖျက်သိမ်းချိန်တွင် မတော်တဆမှုများဖြစ်ပေါ်နိုင်ခြင်း	လုပ်သားများကို တစ်ကိုယ်ရေ ကာကွယ်သုံး ပစ္စည်းများအသုံးပြုစေခြင်း။
စွန့်ပစ်ပစ္စည်း (အစိုင်အခဲ၊ အရည်)	စီမံကိန်းဖျက်သိမ်းရာမှ တည်ဆောက်ရေး ပစ္စည်း အကျိုးအပဲ့များထွက်ခြင်း၊ ကျန်ရှိနေသော မိလ္လာကန်များ၊	အမှိုက်များကို မြို့တော် စည်ပင်သာယာရေး ကော်မတီနှင့် ချိတ်ဆက်၍ စွန့်ပစ်ခြင်း
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်း၊	စက်ဆီ၊ ဒီဇယ်ပုံးအခွံများ	ဓာတုပစ္စည်းထည့်ထားသော ပုံးခွံများ၊ ဒီဇယ်ပုံးအခွံများကိုဆေးကြော၍ ပြန်လည်အသုံးပြုခြင်း၊ စနစ်တကျစွန့်ပစ်ခြင်း

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်

လေထုညစ်ညမ်းမှုလျှော့ချရေး

ရည်ရွယ်ချက်	**စီမံကိန်းကြောင့် စက်ရုံမှ ထွက်သော ဓာတ်ငွေ့များနှင့် မီးစက်များမှ ထွက်ရှိသော ဓာတ်ငွေ့များကြောင့် လေထုညစ်ညမ်းမှုကို လျှော့ချရန်**
လိုက်နာရမည့် စည်းကမ်း	**အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)**
စီမံခန့်ခွဲမှု အစီအစဉ်	▪ စက်ရုံအတွင်းနှင့် အနားဝန်းကျင်တွင် သစ်ပင်ပန်းမန်စိုက်ပျိုးခြင်း ▪ စက်ရုံအတွင်း မည်သည့်စွန့်ပစ်ပစ္စည်းများအား မီးရှို့ဖျက်စီးခြင်း မပြုလုပ်ခြင်း ▪ လုပ်သားများအား Personal Protective Equipment (PPE) ဟုခေါ်သော အကာအကွယ်ပစ္စည်းများဖြစ်သည့် လေကာ/နေကာမျက်မှန်များ၊ နှာခေါင်းစည်း၊ စသည်တို့အားထောက်ပံ့ခြင်း၊ အသိပညာပေး သင်တန်းများ ပေးခြင်း
တာဝန်ယူရမည့် ပုဂ္ဂိုလ်	▪ ပြုပြင်ထိန်းသိမ်းရေးအရာရှိ - လေထုညစ်ညမ်းမှုလျှော့ချရေးနည်းလမ်းများ ▪ ထုတ်လုပ်ရေးမန်နေဂျာ- လုပ်ငန်းခွင်လေထုသန့်ရှင်းရေး ▪ မန်နေဂျာ - ပတ်ဝန်းကျင်လေအရည်အသွေးတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

ဆူညံသံလျှော့ချရေး

ရည်ရွယ်ချက်	သေးငယ်သန်းကျင်ဆူညံမှုမြစ်ပေါ်ဖရန် နှင့် စက်ရုံရှိ ပီးစတ်နှင့် အခြားစက်ပစ္စည်းများ ကြောင့် လုပ်သားများအပေါ်ထိခိုက်မှု လျော့ချရန်
လိုက်နာရမည့် ဥပဒေများ	▪ **ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅)** ▪ **အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရေးအသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)**
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ ပီးစက်၊လေမှုတ်စက်တို့ကို ဆူညံသံထိန်းချုပ်နိုင်သော ဧန်းဒွဲ့စည်းမှုပုံစံ တည်ဆောက် ထားခြင်း ▪ လုပ်ငန်းသုံးယာဉ်များကိုဆူညံသံလျှော့ချရန်သတ်မှတ်အရှိန်ထက်ကျော်လွန်မမောင်းစေခြင်း ▪ လုပ်သားများအား Personal Protective Equipment (PPE) ဟုခေါ်သော အကာအကွယ်ပစ္စည်းများဖြစ်သည့် နားအကာကွယ်ရေးပစ္စည်းများ စသည်တို့အား ထောက်ပံ့ခြင်း။ အသိပညာပေး သင်တန်းများ ပေးခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ - ဆူညံသံတိုင်းတာရန် (ThirdParty) ခြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

