ENVIRONMENTAL MANAGEMENT PLAN

FOR

G & B MANUFACTURING (MYANMAR) COMPANY LIMITED

PREPARED FOR:

G & B MANUFACTURING (MYANMAR) COMPANY LIMITED

Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone,Shwe Pyi Thar Township,

Yangon region,

Myanmar

July, 2022

LETTER OF ENDORSEMENT BY THE PROJECT PROPONENT

This Environmental Management Plan (EMP) for G & B Manufacturing (Myanmar) Company Limited was prepared by company organization itself. This Environmental Management Plan has been done with reasonable skills, care and diligence in accordance with the stipulations of Environmental Impact Assessment Procedure (Paragraph 76-82). I hear by signed this report on behalf of the G & B Manufacturing (Myanmar) Company Limited to certify that all the information in it are true and convincing to the best of our knowledge. I hereby issue my letter of endorsement to confirm:

(a) The accuracy and completeness of the EMP;

(b) That the EMP has been prepared in strict compliance with applicable laws including the EIA Procedure; and

(c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EMP Report.

Signed

Name : ……

Position : ……

Organization :……

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BOD	Biochemical Oxygen Demand
CFM	Cubic Feet per Minute
CMP	Cutting, Making and Packaging
COD	Chemical Oxygen Demand
dB	Decibel
Dept	Department
EMP	Environmental Management Plan
HOD	Head of Department
HR	Human Resource
LBS	Pound
MIC	Myanmar Investment Commission
NSRs	Noise Sensitive Receivers
NEQG	National Emitting Quality Guideline
OSH	Occupational Safety and Health
PPE	Personal Protective Equipment
SLM	Sound Level Meter
MEMs	Mitigation Environment Measure
TDS	Total Dissolved Solid
TSS	Total Suspended Solid

အနှစ်ချုပ်အစီအရင်ခံစာ

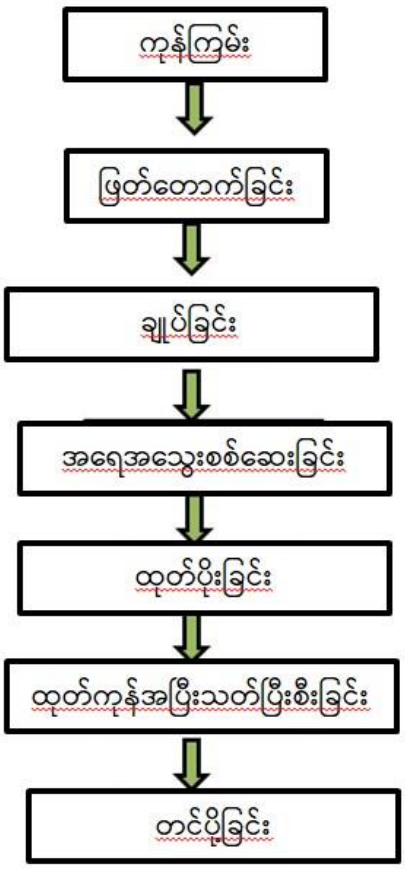
၁။ နိဒါန်း

ဂျီအမ်ဘီကုန်ထုတ်လုပ်မှု (မြန်မာ)အဝတ်အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်း ကုမ္ပဏီသည် မြန်မာကုမ္ပဏီများအက်ဥပဒေအရ ဖွဲ့စည်းထားသောပုဂ္ဂလိကကုမ္ပဏီလီမိတက်ဖြစ်သည်။ ဂျီအမ်ဘီကုန်ထုတ်လုပ်မှု(မြန်မာ)အဝတ်အထည် အမျိုးမျိုးချုပ်လုပ်ခြင်းကုမ္ပဏီသည် မြန်မာနိုင်ငံရင်းနှီး မြုပ်နှံမှုနှင့် ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန (DICA)တွင် မှတ်ပုံတင်နံပါတ် (၁၂၆၅၇၀၀၀) ရရှိပြီးဖြစ်ပါသည်။ ဂျီအမ်ဘီကုန် ထုတ်လုပ်မှု (မြန်မာ) အဝတ်အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်း စက်ရုံသည် မြေကွက်အမှတ်(၅၇/အေ)၊ မြေတိုင်းရပ်ကွက်အမှတ်(၅၁)၊ သာဓုကန်စက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီးတွင် တည်ရှိသည်။ စီမံကိန်းရေယာမှာ (၃.၂၀၃) ဧကကျယ်ဝန်းပြီး ရုံး၊ စက်ရုံ၊ လုံခြုံရေးဂိတ်နှင့် ကုန်ကြမ်း သိုလှောင်သည့် နေရာများပါဝင်သည်။ စက်ရုံတည်ဆောက်မှုကို ၂၀၁၉ ခုနှစ်တွင် စတင်တည်ဆောက်ခဲ့ပြီး ၂၀၂၀ခုနှစ်တွင်အဆုံး သတ်ပြီးစီးခဲ့သည်။ ၂၀၂၀ခုနှစ်၊ဒီဇင်ဘာလအတွင်းတွင် ဂျီအမ်ဘီကုန်ထုတ်လုပ်မှု(မြန်မာ) အဝတ် အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်းစက်ရုံအတွက် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအစီအစဉ် Environmental Management Plan (EMP)ကို ဂျီအမ်ဘီကုန်ထုတ်လုပ်မှု (မြန်မာ)အဝတ်အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်းကုမ္ပဏီတာဝန်ရှိသူများမှ စုစည်းရေးသား ပြုစုခြင်း ဖြစ်ပါသည်။ ဤပတ်ဝန်းကျင်ဆိုင်ရာစီမံ ခန့်ခွဲမှုအစီအစဉ်အား ပတ်ဝန်းကျင်ထိခိုက်မှု အကဲဖြတ်ရေး လုပ်ထုံးလုပ်နည်း၏ သတ်မှတ်ချက်များနှင့်အညီ ကျိုးကြောင်းဆီလျော်သော ကျွမ်းကျင်မှု၊ဂရုစိုက်မှုနှင့် လုံ့လဝီရိယတို့ဖြင့် စုစည်း ရေးသားပြုစုထားပါသည်။

၂။ ဂျီအမ်ဘီကုန်ထုတ်လုပ်မှု(မြန်မာ)အဝတ်အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်း လုပ်ငန်းစဉ်

စက်ရုံမှ ပြည်ပကုန်ကြမ်းများကိုမှာယူပြီးပြည်တွင်းတွင် အဝတ်အထည်အမျိုးမျိုးကို ထုတ်လုပ်ပြီး ပြည်ပသို့ တင်ပို့ရောင်းချရန် အတွက်ဖြစ်သည်။ စက်ရုံတွင် အလုပ်သမား အင်အား (၁၅၁၀)ဦးခန့် ခန့်အပ်ရန် လျာထားမှု ရှိပါသည်။ ပုံမှန်ထုတ်လုပ်မှု လုပ်ငန်းအဆင့်များကို အောက်ပါ ပုံ(က)တွင် ဖော်ပြထားပါသည်။ အဓိကထုတ်လုပ်မှုမှာ ပြည်ပမှတင်သွင်းထားသော ကုန်ကြမ်းများကို ချည်ဖြတ်ခြင်း၊ ပြန်လည်ပြုပြင်

ချုပ်လုပ်ခြင်း၊ ထုတ်ပိုးခြင်းစသည့်လုပ်ငန်းစဉ်တို့ပါဝင်သည်။ ထုတ်လုပ်မှု လုပ်ငန်းစဉ်တွင် စွန့်ပစ်အရည်ထွက်ရှိမှုနှင့် ဓာတ်ငွေ့ထုတ်လွှတ်မှုမရှိပါ။ ဤလုပ်ငန်းစဉ်တွင် စွန့်ပစ်အမှိုက်ထွက်ရှိမှုသည် အဓိကအားဖြင့် လုပ်ငန်းစဉ်အားလုံးတွင် ပါဝင်နိုင်သည်။ ထိုအစိုင်အခဲစွန့်ပစ်ပစ္စည်းများကို ၊ ရွှေပြည်သာမြို့နယ်စည်ပင်သာယာရေး ကော်မတီ၏ ခွင့်ပြုချက်ဖြင့် စွန့်ပစ်ရန်စီစဉ်ထားရှိသည်။



ပုံ (က) ဂျီအမ်ဘီကုန်ထုတ်လုပ်မှု(မြန်မာ)အဝတ်အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်းကုမ္ပဏီလီမိတက်၏ ပစ္စည်းများ ထုတ်လုပ်ခြင်း လုပ်ငန်းစဉ်

၃။သက်ရောက်မှု ဆန်းစစ်ခြင်းနှင့် ကုစားခြင်း

ဂျီအမ်ဘီကုန်ထုတ်လုပ်မှု(မြန်မာ)အဝတ်အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်း လုပ်ငန်းစဉ် အဆင့်ဆင့်ပေါ်မူတည်၍ သက်ရောက်မှု ဆန်းစစ်ခြင်းနှင့် ကုစားခြင်းကိုအောက်ဖော်ပြပါ ဇယား (က)နှင့် (ခ) တွင် ဖော်ပြထားပါသည်။

ဇယား (က) ပတ်ဝန်းကျင်အပေါ် သက်ရောက်စေမည့် အကြောင်းအချက်များနှင့် သက်ရောက်မှုများ

စဉ်	လုပ်ငန်းစဉ်	သက်ရောက်မှုဖြစ်ပေါ်စေသည့် အကြောင်းအချက်	သက်ရောက်မှု
၁	ကုန်ကြမ်း၊ ကုန်ချော ပစ္စည်းများ ကိုင်တွယ် ထိန်းသိမ်းခြင်း	ကုန်ကြမ်းကုန်ချောပစ္စည်းများ အတင်အချ ပြုလုပ်ခြင်း	ထိခိုက်ပွန်းရှခြင်း အလေးအပင်မရာမှ ဒဏ်ဖြစ်ခြင်း၊
		ထုပ်ပိုးစွန့်ပစ်ခြင်း	အစိုင်အခဲ စွန့်ပစ်ပစ္စည်း၊
၂	ချည်ကြိုးများ ဖြတ်တောက်ခြင်း	ချည်ကြိုးဖြတ်စက် အသုံးပြုခြင်း	ထိခိုက်ပွန်းရှခြင်း အလေးအပင်မရာမှ ဒဏ်ဖြစ်ခြင်း၊
၃	အပ်ချုပ်ခြင်းနှင့် ချုပ်ရိုးဇစ်တပ်ခြင်း	ချည်ဖြတ်တောက်မှု၏အပိုင်း အစများ, အပ် နှင့် ထိတွေ့ခြင်း	ထိခိုက်ပွန်းရှခြင်း၊ စက်ယန္တရားအန္တရာယ်၊ ဆူညံသံ၊ အစိုင်အခဲ စွန့်ပစ်ပစ္စည်း၊
၄	တံဆိပ်၊နံပါတ်များ တပ်ဆင်ခြင်း စစ်ဆေးခြင်း ပြန်လည်ပြုပြင်ခြင်း	ချည်ဖြတ်တောက်မှု၏ အပိုင်းအစများ၊ အပ်များ နှင့် ထိတွေ့ခြင်း	ထိခိုက်ပွန်းရှခြင်း၊ အစိုင်အခဲစွန့်ပစ်ပစ္စည်း
၅		စက္ကူပုံးစွန့်ပစ်ခြင်း	အစိုင်အခဲစွန့်ပစ်ပစ္စည်း

	ထုပ်ပိုးခြင်းနှင့် သိုလှောင်ခြင်း	အိတ်ခွံများစွန့်ပစ်ခြင်း	အစိုင်အခဲစွန့်ပစ်ပစ္စည်း
		ပစ္စည်းများအတင်အချ ပြုလုပ်ခြင်း	အလေးအပင်မရာမှ ဒဏ်ဖြစ်ခြင်း၊
၆	ကုန်ချောသိုလှောင် သိမ်းဆည်းထားခြင်း	ကုန်ချောပစ္စည်းများ အတင်အချ ပြုလုပ်ခြင်း	ထိခိုက်ပွန်းရှခြင်း အလေးအပင်မရာမှ ဒဏ်ဖြစ်ခြင်း၊

ဇယား (ခ) ကုစားရန် နည်းလမ်းများ

သက်ရောက်မှု	**ရင်းမြစ်**	**ကုစားခြင်း**
မီးဘေးအန္တရာယ်	တားမြစ်နေရာများတွင် ဆေးလိပ်သောက်ခြင်း	(၁)စက်ရုံဝင်းအတွင်းဆေးလိပ်သောက်ခြင်းကိုလုံးဝပိတ်ပင်တားမြစ် ခြင်း (၂)အရေးပေါ်ထွက်ပေါက်များကိုရှင်းလင်းစွာဖော်ပြခြင်း (၃)ထွက်ပေါက်လမ်းများကိုအမြဲသန့်ရှင်းအောင် ထားခြင်း (၄)မီးသတ်ဆေးဘူးများကို ပုံမှန်စစ်ဆေး၊ ဖြည့်တင်းခြင်း (၅)မီးငြိမ်းမှု ဇာတ်တိုက်လေ့ကျင့်ခန်းများ ပုံမှန်ပြုလုပ်ခြင်း
အစိုင်အခဲစွန့်ပစ် ပစ္စည်း	- ချည်ကြိုးအပိုင်းအစများ ဖြတ်တောက်မှုအပိုင်းအစများ ၊	(၁) စဉ်ဆက်မပြတ်နှင့် ပုံမှန်သန့်ရှင်းရေး လုပ်ရန်

	- ထုပ်ပိုးစွန့်ပစ်ပစ္စည်း - ပလပ်စတစ်အမှိုက်များ - အထွေထွေအမှိုက်များ	(၂)အိတ်များဖြင့် နိုင်လွန်အထည်စွန့်ပစ်ပစ္စည်းထုပ်ပိုးထားခြင်း (၃)စွန့်ပစ်အိတ်များကိုစနစ်တကျသိုလှောင်ခြင်း (၄)စွန့်ပစ်ပစ္စည်းစုဆောင်းသူကိုပံ့မှန်ခေါ်ယူခြင်း (၅)အမှိုက်ပုံးများလုံလောက်စွာထားခြင်း
ထိခိုက်နိုင်မှု	- ကုန်ကြမ်း၊ ကုန်ချော ပစ္စည်းများအတင်အချ ပြုလုပ်ခြင်း -အလေးချိန်ပိုသော ပစ္စည်းများ သယ်ဆောင်ခြင်းမှထိခိုက်ခြင်း - ဖြတ်စက်ကိုင်တွယ်အသုံးပြုခြင်း၊ အပ်နှင့်ထိခိုက်မိခြင်း	(၁) ကုန်ပစ္စည်းများ အလွယ်တကူမရရှိအထောက်အကူပြု သယ်ဆောင်ကိရိယာအသုံးပြုခြင်း (၂) ထိခိုက်ပွန်းရှနိုင်သည့် ပစ္စည်းများကိုင်တွယ်ရာတွင် လက်အိတ် အသုံးပြုခြင်း (၃) စက်တွင် အကာအရံတပ်ဆင်ခြင်း
ဆူညံသံ	-မီးစက်နှင့်စက်များ မောင်းနှင်အသုံးပြုခြင်း	(၁) စက်ပစ္စည်းများအား ပုံမှန်ပြုပြင်ထိန်းသိမ်းမှုများ ပြုလုပ်ခြင်း (၂) မီးစက်အသုံးပြုခြင်း နေရာတွင် အသံလုံအကာအကွယ် တပ်ဆင်ခြင်း
စက်ယန္တရားအန္တရာယ်	- ရေနွေးငွေ့ဖြင့် ပေါင်းခံစက်အသုံးပြုခြင်း	(၁) လုပ်ငန်းခွင် အန္တရာယ် ကာကွယ်ရေးပစ္စည်းများ (မျက်မှန်၊ လက်အိတ်၊ နားကြပ်) တို့ကို မပျက်မကွက် ဝတ်ဆင်ခြင်း

	- ခေါက်စက်ကိုအသုံးပြုခြင်း	(၂) စက်ပေါ်တွင် အမှိုက်၊ ဖုန်၊ ဆီတင်ကျန်မှုရှိ/ မရှိ စစ်ဆေးပြီး ပုံမှန်သန့်ရှင်းခြင်း (၃) ဆီယိုစိမ့်မှုရှိ/ မရှိ စစ်ဆေးပြီး လိုအပ်သော ဆီပမာဏဖြည့်ခြင်း (၄) စက်ယန္တရားများ လည်ပတ်ရာ နေရာတွင် မီးလောင်ပေါက်ကွဲနိုင်သော ပစ္စည်းများ မရှိအောင် ကြိုတင်ရှင်းလင်းခြင်း (၅) စက်ယန္တရားများ လည်ပတ်ရာ နေရာတွင် လုံခြုံရေး အကာအကွယ်များ တပ်ဆင်ခြင်း (၆) စက်တွင် ပါဝင်သော မော်တာ ပတ္တာကြိုး၊ ဂီယာ၊ ချိန်းကြိုး နှင့် ရွှေ့လျားအစိတ်အပိုင်းများကို ပုံမှန်စစ်ဆေးခြင်း (၇) စက်ယန္တရား၏ အစိတ်အပိုင်းများကို စနစ်တကျ တပ်ဆင်ခြင်း (၈) စက်စတင် အသုံးမပြုမီ စက်၏ လျှပ်စစ်ကြိုးများကို စစ်ဆေးပြီး ပေါက်ပြဲ ပျက်စီး နေလျှင် ပြုပြင်လဲလှယ်ခြင်း (၉) စက်စတင် အသုံးမပြုမီ ကြိုတင် စစ်ဆေးရမည့် အချက်များကို စာရင်း ပြုလုပ် ထားပြီး အလွယ်တကူ မြင်နိုင်မည့် နေရာတွင် ကပ်ထားခြင်း

		(၁၀) စက်ယန္တရားများကို ကျမ်းကျင်ဝန်ထမ်း များသာလျှင် ကိုင်တွယ် အသုံးပြုခြင်း (၁၁) စက်ယန္တရားများတွင်စက်လည် ပတ်မှု အရေးပေါ်ရပ်နားသည့် ခလုတ် /စနစ်များကို အလွယ်တကူမြင်နိုင်သည့်နေရာတွင် တပ်ဆင်ခြင်း
ဖုန်၊ အန္ဓံအသက်	ပစ္စည်းများနေရာချခြင်းကြောင့်ဖုန်၊အမှုန်အမွှားထွက်ရှိခြင်း	(၁) လုပ်သားများအတွက် နှာခေါင်း စည်းများ အလုံအလောက်စီစဉ် ထားရှိခြင်း (၂) အမှုန်အမွှားထွက်ရှိသည့် အလုပ်နေရာတွင် လုပ်သားများ နှာခေါင်းစည်းအသုံးပြုမှုကို ပုံမှန်စစ်ဆေး ကြပ်မတ်ခြင်း (၃) အမှုန်ထုတ်လွှတ်မှု တိုင်းတာသည့် ကိရိယာတပ်ဆင်ခြင်း (၄) အမှုန်ထုတ်လွှတ်မှု ၅၀ထက် ကျော်လွန်လျှင်လုပ်ငန်းအားလုံးကို ခေတ္တရပ်နား ထားခြင်း (၅) အမှုန်အမွှားစုပ်စက် အသုံးပြုခြင်း

၄။ အများသူငှာ တိုင်ပင်ဆွေးနွေးခြင်းနှင့် ထုတ်ဖော်ခြင်း။

G & B Manufacturing (Myanmar) Company Limited သည်မြေကွက်အမှတ် (၂၃)၊ မြေကွက်အမှတ်(၅၇/အေ)၊ မြေတိုင်းရပ်ကွက်အမှတ်(၅၁)၊ သာဓုကန်စက်မှုဇုန်၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီးတွင်တည်ရှိသည်။ စီမံကိန်းတွင် စက်မှုဇုန်စီမံခန့်ခွဲမှု ကော်မတီ အစည်းအဝေးများပါဝင်မည်ဖြစ်သည်။ ဌာနဆိုင်ရာစစ်ဆေးမှုများနှင့်အညီ လိုက်နာမှုများ၊ စီမံကိန်းအနီးရှိ အခြားဌာနဆိုင်ရာအရာရှိများ၊ အခြားစီးပွားရေး လုပ်ငန်းရှင်များနှင့် အများသူငှာကောင်းမွန်သော ဆက်ဆံရေးတည်ဆောက်ခြင်းအပေါ် အထူးအလေးပေး ဆောင်ရွက်ပါမည်ဖြစ်သည်။

၅။ လူထုညှိနှိုင်းမှုရလဒ်များ

ဌာနဆိုင်ရာတာဝန်ရှိသူများ၊ ဇုန်စီမံခန့်ခွဲမှုကော်မတီမှ တာဝန်ရှိသူများ၊ ပတ်ဝန်းကျင်နှင့် လူမှုစီးပွား ထိခိုက်မှုမရှိစေရေးအတွက် နယ်မြေခံပြည်သူများနှင့် ပုံမှန်ဆွေးနွေးညှိနှိုင်းမှုများ ပြုလုပ်သွားမည်။

၆။ အများပြည်သူနှင့်တိုင်ပင်ဆွေးနွေးခြင်းဆိုင်ရာ အချက်အလက်များ ထုတ်ဖော်ခြင်း၊ လိုအပ်ချက်များနှင့်အညီ စီမံချက်ချ အကောင်အထည်ဖော်ဆောင်ရွက်ခြင်း

စက်ရုံ၏အပေါ် လုပ်ငန်းဆောင်ရွက်ချက်များအပေါ်အများသူငှာ အချိန်တိုင်းတုံ့ပြန်ချက်ပေးနိုင်ရန် အကြံပြုချက်စာပုံးတစ်ခုထားရှိပါမည်။ စက်မှုဇုန်ကော်မတီနှင့် သက်ဆိုင်ရာဌာနများ၏ လမ်းညွှန်ချက်များကို အမြဲတမ်းလိုက်နာဆောင်ရွက်သွားမည်ဖြစ်သည်။ စီမံကိန်းကြေညာချက်များကို စက်မှုဇုန်ကော်မတီရုံးနှင့် စက်ရုံကြော်ငြာဘုတ်များတွင် အချိန်နှင့်တပြေးညီ ထုတ်ပြန်ပေးမည်ဖြစ်သည်။

EXECUTIVE SUMMARY

1. Introduction

G & B Manufacturing (Myanmar) Company Limited is a Private Company Limited incorporated under the Myanmar Companies Act. G & B Manufacturing (Myanmar) Company Limited is a specialized company in Registration Department (DICA) with registration Number (122657000). G & B Manufacturing (Myanmar) Company Limited is located at Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. The project area is (3.203) acres of land and it include office, factory building, security gate, raw materials storage area, canteen and product storage area. The Factory construction operation was started in 2019 to 2020.

Figure (A) Location of G & B Manufacturing (Myanmar) Company Limited

2. Legal Requirement

The Laws, Rules and Procedures should be compliance from G & B Manufacturing (Myanmar) Company Limited is as follows.

1. Myanmar Environmental Policy
2. Environmental Conservation Law (2012)
3. Environmental Impact Assessment Procedures
4. National Quality (Emission) Guideline
5. Employment and Skill Development Law (2013)
6. Factory Act (1951)
7. Minimum Wages Law (2013)
8. Myanmar Fire Bridgate Law (2015)
9. Occupational Safety and Health Law (2019)
10. The Labour Organization Law (2011)
11. The Settlement of Labour Dispute Law (2012)
12. The Leave and Holiday Act (1951)
13. The Prevention of Hazard from Chemical and related Substances Law (2013)
14. The Control of Smoking and Consumption of Tobacco Product Law (2006)
15. The Environmental and International Conventions, Treaties and Agreements Related to The Manufacturing Operations

3. Project Operation

The factory produces variety of shoe with production scheme. Majority of the products are export. There are about (1510) workers at the factory. Routine production works can be seen in the following flow diagram.

Primary production scheme is raw materials storing, cutting, and sewing, finishing and packing. The production process produces no liquid effluent and slightly gaseous emission from diesel generator. The process produce solid waste mainly consists of all process and these solid wastes are managed to collect by the government waste collector.

Figure A. Process Flow Diagram for G & B Manufacturing (Myanmar) Company Limited

4. Current condition of Surrounding Environment

Water supply for G & B Manufacturing (Myanmar) Company Limited is obtains mainly from the tube well. Water is extracted from one tube well hand washing and toilets in construction period. Waste water discharge has not presented in operation process.

Water supply for G & B Manufacturing (Myanmar) Company Limited is obtains mainly from the tube well and storage with water tank. Water is extracted from one tube well usage is hand washing, bathing, toilets and kitchen. Tube well water sample is collected and analyzed at ISO Tech laboratory. The pH of the water is 7.7, which is well within the limit of acceptable WHO drinking water value 6-9. The turbidity of the tube well water is 3NTU. Iron (0.26, mg/l) is smaller than the acceptable limit of 0.3 mg/l (WHO) drinking water guideline. Nitrate quality of tube well water is 0.6, that is normal over than the WHO Drinking Water guideline value. High levels of nitrate in ground water can be a result of runoff or leakage from fertilized soil, wastewater, landfills, animal feedlots, septic systems, or urban drainage. The

main fact is factory area was landfilled area before setting factory zone. Tube well water usage is (1,400,000) gal/year. Drinking water treatment system was installed for drinking water of labor.

Waste water from G & B Manufacturing (Myanmar) Company Limited of is only domestic waste water. Production process of the G & B Manufacturing (Myanmar) Company Limited has no water usage. Therefore, industrial waste water is absent. Domestic waste water is discharge from toilets, kitchen and labor house. This waste was discharged to roadside drain. The plant has no water treatment unit. One sample of waste water was collected at latitude (16°59'1.62"N) and longitude (96° 5'10.67"E) and analyzed at ISO TECH laboratory. The sampling point was the outlet of the drain of the plant. The pH of the water is 7.8. The suspended solid from the water can be seen about 52 mg/l, dissolved solids result is 35 mg/l. The BOD and COD result of waste water is in the range of NEQG about 24 and 64 mg/l. From the following table, pH, BOD, COD are within the range of NEQG guideline value.

The main sources of air pollutant from the project area are the operation of the machine operation, diesel generator and vehicles moment and human activities. CO, CO_2, NO_2, SO_2, O_3, PM_{10} and PM $_{2.5}$ are measured at the proposed project site. The site is in operation stage and the collected data shown below are due to the process activities. Air quality and noise result data report is described in appendix.

Table A.. Result of Air Quality

No	Parameters	Results		Avg. Period	Guideline value (NEQG)	Averaging Period
		Observed value	Converted value			
1	Nitrogen dioxide NO_2	27 ppb	50.7(µg/m^3)	1-hour*	40 (µg/m^3) 200 (µg/m^3)	1-year 1-hour
2	Ozone (O_3)	18 ppb	35.3(µg/m^3)	8-hour	100 (µg/m^3)	8-hour daily maximum
3	Particulate matter PM_{10}	21.7 (µg/m^3)		24-hour	20 (µg/m^3) 50 (µg/m^3)	1-year 24-hour
4	Particulate matter $PM_{2.5}$	10.9 (µg/m^3)		24-hour	10 (µg/m^3) 25 (µg/m^3)	1-year 24-hour
5	Sulfur dioxide	1.8 ppb	4.7(µg/m^3)	24-hour	20 (µg/m^3)	24-hour

	SO_2				500 ($\mu g/m^3$)	10 minute
6	Carbon dioxide CO_2	213 ppm		24-hour	-	
7	Carbon monoxide CO	1.6 ppb		24-hour	-	

Since the place for measuring noise levels is a factory which produces operation machine, the noises produced are governed by the sound of the machine operated and by the workers. Handheld quick assessment method is used for the sound level by measuring the sound pressure. A tripod is used for mounting the sound level meter (SLM) where the SLM is mounted and pointed towards the source of the noise. The noise level of the proposed factory was measured by using TES -52A Advanced Sound Level Meter.

Table B. Average Values of Noise Level (dB) at the sampling point

Noise Sample Point	**Date/Time (2-9-2021)**	**Observed Noise Level (MeanValue) (dBA)**
NS	9: 30 -10:29	60.8
	10: 30-11: 29	60.1
	11: 30-12: 29	55.2
	12: 30-13: 29	51.9
	13: 30-14: 29	56.4
	14: 30-15: 29	58.6
	15: 30-16: 29	60.0
	16: 30-17: 59	57.1

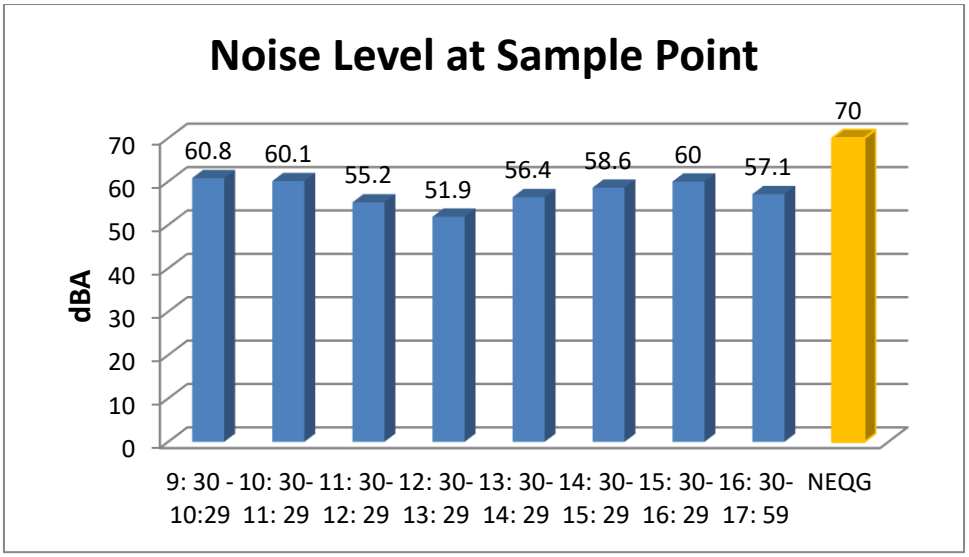


Figure B. Air Quality Sampling

One sample of soil was collected around the G & B Manufacturing (Myanmar) Company Limited to record the current condition of soil. The location of soil sampling point was Latitude 16°59'1.58"N and Longitude 96° 5'11.28"E. The samples were analyzed for their physiochemical properties in Soil Laboratory, Land Use Department of Ministry of Agriculture and Irrigation.

Potential negative impacts by the project relating to soil degradation may have occurred in the early project construction works. Such impacts include excavation, displacement or importation of soil, stockpiling, mixing, wetting, compaction and pollution of soil, Oil leakage and sedimentation. But the anticipated impacts on soil may have been occurred only to a limited area within the project compound.

According to test results, pH value of soil sample which was collected within the G & B Manufacturing (Myanmar) Company Limited which are slightly alkaline conditions. Under this condition, following phenomena would occur:

- Above a pH of 7.0 there is an increase in the availability of Iron, Manganese, Zinc, Cobalt, and Copper
- Increased risk of ammonia volatilization
- First increasing availability of Phosphorus and Boron, but deficiencies may occur at higher pH values
- Insoluble Calcium-Phosphates may be formed at higher pH
- Electric conductivity is generally high at higher pH values

Socio-economic factors are lifestyle components and measurements of both financial viability and social standing. They directly influence social privilege and levels of financial independence. Factors such as health status, income, environment and education are studied by sociologists in terms of how they each affect human behaviors and circumstances.

The project area is located in Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. . The total number of households in Shwe Pyi Thar Townshipis 73,775 only. The following table and figure show the household numbers in the study area. The average household size in the study area is shown in the following figure. All the villages have significantly higher rate of population per household compared to that of Shwe Pyi Thar Township. The majority of the households in Shwepyitha Township are living in wooden houses (52.6%) followed by households in bamboo houses (22.1%). Some 53.8 per cent of urban households and 47.7 per cent of rural households live in wooden houses.

Table C. Type of household in the Study Area

Residence	Total	Apartment/ Condominium	Bungalow/ Brick house	Semi-pacca house	Wooden house	Bamboo house	Hut 2 - 3 years	Hut 1 year	Other
Total	73,775	3.7	7.9	9.9	52.6	22.1	1.5	1.0	1.5
Urban	58,511	2.3	8.4	9.3	53.8	22.3	1.7	1.1	1.0
Rural	15,264	8.7	5.9	12.3	47.7	21.3	0.6	0.4	3.1

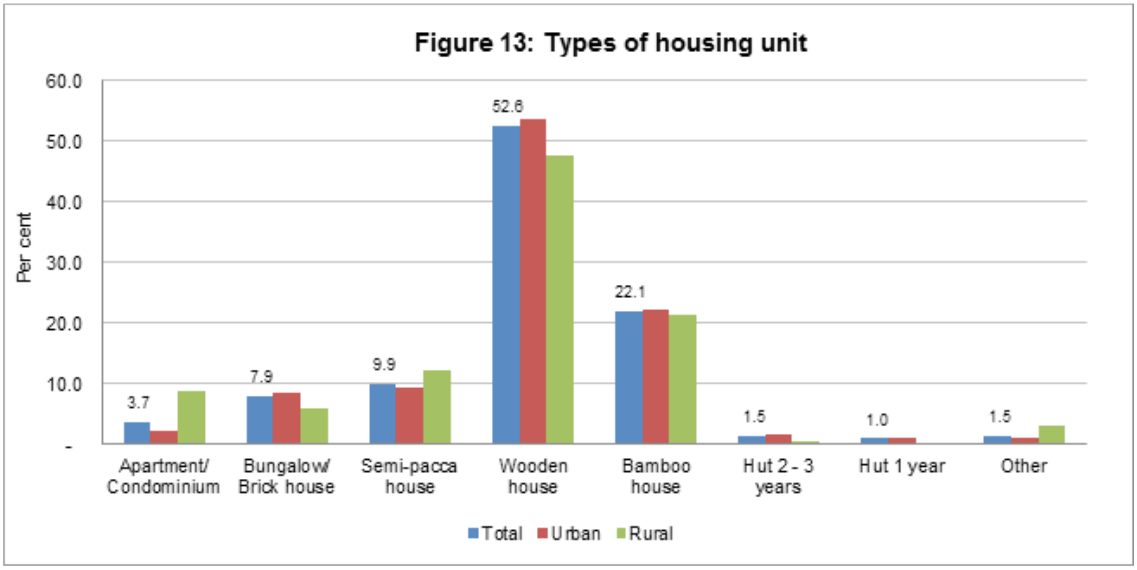


Figure C. Types of housing unit in the Study Area

The majority of the households in Shwepyitha Township are living in wooden houses (52.6%) followed by households in bamboo houses (22.1%). Some 53.8 per cent of urban households and 47.7 per cent of rural households live in wooden houses.

