

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)

P. Florentino St., Barangay Sto. Domingo, Quezon City

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 518 Million
3. Project Components
 - 15,500 cum/day capacity Sewage Treatment Plant
 - Pumping stations
 - Manhole pumps
 - Force main pipes
 - Interceptors
 - Conveyance manholes
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: 1,840.70 sq.m.
 - 4.a.2 Land area to be occupied _____
 - 4.a.3 Is the area owned or leased Covered by Contract to Sell
 - 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 _____
 Commercial ✓

Residential _____
 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
Feasibility Study	Completed – 1 st quarter 2010
Plans/ Design	STP to be bidded as design and build program
Bid Preparation	STP – 3 rd quarter 2013
Construction	2 nd quarter 2013 – 4 th quarter 2014
Contract Completion	4 th quarter 2015

Use additional sheets if necessary

5.c.2. Manpower requirement: to be determined

5.c.3. Facilities requirement

5.c.3.1. Water Supply

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

5.c.3.2. Power Supply

Source of Power Supply	Consumption/day
Local Electric Utility	To be determined
Generator	Standby only
Others (pls. specify)	

5.c.4. Operation Phase

5.c.4.1 Capacity of plant/day 15,500 cu.m./day

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

5.c.4.3. Manpower Requirement to be determined

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	2,205.77 cu.m./day	Integrated sludge management with possible waste to energy scheme

(Use additional Sheet if necessary)

5.c.4.5. Abandonment Phase

Facilities to be abandoned	Waste Generated	Restoration Plan
To be determined	Demolition wastes	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? No
If so, what is the status: slight _____ Moderate _____ Severe _____
- 1.c Are there existing natural hazards in the area, e.g. landslides, gully, subsidence, etc.? Flooding
If yes, please enumerate them _____
- 1.d Is the site situated along a flood prone/storm surge area Yes
- 1.e Is the project beside or near the shoreline? Yes
if yes, how far? ~10m
- 1.f Are there water bodies found inside or near the project site? Yes
If yes, please enumerate them: San Francisco River, Talayan Creek
- 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: Mango tree
- 2.d Is there other vegetation within the project site?
If yes, please identify and enumerate: _____

3. **Socio- Economic Environment**

- 3.a Total household to be affected? None
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. Barangay Health Centers
- 3.d Are there required benefits under the labor code and other regulations to be enjoyed by the staff? YES
If yes, please enumerate: salaries, medical insurance
- 3.e Are the local inhabitants to be benefited by the project? YES
Please elaborate Reduce pollution of waterways, improve sanitation 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	Collected sewage will be transported through water intake and interceptors.
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?	✓			
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

Components/ Parameters	ANSWERS		Describe the impacts	Describe your Mitigating /Enhancement Measures
	Yes	No		
1. Pre- Construction / Construction Details				
Is there land clearing	✓		Clearing of remaining structures will generate demolition wastes.	Clearing activities will be confined in the project site. Seller will be required to conduct clean-up on the site and to properly dispose of any waste materials left at the site prior to turn-over to MWSI.
Is there vegetation clearing	✓		Most of the trees are planted along the periphery but some bushes and shrubs will be	The existing tree in the periphery may be retained.

			cleared.	
Is there tree cutting	✓		This will be determined once the site development plan is finalized.	Tree Earthballing/ Cutting Permit will be secured from the DENR if remaining tree will be affected.
Is there topsoil removal/replacement?	✓		Topsoil will be removed during the excavation for foundation of structures.	Excess excavated materials must be properly disposed offsite in an LGU and DENR-approved disposal area.
Is there excavation works and cut & fill activities?	✓		Open excavation may cause accidents.	Barricades and warning signages shall be installed in excavations. Steel plate covers and barricades will be provided in open excavation during non-working hours. MWSI's Safety Code shall be imposed in the TOR of the contractor.
Is there stock piling of sand gravel material in the site?	✓		Stock piling of gravel and sand can cause runoff of materials during heavy rainfall.	Construction materials will be stock piled in designated areas within the construction. Silt traps shall be provided to prevent runoff of materials into the drainage canal. Good housekeeping will be maintained within the construction site.
Is there dust emission	✓		Generation of dust and	Dust suppression

