



Metro Manila Flood Management Project-Phase 1

Due Diligence Report (DDR) for Balut, Labasan, and Tripa de Galina Pumping Stations and Drainage Areas

Prepared by:

**Department of Public Works and Highways
and
Metro Manila Development Authority**

November 1, 2016

I. Background

1. The Government of the Philippines (GoP) has been implementing several urban drainage-related activities to manage and resolve recurring flooding. In Metro Manila, it is evident that there is a need to execute strategic initiatives to further improve and provide adequate flood management infrastructure. To this end, the Department of Public Works and Highways (DPWH) and Metro Manila Development Authority (MMDA), with support from the World Bank, are proposing the Metro Manila Flood Management Project (the Project), which will support the improvement of urban drainage by modernizing existing pumping stations and constructing new pumping stations in flood-prone drainage areas, improving waterways and drainage channels, improving solid waste management in and along waterways served by the pumping stations, and resettlement and economic rehabilitation of informal settler families (ISFs) residing within the technical footprint of pumping station and waterways connected to the pumping stations.
2. Five project year 1 (PY1) drainage areas have been selected, including Balut, Labasan, and Tripa de Galina.
3. Balut drainage area is located in Manila. The drainage area served by the pumping station is 66 ha. The total installed pumping capacity is 2 m³/sec. The pumped water is drained in Estero Sunog Apog that has an open connection with Manila Bay. The current pumping capacity is not sufficient to prevent flooding during a two day design rainstorm with a return time of 10 year, when about half the drainage area gets flooded. It is proposed during PY1 to increase the pumping capacity to 7 m³/sec.
4. Labasan drainage area is located in Taguig. The drainage area served by the pumping station is 594 ha. The total installed pumping capacity is 9 m³/sec. The pumped water is drained into Laguna de Bay. The current pumping capacity is not sufficient to prevent flooding during a two day design rainstorm with a return time of 10 year, when about 25 percent of the drainage area gets flooded. It is proposed during PY1 to increase the pumping capacity to 32 m³/sec.
5. Tripa de Galina drainage area is located in Pasay. The drainage area served by the pumping station is 1,940 ha. The total installed pumping capacity is currently 72 m³/sec. The pumped water is drained into the Paranaque River that has an open connection Laguna de Bay. The pumping capacity has been increased from 58 to 72 m³/sec in 2014/15 with MMDA funding. The Project will not increase the capacity further, but will finance some remaining modernization activities, mostly on trash racks and flood gates.
6. Table 1 below provides the description of the proposed PY1 activities at the 3 pumping stations:

Table 1. Proposed Rehabilitation Activities in the 3 Pumping Station

Drainage Site	Scope of Works
LABASAN	<ol style="list-style-type: none"> 1. Installation of additional three (3) units submersible pump with optimum capacity 2. Installation of additional generation set 3. Installation of additional three (3) units trash racks 4. Installation of horizontal conveyor 5. Rehabilitation of existing generator sets and radiator 6. Replacement of existing submersible pumps with optimum capacity 7. Installation of additional fuel storage tank 8. Rehabilitation of building and lightings
BALUT	<ol style="list-style-type: none"> 1. Replacement of two (2) units submersible pumps with optimum capacity 2. Installation of additional two (2) units submersible pumps 3. Rehabilitation/replacement of two (2) existing trash racks 4. Rehabilitation/replacement of horizontal and inclined conveyors and hinges 5. Upgrading of Meralco power supply 6. Installation of additional generator set as standby power for additional pumps 7. Replacement of auxiliary equipment 8. Rehabilitation of building and lightings 9. Rehabilitation of perimeter fence
TRIPA de Gallina	<ol style="list-style-type: none"> 1. Construction and Installation of primary trash screen including horizontal and inclined conveyors 2. Replacement of auxiliary equipment 3. Rehabilitation of three (3) units floodgates 4. Rehabilitation of building and lightings 5. Rehabilitation of one (1) unit overhead crane 6. Supply of twelve (12) units stop logs

7. Works on existing pumping stations and the construction of additional ones may necessitate resettlement of people now living within the “technical footprints” of the Project. A sub-project’s technical footprint covers the pumping station and its related facilities as well sections of waterways serving the pumping stations. Table 2 illustrates the technical footprints of the 3 pumping stations and Annex A provides a detailed description of the Project technical footprint. Resettlement will be unavoidable where dwellings and structures established by informal settlers impede the flow or inhibit access for effective maintenance and operation of the facilities. Waterway sections within the technical footprint are typically in relatively close proximity to the pumping facility. To avoid bigger number of project-affected people, resettlement will not be required for the purpose of the project for those encroaching on waterway sections further upstream or those living on the three-meter easements along the waterways as these people would not interfere with the proper operation and maintenance of the pumping

station and lined waterways. The physical limits of technical footprints for waterways are established on the basis of hydrological and engineering criteria for each pumping station sub-project.

Table 2: Optimum Pumping Area (OPA) Length Calculation

Pump Station	Maximum Capacity (cms)	T_C ¹ (minutes)	T_C (sec)	Optimum pumping volume (m ³) ²	Depth operating ³ (m)	W_{ave} (m)	OPA _{length} (~m)
Balut	2.0	45	2,700	4,860	2.34	NA	-- ⁴
Tripa	72.0	101	6,060	178,898	5.40	50	420
Labasan	9.0	45	2,700	21,870	2.25	30	-- ⁵

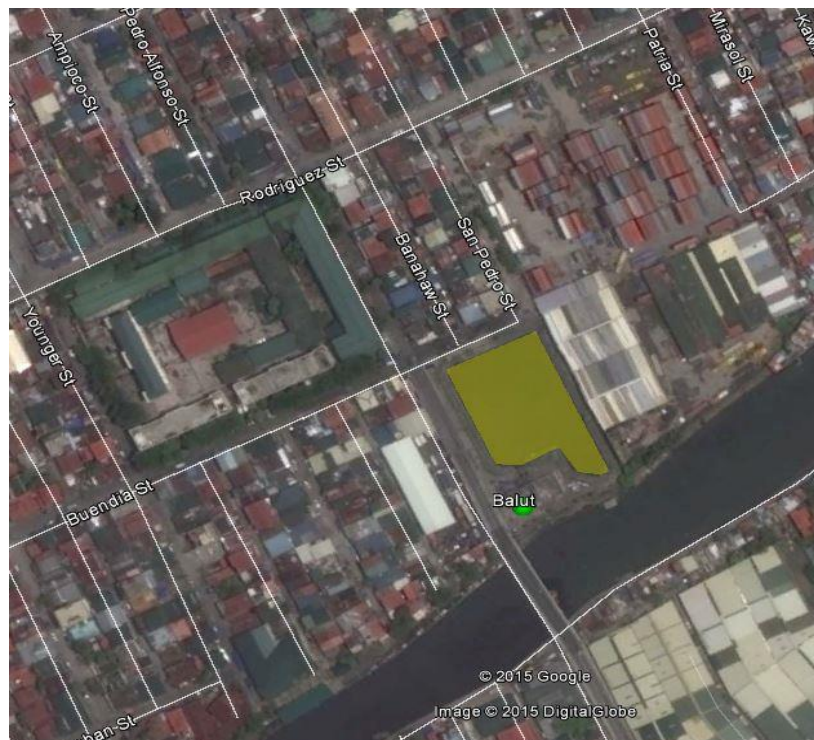


Figure 1: Balut PS. Entire catchment covered, no open channels

¹ Design T_C provided from design specifications by MMDA

² Adjusted for pump efficiency and total additional catchment storage

³ Adjusted with factor of safety $\beta = 0.9$

⁴ No open waterways, entire catchment served by covered drainage system

⁵ Existing storm attenuation basin is 6.4 ha. OPA do not extend further into upstream waterway



Figure 2: OPA for Tripa de Galina PS



*Figure 3: Labasan PS showing the 6.4 ha storm attenuation pond.
Upstream waterway remains wide and banks undeveloped*

8. In accord with the World Bank policy, OP 4.12 on Involuntary Resettlement, the Project must look retrospectively at past resettlement of people in the sub-project areas to be taken up by the project. It has been agreed that resettlement which took place after December 8, 2014 (the date of the Project Identification Mission) require due diligence to assess the outcomes for those resettled to ensure that their resettlement is compliant with the provisions of OP 4.12. Where people were moved before December 8, 2014, the Project is also obliged to carry out due diligence on this earlier “legacy” issue to determine if resettlement outcomes are generally consistent with national legislation and the general objectives of OP 4.12.