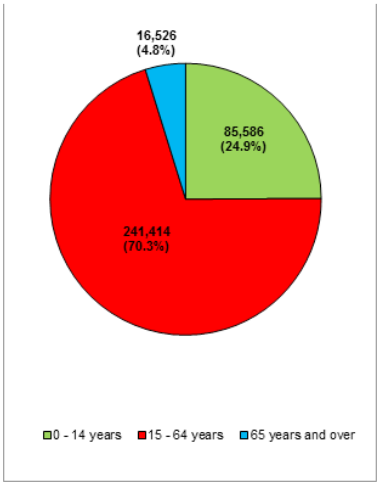


Figure D. Population of the Study Area

The proportion of productive working population between 15 to 64 years of age in Shwepyitha Township is 70.3 per cent. The proportion of children aged 14 and below together with the proportion of the elderly aged 65 and over is less than the proportion of the working age group population. Fewer proportions of children and elderly reduce the dependency of those age groups on the working age population.

In Shwepyitha Township, 35.9 per cent of the employed persons aged 15-64 are craft and related trades workers and is the highest proportion, followed by 23.6 per cent of services and sales workers. Analysis by sex shows that 33.8 per cent of males and 39.2 per cent of females are craft and related trades workers. In Yangon Region, 22.9 per cent are craft and related trades workers and 23.7 per cent are in services and sales workers.

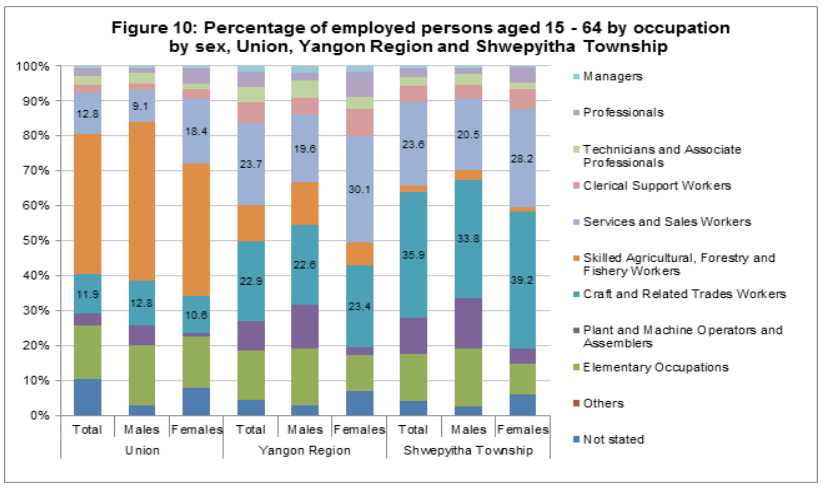


Figure E. Employments in the Study Area

At the Union level, the composition of the population by religion is: 87.9% Buddhist, 6.2% Christian, 4.3% Islam, 0.5% Hindu, 0.8% Animist, and 0.2% other religion and 0.1% No religion. In Yangon Region, it is 91.0% Buddhist, 3.2% Christian, 4.7% Islam, 1.0% Hindu, 0.1% other religion, and less than 0.1% each for Animist and those with No religion.

The literacy rate of those aged 15 and over in Shwepyitha Township is 96.9 per cent. It is higher than the literacy rate of Yangon Region (96.6%) and the Union (89.5%). Female literacy rate is 95.7 per cent and for the males it is 98.3 per cent. The literacy rate for youth aged 15-24 is 98.1 per cent with 98.1 per cent for females and 98.2 percent for males. Some 5.1 per cent of the population aged 25 and over have never been to school of the rural population aged 25 and over, 5.4 per cent have never been to school. There are 3.2 per cent of males aged 25 and over who have never attended school as against 6.7 per cent for females. Among those aged 25 and over, 17.1 per cent has completed primary school (grade 5) and 11.7 percent has completed university/college education.

Table D. Population aged 25 and over by highest level of education completed, urban/rural and sex

	Total	None	% Never attended	Primary school		Middle school (grade 6 - 9)	High school (grade 10 - 11)	Diploma	University/ College	Post-graduate and above	Vocational training	Other
				(grade 1 -4)	(grade 5)							
Total	185,258	9,406	5.1	25,235	31,653	56,478	37,919	542	21,620	686	342	1,375
Urban	151,946	7,615	5.0	18,782	26,509	46,174	31,912	448	18,365	605	292	1,244
Rural	33,312	1,791	5.4	6,453	5,144	10,304	6,007	94	3,255	83	50	131
Males	85,804	2,732	3.2	8,923	12,899	29,150	20,717	394	9,768	244	270	707
Females	99,454	6,674	6.7	16,312	18,754	27,328	17,202	148	11,852	444	72	668

The study area is located in Shwe Pyi Thar Township of Yangon Region. The proposed factory is currently occupied by near villages, cultivated land. Therefore, the topography is no major differences in altitude. The climate of factory area is located in tropical wet and dry climate.

Yangon has a tropical monsoon climate with very wet summers due to the southwest monsoon which starts from mid-May and lasts until mid-October. The warmest month with the highest average high temperature is April (37˚C) and the month with the lowest average high temperature is August (29.6˚C). The month with the highest average low temperature is May (25˚C) and the coldest month with the lowest average low temperature is January (17.9˚C).

Table E Average Temperature of Yangon

Sr	Month	Average High Temperature	Average Low Temperature
1	January	32.2˚C	17.9˚C
2	February	34.5˚C	19.3˚C
3	March	36˚C	21.6˚C
4	April	37˚C	24.3˚C
5	May	33.4˚C	25˚C
6	June	30.2˚C	24.5˚C
7	July	29.7˚C	24.1˚C
8	August	29.6˚C	24.1˚C
9	September	30.4˚C	24.2˚C
10	October	31.5˚C	24.2˚C
11	November	32˚C	22.4˚C
12	December	31.5˚C	19˚C

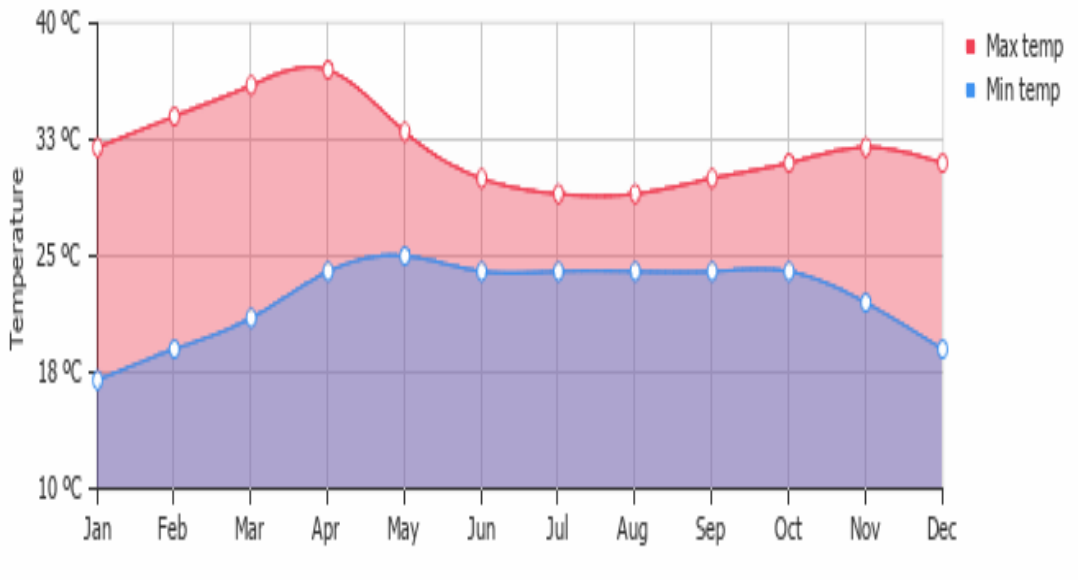


Figure F. Temperature Graph of Yangon

A lot of rain falls in the months of May, June, July, August, September and October. Yangon has dry periods in December January, February, March and April. The wettest month with the highest rainfall is August (602 mm) and the driest month with the lowest rainfall is February (2 mm). The month with the highest number of rainy days is July (26.2 days) and the months with the lowest number of rainy days are January, February and December (0.2 days).

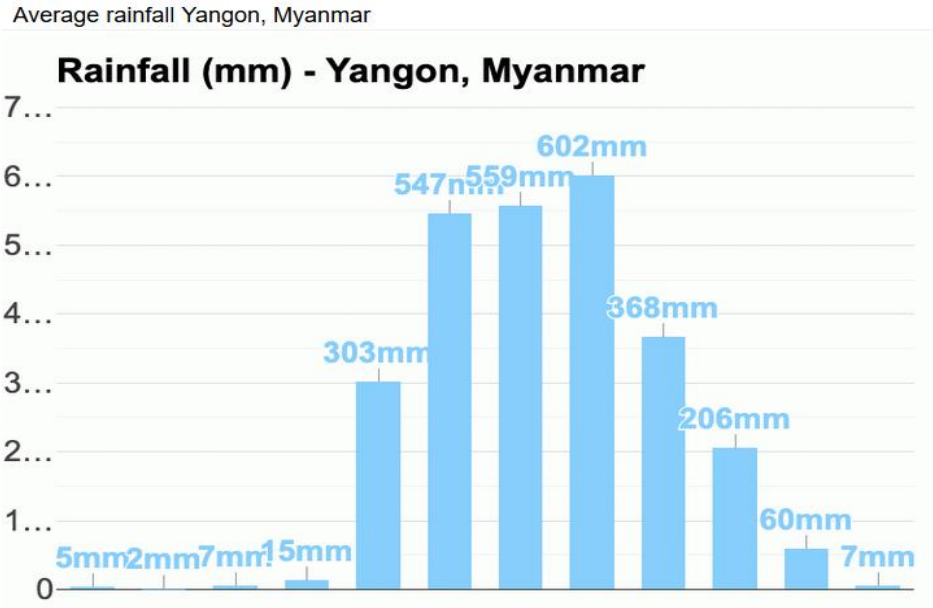


Figure G. Rainfall Graph of Yangon

Table F Average Rainfall and Rainfall Days of Yangon

Sr	Month	Average Rainfall	Average Rainfall Days
1	January	5 mm	0.2 days
2	February	2 mm	0.2 days
3	March	7 mm	0.4 days
4	April	15 mm	1.6 days
5	May	303 mm	12.6 days
6	June	547 mm	25.3 days
7	July	559 mm	26.2 days
8	August	602 mm	26.1 days
9	September	368 mm	19.5 days
10	October	206 mm	12.2 days
11	November	60 mm	4.8 days

12	December	7 mm	0.2 days

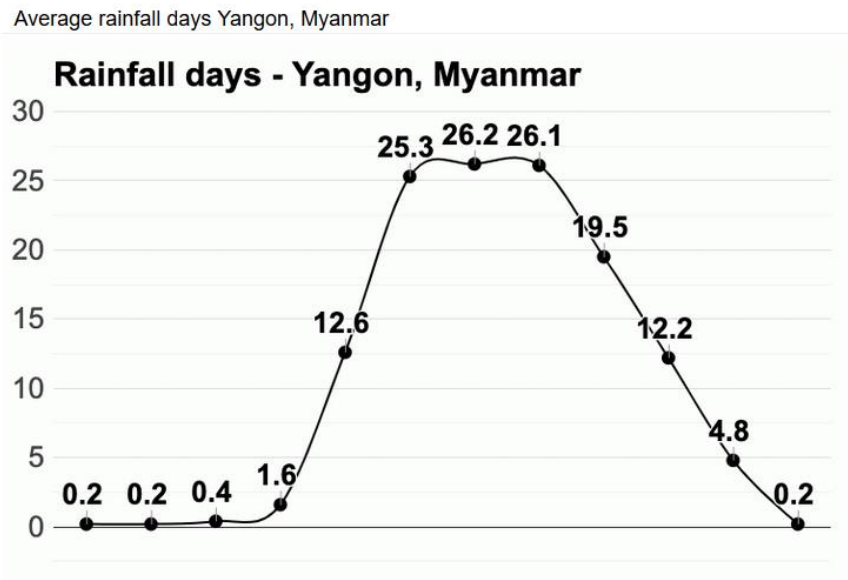


Figure H. Rainfall Days Graph of Yangon

In 2019, August is the most humid and January is the least humid month in Yangon. The month with the highest relative humidity is August (87%) and the lowest relative humidity is January (62%).

Table G. Average Humidity of Yangon

Sr	**Month**	**Average Relative Humidity**
1	January	62%
2	February	66%
3	March	69%
4	April	66%
5	May	73%
6	June	85%
7	July	86%
8	August	87%
9	September	85%
10	October	78%

11	November	71%
12	December	65%

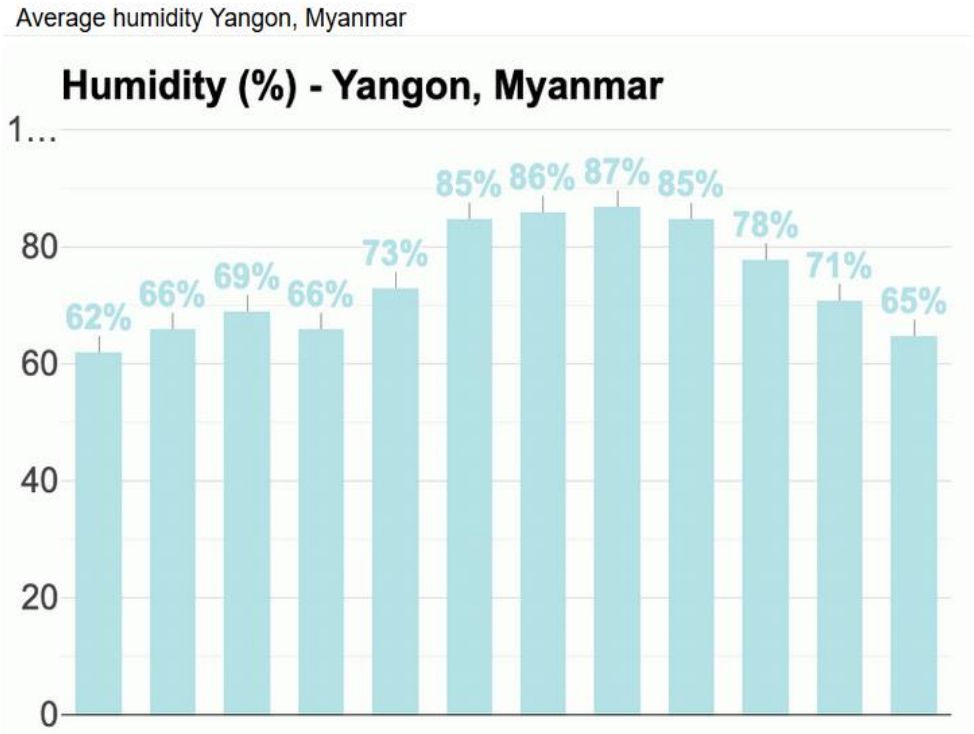


Figure I Humidity Graph of Yangon

Sunshine hours of Yangon are range from 2:29 daily in July to 9:44 to each day in January. The longest day of the year is 13:10 hr and the shortest day is 11:1 hr long. The longest day is 2:00 longer than the shortest day. The month with the longest day in June (average daylight: 13.1 h) and the month with the shortest day in December (average daylight: 11.1 h). Months with the most sunshine are January, February and April (average sunshine: 9.7 h) and the month with the least sunshine is July (average sunshine: 2.5 h).

Table H.. Average Daylight and Sunshine Hours of Yangon

Sr	Month	Average Daylight	Average Sunshine
1	January	11.3 hr	9.7 hr
2	February	11.6 hr	9.7 hr
3	March	12.1 hr	9.4 hr
4	April	12.5 hr	9.7 hr
5	May	12.9 hr	5.8 hr

6	June	13.1 hr	2.7 hr
7	July	13 hr	2.5 hr
8	August	12.7 hr	3 hr
9	September	12.2 hr	3.2 hr
10	October	11.8 hr	6.5 hr
11	November	11.3 hr	9.3 hr
12	December	11.1 hr	9.3 hr

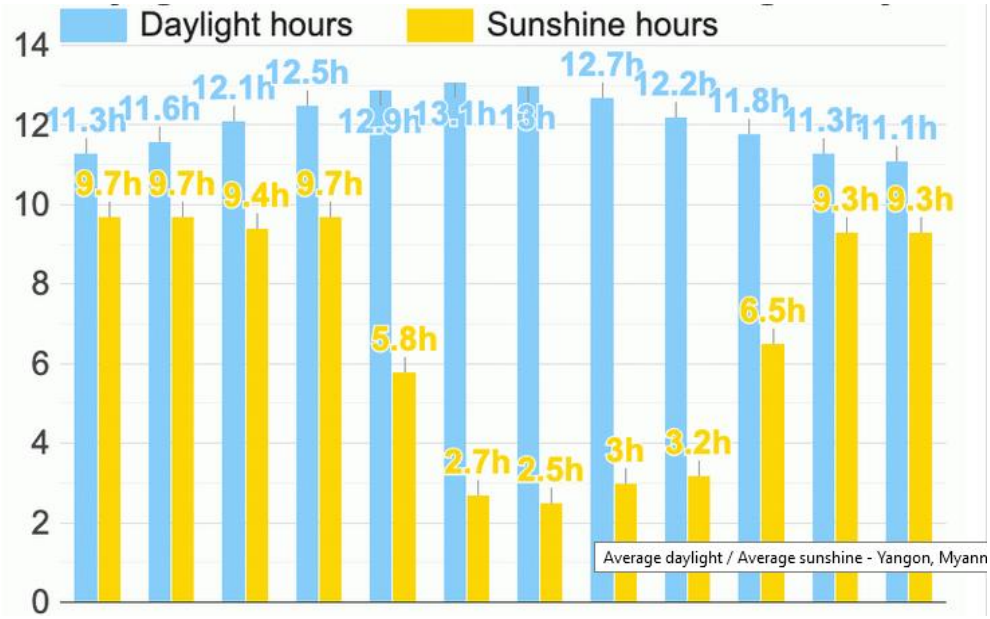


Figure J. Day Light and Sunshine Hours graph of Yangon

Months with the highest UV index of Yangon are March, April, May, June, July, August and September (UV index 12) and the month with the lowest UV index is December (UV index 8).

Table I. Average UV Index of Yangon

Sr	Month	Average UV Index
1	January	9
2	February	11
3	March	12
4	April	12
5	May	12

6	June	12
7	July	12
8	August	12
9	September	12
10	October	11
11	November	9
12	December	8

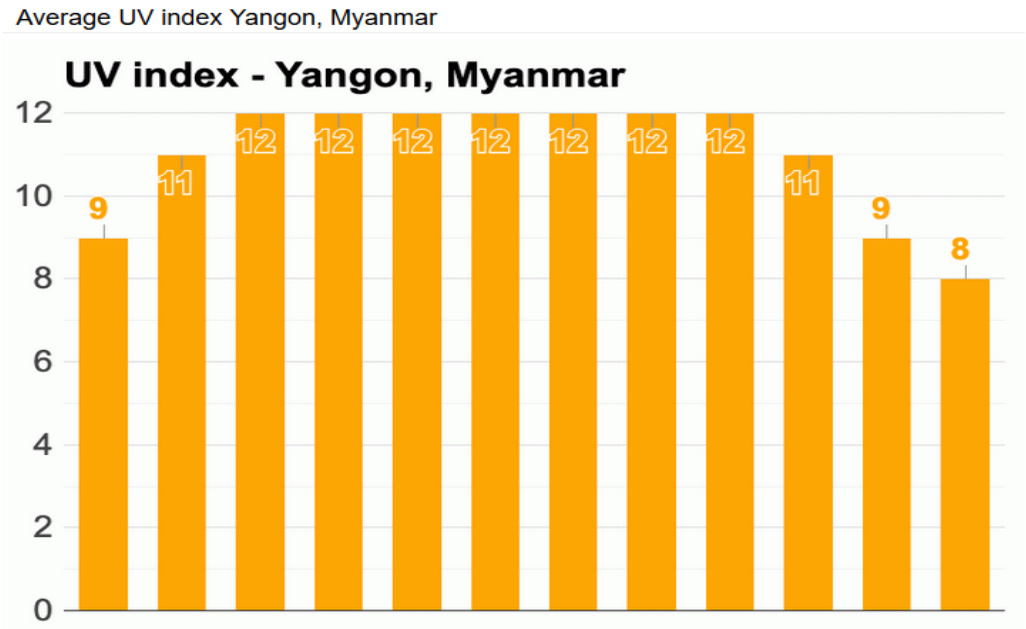


Figure K UV Index Graph of Yangon

One times of earthquakes are occurred in Yangon within 2020. The following table shows the detail description of earthquake occurring in Yangon.

Table J.Earthquakes in Yangon

Date	Magnitude	Depth	Distance	Location
Tuesday, November 12, 2019 3:34 PM	3.4	10	62 miles	10.2 km from Yangon, Near South Coast Of Myanmar District
Wednesday, April 22, 2020 6:47 PM	3.1	10	8.2 miles	14.2 km from Kanbe, Near South Coast Of Myanmar

Biodiversity includes two portions, which are the study of vegetation (flora) and the study of living animals (fauna). There is no natural vegetation, wildlife and deforestation in project affect area within 1 kilometer.

5. Impact Assessment and Mitigation Management

This factory of impact assessment and mitigation is described in table (L) and (N) depend on production process.

Table L. Environmental Aspect and Impact

Sr.	Activity List	Aspect	Impact
1	Receiving	Overweight lifting	Injury from overweight lifting
		Packing waste	Solid waste generation
2	Fabric Cutting	Operation of cutting machine	Injury from cutting machine, Solid waste generation
3	Sewing , zipper stitching and iron	Pieces of thread cuts, needle	Solid waste generation, Injure by needle and heat injury
4	Finishing, Tag & Code	Pieces of thread cuts, needle cuts	Solid waste generation, Injure by needle
5	Packing	Packing waste	Solid waste generation
6	Storage	Pieces of plastic	Solid waste generation
		Overweight lifting	Injury from overweight lifting

Table N. Mitigation Measures

IMPACTS	Impact Source	Mitigation
Fire hazard	-Smoking in prohibited area	1. Strictly prohibit smoking within factory compound 2. Clearly define and notify emergency exits 3. Passage ways must always be kept clean and clear

		4. Regularly check and refill fire extinguishers 5. Exercise fire drill regularly
Solid Waste	- Pieces of nylon fabric - Pieces of thread cuts, needle cuts - Packing waste - Plastic waste - General waste	1. Packing nylon fabric waste in bags 2. Cleaning continuous and regularly 3. Stacking waste bags systematically 4. Calling waste collector regularly 5. Providing adequate dust bins
Physical hazard	-Injury from overweight lifting - Contact with cutting machine - Injury by needle	1. Using necessary lifting and carrying aid apparatus and machinery 2. Using metal hand gloves for cutting machine operators 3. Installing needle guards
Noise	- Operation of generator and machine	1. Carrying out regular maintenance works for all the equipment and generator 2. Installation cover in generator room for noise
Machinery hazard	- Operation machine	1.Wearing necessary PPE (goggle, hand gloves, ear muffs) 2.Regular inspection and cleaning of debris, dusts and oils on machine components 3. Regular inspection of lubricant leakage and refilling as necessary 4. Clearing work place of flammable materials before using machine 5. Installation safety guard on machine 6. Regular inspection of belt, gears, sprockets, chains, and other moving parts. 7. Systematically installing machine parts 8. Regular inspection of power cable

		9. Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine 10. Allow only qualified workers to operate or maintain machine. 11. Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency.
Emission dust	- Operation of fabric settling	1.Wearing necessary PPE (goggle, gloves) 2. Regular inspection and supervision of the usage of the masks for the workers working at odor producing areas 3. Installation of a particle monitoring meter 4. Temporarily stopping the works if PM 2.5 and PM 10 emission reached above 50 µg/m^3 in a day 5. Cleaning with dust collector

6.Public Consultation and Disclosure

G & B Manufacturing (Myanmar) Company Limited is located at Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. The project will include industrial zone management committee meetings; Compliance with departmental inspections; other departmental officials in the vicinity of the project; Special emphasis is placed on building good relationships with other business people and the public.

7. Results of public consultation

Departmental officials, officials from the Zone Management Committee; Regular consultations will be held with the people in the area and public opinion will be taken to ensure that there is no harm to the environment and the socio-economy.

9. Disclosure of information on public consultation; The plan will be implemented in accordance with the requirements

The factory will have a suggestion box to provide public feedback on the project at all times. The guidelines of the Industrial Zone Committee and relevant departments will always be followed. Project announcements will be made in real time at the Industrial Zone Committee Office and the factory notice board.

ENVIRONMENTAL MANAGEMENT PLAN
FOR
G & B MANUFACTURING (MYANMAR) COMPANY LIMITED

1 INTRODUCTION

1.1 PROJECT BACKGROUND

G & B Manufacturing (Myanmar) Company Limited is a Private Company Limited incorporated under the Myanmar Companies Act. G & B Manufacturing (Myanmar) Company Limited is a specialized company in Registration Department (DICA) with registration Number (122657000). G & B Manufacturing (Myanmar) Company Limited is located at Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. This Environmental Management Plan (EMP) for G & B Manufacturing (Myanmar) Company Limited factory was prepared by company organization itself. This Environmental Management Plan has been done with reasonable skills, care and diligence in accordance with the stipulations of Environmental Impact Assessment Procedure (Paragraph 76-82). G & B Manufacturing (Myanmar) Company Limited factory EMP team consists of the core team and sector-wise participants.

Table 1. List of the factory data of G & B Manufacturing (Myanmar) Company Limited

No.	Project Data	Description
1	Company Name	G & B Manufacturing (Myanmar) Company Limited
2	Factory type	Manufacturing of garments on CMP basis
3	Location	Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar.
4	Investment type	Foreign
5	Investment amount and period	US$ (2.00) million for 30 year
6	Project period	2019 -2020
7	project area	(3.203) acres
4	Project Owner	Mr. Bi Wen Jie (PE 1744462)

5	Office Address	Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar.

Table 2. Project Owner data of G & B Manufacturing (Myanmar) Company Limited

Project Owner data	**Description**
Project Owner Name	Mr. Bi Wen Jie
Citizen	China
Passport No.	(PE 1744462)
Position	Director
Office Address	Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar
Contact Phone No.	09- 890092014/ emp.reporting.to.ecd@gmail.com

1.2 OJECTIVES OF THE EMP STUDY

The aim of Environmental Management Plan for G & B Manufacturing (Myanmar) Company Limited is to enable the approving authority and the developer to properly consider the potential environmental and social consequences of the project and to delineate an environmental management plan for the project. Primary objective of the report is to provide sufficient, clear and objective information for the approving authority to make a decision on whether to approve the project and if so, under what conditions.

(a) to investigate the legality of the project;

(b) to study the background environmental and socioeconomic profile of the area;

(c) to release project information for the general public;

(d) to study the environmental, social and socioeconomic issues likely to occur; and

(e) to devise mitigation and enhancement measures for key environmental and social impacts.

1.3 PRESENTATION OF THE ENVIRONMENTAL TEAM OF G & B MANUFACTURING (MYANMAR) COMPANY LIMITED FACTORY

G & B Manufacturing (Myanmar) Company Limited was arranged for EMP study and reporting for G & B Manufacturing (Myanmar) Company Limited factory. EMP team consists of the following team and sector-wise participants. This Environmental Management Plan has

been done with reasonable skills, care and diligence in accordance with the stipulations of Environmental Impact Assessment Procedure (Paragraph 76-77-82). G & B Manufacturing (Myanmar) Company Limited factory EMP team consists of the core team and sector-wise participants.

Table 3. EMP Team Member

Sr.	Name	Position	Area of Responsibility
1	U Aung Min Kyaw	Factory Manager	Reporting and Public relation
2	U Aung Pyae Sone	Factory Supervisor	Reporting Arrangement
3	U Zaw Zin Aung	HR Manager	Data Collection
4	U Kaung Min Khant	Operation Supervisor	Data Collection
5	Daw Nam Ohmm Khan	Customer service and translator	Data Collection

Table 4. Contact Data of G & B Manufacturing (Myanmar) Company Limited

Company Name	G & B Manufacturing (Myanmar) Company Limited
Address	Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar
Ph.no/E-mail	09- 977399258/ emp.reporting.to.ecd@gmail.com

2 COMMITMENT

This Environmental Management Plan (EMP) for G & B Manufacturing (Myanmar) Company Limited was prepared by company organization itself. This Environmental Management Plan has been done with reasonable skills, care and diligence in accordance with the stipulations of Environmental Impact Assessment Procedure (Paragraph 76-77-82). I hear by signed this report on behalf of the G & B Manufacturing (Myanmar) Company Limited to certify that all the information in it is true and convincing to the best of our knowledge.

(a) The accuracy and completeness of the EMP;

(b) That the EMP has been prepared in strict compliance with applicable laws including the EIA Procedure; and

(c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EMP Report.

(d) Improving the environmental management plan approved during the period of operation; Depending on the systems and business requirements, instructions will be followed to make better environmental management plans.

(e) If the project proponent wants to amend the environmental management plan, we will get the approval and amendment.

(f) When the project is completed and closed, it will minimize the impact on the community. In the event of an accident, minimize the risk; Socio-economic cooperation plans will be made.

No	List of Commitment	Commitment description	Mention chapter
1	The accuracy and completeness	The environmental management plan is rigorous and comprehensive.	All chapter
2	Strict compliance with applicable laws	That the EMP has been prepared in strict compliance with applicable laws including the EIA Procedure; and That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EMP Report	Chapter 3 (legal requirement)
3	Improving the environmental management plan approved during the period of operation	Improving the environmental management plan approved during the period of operation; Depending on the systems and business requirements, instructions will be followed to make better environmental management plans.	Chapter (7) Management and Monitoring plan
4	Amending the environmental management plan	If the project proponent wants to amend the environmental management plan, he/she will get the approval and amendment	Chapter 3 (legal requirement)

5	Factory decommissioning	When the project is completed and closed, it will minimize the impact on the community. In the event of an accident, minimize the risk; Socio-economic cooperation plans will be made.	Chapter 9 Environmental Management And Social Sub Plan

3 LEGAL REQUIREMENTS

The Laws, Rules and Procedures should be compliance from G & B Manufacturing (Myanmar) Company Limited is as follows.

1. Myanmar Environmental Policy
2. Environmental Conservation Law (2012)
3. Environmental Impact Assessment Procedures
4. National Quality (Emission) Guideline
5. Employment and Skill Development Law (2013)
6. Factory Act (1951)
7. Minimum Wages Law (2013)
8. Myanmar Fire Bridgate Law (2015)
9. Occupational Safety and Health Law (2019)
10. The Labour Organization Law (2011)
11. The Settlement of Labour Dispute Law (2012)
12. The Leave and Holiday Act (1951)
13. The Prevention of Hazard from Chemical and related Substances Law (2013)
14. The Control of Smoking and Consumption of Tobacco Product Law (2006)
15. The Environmental and International Conventions, Treaties and Agreements Related to The Manufacturing Operations

3.1 MYANMAR ENVIRONMENTAL POLICY

The Constitution of the Republic of the Union of Myanmar stipulates the Government to protect and conserve the natural environment and implies every citizen of Myanmar to assist the Government in environmental conservation.

National Environmental Policy (1994) is the basis for the integration of environmental consideration into development in Myanmar which proclaims the Government's commitment

to sustainable development. It highlights the integration of environmental considerations with development process for a better quality of life of all citizens. The State has the responsibility to preserve its natural resources in the interest of present and future generations and that environmental protection should always be the primary objective in seeking development.

The Myanmar Agenda 21 was developed in 1997 for all-natural resource management and environmental conservation work in pursuit of activities relating to biodiversity conservation. National Sustainable Development Strategy (NSDS) prepared in 2009 includes three goals: (i) sustainable management of natural resources; (ii) integrated economic development and (iii) sustainable social development. One of the Government's main priorities is to mainstream sustainable environmental considerations into the national development planning and to develop an effective safeguards system to prevent the social and environmental impacts associated with rapid economic growth.

3.2 ENVIRONMENTAL CONSERVATION LAW

Myanmar enacted the ***Environmental Conservation Law*** on 30th March, 2012 as Pyidaungsu Hluttaw Law No.9/2012. There are eight objectives of the law which stress on (i) implementation of Myanmar National Environmental Policy, (ii) integration of environmental conservation in sustainable development, (iii) emerging healthy and clean environment and conserving natural and cultural resources, (iv) reclaiming ecosystems, (v) sustainable and beneficial use of natural resources, (vi) promoting public awareness and cooperation, (vii) promoting international cooperation, (viii) and cooperation with government departments, INGOs, NGOs and individuals for the matters of environmental conservation. There are 42 paragraphs in 14 sections of the law.

Table 5. Relevant Stipulations in Environmental Conservation Law

Sr.	Paragraph	Stipulation
1	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.
2	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.
3	16	A person or organization operating business in the industrial estate or business in the special economic zone 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' charges or management fees for the environmental conservation according to the relevant industrial estate, special economic zone and business

		organization; (c) shall comply with the directives issued for environmental conservation according to the relevant industrial estate, special economic zone or business.
4	39 (b)	If any terms and conditions of environmental conservation contained in the prior permission for a business is not complied with, the power to cancel the issued license, permit or register or suspend it for a limited period is granted for relevant government department, or government organization.

3.3 ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURES

Former MOECAF developed the Environmental Impact Assessment Procedures which were approved in December 2015. MOECAF is already applying the main principles of EIA Procedures before their approval. Under the Foreign Investments Rules, the environmental impact assessment and social impact assessment reports are needed to be attached together with the investment proposal. Capital intensive investment projects and designated businesses need to be assessed by the MOECAF in terms of environmental impacts and compliance. Under the EIA procedures, all projects undertaken in Myanmar that can cause significant adverse impacts are required to undertake an IEE or EIA and to obtain an Environmental Compliance Certificate (ECC).

3.4 NATIONAL QUALITY (EMISSION) GUIDELINE

Industrial-specific Guidelines in National Environmental Quality (Emission) Guidelines (NEQG) for effluent levels, noise levels and air emission are referenced in this EMP

report. Garments, Textile and Leather Products of national quality (emission) guideline are followings adopted by EMP team

Table 6. Environmental Standards for Effluent Levels (NEQG)

Sr.	Parameter	Unit	Guideline Value
1	5-day BOD	mg/l	30
2	COD	mg/l	160
3	Adsorbable organic halogens	mg/l	1
4	pH	Standard unit	6-9
5	Ammonia	mg/l	10
6	Cadmium	100 ml	0.02
7	Chromium (hexavalent)	mg/l	0.1
8	Chromium (total)	mg/l	0.5
9	Cobalt	mg/l	0.5
10	Color	m^{-1}	7 (436 nma, yellow) 5 (525 nm, red) 3 (620 nm, blue)
11	Copper	mg/l	0.5

Table 7. Noise Level Standard (NEQG)

Receptor	One Hour LAeq (dBA)	
	Daytime (7:00-22:00) (10:00-22:00 for public holidays)	Nighttime (22:00-7:00) (22:00-10:00 for public holidays)
Residential, institutional, educational	55	45
Industrial, commercial	70	70

.

