

Thilawa Special Economic
Zone (Zone B) Development

Environmental Monitoring Plan Phase-2 (Pre-Construction Phase)



Myanmar Japan Thilawa
Development Limited.

December 2017

Executive Summary

The environmental inspection and compliance monitoring program will be implemented under the direction of Ministry of Natural Resources and Environmental Conservation (MONREC) with oversight by Thilawa SEZ Management Committee.

This Environmental Monitoring Plan is submitted in conformity with the provision of Chapter 10.2 Content of an EIA Report of Thilawa SEZ Development Project (Zone-B).

Monitoring Reports

a) Documentation of compliance with all Conditions:

Attached herewith the Notification letter reference TSEZ-EIA-009 from the Ministry of Natural Resources and Environmental Conservation regarding the Environmental Impact Assessment Report for Thilawa SEZ the Industrial Area, Zone-B from Thilawa SEZ Management Committee.

b) Progress made to date on the implementation of EMP against the submitted implementation schedule:

This EMP is submitted for the Pre-Construction Phase and will be further submitted on quarterly basis in Construction Phase and on bi-annually base in Operation Phase of TSEZ Zone-B Development Project.

c) Difficulties encountered in implementing of the EMP and recommendations for remedying those difficulties and steps proposed to prevent or avoid similar future difficulties:

Not applicable for Pre-Construction Phase.

d) Number and type of non-compliance with the EMP and proposed remedial measures and timelines for completion of remediation:

Not applicable for Pre-Construction Phase

e) Accidents or incidents relating to the occupational and community health and safety, and the environment:

Neither accidents nor incidents happened at Pre-Construction Phase.

f) Monitoring data on environmental parameters and conditions as committed in the EMP or otherwise required.

Attached here with the Environmental Monitoring Form for Construction Phase.





Republic of the Union of Myanmar
Thilawa Special Economic Zone Management Committee

Our Ref: TSEZ-EIA-009

Date: 16 January 2017

To: MYANMAR JAPAN THILAWA DEVELOPMENT LTD.

Administration Complex, ZONE-A

Subject: Notification of the approval letter from the Ministry of Natural Resources
And Environmental Conservation regarding the Environmental Impact
Assessment Report for the Industrial Area, Zone-B

Thilawa Special Economic Zone Management Committee (TSMC) received the approval letter from Ministry of Natural Resources And Environmental Conservation (MONREC) regarding the Environmental Impact Assessment report for the Industrial Area, Zone-B on 29th December 2016. TSMC would like to notify the approval letter to the Project Proponent, MYANMAR JAPAN THILAWA DEVELOPMENT LTD., as per enclosed.

(For Chairman)

Dr. Than Than Thwe, Joint Secretary (1),
Management Committee, Thilawa Special
Economic Zone

Copy forwarded to:—

Vice Chairman (1) of Thilawa Special Economic Zone Management Committee

Vice Chairman (2) of Thilawa Special Economic Zone Management Committee

Secretary of Thilawa Special Economic Zone Management Committee

Joint secretary (2) of Thilawa Special Economic Zone Management Committee

Environment Section of One Stop Service Center of Thilawa Special Economic
Management Committee





ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန
ပြည်ထောင်စုဝန်ကြီးရုံး

ဝင်စာအမှတ်	ရက်စွဲ
၅၈၆	၂၀၁၆.၀၃.၁၇
အချိန်	
ပေးပို့သည့်နေ့	၂၀၁၆.၀၃.၁၇

စာအမှတ် (သစ်တော) ၃/၁၆(သ) (၂၇၂ / ၂၀၁၆)
ရက်စွဲ ၂၀၁၆ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၇ ရက်

သို့

သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ

အကြောင်းအရာ။ သီလဝါအထူးစီးပွားရေးဇုန် (အပိုင်း ၁)၊ စက်မှုဇုန်ဧရိယာ၏ ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်း (EIA) အစီရင်ခံစာနှင့်ပတ်သက်၍ အတည်ပြု ကြောင်းပြန်ကြားခြင်းကိစ္စ

ရည်ညွှန်းချက်။ (၁) Myanmar Japan Thilawa Development Co., Ltd. ၏ ၂၂-၃-၂၀၁၆ ရက်စွဲပါစာအမှတ်၊ MJTD/O/16-03-297

(၂) သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ၏ ၁၇-၅-၂၀၁၆ ရက်စွဲ ပါစာအမှတ်၊ TSEZ-EIA-005

(၃) Myanmar Japan Thilawa Development Co., Ltd. ၏ ၂၇-၅-၂၀၁၆ ရက်စွဲပါစာအမှတ်၊ MJTD/O/16-05-318

(၄) သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ၏ ၁၀-၆-၂၀၁၆ ရက်စွဲ ပါစာအမှတ်၊ TSEZ-EIA-007

၁။ အကြောင်းအရာပါကိစ္စနှင့်ပတ်သက်၍ သီလဝါအထူးစီးပွားရေးဇုန် (အပိုင်း ၁) ၏ စက်မှုဇုန် ဧရိယာများအတွက် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း အစီရင်ခံစာ(မူကြမ်း)ကို သီလဝါအထူး စီးပွားရေးဇုန် (အပိုင်း-၁) ကို အကောင်အထည်ဖော်ဆောင်ရွက်မည့် Myanmar Japan Thilawa Development Co., Ltd. မှ သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ (Thilawa Special Economic Zone Management Committee - TSMC) သို့ ရည်ညွှန်း (၁) ပါစာဖြင့် လေးပို့ခဲ့ခြင်း အပေါ် Mobile Review Team ဖွဲ့စည်းသုံးသပ်၍ ရည်ညွှန်း (၂) ပါစာဖြင့် သဘောထားမှတ်ချက် ပြန်ကြားခဲ့ပါသည်။

၂။ Myanmar Japan Thilawa Development Co., Ltd. မှ ရည်ညွှန်း (၃) ပါစာဖြင့် ပြန်လည်ပြင်ဆင်တင်ပြလာသည့် အပြီးသတ်အစီရင်ခံစာကို သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှု



ကော်မတီမှ ရည်ညွှန်း(၄)ပါစာဖြင့် Approval of Commencement of Business Development ကိုထုတ်ပေးခဲ့ပြီးဖြစ်ပါသည်။

၃။ ရည်ညွှန်း (၃)ပါစာဖြင့် ပြင်ဆင်ပေးပို့တင်ပြလာသည့် စက်မှုဇုန်ဧရိယာအတွက် EIA အစီရင်ခံစာသည် Mobile Review Team ၏ သဘောထားမှတ်ချက်များနှင့်အညီ ပြင်ဆင်ဖြည့်စွက်ထားကြောင်း စိစစ်တွေ့ရှိရပါသည်။

၄။ သို့ဖြစ်ပါ၍ Myanmar Japan Thilawa Development Co., Ltd. မှ သီလဝါအထူးစီးပွားရေးဇုန် (အပိုင်း ၁)၊ စက်မှုဇုန်ဧရိယာအတွက် ပြန်လည်ပြင်ဆင်တင်ပြလာသည့် EIA အစီရင်ခံစာနှင့်ပတ်သက်၍ အတည်ပြုပါကြောင်းနှင့် အစီရင်ခံစာတွင်ပါရှိသည့် ကတိကဝတ်များအား အကောင်အထည်ဖော်ရန်နှင့် အောက်ဖော်ပြပါ အချက်များအား အလေးထားလိုက်နာဆောင်ရွက်ရန် လိုအပ်ကြောင်း သဘောထားဖြန့်ကြားအပ်ပါသည်-

(က) စီမံကိန်းကြောင့် ထိခိုက်နိုင်သည့်အထိပါးများ (Project Affected Households - PAHs)အတွက် ဝင်ငွေပြန်လည်ထူထောင်ရေးစီမံချက် (Income Restoration Programme - IRP) ပါဝင်သည့် ပြန်လည်နေရာချထားရေး လုပ်ငန်းစီမံချက် (Resettlement Work Plan - RWP)ကို ဖြန့်မာအစိုးရကိုယ်စား သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ (TSMC) မှ အကောင်အထည်ဖော် ဆောင်ရွက်သွားရမည်ဖြစ်ပြီး သို့သော်ဆောင်ရွက်ရာတွင် စီမံကိန်းအကောင်အထည်ဖော် ဆောင်ရွက်မည့်သူသည် မြေယာငှားရမ်းခြင်းသဘောတူညီချက် (Land Lease Agreement) ကိုလက်မှတ်ရေးထိုးပြီးပါက PAHs များအတွက် ဝင်ငွေပြန်လည်ထူထောင်ရေးအထောက်အပံ့များကို TSMC ဖွဲ့စည်းဆင့် ကူညီထောက်ပံ့သွားရမည်ဖြစ်ကြောင်း စိစစ်တွေ့ရှိရပါသည်။ သို့ဖြစ်ပါ၍ စီမံကိန်းအကောင်အထည်ဖော်ဆောင်ရွက်မည့်သူသည် PAHs နှင့် ဖြန့်မာအစိုးရအကြား မြေယာလျှော်ကြေးနှင့် ဝင်ငွေဆုံးရှုံးရခြင်းအတွက် အထောက်အပံ့ပေးခြင်းဆိုင်ရာ သဘောတူညီချက်အရ ပြန်လည်နေရာချထားရေးလုပ်ငန်းများနှင့် PAHs များအသုံးပြုချက်ရှိသည့် ရေကန်နှင့် သန့်ရှင်းရေးစနစ်များ၊ ရွှေ့ပြောင်းခြင်းလုပ်ငန်းများဖြင့်ပေးဆောင် ဆောင်ရွက်ပြီးနောက် အပြီးသတ်အစီရင်ခံစာတွင် ဖော်ပြထားသည့် ဧရိယာအတွင်း တည်ဆောက်ရေးလုပ်ငန်းများကိုဆောင်ရွက်ရန်။

(ခ) Final EIA Report တွင် စီမံကိန်းအကောင်အထည်ဖော်ဆောင်ရွက်မည့် Time Schedule ကို အသေးစိတ် ရေးဆွဲဖော်ပြထားခြင်း၊ Land Reclamation နှင့် ပတ်သက်၍ ဖို့မည့်မြေအမျိုးအစား၊ ပမာဏ၊ ဆောင်ရွက်မည့်အစီအစဉ်၊ Mitigation Measures စသည်တို့ကို အသေးစိတ်ဖော်ပြထားခြင်း၊ မရှိသေးကြောင်း စိစစ်တွေ့ရှိရပါသည်။ သို့ဖြစ်ပါ၍ တည်ဆောက်ရေးအတွက် ကန့်သတ်ချက်တာ ငှားရမ်းပြီးပါက



စီမံကိန်းအကောင်အထည်ဖော်ဆောင်ရွက်မည့် Time Schedule နှင့် Land Reclamation Plan တို့ကို အသေးစိတ် ပြန်လည်ရေးဆွဲတင်ပြရန်။

- (ဂ) စီမံကိန်းကိုအကောင်အထည်ဖော်ဆောင်ရွက်မည့် Myanmar Japan Thilawa Development Co., Ltd. ဆောက်တင် သီလဝါအထူးစီးပွားရေးဇုန် အပိုင်း (က) နှင့် အပိုင်း (ခ) ၏ စက်မှုဇုန်ဧရိယာအတွင်း ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာကိစ္စရပ်များ ဆောင်ရွက်ရန်အတွက် Environmental and Safety Health Section ဖွဲ့စည်းထားရှိလာမည့် ယင်းဌာနနှင့် ဌာနရှိဝန်ထမ်းများ၏ အခန်းကဏ္ဍနှင့် တာဝန်ဝတ္တရားများကို ရှင်းလင်းစွာဖော်ပြထားခြင်းမရှိကြောင်း စိစစ်တွေ့ရှိရပါသည်။ သို့ဖြစ်ပါ၍ စီမံကိန်းအကောင်အထည်ဖော်ဆောင်ရွက်မည့်သူသည် အဆိုပါ ဌာနနှင့် ဌာနရှိဝန်ထမ်းများ၏ Role and Responsibilities ကို တည်ဆောက်ရေးကာလ မစတင်မီ ရေးဆွဲတင်ပြသွားရန်။
- (ဃ) ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan - EMP) သည် သီလဝါအထူးစီးပွားရေးဇုန်အပိုင်း (ခ) ၏ စက်မှုဇုန်ဧရိယာတွင် လာရောက် ရင်းနှီးမြှုပ်နှံမည့် လုပ်ငန်းအမျိုးအစားနှင့်ပမာဏတို့ကို လက်ရှိအချိန်တွင် တိတိကျကျ မသိရှိနိုင်မှုကြောင့် အခြေခံအဆောက်အဦများအပေါ်တွင်သာ အခြေခံ၍ ထည့်သွင်းစဉ်းစားထားကြောင်း စိစစ်တွေ့ရှိရပြီး ရင်းနှီးမြှုပ်နှံမည့် လုပ်ငန်းအမျိုးအစားအလိုက် ပတ်ဝန်းကျင်နှင့် လူမှုရေးထိခိုက်နိုင်မှုအခြေအနေ ပြောင်းလဲနိုင်သဖြင့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို လုပ်ငန်းအဆင့်တိုင်းတွင် လိုအပ်သကဲ့သို့ ပြန်လည်ပြင်ဆင်ရေးဆွဲ၍ သီလဝါအထူးစီးပွားရေးဇုန် စီမံခန့်ခွဲမှုကော်မတီနှင့် ဤဝန်ကြီးဌာနသို့ တင်ပြသွားရန်။
- (င) သီလဝါအထူးစီးပွားရေးဇုန်အပိုင်း (ခ) ၏ စက်မှုဇုန်ဧရိယာတွင် လာရောက် ရင်းနှီးမြှုပ်နှံမည့် လုပ်ငန်းတစ်ခုချင်းစီအလိုက် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းနှင့်အညီ EIA သို့မဟုတ် IFB သို့မဟုတ် EMP ကိုရေးဆွဲ၍ သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီနှင့် ဤဝန်ကြီးဌာနသို့ တင်ပြသွားရန်။
- (စ) Final EIA Report တွင် သီလဝါအထူးစီးပွားရေးဇုန်အပိုင်း (ခ) အတွင်း စက်မှု လုပ်ငန်းများမှ ထွက်ရှိမည့် စွန့်ပစ်ပစ္စည်းစီမံခန့်ခွဲမှုကိုသာ ဖော်ပြထားပြီး ရုံး/စားသောက်ဆိုင် စသည်တို့မှထွက်ရှိမည့် စွန့်ပစ်အမှိုက် (Domestic wastes) စီမံခန့်ခွဲမှုစနစ်နှင့် ဗားမဝင်အမှိုက်စွန့်ပစ်မှုများရှိလာပါက ဆောင်ရွက်မည့် စီမံခန့်ခွဲမှုစနစ်တို့ကို ရှင်းလင်းစွာဖော်ပြထားခြင်းမရှိကြောင်း၊ စီမံကိန်းအဆိုပြုအခြေအနေဖြင့် ဟိုကျသည့် စောင့်ကြပ်ကြည့်ရှုစနစ်ဖော်ပြထားခြင်းမရှိကြောင်း စိစစ်တွေ့ရှိရပါသည်။ သို့ဖြစ်ပါ၍ စီမံကိန်းအကောင်အထည်ဖော် ဆောင်ရွက်မည့်သူသည် Domestic

wastes နှင့် တရားမဝင်အမှိုက်စွန့်ပစ်မှုများကို ထိန်းချုပ်နိုင်ရန်အတွက် စီမံချက်ကို EMP တွင်ထည့်သွင်းရေးဆွဲ၍ စီမံခန့်ခွဲမှုအစီအစဉ်ကို ထည့်သွင်း ဖော်ပြသွားရန်နှင့် ရင်းနှီးမြှုပ်နှံမည့်လုပ်ငန်းရှင်များနှင့် တည်ဆောက်ရေးတာဝန်ယူမည့် ကန်ထရိုက်တာ များအားလုံး သိရှိလိုက်နာစေရန် နှစ်စဉ် အသိပေးကြေငြာခြင်း၊ သဘောတူညီမှု ရယူခြင်း၊ သတိပေးခြင်းတို့ကို သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ၏ လမ်းညွှန်ချက်များနှင့်အညီ ဆောင်ရွက်သွားရန်။