အပိုင်အခဲစွန့်ပစ်မှု ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	စွန့်ပစ်အမှိုက်ထွက်မှိုလျော့ချရေးနှင့် စွန့်ပစ်အမှိုက်ကြောင့် ပတ်ဝန်းကျင်ညစ်ညမ်းမှုကို လျော့ချရန်
လိုက်နာရမည့်စည်းကမ်း	▪ **ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅)** ▪ National Waste Management Strategy and Action Plan (Draft 2018)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံမှ မည်သည့်စွန့်ပစ်ပစ္စည်းမှ မြစ်၊ ရောင်း၊ အင်း၊ အိုင် အတွင်းသို့ မစွန့်ပစ်ရ ▪ စက်ရုံတွင် စွန့်ပစ်ပစ္စည်းများကို မြန်လည်အသုံးပြုနိုင်သောပစ္စည်း(ဆိုးဆေး၊ စက္ကူစာ၊ ပလက်စတစ်၊ စသည်ဖြင့်) များကို မြည်တွင်းဝယ်ယူသူများထံ မြန်လည်ရောင်းချခြင်း ▪ စွန့်ပစ်ရန်ပစ္စည်း(လုပ်သားများမှစွန့်ပစ်ပစ္စည်းနှင့်ပီးဗိုရောင်ထွက်ပစ္စည်းများ)ကို မြို့တော်စည်ပင်သာယာရေးအဖွဲ့အစည်း ကို ဧနှစည်ခေါ်ယူပြီး သိမ်းဆည်းစေခြင်း ▪ အန္တရာယ်ရှိပစ္စည်း (စက်ဆီအဟောင်းများ၊ လျှပ်စစ်ပစ္စည်းအပျက်များ၊ သံထည်ပစ္စည်း) များကို ဝယ်ယူသူထံမှပြန်လည် သိမ်းဆည်းစေခြင်း ▪ စက်ရုံတွင် အမှိုက်စွန့်ပစ်ရန် အတွက် အမှိုက်ပုံးများကို စီမံထားခြင်း ▪ စက်ရုံဝန်းထဲအားလုံးကို စနစ်တကျ အမှိုက်စွန့်ပစ်ရန် တိုက်တွန်းနှိုးဆော်ထားခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	▪ မန်နေဂျာ - စက်ရုံအတွင်းသန့်ရှင်းရေးအတွက်စီမံခန့်ခွဲရန်တာဝန်ရှိသည် ▪ အမှိုက်စွန့်ပစ်မှု ပုံမှန်ပြုလုပ်ရန်နှင့် စွန့်ပစ်ပစ္စည်းသယ်ယူသူများကို ပုံမှန်ပြုလုပ်ရန် တာဝန်ယူဆောက်ရွက်ရန်

စွန့်ပစ်အရည် ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	မြေဖေါ်ရေးနှင့် မြေအောက်ရေ ညစ်ညမ်းမှုမဖြစ်စေရေး
လိုက်နာရမည့်စည်းကမ်း	▪ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅) ▪ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရေးအသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံရေဖြောင်းများနှင့်မိလ္လာစနစ်ကို စနစ်တကျ သန့်ရှင်းအောင်ထားရှိခြင်း လုံလောက်သည့်အတိုင်းအတာ ပမာဏရှိခြင်း ▪ မိလ္လာစနစ်ကို ပုံမှန်စစ်ဆေးပြီး လိုအပ်သကဲ့သို့ ထိန်းသိမ်းပြုပြင်ခြင်း ▪ စက်ရုံရေဖြောင်းအတွင်းတွင် ပိတ်ဆို့မှုမရှိစေရန်နှင့် အန့်ဆိုးများမထွက်စေရန်စီမံခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ - စွန့်ထုတ်ရေအရည်အသွေးကိုင်းတာရန် (ThirdParty) ခြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

