

# Initial Environmental Examination (IEE) Report

For

## Collection, Transport, Treatment and Disposal of Sewage

Below is the IEE Report Checklist for Collection, Transport, Treatment and Disposal of Sewage. Read the questions carefully before answering in the space provided. Use additional sheets if necessary and indicate this in an appropriate space.

Misleading or erroneous answer are the basis for legal actions and/or denial of ECC

**PROJECT LOCATION:** (Complete Address: Street, Barangay, Municipality/City)

**San Juanico St., Ayala Alabang, Muntinlupa**

**NAME OF PROPONENT:** **Maynilad Water Services, Inc.**

**ADDRESS:** (Complete Address: Street, Barangay, Municipality/City)

**MWSS Compound, Katipunan Avenue, Barangay Balara, Quezon City**

### A. GENERAL INFORMATION

1. Project Ownership (attached document as Annex 1)  
Single Proprietorship \_\_\_\_\_ Partnership \_\_\_\_\_ Corporation \_\_\_\_\_  
Others: **Concession**
2. Capitalization & Project Cost
  - 2.a Capitalization: Authorized \_\_\_\_\_ paid up \_\_\_\_\_
  - 2.b Project Cost: **Php 51.098 Million**
3. Project Components
4. Project Site (Attach location and vicinity maps and photographs of front, left, right and rear views for project site as Annex 2 for Treatment and Disposal components only)
  - 4.a Land
    - 4.a.1 Total land area: **30,000 sq.m.**
    - 4.a.2 Land area to be occupied \_\_\_\_\_
    - 4.a.3 Is the area owned or leased **Covered by MOA and Deed of Donation**
      - 4.a.3.1 If leased, period covered **N/A**  
(Attach document, TCT as Annex 3)
    - 4.a.4 Access road construction  
(Attach right of way document)
  - 4.b Classification (attach locational clearance as Annex 4)  
Industrial \_\_\_\_\_ Residential  \_\_\_\_\_  
Commercial \_\_\_\_\_ Other, pls. Specify \_\_\_\_\_
5. Description of Project Phases
  - 5.a. Collection
    - 5.a.1. Manpower Requirement N/A
    - 5.a.2. Equipment to be used

Equipment	Quantity
N/A	N/A
N/A	N/A

Use additional sheet if necessary
    - 5.a.3. Completion time (From site to transport vehicle) N/A
  - 5.b. Transport
    - 5.b.1. Manpower Requirement N/A
    - 5.b.2. Equipment to be used

Equipment	Quantity
N/A	N/A

Use additional sheet if necessary

5.b.3. Completion time (truck to treatment/ disposal site) N/A

5.c. Treatment (Sewage Treatment Plant)

5.c.1. Pre-Operation Construction Phase

Activity	Timeframe
Plans/ Design	On-going (plans and designs are paralleled to the rehabilitation due to its design and build works)
Permits/ Clearances	July-August 2011 (except ECC)
Site Preparation and Clearing	July 2011
Excavation	July-August 2011
Civil Works	July-Decemeber 2011
Finishing	December 2011
Installation of equipment	December 2011
Commissioning and Start-Up	January 2012

Use additional sheets if necessary

5.c.2. Manpower requirement: 38

5.c.3. Facilities requirement

5.c.3.1. Water Supply

Source	Consumption/day
Local Water District	220 cu.m./day
Deepwell	N/A
Surface water	

5.c.3.2. Power Supply

Source of Power Supply	Consumption/day
Local Electric Utility	2,500 KWH/day
Generator	N.A.
Others (pls. specify)	

5.c.4. Operation Phase

5.c.4.1 Capacity of plant/day 10,000 cu.m./day

5.c.4.2. Process Flowchart (attach process flowchart)

5.c.4.3. Manpower Requirement 11

5.c.4.4. Other waste generated Dried Sludge

Type of waste	Source of waste	Volume of waste	Mode of disposal
Dried Sludge	Activated sludge	4 cu.m./day	Hauling by MAPECON, convert sludge to organic fertilizer by

			using the process of vermiculture/vermicast
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(Use additional Sheet if necessary)

5.c.4.5. Abandonment Phase

Facilities to be abandoned	Waste Generated	Restoration Plan
N/A	N/A	N/A
N/A	N/A	N/A

(Use additional Sheet if necessary)

5.d. Disposal (Landfill)