into the environment?			<p>particulates during windy conditions.</p> <p>Impact of dust emission to nearby residential areas is minimal since the area is already fenced.</p>	<p>measures will be employed as necessary during construction.</p> <p>Watering of dust sources to minimize discomfort to nearby residents.</p>
Is there drilling, boring, & hammering activities?	✓		Noise will be generated from the drilling, hammering activities, delivery trucks and engine of equipment.	<p>Careful programming of works by avoiding heavy noise-generating activities at nighttime.</p> <p>Provision of mufflers or noise shield for vehicles / equipment.</p>
Is there any slope modification or ground leveling?		✓		
Is there increased traffic movement in the area?	✓		Traffic congestion may be experienced along the two-lane roads during movement of construction vehicles.	<p>Schedule delivery and movement of construction materials during non-peak hours.</p> <p>Coordinate with the Barangay.</p> <p>Assign security guards at the gate of the project site to assist in traffic movement of construction vehicles entering and exiting the property.</p>
Does the public/community have access to/through the area affected?		✓	The proposed STP site is a private property and is currently fenced.	
Is there an increase	✓		Presence of workers at	

economic activity in the area?			the construction site may contribute to the creation of secondary businesses like food eateries/restaurants.	
Is there increase in the availability of employment?	✓		Local job opportunities will be generated during construction	Contractor will be required to give preference to qualified locals in hiring workers of the project.
Is there displacement of people in the area?		✓		
Will the displacement involve relocation of affected parties?		✓		
2. Operation and Maintenance Phase				
Will the project generate wastewater?	✓		Generation of wastewater from personnel cleaning/washing and also domestic sewage.	The STP site will be provided with toilets with septic tanks for workers Wastewater can be directed to STP for treatment.
	✓		Wastewater collected from the sub-basin will be treated at the STP and is expected to result to positive impact to the environment.	Effluent from the STP shall be monitored regularly to ensure compliance with the Effluent Standards of the DENR
Is there an effect on the quality of the receiving body of water?	✓		There is no expected increase in volume of wastewater discharged into the creeks since the same volume will be treated at the STP. Expected effects will be on the improvement of water quality of the wastewater being discharged into the creeks through treatment at the STP.	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 air pollution sources equipment to be installed?	✓		Increase SO ₂ and NO _x emission from diesel generator.	Regular maintenance of equipment to ensure that these are working effectively. Maintenance of vegetation buffer around the project site.
Will it affect the ambient air quality of the area?	✓		Emission of odor/smell.	Odor treatment system will be designed for the project. Sludge drying beds will be enclosed with 3-meter concrete wall to confine odor emission. Gas detector equipment/ facility will be installed thus odor problem will be monitored and immediately acted upon. Maintenance of vegetation buffer around the project site.
Are there solid wastes to be generated?	✓		Solid wastes such as empty bottles, cans, paper, food wastes, etc. will be generated	Solid waste segregation shall be implemented within the facility. Organic biodegradable

				<p>wastes shall be segregated from the non-biodegradable wastes through provision of waste segregation bins around the facility.</p> <p>An Ecological Solid Waste Management Plan (ESWMP) shall be implemented.</p>
Are hazardous / toxic waste to be generated?	✓		<p>Hazardous wastes such as empty chemical containers used in the treatment system and from laboratory analysis. Also busted lamps and used oil from maintenance of generator set will be generated.</p>	<p>Hazardous wastes will be segregated from the regular solid wastes.</p> <p>Hazardous Waste Registration shall be applied with the DENR-EMB.</p> <p>Hazardous waste treatment, storage, and disposal (TSD) facility accredited and recognized by the DENR shall be commissioned to collect and properly dispose the generated hazardous wastes.</p>
Are there sludge to be generated?	✓		<p>Sludge will be generated from the STP.</p>	<p>Sludge treatment will be designed that will consider an Integrated Sludge Management system with possible waste to energy scheme.</p>
Will there be of workers to hazards?	✓		<p>Workers may be exposed to health hazards due to exposure to chemicals and wastes.</p>	<p>Implement an Occupation, safety and health program within the facility.</p>

				<p>Post the MSDS of chemicals used within the facility for information and guidance of workers.</p> <p>Orient workers on safety procedures to avoid accidents.</p>
Is there any pollution complaint from the near by residents?		✓		
Is there an increased in crime / security concern in the area?		✓		
Will there be improvement of health and sanitation in the area?	✓		There is expected improvement in health and sanitation in the area due to reduced exposure to untreated sewage.	Effluent quality will be regularly monitored.
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.
3. Abandonment & Rehabilitation Phase				
Will any of the facilities be abandoned or demolished after the project life?	✓		Generation of demolition wastes, remaining sanitary wastes.	<p>All waste materials generated during abandonment shall be properly disposed.</p> <p>An abandonment plan shall be prepared.</p>
Will any of the facilities need to be rehabilitated after a certain period of time?	✓		To be determined.	
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	✓		Increased traffic movement will be	Hauling of materials should

the area?			expected due to frequent movement of vehicles from the site during hauling of materials	be done during non-peak hours. Coordination with the local government.
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Panoramic view of project site and its immediate vicinity



Photo 1. The proposed site of the Talayan STP. The site is currently being utilized as temporary storage area of junk shop materials.