စွမ်းအင်သုံးစွဲမှု ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	လျှပ်စစ်သုံးစွဲမှုလျော့ချစေရန်နှင့် လုပ်ငန်းခွင်အတွင်း လျှပ်စစ်သုံးစွဲမှုကြောင့် အန္တရာယ်မရှိစေရန်
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံတွင်း လျှပ်စစ်သုံးစွဲမှုများအတွက် စွမ်းအင်လျော့ချနိုင်သည့် စက်ကရိယာများဆာဝင်ဆင်ခြင်း ▪ အသုံးမပြုလျှင် စက်ကရိယာများပိတ်ဆင်ထားခြင်း ▪ စွမ်းအင်အသုံးနည်းသော Lighting စနစ်တပ်ဆင်ခြင်း ▪ စက်ပစ္စည်းနှင့် Lighting အသုံးပြုမှုကို စောင့်ကြည့်ထိန်းသိမ်းရေးစနစ်ထားရှိခြင်း (ဥပမာ- အသုံးမပြုပဲမီးဖွင့်ထားခြင်း၊ စက်ဖွင့်ထားခြင်းမျိုး မရှိစေရန်)
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ

မြေအောက်ရေသုံးစွဲမှု

ရည်ရွယ်ချက်	ရေသုံးစွဲမှုလျှော့ချရေး
လိုက်နာရမည့်စည်းကမ်း	The Underground Water Act (1930)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ ရေအသုံးပြုမှု သိရှိနိုင်သော မီတာတပ်ဆင်ခြင်း ▪ ဝန်ထမ်းများအားအသိပညာပေးခြင်းနှင့် လိုက်နာဆောင်ရွက်ရန် တိုက်တွန်းခြင်း ▪ စက်ရုံရှိတာဝန်ရှိပုဂ္ဂိုလ်များအား (Third Party) နေဖြင့်မြေအောက်ရေအကျိုးရှိရှိအသုံးချရန်စည်းကမ်းချက်နဲ့အညီ လမ်းညွှန်ထားခြင်း။
တာဝန်ယူရမည့် ပုဂ္ဂိုလ်	မန်နေဂျာ ▪ ရေ အသုံးပြုမှုစာရင်း စစ်ဆေးခြင်း ▪ ဝန်ထမ်းများလိုက်နာဆောင်ရွက်မှု စစ်ဆေးခြင်း