5.d.1. Pre-Operation Construction Phase

Activity	Timeframe
Plans/ Design	N/A
Permits/ Clearances	N/A
Site Preparation and Clearing	N/A
Excavation	N/A
Civil Works	N/A
Finishing	N/A
Installation of equipment	N/A
Commissioning and Start-Up	N/A

Use additional sheets if necessary

5.d.2. Manpower requirement:     N/A    

5.d.3. Facilities requirement

5.d.3.1. Water Supply

Source	Consumption/day
Local Water District	N/A
Deepwell	N/A
Surface water	N/A

5.d.3.2. Power Supply

Source of Power Supply	Consumption/day
Local Electric Utility	N/A
Generator	N/A
Others (pls. specify)	

5.d.4. Operation Phase

5.d.4.1 Capacity of plant/day \_\_\_\_\_

5.d.4.2. Process Flowchart (attach process flowchart)

5.d.4.3. Manpower Requirement \_\_\_\_\_

5.d.4.4. Other waste generated \_\_\_\_\_

Type of waste	Source of waste	Volume of waste	Mode of disposal

(Use additional Sheet if necessary)

5.d.4.5. Abandonment Phase

Facilities to be abandoned	Waste Generated	Restoration Plan
N/A	N/A	N/A

(Use additional Sheet if necessary)

**B. DESCRIPTION OF ENVIRONMENTAL SETTING  
(For Treatment and Disposal Components Only)**

**1. Physical Environment**

- 1.a Description of Terrain (% slope)  
 Flat or level (0-3) ✓  
 Level to undulating (3-8) \_\_\_\_\_  
 Undulating to rolling (8-18) \_\_\_\_\_  
 Rolling to Moderately steep (18-30) \_\_\_\_\_  
 Moderately steep to steeply mountainous (30-50) \_\_\_\_\_  
 Very Steeply mountainous (above 50) \_\_\_\_\_
- 1.b Is the area erosion prone? None  
 If so, what is the status: slight \_\_\_\_\_ Moderate \_\_\_\_\_ Severe \_\_\_\_\_
- 1.c Are there existing natural hazards in the area, e.g. landslides, gullying, subsidence, etc.? NONE  
 If yes, please enumerate them \_\_\_\_\_
- 1.d Is the site situated along a flood prone/storm surge area NO
- 1.e Is the project beside or near the shoreline? NO  
 if yes, how far? N/A
- 1.f Are there water bodies found inside or near the project site? NO  
 If yes, please enumerate them: N/A
- 1.g What is the quality of water?  
 Fresh ✓ Brackish \_\_\_\_\_ Saline/ Salty \_\_\_\_\_
- 1.h What is the quality of air?  
 Poor \_\_\_\_\_ Fair ✓ Good \_\_\_\_\_

**2. Biological Environment**

- 2.a Is the project immediately adjacent to a natural ecosystem? NO  
 If yes, please check :  
 Forest \_\_\_\_\_ Coastal/ Marine \_\_\_\_\_ Marshland \_\_\_\_\_  
 Grassland \_\_\_\_\_ Mangrove \_\_\_\_\_ Wetland \_\_\_\_\_  
 Others, please specify \_\_\_\_\_
- 2.b Are there any wildlife in the area? NO  
 If yes, please identify and enumerate: N/A
- 2.c Are there trees within the project site? YES  
 If yes, please identify and enumerate: Mahogany, Banaba, Eucalyptus, Indian Trees and fruit-bearing trees
- 2.d Is there other vegetation within the project site?  
 If yes, please identify and enumerate: Banana trees and other garden plants

**3. Socio- Economic Environment**

- 3.a Total household to be affected? NONE Families  
 What will happen to them? N/A
- 3.b Will you employ vulnerable groups? N/A Children N/A Handicapped N/A

- 3.c Are there health facilities within the project site. NONE
- 3.d Are there required benefits under the labor code and other regulations to be enjoyed by the staff? YES  
 If yes, please enumerate: Distressed Pay / Health Card
- 3.e Are the local inhabitants to be benefited by the project? YES  
 Please elaborate Reduce environmental pollution, improved sanitation services and lessen health hazards from wastewater.
- 3.f Are the cultural norm/ morals and lifestyle of the local inhabitants to be affected by the project? NO  
 Please elaborate N/A
- 3.g. Are there oppositions on the project? NONE  
 (Attach document to support the answer as Annex 6)