(ဆ) Final EIA Report တွင် စီးပွားရေးခြုံငုံရေး၊ ဓါတုဗေဒဓာတ်ငွေ့များအန္တရာယ်မှ လုံခြုံရေး၊ ရေကြီးခြင်း၊ လျှပ်ကူးခြင်း စသည့် သဘာဝဘေးအန္တရာယ်များ ကျရောက်ပါက အရေးပေါ်တုံ့ပြန်မည့် အစီအစဉ်များနှင့်ပတ်သက်၍ အသေးစိတ် ရေးဆွဲ ဖော်ပြထားခြင်းမရှိသည့်အတွက် အဆိုပါကိစ္စရပ်များ မတော်တဆဖြစ်ပေါ် လာပါက ဖြေရှင်းနိုင်ရေးအတွက် Emergency Response Plan ကို စီမံကိန်း လုပ်ငန်းများ စတင်လည်ပတ်ခြင်းမပြုမီ ပြန်လည်ရေးဆွဲပြင်ဆင်ရန်နှင့် သီလဝါ အထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီနှင့် ဤဝန်ကြီးဌာနသို့ တင်ပြသွားရန်။

(ဇ) အပြီးသတ်အစီရင်ခံစာတွင် Community Support Programme နှင့်ပတ်သက်၍ ရည်ရွယ်ချက်၊ အကောင်အထည်ဖော် ဆောင်ရွက်ချက်များကို အသေးစိတ် ဖော်ပြ ထားခြင်းမရှိကြောင်း စိစစ်တွေ့ရှိရပါသည်။ သို့ဖြစ်ပါ၍ ဖိတ်ခေါ်ခံစားအကောင်အထည် ဖော်ဆောင်ရွက်မည့်သူသည် ပြည်သူ့ကျန်းမာရေးစောင့်ရှောက်မှု၊ ဒေသခံများအတွက် လမ်း၊ လျှပ်စစ်မီး၊ ရေရရှိမှု စသည့်အခြေခံအဆောက်အအုံ လိုအပ်ချက်များနှင့် ဘေးအန္တရာယ်ကင်းရှင်းရေး ဆောင်ရွက်ချက်စသည့် Community Support Programme များ အကောင်အထည်ဖော်ဆောင်ရွက်မှု၏ ရလဒ်များကို စောင့်ကြပ် ကြည့်ရှုခြင်းအစီရင်ခံစာ (Monitoring Report)တွင် ထည့်သွင်းဖော်ပြ၍ စီမံကိန်း တည်ဆောက်သည့်ကာလ၊ လုပ်ငန်းလည်ပတ်သည့်ကာလနှင့် ပိတ်သိမ်းမည့်ကာလ တို့အတွင်း သီလ ဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီနှင့် ဤဝန်ကြီးဌာနသို့ တင်ပြသွားရန်။

(ဈ) လူထုတွေ့ဆုံပွဲများတွင် ဒေသခံများ ကောင်းဆိုထားသည့် အချက်များအတွက် မည်သို့ဆောင်ရွက်မည်ကို ရှင်းလင်းစွာဖော်ပြထားခြင်းမရှိကြောင်း စိစစ်တွေ့ရှိရ ပါသည်။ သို့ဖြစ်ပါ၍ သီလဝါအထူးစီးပွားရေးဇုန် အပိုင်း (ခ) ၏ စက်မှုဇုန်ဧရိယာ အတွင်း ပတ်ဝန်းကျင်နှင့် လူမှုရေးအခြေအနေ တိုးတက်ကောင်းမွန်ရေးအတွက် ထိန်းသိမ်းစောင့်ရှောက်ခြင်းနှင့်ပတ်သက်၍ လူထုနှင့်စဉ်ဆက်မပြတ် ဆွေးနွေးညှိနှိုင်း မှုများ ဆောင်ရွက်ခြင်း၊ ဆွေးနွေးညှိနှိုင်းမှုများအပေါ် အစီအမံများရေးဆွဲရန်နှင့် အကောင်အထည်ဖော်ဆောင်ရွက်မှုမှ ရရှိသည့်အကျိုးရလဒ်များကို Monitoring



Report တွင် ထည့်သွင်းဖော်ပြ၍ သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ နှင့် ဤဝန်ကြီးဌာနသို့ တင်ပြသွားရန်။

(ည) စီမံကိန်းအကောင်အထည်ဖော် ဆောင်ရွက်မည့်သူသည် စီမံကိန်း၏ ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ချက်အစီရင်ခံစာတွင်ပါဝင်သည့် လိုက်နာရန် ကတိကဝတ်များ အတိုင်း လိုက်နာဆောင်ရွက်သွားရမည့်အပြင် အကြံပြုတည်ဆောက်ရေးကာလ၊ တည်ဆောက်ရေးကာလ၊ လုပ်ငန်းလည်ပတ်စဉ်ကာလနှင့် လုပ်ငန်းပိတ်သိမ်းမည့် ကာလများအတွင်း ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့်လူမှုရေးထိခိုက်နိုင်မှုအခြေအနေ များကို စောင့်ကြပ်ကြည့်ရှုစစ်ဆေးခြင်း၊ သက်ဆိုင်ရာဌာနများသို့ အစီရင်ခံတင်ပြ ခြင်းတို့ကို မပျက်မကွက်ဆောင်ရွက်သွားရမည့်အပြင် စီမံကိန်းအကောင်အထည် ဖော်ဆောင်ရွက်သူနှင့် ပြည်သူလူထုအကြား ပွင့်လင်းမြင်သာမှုရှိစေရေးအတွက် ပတ်ဝန်းကျင်နှင့် လူမှုရေးဆိုင်ရာတိရစ္ဆာန်များ ဆောင်ရွက်ရာတွင် စဉ်ဆက်မပြတ် ဆွေးနွေးညှိနှိုင်းမှုများ ဆောင်ရွက်ရန်နှင့် ဆောင်ရွက်မှုရလဒ်များကို စောင့်ကြပ် ကြည့်ရှုသည့်အစီရင်ခံစာတွင် ထည့်သွင်း၍ သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှု ကော်မတီနှင့် ဤဝန်ကြီးဌာနသို့ တင်ပြသွားရန်။

(ဋ) စီမံကိန်းအကောင်အထည်ဖော် ဆောင်ရွက်သူသည် ဤဝန်ကြီးဌာနမှ ထုတ်ပြန်ထား သည့် တည်ဆဲပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ၊ နည်းဥပဒေနှင့် ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ချက်ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများကိုလည်းကောင်း၊ ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးနှင့်ဆက်နွှယ်သည့် တည်ဆဲဥပဒေ၊ နည်းဥပဒေများကိုလည်းကောင်း၊ သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ၏ ညွှန်ကြားချက်များ၊ စည်းမျဉ်း စည်းကမ်းများနှင့် ဆက်လက်ထုတ်ပြန်မည့် သက်ဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများကို လိုက်နာဆောင်ရွက်သွားရမည်ဖြစ်သည်။


ပြည်ထောင်စုဝန်ကြီး (ကိုယ်စား)
(ခင်မောင်ရီ၊ အမြဲတမ်းအတွင်းဝန်)
 

မိမိတို့
ညွှန်ကြားရေးမှူးချုပ်
ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန



Republic of the Union of Myanmar
Ministry of Natural Resources and Environmental Conservation
Union Minister Office

Ref No. (Thit Taw) 3/16 (Ga Gyi) (2772/2016)

Date: 29th December 2016

To : Thilawa Special Economic Zone Management Committee

Subject : Approved letter for Environmental Impact Assessment (EIA) Report of Industrial Area, Thilawa Special Economic Zone (Zone-B)

Reference Letter-

- i. Myanmar Japan Thilawa Development Co.,Ltd – Date: 22-3-2016, MJTD/O/16-03-297
 - ii. Thilawa Special Economic Zone Management Committee – Date: 17-5-2016, TSEZ-EIA-005
 - iii. Myanmar Japan Thilawa Development Co.,Ltd – Date: 27-5-2016, MJTD/O/16-05-318
 - iv. Thilawa Special Economic Zone Management Committee – Date: 10-6-2016, TSEZ-EIA-007
1. Mobile Review Team remarked and replied with ref letter (ii) to Thilawa Special Economic Zone Management Committee (TSMC) for Myanmar Japan Thilawa Development Co., Ltd (MJTD) submission of Environmental Impact Assessment (EIA) Draft Report for Industrial Area of Zone-B) as per reference letter (i).
 2. Approval of Commencement of Business Development has been issued from TSMC with ref letter (iv) for the resubmission of Final EIA report by MJTD with ref letter(iii).
 3. According to ref letter (iii), Environmental Impact Assessment (EIA) Final Draft report was amended as per Mobile Review Team remarks.
 4. Therefore, resubmitted final Environmental impact Assessment (EIA) for Industrial Area of Zone-B by MJTD was approved and to carry out according to the report and we would like to remark to consider and carry out the following instructions:
 - a.) TSMC is represented as the Myanmar Government to establish the Resettlement Work Plan- (RWP) which included the Income Restoration Programmed (IRP) for Project Affected Households(PAHS). For those programs, the developer will provide the income restoration support to PAHs through TSMC after signing on the land lease agreement. Therefore, the developer can commerce the construction work according to the agreement of income restoration support between PAHs and Myanmar Government.
 - b.) In Final EIA report the following items are do not describe;
 - detail project time schedule
 - Type of land, volume and work plan for the Land Reclamation
 - detail mitigation measures
- Therefore, after contractor award, to submit the above requirements.
- c.) Although the developer formed Environmental and Safety Health section to implement the environmental conservation in the industrial area of Thilawa Special Economic Zone (A and B), there is no mention role and responsibilities of the team member. Therefore, the



developer should submit the above requirement for Environmental and Safety Health section in detail before construction phase.

- d.) Currently, type of business and capacity of investor, who will invest in the TSEZ cannot know yet and Environmental Management Plan (EMP) only consider based on the basic infrastructure and EMP should update and resubmit to TSMC and Ministry of Natural Resources and Environmental Conservation (MONREC) because EIA can impact upon on the type of business.
- e.) Each of the investor who invest in Thilawa SEZ Zone (B) should submit the Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) or EMP depend on each type of business to TSMC and MONREC.
- f.) In the final EIA report of Thilawa Special Economic Zone (B), describe the industrial waste management system only and there is no describe the Domestic waste management system. Therefore, the developer need to describe in EMP for action plan and management to control domestic waste and illegal waste disposal and annually to announce, remind and to comply the investors and respective represented contractors imply with TSMC instructions.
- g.) In the final EIA Report, there is no describe the detail program for fire safety, chemical safety, flooding and earthquake as natural disaster and Emergency Response Plan need to submit before start of construction to TSMC and MONREC to solved if the said cases happened.
- h.) In the final EIA Report, there is no describe the purpose and implementation of community support programme. Therefore, the developer need to submit monitoring report for the result of the implementation progress of community support programme (including public health care program, electricity and water supporting to the community and community safety) on construction periods, operation periods and project closing period to TSMC and MONREC.
- i.) There is not clearly describe how to provide for the villagers requested in the Public Consultation Meeting. Therefore, to submit the report for the improvement and maintain the environmental and social relation in the Thilawa Special Economic Zone (Zone-B) area, continuous meeting and consult with the public and negotiation with the public of planning and implementation result to TSMC and MONREC.
- j.) The developer need to disclosed in EMP according to the instructions mention in the EIA and also environmental and social issues to monitor and report to respected departments in Pre-construction stage, construction stage operations stage and closing stage. And report in EMP for continuous negotiation and monitoring the negotiation result relating with the environmental and social issues between the developer and community for the transparency of both side.
- k.) The developer shall follow and comply the Environmental Conservation Law, Environmental Policy, procedure of environmental impact assessment and related environmental conservation law, policy and instructions, rules and regulations of the TSMC from MONREC.

Union Minister (Represent)
permanent secretary

CC to:
Director
Department of Environment and Conservation

Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

Environment Monitoring Plan

10.2 Environmental Monitoring Plan

The environmental monitoring plan including monitoring items, location, frequency, and responsible organization at the pre-construction phase, construction phase, and operation phase are shown in Table 10.2-1 to Table 10.2-3. Responsible organizations shall review the monitoring plan in accordance with the progress of the Project and status of the situation before monitoring, if necessary, and implement monitoring activities and preparation of monitoring report on its results. The project proponent will submit the monitoring report at three stages to TSMC. The proposed monitoring form is shown in Annex 10-2.

Table 10.2-1 Monitoring Plan (Pre-construction Phase)

Category	Item	Location	Frequency	Responsible Organizations
Common	<ul style="list-style-type: none"> - Checking and revising the Environmental Mitigation (as shown in Table 10.1-1, 10.1-2, and 10.1-3) and Management Plan by reviewing the final detailed design of the Project - Checking the Environmental Monitoring Plan during Construction prepared by Contractor 	Project Site	Once	Contractor
Social Environment <ul style="list-style-type: none"> - Involuntary Resettlement, - Living and Livelihood - Vulnerable Group, - Cultural Heritage Asset 	<ul style="list-style-type: none"> - Monitoring of the implementation status of Resettlement works such as provision of assistance package for project affected persons, and common assets 	Project Site and Relocation Site	Once	TSMC
	<ul style="list-style-type: none"> - Monitoring of the implementation status for CSR activities such as community support program 	Around Project Site	Once /year	TSMC
Existing social infra-structures and services	<ul style="list-style-type: none"> - Securing of community accessibility 	Around Project Site	Once	Contractor

Source: EIA Study Team

Table 10.2-2 Monitoring Plan (Construction Phase)

Category	Item	Location	Frequency	Responsible Organizations
Common	<ul style="list-style-type: none"> - Monitoring of mitigation measures (as shown in Table 10.1-2) 	Each location	Once/month	Contractor
Air Quality	<ul style="list-style-type: none"> - NO_x, SO₂, CO, PM_{2.5}, PM₁₀ 	Construction site (1 point)*	1 week/3 months	Contractor
Water Quality	<ul style="list-style-type: none"> - Water temperature, pH, SS, DO, BOD₅, COD, coliforms, oil and grease, chromium 	<ul style="list-style-type: none"> - Outflow of construction site to the creek (at least 3 sampling points/mixing point: i) discharge water, ii) upstream water, and iii) downstream water) ** - Well near the construction site (1 point) 	Once/2 months	Contractor
Waste	<ul style="list-style-type: none"> - Amount and kind of solid waste 	Construction site	Once/3 months	Contractor
Noise and Vibration	<ul style="list-style-type: none"> - Noise and vibration level - Traffic count 	Preservation area such as residence around the proposed construction site (at least 1 point)	Once (24 hours)/3 months	Contractor
		Preservation site such as residence along the route for on-site vehicles (1 point for noise and vibration and 2 points for traffic count)	Once (24 hours)/3 months	Contractor
Hydrology	<ul style="list-style-type: none"> - Groundwater level - Ground elevation level - Consumption of groundwater amount 	Well near the construction site	Once/ months	Contractor

Category	Item	Location	Frequency	Responsible Organizations
Living and Livelihood/ Vulnerable Group/ Misdistribution of Benefit and Damage/ Children's Right	- The implementation status for CSR activities such as community support program	Around Project Site	Once /year	Project Proponent
Risks for Infectious Disease such as AIDS/HIV	- Awareness of infectious diseases	Construction site	Once/month	Contractor
Occupational Health and Safety	- Record of accidents and infectious diseases	Construction site	Once/month	Contractor
Community Health and Safety	- Record of accidents and infectious diseases related to the community	Around construction site	Once/month	Contractor
	- The implementation status for CSR activities such as community support program	Around Project Site	Once /year	Project Proponent

Source: EIA Study Team

Note: *Air quality monitoring site in the construction area should be selected in consideration of keeping the same location during construction phase.