II. Due Diligence - Objectives and Methods

9. The objective of the due diligence carried out for the Balut, Labasan, and Tripa de Galina pumping stations was to verify initial scoping findings conducted by MMDA and the World Bank team which ascertained that the technical footprint areas of the three proposed sub-projects did not have past land acquisition and resettlement issues and future resettlement for Project purposes is not envisaged. More specifically, on the basis of information from available government records and interviews with people in the area, it has to be determined whether a government resettlement program, (entitled *Oplan Likas*, which has as objective to relocate mainly ISFs from danger zones, including waterways with high risk of flooding) had resettled people from waterway sections within the technical footprints of these three sub-projects. The due diligence also aimed to ascertain as needed for a particular drainage area, if appropriate measures were taken during the planning stage of the project with respect to minimizing adverse impacts; if safeguard measures were adopted during the implementation stage to mitigate adverse impacts, if any; and to assess the past resettlement and other social impacts of the project as a result of land acquisition.

The due diligence included site visits supported by photo and video documentation. Site reconnaissance was carried out within the pumping stations and their facilities as well as along waterways within the technical footprints as provided in Table 2 and the succeeding marked photos. Interviews were undertaken with plant engineers and selected personnel, particularly those with the longest tenure in the pumping station. Validation interviews were also conducted with community leaders residing in the vicinity of the pumping stations. Site visits for the Labasan and Tripa de Galina pumping stations were conducted on October 30, 2015. There were five plant personnel that were interviewed in Labasan Pumping Station, with plant engineers Alexander Ayuson and Norman Jordan being the key informants. Other members of the plant team provided additional information on site. Engr. Jordan is a resident of Labasan. They have been assigned to this facility since 2009. In consideration of the fact that the nearest residential community in Labasan Pumping Station project site is estimated to be one kilometer away from the technical footprint, the interviews were confined to the facility personnel. In Tripa de Galina, four plant personnel were interviewed and two of the senior engineers provided key information about the plant facility and the circumstances of the community surrounding the plant. The site visit for Balut pumping station was carried out on November 6, 2015 where plant personnel and barangay leaders were interviewed.

III. Findings

10. Site inspection and key informants interviews conducted in Balut Pumping Station revealed that the project site footprint is currently free of informal settlers. The plant engineer in-charge – Rolando Camasis – informed the DDR team that he had information that the present location of the pumping station, a 6,000 m² property, was formerly occupied by some 30 families. These families were relocated by the government in 1996, but he was not sure of the exact location where they were located. Since further confirmation was needed to verify acquisition and resettlement issues, data was gathered from current Barangay chair of Barangay 176, Arnold Aheste, and former Barangay chair Jess Payad, eminent community elected officials that attested to the veracity of the information about a relocation that happened for families from the current site of the pumping station. According to the two officials, the families were brought to General Mariano Alvarez (GMA) in the province of Cavite in 1996. The lot with the pumping station is a government-owned property managed by the MMDA under a memorandum of agreement with the Department of Public Works and Highways (DPWH), a national government agency charged with the project prior to its turn-over of management to the MMDA.

11. The Tripa de Galina Pumping Station was constructed in 1977 on a 12,000 m² land that is owned by the Civil Aviation Authority (CAA) and the Air Transport Office (ATO). The lot is currently managed by the MMDA under an agreement with the DPWH, as in the arrangement for Balut pumping station. The plant engineer, Danilo Dimaranan, deployed as plant engineer recently (October 2015), but has worked in various pumping stations across Metro Manila for some 33 years, and Engineer Ignacio Calipay, who has worked at this pumping station since 2002, were the key informants for the due diligence interviews. The two officials explained that the current location of the pumping station was a residential area in 1977. To pave the way for the construction of the pumping station, the families were requested to move their houses across the estero prior to the plant construction. They are now located beyond the easement with a perimeter fence set up by the pumping station management. From the pumping station to the bridge area (technical footprint), there has not been any resettlement since 1977. Nearby residents confirmed this. Oplan Likas resettlement took place upstream of the bridge area which is beyond the technical footprint for this project site.

12. In Labasan pumping station, key informants shared that the plant was constructed in 2004 on a vacant lot developed through reclamation by the DPWH. The total lot area of the site is just over 3,700 m². Like the arrangement for Balut and Tripa de Galina, the land is managed by the MMDA under a memorandum of agreement with DPWH. According to the knowledge of personnel interviewed on site, there has not been any land acquisition or displacement of people around the pumping station and retention basin since its construction in 2004. It can be observed that the vicinity upstream of the retention basin is now a built-up area characterized by the presence of pocket developments of formal and informal settlements. The pumping station is approximately one kilometer away from the nearest community built up area. The MMDA engineers informed the team that a local businessman has claimed ownership of a lot beside the pumping station and, allegedly, a portion of the plant compound. Further probing by MMDA found that the claimant never exerted any other form of assertion or any legal action to stake his claim. Engr. Mike Doce of MMDA central office confirmed they (MMDA) have heard about

the story but did not put credence on the claim when the business person did not make any follow up on the said claim.

13. Further verification from the Civil Aviation Authority of the Philippines (CAAP), Department of Public Works and Highways, and the City of Taguig indicated that the three pumping station sites for expansion (Balut, Tripa de Galina and Labasan) had been validated as government owned land and had been classified by the government as land for specific purpose such as for infrastructure use and other physical improvement projects by the national government and by the LGU of Taguig City. The agencies provided corroborating statements that the OPA site and its immediate vicinity are free of residential, and or any other form of settlement at the time of due diligence.

14. Implementing agencies action plan indicated that they will have to undertake constant monitoring and site surveillance to ensure that project site and the peripheral location including access to the OPA shall be free from intrusion of settlements and other activities that may encroach and or impede timely delivery of the project timelines.

IV. Conclusions

15. Due diligence actions carried out confirmed the findings of the initial screening by the MMDA and the World Bank that all the three pumping station sites have no residents or informal settlements now living within the project technical footprint. The relocation of families in Tripa de Galina PS site in 1977 and in Balut PS site in 1996 is far back in time and beyond the ambit of the project. Therefore, it is concluded that the Project has no legacy issues related to land acquisition for these three pumping station sites and no further action will be required from the implementing agency.

16. It is important to have consistent level of effort in project monitoring to ensure that there will be no changes in the site situations from the time of DDR to protect the Project from any potential involuntary resettlement issues.

Due Diligence Records Consultations for the 3 Pumping Stations

Annexes

Annex A. Description of Project Technical Footprint

Annex B. Project footprint of Balut Pumping Station and Photo Documentation of DDR activities.

Annex C. Project footprint of Tripa de Galina Pumping Station and Photo Documentation of DDR Activities.

Annex D. Project footprint of Labasan Pumping Station and photo documentation of DDR activities.

Annex E. Due Diligence Records Consultations for the 3 Pumping Stations (Labasan, Tripa De Galina, and Balut Pumping Stations)

Annex F. Minutes of Consultations

Annex A: Description of Project Technical Footprint

1. The Metro Manila Flood Management Project–Phase 1, in particular Component 1, is anchored upon the rehabilitation of existing pump stations or construction of new ones to enable effective and efficient drainage of flood waters and thereby address urban flooding.
2. Typically, excess rainwater will runoff from roofs, roads, and other surfaces before entering drainage pipes or channels. Runoff inside drainage pipes or channels eventually discharge into the waterways such as creeks, esteros, or tributary rivers before finally discharging into external water bodies such as Manila Bay or main rivers like Pasig River.
3. Without pumping, runoff discharges from catchments by gravity as dictated by slope of the terrain and the elevation of external water bodies. Flooding occurs when water cannot be discharged fast enough (i.e. higher runoff generation due to urbanization of the catchment; due to intense rainfall; elevated levels of the external water body; or a combination of these and other factors). Pump stations address flooding by discharging rainwater of a served waterway faster than what gravity would allow.
4. The directly flooded area can be further analyzed hydraulically to determine the critical segments of pipes and/or open waterways to ensure the optimum drainage of the area in cases of high rainfall. This critical portion of the directly flooded area is delimited as the “project footprint.” The project footprint is further composed of sub-areas as below. For purposes determining the project’s area of influence, the optimum pumping area (OPA) that runs along open channels will be the target area for relocation of ISFs. Other components will also survey drainage areas to determine whether additional areas should be included for resettlement, although this is unlikely.
 - (i) Pump station area;
 - (ii) Waterway maintenance access points;
 - (iii) Optimum pumping area.