အရေးပေါ်အခြေအနေတုန့်ပြန်မှု

ရည်ရွယ်ချက်	**စက်ရုံတွင်းမတော်တဆထိခိုက်မှု လျော့ချရေး**
လိုက်နာရမည့်စည်းကမ်း	**အလုပ်အကိုင်နှင့် ကျွမ်းကျင်မှုဖွံ့ဖြိုးတိုးတက်ရေးဥပဒေ (၂၀၁၃), ILO guide to Myanmar Labour Law (2017)**
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ အရေးပေါ်အခြေအနေဖြစ်သော (မီး၊ ငလျင်၊ ရေကြီးရေလျှံမှု) တို့အတွက် စက်ရုံတွင် စီမံခန့်ခွဲမှုရှိခြင်း ▪ စက်ရုံ၏မီးသတ်စနစ်များကို ပုံမှန်စစ်ဆေးခြင်း ▪ ရေးဆွဲထားသော အရေးပေါ်တုန့်ပြန်ရေး အစီအစဉ်များကို ဝန်ထမ်းများ အကျွမ်းတဝင်ဖြစ်စေရန် စီမံထားခြင်း ▪ လောင်စာသိုလှောင်နေရာများ၊ လျှပ်စစ်ဖြန့်ဖြူးရေးနေရာများကို အဓိကထားပြီး စောင့်ကြည့်စစ်ဆေးခြင်း၊ ပြုပြင်မွမ်းမံခြင်း ▪ ပုံမှန်မီးဘေးကာကွယ်ရေး၊ ငလျင်လုပ်ခတ်လျှင် ပြုလုပ်ရမည့်ပုံစံများ၊ ရေကြီးရေလျှံမှု အခြေအနေထိန်းသိမ်းရေး အစီအစဉ်များ၊ ရှေးဦးပြုစုခြင်းသင်တန်းများကို ပုံမှန်လေ့ကျင့်မှုများ သင်ကြားမှုများ ပြုလုပ်ခြင်း ▪ အရေးပေါ်ဆက်သွယ်ရန် ဖုန်းနံပါတ်၊ လိပ်စာများ၊ အများသူငါမြင်သာစေသောနေရာများတွင် ကပ်ထားခြင်း ▪ စက်ရုံတွင်း မီးသတ်အဖွဲ့ငယ်၊ အန္တရာယ်ကင်းရှင်းရေး စောင့်ကြည့်ရေးအဖွဲ့ငယ်များထားရှိပြီး လစဉ် ဆွေးနွေးတိုင်ပင်ခြင်း လေ့ကျင့်ခြင်းများ ပြုလုပ်ခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	▪ Manager and EHS officer ▪ မီးသတ်သင်တန်းများ ၃ လတစ်ကြိမ်ပြုလုပ်ရန်စီမံပေးခြင်း ▪ အရေးပေါ်အခြေအနေနှင့် မတော်တဆထိခိုက်မှုမရှိစေရေး စောင့်ကြည့်စစ်ဆေးခြင်း

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု

ကဏ္ဍ	အမျိုးအစား	ကြိမ်နှုန်း	နေရာ	တာဝန်ရှိသူ
စီမံကိန်းတည်ဆောက်နေစဉ်				
လေထု	SO2, NO2, CO, CO2, PM2.5, PM10	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	စီမံကိန်းဧရိယာ	Environmental Management Team's Wellgreen Outdoor (Myanmar) Company Limited and Third Party
ရေထု	pH, Apparent Colour, Turbidity, TDS, Total solids, Chloride, Free Cyanide, Nitrate, Arsenic, Cadmium, Copper, Iron, Lead and Zinc	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	အနီးဆုံး မြစ်၊ ချောင်း၊ မြေအောက်ရေ	Environmental Management Team's Wellgreen Outdoor (Myanmar) Company Limited and Third Party
ဆူညံသံ	dBA	တစ်ကြိမ် (တည်ဆောက်နေစဉ်အတွင်း)	စီမံကိန်းဧရိယာ	Environmental Management Team's Wellgreen Outdoor (Myanmar) Company Limited and Third Party
မီးဘေး	မီးသွယ်တန်းမှု	တစ်လ တစ်ကြိမ်	စီမံကိန်းဧရိယာ	Environmental Management Team's Wellgreen Outdoor (Myanmar) Company Limited and Third Party
လုပ်ငန်းခွင်ကျန်းမာရေး နှင့် လုံခြုံမှု	မတော်တဆမှုများ၊ ဆောက်လုပ်ရေးလုပ်သားများအတွက် တစ်ကိုယ်ရေကာကွယ်သုံး ပစ္စည်းများပေးခြင်း	တစ်လ တစ်ကြိမ်	ဆောက်လုပ်ရေး လုပ်သားများ	Environmental Management Team's Wellgreen Outdoor (Myanmar) Company Limited and Third Party
အမှိုက်စွန့်ပစ်မှု	အစိုင်အခဲ၊ အရည်	တစ်ပတ်တစ်ကြိမ်	စီမံကိန်းဧရိယာ	Environmental Management Team's Wellgreen Outdoor (Myanmar) Company Limited and Third Party