**4. Project Impacts**

4.a For Collection, and Transport

Components/ Parameters	Answer		Describe Impacts	Describe your Mitigating/ Enhancement Measures
	Yes	No		
Will it affect ambient air quality in the area			N/A	N/A
Will the collection/transport process distract on-going activities in the immediate vicinity?			N/A	N/A
Will the collected sewage immediately proceed to the treatment or disposal area?			N/A	N/A
Will the equipment used be immediately cleaned after the respective activities?			N/A	N/A

(Use Additional Sheets If Necessary)

4.b For Treatment and Disposal

1. Pre- Construction / Construction Details				
Components/ Parameters	ANSWERS		Describe the impacts	Describe your Mitigating /Enhancement Measures
	Yes	No		
Is there land clearing	✓		Clearing of vegetation will affect the site's biodiversity. (-) Soil inhabiting plant may also be temporarily disturbed. (-)	Clearing activities will be confined in the project site. Vegetation is sparse thus clearing will not result to significant loss of biodiversity or reduction of carbon sink. Maintenance of vegetation buffer around the site.
Is there vegetation clearing	✓		Clearing of vegetation will affect the site's biodiversity. (-) Soil inhabiting plant may also be temporarily disturbed. (-)	Clearing activities will be confined in the project site. Vegetation is sparse thus clearing will not result to significant loss of biodiversity or reduction of carbon sink. Maintenance of vegetation buffer around the site.
Is there tree cutting		✓		
Is there topsoil removal/replacement?		✓		
Is there excavation works and cut & fill activities?	✓		Open excavation may caused accidents. (-)	Use of PPEs as well as informative warning signages at the worksite will be stricly enforced.  Steel plates cover and barricades will be provided to open excavation during non working hours.
Is there other earth moving activities		✓		
Is there stock piling of sand gravel material in the site?	✓		Stock piling of gravel and sand can caused accidents	Construction materials will be stock piled at designated area.  Good housekeeping will be maintained
Is there drilling,boring, & hammering activities?	✓		Noise will be generated from the drilling, hammering	Careful programming of works. Provision of mufflers

			activities, delivery trucks and engine of equipments. (-)	or noise shield for vehicles / equipments.  Housing of genset, if necessary. Maintenance of vegetation buffer around the project site Provision of perimeter fence made of concrete at a height way above the source of the sound will impair, obstruct and lessen sound transmission, obstruct and lessen sound intensity at the adjoining residential area.
Is there any slope modification or ground leveling?		✓		
Is there increased traffic movement in the area?		✓		
Is the public/community access to/through the area affected?		✓		
Is there an increase economic activity in the area?		✓		
Is there increase in the availability of employment?	✓		Local job opportunities. (+)	Best effort at local hiring. Subcontractor to show proof of effort to consider qualified local hires before hiring outsiders.
Is there displacement of people in the area?		✓		
Is the displacement involve relocation of affected parties?		✓		

(use additional sheet if necessary)

2. Operation and Maintenance Phase				
Components/ Parameters	ANSWERS		Describe the impacts	Describe your Mitigating /Enhancement Measures
	Yes	No		
Will the project generate wastewater?	✓		Generation of domestic sewage.	Personnel and staff of the plant will be using sanitary facilities, which are mainly doing the routine personal washing and cleaning. Sewage to be generated is

2. Operation and Maintenance Phase				
Components/ Parameters	ANSWERS		Describe the impacts	Describe your Mitigating /Enhancement Measures
	Yes	No		
				expected to be low in strength and will be drained and sent to the aeration pond for treatment.
Is there an effect on the quality of the receiving body of water?	✓		Increased volume of wastewater discharged at the nearby creek/river but with improved quality complying the DAO 90-35. (+)	Regular maintenance of the treatment facility.  Water quality monitoring of the influent and effluent water including the quality of the upstream and downstream of the receiving body of water will be planned and monitored.
Is there an increase in surface run- off to other areas?		✓		
Is there increase in water demand?		✓		
Is there dust emission into the environment?	✓		Generation of dust and particulates during windy season brought by dried sludge.	Dust suppression measures will be employed as necessary during construction.  Watering of dust sources to minimize discomfort to nearby residents
Will it affect the ambient air quality of the area?	✓		Increased SO <sub>2</sub> and NO <sub>x</sub> emission from diesel/gasoline-run equipment and vehicle exhaust emission. (-)	Regular maintenance of equipment to ensure that these are working effectively. The area will be planted with plants and fast growing trees, those which emit mint scent such as eucalyptus, nim and gemilina to mask the odor Maintenance of vegetation buffer around the project site.  Air quality monitoring stations will be established within the