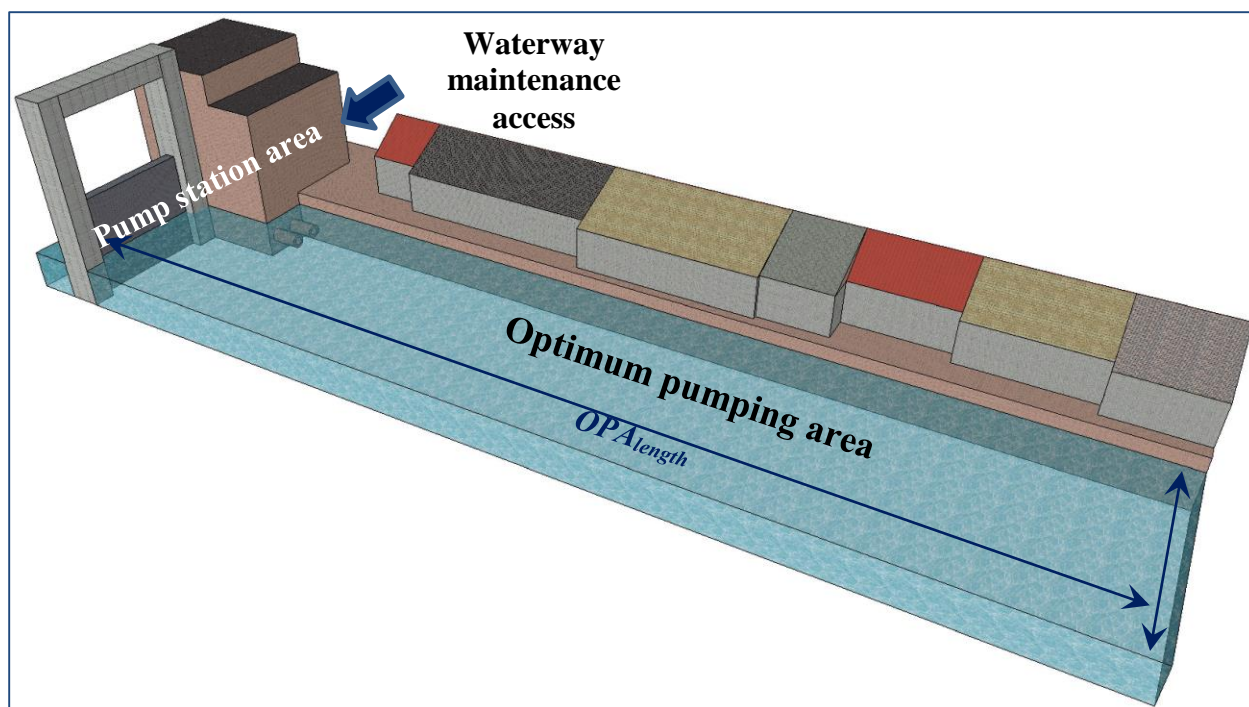


Figure 1: Project Footprint

5. The **pump station area** is the boundary of the physical structures of the facility which should have sufficient space for the electro-mechanical equipment, floodgates, trash collection and management system, and other ancillary functions. Based on the survey of existing pumping stations, these areas are normally already well established, fenced-off, and have no resettlement issues.

6. The **waterway maintenance access** includes access roads and staging areas for mobilizing equipment in or over the waterway. Access requirements will vary depending on the characteristics of the waterway, including maintenance strategy. In some cases where the catchment is served entirely by a covered drainage system (ex. Balut PS), there is no open waterway to be maintained. Instead, maintenance can be jetting and vacuuming of drainage pipes which can be carried-out from street-side manholes. For open waterways different maintenance strategies will be assessed, with a main focus on floating maintenance equipment.

7. The **optimum pumping area** is defined as the area corresponding to the volume of water stored in the waterway such that the pump station can operate at maximum capacity unimpeded to lower water level from just below street level (revetment elevation) until the stopping elevation (dictated by pump suction elevation) within the time of concentration (T_c). T_c is the time required for runoff to travel from the hydraulically farthest point of the catchment to reach the outlet (i.e. pump station). OPA is given by:

$$OPA = \frac{\alpha C \times \gamma T_c}{\beta D_{op}}$$

where:

C = maximum pump capacity, α = pump efficiency factor

T_c = Time of concentration, where:

$$T_c = 0.0078 \left(\frac{L^{0.77}}{S^{0.385}} \right), \text{ Kirpich equation; or}$$

design T_c , if available

γ = peak flow factor

L = length from farthest part of the basin

S = channel slope

D_{op} = operating depth, β = factor of safety

8. For the purpose of planning, OPA is converted to the more tangible parameter of the corresponding length of OPA or OPA_{length} . This is derived by dividing OPA by the waterway's operating flood depth (i.e. elevation of street level minus suction stopping elevation).

9. The OPA (i.e. waterway along OPA_{length}) must be cleared of obstructions like sediments, solid waste, or informal structures to ensure unobstructed flow to the pump station and avoid pump problems such as vortices, uneven approach flow, uneven velocity profile in the pump, vibrations, cavitation, and increased energy consumption. Note that optimum maintenance is most critical in, but is not limited to, the OPA.

10. OPA_{length} is computed for identified priority pump stations as shown below. Unless stated otherwise, data are provided by MMDA.

Table 1: OPA_{length} Calculation

Pump Station	Maximum Capacity (cms)	T_c^6 (minutes)	T_c (sec)	Optimum pumping volume (m ³) ⁷	Operating Depth (m) ⁸	W_{ave} (m)	OPA_{length} (~m)
Paco	7.6	67	4,020	27,460	1.89	20	450
Vitas	32.0	45	2,700	77,760	2.16	43	500
Balut	2.0	45	2,700	4,860	2.34	NA	-- ⁹
Tripa	72.0	101	6,060	178,898	5.40	50	420
Labasan	9.0	45	2,700	21,870	2.25	30	-- ¹⁰

⁶ Design T_c provided from design specifications by MMDA

⁷ Adjusted for pump efficiency and total additional catchment storage

⁸ Adjusted with factor of safety $\beta = 0.9$

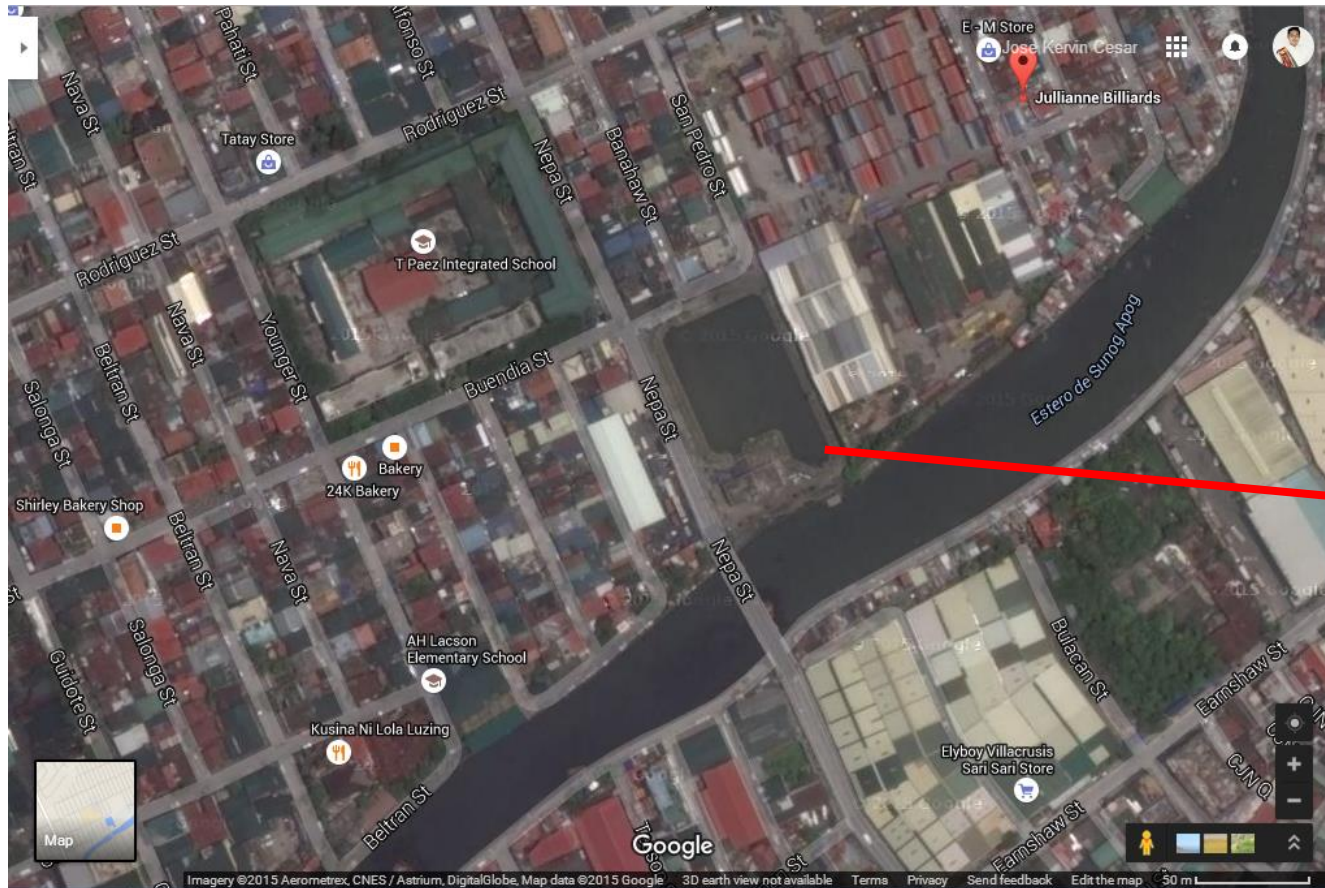
⁹ No open waterways, entire catchment served by covered drainage system

