

## Environmental Monitoring Forms for EMoP (July - September 2023)

### 1. Responses/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	Monitoring Results during Report Period
None during this monitoring period	None during this monitoring period

### 2. Monitoring in Pre-Construction Stage & Construction Stage

The Monitoring plans in pre-construction and construction stages are shown below.

#### 2.1 Monitoring Program

For Contract Packages 1 to 4 (CP1 to 4)

Components	Parameters to be Monitored	Frequency/ Duration	Locations / Quantity**
(1) Water Quality (Surface water)	BOD, color, DO, TSS, fecal coliform, pH, oil and grease	Quarterly	<ul style="list-style-type: none"> <li>• 1 point San Juan River (Downstream reach of Ylang-Ylang River)</li> <li>• 1 point Pond in Ligdong II, Rosario</li> <li>• 2 points Rio Grande River</li> <li>• 1 point Ylang-Ylang River</li> <li>• 1 point Maalimango Creek</li> </ul>
(2) Water Quality (Marine Water)	Color, DO, fecal coliform, pH, TSS, oil and grease, COD	Quarterly	<ul style="list-style-type: none"> <li>• 1 point Manila Bay</li> </ul>
(3) Riverbed Sediment	Cd, T-Cr, T-Hg, Se, Ba, and As and Pb	One time immediately before dredging/ excavation	<ul style="list-style-type: none"> <li>• 6 points San Juan Diversion Channel</li> <li>• 9 points Rio Grande River</li> <li>• 5 points Ylang-ylang River</li> <li>• 2 points Maalimango Creek</li> </ul>
(4) Ambient Air Quality	Total Suspended Particulates (TSP), PM10, CO, NO <sup>2</sup> and SO <sup>2</sup>	Quarterly (24-hrs)	<ul style="list-style-type: none"> <li>• 2 points San Juan Diversion Channel</li> <li>• 2 points Rio Grande River</li> <li>• 2 points Ylang-ylang River</li> <li>• 1 point Maalimango Creek</li> <li>• 1 point Maalimango Diversion II</li> </ul>
(5) Ambient Noise	Noise level	Quarterly (24-hrs)	<ul style="list-style-type: none"> <li>• 2 points San Juan Diversion Channel</li> <li>• 2 points Rio Grande River</li> <li>• 2 points Ylang-ylang River</li> <li>• 1 point Maalimango Creek</li> <li>• 1 point Maalimango Diversion II</li> </ul>
(6) Vibration	Displacement velocity	Quarterly	<ul style="list-style-type: none"> <li>• 2 points San Juan Diversion Channel</li> <li>• 2 points Rio Grande River</li> <li>• 2 points Ylang-ylang River</li> <li>• 1 point Maalimango Creek</li> <li>• 1 point Maalimango Diversion II</li> </ul>
(7) Solid wastes*	Construction debris, papers, plastics, biodegradable waste	Daily (to be reported monthly by the Contractor)	<ul style="list-style-type: none"> <li>• Construction site/ SW storage area</li> </ul>
(8) Wastewater* (domestic)	TSS, BOD, pH, oil and grease	As necessary (to be monitored by the Contractor in relation to discharge permit pursuant to RA	<ul style="list-style-type: none"> <li>• Construction areas in General Trias, Noveleta, Rosario, Kawit, and Imus</li> </ul>



Components	Parameters to be Monitored	Frequency/ Duration	Locations / Quantity**
		9275, DAO2016-08)	
(9) Chemicals and Hazardous Substances*	Used oil, busted lamps, used paints, spent solvents	As necessary (to be monitored by the Contractor in relation to discharge permit pursuant to RA 6969, DAO 2013-22 and DAO 1992-29)	• Storage area/motor pool
(10) Terrestrial Flora*	Trees and mangroves to be affected (cut or earthball)	Anytime (tree cutting/ relocation is done)	• Along and within the project alignment and area.
(11) Terrestrial Fauna*	Inhabiting species	Anytime (unusual death is observed)	• Direct impact area and its marginal (or surrounding) area
(12) Traffic volume count*	Number of vehicles	Semi-annual	• 2 points residential areas along key delivery routes

Note) \* Monitoring is to be done by consolidation of monitoring data to be gathered by the Construction Contractors. The Sub-Consultant shall conduct monthly data collection from the Contractors of each contract package.

\*\* Monitoring locations are shown in the map attached hereinafter.

#### For Contract Package 5 (CP5):

Environmental Aspect	Parameter to be Monitored	Frequency	Locations / Quantity**
(1) Water Quality (Surface water)	BOD, chloride, color, DO, fecal coliform, nitrate, pH, phosphate, temperature, TSS, ammonia, oil & grease, surfactants	Quarterly	• 2 points San Rafael II and San Rafael III
(2) Ambient Air Quality	Total Suspended Particulates (TSP), PM10, CO, NO <sup>2</sup> and SO <sup>2</sup>	Quarterly (24-hrs)	• 2 points residential area near the resettlement site
(3) Ambient Noise	Noise level	Quarterly (24-hrs)	• 2 points residential area near the resettlement site
(4) Solid wastes*	Construction debris, papers, plastics, biodegradable waste	Daily (to be reported monthly by the Contractor)	• Construction site/SW storage area
(5) Terrestrial Flora*	Trees and mangroves to be affected (cut or relocated)	Anytime (tree cutting/ relocation is done)	• Along and within the project alignment and area.
(6) Terrestrial Fauna*	Inhabiting species	Anytime (unusual death is observed)	• Direct impact area and its marginal (or surrounding) area

Note) \* Monitoring is to be done by consolidation of monitoring data to be gathered by the Construction Contractors. The Sub-Consultant shall conduct monthly data collection from the Contractors of each contract package.