Table 8. Air Emission Levels (NEQG)

Sr.	Parameter	Averaging Period	Guideline Value µg/m³
1	Nitrogen dioxide	1-year	40

		1-hour	200
2	Ozone	8-hour daily Maximum	100
3	PM_{10}	1-year 24 hour	20 50
4	$PM_{2.5}$	1-year 24 hour	10 25
5	Sulfur dioxide	24-hour 10-minute	20 500

3.5 EMPLOYMENT AND SKILL DEVELOPMENT LAW

With the objectives to facilitate employment which is appropriate to the age and ability of the job seeker, to help workers obtain employment and to provide stability of employment and skills development for employees, to help employers obtain appropriate employees, the Employment and Skill Development Law came into force in late 2013. The law stipulates the facts required to be included and specified in the employment agreement between the employer and employee.

The law stipulates that a company must enter into written employment contracts with Myanmar citizens and foreign staff within 30 days of employment. A Standard Employment Contract is issued which is applicable to all employees, public and private, and shall be deemed to apply in all cases where the employee's written contract is silent. The Standard Employment Contract is largely provided for convenience. It allows employers and employees to vary the terms of the Standard Employment Contract so long as the variation is not in contravention of Myanmar's labor and employment laws.

Furthermore, an employment agreement may address issues such as job description, place of employment, working hours, wages and benefits, probation period, termination, and duration of the contract. Employee performance and work standards may be inserted into the employment contract too.

3.6 FACTORY ACT

The act outlines provisions for working hours for a week, interval between continuous working hours, maximum working hours per day, and working days per week. It also stipulates

maximum overtime working hours, overtime wage, worksite safety and health measures as well as welfare measures for workers. Welfare measures includes washing and cleaning facilities, seats first aid boxes, factory clinic, recreation center and canteen and child nursery center.

3.7 WORKING HOURS

- Shall not exceed 8 working hours per day or 44 hours per week
- Shall not exceed 48 hours per week for the work which has to be done continuously
- There must be a minimum 30 minutes interval after each 5 working hours
- The combined working hours and interval time shall not exceed 10 hours per day
- The working days shall not exceed 6 days per week
- There must be one day holiday each week (Sunday). If Sunday service is required, there must be a substitution of another day.

3.8 OVERTIME

- Shall not exceed more than 16 hours per week or, for continuous work, 12 hours per week
- The overtime wage shall be calculated as double the basic wage
- Permission of Factories and the General Labour Law Inspection Department must be obtained for an approval of a constant overtime policy.

3.9 IF WORKING ON DAYS-OFF

- Comply in accordance with the overtime and general working hour provisions
- There must be substituted an alternative day-off.

3.10 CALCULATION OF OVERTIME WAGES

- For salary earners: Overtime wage per hour = {(salary x 12 month) / 52 week x 44 (48) hrs} x 2
- For daily wages worker: Overtime wage per hour = {(daily wage x 6 day) / 44 (48) hrs} x 2
- Piece-work labourers: Overtime wage per hour = {(daily average wage x 6 day) / 44 (48) hrs} x 2

3.11 WORKSITE SAFETY AND HEALTH MEASURES

- The factory must be kept clean and the workspace must be situated away from drains, latrines or other things which create a bad or unhealthy smell.
- There must be proper ventilation, light and heat.
- There must be no dust or smoke in the hall or factory.
- There must be clean drinking water in proper places for all workers.
- Population of workers must not be dense and there must be sufficient light.
- The latrines must be in suitable places.
- The generators and other auxiliary units must be kept undercover.
- There must be arrangements made for any emergency cut out of electricity service.
- In weaving or spinning machines, any female workers and any children must not be allowed to handle.
- Females and young workers are not allowed to lift heavy loads.
- Floors, stairs and paths must be well-built and hand rails are to be built and necessary covers must be placed.
- In every factory, the arrangement of escape routes and fire alarms must be kept.

3.12 WELFARE

- There must be washing and cleaning facilities for workers.
- There must be sufficient seats for workers if a chance is given for sitting.
- There must be sufficient First Aid Boxes.
- If the workers in a factory exceed 250, doctors or nurses in clinic are to be appointed.
- If the workers of a factory exceed 100, recreation centers and canteens are to be kept for food.
- For factories with over 50 female workers, there must be a child nursery center available for the children under 6 year of age.

3.13 MINIMUM WAGES LAW

3.13.1 Duties of the Employer

- 3,600 kyats per 8-hour working day (450 kyat/hour) shall be the minimum wage paid to skilled employees of companies with more than 15 employees in all industries, throughout all of Myanmar.

- 50% of the minimum – 1,800 kyats per 8-hour working day (225 kyats/hour) – may be paid to completely unskilled newly hired workers engaged in a training/induction program up to a maximum of 3 months.
- 75% of the minimum – 2,700 kyats per 8-hour working day (338 kyats/hour) – may be paid to newly hired employees during their 2nd 3 months of employment, regarded as a 'probationary period'.

3.13.2 Penalty for violation

- If anybody violates the law they may be punished with a maximum of one year imprisonment or with a maximum of five hundred thousand kyats fine or with both
- If anybody violates the rules and orders they may be punished with a maximum of three months' imprisonment or with a fine or with both.

3.14 MYANMAR FIRE BRIDGATE LAW

Myanmar Fire Bridget Law was enacted in 13th waning of Taboung, 1376 M.E (17, March, 2015). The objectives of this law are as follows:

i. To prevent destruction of State-owned property, private property, cultural heritage and the lives and property of the public by fire and other natural disaster;
ii. To organize the fire brigade systematically and to train members of the fire brigade;
iii. To carry out extinguishing fire, prevention and search and rescue when fire, other natural disaster, epidemic disease or any kind of sudden disaster occurs;
iv. To educate, organize and incite extensively so as to achieve public cooperation when any disaster occurs;
v. To participate and help, if necessary, for the State safety, peace of the public and the rule of law.

3.15 OCCUPATIONAL SAFETY AND HEALTH LAW

The objectives of this Law are given hereunder:

a. to implement Occupational Safety and Health matters effectively in the respective Industries/Businesses;

b. to determine the duties of relevant persons applicable under this Law including Employers and Workers to lessen and mitigate occurrence of Occupational Diseases and Occupational Accidents;
c. to cause relevant persons applicable under this Law, Employers and Workers to take precaution and prevention against occupational hazards and Occupational Diseases;
d. to improve the productivity and health of Workers by preventing the occurrence of Occupational Accidents and Occupational Diseases for their safety;
e. to create Workplaces that are safe and good for health by prescribing the Occupational Safety and Health standards relevant to the Union's status after considering international and regional standards; and
f. to support and help research activities carried out for the development of Occupational Safety and Health matters.

3.16 THE LABOUR ORGANIZATION LAW

The objective of this law is to protect the rights of the workers, to have good relations among the workers or between the employer and the worker, and to enable to form and carry out the labor organizations systematically and independently.

The Law emphasized for the employer is as follows.

1. The employer shall recognize the labor organizations of his trade as the organizations representing the workers.
2. The employer shall allow the worker who is assigned any duty on the recommendation of the relevant executive committee to perform such duty not exceeding two days per month unless they have agreed otherwise. Such period shall be deemed as if he is performing the original duty of his work.
3. The employer shall assist as much as possible if the labour organizations request for help for the interest of his workers. However, the employer shall not exercise any acts designed to promote the establishment or functioning of labour organizations under his domination or control by financial or other means.

3.17 THE SETTLEMENT OF LABOUR DISPUTE LAW

The Pyidaungsu Hluttaw hereby enacts this Law for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or

obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly.

In any trade in which more than 30 workers are employed, the employer, with the view to negotiating and concluding collective agreement, shall:

(a) if there is any labor organization, form the Workplace Coordinating Committee with the view to make a collective bargaining as follows:
  (i) two representatives of workers nominated by each of the labour organizations;
  (ii) an equivalent number of representatives of employer;

(b) if there is no labor organization, form the Workplace Coordinating Committee as follows:
  (i) two representatives of workers elected by them;
  (ii) two representatives of employer.

3.18 THE LEAVE AND HOLIDAY ACT

3.18.1 Causal Leave (6) days

- Casual leave of 6 days with wages is to be provided
- Causal leave can be taken a maximum of 3 days at a time except in special cases
- Causal leave cannot be joined with any other leave
- Leave will be cancelled if it has not been used within a year

3.18.2 Earned leave (10) days

- For continuous service of 12 months and above, 10 days of ‘earned leave’ shall be entitled
- If the service day is not 24 days 1-day deduction from earned Leave is made; –
- Can be accumulated for up to 3 years.

3.18.3 Medical Leave (30) days

- Workers are entitled to 30 days of medical leave with full pay if 6 months service has been completed
- If 6 months service has not been completed, ‘leave without pay’ can be granted for medical needs
- Medical leave can be joined with Earned Leave
- If not taken within a year, medical leave is void or cancelled.

3.18.4 Maternity leave

- Workers requiring it are entitled to 6 weeks maternity leave before confinement and at least (8) weeks after confinement
- Can be entitled jointly with medical leave.

3.18.5 Public Holidays (21) days

- Workers can enjoy time off with full pay.
- If work is given on a public holiday, twice the rate of regular wages is required.

3.19 THE PREVENTION OF HAZARD FROM CHEMICAL AND RELATED SUBSTANCES LAW

Pyidaungsu Hluttaw Law (No, 28) The 5th Waning of Wagaung 1375 M.E (26th August, 2013and the Pyidaungsu Hluttaw hereby enacts Law on Prevention of Hazard from Chemical and Related Substances Law. This Law shall apply to all existing or new standard within the Union on the date of entry into force of this Law. The highlight of this Law is as follows:

(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.

3.20 THE CONTROL OF SMOKING AND CONSUMPTION OF TOBACCO PRODUCT LAW

This Law was enacted in 2006. The objectives of the Law are:

(a) To convince the public that health can be adversely affected due to smoking and consumption of tobacco product and to cause refraining from the use of the same;

(b) To protect from the danger which affects public health adversely by creating tobacco smoke- free environment;

(c) To obtain a healthy living style of the public including child and youth by preventing the habit of smoking and consumption of tobacco product;

(d) To uplift the health, economy and social standard of the public through control of smoking and consumption of tobacco product;

(e) To implement measures in conformity with the international convention ratified by Myanmar to control smoking and consumption of tobacco product.

3.21 THE ENVIRONMENTAL AND INTERNATIONAL CONVENTIONS, TREATIES AND AGREEMENTS RELATED TO THE MANUFACTURING OPERATIONS

We will comply with environmental and international conventions, treaties and agreements related to the manufacturing operations of this facility.

International conventions, treaties and agreements	**Signed date**	**Activation date**	**Member date**	**Cabinet activation date**
United Nations Framework Convention on Climate Change, New York, 1992 (UNFCCC)	11-6-1992	25-11-1994 (Ratification)		41/94 9-11-1994
Vienna Convention for the Protection of the Ozone Layer, Vienna, 1985		24-11-1993 (Ratification)	22-9-1994	46/93
Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987		24-11-1993 (Ratification)	22-9-1994	46/93
London Amendment to the		24-11-1993 (Ratification)		46/93

Montreal Protocol on Substances that Deplete the Ozone Layer, London, 1990			22-9-1994	
ASEAN Agreement on Transboundary Haze Pollution	10-6-2002	13-3-2003 (Ratification)		7/2003(27-2-2003)
Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal		6-4-2015 (Ratification)		

4 PROJECT DESCRIPTION

4.1 PROJECT LOCATION

G & B Manufacturing (Myanmar) Company Limited is located at Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. . The project area is (3.203) acres of land and it include office, factory building, security gate, raw materials storage area, canteen and product storage area. The Factory construction operation was started in 2019 to 2020.

Figure 1. Location of G & B Manufacturing (Myanmar) Company Limited

4.2 LAYOUT PLAN

G & B Manufacturing (Myanmar) Company Limited is located at Plot Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. The project area is (3.202) of land at latitude: 16°59'2.95"N), longitude: 96° 5'12.57"E). Layout Plan of G & B Manufacturing (Myanmar) Company Limited is shown in following figure.

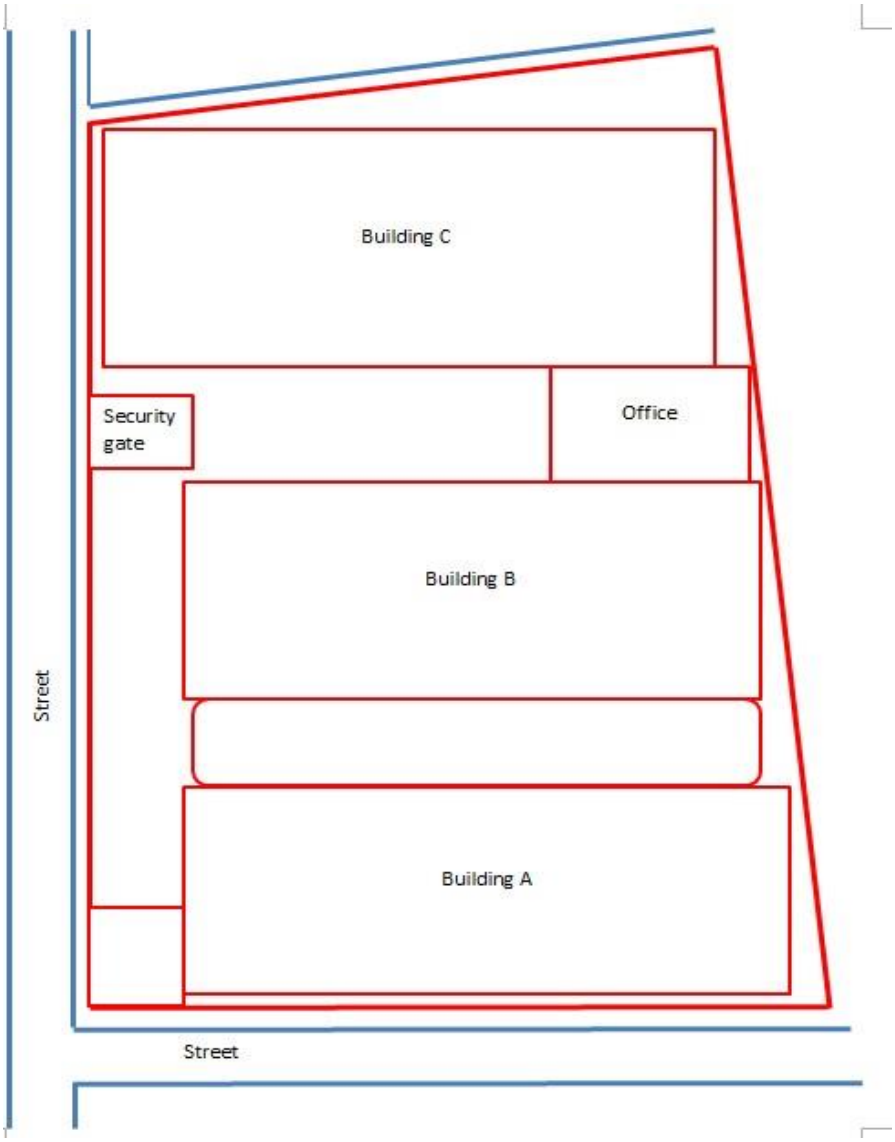


Figure 2. Layout Plan for G & B Manufacturing (Myanmar) Company Limited

4.3 PROJECT OPERATION

The factory produces variety of shoe with production scheme. Majority of the products are export. There are about (1510) workers at the factory. Routine production works can be seen in the following flow diagram.

Primary production scheme is raw materials storing, cutting, and sewing, finishing and packing. The production process produces no liquid effluent and slightly gaseous emission from diesel generator. The process produce solid waste mainly consists of all process and these solid wastes are managed to collect by the government waste collector.

Figure 3. Process Flow Diagram for G & B Manufacturing (Myanmar) Company Limited

4.3.1 Storing

The fabric store department is centralized in the apparel industry and all the fabric comes to this unit first from the supplier and audited here and kept until it is distributed to other units. For an export-oriented and bulk production garment industry, it is essential to maintain a well-organized & well-equipped inventory system. The main responsibility of this department is to store all the raw material necessary to produce garments. Before starting the garments production, the required amount of fabric has to store in the garments. All the next processes such as spreading, cutting, sewing, and so on. As result, store department plays an important role to get smooth production.

Figure 4. The fabric store department

4.3.2 Cutting

Cutting is separating of the garment into its components and in a general form, it is the production process of separating (sectioning, curving, severing) a spread into garment parts that are the precise size and shape of the pattern pieces on a marker.

Cut Panel Inspection;

1. Quality an inspector will check Panel using Hard pattern after cut from three different position Top, Middle, and Bottom

2. If there any discrepancy, a correction will be immediate. If the panel found plus from hard patterns, it will have to cut extra part. If panel found minus from hard pattern, will have to place the fabric under marker as per lay chart to remake again.

3. All cut panels will be inspected to detect any types of fabric fault if any defective panel found, will be replaced from lay chart wise remnants by following the shade and pattern grain line.

Production Order Sheet: Cutting Section firstly takes the PO sheet. They find out all detailed information in the PO sheet especially size breakdown, size-wise and color-wise order quantity.

Pattern receives: They receive the approved pattern from the sample section.

Marker Making: After pattern receiving, they make marker according to the order sheet and pattern size.

Fabric receives: Fabric is the main raw material in the cutting section. All success depends on cutting. So, the cutting section has to become serious when they receive the fabric.

Fabric Spreading: Before spreading the fabric on table they relax the unrolled fabric for 12-24 hr. After completing relaxation, they spread the fabric on a table with proper tension.

Marker Placing: Marker is a thin paper which carries all the garments components and placed on fabric lay for cutting. Before cutting the marker from CAD placed on fabric lay. Marker checked very carefully before placement on fabric.

Cutting: In this step, cutting is done by a cutter machine. Straight knife cutting machine, round knife cutting machines are mostly used for cutting.

Sorting: After cutting the cut parts are sorted according to shade, size-wise.

Numbering & checking: In this step, the cut parts are numbering and checking carefully so that the single components never mistake. QC checks the cut parts. If any defect found they replace the cut piece.

Bundling: The cut pieces are bundled finally.

Input to Sewing: The bundled cut piece ready for sewing.

Figure 5. The Cutting Department

4.3.3 Sewing Clerk

Sewing is the process of fastening or attaching two parts of fabric using stitches made with a needle and thread. It is one of the basic steps of the apparel manufacturing process. The sewing section is the most important department of the garment manufacturing industry. Garment manufacturing is quite different from any other conventional manufacturing. It is not a continuous production method. Each style is a different product that requires a different type of fabric, color, buttons, thread, etc. The sewing process is one of the most important stages in labor-intensive ready-made clothing enterprises.

In this section, each and every sewing machine and job of machine operators should be inspected on a routine basis for identifying, correcting, and controlling faults and maintaining the quality of products. To ensure the quality of the product, quality control personnel have to control quality in a different section in the garment industry, which is directly or indirectly involved with the production.

Figure 6. The Sewing Department

4.3.4 Finishing

After stitching, there will be some hanging sewing threads on the finished product. Trimming is the operation of removing these extra hanging threads. Sometimes, finished products get stained during the production process. Some of the sewn products may also have some open seams or other stitching faults. The finishing department repairs such products before packing. The last objective of finishing department is ironing. The sewn products are pressed to remove the wrinkles and to enhance the look of the garment.

Figure 7. Finishing Department

4.3.5 Packaging

The packing is always done in the carton boxes and there are several criteria for the packing of the garments. There are generally two kinds of packing the garment. The garment is individually packed/ wrapped in the poly bag whose design will be specified by the buyer. i.e., either with the hanger attached or plain poly bag packing and then the entire garments (as per the packing criteria) is arranged in the carton box. The other method is that the garments are just folded and arranged in the carton boxes without putting them in the poly bag.

Figure 8. Packing Department

4.4 DESCRIPTION OF RAW MATERIALS

The basic raw materials used nylon fabric and yarn. The basic raw materials used nylon fabric and yarn. These raw materials are imported directly from China, Vietnam, Cambodia and Taiwan. All Raw material were stored in individual store hall with systematically fire safety. The basic raw materials lists and annually requirement is show in appendix 6.

Figure 9. Raw Material Storage Area

4.5 DESCRIPTION OF PRODUCTS

The main products of G & B Manufacturing (Myanmar) Company Limited is produced various clothes such as lady coat, pants and down jacket and export to European countries. All products were systematically stored in raw and product storage hall. The annually production rate and product list detail are shown in appendix 7.

Figure 10. All products Storing Area

4.6 EQUIPMENT AND MACHINERY LIST

Equipment and Machinery lists used in G & B Manufacturing (Myanmar) Company Limited are described in appendix 5. Most of equipment and machinery was import from China.

4.7 BOILER USAGE

G & B Manufacturing (Myanmar) Company Limited are using electric boiler. Electric boilers do not run-on gas, and therefore there is no danger of carbon monoxide poisoning emission. They work in the same way as a kettle. Current using boiler type is electric combi boiler 1 ton.

Figure 11. Boiler Room

4.8 ELECTRICITY SUPPLY

G & B Manufacturing (Myanmar) Company Limited purchase electricity from government power source by using (300) KVA automatic voltage stabilizer. The plant was installed (500) KVA and (60) KVA for supply electricity. The electrical power consumption of the factory is (258,200) KWh/year. Disel fuel for diesel generator was bought from outside supplier. Therefore, the fuel storage room is absent. The amount of diesel fuel usage is 4500 gal per year.

Figure 12. Automatic voltage stabilizer Storing Area

Figure 13. Generator Storing Area

4.9 OPERATIONAL WORKFORCE

The work force during operation for the entire plant is 1500 members and foreigner labor is about (10) person. Total operational workforce is (1510) person. The working hours for the worker from the plant were (8) hrs from Monday to Friday and only Saturday for (4) hr. The operation day of factory is generally (288) day/year. The employment list for the G & B Manufacturing (Myanmar) Company Limited is shown in appendix 8.

4.9.1 Institutional Arrangements

There are seven departments such as Admin Departments, Accounting, QC, Maintenance, Ware house and Production Department which are leaded by managing director and head of departments. This factory has one shift and security is day and night shift. A managing director is responsible for nurturing the whole plant to be in smooth operation.

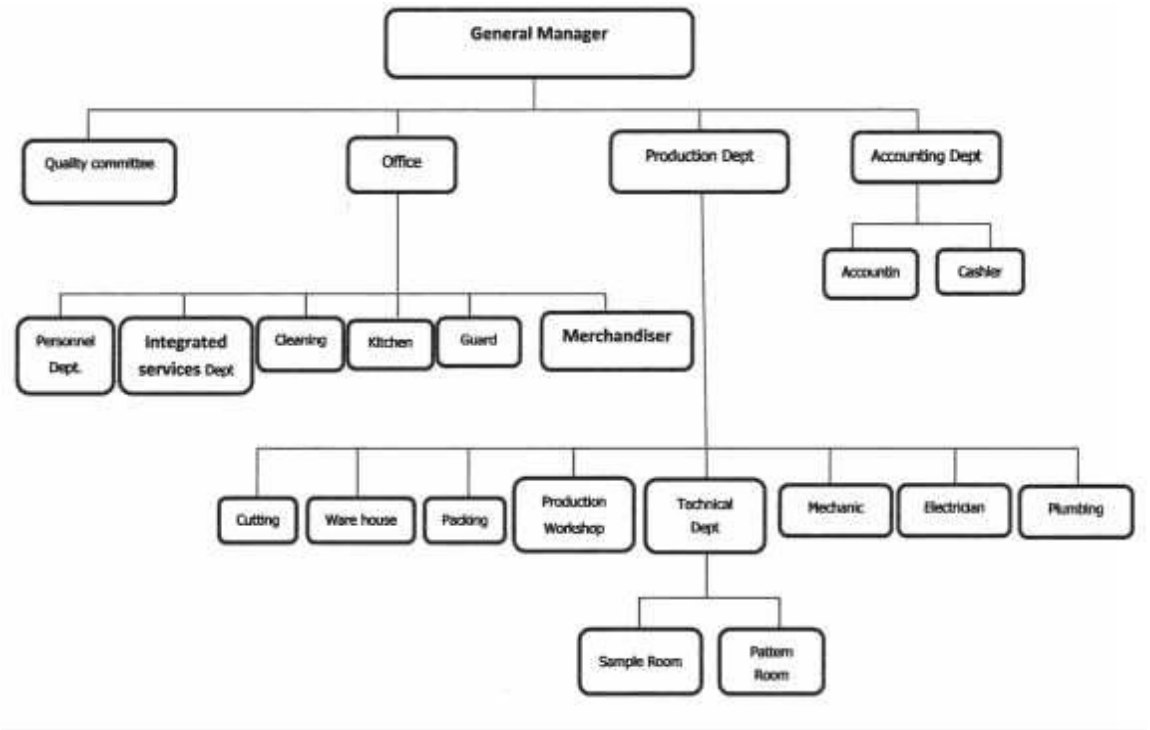


Figure 14. Organization Structure of G & B Manufacturing (Myanmar) Company Limited

4.10 SOLID WASTE

Solid wastes of G & B Manufacturing (Myanmar) Company Limited mainly comprised of nylon fabric cuts. Solid waste generation and management system of G & B Manufacturing (Myanmar) Company Limited can be seen in the following figure. Solid wastes collecting area is set in factory compound (latitude 16°59'3.20"N ,longitude 96° 5'10.65"E)

Table 9. Waste Generation from Apparel Manufacturing

Sr.	Process	Waste Type	Waste Amount by Annually
1	Receiving	Packing waste	100 kg
2	Cutting	Linen cuts, nylon fabric cuts	500 kg
3	Sewing	Linen cuts, Thread cuts	
4	Zipper stitching	Metal waste, Thread cuts	10 kg
5	Tag and Code	Paper waste, Packing material	100 kg
6	Packing	Packing waste	18 kg

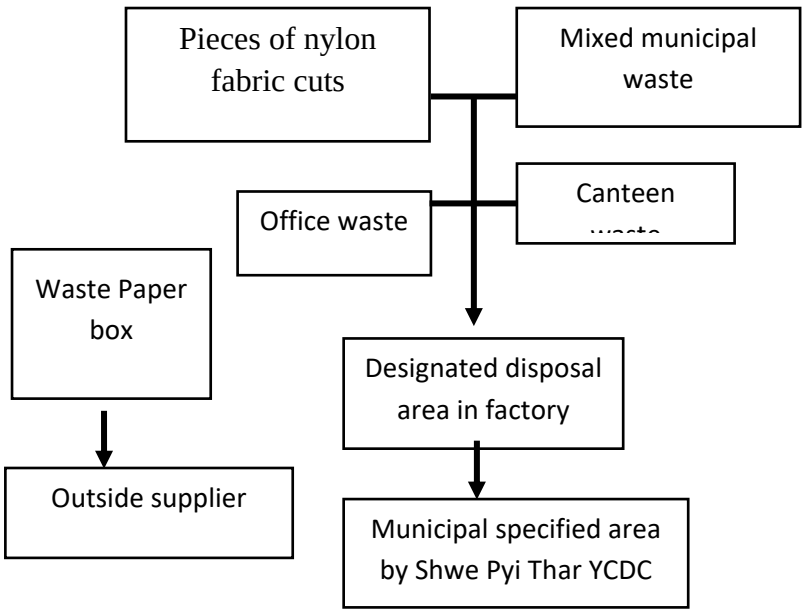


Figure 15. Waste Management System of G & B Manufacturing (Myanmar) Company Limited

Figure 16.. Solid Waste Collecting Area in Factory Compound

The general waste from G & B Manufacturing (Myanmar) Company Limited is discharged by calling solid waste collector such as Shwe Pyi Thar Township City Development Committee. Domestic solid waste generation from G & B Manufacturing (Myanmar) Company Limited is low. Systematic management of these solid wastes is of importance as mismanagement of the waste will lead critical occupational hazard including fire hazard.

5 CURRENT CONDITION OF SURROUNDING ENVIRONMENT

5.1 WATER QUALITY

Water supply for G & B Manufacturing (Myanmar) Company Limited is obtains mainly from the tube well. Water is extracted from one tube well hand washing and toilets in construction period. Waste water discharge has not presented in operation process.

5.1.1 Tube Well Water

Water supply for G & B Manufacturing (Myanmar) Company Limited is obtains mainly from the tube well and storage with water tank. Water is extracted from one tube well usage is hand washing, bathing, toilets and kitchen. Tube well water sample is collected and analyzed at ISO Tech laboratory. The pH of the water is 7.7, which is well within the limit of acceptable WHO drinking water value 6-9. The turbidity of the tube well water is 3NTU. Iron (0.26, mg/l) is smaller than the acceptable limit of 0.3 mg/l (WHO) drinking water guideline. Nitrate quality of tube well water is 0.6, that is normal over than the WHO Drinking Water guideline value. High levels of nitrate in ground water can be a result of runoff or leakage from fertilized soil, wastewater, landfills, animal feedlots, septic systems, or urban drainage. The main fact is factory area was landfilled area before setting factory zone. Another parameter is shown in Table. Tube well water usage is (1,400,000) gal/year. Drinking water treatment system was installed for drinking water of labor.

Table 10. Tube well Water Quality Analysis Results

Sr	Particular	Unit	Tube Well Water	WHO Drinking Water guideline value (Geneva-1993)
1	pH	S.U	7.7	6.5 - 8
2	Colour	TCU	Nill	15
3	Turbidity	NTU	3	5
4	Total Hardness	mg/l as $CaCO_3$	4	500
5	Calcium Hardness	mg/l as $CaCO_3$	2	-
6	Magnesium Hardness	mg/l as $CaCO_3$	2	-

7	Total Alkalinity	mg/l as $CaCO_3$	16	-
8	Phenolphthalein Alkalinity	mg/l as $CaCO_3$	Nill	-
9	Carbonate ($CaCO_3$)	mg/l as $CaCO_3$	Nill	-
10	Bicarbonate($HCaCO_3$)	mg/l as CaCO3	16	
11	TDS	mg/l	16	1000
12	TSS	mg/l	6	1000
13	Iron	mg/l	0.26	0.3
14	Phosphate	mg/l	Nill	500
15	Magnesium	mg/l	14	-
16	Nitrate	mg/l	0.6	0.01
17	Calcium	mg/l	23	-
18	Phenolphthalein Acidity	mg/l	2	-
19	Methyl Orange Acidity	mg/l	Nill	-
20	Salinity	ppt	0.1	-
21	Copper	mg/l	Nill	2
22	Chloride	mg/l	4	250
23	Sodium Chloride	mg/l	7	-
24	Sulphate	mg/l	Nill	500
25	Manganese	mg/l	Nill	0.05

Figure 17. Tube well Water Sampling

Figure 18. Drinking Water Treatment System is Installed for Drinking Water

Figure 19. Tube well Water Sampling Point

5.1.2 Waste Water

Waste water from G & B Manufacturing (Myanmar) Company Limited of is only domestic waste water. Production process of the G & B Manufacturing (Myanmar) Company Limited has no water usage. Therefore, industrial waste water is absent. Domestic waste water is discharge from toilets, kitchen and labor house. This waste was discharged to roadside drain. The plant has no water treatment unit. The location of waste water collection for the project is shown in following figure.

One sample of waste water was collected at latitude (16°59'1.62"N) and longitude (96° 5'10.67"E) and analyzed at ISO TECH laboratory. The sampling point was the outlet of the drain of the plant. The pH of the water is 7.8. The suspended solid from the water can be seen about 52 mg/l, dissolved solids result is 35 mg/l. The BOD and COD result of waste water is in the range of NEQG about 24 and 64 mg/l. From the following table, pH, BOD, COD are within the range of NEQG guideline value.

Table 11. Waste water quality analysis results

Sr.	Particular	Unit	NEQG	Waste Water Result
1	pH	-	6-9	7.8
2	BOD	mg/l	30	24
3	COD	mg/l	164	64
4	Total Suspended Solid (TSS)	mg/l	50	52
5	Total Dissolved Solid	mg/l		35
6	Total Solid	mg/l	-	87
7	Nitrate	mg/l	-	3.9
8	Ammonia Nitrogen	mg/l	-	1.33
9	Ammonium Nitrogen	mg/l	-	1.41

Figure 20. Waste Water Sampling Point

Figure 21. Waste Water Sampling from Factory Drainage

Figure 22. Factory Drainage System

5.2 AIR QUALITY

5.2.1 Air Monitoring and Environment

The main sources of air pollutant from the project area are the operation of the machine operation, diesel generator and vehicles moment and human activities.

5.2.2 Survey Methodology

Sampling and analysis of ambient air quality were conducted by referring to the recommendation of the United State Environmental Protection Agency (U.S. EPA). The Haz-Scanner Environmental Perimeter Air station (EPAS) was used to collect ambient air survey data. Sampling rate or air quality data were measured automatically every one minute and directly read and recorded onsite for measured parameter(NO_2, O_3, PM_{10}, PM2.5, SO_2, CO_2, CO, Relativity humidity, win speed, win direction and temperature), as shown in table.

Table 12.Air analysis info

Sample site	G & B Manufacturing (Myanmar) Company Limited	Sample I.D.	AS0921-03
Location (Township)	Shwe Pyi Thar Township	Method	HAZ-SCANNER™ Model-EPAS
		Station height (elevation)	Ground
Location (Region / state)	Yangon	Latitude	16°59'1.97"N
		Longitude	96° 5'12.37"E
		log on time (Date, Time)	2.9.2021(09:30 AM)
Air Monitoring Date	2.9.2021	log off time (Date, Time)	3.9.2021 (09:30 AM)
		Logging Duration (hours)	24 hours

Figure 23. Air Sampling Point

5.2.3 Identification of Air Pollutants and Its Impacts

The proposed G & B Manufacturing (Myanmar) Company Limited is operating the machines by the time monitoring the air quality. Therefore, the air station is set on to collect data of the current air quality impacted by operational works and moving vehicles for the transportation of loads. Therefore, the site has to measure the surrounding air quality to know whether SO_2, NO_2, CO_2, CO, $PM_{2.5}$ and PM_{10} are exceeding the limiting amount of National Environmental Quality Emission Guideline or not. The impacts of pollutants are defined below.

Carbon Monoxide (CO) is a toxic gas that cannot be seen or smelled. All people are at risk for CO poisoning. Unborn babies, infants, the elderly, and people with chronic heart disease, anemia, or respiratory problems are generally more at risk than others. Breathing CO can cause headache, dizziness and vomiting nausea. If CO levels are high enough, unconscious or death may be become. Exposure to moderate and high levels of CO over long periods of time has also been linked with increased risk of heart disease.

Carbon Dioxide (CO_2) is the primary greenhouse gas pollutant, accounting for nearly three-quarters of global greenhouse gas emissions. Carbon pollution leads to long lasting changes in our climate, such as rising global temperatures, rising sea level, changes in weather and

precipitation patterns and changes in ecosystems, habitats and species diversity. Children, older adults, people living in poverty may be at risk from the health impacts of climate change.

Nitrogen Dioxide (NO_2) is a nasty-smelling gas. The main effect of breathing in raised levels of nitrogen dioxide is the increased likelihood of respiratory problems. Nitrogen dioxide inflames the lining of the lungs, and it can reduce immunity to lung infections. This can cause problems such as wheezing, coughing, colds, flu and bronchitis. Increased levels of nitrogen dioxide can have significant impacts on people with asthma because it can cause more frequent and more intense attacks. Children with asthma and older people with heart disease are most at risk.