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု

ကဏ္ဍ	အမျိုးအစား	ကြိမ်နှုန်း	နေရာ	တာဝန်ရှိသူ
စီမံကိန်းလည်ပတ်ချိန်				
လေထု	$PM_{2.5}$, PM_{10} , SO_2 , NO_2 ,	တစ်နှစ် ၂ကြိမ်	ထုပ်လုပ်မှု ဧရိယာအတွင်း	Wellgreen Outdoor (Myanmar) Company Limited
ဆူညံသံ	ဆူညံသံ ပမာဏ	တစ်ပတ် ၂ကြိမ်	၂ နေရာ (ထုပ်လုပ်မှု ဧရိယာ အတွင်း)	Wellgreen Outdoor (Myanmar) Company Limited
အမှိုက်စွန့်ပစ်မှု	အစိုင်အခဲ၊ အရည် နှင့် အန္တရာယ်ရှိပစ္စည်း	အပတ်စဉ်	စက်ရုံအတွင်း ပြန်လည်အသုံးပြုရန်နှင့် စွန့်ပစ်ရန်ဟူ၍ အမှိုက်ပုံများအား ခွဲခြားခြင်း	Wellgreen Outdoor (Myanmar) Company Limited
မီးဘေးအန္တရာယ်	မီးသတ်ဆေးဘူးပစ္စည်းများနှင့်အရေးပေါ်ဖုန်းနံပါတ်များ	လစဉ်	စက်ရုံဧရိယာ အတွင်း	Wellgreen Outdoor (Myanmar) Company Limited
အလင်းအရောင်ဖြာထွက်မှု	အလင်းရောင်ပေးခြင်း	တစ်နှစ် ၂ကြိမ်	ထုတ်လုပ်မှု ဧရိယာအတွင်း (ပိတ်ဖတ်ခြင်း နှင့် အရည်အသွေး စစ်ဆေးခြင်း)	Wellgreen Outdoor (Myanmar) Company Limited
လုပ်ငန်းဖြတ်သိမ်းခြင်းကာလ				
လေထု	PM2.5, PM10 , SO_2 , NO_2	ဖြတ်သိမ်းမှု ကာလအတွင်း ၁ကြိမ်	ထုပ်လုပ်မှု ဧရိယာအတွင်း	Wellgreen Outdoor (Myanmar) Company Limited
ဆူညံသံ	ဆူညံသံ ပမာဏ	ထိုကာလအတွင်း ၁ ကြိမ်	ဖြတ်သိမ်းမှု ဧရိယာ	Wellgreen Outdoor (Myanmar) Company Limited
မြေပြန်လည်မွမ်းမံခြင်း	သစ်ပင်များပြန်လည်စိုက်ပျိုးခြင်း		ဖျက်သိမ်းမည့် ဧရိယာ အားလုံး	Wellgreen Outdoor (Myanmar) Company Limited

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ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု ခန့်မှန်းကုန်ကျစရိတ်

စဉ်	အကြောင်းအရာ	အကြိမ်အရေအတွက်	ကုန်ကြစရိတ် (အမေရိကန် ဒေါ်လာ)
လျော့ချခြင်းအစီအစဉ်			
၁.	စက်ရုံဆက်တွင်းလေအဝင်အထွက်အစီအစဉ်	၁နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၄၀၀
၂.	စက်ရုံဧရိယာအတွင်း သစ်ပင်များစိုက်ပျိုးခြင်း	၃လ တကြိမ်	၃လခြား ဒေါ်လာ ၁၄၀
၃.	အစိုင်အခဲအမှိုက်ပစ်ခြင်း	၁၂ ကြိမ်	နှစ်စဉ် ဒေါ်လာ ၂၀၀၀
၄.	တစ်ကိုယ်ရည်သုံး ကာကွယ်ရေးပစ္စည်းများဝယ်ယူခြင်း	၆ လ တကြိမ်	၆ လခြား ဒေါ်လာ ၃၀၀
၅.	ဆေးပစ္စည်များနှင့် ကျန်းမာရေးစစ်ဆေးခြင်း	၁ နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၁၀၀၀
အရေးပေါ်အစီအစဉ်			
၁.	မီးသတ်ဆေးဘူး	၁လ တကြိမ်	လစဉ် ဒေါ်လာ ၆၀၀
၂.	မီးသတ်အချက်ပြ စနစ်	၁လ တကြိမ်	
၃.	ရေငုံးသုနှာပြု ပစ္စည်းများ	၁လ တကြိမ်	
စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်			
၁.	ရေဆိုးရေဘေစစ်	၂ ကြိမ်	၁နှစ် ဒေါ်လာ ၄၀၀
၂.	ဆူညံသံ	၂ ကြိမ်	၁နှစ် ဒေါ်လာ ၆၀၀
၃.	စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာ	၁ ကြိမ်	ဒေါ်လာ ၂၀၀၀