** Water quality monitoring location should be selected at least three points for one discharge point to confirm the impact of the effluent water from the project site to the existing canal.



Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

Environment Monitoring Form

Environment Monitoring Form

The latest results of the below monitoring items shall be submitted to Authorities on once at Pre-Construction Phase and on quarterly basis at Construction Phase, and on bi-annually base at Operation Phase. The items, standards to be applied, measurement points, and frequency for each monitoring parameter are established based on the EIA Report for Thilawa Special Economic Zone Development Project (Industrial Area of Zone B). Should there be any changes to the original plan, such change shall be reviewed and evaluated by environmental expert.

(1) General

1) Phase of the Project

- Please mark the current phase.

☒ Pre-Construction Phase

☐ Construction Phase

☐ Operation Phase

2) Obtainment of Environmental Permits

Name of permits	Expected issuance date	Actual issuance date	Concerned authority	Remarks (Conditions, etc.)
Approved letter for Environmental Impact Assessment (EIA) Report of Industrial Area, Thilawa Special Economic Zone (Zone-B)		29 th December 2016	Thilawa SEZ Management Committee	
Attached approval letter: Approved letter for Environmental Impact Assessment (EIA) Report of Industrial Area, Thilawa Special Economic Zone (Zone-B)				





3) Response/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	Monitoring Results during Report Period	Duration of Report Period	Frequency
Number and contents of formal comments made by the public			Upon receipt of comments/ complaints
Number and contents of responses from Government agencies			

(2) Monitoring Results

1) Ambient Air Quality

NO₂, SO₂, CO, PM_{2.5}, PM₁₀

Location	Item	Unit	Measured Value (Mean)	Measured Value (Max)	Country's Standard	Target value to be applied	Referred International Standard	Frequency	Method	Note (Reason of excess of the standard)
Residential Area	NO ₂	ppm			0.2 mg/m ³ (1 Hour)	0.2 mg/m ³ (1 Hour)	-			
	SO ₂	ppm			0.02 mg/m ³ (24 Hours)	0.02 mg/m ³ (24 Hours)	-			
	CO	ppm			-	10.26 mg/m ³ (24 Hours)	Thailand			
	PM _{2.5}	ppm			0.025 mg/m ³ (24 Hours)	0.025 mg/m ³ (24 Hours)	-			
	PM ₁₀	ppm			0.05 mg/m ³ (24 Hours)	0.05 mg/m ³ (24 Hours)	-			

Complaints from Residents

- Are there any complaints from residents regarding air quality in this monitoring period?

☐ Yes ☒ No

If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Complaints from Residents	Countermeasures

2) Water Quality

Measurement Point: Effluent of Wastewater

- Are there any effluents to water body in this monitoring period?

☐ Yes ☒ No

If yes, please attach "Analysis Record" and fill in the items not to comply with Refereed International Standard

Location	Item	Unit	Measured Value (Mean)	Measured Value (Max)	Country's Standard	Target value to be applied	Frequency	Method	Note (Reason of excess of the standard)
					National Emission Quality Guidelines	Refer the section 2.4 in EIA main report			



3) Soil Contamination (only operation phase)

Situations environmental report from tenants

- Are there any serious issues regarding soil contamination in this monitoring period?

☐ Yes, ☒ No

If yes please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Issues on Soil Contamination	Countermeasures

4) Noise

Noise Level

Location	Item	Unit	Measured Value (Mean)	Measured Value (Max)	Country's Standard	Target value to be applied	Referred International Standard	Frequency	Method	Note (Reason of excess of the standard)
Residential Area	Leq (day)	dB(A)					Refer the section 2.4 in EIA main report			
	Leq (evening)	dB(A)								
	Leq(night)	dB(A)								
Along the road	Leq (day)	dB(A)								
	Leq (evening)	dB(A)								
	Leq(night)	dB(A)								

Complaints from Residents

- Are there any complaints from residents regarding noise in this monitoring period?

☐ Yes, ☒ No

If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Complaints from Residents	Countermeasures

5) Solid Waste

Measurement Point: Construction Site (Construction Phase), Storage for Sludge (Operation Phase)

- Are there any wastes if sludge in this monitoring period?

☐ Yes, ☒ No

If yes, please report the amount of sludge and fill in the results of solid waste management activities.

Item	Generated from	Unit	Value	Solid Waste Management Activities
Amount of sludge				
Amount of sludge				
Amount of sludge				

6) Ground Subsidence Hydrology

Duration (Week)	Water Consumption		Ground Level		Note
	Quantity	Unit	Quantity	Unit	
		m ³ / week		m	
		m ³ / week		m	
		m ³ / week		m	
		m ³ / week		m	





7) Offensive Odor (only operation phase)

Complaints from Residents

- Are there any complaints from residents regarding offensive odor in this monitoring period?

☐ Yes, ☒ No

If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Complaints from Residents	Countermeasures

Situations environmental report from tenants

- Are there any serious issues regarding offensive odor in this monitoring period?

☐ Yes, ☒ No

If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Issues on Soil Contamination	Countermeasures

8) Infectious disease, Working Environment, Accident

Information from contractor (construction phase) or tenants (operation phase)

- Are there any incidents regarding infectious disease, Working Environment, Accident in this monitoring period? ☐ Yes, ☒ No

If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Incidents	Countermeasures

Note: If emergency incidents are occurred, the information shall be reported to the relevant organizations and authorities immediately.

9) Resettlement Works for Project Affected Persons (PAPs) and Common Assets
Information from TSMC

- Please describe the progress and remarkable issues (if any) to fill in below the table.

Resettlement Works		Progress in Narrative	Remarkable Issues
Projected Affected Persons	Land Acquisition and Relocation	Negotiations with PAHs from Area 2-1 and 2-2 East were conducted 9 times and 3 PAHs has been resettled to the relocation area. The land acquisition award has been declared on 22 nd November for 88.02 Acre.	
	Income Restoration Program		
Common Assets	Relocation		

- Are there any grievances submitted, solved and pending regarding resettlement works?
If yes, please describe the contents of grievances to fill in below the table.

☐ Yes, ☒ No

Contents of Grievance	Response/ Countermeasures

10) CSR activities such as Community Support Program

- Are there any CSR activities implemented in this monitoring period?

☐ Yes, ☒ No

If yes, please describe the outline of CSR activities implemented to fill in below the table.

Date	Activities	Description (Location, Participant etc)
10.October.2017	Arranged excursion trip	Participant - 50 youth people from Thanlyin Kyaunt Tan area
October,2017	Provide iron grid school fencing	Recipient- Middle school Location - Shwe Pyi Tha Yar village
	Regular scholarship program	11 students recipient from Thanlyin, Kyaut Tan area

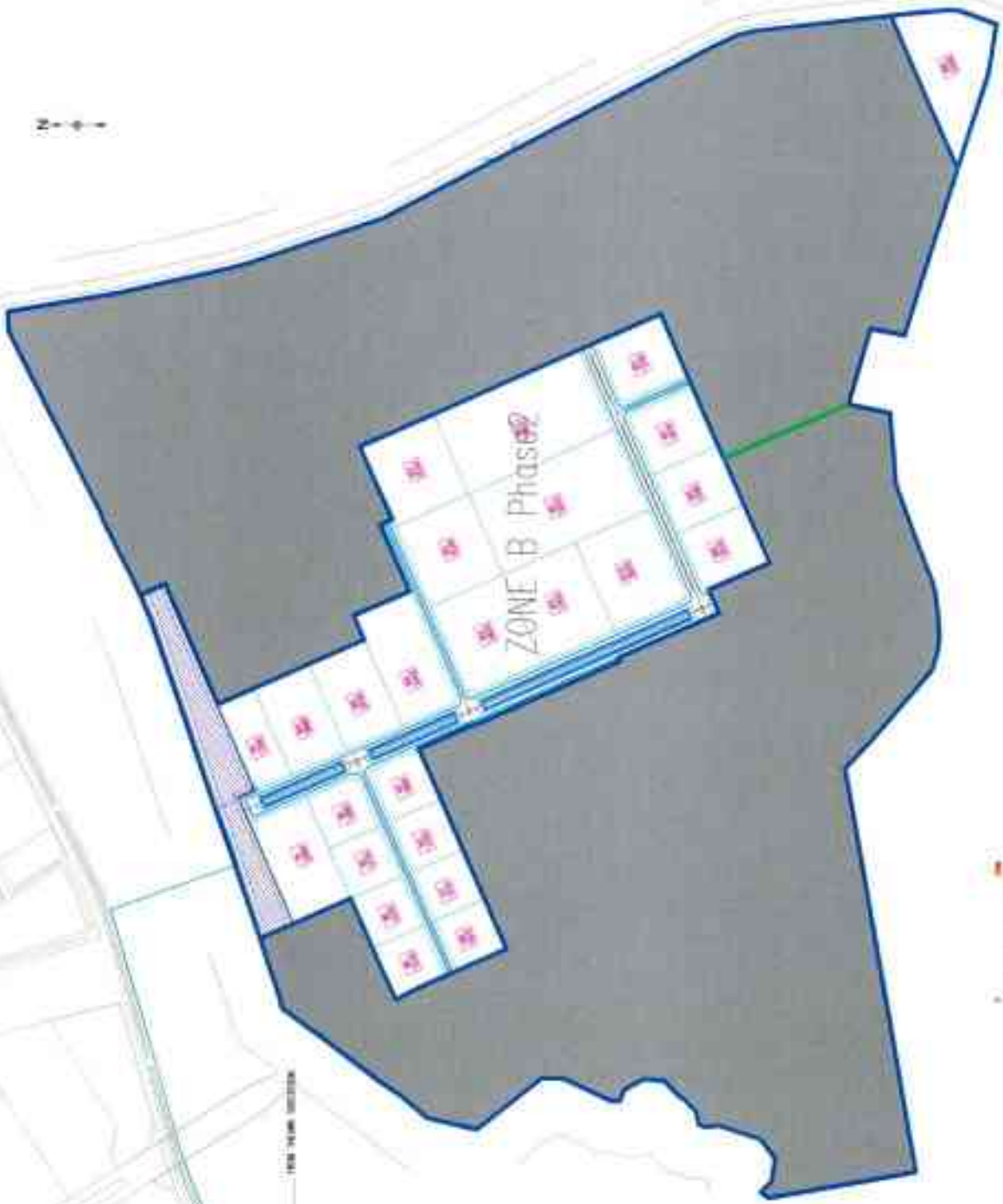


Date	Activities	Description (Location, Participant etc)
25.October.2017	Kahtina robe offering ceremony together with Aye Mya Thida village residents	Participant - MJTD and village residents Location - Aye Mya Thida village
14.November.2017	Supporting long bench for the students	Location -Padagyi village Recipient - State school
21.November.2017	Supporting teaching aids and classroom facilities to the preschool	Location - Padagyi village and Myaing Thar Yar village Recipient - preschools

End of Document

Thilawa Special Economic Zone (Zone B)
Development Project – Phase 1

Land Use Plan Map of Zone-B Phase-2



NEW HIGH VOLTAGE

NEW HIGH VOLTAGE



APP. 1/200

THILAWA SEZ ZONE B
DEVELOPMENT PHASE-2



MYANMAR JAPAN THILAWA DEVELOPMENT LTD.

GENERAL

Land Use Plan Map of Zone-B Phase-2

DATE: 2019

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Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

**Environmental Management and Monitoring
from Contractor**

Environmental Management Plan

No.	Items	Impacts	Proposed Environmental Mitigation Measures and Management	Action and Achievement Status
1	Waste	Construction cut by earth	<ul style="list-style-type: none"> - Reuse the residual soil generated in cutting work for filling work in the site - Preparation and implementation of the waste management program 	<p>The cut soil is used for filling work during Land Grading works and therefore, there is no amount of exposed soil that needs to be disposed out of the site.</p> <p>All general and construction waste are disposed properly in coordination with YCDC every three months or as needed.</p>
2	Noise and Vibration	Impacts of noise and vibration by construction machineries and vehicles	<ul style="list-style-type: none"> - Advanced notice for construction work time near the monastery and residential area - Speed limit for drivers 	<p>PSP will notice in advance for works that includes machineries and vehicles near monastery and residential areas.</p> <p>Speed limit has set up as 25km/hr and traffic signage has erected to control noise and dust emission.</p> <p>PSP will notice advance for any noisy construction work that can disturb welfare and livelihood of public.</p>
3	Soil Erosion	Soil erosion of the bank	<ul style="list-style-type: none"> - Provision of temporary drainage and/or sandbag to minimize soil erosion due to rain water 	Temporary drainage plan has set up to prevent soil erosion especially in rainy season.
4	Existing Infrastructures and services	Accessibility to social infrastructure for local community	<ul style="list-style-type: none"> - Control of traffic volume 	Heavy vehicles and machineries are only working inside the project boundary.
5	Cultural Heritage/ Asset	Impact of dust, noise and vibration, traffic caused by construction work	<ul style="list-style-type: none"> - Securing adequate space for the assets to keep enough distance from construction site 	Heavy vehicles and machineries are only working inside the project boundary.
6	Risks for infectious diseases such as AIDS/HIV	Increasing risks for infectious diseases due to the influx of workers	<ul style="list-style-type: none"> - To provide surveillance for worker health - Prevention of illness among workers by undertaking health awareness and education initiatives and by conducting immunization programs for workers - To provide treatment through standard case management in on-site and community health care facilities as necessary - Educating project personnel and area residents on risks, prevention and available treatment 	<p>PSP provided medical staff or health officer onsite as surveillance for the health of staffs and workers.</p> <p>PSP conducted and educational talk, training and awareness programs to prevent illness and infectious diseases. Enhancing health education by handouts and health signage around site.</p> <p>PSP will provide onsite treatment services such as on-site first Aid room with basic medication and a health officer.</p> <p>Training and awareness talk will be provided by PSP to all the site and office staffs as well as area residents on available health services at site clinic.</p>