Sulfur Dioxide (SO_2) is an invisible gas and has a nasty, sharp smell. It reacts easily with other substances to form harmful compounds, such as sulfuric acid, sulfurous acid and sulfate particles. Sulfur dioxide affects human health when it is breathed in. It irritates the nose, throat and airways to cause coughing, wheezing, shortness of breath, or a tight feeling around the chest. The effects of sulfur dioxide are felt very quickly and most people would feel the worst symptoms in 10 or 15 minutes after breathing in. Those most at risk of developing problems if they are exposed to sulfur dioxide are people with asthma or similar conditions.

Ozone (O_3) has a strong odor. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. It can also reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue.

Particulate matter (PM) consists of microscopically small solid particles or liquid droplets suspended in the air. The smaller the particles, the deeper they can penetrate in to the respiratory system and the more hazardous they are to breathe. Long-term exposure to current ambient PM concentrations may lead to a marked reduction in life expectancy.

5.2.4 Result of Air Quality Measurement

CO, CO_2, NO_2, SO_2, O_3, PM_{10} and $PM_{2.5}$ are measured at the proposed project site. The site is in operation stage and the collected data shown below are due to the process activities. Air quality and noise result data report is described in appendix.

Table 13.Result of Air Quality

No	Parameters	Results		Avg. Period	Guideline value (NEQG)	Averaging Period
		Observed value	Converted value			
1	Nitrogen dioxide NO_2	27 ppb	50.7(µg/m^3)	1-hour*	40 (µg/m^3) 200 (µg/m^3)	1-year 1-hour
2	Ozone (O_3)	18 ppb	35.3(µg/m^3)	8-hour	100 (µg/m^3)	8-hour daily maximum
3	Particulate matter PM_{10}	21.7 (µg/m^3)		24-hour	20 (µg/m^3) 50 (µg/m^3)	1-year 24-hour
4	Particulate matter $PM_{2.5}$	10.9 (µg/m^3)		24-hour	10 (µg/m^3) 25 (µg/m^3)	1-year 24-hour
5	Sulfur dioxide SO_2	1.8 ppb	4.7(µg/m^3)	24-hour	20 (µg/m^3) 500 (µg/m^3)	24-hour 10 minute
6	Carbon dioxide CO_2	213 ppm		24-hour	-	
7	Carbon monoxide CO	1.6 ppb		24-hour	-	

5.3 NOISE

5.3.1 Sources of the noise

Since the place for measuring noise levels is a factory which produces operation machine, the noises produced are governed by the sound of the machine operated and by the workers.

5.3.2 Noise Measurement Method

Handheld quick assessment method is used for the sound level by measuring the sound pressure. A tripod is used for mounting the sound level meter (SLM) where the SLM is mounted and pointed towards the source of the noise. The noise level of the proposed factory was measured by using TES -52A Advanced Sound Level Meter.

Table 14.National Emission Quality Guideline (NEQG) for Noise level

Receptor	**One Hour LAeq (dBA)a**	
	Daytime 07:00-22:00 (10:00-22:00 for Public holidays)	**Night time 22:00-07:00 (22:00-10:00 for Public holidays)**
Residential, institutional, educational	55	45
Industrial, commercial	70	70

Table 15. The location of Noise sample point

No.	Sample Name	G & B Manufacturing (Myanmar) Company Limited		Location
		Latitude (N)	Longitude (E)	
1.	Noise Sample Point (NS)	16°59'1.97"N	96° 5'12.37"E	In front of the factory building.

Table 16. Average Values of Noise Level (dB) at the sampling point

Noise Sample Point	**Date/Time (2-9-2021)**	**Observed Noise Level (MeanValue) (dBA)**
NS	9: 30 -10:29	60.8
	10: 30-11: 29	60.1
	11: 30-12: 29	55.2
	12: 30-13: 29	51.9
	13: 30-14: 29	56.4
	14: 30-15: 29	58.6
	15: 30-16: 29	60.0
	16: 30-17: 59	57.1

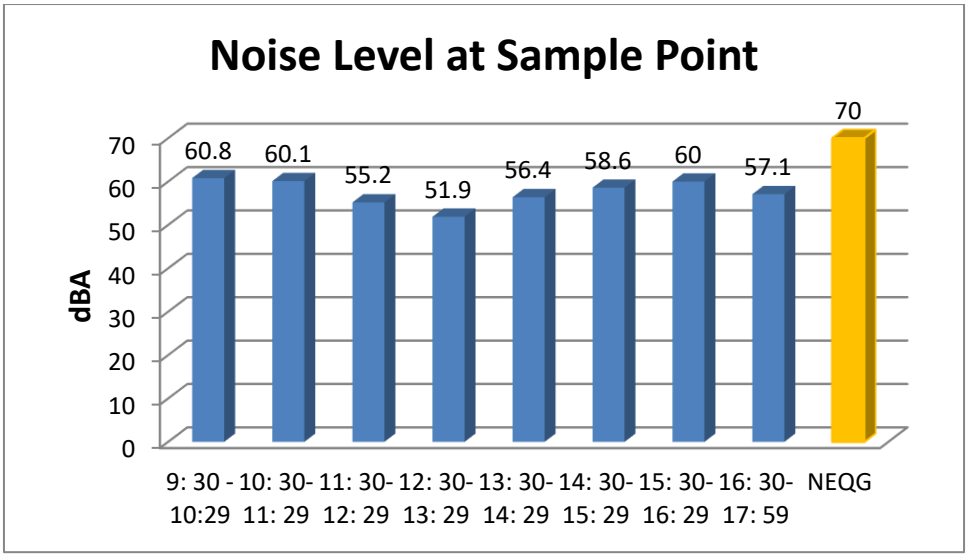


Figure 24. Air Quality Sampling

Figure 25. Noise Level Meter for Measuring Noise

Figure 26. Exhaust Fan are Installed for Ventilation

5.4 SOIL QUALITY

One sample of soil was collected around the G & B Manufacturing (Myanmar) Company Limited to record the current condition of soil. The location of soil sampling point was Latitude 16°59'1.58"N and Longitude 96° 5'11.28"E. The samples were analyzed for their physiochemical properties in Soil Laboratory, Land Use Department of Ministry of Agriculture and Irrigation. Typical issues relating to soil pH could be seen in the table below.

Potential negative impacts by the project relating to soil degradation may have occurred in the early project construction works. Such impacts include excavation, displacement or importation of soil, stockpiling, mixing, wetting, compaction and pollution of soil, Oil leakage and sedimentation. But the anticipated impacts on soil may have been occurred only to a limited area within the project compound.

According to test results, pH value of soil sample which was collected within the G & B Manufacturing (Myanmar) Company Limited which are slightly alkaline conditions. Under this condition, following phenomena would occur:

- Above a pH of 7.0 there is an increase in the availability of Iron, Manganese, Zinc, Cobalt, and Copper
- Increased risk of ammonia volatilization
- First increasing availability of Phosphorus and Boron, but deficiencies may occur at higher pH values
- Insoluble Calcium-Phosphates may be formed at higher pH
- Electric conductivity is generally high at higher pH values

Table 17. Soil pH and Associated Impacts

pH value	**Soil classification**	**Impact interpretation**
≤ 5.5	Strongly acidic	• Possible Aluminum toxicity and excess availability of Cobalt, Cupper, Iron, Manganese, and Zinc • Deficient in Calcium, Potassium, Nitrogen, Magnesium, Phosphorous, and Sulphur • Boron deficiency below pH of 5 • Molybdenum becomes more available with decreasing pH

		• Bacterial and actinomycete activity is reduced along with a predominance of fungi • Mineralization of organic matter and nitrification are restricted • Below a pH of 3, functioning of cell membranes is impaired, resulting in leakage of elements
5.5 - 7.3	Moderately acidic, slightly acidic, and neutral soils	• Preferred pH range for most crops, lower end of range may be too acidic for some • pH between the range of 6.0 and 7.0 hampers phosphorous fixation • Neutral pH favors the fixation of molecular Nitrogen by free living soil microorganisms and by symbiotic microorganisms • Above a pH value of 7.0 the availability of Iron, Manganese, Zinc, Cobalt, and Cupper declines
7.3 - 8.5	Slightly alkaline and Moderately alkaline soils	• Above a pH of 7.0 there is an increase in the availability of Iron, Manganese, Zinc, Cobalt, and Copper • Increased risk of ammonia volatilization • First increasing availability of Phosphorus and Boron, but deficiencies may occur at higher pH values • Insoluble Calcium-Phosphates may be formed at higher pH • Electric conductivity is generally high at higher pH values
≥ 8.5	Strongly to very strongly alkaline	• Calcium and magnesium are liable to become unavailable to most crops • Often high sodium levels lead to toxicity and structural damage • Toxicity of bicarbonates and other anions • Possible Boron toxicity common in saline and or sodic soils • Availability of most micronutrients and of Iron, Manganese, Zinc, Copper, and Cobalt is reduced, except for Molybdenum • Decreased

Figure 27. Soil Sampling Point from G & B Manufacturing (Myanmar) Company Limited

Figure 28. Soil Sampling

Table 18. Results of Soil Quality Analysis

Sample	Moisture %	pH Soil: Water 1:2:5	Texture				Organic Carbon	Humus %	Total N	Exchangeable cations			Available Nutrients	
			Sand %	Silt %	Clay %	Total %				Ca	Mg	K	P	K_2O
SS-1	3.06	7.35	39.40	37.00	23.60	100.0	0.33	0.57	0.13	24.05	2.06	0.25	6.19	11.76

Table 19. Interpretation of Soil Quality Results

Sample	pH Soil: Water	Texture	Organic Carbon	Total N	Exchangeable cations			Available Nutrients	
					Ca	Mg	K	P	K_2O
SS-1	Slightly alkaline	Loam	Very Low	Low	High	Low	Medium	Low	Medium

5.5 SOCIO-ECONOMIC COMPONENTS

Socio-economic factors are lifestyle components and measurements of both financial viability and social standing. They directly influence social privilege and levels of financial independence. Factors such as health status, income, environment and education are studied by sociologists in terms of how they each affect human behaviors and circumstances.

5.5.1 Living conditions

The project area is located in Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. . The total number of households in Shwe Pyi Thar Townshipis 73,775 only. The following table and figure show the household numbers in the study area. The average household size in the study area is shown in the following figure. All the villages have significantly higher rate of population per household compared to that of Shwe Pyi Thar Township. The majority of the households in Shwepyitha Township are living in wooden houses (52.6%) followed by households in bamboo houses (22.1%). Some 53.8 per cent of urban households and 47.7 per cent of rural households live in wooden houses.

Table 20. Type of household in the Study Area

Residence	Total	Apartment/ Condominium	Bungalow/ Brick house	Semi-pacca house	Wooden house	Bamboo house	Hut 2 - 3 years	Hut 1 year	Other
Total	73,775	3.7	7.9	9.9	52.6	22.1	1.5	1.0	1.5
Urban	58,511	2.3	8.4	9.3	53.8	22.3	1.7	1.1	1.0
Rural	15,264	8.7	5.9	12.3	47.7	21.3	0.6	0.4	3.1

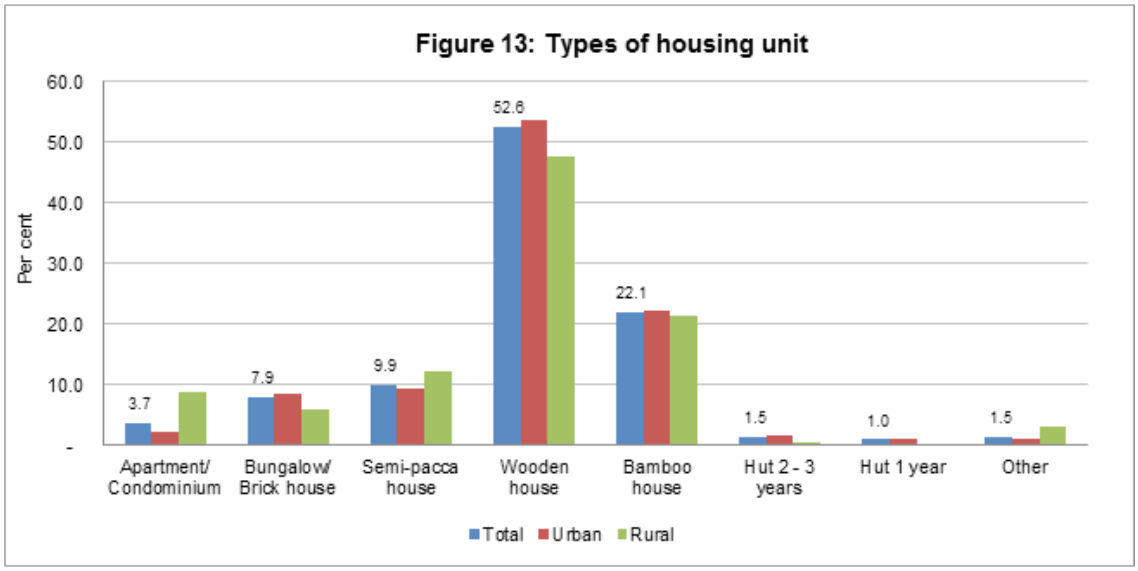


Figure 29. Types of housing unit in the Study Area

The majority of the households in Shwepyitha Township are living in wooden houses (52.6%) followed by households in bamboo houses (22.1%). Some 53.8 per cent of urban households and 47.7 per cent of rural households live in wooden houses.

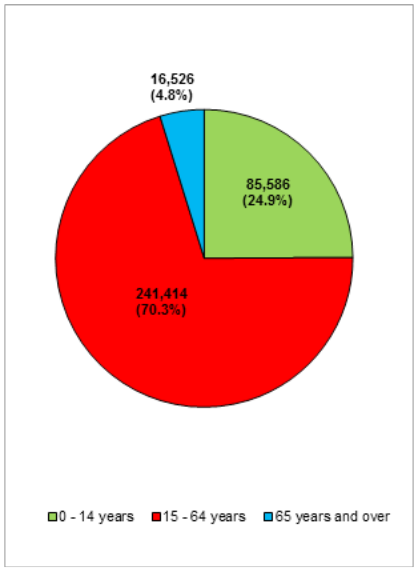


Figure 30. Population of the Study Area

The proportion of productive working population between 15 to 64 years of age in Shwepyitha Township is 70.3 per cent. The proportion of children aged 14 and below together with the proportion of the elderly aged 65 and over is less than the proportion of the working age group population. Fewer proportions of children and elderly reduce the dependency of those age groups on the working age population.

5.5.2 Employment

In Shwepyitha Township, 35.9 per cent of the employed persons aged 15-64 are craft and related trades workers and is the highest proportion, followed by 23.6 per cent of services and sales workers. Analysis by sex shows that 33.8 per cent of males and 39.2 per cent of females are craft and related trades workers. In Yangon Region, 22.9 per cent are craft and related trades workers and 23.7 per cent are in services and sales workers.

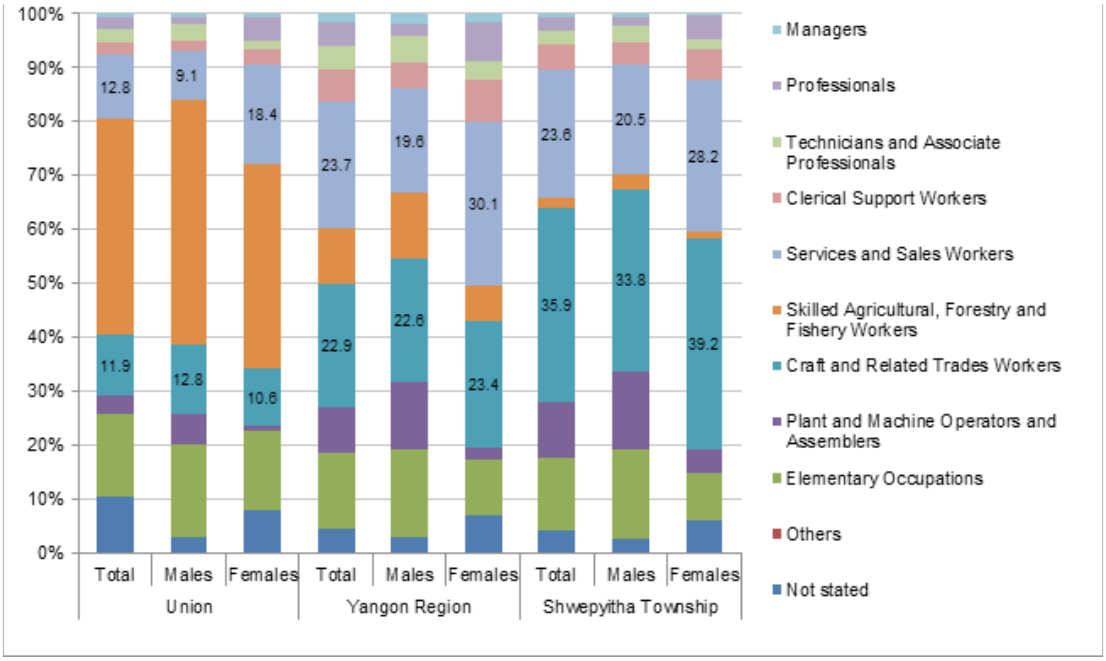


Figure 31. Employments in the Study Area

5.5.3 Religion Distribution

At the Union level, the composition of the population by religion is: 87.9% Buddhist, 6.2% Christian, 4.3% Islam, 0.5% Hindu, 0.8% Animist, and 0.2% other religion and 0.1% No religion. In Yangon Region, it is 91.0% Buddhist, 3.2% Christian, 4.7% Islam, 1.0% Hindu, 0.1% other religion, and less than 0.1% each for Animist and those with No religion.

5.5.3.1 Educational Attainment

The literacy rate of those aged 15 and over in Shwepyitha Township is 96.9 per cent. It is higher than the literacy rate of Yangon Region (96.6%) and the Union (89.5%). Female literacy rate is 95.7 per cent and for the males it is 98.3 per cent. The literacy rate for youth aged 15-24 is 98.1 per cent with 98.1 per cent for females and 98.2 percent for males. Some

5.1 per cent of the population aged 25 and over have never been to school of the rural population aged 25 and over, 5.4 per cent have never been to school. There are 3.2 per cent of males aged 25 and over who have never attended school as against 6.7 per cent for females. Among those aged 25 and over, 17.1 per cent has completed primary school (grade 5) and 11.7 percent has completed university/college education.

Table 21. Population aged 25 and over by highest level of education completed, urban/rural and sex

	Total	None	% Never attended	Primary school		Middle school (grade 6 - 9)	High school (grade 10 - 11)	Diploma	University/ College	Post-graduate and above	Vocational training	Other
				(grade 1 -4)	(grade 5)							
Total	185,258	9,406	5.1	25,235	31,653	56,478	37,919	542	21,620	686	342	1,375
Urban	151,946	7,615	5.0	18,782	26,509	46,174	31,912	448	18,365	605	292	1,244
Rural	33,312	1,791	5.4	6,453	5,144	10,304	6,007	94	3,255	83	50	131
Males	85,804	2,732	3.2	8,923	12,899	29,150	20,717	394	9,768	244	270	707
Females	99,454	6,674	6.7	16,312	18,754	27,328	17,202	148	11,852	444	72	668

5.6 METEOROLOGY

5.6.1 Topography and Climate

The study area is located in Shwe Pyi Thar Township of Yangon Region. The proposed factory is currently occupied by near villages, cultivated land. Therefore, the topography is no major differences in altitude. The climate of factory area is located in tropical wet and dry climate.

5.6.2 Temperature

Yangon has a tropical monsoon climate with very wet summers due to the southwest monsoon which starts from mid-May and lasts until mid-October. The warmest month with the highest average high temperature is April (37˚C) and the month with the lowest average high temperature is August (29.6˚C). The month with the highest average low temperature is May (25˚C) and the coldest month with the lowest average low temperature is January (17.9˚C).

Table 22. Average Temperature of Yangon

Sr	Month	Average High Temperature	Average Low Temperature
1	January	32.2˚C	17.9˚C

2	February	34.5˚C	19.3˚C
3	March	36˚C	21.6˚C
4	April	37˚C	24.3˚C
5	May	33.4˚C	25˚C
6	June	30.2˚C	24.5˚C
7	July	29.7˚C	24.1˚C
8	August	29.6˚C	24.1˚C
9	September	30.4˚C	24.2˚C
10	October	31.5˚C	24.2˚C
11	November	32˚C	22.4˚C
12	December	31.5˚C	19˚C

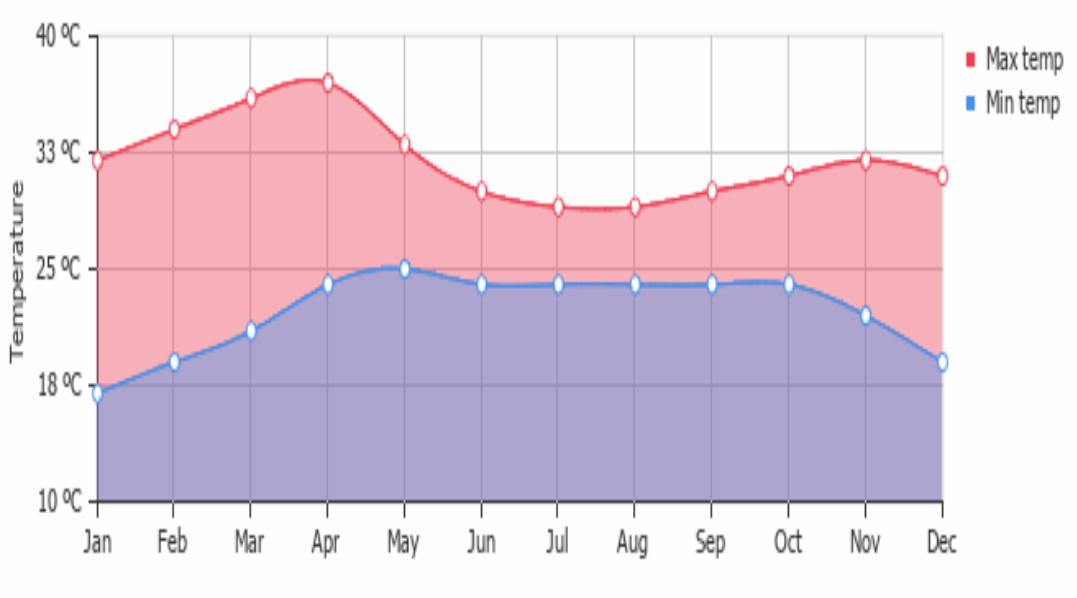


Figure 32. Temperature Graph of Yangon

5.6.3 Rainfall

A lot of rain falls in the months of May, June, July, August, September and October. Yangon has dry periods in December January, February, March and April. The wettest month with the highest rainfall is August (602 mm) and the driest month with the lowest rainfall is

February (2 mm). The month with the highest number of rainy days is July (26.2 days) and the months with the lowest number of rainy days are January, February and December (0.2 days).

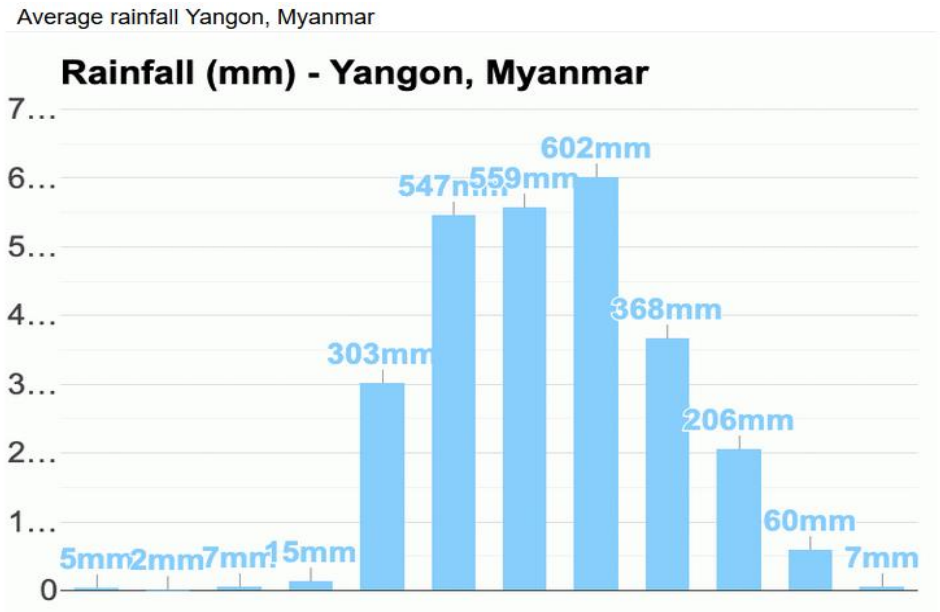


Figure 33. Rainfall Graph of Yangon

Table 23. Average Rainfall and Rainfall Days of Yangon

Sr	Month	Average Rainfall	Average Rainfall Days
1	January	5 mm	0.2 days
2	February	2 mm	0.2 days
3	March	7 mm	0.4 days
4	April	15 mm	1.6 days
5	May	303 mm	12.6 days
6	June	547 mm	25.3 days
7	July	559 mm	26.2 days
8	August	602 mm	26.1 days
9	September	368 mm	19.5 days
10	October	206 mm	12.2 days
11	November	60 mm	4.8 days
12	December	7 mm	0.2 days

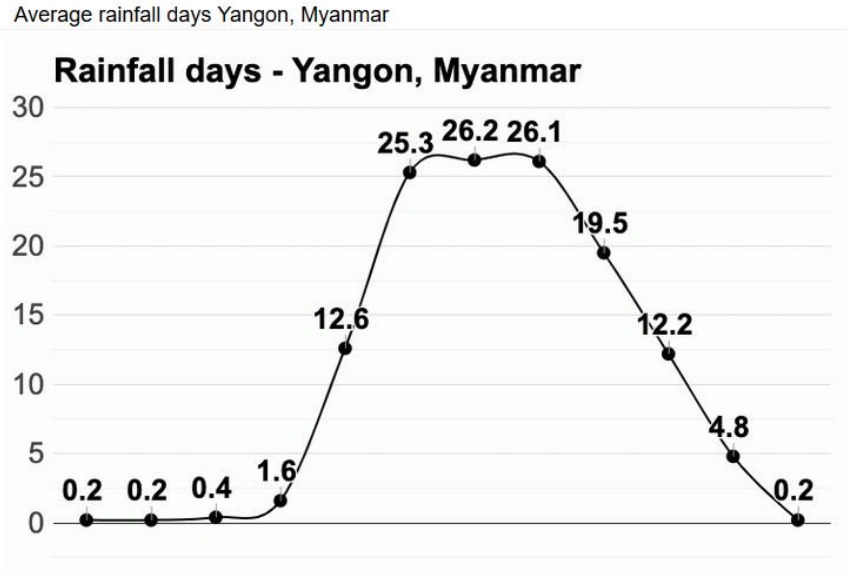


Figure 34. Rainfall Days Graph of Yangon

5.6.4 Humidity

In 2019, August is the most humid and January is the least humid month in Yangon. The month with the highest relative humidity is August (87%) and the lowest relative humidity is January (62%).

Table 24. Average Humidity of Yangon

Sr	Month	Average Relative Humidity
1	January	62%
2	February	66%
3	March	69%
4	April	66%
5	May	73%
6	June	85%
7	July	86%
8	August	87%
9	September	85%
10	October	78%
11	November	71%
12	December	65%

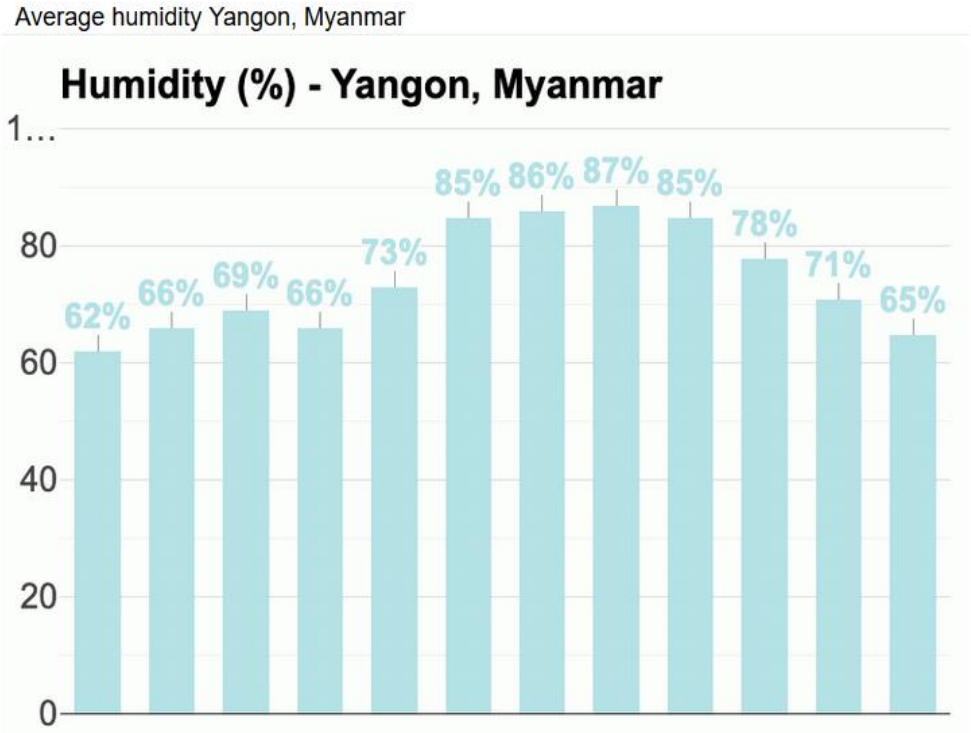


Figure 35. Humidity Graph of Yangon

5.6.5 Daylight/ Sunshine

Sunshine hours of Yangon are range from 2:29 daily in July to 9:44 to each day in January. The longest day of the year is 13:10 hr and the shortest day is 11:1 hr long. The longest day is 2:00 longer than the shortest day. The month with the longest day in June (average daylight: 13.1 h) and the month with the shortest day in December (average daylight: 11.1 h). Months with the most sunshine are January, February and April (average sunshine: 9.7 h) and the month with the least sunshine is July (average sunshine: 2.5 h).

Table 25. Average Daylight and Sunshine Hours of Yangon

Sr	Month	Average Daylight	Average Sunshine
1	January	11.3 hr	9.7 hr
2	February	11.6 hr	9.7 hr
3	March	12.1 hr	9.4 hr
4	April	12.5 hr	9.7 hr
5	May	12.9 hr	5.8 hr

6	June	13.1 hr	2.7 hr
7	July	13 hr	2.5 hr
8	August	12.7 hr	3 hr
9	September	12.2 hr	3.2 hr
10	October	11.8 hr	6.5 hr
11	November	11.3 hr	9.3 hr
12	December	11.1 hr	9.3 hr

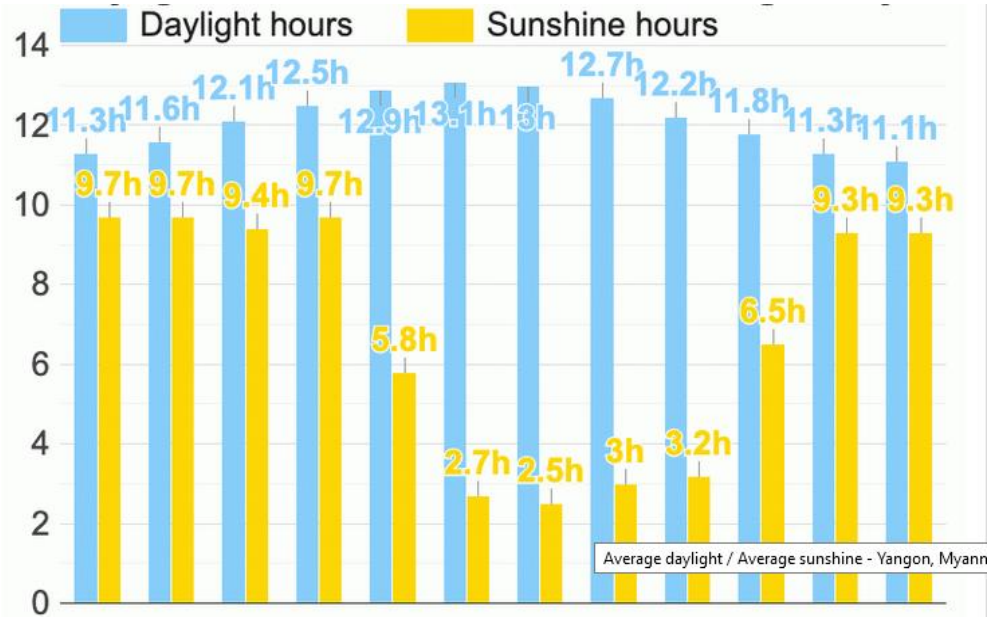


Figure 36. Day Light and Sunshine Hours graph of Yangon

5.6.6 UV Index

Months with the highest UV index of Yangon are March, April, May, June, July, August and September (UV index 12) and the month with the lowest UV index is December (UV index 8).

Table 26. Average UV Index of Yangon

Sr	Month	Average UV Index
1	January	9
2	February	11
3	March	12

4	April	12
5	May	12
6	June	12
7	July	12
8	August	12
9	September	12
10	October	11
11	November	9
12	December	8

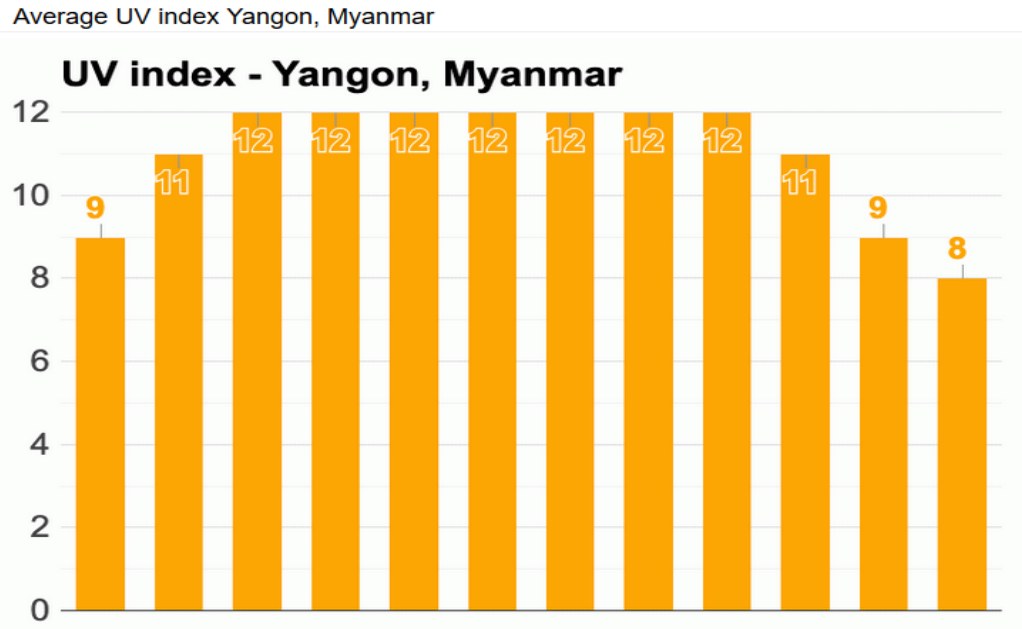


Figure 37. UV Index Graph of Yangon

5.6.7 Earthquakes

One times of earthquakes are occurred in Yangon within 2020. The following table shows the detail description of earthquake occurring in Yangon.