¹⁰ Existing storm attenuation basin is 6.4 ha. OPA do not extend further into upstream waterway



Figure 21: OPA length (~500m) for Vitas PS

ANNEX B: Project footprint for Balut Pumping Station and Photo Documentation of DDR Activities



Balut Pumping Station (entrance)



Balut Pumping Station side (view from Nepa street)



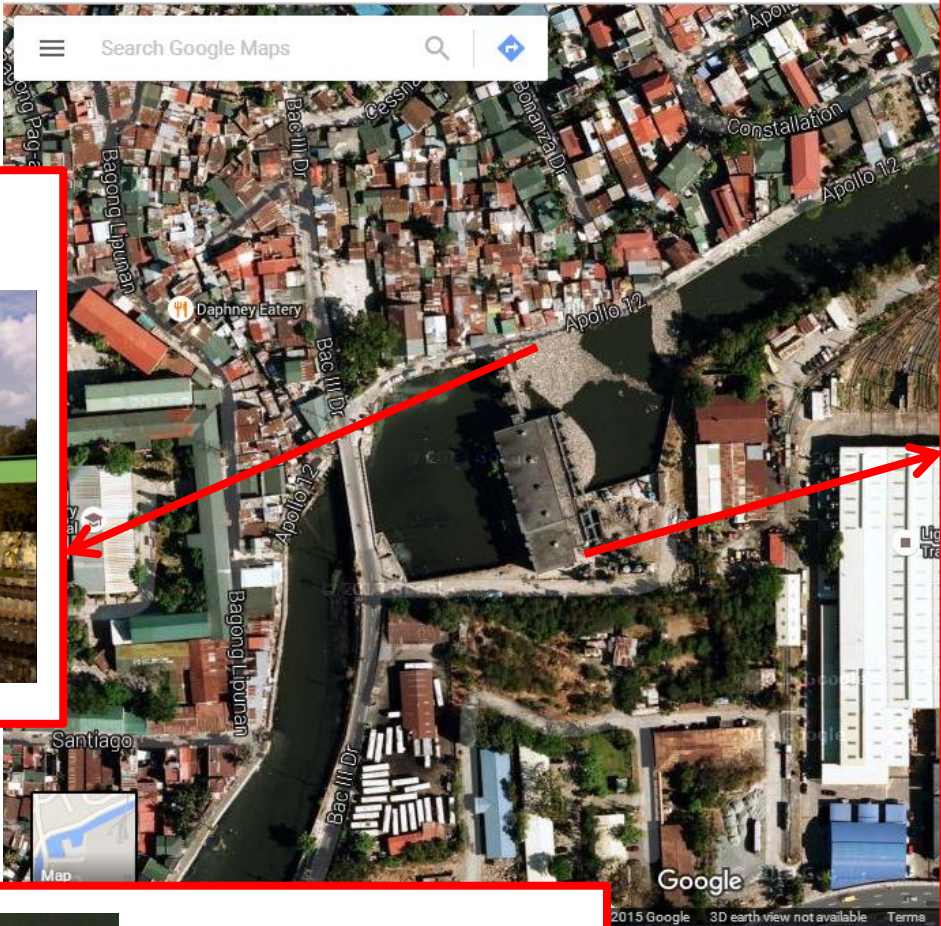
Balut Pumping Station Due Diligence (November 6, 2015)
First picture from left: Plant Engineer Engr. Rolando Camasis
Second picture: Barangay 176 Chairperson Arnold Aheste



Balut Pumping Station (interior)

ANNEX C: Project footprint for Tripa de Galina Pumping Station and Photo Documentation of DDR Activities

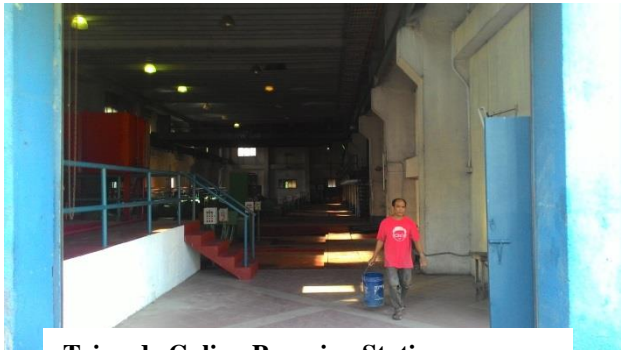
Tripa de Galina pumping station overlooking a residential area along Apolo 12



Tripa de Galina Pumping Station (entrance)



Tripa de Galina Pumping Station (side)

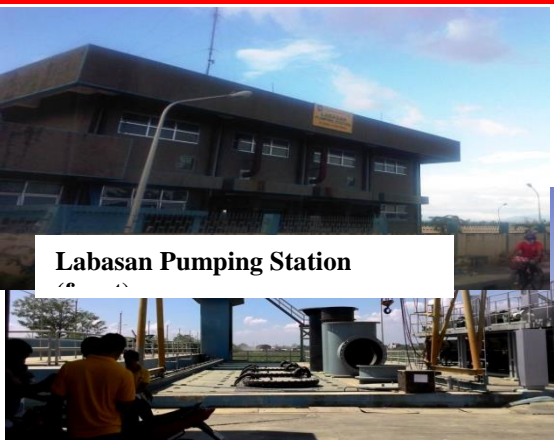


Tripa de Galina Pumping Station (interior)



Tripa de Galina Pumping Station Due Diligence (October 30, 2015)
L-R: Plant Engineer Engr. Danillo Dimaranan with Engr. Ignacio Calipay

Annex D: Project footprint for Labasan Pumping Station and Photo Documentation of DDR Activities



Labasan Pumping Station Due Diligence (October 30, 2015)
First picture from Left: Plan Engineer Engr. Alexander Ayuson
Second picture: Plant laborer Norman Jordan with Engr. Ayuson

Annex E. Due Diligence Records Consultations for the 3 Pumping Stations (Labasan, Tripa De Galina, and Balut Pumping Stations)				
Date and Venue	Participants	Consultation Activities	Issues Raised	Response by the team
October 30, 2015 Labasan Pumping Station, Taguig City Metro-Manila	Engineer Engr. Alexander Ayuson Plant Personnel Norman Jordan Kervin Calabias Pinky Tabinga Juliet Villegas	-Briefing on the due diligence activity to be conducted -Site Visit and walk through on the project technical foot print Interviews with plant engineers and personnel	The team disclosed that there are talks in the community that a certain Filipino Chinese person is claiming rights over the property allegedly beside the perimeter fence of the pumping station. Although talks are informal, the team reported this matter to the top management of the MMDA. They have not heard of the claim elevated to the courts.	The issue on claims will need to be verified further by the MMDA during implementation.
October 30 2015, Tripa de Galina Pumping Station at Pasay City Metro-Manila	Plant Engineer Engr. Danillo Dimaranan, Engr. Ignacio Calipay Kervin Calabias Juliet Villegas Pinky Tabinga	-Briefing on the due diligence activity to be conducted -Site Visit and walk through on the project technical foot print -Interviews with plant engineers and personnel	Concern about timeliness of the project as the facility is highly in need of rehabilitation as it is one of the oldest pumping stations in the metropolis. The pumping station will not be further expanded.	
November 6, 2015 Balut Pumping Station, City of Manila	Plant Engineer Engr. Rolando Camasis Barangay 176 Chairperson Arnold Aheste Mr. Rey Payad Kervin Cabillas Juliet Villegas	-Briefing on the due diligence activity to be conducted -Site Visit and walk through on the project technical foot print -Interviews with plant engineers and personnel -Interviews with community leaders, former and present Barangay chairpersons.	There is no copy of documents at the pumping station that pertains the land ownership of the pumping station. All staff know is that the MMDA in the central office is keeping its project records.	Will coordinate directly with MMDA central office.