Environmental Management Plan

Items	Impacts	Proposed Environmental Mitigation Measures and Management	Action and Achievement Status
Risks for infectious diseases such as AIDS/HIV		<ul style="list-style-type: none"> - Promoting collaboration with local authorities to enhance access of worker's families and the community to public health services and promote immunization as necessary - Promoting use of repellents, clothing, netting and other barriers to prevent insect bites - Prevention of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements - Elimination of unusable impounded water 	<p>PSP will collaborate with local authorities by sharing information on public health services, to enhance access of worker's families and community to public health services and promote immunization.</p> <p>PSP will conduct awareness talk or tool box talk on prevention of insect bites by using demonstration. Backfilling water ponding area. Pest control services will be provided periodically onsite and around site offices.</p>
	Accidents during construction work/closing work	<p>Common</p> <ul style="list-style-type: none"> - To provide adequate health care facilities and first aid within construction sites - To provide OHS training program and information of basic site rules of work, basic hazard awareness, site specific hazard awareness, site specific hazards, safe work practices and emergency procedure 	<p>PSP will provided site clinic with a health office and basic first aid kits will be provided at reachable area onsite.</p> <p>Safety Induction courses will be provided by HSE officer's onsite for work related hazards and safe work practices for every work activities such as excavation, machinery safety.</p> <p>PPE must be worn at all time on site and PPE will be provided for every person who is entering and working onsite.</p>
Occupational Health and safety		<p>Occupational Health</p> <ul style="list-style-type: none"> - To provide adequate laboratory facilities for the number of people expected to work in the facility - To provide adequate supplies and easy access of drinking water with a sanitary means - To provide temporary shelters to protect against heat stroke during working activities or for use as rest areas as needed - To promote the use of repellents, clothing, netting and other barriers to prevent insect bites and snake bite <p>Occupational Safety</p> <ul style="list-style-type: none"> - Adequate preventive measures from negative factors such as over-exertion, slips and falls, work in heights, struck by objects, moving machinery, dust, confined spaces and excavations and other site hazards 	<p>Shelters and fresh drinking water supplies has been provided onsite to prevent heat related health problems.</p> <p>Conducted daily tool box talk and induction to wear covered boots and long sleeve shirt to prevent snake and other poisonous insect bites.</p> <p>Removed and cleared all bushes and places that insects and snakes can hide or stay.</p> <p>Importance of sanitation has being reminded as usual to all workers and staffs during morning safety meeting and safety induction course.</p> <p>Daily work related hazards and risks has been shared in safety induction course, daily tool box talk and safe work practices has implemented onsite for all work activities such as working at heights, excavation, etc.</p>



Environmental Management Plan

No.	Items	Impacts	Proposed Environmental Mitigation Measures and Management	Action and Achievement Status
	Occupational Health and safety		- To train and license industrial vehicle operators in the safe operation of specialized vehicles	Safety Induction has provided for all the operators and drivers before start working onsite for safe operation of all vehicles. Vehicle passes and operator description has provided for every vehicles and machines.
			- To establish driving and traffic rules	Speed limit has been set up and displayed to 25km/hr on-site ever since the project was started. Only trained and designated drivers are allowed to drive vehicles onsite.
			- To identify and provide appropriate PPE that offers adequate protection to the workers, co-workers and occasional visitors	Wearing PPE is mandatory when entering the site and proper PPE has already provided for all the workers. PPE has provided for guests and visitors at the security guard house.
			- Proper maintenance of PPE and the instruction of proper use	Proper use of PPE for specific work activities such as goggles, harness and gloves has shared in Safety Induction. Morning Gathering Meeting and Tool Box Meetings. Regular checking and maintenance of PPE has been carried out onsite for all work activities.
8	Flood Risk	Increase of the impact of flood in and around the projects site	- Preparation of the disaster prevention equipment and management manual	For Flood risk, PSP has implemented Land Grading plan to prevent any flooding and water ponding onsite, especially during raining season.
9	Risk of Fire	Impact on the community around the project site by increasing of risk of fire	- Compliance with the TSMCs regulation for building construction and fire safety	PSP is carrying out fire prevention activities such as doing housekeeping, having designated smoking area, keeping combustible materials away from electrical appliances, providing fire extinguishers at reachable areas and emergency exits were kept and indicated clearly. Fire Drill and fire induction has been carried out periodically to all the staffs and workers. Lightning Arresters to be installed as necessary at shelter's onsite and site office.
	Earthquake	Increasing of the damage of the earthquake in and around the projects site	Preparation of the disaster prevention equipment and management manual	PSP has implemented management manual which includes emergency evacuation drills and practices. Emergency drills and exercises has planned to be carried out onsite for earthquake or other natural disaster.



Industrial (ZONE B)

Environmental Monitoring Plan

No.	Category	Item	Location	Frequency	Status	Activities Photo
1	Waste	- Amount and kind of solid waste	- Construction site	Once/monthly	Waste disposal for general and construction waste has being carried out every 3 months or as needed.	
2	Hydrology	- Groundwater level - Ground elevation level - Consumption of groundwater amount	- Well near the construction site	Once/month	Checking and indication of groundwater level and elevation is carrying out for monthly basic.	
3	Risk for infectious disease such as AIDS/HIV	- Awareness of infectious diseases	- Construction site	Once/month	Health talks and induction has been carrying out regularly in tool box meetings, inductions and awareness talk.	
4	Occupational Health and Safety	- Record of accidents and infectious diseases	- Construction site	Once/ month	Record of accidents, dangerous occurrence and infectious diseases has investigated and returned monthly.	

Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

Standard of Working Conditions

Standard of Working Condition for Safety, Health and Hygiene

1. Safety Induction Course

Safety Induction Course shall be conducted to any person who enters into the project site to carry out any works.

Safety Induction Course shall address at least the following issues :-

- i. Orientation and Explanation to the Project including site layout (location of entrance, toilet, access, PPE & Non PPE zone, rest shed, smoking areas, etc..), working hours and existence of nearby monastery & residences.
- ii. In house safety rules such as vehicles speed limits etc...
- iii. Interview for the health and body condition of attendee.
- iv. Attendee's particulars such as name, age, gender, NRIC, address, employer's information, family structure and contact numbers shall be filled-in to the entry form (filled entry form shall be kept and treated as confidential).
- v. Requirements of wearing PPE.
- vi. Emergency response plan.
- vii. Necessity of Sanitation, Tidiness and Clearness.
- viii. Safety Campaign(s)
- ix. Any other necessary safety issues.

2. Morning Safety Gathering

Morning Safety Gathering (MSG) shall be arranged every working day at 8:00am at suitable flat ground location near the site office. All the workers, supervisors, engineers working on site shall attend the MSG. MSG will be conducted in accordance with the following order:-

- i. Exercises
- ii. Project Manager's short speech.
- iii. Construction Manager's short speech.
- iv. Safety Officer's short speech.
- v. Activity and Topics of the day.
- vi. Safety Promotion (if any).
- vii. Call of "Safety First".

3. Tool Box Meeting

Before commencing any works the Tool Box Meeting (TBM) shall be conducted



Standard of Working Condition for Safety, Health and Hygiene

after the MSG, TBM shall be conducted by each work trade/team lead by Engineer/Supervisor to explain about the detail activity of the day and KYK (safety precautional measures to be taken) associated with the activities.

4. Personal Protection Equipment

The following Personal Protective Equipments [PPE] are standardized to wear in the Project.

- Helmet (except operators working inside cabin)
- Safety Shoes/Boots
- Working Pants (Long length)
- Gloves (especially for Carpenters, Concreter and Re-bar Fixers)
- Goggles (where working in dusty area)
- Masks (where working in dusty area)
- Special Glove, Goggles and Shirts for Welding Work
- Reflectable Vest (for workers at ground especially after dark)
- Safety Belt (where working at height)

5. Safety Notice Board & Signage

Safety Notice Board shall be erected near the temporary site office to post the following items:-

- Safety Slogan
- Safety Posters
- Safety Notice to workers
- Safety Statistics (Total Men-hour worked without accident, Loss Men-hours due to accident, if any)

Safety Signage/posters/banners shall be posted at the following location.

- Temporary Site Office Compound
- Near Site Entrances/Exits
- Temporary Rest Sheds

6. Security

Designated Security Guards shall be full-time stationed at all the site entrances /exits. Security crossing Gates made of up-down bamboo bar shall be provided and opening of the bar shall be done by the security guard.



Standard of Working Condition for Safety, Health and Hygiene

Entrance Gates shall be closed and locked properly when the Security Guard is absent.

Security Guards shall be controlled by Safety Officer.

Guard houses with communication devices (i.e. walkie-talkie) shall be provided at each entrance/exit.

Any unauthorized person / vehicle shall be stopped at gates by the security guard. Checking whether the person / vehicle is authorized or not shall be done by communication with Manager or Engineer via walkie-talkie.

7. Safe Access, Vehicles Speed Limit and Rules

Safe Vehicle Access shall be designed with flat compacted ground from time to time to suit the site working situations and indicated by flags. All the construction Vehicles are restricted to use the safe access only.

Vehicle Speed for the use of Safety Access is limited to maximum 25km/h with extreme care to the nearby workers/staffs at ground.

The following In House Safety Rules shall be made. The rule shall be reviewed from time to time and revised when necessary.

- Smoking during work is prohibited
- Smoking is allowed only at the designated smoking areas.
- Suitable PPE shall be worn on site.
- Defecate and Urinate shall be at temporary/portable toilet.
- To attend/conduct MSG and TBM.
- No fighting allowed on site.
- No motor bike / bicycle allowed on site except the person authorized by the Project Manager.
- No unauthorized vehicle is allowed to enter into the Site.

8. Barriers

Temporary Barriers / Fencing / Handrails shall be erected effectively to safeguard the workers/staffs against accidents. The potential area of barriers / Fencing / Handrail to be erected shall be as follows:-

- Edge of deep excavation for foundations, trenches, canals, ponds etc., to prevent workers accidentally falling into the excavation,

Standard of Working Condition for Safety, Health and Hygiene

- Working Site near the Vehicle Access to separate the working area from the access to prevent traffic accident.
- Edge of Structures at Height such as top slab of the Box Culverts, Pump Station, Main Gate, etc., to prevent workers falling from Height.

9. Machineries

Stop Idling & Intensive Machinery Operation Campaign shall be conducted for whole duration of the project (see attached Campaign Poster).

In order to reduce the down time due to breakdown of Machineries, weekly(basically on Sunday) checking of Machineries shall be carried out by the Operator and Mechanic using Machineries checklists recommended by the supplier.

10. Temporary Drainage System

Retention Canal and Retention Pond shall be utilized as Temporary De-silting Pond to reduce silt contents before discharging to public drain(s).

Refer to attached Temporary Drainage Plan which illustrates overall temporary drainage system with drain flow directions.

Temporary Drainage trenches and sand bags shall be provided to prevent water ponding and soil erosion due to rain water.

11. Recycling of Construction Material

Construction material arisen from the project shall be recycled as much as possible.

- Surplus soil generated from soil grading work shall be either used as embankment or stockpiled for future project in accordance with the direction by the Client.
- Concrete debris generated from demolishing works , if any, shall be recycled as hard core to utilize for temporary access roads.
- Any material which is not suitable for recycling shall be disposed off-site in accordance with the Client's direction/instruction.
- Any recycling and disposal of construction material shall be recorded



Standard of Working Condition for Safety, Health and Hygiene

and reported to the Client.

12. First Aid

First Aid Room shall be situated at temporary site office compound.

First Aid Room shall be equipped with first aid kit and stretcher, managed by the competent first aider. First aid room shall be kept clean, sanitized and free from bacterium all the time throughout the Contract period.

Emergency procedure/contact list shall be set up so as to respond to any injured person immediately.

13. Tidiness and Cleanliness

All the site area shall be kept tidy and clean including but not limited to the offices, toilets, In-situ RC construction area such as box-culvert, concrete paving and foundations, pre-casting yard, machineries work shop, rest sheds, smoking area etc..

14. Sanitation Training

Sanitation Training shall be conducted to all the workers and staffs to encourage them to stay healthy.

Hand washing facilities such as suitable size of basin, water taps with soaps shall be provided at office compound for hand washing, eyes and face washing and gargling/mouth washing.

Toilet facilities shall be kept clean and free from dirtiness.

15. Biofilter

Biofilter shall be installed to treat the sewage from office toilets before discharging to the natural creek.

Biofilter shall be maintained in accordance with manufacturer's recommendation. (see attached information on biofilter)

16. Garbage Bins

Garbage Bins shall be located at office compound, rest sheds, and any other necessary working areas.

Disposal / clearances of garbage bins shall be carried out periodically.

ATTACHMENT-1 : Campaign Poster of
"Stop Idling & Intensive Machineries Operation"



Stop Idling & Intensive Machineries Operation Campaign

To keep Healthy and Environmental Friendly Working Condition, the "Stop Idling & Intensive Machineries Operation Campaign" is Conducted with immediate effect till Completion of the Project

1. Stop Idling While No Operation

Engine should be Turned Off when Stopping Machineries.

2. Stop Intensive Machineries Operation

Do Not Race Engine unnecessarily,

Gentle Driving always.

3. This Campaign applies to All the Machineries on site including but not limited to Backhoes, Bull Dozers, Dump Trucks, Motor Graders, Water Trucks, Rollers, Concrete Cars, Cranes, Generators, Air Compressors, Welding Machines etc...