Table 27.Earthquakes in Yangon

Date	Magnitude	Depth	Distance	Location
Tuesday, November 12, 2019 3:34 PM	3.4	10	62 miles	10.2 km from Yangon, Near South Coast Of Myanmar District

Wednesday, April 22, 2020 6:47 PM	3.1	10	8.2 miles	14.2 km from Kanbe, Near South Coast Of Myanmar

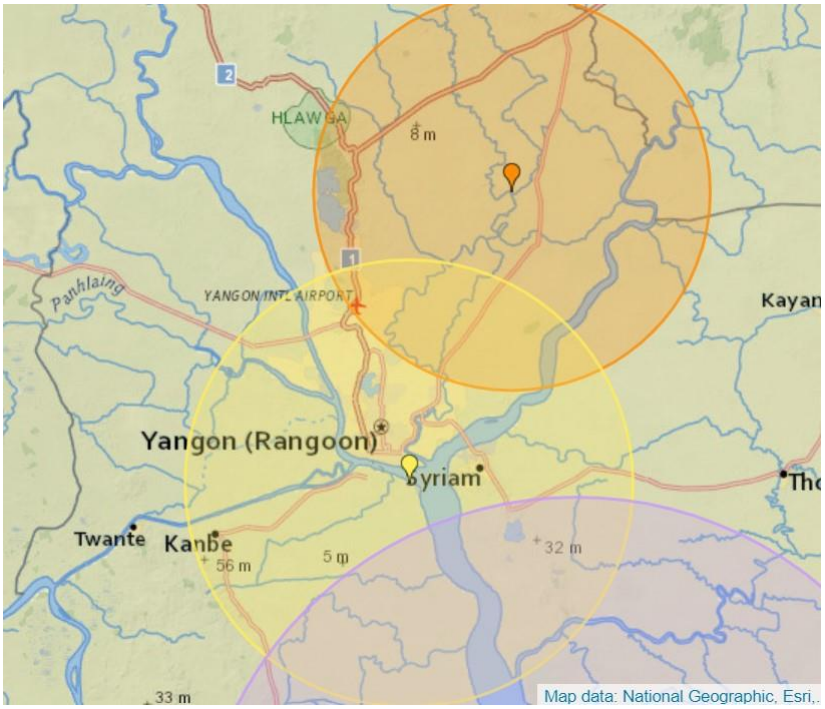


Figure 38. Earthquake map of Yangon

5.7 BIODIVERSITY

Biodiversity includes two portions, which are the study of vegetation (flora) and the study of living animals (fauna). There is no natural vegetation, wildlife and deforestation in project affect area within 1 kilometer.

6 IMPACT ASSESSMENT AND MANAGEMENT

Rating matrix method is used to assess the significance level of the identified environmental impacts of the G & B Manufacturing (Myanmar) Company Limited on its environment. There are five parameters considered for the activities of the projects and the consequences resulted from the said activities. System of rating is described in detailed as follows.

Table 28. Impact Rating Table

Severity	Value	Duration	Value	Spatial Scope	Value	Frequency	Value	Probability	Value
Insignificant/non-harmful	1	One day to one month	1	Activity specific	1	Annual or less	1	Almost impossible	1
Small/potentially harmful	2	One month to one year	2	Within right of way/project compound	2	Bi-annual	2	Highly unlikely	2
Significant/slightly harmful	3	One year to ten years	3	Local area	3	Monthly	3	Unlikely	3
Great/ harmful	4	Life of operation	4	National	4	Daily Intermittence	4	Possible	4
Disastrous/ deadly harmful	5	Permanent	5	Global	5	Daily Continuous	5	Definitely	5

Table 29. Rating Matrix

	Consequence (Severity + Spatial Scope + Duration)														
Activity (Frequency + Probability)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

Table 30. Significance Levels

Sr.	Color Code	Value	Rating
1		1-25	Very Low
2		26-50	Low
3		51-75	Low-Medium
4		76-100	Medium-High
5		101-125	High
6		126-150	Very High

Environmental aspect and impact depend on production process activity is shown in following table.

Table 31. Environmental Aspect and Impact

Sr.	Activity List	Aspect	Impact
1	Receiving	Overweight lifting	Injury from overweight lifting
		Packing waste	Solid waste generation
2	Fabric Cutting	Operation of cutting machine	Injury from cutting machine, Solid waste generation
3	Sewing, zipper stitching and iron	Pieces of thread cuts, needle	Solid waste generation, Injure by needle and heat injury
4	Finishing, Tag & Code	Pieces of thread cuts, needle cuts	Solid waste generation, Injure by needle
5	Packing	Packing waste	Solid waste generation
6	Storage	Pieces of plastic	Solid waste generation
		Overweight lifting	Injury from overweight lifting

Characteristics of the impacts are evaluated based on eight particular basic, four of which are used in the assessment of the significance level of the impacts.

Table 32. Characteristics of the Impacts

IMPACTS	CHARACTERISTICS							
	Nature	**Impact Source**	**Impact Receptor**	**Severity**	**Duration**	**Spatial Scope**	**Frequency**	**Probability**
Physical hazard	Negative	-Injury from overweight lifting - Contact with cutting machine - Injury by needle and heat injury - Ergonomics	Workers	Impact severity is significant for operation workers	Physical hazard will occur in project life	Physical hazard will occur at the project area of activity	Activity that cause the impact occurs daily intermittently	Physical hazards are possible
Fire hazard	Negative	-Smoking in prohibited area - Wire shock by continuous electricity usage	Workers and the whole plant	Impact severity is harmful	Fire hazard will occur the whole project life	If a fire broke out, the whole project is likely to be affected	Fire hazard can occur daily intermittently	A fire hazard is possible

Solid Waste	Negative	- Pieces of fabric - Pieces of thread cuts, needle cuts - Packing waste Plastic waste - General waste	Workers and local environment	Impact severity is potentially harmful if solid wastes are discharged systematically	Impact from solid waste will occur in project life	Local area could be affected by solid waste mismanagement	Solid waste impact occurs daily intermittently	Impact from solid wastes are possible
Noise	Negative	- Operation of generator and machine	Workers	Impact severity is small occurs almost continuously and most of the workers are subjected to exposure	Noise hazard will occur in project life	Noise hazard will occur within the whole project compound	Activity that cause the impact occurs daily continuously	Noise hazard are unlikely
Machinery hazard	Negative	- Operation machine	Workers and the whole plant	Impact severity is slightly harmful for operation workers	Machinery hazard will occur in project life	Machinery hazard will occur at the project area of activity	Activity that cause the impact occurs daily intermittently	Machinery hazard are possible

Emission dust	Negative	- Operation of fabric settling	Workers	Impact severity is slightly harmful if air emissions are out of NEQG limit	Air emission will occur in project life	Air emission could spread to project compound	Air emissions occur daily Intermittence operation	According to current condition, air emission out of NEGQ limit is possible to occurs

Table 33. Assessment of the Significance of the Impacts without MEMs

Sr	Impact	Severity	Duration	Spatial Scope	Frequency	Probability	Total Rating	Significance Level
1	Fire hazard	4	4	2	4	4	80	Medium-High
2	Solid waste	2	4	3	4	4	72	Low-Medium
3	Physical hazard	3	4	1	4	4	64	Low-Medium
4	Noise	2	5	3	5	3	80	Medium-High

5	Machinery hazard	3	5	3	4	4	88	Medium-High
6	Emission dust	3	4	2	4	4	72	Low- Medium

6.1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 34. Mitigation Measures for Anticipated Impacts

IMPACTS	Impact Source	Mitigation
Fire hazard	- Smoking in prohibited area - Wire shock by continuous electricity usage	1. Strictly prohibit smoking within factory compound 2. Clearly define and notify emergency exits 3. Passage ways must always be kept clean and clear 4. Regularly check and refill fire extinguishers 5. Exercise fire drill regularly
Solid Waste	- Pieces of nylon fabric - Pieces of thread cuts, needle cuts - Packing waste - Plastic waste - General waste	1. Packing nylon fabric waste in bags 2. Cleaning continuous and regularly 3. Stacking waste bags systematically 4. Calling waste collector regularly 5. Providing adequate dust bins
Physical hazard	-Injury from overweight lifting - Contact with cutting machine - Injury by needle	1. Using necessary lifting and carrying aid apparatus and machinery 2. Using metal hand gloves for cutting machine operators 3. Installing needle guards
Noise	- Operation of generator and machine	1. Carrying out regular maintenance works for all the equipment and generator 2. Installation cover in generator room for noise
Machinery hazard	- Operation machine	1.Wearing necessary PPE (goggle, hand gloves, ear muffs) 2.Regular inspection and cleaning of debris, dusts and oils on machine components 3. Regular inspection of lubricant

		leakage and refilling as necessary 4. Clearing work place of flammable materials before using machine 5. Installation safety guard on machine 6. Regular inspection of belt, gears, sprockets, chains, and other moving parts. 7. Systematically installing machine parts 8. Regular inspection of power cable 9. Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine 10. Allow only qualified workers to operate or maintain machine. 11. Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency.
Emission dust	- Operation of fabric settling	1.Wearing necessary PPE (goggle, gloves) 2. Regular inspection and supervision of the usage of the masks for the workers working at odor producing areas 3. Installation of a particle monitoring meter 4. Temporarily stopping the works if PM 2.5 and PM 10 emission reached above 50 $\mu g/m^3$ in a day 5. Cleaning with dust collector

7 MANAGEMENT AND MONITORING PLAN

Management and Monitoring Plans are to address and satisfy directly for all applicable environmental management and monitoring issues which are

1. Fire hazard
2. Solid waste
3. Physical hazard
4. Noise
5. Machinery hazard
6. Emission dust

7.1 FIRE HAZARD

Fire is the greatest threat for garment factories around the world. Raw material used in garment factory, fabric, is highly flammable. Fire can easily break out with any sparking source. Moreover, fire hazard is greater if emergency exit is poorly provided. Blockages in passage ways by stacks of raw materials and products will add a greater fire hazard. Common ignition sources include improper or poorly maintained electrical equipment and malfunction of grain-moving machinery. This factory installed fire alarm, fire hydrate and fire extinguishers to prevent fire hazard. Boiler, diesel for machines are also associated with fire hazard.

Table 35. Objective and Legal Requirements for Fire Hazard

1	Objectives	To prevent and reduce fire hazard by the implementation of a systematic management and monitoring plan
2	Legal Requirements	1. Myanmar Fire Brigade Law Paragraph (14 C, 25)
3	Mitigation Measure	1. Strictly prohibit smoking within factory compound
		2. Clearly define and notify emergency exits
		3. Passage ways must always be kept clean and clear
		4. Regularly check and refill fire extinguishers
		5. Exercise fire drill regularly

Table 36. Management Actions for Fire Hazard

Sr.	Mitigation Measures	Management Actions
1	Strictly prohibit smoking within factory compound	Regular inspection and supervision
2	Clearly define and notify emergency exits	Regular inspection and supervision
3	Passage ways must always be kept clean and clear	Regular inspection and supervision
4	Regularly check and refill fire extinguishers	Regular inspection
5	Exercise fire drill regularly	Regular inspection and supervision

Table 37. Implementation Plan for Fire Hazard

Sr.	Management Action	Frequency	Duration	Responsibility
1	Strictly prohibit smoking within factory compound	Daily	Project life	HR Dept
2	Clearly define and notify emergency exits	Daily	Project life	HR Dept
3	Passage ways must always be kept clean and clear	Daily	Project life	HR Dept
4	Regularly check and refill fire extinguishers	Daily	Project life	HR Dept
5	Exercise fire drill regularly	3 times/yr	Project life	HR Dept

Table 38. Monitoring Plan for Fire Hazard

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Strictly prohibit smoking within factory compound	Within factory compound	Daily	Visual inspection	HR Dept

2	Clearly define and notify emergency exits	Factory compound	Daily	Inspection	HR Dept
3	Passage ways must always be kept clean and clear	Passage ways	Daily	Visual inspection	HR Dept
4	Regularly check and refill fire extinguishers	Fire extinguisher within the factory compound	Daily	Inspection	HR Dept
5	Exercise fire drill regularly	Fire drill within the factory compound	3 times/yr	Inspection	HR Dept

Table 39. Projected Budget for OSH

Sr.	Management Actions	Budget
1	Regularly check and refill fire extinguishers	2,100,000/3 yrs

7.2 PHYSICAL HAZARD

Primary physical hazard issues related to G & B Manufacturing (Myanmar) Company Limited is: overweight lifting at receiving raw materials and transporting products; hazard for injury from cutting machines; Ergonomic injury from prolong standing or sitting.

Table 40. Objective and Legal Requirements for Physical Hazard

1	Objectives	To prevent and reduce occupational hazard by the implementation of a systematic OSH management and monitoring plan
2	Legal Requirements	1. Myanmar Fire Brigade Law Paragraph (14 C, 25) 2. 1951 Factory Act (Chapter 3, Chapter 4) 3. OSH Law (Chapter 8, Paragraph 34 and 49)

3	Mitigation Measure	1. Using necessary lifting and carrying aid apparatus and machinery
		2. Using metal hand gloves for cutting machine operators
		3. Installing machine guards
		4. Regular maintenance of exhaust and ceiling fan

Table 41. Management Actions for Physical Hazard

Sr.	Mitigation Measures	Management Actions
1	Using necessary lifting and carrying aid apparatus and machinery	Regular inspection and supervision
2	Using metal hand gloves for cutting machine operators	Regular inspection and supervision
3	Installing and regular maintenance of machine guards	Regular inspection and replacement
4	Regular maintenance of exhaust and ceiling fan	Annually inspection and maintenance of exhaust and ceiling fan

Table 42. Implementation Plan for Physical Hazard

Sr.	Management Action	Frequency	Duration	Responsibility
1	Using necessary lifting and carrying aid apparatus and machinery	Once	Project Life	HR Dept
2	for cutting machine operators	Monthly	Project life	Maintenance
3	Installing machine guards	Once	Project Life	HR Dept
4	Regular maintenance of exhaust and ceiling fan	Annually	Project life	Maintenance

Table 43. Monitoring Plan for Physical Hazard

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Using necessary lifting and carrying aid apparatus and machinery	Loading/ Unloading area	Daily	Inspection	HR Dept
2	Using metal hand gloves for cutting machine operators	Production lines	Daily	Inspection	HR Dept
3	Installing machine guards	Production lines	Monthly	Inspection	Maintenance
4	Regular maintenance of exhaust and ceiling fan	Exhaust fans	Monthly	Inspection	Maintenance

Table 44. Projected Budget for Physical Hazard

Sr.	Management Actions	Budget
1	Using necessary lifting and carrying aid apparatus and machinery(hand hydraulic trolley)	30,000
2	Using metal hand gloves for cutting machine operators	300,000/yr
3	Installing machine guards	300,000
4	Regular maintenance of exhaust and ceiling fan	300,000/yr

7.3 SOLID WASTE

The garment factory produces solid wastes mainly comprised of nylon fabric cuts and yarn. These wastes are valuable for reuse in places such as stuffing for pillow and doll. But the solid waste from G & B Manufacturing (Myanmar) Company Limited is discharged by calling solid waste collector as like YCDC. Domestic solid waste generation from G & B Manufacturing (Myanmar) Company Limited is low. Systematic management of this solid waste is of importance as mismanagement of the waste will lead critical occupational hazard including fire hazard.

Table 45. Objective and Legal Requirements for Solid Waste

1	Objectives	To prevent and reduce environmental impacts from solid waste by providing a systematic management plan
2	Legal Requirements	1. Environmental Conservation Law Paragraph (14, 15) 2. 1951 Factory Act Paragraph (14A)
3	Mitigation Measure	1. Cleaning continuous and regularly
		2. Packing wire cutting waste in bags
		3. Stacking waste bags systematically
		4. Calling waste collector regularly
		5. Providing adequate dust bins

Table 46. Management Actions for Solid Waste

Sr.	Mitigation Measures	Management Actions
1	Cleaning continuous and regularly	Regular inspection and supervision
2	Packing wire cutting waste in bags	Regular inspection and supervision
3	Stacking waste bags systematically	Regular inspection and supervision
4	Calling waste collector regularly	Regular inspection and supervision
5	Providing adequate dust bins	Providing 20 dust bins

Table 47. Implementation Plan for Solid Wastes

Sr.	Management Action	Frequency	Duration	Responsibility
1	Cleaning continuously and regularly	Daily	Project life	Production Dept
2	Packing wire cutting waste in bags	Daily	Project life	Production Dept
3	Stacking waste bags systematically	Daily	Project life	Production Dept
4	Calling waste collector regularly	Weekly	Project life	Production Dept
5	Providing 20 dust bins	Once	Project life	Plant Manager

Table 48. Monitoring Plan for Solid Wastes

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Cleaning continuously and regularly	The whole plant	Daily	Inspection	Production Dept
2	Packing wire cutting waste in bags	Inspection	Daily	Inspection	Production Dept
3	Stacking waste bags systematically	Inspection	Daily	Inspection	Production Dept
4	Calling waste collector regularly	Inspection	Weekly	Inspection	Production Dept
5	Providing minimum 20 dust bins	Inspection	Once	Record	Plant Manager

Table 49. Projected Budget for Solid Wastes

Sr.	Management Actions	Budget
1	Providing 20 dust bins	100,000

7.4 NOISE

Most parts of the factory are subjected to noise. High noise areas are working line and compressor. Workers working in these areas are needed to provide with necessary PPE such as ear muffs.

Table 50. Objective and Legal Requirements for Noise and Vibrations

1	Objectives	To prevent and reduce occupational hazard from noise by implementing a systematic management plan
2	Legal Requirements	1. NEQG paragraph (1.3)
3	Mitigation Measure	1. Carrying out regular maintenance works for all the equipment and generator
		2. Installation cover in generator room for noise

Table 51. Management Actions for Noise and Vibrations

Sr.	Mitigation Measures	Management Actions
1	Carrying out regular maintenance works for all the equipment and generator	1. Carrying out annual overall maintenance work
2	Installation cover in generator room for noise	1. Installation cover in generator room

Table 52. Implementation Plan for Noise

Sr.	Management Action	Frequency	Duration	Responsibility
1	Installation cover in generator room	Once	Project life	Engineering Dept
2	Carrying out annual overall maintenance work	Annually	Project life	Engineering Dept

Table 53. Monitoring Plan for Noise and Vibrations

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Carrying out noise level measurement regularly	locations within plant compounds	Quarterly	Handheld noise level meter	Engineering Dept
2	Carrying out annual overall maintenance	The whole plant	4 times per year	Inspection	Engineering Dept
3	Checking workplace daily	The whole plant	Daily	Visual Inspection	Engineering Dept

Table 54. Projected Budget for Noise and Vibrations

Sr.	Management Actions	Budget
1	Installing cover in generator room	60,000
2	Carrying out annual overall maintenance work	1,000,000/yr

7.5 MACHINERY HAZARD

Many types of machinery such as sewing machine, cutting and air compressor are operating in this factory. Any machine part which can cause injury must be guarded. Machine guards help to eliminate personnel hazards created by points of operation, ingoing nip points, rotating parts and flying chips. All machinery equipment should be maintained in a safe operational condition and be regularly inspected.

Table 55. Objective and Legal Requirements for Machinery Hazard

1	Objectives	To prevent and reduce occupational hazard by the implementation of a systematic OSH management and monitoring plan
2	Legal Requirements	1. Myanmar Fire Brigade Law Paragraph (14 C, 25) 2. 1951 Factory Act (Chapter 3, Chapter 4)
3	Mitigation Measure	Implementation of machinery hazard safety measures

Table 56. Management Actions for Machinery Hazard

Sr.	Mitigation Measures	Management Actions
1	Implementation of machinery hazard safety measures	1.Providing necessary PPE (goggle, hand gloves, ear muffs) 2. Inspection and supervision for wearing necessary PPE for maintaining machine. 3.Regular inspection and cleaning of debris, dusts and oils on machine components 4. Regular inspection of lubricant leakage and refilling as necessary 5. Clearing work place of flammable materials before using machine 6. Installation safety guard on machine 7. Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts. 8. Systematically installing machine parts 9. Regular inspection of power cable

		10. Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine 11. Allow only qualified workers to maintain machine. 12. Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency.

Table 57. Implementation Plan for Machinery Hazard

Sr.	Management Action	Frequency	Duration	Responsibility
1.	Providing necessary PPE (goggle, hand gloves, ear muffs)	When require	Project life	Plant manager, worker
2	Inspection and supervision for wearing necessary PPE for maintaining machine.	Daily	Project life	Plant manager, worker
3	Regular inspection and cleaning of debris, dusts and oils on machine components	Daily	Project life	Plant manager, worker
4	Regular inspection of lubricant leakage and refilling as necessary	Check and refill	Project life	Plant manager, worker
5	Clearing work place of flammable materials before using machine	Daily	Project life	Plant manager, worker
6	Installation safety guard on machine	Once	Project life	Plant manager, worker
7	Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts.	Weekly	Project life	Plant manager, worker
8	Systematically installing machine parts	Check and repair	Project life	Plant manager, worker

9	Regular inspection of power cable	Daily	Project life	Plant manager, worker
10	Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine	Once	Project life	Plant manager, worker
11	Allow only qualified workers to maintain machine.	Annually	Project life	Plant manager, worker
12	Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers in an emergency.	Once/ recheck and repair	Project life	Plant manager, worker

Table 58. Monitoring Plan for Machinery Hazard

Sr.	Parameter	Location	Frequency	Method	Responsibility
1	Providing necessary PPE (goggle, hand gloves, ear muffs)	Factory	When require	Project life	General manager (HR), Plant Manager
2	Inspection and supervision for wearing necessary PPE for maintaining machine.	Factory area	Daily	Project life	Engineering Department
3	Regular inspection and cleaning of debris, dusts and oils on machine components	Workplace	Daily	Project life	Engineering Department

4	Regular inspection of lubricant leakage and refilling as necessary	Workplace	Check and refill	Project life	Engineering Department
5	Clearing work place of flammable materials before using machine	Workplace	Daily	Project life	Engineering Department
6	Installation safety guard on machine	All of machine	Once	Project life	Engineering Department
7	Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts.	All of machine	Weekly	Project life	Engineering Department
8	Systematically installing machine parts	All of machine	Check and repair	Project life	Engineering Department
9	Regular inspection of power cable	All of machine	Daily	Project life	Engineering Department
10	Preparing checklist, warning signs or lights of inspection for using machine and displaying at visible location near machine	Factory area	Once	Project life	Engineering Department
11	Allow only qualified workers to maintain machine.	Factory record	Annually	Project life	General Manager (HR), Plant Manager

12	Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency	All of machine	Once/ recheck and repair	Project life	Engineering Department

Table 59. Projected Budget for Machinery Hazard

Sr.	Management Actions	Budget
1	Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts.	500,000/yr
2	Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers.in an emergency	30000

7.6 EMISSION DUST

Type of dust and odor generated from raw material storing, cutting area. Minimal requirement such as wearing necessary PPE (mask and hand glove) and carrying out regular sweeping at the area have to be carried out.

Table 60. Objective and Legal Requirements for dust management

1	Objectives	To provide adequate dust and particulate control system so that occupational health hazard relating to dust is minimal
2	Legal Requirements	1. Environmental Conservation Law Paragraph (14, 15) 2. NEQG Paragraph (1.1)
3	Mitigation Measure	1.Wearing necessary PPE (goggle, gloves) 2. Regular inspection and supervision of the usage of the masks for the workers working at odour producing areas 3. Installation of a particle monitoring meter 4. Temporarily stopping the works if PM 2.5 and PM 10 emission reached above 50 µg/m3 in a day

		5. Cleaning with dust collector

Table 61. Management Actions for dust emission

Sr.	Mitigation Measures	Management Actions
1	Wearing necessary PPE (goggle, gloves, mask)	1. Providing face mask for workers working at metal melting process
2	Regular inspection and supervision of the usage of the masks for the workers working at odour producing areas	1. Educating workers about workplace safety practices and use of PPE 2. Regular inspection and supervision of face mask usage
3	Installation of a particle monitoring meter	1. Installation of a particle monitoring meter
4	Temporarily stopping the works if PM 2.5 and PM 10 emission reached above 50 µg/m3 in a day	1. Setting alarm level of meter to 50 µg/m^3 2. Temporarily stopping the resin laying works if dust emission reached above 50 µg/m^3 3. Reporting to plant manager
5.	Cleaning with dust collector	1. Providing dust collector

Table 62. Implementation plan for dust management

Sr.	Management Action	Frequency	Duration	Responsibility
1	Providing face mask for workers working at metal melting process	Monthly	Project life	Plant manager
2	Educating workers about workplace safety practices and use of PPE	Annually	Project life	Plant Manager,
3	Regular inspection and supervision of face mask usage	Daily	Project life	Plant manager

4	Installation of a particle monitoring meter	once	Project life	Plant manager
5	Temporarily stopping the resin laying works if dust emission reached above 50 ppm	If require	Project life	Plant manager
6	Providing dust collector	Once	Project life	Plant manager
7	Regular inspection and supervision of moistening dust heap area	Weekly	Project life	Plant manager

Table 63. Monitoring plan for emission of dust

Sr.	Parameter	Location	Frequency	Responsibility
1	$PM_{2.5}$	Within plant compound	Bi-annually	Plant Manager
2	Regular inspection	Within plant compound	Daily	Assistance Plant manager

Table 64. Projected budget for emission to dust

Sr.	Management Actions	Budget
1	Providing face mask and helmet adequately for workers working at material handling areas	120,000/yr
2	Providing dust collector	200,000

8 PROJECTED BUDGETS FOR MANAGEMENT AND MONITORING PLAN

Projected budget for implementation of EMP management actions and monitoring requirements could be summarized from detailed particulars described in previous section of the report. G & B Manufacturing (Myanmar) Company Limited will allocate 720,000 kyats total of one-time cost and 4,000,000 kyat of annual recurring cost for successful implementation and monitoring of the EMP. If the estimated budget isn't enough, G & B

Manufacturing (Myanmar) Company Limited. will be used by adding the enough budgets as necessary.

Table 65. Project Budgets for Implementation and Monitoring of EMP

Sr.	Management Actions	Budget
1	Regularly check and refill fire extinguishers	(700,000/yr)
2	Using necessary lifting and carrying aid apparatus and machinery (hand hydraulic trolley)	30,000
3	Using metal hand gloves for cutting machine operators	300,000/yr
4	Installing machine guards	300,000
5	Regular maintenance of exhaust and ceiling fan	300,000/yr
6	Providing 20 dust bins	100,000
7	Installing cover in generator room	60,000
8	Carrying out annual overall maintenance work	1,000,000/yr
9	Regular inspection and maintaining for belt, gears, sprockets, chains, and other moving parts.	500,000/yr
10	Install emergency stop devices on machine to enable workers to shut off the equipment within easy reach of workers in an emergency	30000
11	Providing face mask and helmet adequately for workers working at material handling areas	120,000/yr
12	Providing dust collector	200,000
Total One Time Cost		720,000
Total Recurring Cost		4,000,000

9 ENVIRONMENTAL MANAGEMENT AND SOCIAL SUB PLAN

9.1 Environmental Management Team

An Environmental Management Team will be established for successful implementation of the environmental management plan. G & B Manufacturing (Myanmar) Company Limited is responsible for complete implementation of the EMP and will carry out environmental monitoring programme which is part of the EMP. The objectives of the Environmental Management Team are:

(a) To assure systematic implementation of EMP throughout project life, and

(b) To monitor and review effectiveness of EMP regularly

Table 66. Environmental Management Team

Sr.	Representative	Number
1	Director	1
2	General Manager	1
3	Factory Manager	1
4	HR Manager	1
5	Production Manager	1
6	Supervisor	1

9.2 ROLES AND RESPONSIBILITIES

9.2.1 General Manager

General Manager is responsible for overall achievement of environmental management objectives. He has to report to Managing Director for regular progress, compliance, non-compliance and corrective actions for the course of implementation of EMP. He has to lead the regular EMP review process together with the environmental management team so that effectiveness of EMP is assured.

9.2.2 Heads of Departments (Admin)

Heads of Departments (HODs) are responsible for carrying out day to day activities of the EMP. They have to direct employees or carrying out inspection works of the

implementation of EMP and report back to Managing Director and General Manager for progress, compliance, non-compliance and corrective actions for the course of implementation of EMP.

9.3 TRAINING, AWARENESS AND COMPETENCE

This plan describes the provisions of training to ensure that any people working for or on behalf of G & B Manufacturing (Myanmar) Company Limited involved in the activities covered by the scope of the EMP are properly trained to carry out their assigned duties in a manner that will not cause deviation from company environmental policy.

This procedure applies to EMP related training for staff and any persons working for or on behalf of G & B Manufacturing (Myanmar) Company Limited involved in the activities covered by the scope of the EMP for G & B Manufacturing (Myanmar) Company Limited will ensure that all people performing tasks for or on behalf of the organization have had an appropriate assessment for their potential to cause a significant environmental impact and the associated competence required.

The HODs shall ensure that people working for or on behalf of the company within the scope of EMP are competent on the basis of appropriate education, training or experience. The General Manager shall identify training needs for people working for or on behalf of the company to ensure individual competence to implement the EMP effectively.

Table 67. Training Requirement

Sr.	Training Topics	Trainee	Duration
1	OSH Training	Supervisors, Operators, Workers and Security	40 hours
2	EMP Training	Environmental management team	40 hours
3	Emergency Response Training	All employee	16 hours
4	First Aid Training	All employee	20 hours
5	Fire Fighting Training	All employee	40 hours

9.4 EMERGENCY PREPAREDNESS AND RESPONSE PLAN

9.4.1 Emergency of Fire Hazard

9.4.1.1 Sources of Fire Hazard

Fire is a rapid chemical in which oxygen combines with another substance in the presence of a source of heat energy. Heat, fuel, and oxygen have to be present in sufficient quantities before a fire can start. If one of these elements is removed, the fire will go out. Heat acts as the source of ignition and anything that gives off heat can start a fire. The source of ignition is not necessarily a flame, a spark or fires itself, but the heat they give off. Heat can be generated by welding torches, soldering irons, hot plates, ovens, electric fires, light bulbs, electric irons, and smoking. Fuel can be anything combustible, such as paper, wood, petrol vapor, natural gas, and propane (bottled gas).

The oxygen essential for combustion is usually supplied from the surrounding air. Fires are classified into five categories according to the fuel type. The classification serves as a basis for identifying the means of extinguishing different types of fire:

- Class A

These are fires involving solid materials, normally of an organic nature, such as paper, wood, coal and natural fibers. These fires usually produce burning embers.

- Class B

These are fires involving flammable liquids or liquefied solids, such as petrol, oil, greases, fats and paints.

- Class C

These are fires involving gases or liquefied gases, such as methane, propane, and mains gas.

- Class D

These are fires where the fuel is a metal such as aluminum, sodium, potassium or magnesium.

- Class F

These are fires fueled by cooking fats, as in the case of deep fat frying.

9.4.1.2 Pre-Conditions

1. Mark out all location susceptible to fire outbreak

2. The work place is equipped appropriate fire-fighting equipment, fire detectors, and alarms and that any non-automatic fire-fighting equipment is easily accessible, simple to use and indicated by signs.
3. Appropriate measures are taken for fire-fighting and training of workers to implement those measures, and the arranging of contacts with external emergency services.
4. The emergency routes are kept clear and comply with any rules or regulations relating to routes, doors and signs.
5. There is a suitable system of maintenance for fire precautions in relation to workplace procedures in general and to specific equipment and devices, which must be kept in good working order and repair.
6. Hot works must be done in a standard workshop.
7. Store flammable liquids/gases properly and under the supervision of a competent person.
8. Standardize waste materials and residues management so that they do not contribute to a fire emergency.

9.4.1.3 Preparation for Emergencies

9.4.1.4 Training

All people at the production unit shall be trained on emergency situations in accordance with the standard of Myanmar fire bridge department.

9.4.1.5 Fire Drills

Fire drills are important requirement that serve to prepare and educate the staff in the event of a fire. Staff is expected to participate in fire drills and respond according to department expectations and institutional policy. Fire drills are critiqued and opportunities for improvement are identified and addressed. In addition, equipment and system problems and failures are reported immediately for correction.

Fire drills include the following:

- Simulated and actual removal of patients, staff and visitors from affected area
- Fire alarm activation
- Reporting event by calling 911
- Fire and smoke containment observation
- Review of evacuation procedures

- Fire suppression procedures

9.4.1.6 Pre-Drill Assessment

The drill coordinator should conduct a pre-drill assessment of the evacuation routes and assembly points. This assessment will verify condition of egress components and ensure that occupants may use these facilities in a safe manner. Ensure exit passageways are clear, free of obstructions and that exit doors work properly.

9.4.1.7 Evacuation

Evacuation shall be started by an acoustic signal. This signal can be activated by hand and also automatically by fire detection.

9.4.1.8 Responsibilities of Fire Emergency Coordinator and Fire Emergency Teams

The Emergency Coordinators are Responsible for: Review of the evacuation plan before a drill and identifying any modifications necessary as the result of changes in operations, facility, staff or occupants.

Trigger the evacuation signal (fire alarm) system and evaluate personnel response in terms of the following:

- Actions taken to shutdown processes and machineries.
- Using the prescribed route by the emergency procedure during evacuation.
- The ability of the occupant to provide assistance to visitors or individuals who are experiencing difficulty.
- Be familiar with the building evacuation plan and the basic emergency procedures.
- Know where the unit's first aid kit is located.
- The occupants' judgment in taking evasive action if the means of egress that is selected is determined to be unsafe.
- The occupant ability to report to the assembly area monitors using the prescribed emergency, safe exit (lifts must not be used in the event of a fire emergency) at the assigned assembly point.
- The Emergency Teams are Responsible for: Assessment of the means of exit
- Program the police services emergency number on the cell phone and have the phone readily available.

9.4.1.9 Emergency Equipment

The Followings equipment/PPE is mandatory when any hot work has to be performed:

- Hands-free welding mask;
- Steel toe safety boot;
- Fire Extinguisher;
- Fire blanket;
- Fire Hydrant system;
- Willkie Talkie
- Fire detection system.