Annex F: Minutes of Consultations

METRO MANILA FLOOD MANAGEMENT PROJECT MINUTES OF PUBLIC CONSULTATION FOR THE BALUT PUMPING STATION TONDO MANILA

OCTOBER 10, 2016, 1:30 PM

BARANGAY HALL, BARANGAY 136, RODRIGUEZ ST., BALUT,
TONDO, MANILA



MEETING HIGHLIGHTS

1. The meeting started with the Welcome Remarks from Chairman Severa dela Cruz of Barangay 136. Chairman dela Cruz welcomed the representatives from DPWH, other barangay chairmen from Barangay 137, 139, 146, and the residents from Barangay 136 and adjacent barangays. She encouraged everyone to listen to the presentation of DPWH as an important government project.
2. Engr. Lydia Aguilar, DPWH, presented the background, objectives and components of the proposed Metro Manila Flood Management Project. She outlined the four major components, i.e. Component 1 – construction and rehabilitation of pumping stations; Component 2 – Clearing of waterways; Component 3 – Resettlement of ISFs on waterways; and Component 4 – Project management and coordination. She said that the Balut pumping station will be rehabilitated as one of the subprojects under Component 1. Activities will include the replacement of pumps to improve capacity and dredging of the waterways. DPWH will still conduct a feasibility study to determine the requirements for the rehabilitation and upgrading of the Balut pumping station.
3. Engr. Cherry Rivera presented the results of the environmental and social impact assessment that was conducted for the Balut pumping station. She described the facilities inside the pumping station that includes the retention pond and also mentioned that dredging activities on Estero de Sunog Apog will be undertaken. The major impacts and mitigation measures that were identified in the study includes: (i) generation of dredged materials, sampling/testing of the dredged materials and its appropriate disposal; (ii) odor from dredging activities; (iii) noise from operation of pumps and motors; (iv) accumulation of solid waste at the pumping station that requires proper disposal; and (v) movement of large vehicles along the roads leading to the pumping station which may affect community safety residents. It is fortunate that in Balut, the

drainage canals are closed canals which prevent people from just dumping garbage in canals. However, solid wastes continue to be collected by the trash rakes of the pumping station. She mentioned that fortunately all major activities will be undertaken inside the existing property of the pumping station except for dredging and as such no resettlement will take place during rehabilitation of Balut pumping station.

4. Open Forum and Discussion



- a. **There are no ISFs to be resettled.** Chairman said that the settlers in Barangay 137 have already been relocated since 1996. There are no more ISFs that will be affected by the clearing of waterways in Balut.
- b. **Disposal of solid waste by the community.** A resident said that they want changes to occur in the community. Even if the pumping station will be upgraded but if the people continue to dispose garbage inappropriately, flooding will still occur.





DPWH representatives, headed by Engr. Lydia Aguilar, and Environment and Social Safeguards Division representatives presented the ESMF and ESIA for Balut Pumping Station in Barangay 136.

- c. **Noise.** A resident said that even if there are residential houses near the pumping station, noise is manageable. They do not consider this a noise nuisance when the pumps are operating. They consider the operation of the pumps very important for the community.
- d. **Vibration.** A resident said that during the dredging of sediments at Estero de Sunog Apog, the houses on the banks of the estero experience vibration. They are afraid that houses would collapse because of vibration.
- e. **Obstruction along roads.** A resident said that there are constituents who build structures along roads. The barangay is having difficulty in controlling them. The Chairman has already warned these people but they still go back and build structures on the streets.

A representative from the City Environment and Natural Resources Office of Manila City said that when the barangay sees these structures on the road and if the settlers refuse to vacate the area, the barangay should report the situation to the City of Manila. The City will coordinate with the Department of Social Works and Development (DSWD).

- f. **Bubbles from the retention pond.** There are instances wherein bubbles from the retention pond of the pumping station are blown by wind towards the adjacent residential communities. Children find this amusing but the bubbles has strong odor and sticky on the skin. They are afraid that this would cause some health problems.

Engr. Rivera said that this is probably caused by decomposition of wastes at the retention pond. There are technical solutions to avoid this situation and the issue will be included in the management plan.





Chairman dela Cruz thanked the DPWH and residents for their participation to the public consultation meeting. She asked everyone to avoid the indiscriminate throwing of garbage. The meeting ended at 3:30pm.



ATTENDANCE LIST




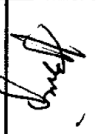




**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay 136, Balut, Tondo Manila
October 10, 2016, Monday, 1:30-3:30 PM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
1. VICKY SUAREZ	211 Sofia St Balut		09357422095	
2. Justine Shane Suarez	211 Sofia St. Balut		09120908055	
3. <i>Phelia Catacutan</i>	<i>214 Sofia St</i>		025322856	<i>D. Catacutan</i>
4. Yolanda Laason	214 Sofia St.		522-94-26	<i>Ylaason</i>
5. Rena A. Villamor	230 Moderna St.		0993-9298996	<i>R Villamor</i>
6. <i>Bernard S. Mercado</i>	<i>DR. Alia</i>			<i>Bernard</i>
7. <i>JAYSON A. Uxari</i>	<i>DAS MALILA</i>	<i>REG. STAFF</i>		
8. <i>ANGELITA B. MARIANO</i>	<i>DPS, MALILA</i>	<i>ADMIN. OFFICER</i>		

**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay 136, Balut, Tondo Manila
October 10, 2016, Monday, 1:30-3:30 PM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
9. GEORGE DOMINGUEZ	136-Z-12	KAG	69219998134	
10. ROBERTO P. BEROY	176, Z-15	KAG & WAB	09152091092	
11. FREDERICK T. MABES	176, Z-15	KAGAWAD	09075949704	
12. HELEN M. BERMES	176-Z-15 off II	KAG.	69851982943	
13. DAISANTA R. VUTIE	22 136-Z-12 DI	KAG.	09089524583	
14. Luis T. Roldan	208 Piny Rd	Tanod	09423037891	
15. Theres P. Bares	368 Paduan St.	Bgg. Secretary	09425569635	
16. Mirella M. MANALAN	274 SAN Pedro St.	Bgg. Secretary	09487273979	


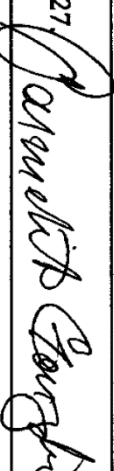


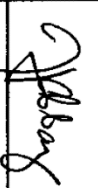

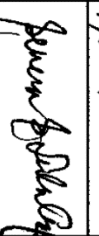
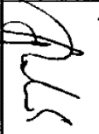
**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay 136, Balut, Tondo Manila
October 10, 2016, Monday, 1:30-3:30 PM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
17. JAIME R. GALADG	243 Moderna Spdct	Kagawad	09195756070	Jaime R. Galadg
18. EUGENIO T. GARCERAN	244 BOTA St.	Kagawad	09286748873	Ngongon
19. Rey Valdez	Brny 136 244 Moderna St	Dea of user	09086565533	
20. Efraim De Cambria	2457 Baranda St Brny. 136	Brny. kagawad	09333925718	efraim
21. NICITA C. BRILLON	238 R. Sofia St. Brny 136		09196232035 2540242	Mgillon
22. Bernadeth Villamor	230 Moderna St. Brny 136		09466073818	Mamby
23. Maria Lourdes Tolodan	248 C. Sofia St. Brny 136		09234723124	Tolodan
24. Bobby M. Acuña	Brny 136 233 MODERNA ST			Basatin



**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay 136, Balut, Tondo Manila
October 10, 2016, Monday, 1:30-3:30 PM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
25. RANUL GEROISIND	BRGY. 136	TRNDD		RE
26. Victoria Quirar	' 146		Miguelan 861 2733	
27.  Ranzel	Brqy 136		775 6906	
28. RICHARD Rubis	BRGY 136	STREET, SUCRAU		
29. HAROLD CALABAN	Belu, 136	TRNDD		
30. Hilario Domingo	' ' 11			
31. SEVERA DELA CRUZ	Brqy. 136	Chairman	09178410362 508-86-05	
32. ARBOLD E. T. TRIGHAR	341 Lindora Bldg 136		0912 467 9057	

**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay 136, Balut, Tondo Manila
October 10, 2016, Monday, 1:30-3:30 PM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
33. ERSHAD S. IBBA	DRPH, ES&D-Planning Service	Sociologist II	09166813437	
34. Lydia C. Aguilar	DRPH-UPMO-TCMC	Engineer III	304-3813	
35.				
36.				
37.				
38.				
39.				
40.				