ATTACHMENT-2 : LAYOUT PLAN OF TEMPORARTY SITE OFFICE





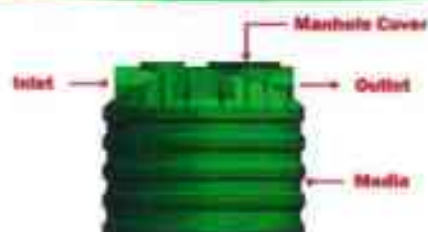
TEMPORARY SITE OFFICE LAYOUT



ATTACHMENT-3 : TEMPORARY DRAINAGE PLAN

ATTACHMENT-4 : BIOFILTER INFORMATION





Designed according to
requirements of standard
Load Test & Vacuum Test

Model	Capacity		Population			
			Resident		Office, Factory, School	
	m ³	Liters	All Waste	Toilet Only	All Waste	Toilet Only
HS-2	1	1000	8	10	10	13
HS-3	2	2000	10	20	20	33
HS-5	4	4000	20	40	40	60
HS-10	6	6000	35	70	70	100
HS-40	9	9000	50	100	100	100

Model	Capacity		Diameter			Height		
	m ³	Liters	mm	Feet	Inches	mm	Feet	Inches
HS-2	1	1000	1200	4'-0"	48	1260	4'-2"	50
HS-3	2	2000	1400	4'-6"	58	1720	5'-6"	70
HS-5	4	4000	1800	5'-9"	75	1780	5'-10"	70
HS-10	6	6000	2175	7'-2"	88	2060	6'-9"	82
HS-40	9	9000	2400	8'-0"	96	2270	7'-5"	91



AUTHENTIC PRODUCTION COMPANY LIMITED

- Head Office : Room No. (304), Condo (D), Kabanaye Villa, Kabanaye Pagoda Road, Mayangone Twp., Yangon, Myanmar. Tel : 95-1-652650, 652674, Fax : 95-1-652674
- Show Room : Bldg (14), Room (1,2,3), Corner of 7th Street & Ruby Road, Saw Bwar Gyi Gonn, Insein Twp., Yangon, Myanmar. Tel : 95-1-646763, 646764, Fax : 95-1-646763
- Factory : 21(C), Bo Chan Street, Pyin Oon Quarter, Mingalardon Twp., Yangon, Myanmar. Tel : 95-1-637695, Fax : 95-1-637695

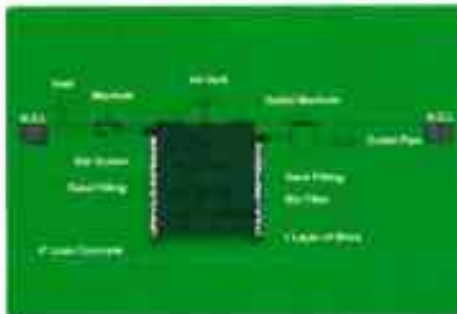




HI-Q

HI - Q Biofilter အိမ်ကောင်းကန့်မှန်း

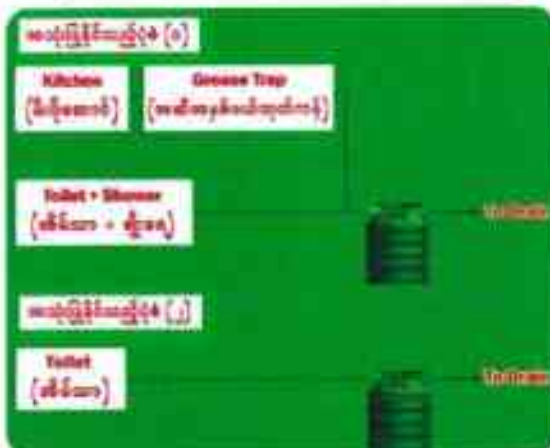
- ❑ နည်းစနစ် (၂) ခု ပြင် သန့်စင်ခြင်း (Septic & Anaerobic System)
- ❑ အညစ်အကြေးပစ္စည်း သန့်စင်မှု ခွမ်းချည်မြင့်မားခြင်း (BOD < 150 mg/l)
- ❑ အိမ်များ၊ နွယ်များ၊ ဆိုင်ခန်းများ၊ အများဆုံးအိမ်သာများ ကွန်ကရစ်တိုက်ခန်းများသည် နေရာအသီးသီးတွင် အကျိုးရှိစွာအသုံးပြုနိုင်ခြင်း
- ❑ လက်ဆင်ရသွယ်ကုန် အချိန်ကုန်သက်သာခြင်း
- ❑ အသုံးပြုနေသည့်အိမ်သာများက အခြားနေရာများသို့ အကျယ်ကန့်သတ်ခြင်းကို ပြန်လည်အသုံးပြုနိုင်ခြင်း
- ❑ ဝန်ဆောင်မှုပေးနိုင်သောအခြေအနေဖြင့် လည်ဆောက်စီမံခန့်ခွဲမှုအတွက် ကုန်ကျစရိတ်ပိုမိုသက်သာခြင်း



Installation Guide Line

Biofilter ထပ်ဆင့်ရသွယ် လည်ဆောက်ရမည့်အချက်များ

- (i) Biofilter ထပ်ဆင့်ရသွယ် Biofilter အဆင့်နှစ်အတွက်တွင် Manhole (2 Nos) ထိုးဆက်ပါမည်။
 - Manhole (2 Nos) သည် 2' x 2' x 2' အနည်းဆုံးထိုးဆက်ပါမည်။
 - အဆင့် Manhole တွင် အချိန်စနစ်ကလေးအသုံးပြုမည်။
 - အတွက် Manhole သည် Biofilter အတွက်နိမ့်အောက် (1') ခန့်နိမ့်နိမ့် Bed Level အား ပြုဆင်ပေးရမည်။
- (ii) Biofilter အား မြေကြီးအောက်တွင် မြှုပ်နှံပေးရမည်။
 - မြေကြီးအောက်တွင် Biofilter ၏ Diameter ဆက် (1') အကျယ်ရှိရှိ ဆွဲပေးရမည်။
 - မြေကြီးအောက်တွင် Biofilter ၏ Manhole Cover အဆက် (6") ခန့်ရှိ အောက်ခြေအသီး ဆွဲပေးရမည်။
- (iii) Biofilter အသစ် အဆက်ကြမ်းခင်းအား Lean ကွန်ကရစ်အထူအမြင့်ပေးရမည်။
 - Lean con (4") အထူ ခြံစွာအထူအမြင့်ပေးပါ။
 - ထို့နောက် Lean အသစ်မှ Level အညီရှိရှိ ဆက်ဆံခြင်း နိမ့်ပေးရမည်။
- (iv) Level အညီရှိရှိအားရသွယ် ဆက်ဆံခြင်းအတွက် Biofilter အား ဝေခွဲခွဲ (6") အကျယ် (အထက်အညီအညီအညီ) ဆက်ဆံပေးရမည်။
- (v) Biofilter အား နေရာမှန်ကန်စွာ ဆက်ဆံပြီးပါက Biofilter အတွင်း နေရာပြည့် အညီပေးရမည်။
- (vi) ထို့နောက် Biofilter ၏ အထက်ပတ်ဝန်းကျင်အား မြေကြီးမြည့်ပေးပါ။



Toilet ထဲသို့ မနုဿဗေဒနည်းနည်းများ

- ❑ အထူး Diaper များ၊ Wet Tissue Sanitary ပစ္စည်းများ၊ သွေးကြေးဆိုးစက်၊ ကျွတ်များစသည့် နေရာတွင် မစတင်နိုင်သောပစ္စည်းများ
- ❑ အဆီအနှစ်များ၊ အိမ်သာအဆေးများ၊ Thinner နှင့် ပိုဆက်ဆံဆေးများ မပါဝင်အောင် နိမ့်အောက်အိမ်သာ အရည်များ

Information on Biofilter Tank and Temporary Sewage Disposing

- Currently, we have installed Biofilter tank, model HS-10 to be used temporary site office compound. (Please refer to attached document for more information of the biofilter tank.)
- According to its capacity of 6000 liters, the tank can be used for 100nos of office population for 3 months before treating the waste.
- The tank is using for toilet purpose only at the temporary site office compound for 70 nos of employees currently.
- If the population increases and exceeds the limited population, the treatment should be carried out more often according to the increased population.

Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

Safety Accident Prevention Plan

Safety Accident Prevention Plan

Safety Accident Prevention Plan is established hereunder in order to prevent any accident associated with the Thilawa SEZ Zone B Development Project (Phase 2). Safety Accident Prevention Plan focuses on the effective and practical measures to prevent the work site from any accident. It should not be just documentation and statement only but to actually practice on site with responsible manner.

1. Prevention of Heavy Equipment Accident

Heavy Equipment Accident is the strongest likelihood among all the type of accident in this project due to heavy usage of the Heavy Equipment such as Backhoes, Dump Trucks, Bull Dozers, Rollers, Graders and Water Tank Trucks etc... during Earthwork, Drainage work, Road work and Trenching works. Therefore the following preventive measures shall be taken place:-

- i. Workers/staffs on the ground shall wear the yellow (or orange) colored reflect-able jackets to highlight against operators of moving heavy equipment.
- ii. Speed Limit of the Access shall be at maximum 25km/hr. The speed limit shall be indicated on site effectively and kept by dump trucks/vehicles. The dump trucks/vehicles speed shall be lower down and extreme care shall be taken where passing any person near the vehicle access.
- iii. Access shall be designated and indicated on site. Any vehicle/truck shall not run outside designated accesses unless authorized by the Construction Manager or Civil Engineer.
- iv. Watchman shall be stationed when more than two heavy equipments are working closely.
- v. Operator shall be trained so as to check around his equipment whenever he operates the equipment.
- vi. Supervisors shall be equipped with Whistle to alert any dangerous situation on site.
- vii. Heavy Equipment shall be kept maintained in good condition. Weekly checking of Machineries shall be carried out by the mechanic.
- viii. Head Lights, Tail Lights, Brake Lights and Hazard Lights are in working conditions, especially working with low visibility.



Safety Accident Prevention Plan

2. Prevention of Third Party Accident

Third Party in this project shall include but not limited to the followings:-

- Monastery
- Vehicles Passengers and Pedestrians at nearby public road.
- Guests visiting the site.
- Nearby Residences (if any)
- Other Construction Sites within project boundary.

Third Party Accident shall be avoided by the following preventive measures:-

- i. Permanent wall shall be erected around the existing Monastery so as to protect the property of Monastery against accident.
- ii. Any construction vehicles enter/exit to/from site, such vehicles shall pay attention to the vehicles/pedestrians on the public road. The vehicles shall slower down the speed when enter the site (or) go out from the site. The vehicles shall stop once before exit from site to the public road.
- iii. Provide suitable PPE to the Guests visiting the Site when visitors enter into the construction area.
- iv. Attendance who is familiar with site situation shall always be with the visitors when visitors enter into the construction site.
- v. All the activities shall be carried out and only site access to be used within the temporary fences/hoardings (except concrete vehicles from outside) to control traffic volume on the public areas.
- vi. Speed limit shall be the same as in project boundary which is 25km/hr on public roads as well.
- vii. Coordination shall be done via periodical coordination meeting with other parties who construct the other structures or residence nearby. Any activities near the public area or Monastery shall be well informed in advance to both parties through the coordination.
- viii. "Heavy Vehicle Crossing" Signage shall be provided facing to the coming traffic on the side of public road 50 feet before the entrance/ exit gate.

3. Prevention of Falling from Height

The following activities will associate with the works at height and/or falling from height hazard:-



Safety Accident Prevention Plan

- Temporary Offices Roof.
- Edge of the Excavation for Retention Pond/Canal, sewage/drainage/ water pipe laying work.
- Edge of Formed Dike.
- Cabin of heavy machineries/equipments.
- On the Box Culvert top Slab

Falling from Height Accident shall be avoided by the following preventive measures:-

- i. Any worker working at height shall wear the safety belt (except near the excavation edge).
- ii. Life line(s) shall be provided along the working platform at height before works at height commences so as to hook the safety belt on it (except near the excavation edge).
- iii. Fence / Handrail / Barricade shall be erected rigidly along the edge of the height.
- iv. Working platform (Bamboo or Metal) shall be thoroughly checked before in use.
- v. The use of ladder and scaffold shall be supervised and guided by competent supervisor or engineer.

4. Prevention of Traffic Accident

Due to the nature of the project, long distance access road(s) need to be provided and maintained from time to time in whole duration. Prevention of traffic accident should be one of the key issue in order to realize "zero accident in whole project".

The following measures shall be taken to prevent the traffic accident.

- Obey the vehicle speed limit rule of 25km/hr.
- Erect barricade where the access runs close to working area.
- Maintain the vehicles in good condition by periodical mechanical inspection.



Safety Accident Prevention Plan

- Maintain the access in good condition by the use of graders, rollers and spraying water.
- Watchman shall be provided when two or more vehicles/machineries working at the same area.
- Obey the public traffic rules when the vehicles are on the public road.

5. Prevention of Accident caused by Hand Held Tools/small equipment and Manual work

Accident caused by Hand Held Tools/small equipment and Manual work often happen by carelessness of the workers and/or bad condition of the equipment/tools used. Such accident can be avoided by the following preventive measures :-

- i. Wear suitable PPE such as gloves, goggles, etc...
- ii. Keep maintain the tools/equipment in good condition by periodical checking and checking before use.
- iii. Protection cover of the tools, e.g. electric saw blade protection cover etc., should not be removed.
- iv. Proper posture for manual lifting of heavy material.
- v. Confirm ground condition around your steps before commence activities.
- vi. No Manual work/ material stockpile is allowed within 1.0m from the excavation edges.

6. Prevention of Accident due to Interface with Other Contractor

Other Contractor will commence work after handing over of the completed lot(s) for the tenant owner(s) to build his Warehouses, Factories etc...

Close coordination shall be made with the Other Contractor for the Activities to be carried out at Interface Area to avoid any Accident as well as for smooth progress.

Matters of Coordination shall include but not limited to the followings:-

- Activity Schedule
- Location of Entrances / Exits
- Location of Hoarding
- Any activities to be carried out outside his Hoarding
- Activities which may cause hazard to other party such as Crane Lifting



Safety Accident Prevention Plan

activity near the interface.

- Material/Equipment Delivery Schedule

7. Prevention of Accident during Lifting Activities

Lifting activities may be required in the project. Use of crane or any other lifting equipment) shall require extreme attention to the followings in order to prevent the Accident during Lifting activities.

- i. Crane (or any other lifting equipment) shall be maintained in good condition. Responsible Mechanic shall thoroughly check the lifting equipment before use.
- ii. All Outriggers shall be fully extended while lifting.
- iii. Steel Plates or equivalent material shall be placed under the outriggers.
- iv. Operator shall have valid license to operate the lifting equipment.
- v. Signal-man shall be designated for the lifting activities. Crane operator shall follow only the designated signal-man's signal.
- vi. Signal-man and Rigger man shall equipped with whistle all the time and use whenever necessary to alert other people while lifting.
- vii. Supervisor in charge shall be full time on site to look after the lifting activities.
- viii. Rigger men shall be well trained so as to lift the material properly without dropping while lifting.
- ix. No person shall be allowed to stay under the lifted material.
- x. Lifting gear such as lifting wires, lifting hooks, shackles etc... shall be checked by competent person before use. Competent person means supervisor, engineer and safety officer.
- xi. Any damaged lifting gear shall be disposed off site in order not to mistakenly use it.
- xii. Weight of material to be lifted shall be checked against the lifting capacity of the lifting equipment.
- xiii. Crane shall be equipped with the over-loading limit switch/indicator to avoid lifting with over loading which may lead to the toppling of the crane.
- xiv. Crane shall be equipped with the over-winding limit switch to safeguard the miss-operation during lifting.



Safety Accident Prevention Plan

8. Electrical Accident Prevention

Accidents involving electricity are common-place and can be somewhat easily prevented. There is one way to prevent accidents from any causes of electrical accident and that's protection from the electrical hazard. Protection can be found in four different methods:

1. Eliminate ground fault electric shock hazards:

This is usually done by either Ground Fault Circuit Interrupters (GFCIs) or an assured equipment grounding conductor program. Devices that protect circuits are fuses, circuit breakers or GFCIs. They function by limiting or cutting off the flow of electricity when a short circuit, overload or ground fault occurs in a wiring system. They also help to prevent accidents by protecting conductors and equipment by preventing overheating of equipment and wiring.

2. Proper Insulation.

Insulation that can prevent electrical accidents can come in several forms and employees should check each day that it's in good working order. This is as simple as checking for exposed wires or scuffed or cut insulation on the cords or equipment and extension cords. Employees can be further protected by wearing non-conducting, insulated shoes and gloves, as well as using hand tools that have handles with nonconductive coatings.

3. Guarding.

To help prevent accidental shocks, any live electrical components operating at 50 or more volts must be guarded with covers or other permanent barriers. These are in place to prevent contact by workers and their tools. Signs forbidding entry of unqualified employees must be place at the entrance of any area with live electrical parts.

4. Grounding.

It's required to ensure your employees are protected from electric shock, minimize the likelihood of fire and protect against damage to electrical

Safety Accident Prevention Plan

equipment. Grounding can be done in two ways:

- i. System or Service Ground- this is used to protect machines, tools and insulation. There's one wire, the neutral ground, which is grounded.
- ii. Equipment Ground- this is used to protect the operator. This type provides a path for current from a piece of equipment (tool or machine) to the ground.