Figure 39. Fire Extinguishers, Fire Hose Cabinets and Fire Alarm Is Provided For Emergency Cases

Figure 40. Assembly Point for Emergency Condition

9.4.1.10 First Aid

First aid is a part of the total health care for workers. Its application will depend to a large extent on persons present at the time of an accident, whether co-workers or formally trained medical personnel. Any comprehensive occupational safety and health programme should include first aid, which contributes to minimizing the consequences of accidents and is therefore one of the components of tertiary prevention.

9.4.1.11 First Aid Treatment for Burns

Generally, a burn is considered as severe if it involves:

- More than 5% of the casualty's Total Body Surface Area (TBSA) i.e. a surface area more than five times the size of his palm
- The casualty's mouth, throat, eyes, ears and/or genitals

A. Minor burns

For mild (1st degree) burns involving less than 5% of the casualty's body surface, the following procedure will suffice:

- Cool the burn with running cool (not cold) water for at least 5 minutes. Do not overcool. If the person starts to shiver, stop the cooling process.
- A cool compress or clean wet cloth placed over the burn area helps relieve pain and swelling and compress in 5 to 15 minutes intervals. Try not to use excessively cold compresses because they may irritate the burn more.

- Remove rings or other tight items from the burned area. Try to do this quickly and gently, before the area swells.
- Don't break small blisters (no bigger than your little fingernail). If blisters break, gently clean the area with mild soap and water, apply an antibiotic ointment, and cover it with a nonstick gauze bandage.
- Apply moisturizer or Aloe Vera lotion or gel, which may provide relief in some cases.
- Honey may help heal a minor burn when applied topically. Honey is an anti-inflammatory and naturally anti-bacterial and anti-fungal.
- If needed, take an over-the-counter pain reliever, such as ibuprofen (Advil, Motrin IB, others), naproxen sodium (Aleve) or acetaminophen (Tylenol, others).
- Consider a tetanus shot. Make sure that your tetanus booster is up to date.

B. Severe burns

For 2nd degree burns i.e. burns involving more than 5% of the casualty's body surface: Follow this procedure stated below:

1. Cool the affected part under cold running water or immerse it in cold water for at least 10 minutes; for chemical burns, wash off the chemicals
2. Constricting accessories such as bracelets, rings, watches or clothing are to be gently removed from the injured area before it starts to swell
3. Cover the burned/scalded area with sterile dressing
4. Call the Medical Emergency Number for an ambulance

The burn is often associated with other traumata such as fractures, wounds, electrocution, etc. which may complicate the medical condition of the victim, if not treated in good time. Take immediately to nearby health facility burn victims with the following signs:

- First degree burns with sizeable area;
- 2nd and 3rd degree burns;
- If the victim is drowsy, restless and has breathing problem;
- If the victim has burns on his face, eye, extremities, joints and around genital organs;
- Immediate care and first aid treatment according to "4C Procedures" stated above may be required before adequate medical treatment is administered. The Emergency Coordinator must always ensure that trained personnel and adequate First Aid supplies are readily available.

9.4.1.12 Emergency Treatment of Burned Body Parts

In the case of a fire victim with burned body parts, to prevent burn lesions from deteriorating, it is essential to do the following:

a. Not to burst any blisters, or remove the epidermis. Exposure of the dermis only increases the loss of body fluids and heat, besides increasing pain and the risk of infection;
b. To cool the burned parts with water or wet cloth. This stops the action of the thermal agent and considerably reduces pain. Very extensive burns must be treated either by immersing the part in water at room temperature or by covering the part with damp cloth. The cooling operation should generally not exceed 20 minutes. It should be guided by the patient's general condition and the degree of pain relief achieved. Cooling a patient must be stopped if he begins to shiver, as this can lead to hypothermia. Children and elderly persons and those in a state of shock must be treated with even greater care, with less energetic and shorter cooling. Non-extensive burns can be soothed with ice-packs or by placing the part under a running tap;
c. Flush chemical burns with water until all burning pain has stopped. Remove all contaminated clothes.
d. To use clean plastic bags, if available, to wrap burned hands and feet, or to spread out like adhesive flaps over burns on the thorax, limbs, etc;
e. To wrap burned parts or the entire body in a freshly laundered dry sheet, towel or cotton or linen cloth, and not to apply dressings as these would cause constriction as the burn oedema (a condition characterized by an excess of watery fluid collecting in the cavities or tissues of the body) increases;

Figure 41. Clinic for Labor

Figure 42. Washing area are Prepared for labor

9.4.2 Emergency of Electric Shock

9.4.2.1 Sources of Electric Hazard

Electricity flows through conductors. Conductors include metals, water, earth and the human body. Electric shock occurs when electricity flows through the human body by means of contact. Electric currents may also heat external and internal tissue sufficiently to induce structural damage through electrical burns. Electrical burns affect human health through actions on both excitable (e.g. cardiac, nervous) and non-excitable (e.g. Skin, blood vessels) tissues. Depending on the resistance encountered, the nature of the source, the strength of the

current and the contact time, the heat generated (Joule effect) may produce serious external and internal burn injuries and even death. Deep-tissue burns may occur anywhere along the path a current travel through the body. Evident surface burns may only comprise a small portion of the overall burn injury, and an injury's full extent may not be immediately apparent. Harm can be caused to any person when they are exposed to 'live parts' that are either touched directly or indirectly by means of some conducting object or material. Voltages over 50 volts AC or 120 volts DC are considered hazardous. Maintenance Personnel, machine operators and production personnel are quite prone to electrocution if proper trainings and strict preventive measures against electrical hazard are not established. Electrical hazards may be constituted by any or combination of the following:

- Improper grounding
- Exposed electrical parts
- Inadequate wiring
- Overhead power lines
- Damaged insulation
- Overloaded circuits
- Wet conditions
- Damaged tools and equipment

The severity of injury from electrical shock depends on the amount of electrical current and the length of time the current passes through the body. Even if the current is as low as 0.5mA and a person comes in contact for just 2 seconds, this is enough to cause death.

The lower the resistance, the greater the current flow will be. Dry skin may have a resistance of 100,000 ohms or more. Wet skin may have a resistance of only 1,000 ohms. Wet working conditions or broken skin will drastically reduce resistance. The low resistance of wet skin allows current to pass into the body more easily and give a greater shock.

9.4.2.2 Pre-Conditions

1. All high voltage equipment shall be on an inventory list with the following information:
    - Identification (tag)
    - Voltage Rating
    - Caution sign
2. Implement Preventive Organizational Measures which must incorporate the following:
    - Provisions according to basic protection requirements such as insulations

- Electrical fault protection requirements which normally involves an automatic disconnection of supply (ADS) using overcurrent protective devices.
- All high voltage equipment must be installed with barriers and enclosures such that they are completely inaccessible to unauthorized persons. The barriers and enclosures must maintain adequate clearances from the live parts.
- Safe Work Permit for jobs requiring high voltage
- Identification and provision of required PPEs including electrical rated hand gloves
- Specific Training to Operators and Maintenance Crew on Machine Safety procedure

9.4.2.3 Preparation for Emergencies

9.4.2.3.1 Training

An emergency expert or rescuer may be qualified for some kinds of emergencies and unqualified for others. Having the knowledge and skill to install and/or maintain electrical systems and equipment does not guarantee that the person is fully familiar with the hazards involved. Special training, and ability to use special equipment, is necessary for those emergency service personnel who carry out emergency and rescue tasks close to live electrical equipment. Training is key in determining who is considered a qualified emergency responder. A qualified electrical emergency responder is one who has been specifically trained on electrical hazards and emergency response and is qualified to carry out a rescue or emergency response. All people at the production unit shall be trained on emergency situations.

9.4.2.3.2 Electrical Injury Simulations

Electrical injury simulations must be done at least once a year to build experience; enable psychological preparation for emergency and to test; evaluate and improve overall preparedness with regards to the Emergency Response. The Emergency response team for electrical related emergencies must consist of trained personnel equipped to carry out a planned response plan on what should be done in the event of an electrical emergency.

9.4.2.3.3 Direct Contact with Electricity

The primary electrical injury that accompanies an electric shock as a result of contact with electricity is burns. It takes about 30 mA of current to cause respiratory paralysis. Currents greater than 75mA cause ventricular fibrillation (very rapid, ineffective heartbeat). This condition will cause death within a few minutes unless a special device called a defibrillator is

used to save the victim. Heart paralysis occurs at 4 amps, which means the heart does not pump at all. Tissue is burned with currents greater than 5Amp.

9.4.2.3.4 Indirect Contact

The most destructive indirect injury occurs when a victim becomes part of an electrical arc. Arc-blasts occur when powerful, high-amperage currents arc through the air. An electrical arc is a current spark formed between two objects of differing potential that are not in contact with each other, usually a highly charged source and a ground. Because the temperature of an electrical arc is approximately 2500° C, it causes very deep thermal burns at the point where it contacts the skin. In arcing circumstances, burns may be caused by the heat of the arc itself, electro thermal heating due to current flow, or by flames that result from the ignition of clothing. Protection against indirect contact is based on combining measures affecting both the characteristics of the equipment and the building of the installation. High sensitivity residual current devices are the most effective way of protecting against the risk of indirect contact.

9.4.2.3.5 Emergency Equipment

The Followings equipment/PPE are mandatory when any work with electrical hazards has to be performed:

- Electrical safety insulating latex hand gloves
- Electrical safety composite gloves
- Fire Extinguisher
- Safety boots (“EH” rated)

Protective devices such as overcurrent circuit breakers, thermal overload relays, and ground fault detectors must be installed as a preventive measure against electric hazards.

9.4.2.3.6 Rescue Procedure

Electrical shocks always need emergency medical attention even if the person seems to be fine afterward. The emergency responder is expected to do the following:

If low voltage electricity is involved;

- Separate the Person from the power or current's source
- Turn off power via circuit breaker, fuse box, or outside switch i.e. complete isolation
- If you can't turn off power, stand on something dry and non-conductive, such as dry newspapers, telephone book, or wooden board.

- Try to separate the person from current using non-conductive object such as wooden or plastic broom handle, chair, or rubber doormat.

  If high voltage line or power line is involved:

  High voltage electricity of 500V and above has the ability to 'jump' or 'arc' up to distances of 18 meters or over. If faced with a casualty resulting from high voltage electricity, the following procedures should be followed by a trained electrical emergency rescuer

1. Do not approach! Stay at least 25 meters away from the casualty until the power has been switched off by an official agency. Do not try to separate the person from current if you feel a tingling sensation in your legs and lower body
2. Insulate yourself from the ground with books / newspapers / rubber matting
3. Use an object of low conductivity i.e. a wooden broom or rolled up newspaper to push away the power source. If a power line falls on a car, instruct the passengers to stay inside unless explosion or fire threatens.
4. Once an electrical emergency rescuer has ascertained that the victim is no longer in contact with electrical conductors, the following checks may be carried out:
5. Quickly access the level of response of the victim. A rapid assessment will allow effective treatment to be administered and will also allow for accurate information to be passed on to the ambulance service. Access the level of response of the victim by:

   Check whether the casualty is conscious

   - Ask "hello, can you hear me" and call the name if you know it.
   - Ask in both the casualty's ears to open their eyes.
   - Pinch an ear lobe or gently tap the shoulders.
   - Shout for HELP!
   - DO NOT move the casualty unless the environment or situation is dangerous.

9.4.2.3.7 First Aid Treatment

For an unresponsive casualty open the airway

- Look in the mouth to ensure there are no obvious obstructions.
- Open the airway by lifting the chin and tilting the head back.
- This will free the tongue from the back of the throat
- If neck/spinal injury is suspected, put one hand on the stomach to feel if it rises and falls. This indicates normal breathing.

Assess for breathing by doing the following:

- LOOK for the rise and fall the chest.
- LISTEN for sounds of breathing.
- FEEL for air on your cheek.
- Carry this out for up to 10 seconds.

Condition 1: If the victim is breathing normally;

If breathing is present do the following:

- Check for any other obvious injuries.
- Remove sharp objects from pockets.
- Turn the casualty into the recovery position.
- Place the nearest arm at a right angle to the body.
- Draw the furthest arm across the chest and place the back of the hand across the cheek.
- Keep this here whilst you raise the furthest leg by grasping the top of the knee.
- Gently pull on the knee so that the casualty pivots over onto their side facing you.
- The casualty should be fully over and stable.
- Re-check the airway, breathing and circulation.
- Draw up the leg at a 90-degree angle
- Check for continued breathing.
- Call the Emergency Medical Services

Condition 2: Victim is not breathing;

If the casualty is not breathing normally, commence full Cardio-Pulmonary Resuscitation (CPR). Call for medical emergency services while you commence CPR (Cardio-Pulmonary Resuscitation). To commence CPR for an unresponsive casualty;

- Ensure the casualty is on a firm, flat surface
- Place your hands one on top of the other in the center of the casualty's chest
- Compress the chest (up to a maximum depth of approximately 4-5cm) 30 times at a rate of 100 compressions per minute. The compressions and releases should take an equal amount of time
- After 30 compressions, open the airway again using head tilt/chin lift
- Seal the nostrils with your thumb and forefinger.
- Blow steadily into the mouth until you see the chest rise, take about a second to make the chest rise.

It is advisable to have resuscitation equipment at this stage such as a face shield.

- Remove your mouth to the side and let chest fall. Inhale some fresh air, when breathing for the casualty
- Repeat so you have given 2 effective rescue breaths in total
- If chest does not rise after the second breath, go back to 30 compressions then try again with 2 breaths.
- Return your hands to the correct position on the chest and give a further 30 chest compressions.

Continue with CPR until:

1. The casualty shows signs of recovery
2. Emergency services arrive
3. You become exhausted and unable to continue
4. The situation changes and you are now in immediate danger.

9.4.2.3.8 Burns

Exposure to electricity can cause burns to the skin and, in severe cases, internal organs. In such cases the electricity may, for example, enter via a hand and leave via the feet causing 'entry' and 'exit' burns.

A. Conscious casualties

   Cool burns for a minimum of 10 minutes under cold water.

B. Unconscious casualties

   Cool the burn with wet dressings after placing them in the recovery position.

- Burst any blisters
- Apply adhesive dressings
- Remove damaged skin
- Apply ointments/creams
- Cover with 'fluffy' dressings
- Affix dressing too tightly
- Apply butter/fats/margarine
- Remove damaged clothing
- Apply ice

9.5 NATURAL DISASTER PREPAREDNESS

Practical and comprehensive action plans should be prepared for the following situations and types of activities to ensure effective implementation in times of emergency: Mitigating natural disaster risks includes measures to prevent loss of life and property during natural disasters (such as the construction of modulating lakes and reservoirs to prevent disasters caused by heavy rainfall and flooding in rivers, construction of sufficient fire breaks to prevent forest fires from spreading into urban areas) as well as precautionary and mitigating measures (such as planting trees as wind breakers and breakwaters, planting rows of trees and groves to reduce damage, using fire-proof materials as much as possible in construction to reduce fire hazards, and using earthquake resistant designs to reduce damage caused by earthquakes). In planning mitigating measures, the type of disasters that can affect the disaster-prone areas, the scale (large or small) and the population density (densely populated or sparsely populated) should first be studied and the disaster risk reduction measures prioritized according to the potential damage identified.

Natural disaster preparedness should include planning based on the characteristics of natural disasters, preparedness to overcome them and where it is not possible to overcome them, making preparations for evacuation and shelter. The following steps are generally involved:

1. Early Warning systems. Setting up systems for horizontal and vertical communications.
2. Providing management, and conducting rehearsals and drills for the Interdepartmental Relief Team to enable it to provide assistance during natural disasters from the nearest location in the field.
3. Providing training from the grassroots level organizations to the Township/Division/State to ensure preparedness for emergency activities during natural disasters; brainstorming possible solutions for different scenarios during training.
4. Including natural disaster management and preparedness activities for the individuals, groups, households, wards or neighborhoods in the school curriculum, newspaper/journals in order to raise awareness for everyone and issuing further warnings especially in disaster-prone times of the year.
5. Building safe shelters, artificial mounds and high embankments for use in times of emergency, and making evacuation plans and conducting drills.

6. Stockpiling food, water, clothing, supplies, construction materials, shelter and ready-made tents, tools, etc. that will be necessary during emergencies or arranging access to them and designating transportation routes.
7. Forming emergency supervisory teams and conducting rehearsals.
8. Identifying vulnerable areas for each type of natural disasters and conducting awareness-raising activities, identifying and communicating do's and don'ts and precautionary measures that should be taken for each type of natural disasters.
9. Preparing and conducting drills for measures to be taken during disasters and in the post-disaster period. Activities to be conducted during disasters include emergency relief, preliminary care and protection, emergency medical treatment, and evacuation to safe locations. Activities to be conducted in the post disaster period include provision of health care, water, food, clothing, and shelter.
10. As planning is required for these activities, projects should be in place for the provision of education and training to the grassroots level.

9.6 FACTORY DECOMMISSIONING MANAGEMENT PLAN

9.6.1 Production Area Decommissioning Management Plan

The DMP for production area will consist of the following actions

- All products will be sent for suitable re-use, recovery, treatment or disposal.
- Shutting off unnecessary services to the building. Heating and ventilation capability would be maintained.
- The instrumentation will be disconnected and rendered safe.
- Cleaning and decontamination of all floor drains.
- All remaining specialized equipment will be sent for suitable re-use or sold to an interested party. Obsolete equipment will be recycled where possible or otherwise disposed of.

9.6.2 Utilities Area Decommissioning Management Plan

The DMP for the utilities area would consist of shutting down the following systems

- Removal of any associated chemicals, oils or any other materials used in the utilities area for redistribution, return to vendor or disposal.

- Waste oils, lubricants and diesel will be sent for suitable re-use, recovery, treatment or disposal as appropriate. Any hazardous waste arising from the plant and utilities areas will be removed from site and disposed of.

9.6.3 Warehouse Area Decommissioning Management Plan

The DMP for the stores warehouse would consist of the following actions

- Cancellation of all orders for incoming materials to the site.
- Negotiation with other plants with a view to distribution of unused materials.
- Negotiation with relevant suppliers to return unused materials to supplier.
- Dispatch of opened containers and non-returnable or out-of-date goods for appropriate treatment or disposal. Cleaning and decontamination of the storage areas.

9.6.4 Site Decommissioning Management Plan

The following actions would be required to ensure the implementation of the site DMP

- Cessation of any construction project work on site so that the site is left in a safe and orderly condition. Contractors will be required to decommission any construction compounds and remove all construction equipment, construction materials and waste, storage units and temporary offices from the site at the completion of construction projects.
- Disbandment of contract personnel, facilities and equipment.
- Termination of all non-essential maintenance and other contracts.
- Removal from site any temporary offices or storage areas.
- Rationalization of the site electricity supply. This would involve removing transformers from service, allowing remaining site operations to run from one transformer.
- The boilers onsite will be decommissioned.

10 PUBLIC COMMUNICATION

This plan ensures a consistent and efficient approach to internal communication and external complaints relating to the environment. The procedure applies to all documents established under the EMP of G & B Manufacturing (Myanmar) Company Limited. The documents under the EMP include but are not limited to:

- EMP Report
- Mitigation Measures and Management Actions

- Environmental Monitoring Programme
- Registers of Legal and Other Requirements
- External documents including legislation, professional guides and code of practices, etc.

10.1 PUBLIC CONSULTATION AND DISCLOSURE

G & B Manufacturing (Myanmar) Company Limited is located at Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon region, Myanmar. The project will include industrial zone management committee meetings; Compliance with departmental inspections; other departmental officials in the vicinity of the project; Special emphasis is placed on building good relationships with other business people and the public.

10.2 RESULTS OF PUBLIC CONSULTATION

Departmental officials, officials from the Zone Management Committee; Regular consultations will be held with the people in the area and public opinion will be taken to ensure that there is no harm to the environment and the socio-economy.

10.3 DISCLOSURE OF INFORMATION ON PUBLIC CONSULTATION; THE PLAN WILL BE IMPLEMENTED IN ACCORDANCE WITH THE REQUIREMENTS

The factory will have a suggestion box to provide public feedback on the project at all times. The guidelines of the Industrial Zone Committee and relevant departments will always be followed. Project announcements will be made in real time at the Industrial Zone Committee Office and the factory notice board.

10.4 CSR ACTIVITIES OF G & B MANUFACTURING (MYANMAR) COMPANY LIMITED

CSR activities of G & B Manufacturing (Myanmar) Company Limited are managed to develop socio-economic and humanity life. The net profit of this business is used for corporate social responsibility and table is shown in below.

Table 68. CSR Activities

No	Plan	Percent of CSR budgets
1	Supporting for education	20%
2	Supporting for road preparing	20%
3	Supporting for township development	20%
4	Supporting for environmental conservation and cleaning	20%
5	Supporting for human care and rescue	20%

10.5 RESPONSIBILITY

- The General Manager is responsible for dealing with complaints.
- The communication from cooperate affairs is responsible for ensuring that all communications relating to the environment are processed correctly.
- All staffs are responsible for putting forward suggestions on environmental matters.

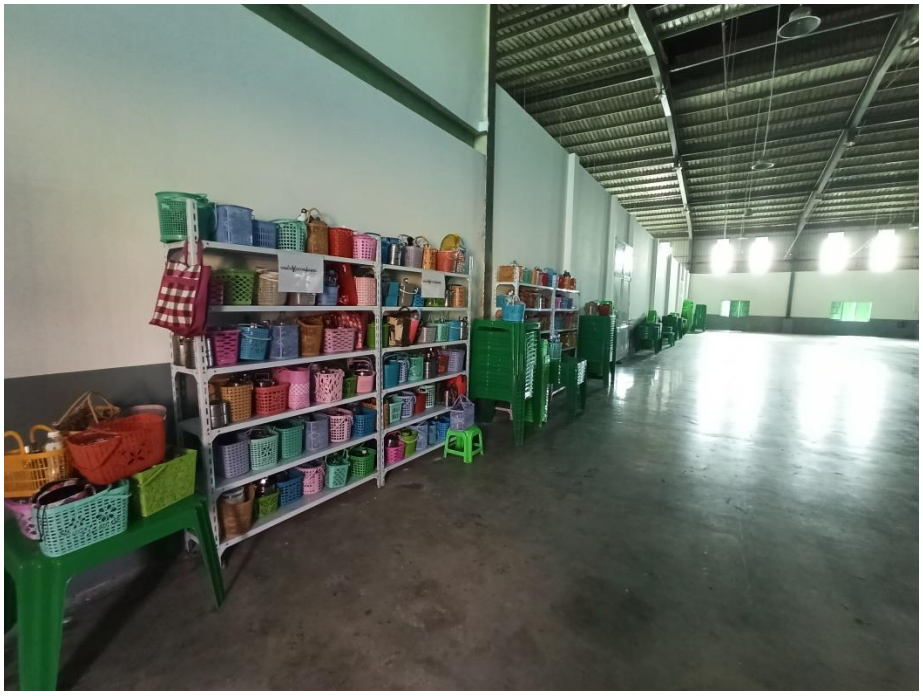


Figure 43. Dining Area Is Prepared For Labor

10.6 RESPONSIBILITY

- The General Manager is responsible for dealing with complaints.
- The communication from cooperate affairs is responsible for ensuring that all communications relating to the environment are processed correctly.
- All staffs are responsible for putting forward suggestions on environmental matters.

10.6.1 External Communications

Communications to be handled according to this procedure include correspondence, conservations and meeting with relevant interested parties.

The person receiving the communication shall be noted the time and date, relevant address/telephone number and details of communication. Details shall be passed to the General Manager who will determine the response and whether the corrective action is required upon consultation with HR Department. If the communication is significant, the General Manager shall inform the supply chain director as soon as possible.

General Manager shall be responsible for maintaining records, responses and corrective action in a separate file designated for that purpose. In order to have more understanding the environment management practices by the EMP team and to have more transparent, local authorities and Communities leaders shall be invited to the process once in a year to share update environment management procedures.

10.6.2 Internal Communications

The primary means of communication is through team briefings, supported as appropriate by use of notice boards and memos. Suggestions for environmental improvements are made through the company suggestion scheme.

Figure 44. Noticed board is installed

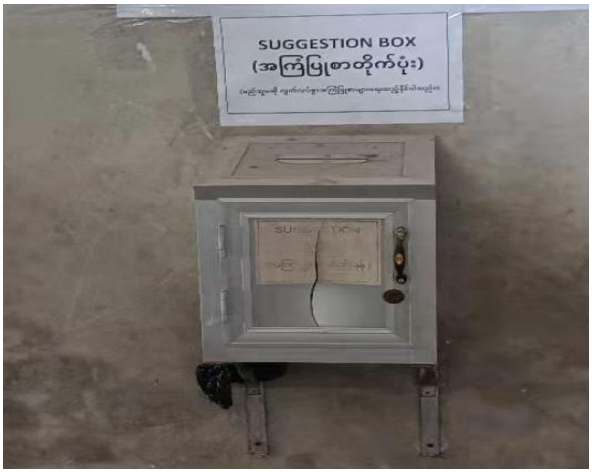


Figure 45. Suggestion Box is Prepared

11 CONCLUSIONS AND RECOMMENDATIONS

Four key environmental impacts can be occurred from the project objectivities. G & B Manufacturing (Myanmar) Company Limited should be reduced and monitored on these environmental impacts by following specifically the impacts management and monitoring plan described in section 5. On the other hand, there will be left to be investigated positive impacts such as Job Opportunities and surrounding villages can be developed by CSR program of the factory.

12 MANAGEMENT REVIEW

A process that will review the results of the implementation of EMP by the analysis of the monitoring results to ensure that the mitigation measures and management actions are fully satisfied with the minimum side effects to the environment is required. The SHE manager shall

work with all HODs to carry out analysis and evaluation of monitoring results in compliance with set environmental standard values. The SHE manager has the overall responsibility for ensuring that this EMP is implemented to ensure the project operation is in compliance with applicable environmental legislations.

The HR Manager of G & B Manufacturing (Myanmar) Company Limited will be the responsible person of management review process. He shall be supported by all HODs and various functional heads.

REFERENCES

- Environmental conservation law and rules
- Environmental impact assessment
- Myanmar Information Management Unit (http://themimu.info)
- Myanmar law library
- Department of Meteorology and Hydrology(https://www.moezala.gov.mm)

APPENDIX 1

Water Result

ISO TECH LABORATORY

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

ISO 9001:2015 Cert. No. 688600

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

W0720 467

WATER QUALITY TEST RESULTS FORM

Client: G & B Manufacturing (Myanmar) Co.,Ltd.
Nature of Water: Tube Well Water
Location: Shwe Pyi Thar Township
Date and Time of collection: 14.7.2020
Date and Time of arrival at Laboratory: 14.7.2020
Date and Time of commencing examination: 15.7.2020
Date and Time of completing: 17.7.2020

Results of Water Analysis			WHO Drinking Water Guideline (Geneva - 1993)
pH	7.7		6.5 - 8.5
Colour (True)	Nil	TCU	15 TCU
Turbidity	3	NTU	5 NTU
Conductivity	32	micro S/cm	
Total Hardness	4	mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
Calcium Hardness	2	mg/l as $CaCO_3$	
Magnesium Hardness	2	mg/l as $CaCO_3$	
Total Alkalinity	16	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)	16	mg/l as $CaCO_3$	
Iron	0.26	mg/l	0.3 mg/l
Chloride (as CL)	4	mg/l	250 mg/l
Sodium Chloride (as NaCL)	7	mg/l	
Sulphate (as SO_4)	Nil	mg/l	500 mg/l
Total Solids	22	mg/l	1500 mg/l
Total Suspended Solids	6	mg/l	
Total Dissolved Solids	16	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 Oo
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, 09-73225175, 09-30339681, 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

ISO TECH LABORATORY

Laboratory Technical Consultant: U Saw Christopher Maung
B.Sc Engg: (Civil), Dip S.E(Delft) Lecturer of YIT (Retd). Consultant (Y.C.D.C), LWSE 001.
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ISO 9001:2015 Cert. No. 688600

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Issue No - 1.0/Page 1 of 1

WW0720 062

WASTEWATER QUALITY TEST RESULTS FORM

Client: G & B Manufacturing (Myanmar) Co.,Ltd.

Nature of Water: Wastewater (Outlet)

Location: Shwe Pyi Thar Township

Date and Time of collection: 14.7.2020

Date and Time of arrival at Laboratory: 14.7.2020

Date and Time of commencing examination: 15.7.2020

Date and Time of completing: 20.7.2020

Results of Wastewater Analysis

Parameters	Results	
pH		
Biochemical Oxygen Demand (BOD) (mg/l) (5 days at 20 °C)	24	
Chemical Oxygen Demand (COD) (mg/l)	64	
Dissolved Oxygen (DO) (mg/l)		
Total Solids (mg/l)		
Total Suspended Solids (mg/l)		
Total Dissolved Solids (mg/l)		
Nitrate (mg/l)	3.9	
Ammonia Nitrogen (NH_3) (mg/l)	1.33	
Ammonium Nitrogen (NH_4) (mg/l)	1.41	
Phosphate (mg/l)		

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

Tested by

Signature: Hein

Name: Zaw Hein Oo
B.Sc (Chemistry)
Sr. Chemist
ISO TECH Laboratory

Approved by

Signature:

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

ISO TECH LABORATORY

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

ISO 9001:2015 Cert. No. 688600

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

W0820 334

WATER QUALITY TEST RESULTS FORM

Client	G & B Manufacturing (Myanmar) Co.,Ltd.
Nature of Water	Tube Well Water
Location	Shwe Pyi Thar Township
Date and Time of collection	12.8.2020
Date and Time of arrival at Laboratory	12.8.2020
Date and Time of commencing examination	13.8.2020
Date and Time of completing	15.8.2020

Results of Water Analysis

Temperature (°C)	25.0	°C	
Fluoride (F)		mg/l	
Lead (as Pb)		mg/l	
Arsenic (As)		mg/l	
Nitrate ($N.NO_3$)	0.6	mg/l	
Chlorine (Residual)		mg/l	
Ammonia Nitrogen (NH_3)		mg/l	
Ammonium Nitrogen (NH_4)		mg/l	
Dissolved Oxygen (DO)		mg/l	
Chemical Oxygen Demand (COD)		mg/l	
Biochemical Oxygen Demand (BOD) (5 days at 20 °C)		mg/l	
Cyanide (CN)		mg/l	
Zinc (Zn)		mg/l	
Copper (Cu)	Nil	mg/l	
Calcium (Ca)	23	mg/l	
Magnesium (Mg)	14	mg/l	
Silica (Si)		mg/l	

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

Tested by

Signature: Hein

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

Approved by

Signature:

Name: Thinzar Thelbi Theint
B.E (Civil)
Assistant Technical Officer
ISO TECH Laboratory

ISO TECH LABORATORY

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

ISO 9001:2015 Cert. No. 688600

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

W0820 335

WATER QUALITY TEST RESULTS FORM

Client	G & B Manufacturing (Myanmar) Co.,Ltd.
Nature of Water	Wastewater (Outlet)
Location	Shwe Pyi Thar Township
Date and Time of collection	12.8.2020
Date and Time of arrival at Laboratory	12.8.2020
Date and Time of commencing examination	13.8.2020
Date and Time of completing	15.8.2020

Results of Water Analysis			WHO Drinking Water Guideline (Geneva - 1993)
pH	7.8		6.5 - 8.5
Colour (True)		TCU	15 TCU
Turbidity		NTU	5 NTU
Conductivity		micro S/cm	
Total Hardness		mg/l as $CaCO_3$	500 mg/l as $CaCO_3$
Calcium Hardness		mg/l as $CaCO_3$	
Magnesium Hardness		mg/l as $CaCO_3$	
Total Alkalinity		mg/l as $CaCO_3$	
Phenolphthalein Alkalinity		mg/l as $CaCO_3$	
Carbonate ($CaCO_3$)		mg/l as $CaCO_3$	
Bicarbonate (HCO_3)		mg/l as $CaCO_3$	
Iron		mg/l	0.3 mg/l
Chloride (as CL)		mg/l	250 mg/l
Sodium chloride (as NaCL)		mg/l	
Sulphate (as SO_4)		mg/l	500 mg/l
Total Solids	87	mg/l	1500 mg/l
Total Suspended Solids	52	mg/l	
Total Dissolved Solids	35	mg/l	1000 mg/l
Manganese		mg/l	0.05 mg/l
Phosphate		mg/l	
Phenolphthalein Acidity		mg/l	
Methyl Orange Acidity		mg/l	
Salinity		ppt	

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

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

Approved by
Signature:
Name: Thinzar Thint Thint
B.E (Civil)
Assistant Technical Manager
ISO TECH Laboratory

(a division of WEG Co.,Ltd.)
No.18. Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar.
Ph: 01-640955, 09-73225175, 09-30339681, 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

APPENDIX 2

Soil Result

DEPARTMENT OF AGRICULTURE (LAND USE)

SOIL ANALYTICAL DATA SHEET

G & B Manufacturing (Myanmar) Co.,Ltd (14.7.2020)

Division – Yangon

Towship – Shwe Pyi Thar

Sheet No. 1

Sr No. S 1/ 19–20

Sr No.	Sample	Moisture %	pH Soil:Water 1:2.5	Texture				Organic Carbon %	Humus %	Total N %	Exchangeable Cations meq/100gm			Available Nutrients	
				Sand %	Silt %	Clay %	Total %				Ca^{++}	Mg^{++}	K^{+}	P ppm (Olsen)	K_2O mg/100gm
1	Sample	3.06	7.35	39.40	37.00	23.60	100.00	0.33	0.57	0.13	24.05	2.06	0.25	6.19	11.76

လက်ထောက်ညွှန်ကြားရေးမှူး (ကိုယ်စား)

(သက်စုစုလှိုင်ဦးစီးအရာရှိ)

မြေအသုံးချရေးဌာနခွဲ

DEPARTMENT OF AGRICULTURE (LAND USE)

SOIL INTERPREATATION OF RESULTS

G & B Manufacturing (Myanmar) Co.,Ltd (14.7.2020)

Division – Yangon

Sheet No. 1

Towship –Shwe Pyi Thar

Sr No. S 1/ 19–20

Sr No.	Sample	pH Soil:Water 1:2.5	Texture	Organic Carbon	Total N	Exchangeable Cations			Available Nutrients	
						Ca++	Mg++	K^+	P	K_2O
1	Sample	Slightly alkaline	Loam	Very low	Low	High	Low	Medium	Low	Medium

လက်ထောက်ညွှန်ကြားရေးမှူး (ကိုယ်စား)

(သက်စုစုလှိုင်ဦးစီးအရာရှိ)

မြေအသုံးချရေးဌာနခွဲ

APPENDIX 3

Director List

No.....
Date.....