METRO MANILA FLOOD MANAGEMENT PROJECT
MINUTES OF PUBLIC CONSULTATION
LABASAN PUMPING STATION
OCTOBER 12, 2016, 8:30 – 10:30AM
BARANGAY HALL, BARANGAY NAPINDAN, TAGUIG CITY

MEETING HIGHLIGHTS

5. The meeting started with an Opening Prayer led by a resident of the barangay.
6. Barangay Chair Rosanna San Pedro formally opened the meeting. She welcomed the residents from Barangay Napindan and also the residents from adjacent barangays for taking time to attend the meeting. She encouraged everyone to listen to DPWH's presentation and participate in the discussion.
7. A video on the Metro Manila Flood Management Project was shown.
8. Engr. Cherry Rivera presented the results of the environmental and social impact assessment that was conducted for the Labasan pumping station. The major impacts and mitigation measures that were identified in the study includes: (i) generation of dredged materials, sampling/testing of the dredged materials and its appropriate disposal; (ii) generation and disposal of water hyacinth; (iii) odor from dredging activities; (iv) noise from operation of pumps and motors; (v) accumulation of solid waste at the pumping station that requires proper disposal; and (vi) community and worker health and safety issues. Labasan pumping station and the attenuation pond accumulates large volume of water hyacinth that is affecting the proper operation of the pumping station.
9. Jett Villegas presented that the rehabilitation and upgrading of the Labasan pumping station will not involve resettlement of informal settler families (ISFs). However, for information of the community, Ms. Villegas said that the project has a resettlement framework and resettlement action plan in the event that ISFs are affected. The project will avoid resettlement as much as possible. The resettlement action plan includes options on housing or provision of financial assistance. If resettlement cannot be avoided, appropriate plans and budget will be prepared and allocated for the families to be resettled. For project-affected persons (PAPs) who own houses, the proposed options will be housing or cash compensation. For those who will chose the housing option, assistance that will provided by the project will be in the form of: (i) rental subsidy; (ii) transition allowance; (iii) transportation assistance during resettlement; and (iv) livelihood training and financial assistance. For PAPs who are renting, the project assistance will be in the form of: (i) housing; (ii) rental for temporary housing; (iii) transition allowance; (iv) transportation assistance; and (v) livelihood training and financial assistance. There will also be additional assistance for those who are pregnant, senior citizens, children, and disabled. For those who have been previously given housing assistance, the Government through NHA, SHFC, and DILG will evaluate if the PAP is qualified to receive assistance from the project.
10. Engr. Lydia Aguilar, DPWH, presented the background, objectives and components of the proposed Metro Manila Flood Management Project. She outlined the four major components, i.e. Component 1 – construction and rehabilitation of pumping stations; Component 2 – Clearing of waterways; Component 3 – Resettlement of ISFs on waterways; and Component 4 – Project management and coordination. She said that the Labasan pumping station which is being operated by the MMDA will be rehabilitated as one of the priority subprojects under Component 1. Activities will include the replacement of pumps to improve capacity and dredging of the waterways.
- 11. Open Forum and Discussion**
 - a. **Dredging of Laguna Lake.** A resident said that about 70% of people in Barangay Napindan are fishermen. He suggested the dredging of Laguna Lake which is already shallow. A city councilor seconded that it is better if Laguna Lake will be dredged. Barangay Napindan is near

Napindan River which has now become wide. Dredging of Laguna Lake will help increase capacity of the lake.

Engr. Aguilar said that there was a proposal to dredge Laguna Lake during the term of President Aquino but the project was shelved because of the big budget required for the project.

- b. **Capacity of Labasan pumping station.** A resident asked if Labasan pumping station has enough capacity to pump flood water. The pumping station is relatively new and not too old.

Engr. Aguilar said that the pumping station was identified as one of the year 1 projects to be implemented by MMDA. The pumping station is still capable but there is a need to increase capacity.

- c. **Dredged materials might be toxic.** A resident said that the project includes dredging but the dredged materials might have toxic elements. The dredged materials are being dumped in C6. The materials should be tested first before it is used for planting.

Engr. Aguilar said that the disposal of dredged materials is part of the JICA-funded project on the Pasig-Marikina River Improvement project. Since it is JICA-funded, all safeguards measures are being implemented. The dredged materials are sundried and mixed with cement.

- d. **Height of dumped dredged materials.** A resident asked what should be the maximum level for the dumped dredged materials at C6. There are areas wherein the height of the dredged materials is already up to 2nd floor of the house. It is already dangerous to adjacent houses because of potential collapse of the dredged materials.

Engr. Aguilar said that she will refer the matter to the project manager of the project.

- e. **What are the components on the upgrading of Labasan pumping station? Why does it need upgrading?**

Engr. Aguilar said that additional pumps will be installed to increase the capacity of the pumping station. The MMDA identified five priority pumping stations for upgrading and Labasan pumping station was identified by MMDA for upgrading. In any case, the project will still undertake a Feasibility Study and detailed design before implementation.

- f. **Increase drainage capacity including the retention pond.** A City council member said that he supports the proposed upgrading of the pumping station. He said that water being pumped out by Labasan pumping station comes from the Tipas River. Along the Napindan River, there is a road dike and parapet wall. The community is protected from overflows from the Laguna Lake and Pasig River because of the dike and the parapet wall. However, if the capacity of the pumping station will not be increased and the flood gate is closed, houses will definitely be flooded. He suggested that there is also a need to increase the drainage capacity of rivers and also the retention pond.

- g. **Drainage for the dumping area of dredged materials.** In Sitio Samama and Sitio Pinamana, the height of the dumped dredged materials is already too high. There should be drainage in the dumping site to avoid possible collapse of the dredged materials.

- h. **Potential flooding due to dumping of dredged materials.** A council member said that the contractor of the dumping of dredged materials (Toyo Construction, Inc.) looked for lots to be used as dumping site of the dredged materials. They were able to find private lands about 20 – 40 hectares. However, the lots that they initially identified are now full of ISFs so they had to look for other sites. The sites that they are now using were former rice plantation areas which were no longer productive. The land owners of these rice plantation areas agreed to be used as dumping area of the dredged materials to avoid ISFs from locating in their properties. The agreement of the landowners with Toyo Construction is to dump up to one meter above the existing road. Now, the dredged materials are higher than the houses nearby and drainage is not provided in the area. They are afraid that because of the excessive height of the dumped materials, flooding would again occur just like the case in Acacia Estates when it was used as dumping site. Nearby areas got flooded which also led to the construction of Hagonoy pumping station.

- i. **Damage on a dike section in Purok 6, Ibayo, Barangay Napindan.** There is a section of the dike along Napindan River near the Barangay Hall which was damaged. The residents are asking if the dike could be repaired.
- j. **Request for a relief pumping station across the Barangay Hall.** There are so many houses that gets flooded from overflows of the Napindan River. The residents requested DPWH to consider a relief pumping station for the community across the Barangay Hall, along the Napindan River.
- k. **Scouring of river bank.** Barangay Chair Rosanna San Pedro raised a concern on the scouring of the river banks. She requested an extension of the parapet wall to protect the communities against overflow from Napindan River.
- l. **Donation of the river jetty to Barangay Napindan.** The barangay chair requested DPWH to donate the jetty that is being used by Toyo Construction to the Barangay Napindan. The jetty is about 2,000 sqm in area and could be used by the barangay for other purposes once Toyo Construction has completed its contract on the dumping of dredged materials. The barangay plans to use the area for flea market and other community services.
- m. **Compensation to Barangay Napindan by Toyo Construction.** The Barangay council representatives said that Toyo Construction has not secured a permit from the barangay but they are using land within their barangay for the dumping of dredged materials. They hope that Toyo Construction would compensate the barangay for using their area.

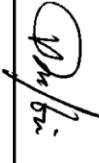






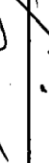
After the open forum, the Barangay agreed to accompany the DPWH team to the disposal area of the dredged materials. The DPWH representatives thanked the residents for their active participation.