9. Electrical Accident Prevention

Housekeeping

- Combustibles shall be kept to a minimum.
- Combustible trash shall be removed on regular schedule.
- Oily rags shall be kept in metal containers with lids.

Smoking

- Smoking areas shall be free of combustibles.
- Adequate cigarette disposal shall be provided in smoking areas.

Electrical

- Extension cords shall not be used in place of permanent wiring.
- Electrical lights shall be clear of combustible materials.
- Circuits shall not be overloaded with multiple appliances.
- Combustibles shall not be stored in front of electrical panels.

Heating

- Heating units shall have ample clearance for combustibles.

Fire Protection

- Fire hydrant access shall be clear and unobstructed.
- Fire extinguishers accessible and visible; access shall not be blocked and location marked.
- Fire extinguishers shall be checked monthly.
- Fire alarm pull stations shall be visible.

Exits

- All emergency exits shall be clear.
- Fire exits shall be adequately marked.
- Fire drills shall be performed.
- Evacuation plan and staging area shall be posted.



ATTACHMENT-5 : Emergency Response Plan





Title: Emergency Response Plan

A. Roles & Responsibilities during emergency

1 OBSERVER

- Shout "Fire, Fire, Fire"
- Evacuate other people in the area
- Extinguish fire, if practical (incipient stage fire)
- Notify Supervisor / Safety Officer
- Proceed to muster area

2 SAFETY OFFICER (ERTL)

- Announce fire emergency on microphone
- If fire is not under control notify Fire force by telephone (191)
- Evacuate other people in the area
- Extinguish fire, if practical (incipient stage fire)
- Proceed to muster Area
- Take control of coordination of fire fighting operations
- Send Fire Fighting team to location to assess situation
- Co-ordinate with fire fighting team leader and first aid team leader

3 ALL PERSONNEL

- Upon hearing the Announcement, stop working.
- Proceed to muster Area

4 FIRE TEAM LEADER

- Muster at Office Front Area
- Manage and direct fire fighting team members
- Report to ERTL about the situation regularly and follow his instructions
- Report to ERTL when fire is under control/extinguished

5 FIRST AID TEAM LEADER

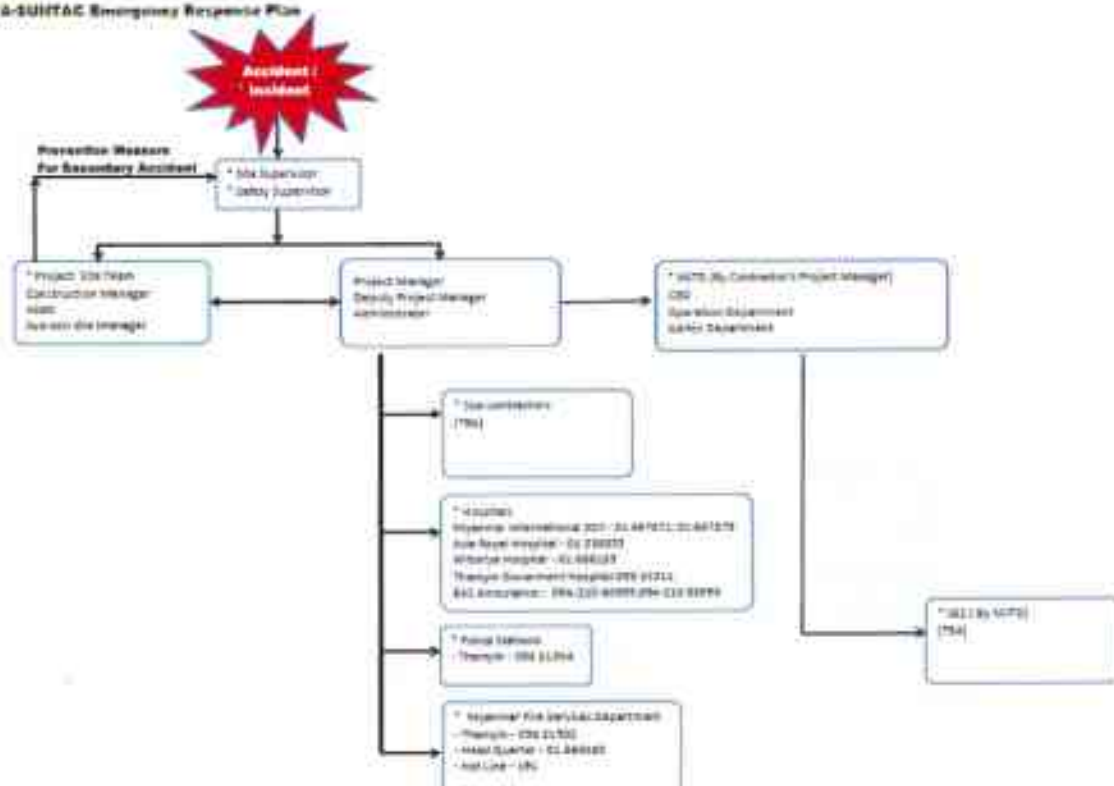
- Muster at Office Front Area
- Manage and direct the first aid team members
- Report to ERTL about the situation and follow his instructions



Title: Emergency Response Plan

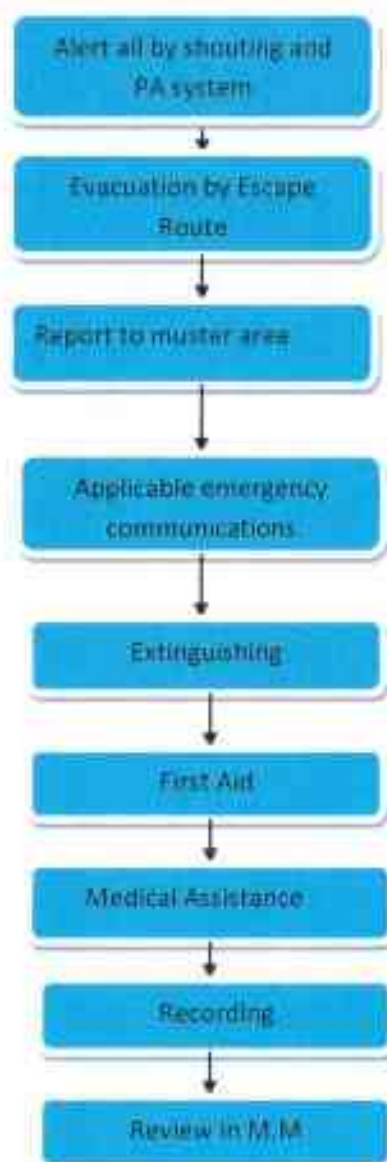
B. Emergency Responsibility Chart

PENTA-SUITAC Emergency Response Plan



Title: Emergency Response Plan

C. Activity Flow Chart





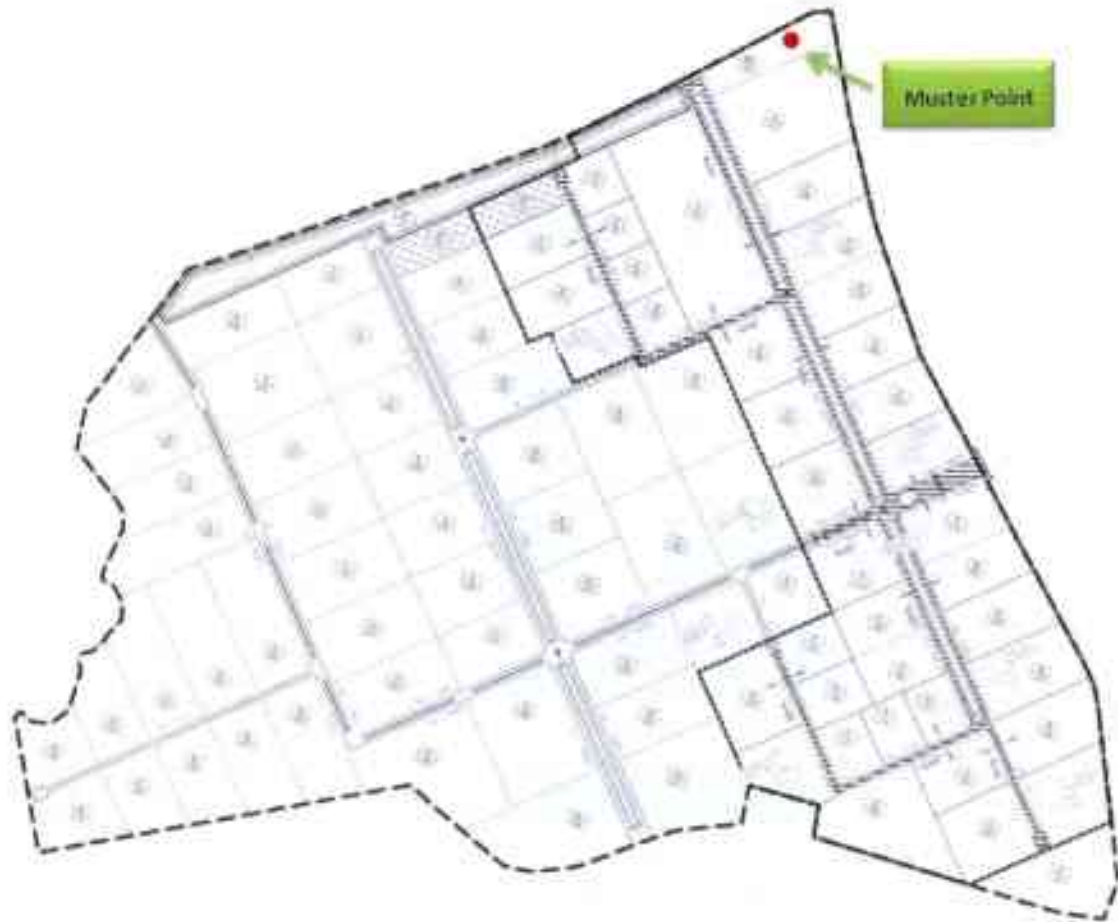
PENTATITAN
CONSTRUCTION CO., LTD.
2008

Penta-Ocean Construction Company Limited

SEZ Zone-B

Title: Emergency Response Plan

D. Site Lay Out Plan



Title: Emergency Response Plan**E. PPE and Fire Prevention & Extinguishing data****1. Personnel Protective Equipment (PPE):**

There are several types of personal protective equipments, which must be worn by personnel as and when required. Absence or improper use of personal protective equipment may place an individual's life in danger.

a) Safety Helmets/Hard hats :

All the personnel must wear a safety helmet/hard hat for protection of their head against any falling object or striking against, while they are outside their living quarters. These safety helmets should not have any stickers on any side. A florescent tape should be affixed on the backside of the helmet. A strap should be there attached to the safety helmet to protect it from falling when person is working at height.

b) Reflective vest/ Attire

All personnel must wear reflective vest while they are outside of the working area and can be recognized easily from away. Proper working attire must be worn for protection of overall body against any dust, dirt or any striking objects.

c) Safety Shoes :

Every person outside the working area to ensure his foot safely against any falling object or any striking against must wear safety shoes.

d) Safety glass/Goggle:

All personnel, while working as mentioned below, must wear safety goggles. Welders should wear a welding helmet for protection of their eyes against the radiations produced during the welding and also for protecting their face against any flying object, which may produce carrying out his job.

Gas Cutter should wear a safety goggle having black glasses only to protect his eyes against the hot flame while carrying out a gas cutting job.

Grinders should wear a plain safety goggle with a mesh at both ends to protect his eyes against the flying sparks/objects while doing grinding work.



Penta-Ocean Construction Company Limited

SEZ Zone-B

Title: Emergency Response Plan

e) Safety Hand Gloves:

All personnel engaged in jobs like rigging, material handling, any type of hot work etc., should wear a proper type of hand gloves for protecting their handed (palm area) against any injury. There are various types of the same and vary according to the nature of work. Persons involved in material handling, rigging etc., work must wear cotton hand gloves. Persons engaged in hot jobs like grinding, gas cutting, welding etc., should wear a pair of leather hand gloves for the safety of their hands.

f) Safety Masks:

Like hand gloves, there are several types of safety masks also which must be worn according to the nature of work. Ordinary cotton nose masks should be worn by grinders, housekeepers etc., to avoid entry of any fine particles or dust in their nose. Special type of anti gas masks, SCUBA set must be worn by the personnel carrying out their work in a gas leakage area. Confined space (for go inside vessels) personnel involved in operations like painting etc., should also wear a proper type of mask.

In case of confined space entry, a SCABA set must be worn by personnel entering inside. The same should be done only after checking the percentage of oxygen inside



a confined space vessel.

g) Earplugs / Ear muffs:

Earplugs or earmuffs must be worn by all personnel working in a high noise area. No person should be employed against a noise level of 90 decibel for a period of more than 8 hrs.

h) Safety harness:

Every personnel working at a height more than 2 mtrs must wear a safety harness. A safety harness, after wearing must be tightened to a fixed structure, which should bear the weight of a person in case of collapse, if any. An individual must wear a safety harness where there is a requirement of working on scaffolding or staging.





Title: Emergency Response Plan

2. Fire Prevention & Extinguishing data:

A FIRE is an exothermic chemical reaction between fuel (burning material) and oxygen in presence of heat energy.

To extinguish a fire, one has to cut anyone Parameter from the mentioned above i.e. fuel (burning material)/Oxygen or heat.

Following ways can do the same.

- ❖ Cooling i.e. removal of heat.
- ❖ Smothering i.e. removal of oxygen supply.
- ❖ Starvation i.e. removal of fuel supply.
- ❖ Breaking of chain reaction.

2.1 Classes of FIRE & respective extinguishing media:

Class 'A'	Cloth, Paper Fires	Water
Class 'B'	Oil, Diesel, Petrol Fires	M.Foam, DCP
Class 'C'	Gaseous Fires	DCP, CO2
Class 'D'	Metal Fires	Special Dry Powder

Note: Electrical Fires can be fought by using DCP or CO2 fire fighting media.



Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

Dust Emission Prevention Plan

Dust Emission Prevention Plan

Dust and Emission Control / Prevention are crucial in the Project in order to safeguard the health of workers/staffs working on site as well as third parties against disease caused by air pollution. It is also important in order to protect the Earth from global warming.

As the project involves earthwork with large quantity (1Mil m³) in large area (66.44ha), transportation of earth with dump trucks are unavoidable. Movement of Dump Trucks would create a cloud of Dust on site without effective prevention plan. Movement of heavy equipment such as backhoes, dump trucks, rollers, bull dozers and graders would have potential impact to the air pollution.

As such, the following Dust Emission Preventive Measures shall be implemented throughout the project duration.

i. Water Spraying to the Vehicle Access

Water shall be sprayed on the site vehicle accesses effectively, especially where dump trucks uses. Sufficient numbers of Water Tank Truck with spraying devices shall be deployed fulltime on site to spray water on the accesses. Dump Trucks shall drive over the water-sprayed accesses as much as practical so as to minimize the dust creation.

ii. Speed Limit at Site Access

Speed of vehicle access shall be limited to 25km/hr so as to avoid excessive dust creation as well as to minimize the air pollution by the exhaust fumes.

iii. Stop Idling and Intensive Machineries Operation Campaign

In order to keep Healthy and Environmental Friendly Working Condition, the "Stop Idling & Intensive Machineries Operation Campaign" shall be conducted throughout the Project duration.