လူမှုအကျိုးတူပူးပေါင်း ပါဝင်မှု

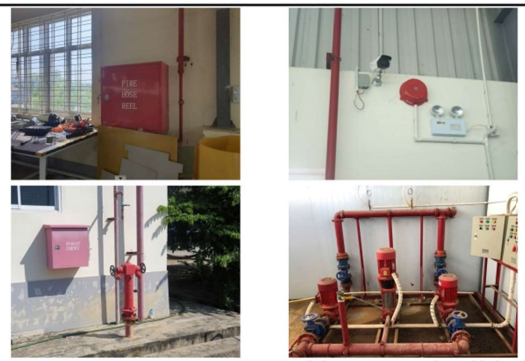
Wellgreen Outdoor (Myanmar) Company Limited တွင် CSR အတွက် အမြတ်ငွေ၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးတို့ အတွက် အသုံးပြုသွားမည် ဖြစ်ပါသည်။

ကျန်းမာရေး	ဝန်ထမ်းများ ကျန်းမာရေး စောင့်ရှောက်မှု	၀.၅ %
ပညာရေး	ပညာရေးကဏ္ဍ မြှင့်တင်ရေးနှင့် လူအခွင့်အရေး အသိပညာပေးခြင်း	၀.၅ %
နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေး	ဒေသတွင်း လိုအပ်သကဲ့သို့ လှူဒါန်းခြင်း	၁ %

စက်ရုံ၏ဆောင်ရွက်ချက်များ

Wellgreen Outdoor (Myanmar) Company Limited ဝန်ထမ်းများအတွက်သုံးရေသောက်ရေပြင်ဆင်ထားရှိမှု

Wellgreen Outdoor (Myanmar) Company Limited ၏ လျှပ်စစ်သုံးစွဲမှုအတွက်ပြင်ဆင်ထားရှိမှု



Wellgreen Outdoor (Myanmar) Company Limited ၏ မီးဘေးအန္တရာယ်တွက်ပြင်ဆင်ထားရှိမှုများ

စက်ရုံအတွင်းအမှိုက်စွန့်ပစ်မှုအခြေနများ၊ ဝန်ထမ်းများအတွက်အိမ်သာထားရှိမှုများ နှင့် ရေမြောင်းထားရှိမှုအခြေနေများ

Wellgreen Outdoor (Myanmar) Company Limited ၏ လေဝင်လေထွက်ကောင်းစေရန် စီဝဉ်ထားရှိမှုများ

Thank You for Your Patient Attention!

APPENDIX E

List of Commitments

Twinkle (Myanmar) Company Limited ၏ လုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းကြောင့် ဖြစ်ပေါ်လာနိုင်သော သဘာဝပတ်ဝန်းကျင်၊ လူမှုဘဝ နှင့် ကျန်းမာရေး ထိခိုက်မှုများရှိခဲ့ပါက လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် တားဆီးရေး အစီအစဉ် များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan – EMP) တွင် ပါဝင်ရမည့် အချက်များကို အကောင်အထည်ဖော် စီမံဆောင်ရွက်သွားမည် ဖြစ်ကြောင်း။ အောက်ဖော်ပြပါ ဇယားဖြင့် အကျဉ်းချုပ် စာရင်းပြုစု ဖော်ပြထားပါသည်။