2. Operation and Maintenance Phase				
Components/ Parameters	ANSWERS		Describe the impacts	Describe your Mitigating /Enhancement Measures
	Yes	No		
				project site which will be regularly monitored.
Is there air pollution sources equipment to be installed?	✓		Emission of odor/smell. (-)	<p>Sewage will undergo continuous (24/7) biological (enzymes) treatment hence odor emission will pose less significant impact.</p> <p>Sludge drying beds will be enclosed with 3-meter concrete wall to confine odor emission.</p> <p>Gas detector equipment/ facility will be installed thus odor problem will be monitored and immediately acted upon.</p> <p>Air quality monitoring stations will be established within the project site. The area will be planted with plants and fast growing trees, those which emit mint scent such as eucalyptus, nim and gemilina to mask the odor. Maintenance of vegetation buffer around the project site.</p>
Are hazardous / Toxic waste to be improve in the environment?	✓		Discharged of treated wastewater. Increased volume of treated wastewater at the nearby creek/river will be improved complying the DAO 90-35. (+)	<p>Regular maintenance of the treatment facility.</p> <p>Water quality monitoring of the influent and effluent water including the quality of the upstream and downstream of the receiving body of water will be planned and monitored</p>
Is there any pollution complaint from the near		✓		

2. Operation and Maintenance Phase				
Components/ Parameters	ANSWERS		Describe the impacts	Describe your Mitigating /Enhancement Measures
	Yes	No		
by residents?				
Is there an increased in crime / security concern in the area?		✓		
Others please specify.				

(Use additional sheet if necessary)

3. Abandonment & Rehabilitation Phase				
Components/ Parameters	ANSWERS		Describe the impacts	Describe your Mitigating /Enhancement Measures
	Yes	No		
Will any of the facilities be abandoned or demolished after the project life?		✓		
Will any of the facilities need to be rehabilitated after a certain period of time?		✓		
Is there a generation of solid waste?	✓		Generation of office/domestic solid wastes. (-)	Strict observance of good and responsible housekeeping practices.
Is there an increase traffic movement in the area?		✓		
Is there an effect on the road system of the community		✓		
Is there an increase in the availability of employment?		✓		
Is there an increase in population from migration?		✓		
Is there an increase in land value?	✓		Improvement of sanitation services and provision of central sewerage system increases land value	Maintenance of the treatment and conveyance facilities.
Is there project structure affected or obstructs the view from adjacent areas?		✓		

Is there an increased in crime / security concern in the area?		✓		
Is there an increase in noise level in the area?		✓		

(Use additional sheet if necessary)