A) Stop Idling While No Operation

- Engine should be Turned Off when Stopping Machineries.

B) Stop Intensive Machineries Operation



Dust Emission Prevention Plan

- Do Not Race Engine unnecessarily. Gentle Driving always.

This Campaign applies to All the Machineries on site including but not limited to Backhoes, Bull Dozers, Dump Trucks, Motor Graders, Water Trucks, Rollers, Concrete Cars, Cranes, Generators, Air Compressors, Welding Machines etc...

iv. PPE against Dust & Emission

Proper Personal Protective Equipment (PPE) shall be worn any works which is subject to exposure to the Dust. PPE against dust & emission shall mean goggles and masks.

Eyes and mouth washing after work shall be encouraged to the workers.

v. Maintenance of Heavy Equipment

Heavy equipment such as backhoes, dump trucks, rollers, bull dozers and graders shall be maintained in good condition. Periodical checking of machineries/equipment shall be carried out by mechanic.

Any vehicle with black colored exhaust gas should stop working then mechanical checking/ repairing should be carried out as soon as possible.

Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

**Campaign Plan of Stop Idling &
Intensive Machineries Operation**

Campaign Plan of Stop Idling & Intensive Machineries Operation

Dust and Emission Control / Prevention are crucial in the Project in order to safeguard the health of workers/staffs working on site as well as third parties against disease caused by air pollution.

In order to keep Healthy and Environmental Friendly Working Condition, the "Stop Idling & Intensive Machineries Operation Campaign" shall be conducted throughout the Project duration.

A) Stop Idling While No Operation

- Engine should be Turned Off when Stopping Machineries.

B) Stop Intensive Machineries Operation

- Do Not Race Engine unnecessarily. Gentle Driving always.

This Campaign applies to All the Machineries on site including but not limited to Backhoes, Bull Dozers, Dump Trucks, Motor Graders, Water Trucks, Rollers, Concrete Cars, Cranes, Generators, Air Compressors, Welding Machines etc...

The Campaign shall take effect immediately till end of the Machineries use on site.

During Campaign period, the campaign poster enclosed under Appendix-1 shall be posted at office compound, rest sheds, smoking areas etc...

The campaign shall be notified from time to time to all the staffs and workers especially the machineries operators through the Morning Safety Gathering, Tool Box Meeting.

Any act infringing the above campaign spirits shall be ceased immediately and the person who breaches the campaign spirits shall be reeducated by the PSP Management Staff.



APPENDIX-1 : Campaign Poster of
"Stop Idling & Intensive Machineries Operation"



Stop Idling & Intensive Machineries Operation Campaign

To keep Healthy and Environmental Friendly Working Condition, the "Stop Idling & Intensive Machineries Operation Campaign" is Conducted with immediate effect till Completion of the Project

1. Stop Idling While No Operation

Engine should be Turned Off when Stopping Machineries.

2. Stop Intensive Machineries Operation

Do Not Race Engine unnecessarily.

Gentle Driving always.

3. This Campaign applies to All the Machineries on site including but not limited to Backhoes, Bull Dozers, Dump Trucks, Motor Graders, Water Trucks, Rollers, Concrete Cars, Cranes, Generators, Air Compressors, Welding Machines etc...



Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

Noise and Vibration Control Plan

Noise and Vibration Control Plan

As the project involves earthwork with large quantity (0.65 Mil m³) in large area (66.44ha), transportation of earth with dump trucks are unavoidable. Movement of Dump Trucks would create quite amount of noise on site without effective prevention plan.

Besides movement of machineries, most of the RC structure construction works also create noise. Therefore control of noise and vibration is crucial in the project for the welfare of public as well as all the employees.

As such, the following Dust Emission Preventive Measures shall be implemented throughout the project duration.

i. Working Hours

Any work activities near Monastery and residential area that are beyond normal working hours shall be notice or inform in advance. Work with potential to be audible to sensitive receivers require prior notice even withing working hour.

ii. Speed Limit at Site Access

Speed of vehicle access shall be limited to 25km/hr so as to avoid excessive dust creation as well as to minimize the noise that is produced by vehicles' engines.

iii. Maintenance of Heavy Equipment/ vehicle

Heavy equipment such as backhoes, dump trucks, rollers, bull dozers, graders as well as other vehicles such as motorbikes and cars shall be maintained in good condition. Periodical checking of machineries/equipment shall be carried out by mechanic.

Thilawa Special Economic Zone (Zone B)
Development Project –Phase 2

**Management of AIDS/HIV, Tuberculosis
and Cholera for Health and Safety**

Management of AIDS/HIV for Health and Safety

What is AIDS/HIV?

1. HIV

- Human Immunodeficiency Virus
- Breaks the Immune System
- HIV causes people to become sick with infections that normally would not affect them.

2. AIDS

- Acquired Immune Deficiency Syndrome
- Caused by HIV
- Advanced stage of HIV

What are Symptoms of AIDS/HIV?①

【HIV】

- Have symptoms as early as 2 weeks after exposure, or no symptoms at all.
- Flu like symptoms such as: headache, fever, tiredness, swollen lymph nodes, rash
- Also muscle and joint pain, sore throat, ulcers in mouth or genitals, night sweat, diarrhea etc.

What are Symptoms of AIDS/HIV②?

【AIDS】

In addition to symptoms of HIV,

- Cough and shortness of breath
- Seizures and lack of coordination
- Difficult or painful swallowing
- Mental symptoms such as confusion and forgetfulness
- Severe and persistent diarrhea
- Fever
- Vision loss
- Nausea, abdominal cramps, and vomiting
- Weight loss and extreme fatigue
- Severe headaches with neck stiffness
- Coma etc.

How to Get AIDS/HIV

- having vaginal or anal intercourse without a condom with someone who has HIV/AIDS
- sharing needles or syringes with someone who has HIV/AIDS
- being deeply punctured with a needle or surgical instrument contaminated with HIV
- getting HIV-infected blood, semen, or vaginal secretions into open wounds or sores
- Mother to Baby during giving birth or breastfeeding.

How to Prevent AIDS/HIV

- No Sex = Abstinence
- Have only one uninfected partner
- Use condoms etc. for protection
- Do not share needles
- Be sure to disinfect needles before use
- Do not share personal items that may have blood on them.

If you are unsure if you have AIDS/HIV or not, please get tested.

AIDS / HIV ၏ အဓိပ္ပါယ်

1. HIV

- ခန္ဓာကိုယ် ကိုယ်ခံအားချို့တဲ့စေသောပိုး
- ခန္ဓာကိုယ် ခုခံအားစနစ်ကိုချိုးဖျက်မှု
- HIV ကူးစက်ခံရလျှင် သာမန်အားဖြင့် သက်ရောက်မှုမရှိနိုင်သော ရောဂါများ ကူးစက်ခံရပြီး ၎င်းရောဂါများကြောင့် နေထိုင်မကောင်းမှုများ ဖြစ်စေသည်။

2. AIDS

- ကိုယ်ခံအားလျော့နည်းကျဆင်းသောရောဂါ
- HIV ပိုးကြောင့်ဖြစ်စေသည်။
- HIV ရောဂါ၏ နောက်တဆင့် အခြေအနေ ဖြစ်သည်။

AIDS / HIV ၏ လက္ခဏာများ

HIV

- ရောဂါလက္ခဏာများ စတင်ပေါ်ပေါက်ချိန်မှာ ရောဂါကူးစက်ပြီး (၂)ပတ်ကြာလျှင်တွေ့ရှိနိုင်ပြီး (သို့မဟုတ်) ရောဂါလက္ခဏာ ပြသခြင်းမရှိသည့် အခြေအနေလည်း ဖြစ်နိုင်သည်။
- တုပ်ကွေးရောဂါလက္ခဏာကဲ့သို့သော ခေါင်းကိုက်ခြင်း၊ ဖျားနာခြင်း၊ မောပန်းနွမ်းနယ်ခြင်း၊ အာသီးရောင် အကြိတ်ရောင်ခြင်း၊ ခန္ဓာကိုယ်အဖုအပိန့်ထွက်ခြင်း၊ ဆောက်တည်ရာမရဖြစ်ခြင်း၊
- အကြောအဆစ်နာကျင်ကိုက်ခဲခြင်း၊ လည်ချောင်းနာ၊ ပါးစပ်နှင့် လိင်အင်္ဂါများတွင် ပြည်တည်နာများပေါက်ခြင်း၊ ညအိပ်လျှင်ချွေးထွက်များခြင်း၊ ဝမ်းလျှောဝမ်းပျက်ဖြစ်ခြင်း။

AIDS

- ချောင်းဆိုးခြင်း၊ အသက်ရှူကျပ်ခြင်း၊
- ဝက်ရူးပြန်ခြင်း၊ တက်ခြင်းနှင့် ဆောက်တည်ရာမရဖြစ်ခြင်း၊
- အစားအစာမျိုးမျိုးသုံးရာတွင် ခက်ခဲခြင်း၊ နာကျင်ခြင်း၊
- စိတ်ပိုင်းဆိုင်ရာ ရုတ်တရက်ပြောင်းလဲခြင်း၊ မေ့လျော့ခြင်း၊
- ဆိုးရွားပြီးတာရှည်သော ဝမ်းပျက်ခြင်း၊ ဝမ်းလျှော့ခြင်း၊
- ဇူးနာခြင်း၊ အမြင်ကွယ်ခြင်း၊
- ပျို့ခြင်း၊ မအီမသာဖြစ်ခြင်း၊ ဝမ်းရိုက်အောင့်ခြင်း၊ အော့အန်ခြင်း၊
- ခန္ဓာကိုယ်အလေးချိန်ကျခြင်း၊ လွန်စွာမောပန်းနွမ်းနယ်ခြင်း၊
- ဆိုးရွားစွာ ခေါင်းကိုက်၍ လည်ပင်းတောင့်တင်းခြင်း၊
- သတိလစ်မေ့မြောခြင်းများ ဖြစ်နိုင်သည်။

AIDS / HIV ကူးစက်ပုံ

- HIV / AIDS ရှိသူနှင့် ကွန်ဒမ်း (CONDOM) မသုံးပဲ ဖိုမ (သို့) လိင်တူဆက်ဆံခြင်း၊
- HIV / AIDS ရှိသူနှင့် ဆေးထိုးအပ် ဝေမျှသုံးစွဲခြင်း၊
- HIV ပိုးရှိသော၊ ထိတွေ့ထားသော အပ် (သို့) ခွဲစိတ်ခန်းသုံး ပစ္စည်းများဖြင့် ထိုးမိ ထိခိုက်မိပေါက်ပြဲခြင်း၊
- HIV ပိုးရှိသော သွေး၊ သုတ်ရည် (သို့) အမျိုးသမီးအင်္ဂါမှ စိမ့်ထွက်ရည်များ၊ ဒဏ်ရာများ (သို့) အရေပြား၊ အသားတို့နှင့်ထိတွေ့မိခြင်း၊
- မိခင်မှ သားသမီးသို့ မွေးဖွားခြင်း (သို့) နို့တိုက်ခြင်းဖြင့် ကူးစက်ခြင်း၊

AIDS / HIV ကာကွယ်တားဆီးပုံ

- လိင်ဆက်ဆံမှု မပြုခြင်း၊ ရှောင်ရှားခြင်း၊
- လိင်ဆက်ဆံမှုပြုပါက ရောဂါပိုးမရှိသော မိမိ၏ အဖော်တစ်ဦးတည်းနှင့်သာ ဆက်ဆံသင့်သည်။
- ကာကွယ်ရန် ကွန်ဒုံး (CONDOM) etc., အသုံးပြုရမည်။
- ဆေးထိုးအပ်များ ဝေငှမသုံးရ။
- ပိုးသတ်ထားသော ပိုးကင်းသောတခါသုံးအပ် များကိုသာသုံးရမည်။
- ခန္ဓာကိုယ်မှ သွေးထိတွေ့နေသော (သို့) ထိတွေ့ထားသော ပစ္စည်းများကို ဝေငှ၊ ငှားရမ်းမသုံးရ။

သင်ကိုယ်တိုင် AIDS / HIV ပိုးရှိ၊ မရှိ မသေချာပါက စစ်ဆေးမှုများကို ပြုလုပ်ဆောင်ရွက်ပါ။

Management of Tuberculosis and Cholera for Health and Safety

What is Tuberculosis?

- It is an infectious disease that usually affects the lungs.
- Compared with other diseases caused by single infectious agent, it is the second biggest killer, globally.
- TB germs are mostly found in the lungs and when you have TB disease of the lungs, you can spread it to other people.

How are the germs spread?

- TB germs are passed through the air when a person with TB disease coughs, speaks or sneezes.
- To become infected with TB germs, a person usually needs to share air space with someone sick with TB disease. (e.g., live, work, or play together).
- In most cases, your body is able to fight off the germs.



What are the Symptoms?

- Cough (2-3 weeks or more)
- Coughing up blood
- Chills
- Fatigue
- Fever
- Loss of weight
- Loss of appetite
- Night Sweats

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How to Prevent?

- Regular health screening (e.g., chest X-ray)
- Do not interact with a person who is suspected with TB.
- Always maintain good ventilation if you are staying in a room with many people.
- Maintain good immune system by eating and living healthy.

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What is Cholera?

- Cholera is an infectious diseases that causes severe watery diarrhea.
- Is can lead to dehydration and even death if untreated.
- It is cause by eating food or drinking water contaminated with *Vibrio Cholerae* bacterium.
- The disease is most common in places with poor sanitation.

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What are the causes?

- Poor sanitation and hygiene.
- Eating raw or not completely cooked food.
- Contaminated water source.
- In situations where sanitation is severely challenged such as in refugee camps or communities with highly limited water resources.

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What are the Symptoms?

- Large volumes of watery diarrhea
- Vomiting
- Leg cramps
- Sever dehydration caused by losing of losing of fluids.

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How to prevent?

- Make sure water is bottled or boiled and safe to use.
- Ensure food is thoroughly cooked
- Avoid eating raw or street food that can carry cholera and other diseases.

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လုပ်ငန်းခွင် ဘေးအန္တရာယ် ကင်းရှင်းကျန်းမာရေးအတွက် တိဘီရောဂါနှင့် ကာလဝမ်းရောဂါ စီမံ ခန့်ခွဲမှု

တိဘီရောဂါဆိုသည်မှာ?

- တိဘီရောဂါသည် ပုံမှန်အားဖြင့် အဆုတ်ကို ထိခိုက်စေသော ကူးစက် ရောဂါဖြစ်သည်။
- တစ်ခွတည်း ကူးစက်မှုကြောင့်ဖြစ်ရသော ရောဂါများနှင့် နှိုင်းယှဉ်လျှင် တိဘီရောဂါသည် တစ်ကမ္ဘာလုံးတွင် ဒုတိယအကြီးဆုံး လူသတ်သမားဖြစ်သည်။
- တိဘီပိုးမွှားများကို အဆုတ်ထဲတွင် အများအားဖြင့် တွေ့ရှိရပြီး အဆုတ်တွင် တိဘီရောဂါရှိပါက အခြားသူများသို့ ကူးစက်ပျံ့နှံ့နိုင်သည်။

တီဘီရောဂါ ပိုးမွှားများ ဘယ်လို ကူးစက်ပျံ့နှံ့ သလဲ?