ကတိကဝတ်၏ အတိုချုပ် အမည်	စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
နိဒါန်း	၁	စီမံကိန်း နောက်ခံအကြောင်းနှင့် ရင်းနှီးမြှုပ်နှံမှု အစီအစဉ် EMP တွင်ပါဝင်ရေးစွဲသည့် လူပုဂ္ဂိုလ်နှင့် တာဝန်ယူမှုအပိုင်းများ	အခန်း (၁)
စီမံကိန်း အကြောင်းအရာ	၂	စီမံကိန်း နောက်ခံအကြောင်းအရာနှင့် ရည်ရွယ်ချက် စီမံကိန်း တည်နေရာ၊ ဖွဲ့စည်းတည်ဆောက်မှု၊ စီမံကိန်းလည်ပတ်မှု အစီအစဉ် နှင့် စက်ရုံအတွက် လိုအပ်ချက်များ	အခန်း (၂)
မူဝါဒ၊ ဥပဒေနှင့် အဖွဲ့အစည်းဆိုင်ရာမူဘောင်များ	၃	ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂) ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး နည်းဥပဒေ (၂၀၁၄) ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) မြန်မာနိုင်ငံမှ ချမှတ်ထားသော စက်ရုံနှင့် သက်ဆိုင်သည့် တခြား လိုက်နာဆောင်ရွက်ရမည့် လုပ်ထုံးလုပ်နည်း၊ ဥပဒေ၊ နည်းဥပဒေ နှင့် မူဝါဒများ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံသက်မှတ်ချက်များနှင့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များ	အခန်း (၃)
ပတ်ဂန်းကျင် အရည်အသွေးတိုင်းတာမှု	၄	အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အ ရည်အသွေး (ထုတ်လွှတ်မှု) လ မ်းညွှန်ချက် (၂ (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံ သက်မှတ်ချက်များနှင့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များကို အခြေခံ၍လေ့လာ တိုင်းတာထားပါသည်။	အခန်း (၄)

ကတိကဝတ်၏ အတိုချုပ် အမည်	စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
လေအရည်အသွေး	၄.၁	အဆိုပြုစီမံကိန်း၏ ပတ်ဝန်းကျင်ဆိုင်ရာ လေအရည်အသွေး (ထုတ်လွှတ်မှု) ထုတ်လွှတ်အခိုးအငွေ့ (Air emissions) ကို အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) တို့ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အခန်း၃ (၄.၃.၂)
ဆူညံသံ	၄.၂	အဆိုပြုစီမံကိန်း၏ ပတ်ဝန်းကျင်ဆိုင်ရာ အသံအရည်အသွေး အမြင့်ဆုံးလက်ခံနိုင်သည့် ဆူညံသံအဆင့် (Noise level) (ထုတ်လွှတ်မှု) ကို အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ (၂၀၁၅) လမ်းညွှန်သက်မှတ်ချက် စက်မှုဇုန် ဇရိယာတွင် (70 One-hour LAeq (dBA)) ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အခန်း၃ (၄.၃.၃)
စက်ရုံတွင်း အလင်းရောင် ရရှိမှု	၄.၃	စက်ရုံ၏နေ့ခင်းဘက်တွင် ဆောင်ရွက်လျက်ရှိသော အလင်းရရှိမှုနှင့်ပတ်သက်၍ Illumination and Limiting Glare Index based on IES Code, 1968 ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်	အခန်း၃ (၄.၃.၄)
ဒေသဆိုင်ရာအချက်အလက်များ	၄.၄	ရွေပြည်သာမြို့နယ် အထွေထွေ အုပ်ချုပ်ရေးမှုရုံးမှ အချက်အလက်များကို ဖော်ပြထားပါသည်။ (www.gad.gov.mm.com)	အခန်း၃ (၄.၄)
ပတ်ဝန်းကျင် ထိခိုက်မှုစမ်းစစ်ခြင်းနှင့် ရှောရှေးရေး	၅	ပတ်ဝန်းကျင်ထိခိုက်မှုကို ကောင်းခြင်းနှင့် ဆိုးခြင်း ခွဲခြားပြီး။ ဖြစ်လာနိုင်သော ထိခိုက်မှုများကို ရှောရှေးရေးအစီအစဉ်များ ရေးစွဲထားပါသည်	အခန်း (၅)
ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်များ	၆	ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်အတွက် အဖွဲ့အစည်းဖွဲ့ခြင်း၊ တာဝန်ယူမှုပြုလုပ်ခြင်းနှင့် လုပ်ဆောင်မှုပုံစံများ ဖော်ပြထားပါသည်။ • လေထုညစ်ညမ်းမှု စီမံခန့်ခွဲရေး • ဆူညံသံ ထိန်းချုပ်မှု စီမံခန့်ခွဲရေး • စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲရေး • စွန့်ထုတ်ရေ စီမံခန့်ခွဲရေး • စွမ်းအင်စီမံခန့်ခွဲရေး • ရေအသုံးပြုမှု စီမံခန့်ခွဲရေး အရေးပေါ် အခြေအနေ ပြင်စင်ရေး စီမံခန့်ခွဲရေး	အခန်း (၆)