PHOTO DOCUMENTATION



**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay Napindan Hall, Taguig City
October 12, 2016, Wednesday, 8:30-10:30 AM






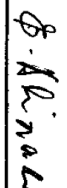

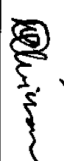
ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
1. Vilma P. Millarin	Brgy Napindan	Staff	09093134323	
2. Evangelina Robles	" "	" "	0998668820	
3. Nelly Lopez	Brgy Napindan	Staff	09289666974	
4. Myra G. Ramos	Brgy CG	" "	090972485	
5. RAMON ORDOZGA	" "	" "	" "	
6. Rosalie M. Deurvecian	P. 3 Brgy Napindan	OSWD/Brgy Exec		
7. Nelly DeFarias	BST Napindan	BST		
8. Luathati E. Nieves	Napindan		09159763148	

ATTENDANCE

**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay Napindan Hall, Taguig City
October 12, 2016, Wednesday, 8:30-10:30 AM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
9. MERUHA PABILA	PS VAGAS ST NAPINDAN		09336515090	
10. THE AUDRINO B. ALZORA	PUAK 241 LUCAS ST	Pastor	09993455444	
11. VICTORIA G. PONCETA	Itayod Purok C		09320120134	
12. OLIVER B. BLONZADES	244A Lucas st. Napindan	(TRISS) Enumerator	09003808223	
13. VIRGINIA F. DU PONT	Barangay Purok 1 St. Napindan	POW PAW		
14. DENISA B. ALINAE	P1. Napindan	Brig Bae		
15. MAESTRO O MUNDAY	C.G. Vag Purok I	P.R.O		
16. NERA OLIVERA	c.u. Village Phase I	Assistant Treasurer	09473118790	

**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay Napindan Hall, Taguig City
October 12, 2016, Wednesday, 8:30-10:30 AM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
17. <i>Gumeldine Z. Dizon</i>	<i>C.C. Vill. Phce I</i>	<i>P.R.O</i>		<i>Adrian</i>
18. <i>Leonor Taverio Pri. Lopez</i>	<i>C.C. Vill. Phce I</i>	<i>member</i>		<i>Lopez</i>
19. <i>Donaida M. Kapreing</i>	<i>P.O. Barang Napindan</i>	<i>DSWD</i>	<i>09475937264</i>	<i>Kapreing</i>
20. <i>Reubyn A. Cabagnan</i>	<i>C.C. Vill. Phce I</i>	<i>P.R.O</i>	<i>09124432876</i>	<i>Reubyn</i>
21. <i>Hissa M. MANALOTO</i>	<i>NAINDAN</i>	<i>TCISS</i>		<i>Hissa</i>
22. <i>SARAH PAPAN</i>	<i>NAINDAN</i>	<i>TCISS</i>		<i>Sarah</i>
23. <i>ELIZABETH R. NAGANIO</i>	<i>NAINDAN</i>	<i>TCISS</i>	<i>09324104770</i>	<i>Elizabeta</i>
24. <i>Julie E. Guinh</i>	<i>Napindan</i>	<i>TCISS</i>	<i>09179531556</i>	<i>Julie</i>




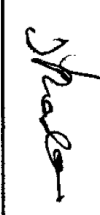




**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay Napindan Hall, Taguig City
October 12, 2016, Wednesday, 8:30-10:30 AM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
25. <i>Wilma Blas</i>	<i>Purok 3</i>			<i>W Blas</i>
26. <i>Dina B. laanan/ao</i>	<i>P. 3</i>			<i>Dina B. laanan/ao</i>
27. <i>WINN G. ESTRADA</i>	<i>P. 3</i>			<i>Winn G. Estrada</i>
28. <i>Rita Obongalan</i>	<i>P1</i>			<i>Rita Obongalan</i>
29. <i>IMELDA C. GONZALES</i>	<i>P3</i>			<i>Imelda C. Gonzales</i>
30. <i>ARISTAR L. SILANIS</i>	<i>P-2</i>	<i>ADMIN</i>		<i>Aristar L. Silanis</i>
31. <i>LUISITO P. MILLERIN</i>	<i>P-6</i>			<i>Luisito P. Millerin</i>
32. <i>Carito V. Puyos</i>	<i>P-5</i>			<i>Carito V. Puyos</i>






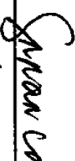

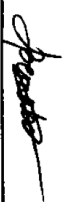
**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay Napindan Hall, Taguig City
October 12, 2016, Wednesday, 8:30-10:30 AM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
33. <i>Emyrlie L. Pines</i>	<i>P. 1</i>			
34. <i>Atx M. Garua</i>	<i>Napindan</i>	<i>Proj. Mgr.</i>		
35. <i>Elena C. Limin</i>	<i>Napindan</i>	<i>Field Evaluator</i>		
36. <i>Jeffrey S. Borda</i>	<i>C6 Vill Napindan</i>	<i>Sec.</i>		
37. <i>Rhonda P. Mago</i>	<i>Napindan</i>	<i>Kalipazans</i>		
38. <i>Berting A. Santos</i>	<i>P. 1 Napindan</i>	<i>PHD/CPTA PROS. NIS</i>	<i>09195340460</i>	
39. <i>Verelice DORAR</i>	<i>C6 Village Hall</i>	<i>Accountant</i>		
40. <i>BEXIAMIN B. NATIVIDAD</i>	<i>C6 Village Hall</i>	<i>CLS</i>		

**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay Napindan Hall, Taguig City
October 12, 2016, Wednesday, 8:30-10:30 AM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
41. MARIO BERNARDO	P1			
42. Judy G. Sina	St. Y College			
43. DIONISIO DV ELIAS	GC VII. HDB			
44. GILFREDO TORRES	P. III Valencia corra			
45. MARINO C. PULIN	P-7. napindan.			
46. Marivic S. Nancea	P-7 Napindan			
47. MARCELINO NARANJO	P-8 Napindan			
48. JENNIFER JANE M. BERNARDO	P1			









**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Barangay Napindan Hall, Taguig City
October 12, 2016, Wednesday, 8:30-10:30 AM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
49. <i>Olivera Lagura</i>	<i>Napindan</i>	<i>WHC</i>	<i>09195098844</i>	<i>[Signature]</i>
50. <i>Felina Barera</i>	<i>" "</i>	<i>NKWC</i>	<i>09298678842</i>	<i>[Signature]</i>
51. <i>RODRIGUEZ</i>	<i>Napindan</i>	<i>Placards</i>	<i>"</i>	<i>[Signature]</i>
52. <i>Joie Talampas</i>	<i>" "</i>	<i>"</i>	<i>09989917587</i>	<i>[Signature]</i>
53. <i>RODRIGUEZ C. CONTRA</i>	<i>" "</i>	<i>Security</i>	<i>09564124044</i>	<i>[Signature]</i>
54. <i>MANITO, CERRON</i>	<i>SANAMIN</i>			<i>[Signature]</i>
55. <i>Leonor Contreras</i>	<i>Napindan/Amara</i>	<i>Placards</i>	<i>0908776840</i>	<i>[Signature]</i>
56. <i>MARTINDO - CHARRAS</i>	<i>Napindan/Amara</i>		<i>09</i>	<i>[Signature]</i>

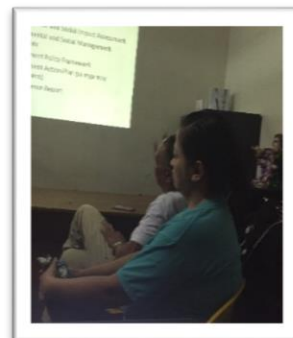
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1
 Barangay Napindan Hall, Taguig City
 October 12, 2016, Wednesday, 8:30-10:30 AM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
57. Elsa Molar	Gk	President	09998237866	
58. Llanita Molar	" "		" "	
59. RMC ALFREDO P. BERNARDO	" "	Bgy. Kagawad	09294465615	
60. Liza KUDY S GATONIMO	" "	" "	09199335034	
61. LINDA C. AGUILAR	DRUIT-VPMD-FMCC	Engr. " "	304-3352	
62. ROBERTO F. CITA	Pres. Lacerda Pres. Lacerda	Pres. Lacerda	Cells 7963	
63. ROBERTO TACANANG	NAPINDAN	Pres. Lacerda	0952-684615	
64. JOHN VILLAS		Com. Solley		

METRO MANILA FLOOD MANAGEMENT PROJECT
MINUTES OF PUBLIC CONSULTATION
TRIPA DE GALLINA PUMPING STATION
OCTOBER 11, 2016, 1:30PM
BARANGAY HALL, BARANGAY 190, PASAY CITY