Photo 2. Remaining junk materials to be hauled out.



Photo 3. The ongoing hauling activities.

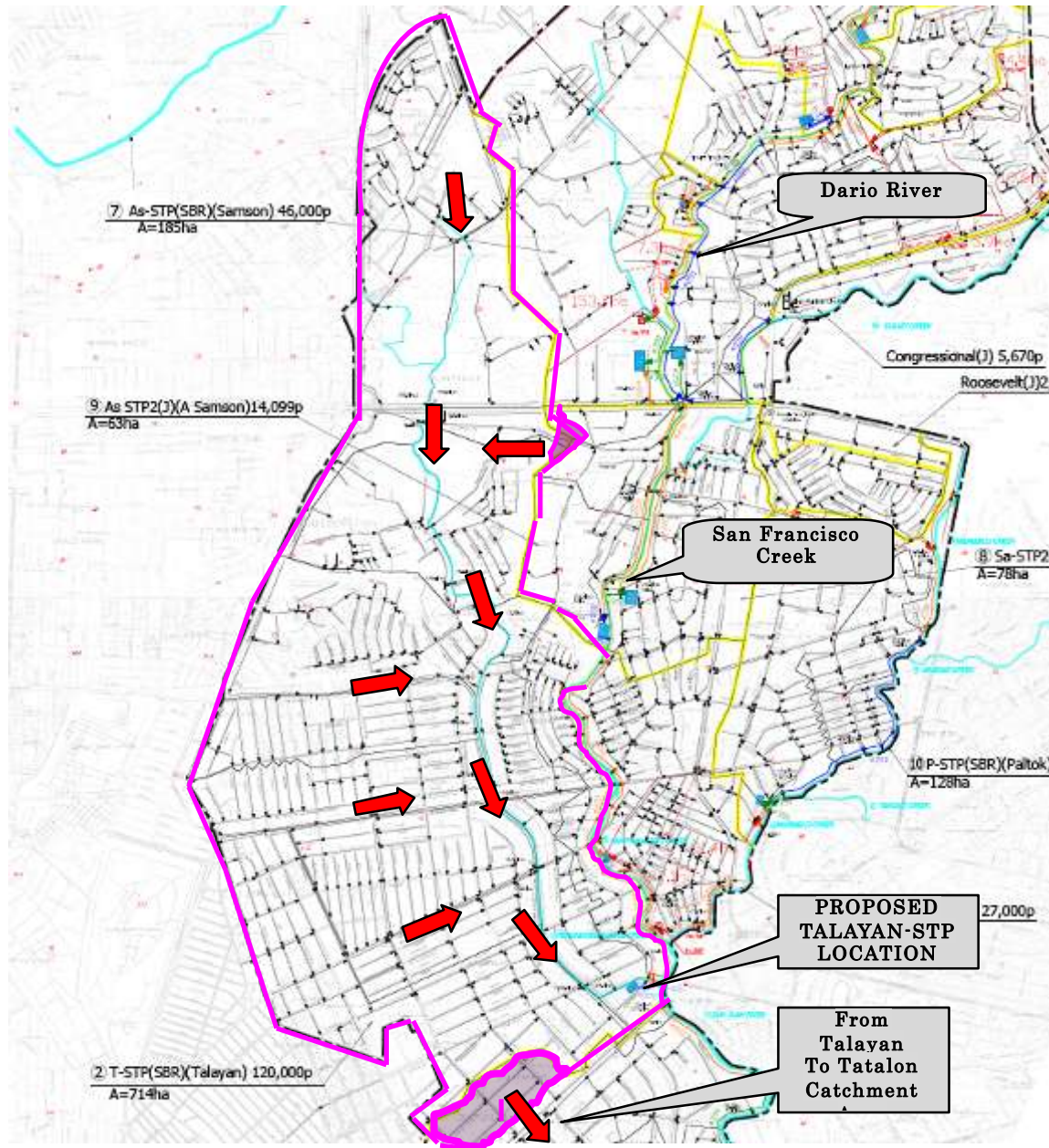


Photo 4. The adjacent property



Photo 5. The Talayan Creek on the south (approx..10 m from the site) and the San Francisco River which is adjacent to the western section of the property.

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

Senior Vice President

Title/Designation

November 22, 2011

Date

ACKNOWLEDGMENT

BEFORE ME this (day) _____ of _____ 2011 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

Doc. No. _____
Page No. _____
Book No. _____
Series of 2011.