G&B Manufacturing (Myanmar) Co., Ltd
LIST OF DIRECTORS

Sr.No	Name	Citizenship	Pssport No.	Designation	Address	Numbers of Shares Capital	Shares Capital Ratio
1	Zhejiang Native Produce & Animal By - Products I/E Group Co., Ltd	Incorporated in China Registration No.91330000142912507K			No.308, North Zhongshan Road, Hangzhou City.	2,000,000 Shares	100%
	Representative						
	Mr. Bi Wen Jie	Chinese	PE1744462	Director	No.308, North Zhongshan Road, Hangzhou City.		
	Mr. Zhang Tao	Chinese	PE1185912	Director	No.308, North Zhongshan Road, Hangzhou City, Zhejiang Province China.		
	Ms. Wang Ming Xia	Chinese	E87067322	Director	No.35, Lanshan Village Pal Lou Town,Chizhou, Anhui		

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

APPENDIX 4

Certificate of Incorporation

ကုမ္ပဏီမှတ်ပုံတင်လက်မှတ်

Certificate of Incorporation

G&B MANUFACTURING (MYANMAR)CO., LTD
Company Registration No. 122657000

မြန်မာနိုင်ငံကုမ္ပဏီများဥပဒေ၂၀၁၇ အရ
G&B MANUFACTURING (MYANMAR)CO., LTD
အား ၂၀၁၉ ခုနှစ် အောက်တိုဘာလ ၁၀ ရက်နေ့တွင်
အစုရှယ်ယာအားဖြင့် တာဝန်ကန့်သတ်ထား သည့် အများနှင့်မသက်ဆိုင်သောကုမ္ပဏီ
အဖြစ် ဖွဲ့စည်းမှတ်ပုံတင်ခွင့်ပြုလိုက်သည်။

This is to certify that
G&B MANUFACTURING (MYANMAR)CO., LTD
was incorporated under the Myanmar Companies Law 2017 on 10 October 2019 as a Private Company Limited by Shares.

ကုမ္ပဏီမှတ်ပုံတင်အရာရှိ
Registrar of Companies
ရင်းနှီးမြှုပ်နှံမှုနှင့်ကုမ္ပဏီများညွှန်ကြားမှုဦးစီးဌာန
Directorate of Investment and Company Administration

DIRECTORATE OF INVESTMENT AND COMPANY ADMINISTRATION

Myanmar Companies Online (MyCO)

HOME | MYCO GUIDES | COMPANY SEARCH | HELP | LOGOUT | WELCOME, G&B MANUFACTURING (MYANMAR)CO.,LTD

COMPANY PROFILE

+ NEW FILING | ORDER DOCUMENTS | PRINT CERTIFICATE

Company Name (English)	Company Name (Myanmar)	Registration Number	Registration Date
G&B MANUFACTURING (MYANMAR)CO., LTD		122657000	10/10/2019

Company Type	Status	Foreign Company	Small Company
Private Company Limited by Shares	Registered	Yes	-

Annual Return Due Date

10/12/2019

FILING HISTORY | ADDRESSES | OFFICERS | SHAREHOLDINGS | COMPANY AUTHORITY | MEMBERS | DOCUMENTS

Document No.	Form/Filing Type	Filing Date	Effective Date
15363830010	D-1 - Particulars of directors and secretary	20/01/2020	21/01/2020
14931790014	C-3 - Change to share capital or register of members	06/12/2019	06/12/2019
14929600011	D-1 - Particulars of directors and secretary	05/12/2019	05/12/2019
14408610010	A-1 - Application for incorporation as a private company limited by shares	10/10/2019	10/10/2019

DIRECTORATE OF INVESTMENT AND COMPANY ADMINISTRATION

Myanmar Companies Online (MyCO)

HOME | MYCO GUIDES | COMPANY SEARCH | HELP | LOGOUT | WELCOME, G&B MANUFACTURING (MYANMAR)CO.,LTD

COMPANY PROFILE

+NEW FILING | ORDER DOCUMENTS | PRINT CERTIFICATE

Company Name (English)	Company Name (Myanmar)	Registration Number	Registration Date
G&B MANUFACTURING (MYANMAR)CO., LTD		122657000	10/10/2019

Company Type	Status	Foreign Company	Small Company
Private Company Limited by Shares	Registered	Yes	-

Annual Return Due Date
10/12/2019

FILING HISTORY | ADDRESSES | OFFICERS | SHAREHOLDINGS | COMPANY AUTHORITY | MEMBERS | DOCUMENTS

Type	Address	Effective Date
Principal Place Of Business In Union	(No.57-A), Thardukan St. Thardukan Industrial Zone .. Yangon, Myanmar	10/10/2019
Registered Office In Union	(No.57-A), Thardukan St. Thardukan Industrial Zone .. YANGON.. Myanmar	10/10/2019

DIRECTORATE OF INVESTMENT AND COMPANY ADMINISTRATION

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COMPANY PROFILE

+NEW FILING | ORDER DOCUMENTS | PRINT CERTIFICATE

Company Name (English)	Company Name (Myanmar)	Registration Number	Registration Date
G&B MANUFACTURING (MYANMAR)CO.. LTD		122657000	10/10/2019
Company Type	**Status**	**Foreign Company**	**Small Company**
Private Company Limited by Shares	Registered	Yes	-
Annual Return Due Date			
10/12/2019			

FILING HISTORY | ADDRESSES | OFFICERS | SHAREHOLDINGS | COMPANY AUTHORITY | MEMBERS | DOCUMENTS

Name	Type	Nationality	N.R.C. (For Myanmar Citizens)	Effective Date
MR. BI WEN JIE	Director	China	PE1744462	05/12/2019
MR. ZHANG TAO	Director	China	PE1185912	21/01/2020
MS.WANG MING XIA	Director	China	E87067322	05/12/2019

Officer Details

Close

Officer Type
Director

Appointment Date
20/01/2020

Effective Date
21/01/2020

Full Name in English
MR. ZHANG TAO

Former Name in English

Full Name in Myanmar

Former Name in Myanmar

Nationality
China

N.R.C (for Myanmar citizens)/Passport(for foreign individuals)
PE1185912

Other Nationalities, if applicable

Business Occupation

Gender
Male

Date of Birth
03/09/1978

Phone number
+8613575730388

Email address
zhangtao@gmail.com

Address
North ZhangShan Road
No. 308
HangZhou City, Zhejiang Province, China
310003

Officer Details

Close

Officer Type
Director

Appointment Date
10/10/2019

Effective Date
05/12/2019

Full Name in English
MR. BI WEN JIE

Former Name in English

Full Name in Myanmar

Former Name in Myanmar

Nationality
China

N.R.C (for Myanmar citizens)/Passport(for foreign individuals)
PE1744462

Other Nationalities, if applicable

Business Occupation
Director

Gender
Male

Date of Birth
16/07/1959

Phone number
09-751228005

Email address
biwj@zjnac.com

Address
North Zhongshan Road
No.308
Hangzhou. Hangzhou. China

Officer Details

Close

Officer Type
Director

Appointment Date
10/10/2019

Effective Date
05/12/2019

Full Name in English
MS.WANG MING XIA

Former Name in English

Full Name in Myanmar

Former Name in Myanmar

Nationality
China

N.R.C (for Myanmar citizens)/Passport(for foreign individuals)
E87067322

Other Nationalities, if applicable

Business Occupation
Director

Gender
Female

Date of Birth
22/04/1975

Phone number
09-751228005

Email address
603860622@qq.com

Address
Lanshan Village
No.35
Pai Lou Township. Chizhou. Anhui. China

DIRECTORATE OF INVESTMENT AND COMPANY ADMINISTRATION

Myanmar Companies Online (MyCO)

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COMPANY PROFILE

+NEW FILING | ORDER DOCUMENTS | PRINT CERTIFICATE

Company Name (English)	Company Name (Myanmar)	Registration Number	Registration Date
G&B MANUFACTURING (MYANMAR)CO., LTD		122657000	10/10/2019

Company Type	Status	Foreign Company	Small Company
Private Company Limited by Shares	Registered	Yes	

Annual Return Due Date
10/12/2019

FILING HISTORY | ADDRESSES | OFFICERS | SHAREHOLDINGS | COMPANY AUTHORITY | MEMBERS | DOCUMENTS

Total Shares Issued by Company	Currency of Share Capital
2000000	USD

ULTIMATE HOLDING COMPANY

Company Name	Registration Number	Jurisdiction of Incorporation

SHARE CAPITAL STRUCTURE

Share Class	Class Title	Total No. Shares	Total Amount Paid	Total Amount Unpaid
ORD	Ordinary	2,000,000	2,000,000	0

DIRECTORATE OF INVESTMENT AND COMPANY ADMINISTRATION

Myanmar Companies Online (MyCO)

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COMPANY PROFILE

+NEW FILING | ORDER DOCUMENTS | PRINT CERTIFICATE

Company Name (English)	Company Name (Myanmar)	Registration Number	Registration Date
G&B MANUFACTURING (MYANMAR)CO.. LTD		122657000	10/10/2019
Company Type	**Status**	**Foreign Company**	**Small Company**
Private Company Limited by Shares	Registered	Yes	-
Annual Return Due Date			
10/12/2019			

FILING HISTORY | ADDRESSES | OFFICERS | SHAREHOLDINGS | COMPANY AUTHORITY | MEMBERS | DOCUMENTS

Account Number	Account Name	Status	Request Date	Authority Start Date	Authority End Date	
114190179	G&B MANUFACTURING (Myanmar)CO..LTD	Active	10/10/2019	10/10/2019		Revoke

DIRECTORATE OF INVESTMENT AND COMPANY ADMINISTRATION

Myanmar Companies Online (MyCO)

HOME | MYCO GUIDES | COMPANY SEARCH | HELP | LOGOUT | WELCOME, G&B MANUFACTURING (MYANMAR)CO.,LTD

COMPANY PROFILE

+NEW FILING | ORDER DOCUMENTS | PRINT CERTIFICATE

Company Name (English)	Company Name (Myanmar)	Registration Number	Registration Date
G&B MANUFACTURING (MYANMAR)CO., LTD		122657000	10/10/2019

Company Type	Status	Foreign Company	Small Company
Private Company Limited by Shares	Registered	Yes	-

Annual Return Due Date
10/12/2019

FILING HISTORY | ADDRESSES | OFFICERS | SHAREHOLDINGS | COMPANY AUTHORITY | MEMBERS | DOCUMENTS

Individual Members

Name	Nationality	N.R.C / Passport Number

Corporate Members

Name	Registration Number	Jurisdiction Of Incorporation
ZHEJIANG NATIVE PRODUCE & ANIMAL BY - PRODUCTS I/E GROUP CO., LTD	91330000142912507K	China

Member Details

Close

Company Name

ZHEJIANG NATIVE PRODUCE & ANIMAL BY - PRODUCTS I/E GROUP CO.. LTD

Registration Number

91330000142912507K

Jurisdiction Of Incorporation

China

Address

North Zhongshan Road
No.308
Hangzhou City. Hangzhou. China

Shareholdings

Share Class	Class Description	Total No. Shares	Total Amount Paid	Total Amount Unpaid
ORD	Ordinary	2.000.000	2.000.000	0

DIRECTORATE OF INVESTMENT AND COMPANY ADMINISTRATION

Myanmar Companies Online (MyCO)

HOME | MYCO GUIDES | COMPANY SEARCH | HELP - | LOGOUT | WELCOME, G&B MANUFACTURING (MYANMAR)CO.,LTD

COMPANY PROFILE

+ NEW FILING | ORDER DOCUMENTS | PRINT CERTIFICATE

Company Name (English)	Company Name (Myanmar)	Registration Number	Registration Date
G&B MANUFACTURING (MYANMAR)CO.. LTD		122657000	10/10/2019
Company Type	**Status**	**Foreign Company**	**Small Company**
Private Company Limited by Shares	Registered	Yes	-
Annual Return Due Date			
10/12/2019			

FILING HISTORY | ADDRESSES | OFFICERS | SHAREHOLDINGS | COMPANY AUTHORITY | MEMBERS | DOCUMENTS

Type	Form	Date
Copy of Officers ID's	D-1 - Particulars of directors and secretary	05/12/2019
Copy of Officers ID's	A-1 - Application for incorporation as a private company limited by shares	10/10/2019
Certificate of Incorporation	A-1 - Application for incorporation as a private company limited by shares	10/10/2019

APPENDIX 5

Factory Accessories/Operating Machinery

G & B Manufacturing (Myanmar) Co., Ltd
No.....
Date.....

G & B Manufactruing (Myanmar) Co., Ltd

List of Machinery & Equipments (To be Import Brand New)

Exhibit (2)

Sr.No	Particular	A/U	Qty	Value in USD	Value in USD	H,S Code
1	Flat Car Machine	SETS	680	350	238,000.00	84314390
2	Knife Car Machine (with wire)	SETS	30	405	12,150.00	84529099
3	Four-line handcuffs	SETS	10	380	3,800.00	84594090
4	Five-line handcuffs	SETS	5	380	1,900.00	84413000
5	Flat double pin	SETS	5	800	4,000.00	84522190
6	Corner double pin	SETS	3	800	2,400.00	84522190
7	Long-armed Car Machine	SETS	16	1000	16,000.00	85299090
8	Automatic template Car Machine	SETS	10	3800	38,000.00	84522900
9	Lock-eye Car Machine	SETS	4	2200	8,800.00	84529099
10	Nail buckle Car Machine	SETS	4	1200	4,800.00	83089011
11	Film cutters	SETS	30	120	3,600.00	39241010
12	Wind-eye machine	SETS	2	8000	16,000.00	84484990
13	Set Car Machine	SETS	4	1500	6,000.00	73182200
14	Knife Cutter Machine	SETS	12	120	1,440.00	82119390
15	Automatic rab-b-machine	SETS	1	15000	15,000.00	84669390
16	Iron (Clothing Which)	SETS	35	20	700.00	84532000
17	Hot table	SETS	35	300	10,500.00	39249090
18	Electric Boiler	SETS	1	8800	8,800.00	84149090
19	Cotton filling machine	SETS	2	8300	16,600.00	84229090
20	Ordinary tailoring bed	SETS	8	2000	16,000.00	63041930
21	Generator (GMP 500CS, 500KVA)	SETS	1	48000	48,000.00	85030010
22	Generator (GMS 60PXS, 60KVA)	SETS	1	7800	7,800.00	85030010
23	Wetting machine	SETS	4	1500	6,000.00	84569090
24	Automatic four-in-one buckle	SETS	5	3500	17,500.00	84798100
25	Switching Car Machine	SETS	20	100	2,000.00	87089900
26	Workshop, rear table	SETS	94	77.6	7,294.40	94033090
27	Template engraving machines and printers	SETS	1	8500	8,500.00	84522900
28	Automatic loose press	SETS	1	1800	1,800.00	84490090
29	Cloth machine	SETS	1	4000	4,000.00	84483100
30	Needle machine	SETS	1	5800	5,800.00	84522900

G & B Manufacturing (Myanmar) Co., Ltd
No.....
Date.....

G & B Manufactruing (Myanmar) Co., Ltd

List of Machinery & Equipments (To be Import Brand New)

Exhibit (2)

Sr.No	Particular	A/U	Qty	Value in USD	Value in USD	H,S Code
31	Forklift small (1 ton)	SETS	3	250	750.00	85122020
32	Forklift big (3 ton)	SETS	1	380	380.00	84099990
33	Wetting frame	SETS	50	75	3,750.00	84483290
34	Water purifier	SETS	1	8500	8,500.00	84219900
35	Fan water curtain set	SETS	100	372	37,200.00	84141000
36	Pipeline (Clothing Connect)	SETS	15	928	13,920.00	90929000
37	Sticky Village Machine	SETS	2	6500	13,000.00	85159000
Total Amount					610,684.40	
Total Amount (In Million)					**0.611**	

မှတ်ချက်။ ။ စက်ပစ္စည်းများကို China နိုင်ငံများမှ တင်သွင်းမည်ဖြစ်ပါသည်။

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

G & B Manufacturing (Myanmar) Co., Ltd

Office Furnitures & Fixtures (Local Purchase)

No	Description	Unit	Quantity	Unit Price (US$)	Total Price
1	Office Computer	Set	10	600	6,000
2	Working Bench	Set	750	10	7,500
3	Safe Box	Set	2	1,000	2,000
4	Printer	Set	5	150	750
5	Office Desk	Pcs	10	150	1,500
6	Office Chair	Pcs	15	100	1,500
7	Meeting Table	Set	5	70	350
8	CCTV	Set	10	100	1,000
9	Copier	Set	3	400	1,200
10	Projector	Set	2	400	800
11	Barcode Scanner	Set	3	300	900
	TOTAL (US$)				**23,500**
	TOTAL US$ in millions				**0.024**

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

G&B Manufacturing (Myanmar) Co., Ltd

Machine Photo

Flat car macine

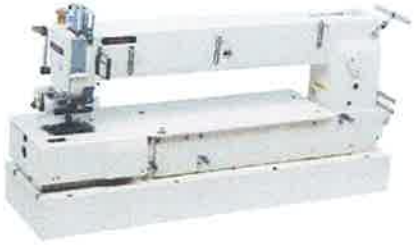
Knife car machine

Four line handcuffs

Five Line Handcuffs

Flat double Pin

Corner Double Pin



Long armed car Machine

Automatic Template car Machine

Look eye car Machine

Naill Buckle car Machine

Film Cutters

Wind eye machine

Set car Machine

Knife cutter machine

Automatic Rab b machine

Iron (Clothing Which Iron)

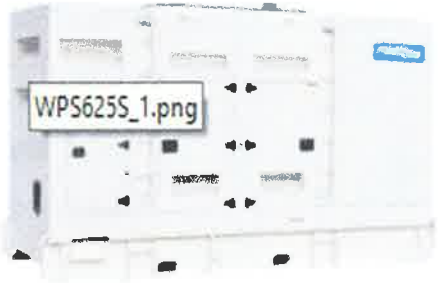
Hot table

Electric Boiler

Cotton Filling Machine

Ordinary Tailoring bed

Generator(60KVA)



Generator (500KVA)

Wetting machine

Automatic four in one buckle

Switching car Machine

Workshop, Rear Table

Template engraving machines & printers

Automatic loose press

Cloth machine

Needle machine

Forklift small 1ton

Forklift big 3 ton

Wetting Frame

Water Purifier

Fan water curtain set

Pipeline (Clothing Connect)

Sticky villagee machine

APPENDIX 6

Raw Material Requirement

G & B Manufacturing (Myanmar) Co., Ltd

Raw Materials Requirement for 1 Pcs (Norm) Pg 1

G & B Manufacturing (Myanmar) Co., Ltd No..... Date.....

Sr.No	Material	Product Name																
		Unit	Pu Jackets (men's women's, kid's)	FurJackets (men's women's, kid's)	Raincoat Jackets (men's women's, kid's)	Outdoor Jackets (men's women's, kid's)	Padding Jackets (men's women's, kid's)	Down Jackets (men's women's, kid's)	Trousers (Gril's women's,)	Skirts (men's women's, kid's)	Shorts (men's women's,Kids)	Soft shell Jackets (men's women's, kid's)	Knitted Jackets (men's women's, kid's)	Suede Jackets (men's women's, kid's)	Babies creeper	Vest (men's women's, kid's)	Woven blazer women's,)	Woven coat (men's women's, kid's)
1	FABRIC (Cotton, Polyster, Rayon , Modal , Nyion, Acrylic, Spandex, Elastane)	Yds	0.5		0.6		0.1			0.3		0.1			0.6			
2	THREAD	Mtr		1.0		1.0	1	1			1		1	1.0	1.0		1.0	
3	LABEL	pcs	0.3												5.0			
4	ELASTIC	Yds	0.1		0.2		2.0					0.4		2.0				2.0
5	BUTTON	pcs	1.0		1.0		0.2	1.0		1.0					1.0			0.5
6	INTERLINING	Yds	0.6					5.0			0.4		0.3			5.0		
7	MOBILION TAPE	Yds			0.4			0.1		0.5						6.0		
8	TAPE	Yds	0.6		2.0			2.0		0.1	0.5			2.0		0.2		2.0
9	STRING	Yds	5.0		0.6		0.2				0.8		0.7				0.9	
10	LACE	Yds	0.1		0.4	1.0			0.2			1.0					0.6	
11	CROCHET FLAT	Yds	5.0			0.1					0.7				5.0			
12	CUFFS	Yds			2.0			2.0									2.0	2.0
13	ZIPPER	pcs	2.0	0.1		2.0		0.5			2.0		0.3	0.5		2.0		2.0
14	SNAP BUTTON	pcs			2.0					2.0		2.0			2.0			2.0
15	BUCKLE	pcs	2.0				1.0	0.2			0.5		2.0		0.3		1.0	
16	HANGTAG	pcs	2.0			2.0			0.8			2.0						
17	STICKER	pcs		2.0			2.0	0.5					0.9				2.0	
18	PAPER CARD	pcs	0.5		1.0		0.2	0.3		1.0			0.6					1.0
19	BOX	pcs	1.0	0.4			0.1		0.5						6.0			0.4
20	PLASTIC PIN	pcs	1.0	1		1	1.0	1.0		1.0		1		1		1		
21	HANGER	pcs	1.0					5.0							5			
22	PLASTIC CLIP	pcs	1.0		0.4		2.0				2.0	2			2			
23	TISSUE PAPER	pcs	1.0					1.0			0.5		2	0.1			0.3	1
24	POLYBAG	pcs	1.0	0.4		0.3			5.0			0.1			2			0.3
25	SEALING TAPE	cone		2			3.0					0.5		2			3.0	
26	MARKER PAPER	Yds	1.0	2.0	0.5		3.0			0.9		2.0		2.0				0.9

G & B Manufacturing (Myanmar) Co., Ltd

Annual Raw Material List (to be imported)

No	Name	A/U	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 to Year 30
22	TISSUE PAPER	pcs	684,112,000	718,317,600	754,233,480	791,945,154	831,542,412	881,434,956
23	POLYBAG	pcs	535,808,000	562,598,400	590,728,320	620,264,736	651,277,973	690,354,651
24	SEALING TAPE	cone	621,920,000	653,016,000	685,666,800	719,950,140	755,947,647	801,304,506
25	MARKER PAPER	Yds	794,144,000	833,851,200	875,543,760	919,320,948	965,286,995	1,023,204,215

မှတ်ချက်။ ။ ကုန်ကြမ်းများကို တရုတ်နိုင်ငံမှ တင်သွင်းပြီး ထွက်ရှိသည့် ကုန်ချောပစ္စည်းများကို China , America,Japan,Korea, Europe နိုင်ငံများသို့ တင်ပို့မည်ဖြစ်ပါသည်။

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

G&B Manufacturing (Myanmar) Co., Ltd
Raw Materials Photo

Fabric

Cotton

Polyster

Rayon

Modal

Acrylic

Spandex

Elastane

Thread

Label

Elastic

Button

Interlining

Mobilion Tape

Tape

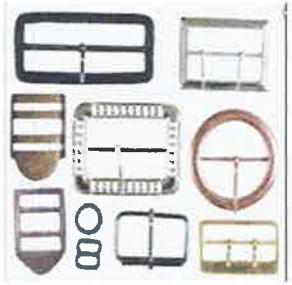
String

Lace

Cuffs

Zipper

Snap Button



Buckle

Hangtag

Sticker

Paper Card

Box

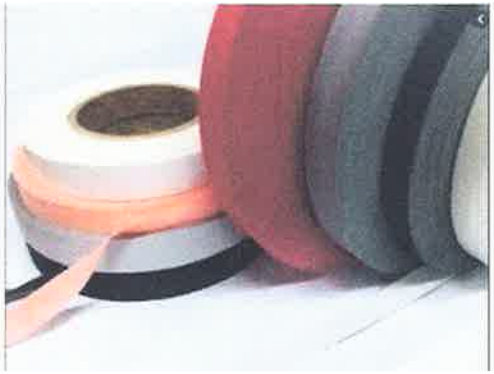
Plastic pin

Hanger

Plastic Clip

Tissue Paper

Polybag



Sealing Tape

Marker Paper

APPENDIX 7
Annually Production Rate

G & B Manufacturing (Myanmar) Co., Ltd

Annual Production & Sale Account

Sr.No.	Particular	A/U	Year -1	Year -2	Year -3	Year - 4	Year 5	Year 6~30
	Products (General Catagories)	Unit	Annual Production	Annual Production	Annual Production	Annual Production	Annual Production	Annual Production
	Total Production		39,740,000	41,727,000	43,813,350	46,004,018	48,304,218	51,202,471
I	(I) Export Sale (100%)							
1	Pu Jackets (Men's, Women's, Kid's)	Doz	1,000,000	1,050,000	1,102,500	1,157,625	1,215,506	1,288,437
2	Fur Jackets (Men's, Women's, Kid's)	Doz	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,417,280
3	Raincoat Jackets (Men's, Women's, Kid's)	Doz	1,000,000	1,050,000	1,102,500	1,157,625	1,215,506	1,288,437
4	Outdoor Jackets (Men's, Women's, Kid's)	Doz	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,417,280
5	Padding Jackets (Men's, Women's, Kid's)	Doz	1,090,000	1,144,500	1,201,725	1,261,811	1,324,902	1,404,396
6	Down Jacets (Men's, Women's, Kid's)	Doz	9,000,000	9,450,000	9,922,500	10,418,625	10,939,556	11,595,930
7	Trousers (Men's, Women's, Kid's)	Doz	1,200,000	1,260,000	1,323,000	1,389,150	1,458,608	1,546,124
8	Skirts (Gril's, Women's,)	Doz	1,300,000	1,365,000	1,433,250	1,504,913	1,580,158	1,674,968
9	Shorts (Men's, Women's,Kid's)	Doz	890,000	934,500	981,225	1,030,286	1,081,801	1,146,709
10	Softt shell Jacket (Men's, Women's, Kid's)	Doz	1,300,000	1,365,000	1,433,250	1,504,913	1,580,158	1,674,968
11	Knitted Jackets (Men's, Women's, Kid's)	Doz	900,000	945,000	992,250	1,041,863	1,093,956	1,159,593
12	Suede Jackets (Men's, Women's, Kid's)	Doz	850,000	892,500	937,125	983,981	1,033,180	1,095,171
13	Babies creeper	Doz	950,000	997,500	1,047,375	1,099,744	1,154,731	1,224,015
14	Vest (Men's, Women's, Kid's)	Doz	800,000	840,000	882,000	926,100	972,405	1,030,749
15	Woven Blazer (Women's)	Doz	1,000,000	1,050,000	1,102,500	1,157,625	1,215,506	1,288,437
16	Woven Coat (Men's, Women's, Kid's)	Doz	900,000	945,000	992,250	1,041,863	1,093,956	1,159,593
17	Woven Jacket (Men's, Women's, Kid's)	Doz	980,000	1,029,000	1,080,450	1,134,473	1,191,196	1,262,668
18	Pu Dress	Doz	1,090,000	1,144,500	1,201,725	1,261,811	1,324,902	1,404,396
19	Woven Dress	Doz	880,000	924,000	970,200	1,018,710	1,069,646	1,133,824
20	Ladies fleece top (Men's)	Doz	1,000,000	1,050,000	1,102,500	1,157,625	1,215,506	1,288,437
21	fleece Jackets (Ladies's,Men's,Kid's)	Doz	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,417,280
22	Doudoune	Doz	1,090,000	1,144,500	1,201,725	1,261,811	1,324,902	1,404,396
23	Parka	Doz	900,000	945,000	992,250	1,041,863	1,093,956	1,159,593
24	Menis fleece vest	Doz	1,200,000	1,260,000	1,323,000	1,389,150	1,458,608	1,546,124

G & B Manufacturing (Myanmar) Co., Ltd

Annual Production & Sale Account

Sr.No.	Particular	A/U	Year -1	Year -2	Year -3	Year - 4	Year 5	Year 6~30
25	Menis vest	Doz	1,300,000	1,365,000	1,433,250	1,504,913	1,580,158	1,674,968
26	Ladies onesie	Doz	890,000	934,500	981,225	1,030,286	1,081,801	1,146,709
27	Jogging set	Doz	1,300,000	1,365,000	1,433,250	1,504,913	1,580,158	1,674,968
28	Pyjama set	Doz	900,000	945,000	992,250	1,041,863	1,093,956	1,159,593
29	Shirt	Doz	850,000	892,500	937,125	983,981	1,033,180	1,095,171
30	Safety vest	Doz	950,000	997,500	1,047,375	1,099,744	1,154,731	1,224,015
31	Safety parka	Doz	930,000	976,500	1,025,325	1,076,591	1,130,421	1,198,246
II	**(II) Price (C.M.P System)**							
1	Pu Jackets (Men's, Women's, Kid's)	US$/Doz	1.2	1.2	1.2	1.2	1.2	1.2
2	Fur Jackets (Men's, Women's, Kid's)	US$/Doz	0.8	0.8	0.8	0.8	0.8	0.8
3	Raincoat Jackets (Men's, Women's, Kid's)	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
4	Outdoor Jackets (Men's, Women's, Kid's)	US$/Doz	3.1	3.1	3.1	3.1	3.1	3.1
5	Padding Jackets (Men's, Women's, Kid's)	US$/Doz	3.3	3.3	3.3	3.3	3.3	3.3
6	Down Jacets (Men's, Women's, Kid's)	US$/Doz	1.0	1.0	1.0	1.0	1.0	1.0
7	Trousers (Men's, Women's, Kid's)	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
8	Skirts (Gril's, Women's,)	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
9	Shorts (Men's, Women's,Kid's)	US$/Doz	3.5	3.5	3.5	3.5	3.5	3.5
10	Softt shell Jacket (Men's, Women's, Kid's)	US$/Doz	3.5	3.5	3.5	3.5	3.5	3.5
11	Knitted Jackets (Men's, Women's, Kid's)	US$/Doz	0.8	0.8	0.8	0.8	0.8	0.8
12	Suede Jackets (Men's, Women's, Kid's)	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
13	Babies creeper	US$/Doz	3.1	3.1	3.1	3.1	3.1	3.1
14	Vest (Men's, Women's, Kid's)	US$/Doz	3.3	3.3	3.3	3.3	3.3	3.3
15	Woven Blazer (Women's)	US$/Doz	1.0	1.0	1.0	1.0	1.0	1.0
16	Woven Coat (Men's, Women's, Kid's)	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
17	Woven Jacket (Men's, Women's, Kid's)	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
18	Pu Dress	US$/Doz	3.5	3.5	3.5	3.5	3.5	3.5
19	Woven Dress	US$/Doz	0.8	0.8	0.8	0.8	0.8	0.8
20	Ladies fleece top (Men's)	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
21	fleece Jackets (Ladies's,Men's,Kid's)	US$/Doz	3.1	3.1	3.1	3.1	3.1	3.1

G & B Manufacturing (Myanmar) Co., Ltd

Annual Production & Sale Account

Sr.No.	Particular	A/U	Year -1	Year -2	Year -3	Year - 4	Year 5	Year 6~30
22	Doudoune	US$/Doz	3.3	3.3	3.3	3.3	3.3	3.3
23	Parka	US$/Doz	1.0	1.0	1.0	1.0	1.0	1.0
24	Menis fleece vest	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
25	Menis vest	US$/Doz	1.2	1.2	1.2	1.2	1.2	1.2
26	Ladies onesie	US$/Doz	0.8	0.8	0.8	0.8	0.8	0.8
27	Jogging set	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
28	Pyjama set	US$/Doz	3.1	3.1	3.1	3.1	3.1	3.1
29	Shirt	US$/Doz	3.3	3.3	3.3	3.3	3.3	3.3
30	Safety vest	US$/Doz	1.0	1.0	1.0	1.0	1.0	1.0
31	Safety parka	US$/Doz	2.0	2.0	2.0	2.0	2.0	2.0
III	**Income (For C.M.P) (I x II)**							
1	Pu Jackets (Men's, Women's, Kid's)	US$/000.	1,200	1260	1323	1389	1459	1546
2	Fur Jackets (Men's, Women's, Kid's)	US$/000.	880	924	970	1019	1070	1134
3	Raincoat Jackets (Men's, Women's, Kid's)	US$/000.	2,000	2100	2205	2315	2431	2577
4	Outdoor Jackets (Men's, Women's, Kid's)	US$/000.	3,410	3581	3760	3948	4145	4394
5	Padding Jackets (Men's, Women's, Kid's)	US$/000.	3,597	3777	3966	4164	4372	4635
6	Down Jacets (Men's, Women's, Kid's)	US$/000.	9,000	9450	9923	10419	10940	11596
7	Trousers (Men's, Women's, Kid's)	US$/000.	2,400	2520	2646	2778	2917	3092
8	Skirts (Gril's, Women's,)	US$/000.	2,600	2730	2867	3010	3160	3350
9	Shorts (Men's, Women's,Kid's)	US$/000.	3,115	3271	3434	3606	3786	4013
10	Softt shell Jacket (Men's, Women's, Kid's)	US$/000.	4,550	4778	5016	5267	5531	5862
11	Knitted Jackets (Men's, Women's, Kid's)	US$/000.	720	756	794	833	875	928
12	Suede Jackets (Men's, Women's, Kid's)	US$/000.	1,700	1785	1874	1968	2066	2190
13	Babies creeper	US$/000.	2,945	3092	3247	3409	3580	3794
14	Vest (Men's, Women's, Kid's)	US$/000.	2,640	2772	2911	3056	3209	3401
15	Woven Blazer (Women's)	US$/000.	1,000	1050	1103	1158	1216	1288
16	Woven Coat (Men's, Women's, Kid's)	US$/000.	1,800	1890	1985	2084	2188	2319
17	Woven Jacket (Men's, Women's, Kid's)	US$/000.	1,960	2058	2161	2269	2382	2525

G & B Manufacturing (Myanmar) Co., Ltd

Annual Production & Sale Account

Sr.No.	Particular	A/U	Year -1	Year -2	Year -3	Year - 4	Year 5	Year 6~30
18	Pu Dress	US$/000.	3,815	4006	4206	4416	4637	4915
19	Woven Dress	US$/000.	704	739	776	815	856	907
20	Ladies fleece top (Men's)	US$/000.	2,000	2100	2205	2315	2431	2577
21	fleece Jackets (Ladies's,Men's,Kid's)	US$/000.	3,410	3581	3760	3948	4145	4394
22	Doudoune	US$/000.	3,597	3777	3966	4164	4372	4635
23	Parka	US$/000.	900	945	992	1042	1094	1160
24	Menis fleece vest	US$/000.	2,400	2520	2646	2778	2917	3092
25	Menis vest	US$/000.	1,560	1638	1720	1806	1896	2010
26	Ladies onesie	US$/000.	712	748	785	824	865	917
27	Jogging set	US$/000.	2,600	2730	2867	3010	3160	3350
28	Pyjama set	US$/000.	2,790	2930	3076	3230	3391	3595
29	Shirt	US$/000.	2,805	2945	3093	3247	3409	3614
30	Safety vest	US$/000.	950	998	1047	1100	1155	1224
31	Safety parka	US$/000.	1,860	1953	2051	2153	2261	2396

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

G&B Manufacturing (Myanmar) Co., Ltd

Product Photo

PU Jacket (men's, women's, kid's)

Fur Jacket (men's, women's, kid's)

Raincoat Jacket (men's, women's, kid's)

Outdoor Jacket (men's, women's, kid's)

Padding Jacket (men's, women's, kid's)

Down Jacket (men's, women's, kid's)

Trousers (men's, women's, kid's)

Skirts(, Girl's, women's)

Shorts (men's, women's, kid's)

Soft shell jacket (men's, women's, kid's)

Knitted jacket (men's, women's, kid's)

Suede jacket (men's, women's, kid's)

Babies' creeper

Vest (Men's, Women's, Kid's)