MEETING HIGHLIGHTS



12. The meeting started with an Opening Prayer led by a resident of the barangay.
13. Ms. Lucita Mirano, Barangay Secretary gave the Welcome Remarks in behalf of Barangay Alma Pichay. She encouraged everyone to listen to DPWH's presentation of the Metro Manila Flood Management Project. Barangay Chair Alma Pichay arrived later and asked everyone to continue the discussion.
14. Engr. John Labilles, DPWH, presented the background, objectives and components of the proposed Metro Manila Flood Management Project. He outlined the four major components, i.e. Component 1 – construction and rehabilitation of pumping stations; Component 2 – Clearing of waterways; Component 3 – Resettlement of ISFs on waterways; and Component 4 – Project management and coordination. He said that the Tripa de Gallina pumping station which is being operated by the MMDA will be rehabilitated as one of the priority subprojects under Component 1. Activities will include the replacement of pumps to improve capacity and dredging of the waterways. Engr. Labilles added that the Tripa de Gallina pumping station was built way back in the 1970s and that the pumps are no longer working efficiently.
15. Engr. Cherry Rivera presented the results of the environmental and social impact assessment that was conducted for the Tripa de Gallina pumping station. The major impacts and mitigation measures that were identified in the study includes: (i) generation of dredged materials, sampling/testing of the dredged materials and its appropriate disposal; (ii) odor from dredging activities; (iii) noise from operation of pumps and motors; (iv) accumulation of solid waste at the pumping station that requires proper disposal; and (v) community and worker health and safety issues. Tripa de Gallina pumping station receives large volume of solid wastes and serves as collection point of solid wastes rather than as a pumping station for flood control.
16. Ms. Reggie Gabales, Environmental and Social Safeguards Division of DPWH said that the rehabilitation and upgrading of the Tripa de Gallina pumping station will not involve resettlement of informal settler families (ISFs). However, for information of the community, Ms. Gabales presented the resettlement framework and resettlement action plan of the project. The project will avoid resettlement as much as possible. If resettlement cannot be avoided, appropriate plans and budget will be prepared and allocated for the families to be resettled. For project-affected persons (PAPs) who own houses, the proposed options will be housing or cash compensation. For those who will chose the housing option, assistance that will provided by the project will be in the form of: (i) rental subsidy; (ii) transition allowance; (iii) transportation

assistance during resettlement; and (iv) livelihood training and financial assistance. For PAPs who are renting, the project assistance will be in the form of: (i) housing; (ii) rental for temporary housing; (iii) transition allowance; (iv) transportation assistance; and (v) livelihood training and financial assistance. There will also be additional assistance for those who are pregnant, senior citizens, children, and disabled. For those who have been previously given housing assistance, the Government through NHA, SHFC, and DILG will evaluate if the PAP is qualified to receive assistance from the project.

A video on the Metro Manila Flood Management Project was shown.

17. Open Forum and Discussion

- a. **Clogged drainage canals.** A resident asked if the project will include drainage improvement because there are drainage canals which are now clogged.

Engr. Labilles said that drainage improvement will be included in the project.

- b. **Lack of cooperation from residents to segregate solid wastes.** A resident said that people do not segregate solid wastes even if they have been advised time and again to do so. People still continue dumping solid wastes like soft drink bottles, plastics, and all kinds of wastes into the river. People lack the discipline to properly manage solid wastes.

- c. **Budget for canal cleaning.** A barangay council member said that to declog drainage canals, they use their personal money to clean canals in front of their houses. They get frustrated sometimes because even if they clean the canals, people continue to dump solid wastes on the canals.

- d. **Vibration.** A resident said that they experience vibration every time the pumping station opens the flood gates.

- e. **Noise.** The residents said that they are not affected by noise. The tricycles are more noisy than the operation of the pumping stations.

- f. **Odor.** They always smell foul odor from the river. This is more pronounced during the opening of the flood gates and dredging of the river.

- g. **ISF returnees.** There is another creek downstream of the Tripa de Gallina river. The ISFs on the creek were already removed by the local government but they now observe ISF returnees. Jett Villegas said that the creek is outside of the technical footprint of the project. She advised that the barangay should be vigilant to avoid ISFs from occupying the river banks again.

- h. **Can households that are not affected by relocation receive livelihood assistance?** A resident said that lack of livelihood opportunities is a problem in the barangay.

Jett Villegas said that livelihood training will be provided to households that will be resettled by the project. In the case of Tripa de Gallina pumping station, there will be no relocation of ISFs. The residents disclosed that the ISFs along Tripa de Gallina were already relocated a long time ago.

- i. **Blocked drainage outfall.** A resident asked if sheet piles will be installed on the banks of the river. She said that in Barangay Sto. Nino, a drainage outfall was blocked when the contractor installed sheet piles on the banks of the river. The sheet piles were installed to prevent scouring of the banks but the sheet piles blocked a drainage outfall and resulted to flooding in the nearby areas.

- j. **Solid wastes from other areas.** A resident said that solid waste in the river comes from other areas such as from Baclaran. Solid wastes are transported through the river and end up in their

barangay. During the previous night, because of clogged canals and continuous rains, flooding occurred in Baclaran. Flood waters was not able to flow because the canals were already clogged with solid wastes. Also, people sometimes take advantage of rains to dump wastes into the river.

Jett Villegas encouraged the residents to discuss in the “Barangayan” ways to improve the solid waste management of the area. An example is to think about imposition of penalty for violators or giving incentives to those who are properly disposing solid wastes. Other programs that could be considered are livelihood opportunities for people assigned to clean the river such as River Warriors as in the case in Barangay 662 in Paco. The barangay can also think about exchanging solid wastes with rice or other goods.



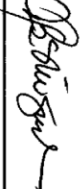





After the open forum, the DPWH representatives thanked the residents for their active participation.



Attendance Sheets



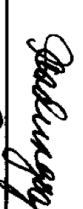





**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Covered Court, Barangay 190, Pasay City
October 11, 2016, Tuesday, 1:30-3:30 PM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
1. MARTIN C. SAMPON	17 Conrado St. da Lerles Vill. P.C.			
2. ESTRELLA SABLE	17 Conrado St., Concepcion Vill. P.C.			
3. JADES P. MIGUEL	01 Conrado St. P.C.			
4. JOMAR ABATO	Concepcion HVC			
5. ROSALIE A. CASPARIAN	01 Conrado St., P.C.			
6. MARLYN B. ABAYAS	Bac-1-11 Dev			
7. MARIVE M. CATACIO	Bac 1 Dev			
8. CONRADO P. CHUA	#4 Conrado P. Daulo Bac 1 Dev	Supv		






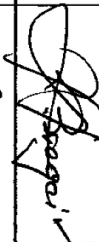


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October 11, 2016, Tuesday, 1:30-3:30 PM

ATTENDANCE SHEET

Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
9. Ryo A. Mendoza	9 Pasamanga St. B.C.U. P.C.		09357594843	
10. Susan C. dela Cruz	12 Concordo Pacific	Brgy. Kagawad	0906 223 5058	
11. Graciela Dalungay	16 BAC-1-11 H. D.C.U.	WARD	0915 118 2713	
12. Julia Labrador	1 BAC-1-11 St. D.C.U.	KAMAND	0929 313 7032	
13. Myrene Picache	14 Concordo Pacific Don Carlos Vill. P.C.	Brgy Treasurer	0995 995 7964	
14. Lucita Miranda		Brgy Secretary		
15. ANTHONY COFFE		TANOD	054 74 46	
16. Susan Legado	9 Concordo St Don Carlos Vill. P.C.	TANOD	854 74 46	



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Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
17. Lorelyn R. Posilio	Brgy. 190 7-20	Brgy. Treasurer	09093270303	
18. Anna D. Pielay	Brgy. 1902-20	Brgy. Administrator	09771951178	
19. Evelyn Beloulay	Brgy - 190			
20. RICARTE, MELVIN AX	Brgy - 190			
21. Brgy. doika T.	Brgy - 190			
22. LYN R. BRACAS	190 - 20	Brgy Record keeper	09057612612	
23. JOHN LACULTO	Brgy 190	PM I		
24. Regie Marie Gabares	DPWH	GENS		

**PUBLIC CONSULTATION FOR THE
METRO MANILA FLOOD MANAGEMENT PROJECT, PHASE 1**
Covered Court, Barangay 190, Pasay City
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ATTENDANCE SHEET

	Name	Address/Office	Position	Contact Number/ E-mail Address	Signature
25.	Jett Villegas	Project M-IMP MMFMP Consultant	Consultant		
26.	Glenn Rivera	MMFMP Consultant	Consultant		
27.					
28.					
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30.					
31.					
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