- တီဘီရောဂါရှိသူတစ်ဦး ချောင်းဆိုးသောအခါ စကားပြောသောအခါ (သို့) နာချေသောအခါတွင် တီဘီပိုးမွှားများ လေထဲသို့ ရောက်ရှိ ပျံ့နှံ့သွားကြသည်။
- တီဘီရောဂါပိုးရှိသူနှင့်အတူ လေထုတစ်ခုတည်းတွင်ရှိပါက တီဘီရောဂါပိုး ကူးစက်နိုင်သည်။ (ဥပမာ - အတူနေထိုင်ခြင်း၊ အတူအလုပ်လုပ်ခြင်း (သို့) ဆော့ကစားခြင်း)
- အများအားဖြင့် သင့်ခန္ဓာကိုယ်သည် တီဘီပိုးမွှားများကို တိုက်ထုတ်နိုင်စွမ်းရှိသည်။

တီဘီရောဂါ လက္ခဏာများ

- ချောင်းဆိုးခြင်း (၂-၃ ပတ်ထက်ကြာမြင့်ခြင်း)
- ချောင်းဆိုးလျှင် သွေးပါခြင်း
- ချမ်းတုန်ခြင်း
- မောပန်းခြင်း
- အဖျားတက်ခြင်း
- ခန္ဓာကိုယ် အလေးချိန် လျော့နည်းလာခြင်း
- အစာစားချင်စိတ်မရှိခြင်း
- ညဘက်တွင် ချွေစေးများထွက်ခြင်း

ဘယ်လို ကာကွယ်မလဲ ?

- ပုံမှန် ကျန်းမာရေး စစ်ဆေးခြင်း (ဥပမာ- ဓာတ်မှန်ရှိက်ခြင်း)
- တီဘီရောဂါ ရှိသူဟု ယူဆရသောသူနှင့် နီးကပ်စွာ ပေါင်းသင်း ဆက်ဆံခြင်း မပြုလုပ်ရန်။
- လူအများနှင့် အခန်းတစ်ခန်းတည်းတွင် နေထိုင်ရလျှင် လေပင်လေထွက် ကောင်းရန် ပြုလုပ်ရမည်။
- ကျန်းမာရေးနှင့် ညီညွတ်စွာ နေထိုင်စားသောက်ခြင်းဖြင့် ကောင်းမွန်သော ကိုယ်ခံစွမ်းအားစနစ်ကို ထိန်းသိမ်းရမည်။

ကာလဝမ်းရောဂါဆိုသည်မှာ?

- ကာလဝမ်းရောဂါဆိုသည်မှာ ပြင်းထန်စွာ ဝမ်းလျှောမှုဖြစ်သော ကူးစက်ရောဂါတစ်ခု ဖြစ်သည်။
- ကောင်းမွန်သော ကုသမှု မရှိပါက ရေဓာတ်ဆုံးရှုံးခြင်းနှင့် သေဆုံးမှု အထိပါ ဖြစ်စေနိုင်သော ရောဂါဖြစ်သည်။
- ကာလဝမ်းရောဂါသည် *Vibrio Cholerae* ဘက်တီးရီးယား ပါဝင်သော အစားအသောက် (သို့) ရေ တို့ အား စားသုံးခြင်းမှ ဖြစ်ပွားနိုင်သည်။
- ရောဂါကို မိလ္လာစနစ်သန့်ရှင်းမှု မရှိသော နေရာများတွင် အများဆုံးတွေ့ရသည်။

ရောဂါဖြစ်ပွားစေသော အရာများ

- မိလ္လာစနစ်နှင့် တစ်ကိုယ်ရည်သန့်ရှင်းမှု မရှိခြင်း။
- အစိမ်း (သို့) ကောင်းစွာ ချက်ပြုတ်မထားသော အစားအသောက်များကို စားသုံးခြင်း။
- ရောဂါပိုးပါဝင်သော ရေအရင်းအမြစ်ကို အသုံးပြုခြင်း။
- ဒုက္ခသည်စခန်း (သို့) ရေအရင်းအမြစ် လုံလောက်စွာမရှိသော လူမှုအသိုင်းအဝိုင်းကဲ့သို့သော မိလ္လာစနစ် ကောင်းစွာမပြုလုပ်နိုင်သော နေရာများ

ကာလဝမ်းရောဂါ လက္ခဏာများ

- ရေကြို ဝမ်းလျောမှု ဆက်တိုက်ဖြစ်ပွားခြင်း။
- အော့အန်ခြင်း။
- ကြွက်တက်ခြင်း။
- အရည်များ ဆုံးရှုံးမှုကြောင့် ပြင်းထန်သော ရေဓာတ်ဆုံးရှုံးမှုဖြစ်ခြင်း။

ဘယ်လို ကာကွယ်မလဲ?

- သောက်သုံးရေများသည် သန့်စင်ပြီးသော (သို့) ကြိုချက်ထားသော (သို့) သောက်သုံးရန် စိတ်ချရသောရေ ဖြစ်ရန် လိုအပ်သည်။
- အစားအသောက်များကို ကျက်အောင် ကောင်းမွန်စွာ ချက်ပြုတ်ရန် လိုအပ်သည်။
- ကာလဝမ်းရောဂါနှင့် အခြားရောဂါများ ပါဝင်နိုင်သော အစားအစာများကို အစိမ်းစားခြင်း (သို့) လမ်းဘေး ယင်နားစာများစားခြင်းကို ရှောင်ကြဉ်ရမည်။

Health Management Plan by the Contractor

- Promote health education by conducting infectious disease awareness talk to all the employees with demonstration.
- Provide signage or handouts on the information and preventive measures of infectious diseases.
- Provide medical staff on-site as surveillance for the health of staffs and workers.
- Provide treatment services such as onsite clinic with basic medication for all the employees as well as nearby residences.
- Provide clean and fresh water supply on-site to all the employees.
- Provide pest control service around site office and storage area to eliminate larval and adult propagation.
- Promote immunization by conducting talks on importance of sanitation.

Management of Tuberculosis and Cholera for Health and Safety

Thailand SEZ Zone B Development Project

1

What is Tuberculosis?

- It is an infectious disease that usually affects the lungs.
- Compared with other diseases caused by single infectious agent, it is the second biggest killer, globally.
- TB germs are mostly found in the lungs and when you have TB disease of the lungs, you can spread it to other people.

Thailand SEZ Zone E Development Project

2

How are the germs spread?

- TB germs are passed through the air when a person with TB disease coughs, speaks or sneezes.
- To become infected with TB germs, a person usually needs to share air space with someone sick with TB disease. (e.g., live, work, or play together).
- In most cases, your body is able to fight off the germs.

What are the Symptoms?

- Cough (2-3 weeks or more)
- Coughing up blood
- Chills
- Fatigue
- Fever
- Loss of weight
- Loss of appetite
- Night Sweats

How to Prevent?

- Regular health screening (e.g., chest X-ray)
- Do not interact with a person who is suspected with TB.
- Always maintain good ventilation if you are staying in a room with many people.
- Maintain good immune system by eating and living healthy.

Thailand SEZ Zone B Development Project

5

What is Cholera?

- Cholera is an infectious diseases that causes severe watery diarrhea.
- Is can lead to dehydration and even death if untreated.
- It is cause by eating food or drinking water contaminated with *Vibrio Cholerae* bacterium.
- The disease is most common in places with poor sanitation.



Thailand SEZ Zone B Development Project

6

What are the causes?

- Poor sanitation and hygiene.
- Eating raw or not completely cooked food.
- Contaminated water source.
- In situations where sanitation is severely challenged such as in refugee camps or communities with highly limited water resources.

Thilawa SEZ Zone B Development Project

7

What are the Symptoms?

- Large volumes of watery diarrhea
- Vomiting
- Leg cramps
- Severe dehydration caused by losing of fluids.

Thilawa SEZ Zone B Development Project

8

How to prevent?

- Make sure water is bottled or boiled and safe to use.
- Ensure food is thoroughly cooked
- Avoid eating raw or street food that can carry cholera and other diseases.

Thilawa SEZ Zone B Development Project

9

လုပ်ငန်းခွင် ဘေးအန္တရာယ် ကင်းရှင်းကျန်းမာရေးအတွက်
တိတိရောဂါနှင့် ကာလဝမ်းရောဂါ စီမံ ခန့်ခွဲမှု

တီဘီရောဂါဆိုသည်မှာ?

- တီဘီရောဂါသည် ပုံမှန်အားဖြင့် အဆုတ်ကို ထိခိုက်စေသော ကူးစက် ရောဂါဖြစ်သည်။
- တစ်ခွတည်း ကူးစက်မှုကြောင့်ဖြစ်ရသော ရောဂါများနှင့် နှိုင်းယှဉ်လျှင် တီဘီရောဂါသည် တစ်ကမ္ဘာလုံးတွင် ဒုတိယအကြီးဆုံး လူသတ်သမားဖြစ်သည်။
- တီဘီပိုးမွှားများကို အဆုတ်ထဲတွင် အများအားဖြင့် တွေ့ရှိရပြီး အဆုတ်တွင် တီဘီရောဂါရှိပါက အခြားသူများသို့ ကူးစက်ပျံ့နှံ့နိုင်သည်။

တီဘီရောဂါ ပိုးမွှားများ ဘယ်လို ကူးစက်ပျံ့နှံ့ သလဲ?

- တီဘီရောဂါရှိသူတစ်ဦး ချောင်းဆိုးသောအခါ စကားပြောသောအခါ (သို့) နှာချေသောအခါတွင် တီဘီပိုးမွှားများ လေထဲသို့ ရောက်ရှိ ပျံ့နှံ့သွားကြသည်။
- တီဘီရောဂါပိုးရှိသူနှင့်အတူ လေထုတစ်ခွတည်းတွင်ရှိပါက တီဘီရောဂါပိုး ကူးစက်နိုင်သည်။ (ဥပမာ - အတူနေထိုင်ခြင်း၊ အတူအလုပ်လုပ်ခြင်း (သို့) ဆော့ကစားခြင်း)
- အများအားဖြင့် သင့်ခန္ဓာကိုယ်သည် တီဘီပိုးမွှားများကို တိုက်ထုတ်နိုင်စွမ်းရှိသည်။

တီဘီရောဂါ လက္ခဏာများ

- ချောင်းဆိုးခြင်း (၂-၃ ပတ်ထက်ကြာမြင့်ခြင်း)
- ချောင်းဆိုးလျှင် သွေးပါခြင်း
- ချမ်းတုန်ခြင်း
- မောပန်းခြင်း
- အဖျားတက်ခြင်း
- ခန္ဓာကိုယ် အလေးချိန် လျော့နည်းလာခြင်း
- အစာစားချင်စိတ်မရှိခြင်း
- ညဘက်တွင် ချွေးစေးများထွက်ခြင်း

ဘယ်လို ကာကွယ်မလဲ ?

- ပုံမှန် ကျန်းမာရေး စစ်ဆေးခြင်း (ဥပမာ- ဓာတ်မှန်ရိုက်ခြင်း)
- တီဘီရောဂါ ရှိသူဟု ယူဆရသောသူနှင့် နီးကပ်စွာ ပေါင်းသင်း ဆက်ဆံခြင်း မပြုလုပ်ရန်။
- လူအများနှင့် အခန်းတစ်ခန်းတည်းတွင် နေထိုင်ရလျှင် လေပင်လေထွက် ကောင်းရန် ပြုလုပ်ရမည်။
- ကျန်းမာရေးနှင့် ညီညွတ်စွာ နေထိုင်စားသောက်ခြင်းဖြင့် ကောင်းမွန်သော ကိုယ်ခံစွမ်းအားစနစ်ကို ထိန်းသိမ်းရမည်။

ကာလဝမ်းရောဂါဆိုသည်မှာ?

- ကာလဝမ်းရောဂါဆိုသည်မှာ ပြင်းထန်စွာ ဝမ်းလျှောမှုဖြစ်သော ကူးစက်ရောဂါတစ်ခု ဖြစ်သည်။
- ကောင်းမွန်သော ကုသမှု မရှိပါက ရေဓာတ်ဆုံးရှုံးခြင်းနှင့် သေဆုံးမှု အထိပါ ဖြစ်စေနိုင်သော ရောဂါဖြစ်သည်။
- ကာလဝမ်းရောဂါသည် *Vibrio Cholerae* ဘက်တီးရီးယား ပါဝင်သော အစားအသောက် (သို့) ရေ တို့ အား စားသုံးခြင်းမှ ဖြစ်ပွားနိုင်သည်။
- ရောဂါကို မိလ္လာစနစ်သန့်ရှင်းမှု မရှိသော နေရာများတွင် အများဆုံးတွေ့ရသည်။

ရောဂါဖြစ်ပွားစေသော အရာများ

- မိလ္လာစနစ်နှင့် တစ်ကိုယ်ရည်သန့်ရှင်းမှု မရှိခြင်း။
- အစိမ်း (သို့) ကောင်းစွာ ချက်ပြုတ်မထားသော အစားအသောက်များကို စားသုံးခြင်း။
- ရောဂါပိုးပါဝင်သော ရေအရင်းအမြစ်ကို အသုံးပြုခြင်း။
- ဒုက္ခသည်စခန်း (သို့) ရေအရင်းအမြစ် လုံလောက်စွာမရှိသော လူမှုအသိုင်းအဝိုင်းကဲ့သို့သော မိလ္လာစနစ် ကောင်းစွာမပြုလုပ်နိုင်သော နေရာများ

ကာလဝမ်းရောဂါ လက္ခဏာများ

- ရေကြို ဝမ်းလျောမှု ဆက်တိုက်ဖြစ်ပွားခြင်း။
- အော့အန်ခြင်း။
- ကြွက်တက်ခြင်း။
- အရည်များ ဆုံးရှုံးမှုကြောင့် ပြင်းထန်သော ရေဓာတ်ဆုံးရှုံးမှုဖြစ်ခြင်း။

ဘယ်လို ကာကွယ်မလဲ?

- သောက်သုံးရေများသည် သန့်စင်ပြီးသော (သို့) ကြိုချက်ထားသော (သို့) သောက်သုံးရန် စိတ်ချရသောရေ ဖြစ်ရန် လိုအပ်သည်။
- အစားအသောက်များကို ကျက်အောင် ကောင်းမွန်စွာ ချက်ပြုတ်ရန် လိုအပ်သည်။
- ကာလဝမ်းရောဂါနှင့် အခြားရောဂါများ ပါဝင်နိုင်သော အစားအစာများကို အစိမ်းစားခြင်း (သို့) လမ်းဘေး ယင်နားစာများစားခြင်းကို ရှောင်ကြဉ်ရမည်။

Health Management Plan by the Contractor

- Promote health education by conducting infectious disease awareness talk to all the employees with demonstration.
- Provide signage or handouts on the information and preventive measures of infectious diseases.
- Provide medical staff on-site as surveillance for the health of staffs and workers.
- Provide treatment services such as onsite clinic with basic medication for all the employees as well as nearby residences.
- Provide clean and fresh water supply on-site to all the employees.
- Provide pest control service around site office and storage area to eliminate larval and adult propagation.
- Promote immunization by conducting talks on importance of sanitation.

End of Document