Woven blazer (women's)

Woven coat (Men's, Women's, Kid's)

Woven jacket (men's, women's, kid's)

Pu Dress (women's)

Woven Dress (women's)

Ladies Fleece Top

Fleece Jacket (Kids , Ladies's, Men"s)

Doudoune

Pparka

Menis fleece vest

Menis vest

Ladies Onesie

Jogging Set

Pyjiama Set

Shirt

Safety Vest

Safety Parka

APPENDIX 8

Staff list

G & B Manufacturing (Myanmar) Co., Ltd

List Of Local Employee

Sr. No.	Designation	Number of Person	Yr.1 Salaries (Kyat)	Yr.1 Monthly (Kyat)	Yr.1 Yearly (Kyat/ML)	Number of Person	Yr.2 Salaries (Kyat)	Yr.2 Monthly (Kyat)	Yr.2 Yearly (Kyat/ML)	Number of Person	Yr.3 Salaries (Kyat)	Yr.3 Monthly (Kyat)	Yr.3 Yearly (Kyat/ML)
1	General Manager	1	600,000	600,000	7,200,000	1	600,000	600,000	7,200,000	1	600,000	600,000	7,200,000
2	HR Manager	1	550,000	550,000	6,600,000	1	550,000	550,000	6,600,000	1	550,000	550,000	6,600,000
3	Secretary	1	400,000	400,000	4,800,000	1	400,000	400,000	4,800,000	1	400,000	400,000	4,800,000
4	Production Dept	10	350,000	3,500,000	42,000,000	10	350,000	3,500,000	42,000,000	20	350,000	7,000,000	84,000,000
5	Store Supervisor	10	300,000	3,000,000	36,000,000	10	300,000	3,000,000	36,000,000	10	300,000	3,000,000	36,000,000
6	Translator	6	300,000	1,800,000	21,600,000	6	300,000	1,800,000	21,600,000	6	300,000	1,800,000	21,600,000
7	Technican	20	250,000	5,000,000	60,000,000	20	250,000	5,000,000	60,000,000	20	250,000	5,000,000	60,000,000
8	Quality Contorl(QC)	50	250,000	12,500,000	150,000,000	50	250,000	12,500,000	150,000,000	100	250,000	25,000,000	300,000,000
9	Store Keeper	10	200,000	2,000,000	24,000,000	10	200,000	2,000,000	24,000,000	10	200,000	2,000,000	24,000,000
10	Skill and Semiskill Workers	470	180,000	84,600,000	1,015,200,000	470	180,000	84,600,000	1,015,200,000	600	180,000	108,000,000	1,296,000,000
11	Unskilled Workers	400	150,000	60,000,000	720,000,000	400	150,000	60,000,000	720,000,000	510	150,000	76,500,000	918,000,000
12	Driver	5	250,000	1,250,000	15,000,000	5	250,000	1,250,000	15,000,000	5	250,000	1,250,000	15,000,000
13	Security Staff	6	150,000	900,000	10,800,000	6	150,000	900,000	10,800,000	6	150,000	900,000	10,800,000
14	Cleaner	10	150,000	1,500,000	18,000,000	10	150,000	1,500,000	18,000,000	10	150,000	1,500,000	18,000,000
	TOTAL	1000	4,080,000	177,600,000	2,131,200,000	1000	4,080,000	177,600,000	2,131,200,000	1,300	4,080,000	233,500,000	2,802,000,000

G & B Manufacturing (Myanmar) Co., Ltd

List Of Local Employee

Sr. No.	Designation	Number of Person	Yr.4			Number of Person	Yr.5 ~10		
			Salaries (Kyat)	Monthly (Kyat)	Yearly (Kyat/ML)		Salaries (Kyat)	Monthly (Kyat)	Yearly (Kyat/ML)
1	General Manager	1	600,000	600,000	7,200,000	1	600,000	600,000	7,200,000
2	HR Manager	1	550,000	550,000	6,600,000	1	550,000	550,000	6,600,000
3	Secretary	1	400,000	400,000	4,800,000	1	400,000	400,000	4,800,000
4	Production Dept	20	350,000	7,000,000	84,000,000	25	350,000	8,750,000	105,000,000
5	Store Supervisor	10	300,000	3,000,000	36,000,000	10	300,000	3,000,000	36,000,000
6	Translator	6	300,000	1,800,000	21,600,000	6	300,000	1,800,000	21,600,000
7	Technican	20	250,000	5,000,000	60,000,000	25	250,000	6,250,000	75,000,000
8	Quality Contorl(QC)	150	250,000	37,500,000	450,000,000	200	250,000	50,000,000	600,000,000
9	Store Keeper	10	200,000	2,000,000	24,000,000	10	200,000	2,000,000	24,000,000
10	Skill and Semiskill Workers	700	180,000	126,000,000	1,512,000,000	800	180,000	144,000,000	1,728,000,000
11	Unskilled Workers	560	150,000	84,000,000	1,008,000,000	600	150,000	90,000,000	1,080,000,000
12	Driver	5	250,000	1,250,000	15,000,000	5	250,000	1,250,000	15,000,000
13	Security Staff	6	150,000	900,000	10,800,000	6	150,000	900,000	10,800,000
14	Cleaner	10	150,000	1,500,000	18,000,000	10	150,000	1,500,000	18,000,000
	TOTAL	1,500	4,080,000	271,500,000	3,258,000,000	1,700	4,080,000	311,000,000	3,732,000,000

မှတ်ချက်။ ။ ဝန်ထမ်းများခန့်အပ်သည့်အခါတွင် လုပ်ခလစာများကို ပြဋ္ဌာန်းထားသော သတ်မှတ်စံနှုန်းများအတိုင်းပေးမည်ဖြစ်ပါသည်။

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

APPENDIX 8

Electrical usage

G & B MANUFACTURING (MYANMAR) CO.,LTD.

သို့

ဥက္ကဋ္ဌ

ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှုကော်မတီ

G & B Manufacturing (Myanmar) Co., Ltd. No..... Date.....

ရက်စွဲ။ ။ ၂၀၁၉ ခုနှစ်၊ ဒီဇင်ဘာလ၊ (၅)ရက်။

အကြောင်းအရာ။ ။ လျှပ်စစ်သုံးစွဲမှုအား ရှင်းလင်းတင်ပြခြင်း။

ကျွန်တော်များ **G & B Manufacturing (Myanmar) Company Limited** နိုင်ငံခြားသား ၁၀၀% ရင်းနှီးမြှုပ်နှံမှု ဖြင့် မြေကွက်အမှတ်(၅၇/အေ)၊ မြေတိုင်းရပ်ကွက်အမှတ် - (၅၁) ၊ သာဓုကန်စက်မှုဇုန်၊ ၊ ရွှေပြည်သာမြို့နယ်၊ ရန်ကုန်တိုင်းဒေသကြီး စီအမ်ပီစနစ်ဖြင့် အဝတ်အထည်အမျိုးမျိုး ချုပ်လုပ်ငန်းခြင်း လုပ်ငန်းအား လုပ်ကိုင်မည်ဖြစ်ပါသည်။ ကျွန်တော်များ **G & B Manufacturing (Myanmar) Company Limited** တွင်လျှပ်စစ်သုံးစွဲမှု ပမာဏ 258,200 kwh per year ခန့်အသုံးပြုသွားမည်ဖြစ်ကြောင်း အသိပေးတင်ပြ အပ်ပါသည်။

အထက်ပါအကြောင်းအရာအား ရန်ကုန်တိုင်းဒေသကြီး ရင်းနှီးမြှုပ်နှံမှုကော်မတီအားတင်ပြ လျှောက်ထားအပ်ပါသည်။

လေးစားစွာဖြင့်

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

No.57A-Thardukan St,
Thardukan Industrial Zone,
Shwe Pyi Thar Tsp, Yangon, Myanmar
09-766999778
09-751228005

APPENDIX 9

Corporate Social Responsibility Plan

G & B MANUFACTURING (MYANMAR) CO.,LTD.

To.

The Chairman
Yangon Region Investment Committee
Republic of the Union of Myanmar
Yangon Region

G & B Manufacturing (Myanmar) Co., Ltd. No..... Date.....

Date : : 5 , Dec, 2019

Subject : :Explanation for taking of responsibility for CSR (Corporate Social Responsibility)

We "**G & B Manufacturing (Myanmar) Company Limited**" have proposed to Yangon Region Investment Commission to carry out Garment on CMP Basis Plot No.(57/A), Myay Taing Block No. (51), Thar Du Kan Industrial Zone, Shwe Pyi Thar Township, Yangon , Myanmar. For such proposed work, company will contribute (2%) from the net profit for CSR. The contributions are made as follows:

1. For supporting scholarship to education of employees from workshop, institution for school age children of the employees, to grant stipend for continuing the study of higher education (College University) level etc.
2. For basic health care of the employees by carrying out semi-annual health check - ups with well-qualified health care professionals.
3. For increasing knowledges with respect to Manufacturing of Garment on CMP Basis to improve working skills of the employee of Garment, for undertaking systematic training course per rank, hierarchy to become skillful workers of higher productivity along with proficiency in particular field of works.
4. For creating necessary recreations of Garment employees peace and harmony , having good air ventilation in works to become convenience while working and to allow easy access in other communication programs and for higher living standards.

Yours Faithfully,

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

No.57A-Thardukan St,
Thardukan Industrial Zone,
Shwe Pyi Thar Tsp, Yangon, Myanmar
09-766999778
09-751228005

APPENDIX 10

Wast Water Plan

G & B MANUFACTURING (MYANMAR) CO.,LTD.

G & B Manufacturing (Myanmar) Co., Ltd.
No.....
Date.....

ရက်စွဲ ။ ။ ၂၀၁၉ ခုနှစ် ၊ ဒီဇင်ဘာလ၊ (၅)ရက် ။

ရေဆိုးသန့်စင်ခြင်းအတွက် ရှင်းလင်းတင်ပြခြင်း

ကျွန်တော်တို့ G & B Manufacturing (Myanmar) Company Limited ၏ အဆိုပြုလုပ်ငန်း သည် ဓာတုပစ္စည်းများသုံးစွဲခြင်းမရှိပါ။ စက်ရုံလုပ်ငန်းများအတွက် ရေသုံးစွဲခြင်း၊ ဝန်းထမ်းများအတွက် ရေသုံး စွဲခြင်း၊ သန့်စင်ခန်းများ ရေသုံးစွဲခြင်းတို့အတွက် ရေလိုအပ်မည်ဖြစ်ပါသည်။ သို့ပါ၍ သုံးစွဲပြီးသည့်ရေကို စည်ပင် သာယာမှ သတ်မှတ်ထားသည့် ရေမြောင်းများဆီသို့ လုံခြုံသည့် ပိုက်များသွယ်တန်း၍ စွန့်ပစ်သွားမည်ဖြစ် ပါကြောင်း ရှင်းလင်း တင်ပြအပ်ပါသည်။

လေးစားစွာဖြင့်

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

No.57A-Thardukan St,
Thardukan Industrial Zone,
Shwe Pyi Thar Tsp, Yangon, Myanmar
09-766999778
09-751228005

APPENDIX 11

Health Plan

G & B Manufacturing (Myanmar) Co., Ltd.
No.....
Date.....

Plan for Health

We **G & B Manufacturing (Myanmar) Company Limited** intends to Garment on CMP Basis and Regarding workers of our Factory, we will provide the following health programs.

(a) Medicine and first aid kits will be available at the Factory to address emergency cases.

(b) The Factory will have first aid kits and a resting room for staff who feel sick.

(c) Those who are sick will be sent to Social Welfare Hospital for care.

(d) We will train employees on basic health care every three months. It aims to teach staff how to provide
first aids for injured person during emergency cases.

(e) We will supply medicine and / or provide for the cost of medicine long-time employees as required.

With respect,

Mr. Bi Wen Jie
Director
G & B Manufacturing (Myanmar) Co., Ltd.

APPENDIX 12
Air Report

2021

AIR & NOISE

DATAS

[G & B Manufacturing (Myanmar) Company Limited]

G & B Manufacturing (Myanmar) Company Limited

1. Air Analysis

1.1 Air Analysis Info

Sample site	G & B Manufacturing (Myanmar) Company Limited	Sample I.D.	AS0921-03
Location (township)	Shwe Pyi Thar Township	Method	HAZ-SCANNER™ Model-EPAS
		Station height (elevation)	Ground
Location (Region / state)	Yangon	Latitude	16°59'1.97"N
		Longitude	96° 5'12.37"E
Name of client	G & B Manufacturing (Myanmar) Company Limited	log on time (Date, Time)	2.9.2021(09:30 AM)
Air Monitoring Date	2.9.2021	log off time (Date, Time)	3.9.2021 (09:30 AM)
		Logging Duration (hours)	24 hours

Figure 1.1 Air Sample Point

1.2. Air sampling result

The findings of the air quality sampling monitored data and the applicable national standards used for comparison for the project are shown in the following Table and air result data report is described in Appendix B.

Table - Air Quality Result

No	Parameters	Results		Avg. Period	Guideline value (NEQG)	Averaging Period	Remarks
		Observed value	Converted value				
1	Nitrogen dioxide NO_2	27 ppb	50.7(μg/m^3)	1-hour*	40 (μg/m^3) 200 (μg/m^3)	1-year 1-hour	
2	Ozone (O_3)	18 ppb	35.3(μg/m^3)	8-hour	100 (μg/m^3)	8-hour daily maximum	
3	Particulate matter PM_{10}	21.7 (μg/m^3)		24-hour	20 (μg/m^3) 50 (μg/m^3)	1-year 24-hour	
4	Particulate matter $PM_{2.5}$	10.9 (μg/m^3)		24-hour	10 (μg/m^3) 25 (μg/m^3)	1-year 24-hour	
5	Sulfur dioxide SO_2	1.8 ppb	4.7(μg/m^3)	24-hour	20 (μg/m^3) 500 (μg/m^3)	24-hour 10 minute	
6	Carbon dioxide CO_2	213 ppm		24-hour	-		
7	Carbon monoxide CO	1.6 ppb		24-hour	-		

* One hour in Max. Value of 24 hrs. period

2. Noise Level

The noise levels for the proposed site were measured by TES-52A Advanced Sound Level Meter.

TES-52A Advanced Sound Level Meter

Table - National Emission Quality Guideline (NEQG) for Noise Level

Receptor	**One Hour LAeq (dBA)a**	
	Daytime 07:00-22:00 (10:00-22:00 for Public holidays)	**Night time 22:00-07:00 (22:00-10:00 for Public holidays)**
Residential, institutional, educational	55	45
Industrial, commercial	70	70

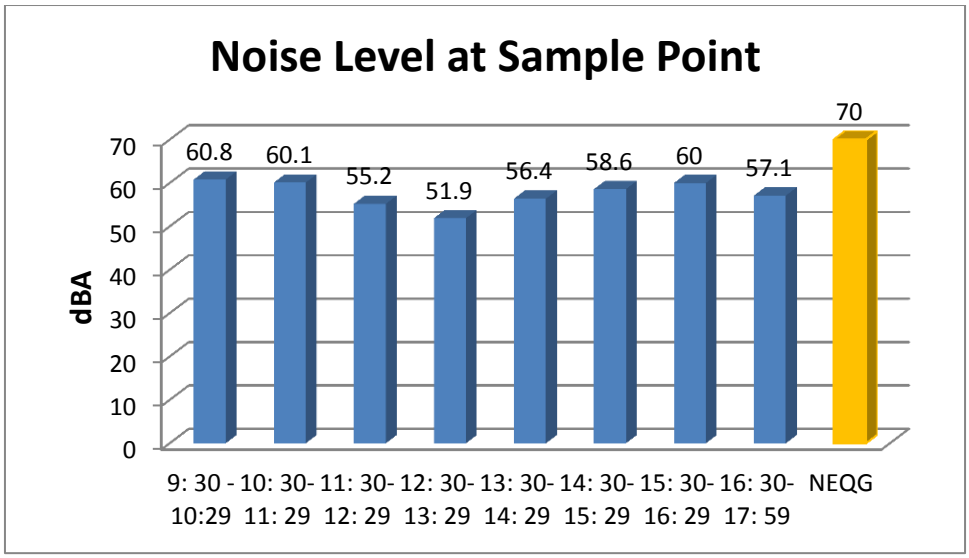
2.1. The location of Noise sample point of the Project

No.	Sample Name	G & B Manufacturing (Myanmar)		Location
		Latitude (N)	Longitude (E)	
1.	Noise Sample Point (NS)	16°59'1.97"N	96° 5'12.37"E	In front of the factory building.

2.2. Noise Level Result

Table - Average Values of Noise Level (dB) at the sampling point

Noise Sample Point	**Date/Time (2-9-2021)**	**Observed Noise Level (MeanValue) (dBA)**
NS	9: 30 -10:29	60.8
	10: 30-11: 29	60.1
	11: 30-12: 29	55.2
	12: 30-13: 29	51.9
	13: 30-14: 29	56.4
	14: 30-15: 29	58.6
	15: 30-16: 29	60.0
	16: 30-17: 59	57.1



Appendix B
Air Result Report

Main | Preferences | Header | Data | Report

ENVIRONMENTAL REPORT

Session location:
Session site:
Organizational affiliation: EDC
Session environment: Outdoors
Session type: Ambient
Session environment:
Session Description:
Logger Serial Number: 915085
Logging began on: 9/2/2021 9:30 AM
Logging stopped on: 9/3/2021 9:30 AM
Data uploaded on: 9/4/2021 11:40:00 AM
Samples were averaged and saved every: Minute
Report was averaged: 10 Minute
Total samples in this upload: 145

SENSOR	UNITS	LO LIM	HI LIM

* indicates no limit was set

State: Yangon
Country: Myanmar
Longitude: Deg. Min. W
Latitude: Deg. Min. N
Elevation:

Environmental Report

Start: 9/2/2021 9:30 AM End: 9/3/2021 9:30 AM

Collected by:

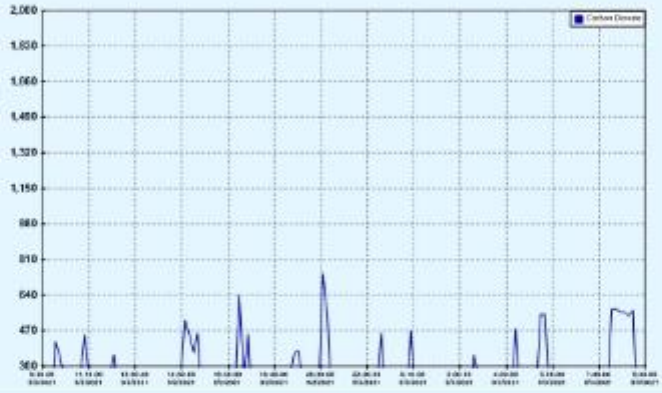
Logger ID 915085 Record Count 145

Carbon Dioxide

Range: 0 to 5000 ppm

801

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
15	213.7	741	158.0	ppm		0.00%		0.00%

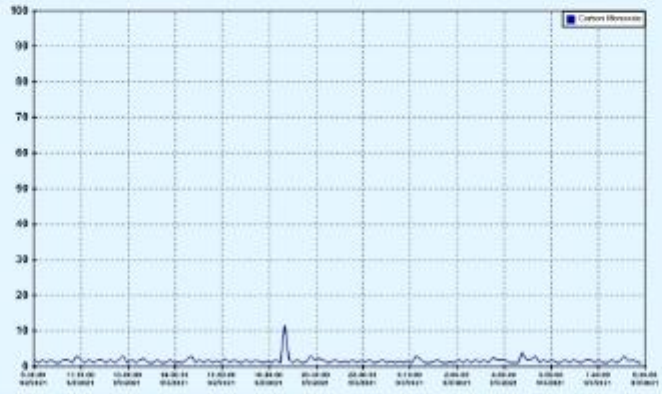


Carbon Monoxide

Range: 0 to 10000 ppb

905

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
1	1.625	11.5	1.02	ppb		0.00%		0.00%



Environmental Report

Start: 9/2/2021 9:30 AM End: 9/3/2021 9:30 AM

Collected by:

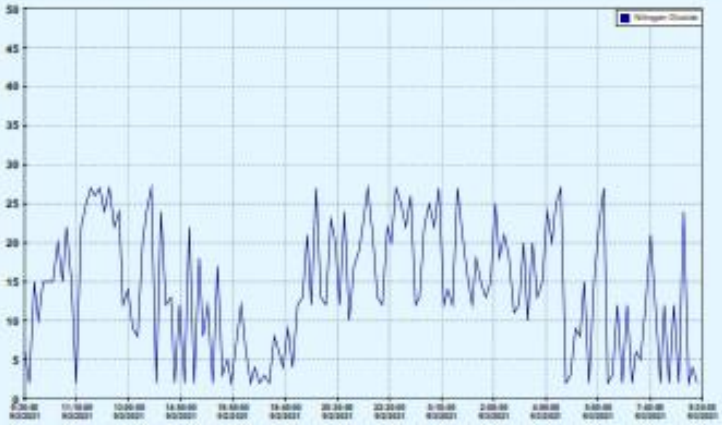
Logger ID 915085 Record Count 145

Sensor ID

Nitrogen Dioxide

Range: 0 to 5000 ppb

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
2	14.00	27	8.15	ppb		0.00%		0.00%

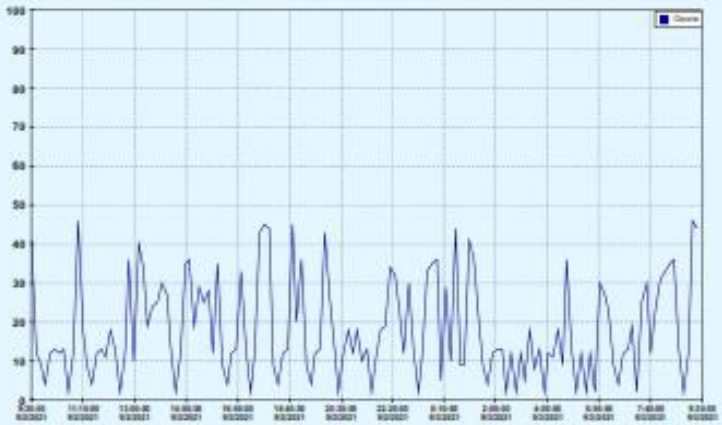


Sensor ID

Ozone

Range: 0 to 150 ppb

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
2	18.00	49	12.73	ppb		0.00%		0.00%



Environmental Report

Start: 9/2/2021 9:30 AM End: 9/3/2021 9:30 AM

Collected by:

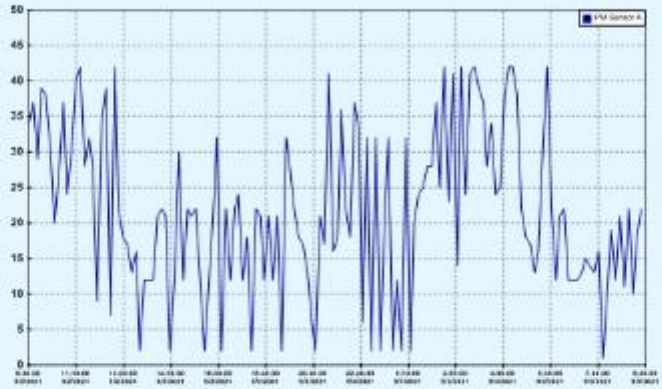
Logger ID 915085 Record Count 145

PM Sensor A

Range: 0 to 5000 uG/m3

2312

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
1	21.75	42	11.38	uG/m3		0.00%		0.00%

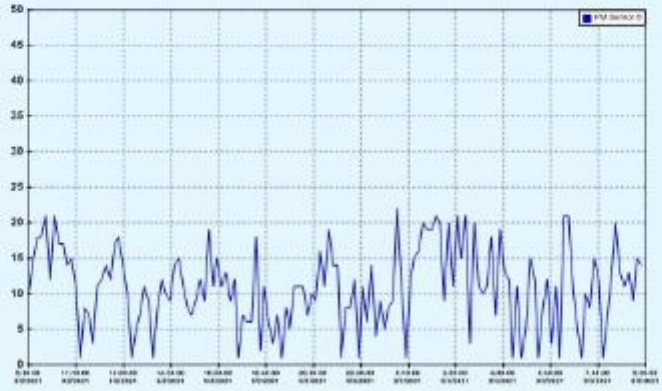


PM Sensor B

Range: 0 to 5000 uG/m3

2313

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
1	10.96	22	5.64	uG/m3		0.00%		0.00%



Environmental Report

Start: 9/2/2021 9:30 AM End: 9/3/2021 9:30 AM

Collected by:

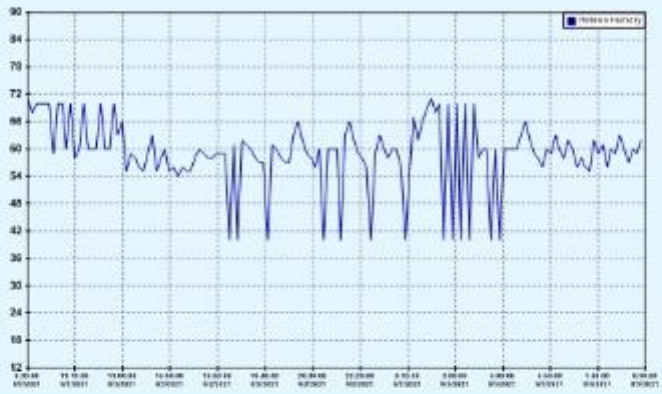
Logger ID 915085 Record Count 145

Relative Humidity

Range: 0 to 100 %

501

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
40	59.18	71	7.44	%		0.00%		0.00%

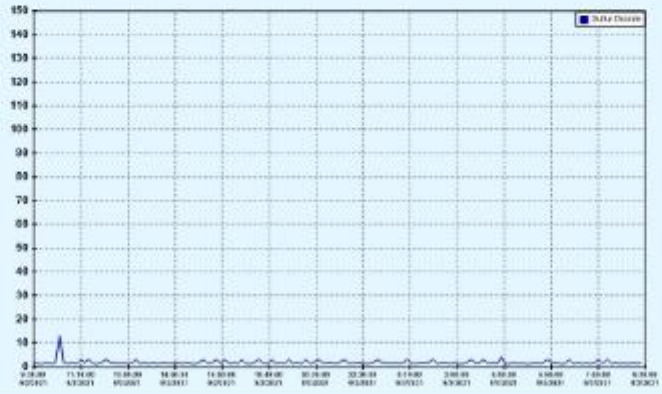


Sulfur Dioxide

Range: 0 to 5000 ppb

2101

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
1	1.830	13	1.17	ppb		0.00%		0.00%



Environmental Report

Start: 9/2/2021 9:30 AM End: 9/3/2021 9:30 AM

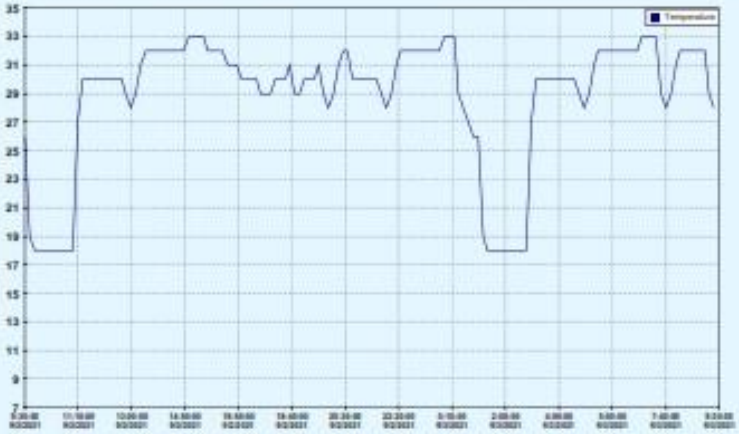
Collected by:

Logger ID 915085 Record Count 145

TEMP **Temperature** TEMP Sensor ID

Range: -20 to 60 Deg. C

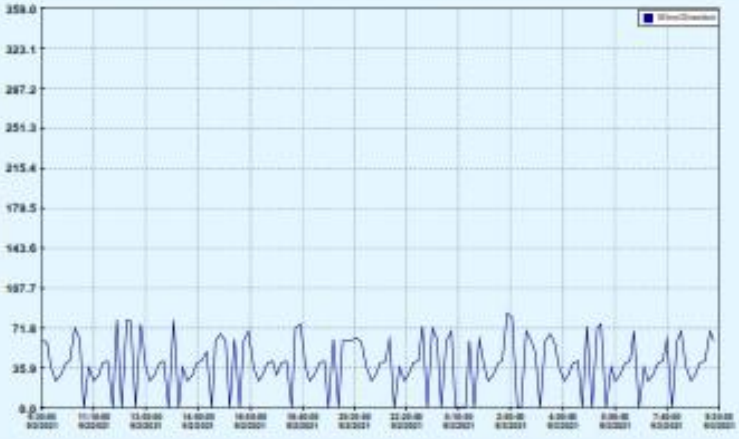
Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
18	29.00	33	4.59	Deg. C		0.00%		0.00%



W. DIR. **Wind Direction** W. DIR. Sensor ID

Range: 0 to 359 Deg.

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
0	39.00	85	24.31	Deg.		0.00%		0.00%



Environmental Report

Start: 9/2/2021 9:30 AM End: 9/3/2021 9:30 AM

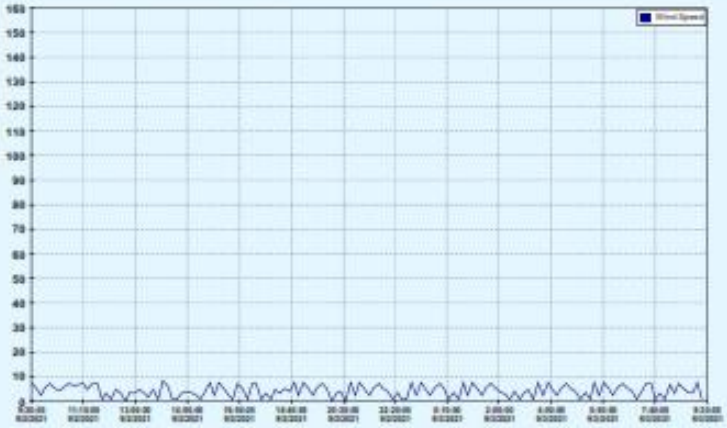
Collected by:

Logger ID 915085 Record Count 145

W. SPD. **Wind Speed** W. SPD. Sensor ID

Range: 0 to 100 mph

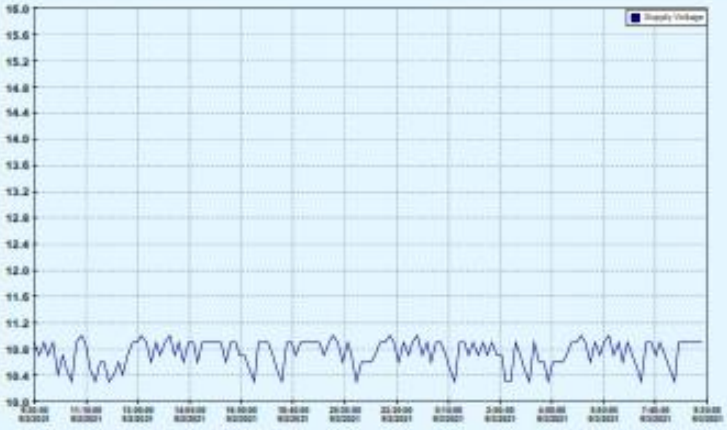
Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
0	4.30	8.3	2.33	mph		0.00%		0.00%



Batt. **Supply Voltage** Batt. Sensor ID

Range: 10 to 16 V

Min	Ave	Max	Std. Dev		Hi Limit	% Above Hi	Lo Limit	% Below Lo
10.3	10.70	11	0.20	V		0.00%		0.00%



Main | Preferences | Header | Data | Report

Environmental Report

Record Cnt 145

Start Date 9/2/2021 9:30:00 AM

145

End Date 9/3/2021 9:30:00 AM

	CO2 ppm	CO ppb	NO2 ppb	O3 ppb	PMA uG/m3	PMB uG/m3	RH %	SO2 ppb	TmpC Deg. C	VOCS ppb	WDir Deg.	WSpd mph	Pwr V
Ave	**213.765**	**1.62586**	**13.9931**	**18.3034**	**21.7586**	**10.9655**	**59.1862**	**1.83034**	**28.8068**	**0**	**39.0758**	**4.27379**	**10.7379**
Max	741	11.5	27	49	42	22	71	13	33	0	85	8.3	11
Min	15	1	2	2	1	1	40	1	18	0	0	0	10.3
EPAS Header 266148	**213.765**	**1.62586**	**13.9931**	**18.3034**	**21.7586**	**10.9655**	**59.1862**	**1.83034**	**28.8068**	**0**	**39.0758**	**4.27379**	**10.7379**
	741	11.5	27	49	42	22	71	13	33	0	85	8.3	11
	15	1	2	2	1	1	40	1	18	0	0	0	10.3
Daily Thu, Sep 2, 2021	**193.636**	**1.65681**	**14.4545**	**19.0909**	**20.7613**	**10.3977**	**59.4318**	**1.89090**	**29.1022**	**0**	**39.4204**	**4.25568**	**10.75**
	741	11.5	27	49	42	22	71	13	33	0	79	8.3	11
	15	1	2	2	2	1	40	1	18	0	0	0	10.3
Ave Period 10 9/2/2021 9:30:00	**111**	**1**	**10**	**49**	**28**	**19**	**69**	**1**	**26**	**0**	**61**	**2.3**	**10.7**
	111	1	10	49	28	19	69	1	26	0	61	2.3	10.7
	111	1	10	49	28	19	69	1	26	0	61	2.3	10.7
9/2/21	111	1	10	49	28	19	69	1	26	0	61	2.3	10.7
Ave Period 10 9/2/2021 9:40:00	**40**	**2**	**6**	**41**	**34**	**10**	**71**	**2**	**26**	**0**	**60**	**7.6**	**10.9**
	40	2	6	41	34	10	71	2	26	0	60	7.6	10.9
	40	2	6	41	34	10	71	2	26	0	60	7.6	10.9
9/2/21	40	2	6	41	34	10	71	2	26	0	60	7.6	10.9
Ave Period 10 9/2/2021 9:50:00	**50**	**1**	**2**	**12**	**37**	**15**	**68**	**1**	**19**	**0**	**59**	**5.2**	**10.7**
	50	1	2	12	37	15	68	1	19	0	59	5.2	10.7
	50	1	2	12	37	15	68	1	19	0	59	5.2	10.7
9/2/21	50	1	2	12	37	15	68	1	19	0	59	5.2	10.7
Ave Period 10 9/2/2021 10:00:0	**60**	**2**	**15**	**9**	**29**	**18**	**70**	**1.2**	**18**	**0**	**37**	**2.3**	**10.9**
	60	2	15	9	29	18	70	1.2	18	0	37	2.3	10.9
	60	2	15	9	29	18	70	1.2	18	0	37	2.3	10.9
9/2/21	60	2	15	9	29	18	70	1.2	18	0	37	2.3	10.9