**Panoramic view of project site and its immediate vicinity**



**Front view of the project site**



Left side view of the project site



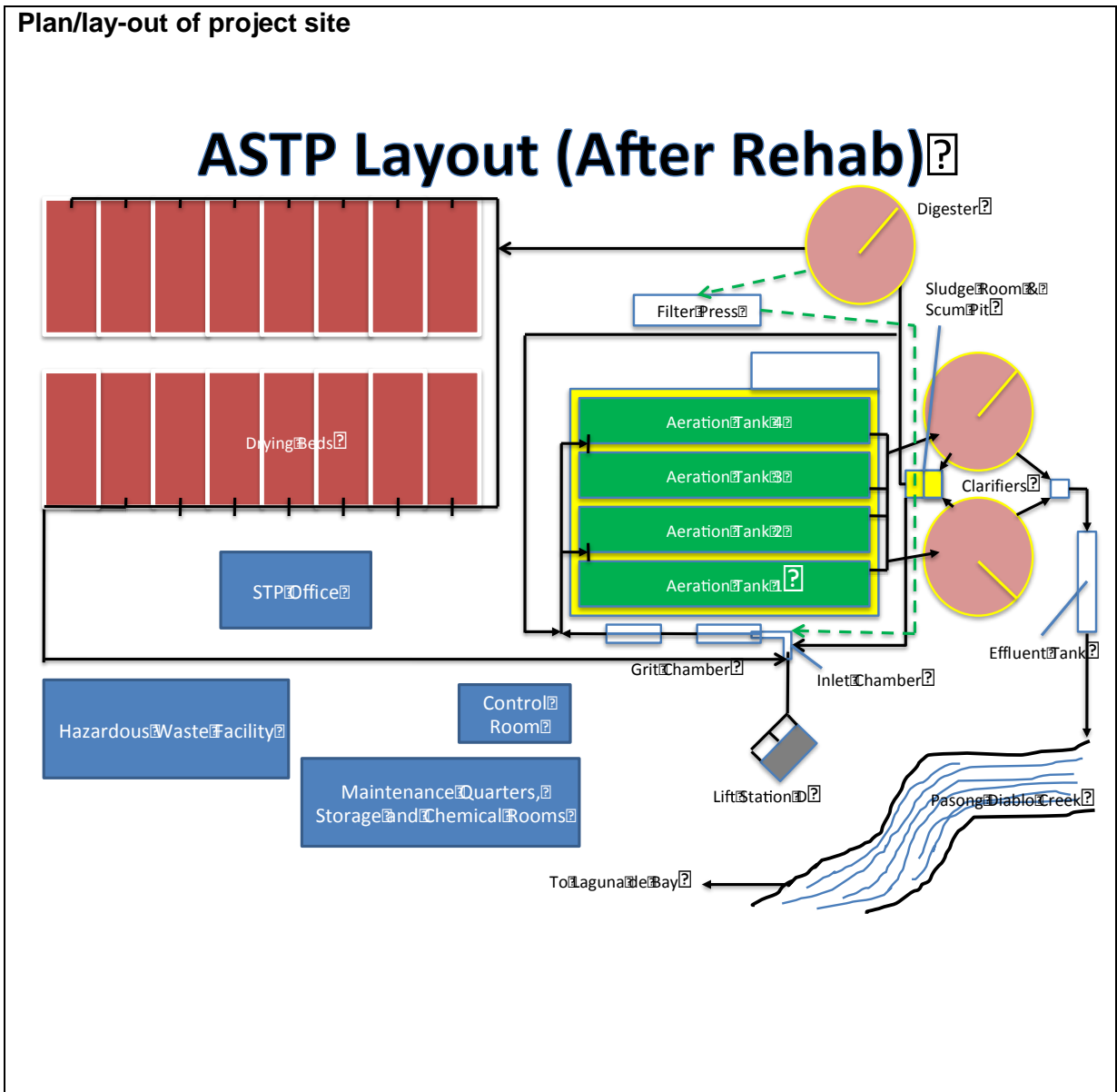
Right view of the project site



Back/rear view of the project site



Plan/lay-out of project site



**Attach drawing /plan of waste water treatment facilities (with dimensions and descriptions)**

SEE ATTACHED PLANS AND DRAWINGS

### ATTACHMENTS

1. Government Permits and Clearance (attach photocopies of documents)

PERMITS/CLEARANCES	ATTACHED?
Location Clearance / Certificate of Locational Viability	
DTI?SEC Registration	
Safety (Fire) Permit	
Municipal/Business Permit	
Other(s)	

DESCRIPTION	ATTACHED?
Transfer Certificate of the Title	
Map/delineation of primary & secondary impact areas	
Colored photo of the site (different perspectives)	
Construction schedule in chart form	
Endorsement from the LGU (Barangay Certificate)	
Environmental Management Plan/ Program	

**ACCOUNTABILITY STATEMENT**

This is to certify that all the information and commitments in the Initial Environmental Examination (IEE) Report are true, accurate and complete. Should I/we learn if any information, which would make the IEE inaccurate, I/we shall bring, said information to attention of the Environmental Management Bureau of DENR Regional Office.

I/We hereby bind myself/ourselves jointly and solidarity for any penalties that may be imposed arising from and misrepresentations or failure to state material information in the IEE.

**FRANCISCO A. ARELLANO**

Maynilad Water Services, Inc.

Project Proponent

Sr. Vice President

Title/Designation

November 11, 2011

Date

**ACKNOWLEDGMENT**

BEFORE ME this (day) \_\_\_\_\_ of \_\_\_\_\_ 19\_\_\_\_ at (place) \_\_\_\_\_, personality appeared name \_\_\_\_\_ with Community Tax Certificate No. \_\_\_\_\_ issued on date \_\_\_\_\_ At (place) \_\_\_\_\_, in his/her capacity as \_\_\_\_\_ (designation) at \_\_\_\_\_ and acknowledged to me that this IEE is his voluntary act and deed, and voluntary act and deed of the entity he/she represents. This document which consists of (no) \_\_\_\_\_ pages, including the page of which this acknowledgment, is an Initial environmental Examination Report Checklist.

Witness my hand and seal on the place and date above written.

\_\_\_\_\_  
Notary

Public

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Series of \_\_\_\_\_