ကတိကဝတ်၏ အတိုချုပ် အမည်	စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
စောင့်ကြပ်ကြည့်ရှုမှု	၆.၁	အဆိုပြုစီမံကိန်းသည် ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှုအစီရင်ခံစာအား ၆လ တစ်ကြိမ် ဝန်ကြီးဌာနများသို့ တင်ပြရမည်	အခန်းခွဲ (၆.၅)
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အတွက် လျာထားငွေကြေး	၆.၂	ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအတွက် လျာထားမှု ပတ်ဝန်းကျင် စောင့်ကြပ်ကြည့်ရှုမှုအတွက် လျာထားမှု အရေးပေါ်အခြေအနေ စီမံခန့်ခွဲမှုအတွက် လျာထားမှု	အခန်းခွဲ (၆.၅)
လူထုတွေ့ဆုံပွဲ အစီအစဉ်	၇	၂၀၁၉ ခုနှစ်ဒီဇင်ဘာလ၁၀ရက်နေ့တွင် ဂါးတရာ စက်မှုဇုံ ကော်မတီ ရုံးတွင် ပြုလုပ်ခဲ့ပါသည်	အခန်း (၇)
လူထုအကျိုးအတွက် ပူးပေါင်းပါဝင်မှု	၇.၁	အဆိုပြုလုပ်ငန်းသည် လူထုအကျိုးပြုပူပေါင်းပါဝင်မှုကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးအတွက် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်က ချမှတ်သည့် အတိုင်း ကုမ္ပဏီ၏ အကျိုးအမြတ် ၂ ရာ ခိုင်နှုန်းအား နှစ်စဉ် ထည့်ဝင်သွားမည်ဖြစ်သည်။	အခန်းခွဲ (၇.၃)
သင်တန်းပို့ချခြင်းနှင့် အသိပညာတိုးတက်ရေး အစီအစဉ်	၇.၂	အဆိုပြုစီမံကိန်းအတွင်းဖြစ်ပေါ်လာနိုင်သော မတော်တဆနှင့် ရည်ရွယ်ချက်ရှိ အရေးပေါ်ကိစ္စရပ်များအတွက် သင်တန်းများပေးခြင်း အရေးပေါ်ကိစ္စရပ်များအတွက်သင်တန်းပေးခြင်း မီးဘေးအန္တရာယ်ကြိုတင်ပြင်ဆင်ခြင်းနှင့် ကာကွယ်ခြင်း မီးသတ်ပစ္စည်းများထားရှိပေးခြင်း မီးဘေးလုံခြုံရေးနှင့် လွတ်မြောက်လမ်းဆောင်ရွက်ပေးထားခြင်း အလုပ်သမားများအတွက် ကျန်းမာရေးစောင့်ရှောက်မှုဆိုင်ရာ သင်တန်းပေးခြင်း	အခန်းခွဲ (၇.၃.၂)