\*\* Monitoring locations are shown in the map attached hereinafter.



## 2.2 Monitoring Results

### 2.2.1 Water Quality

#### (1) Environmental Standards

##### a. Water Body Classification and its Intended Beneficial Use

Classification	Intended Beneficial Use
<b>Freshwater</b>	
Class AA	Public Water Supply Class I – Intended primarily for waters having watersheds, which are uninhabited and/or otherwise declared as protected areas, and which require only approved disinfection to meet the latest PNSDW.
Class A	Public Water Supply Class II – Intended as sources of water supply requiring conventional treatment (coagulation, sedimentation, filtration and disinfection) to meet the latest PNSDW
Class B	Recreational Water Class I – Intended for primary contact recreation (bathing, swimming, etc.)
Class C	1. Fishery Water for the propagation and growth of fish and other aquatic resources. 2. Recreational Water Class II – For boating, fishing, or similar activities 3. For agriculture, irrigation, and livestock watering
Class D	Navigable Waters
<b>Marine Water</b>	
Class SA	1. Protected Waters – Waters designated as national or local marine parks, reserves, sanctuaries, and other areas established by law (Presidential Proclamation 1801 and other existing laws), and/or declared as such by appropriate government agency, LGUs, etc. 2. Fishery Water Class I – Suitable for shellfish harvesting for direct human consumption
Class SB	1. Fishery Water Class II – Waters suitable for commercial propagation of shellfish and intended as spawning areas for milkfish ( <i>Chanos chanos</i> ) and similar species 2. Tourist Zones – For ecotourism and recreational activities 3. Recreational Water Class I – Intended for primary contact recreation (bathing, swimming, skin diving, etc.)
Class SC	1. Fishery Water Class III – For the propagation and growth of fish and other aquatic resources and intended for commercial and sustenance fishing 2. Recreational Water Class II – For boating, fishing, or similar activities 3. Marshy and/or mangrove areas declared as fish and wildlife sanctuaries
Class SD	Navigable waters

Source: DAO No. 2016-08.

##### b. Water Body Classification of the Rivers/Creek within the Project Area

Name of Water Body	Classification based on DENR	Classification for Evaluation of this Project
San Juan River	C	C
Rio Grande River	C	C
Ylang-Ylang River	C	C
Maalimango Creek	unclassified	C
Manila Bay	SB	SB

##### c. Water Quality Guidelines for Primary and Secondary Parameters

Parameter	Unit	DAO 2016-08		DAO 2021-19*	
		Class C	Class SB	Class C	Class SB
1. BOD	mg/L	7	n/a	-	-
2. Chloride	mg/L	7	n/a	-	-
3. Color	TCU	75	50	-	-
4. Dissolved Oxygen **	mg/L	5	6	-	-
5. Fecal coliform	MPN/100mL	200	100	200	100
6. pH (Range)	-	6.5-9.0	7.0-8.5	-	-
7. Nitrate	mg/L	7	100	-	-
8. Temperature	°C	25-31	26-30	-	-



Parameter	Unit	DAO 2016-08		DAO 2021-19*	
		Class C	Class SB	Class C	Class SB
9. Phosphate	mg/L	0.5	0.5	0.025	0.2
10. Total Suspended Solids	mg/L	80	50	-	-
11. Ammonia	mg/L	0.05	0.05	0.06	0.06
12. Oil and grease	mg/L	2	2	-	-
13. Surfactants (MBAS)	mg/L	1.5	0.3	-	-

Notes) -: No recommended values, MPN/100mL: Most Probable Number per 100 milliliter, TCU: True Color Unit

\*: The updated guidelines values for fecal coliform, phosphate and ammonia as stated in DAO 2021-19 shall be used for comparison with the water quality results.

\*\* Samples shall be taken from 9:00 AM to 4:00 PM.

## (2) Monitoring Results

### a. Surface Water Quality

For CP1-CP4 – August 7, 2023

No.	Parameters	Unit	Water Quality Guidelines (Class C)	Stations				
				SW-1	SW-2	SW-4	SW-5	SW-6
PRIMARY								
1	Biochemical Oxygen Demand (BOD)	mg/L	7	26	37	29	29	40
2	Color (True)	CU	75	5	5	5	5	10
3	Dissolved Oxygen (DO)	mg/L	5(min)	1.21	6.55	3.39	5.41	3.54
4	Fecal Coliform*	MPN/100mL	200	920	49	79	540	920
5	pH	-	6.5-9.0	7.76	7.85	7.72	7.14	7.72
6	Total Suspended Solids (TSS)	mg/L	80	6	25	76	95	8
SECONDARY								
1	Oil and Grease	mg/L	2	<1.0	<1.0	<1.0	<1.0	<1.0

Notes: Red Mark means exceedance with Water Quality Guideline as per DAO 2016-08/ DAO 2021-19.

\* Parameters that have updated Water Quality Guidelines and General Effluent Standards as stipulated in DAO 2021-19. Parameters without \* are stipulated in DAO 2016-08.

For CP5 – August 7, 2023

No.	Parameters	Unit	Water Quality Guidelines (Class C)	Stations	
				SW-1	SW-2
PRIMARY					
1	Biochemical Oxygen Demand (BOD)	mg/L	7	29	37
2	Color (True)	CU	75	5	15
3	Dissolved Oxygen (DO)	mg/L	5(min)	7.52	7.16
4	Fecal Coliform*	MPN/100mL	200	33	23
5	pH	-	6.5-9.0	7.16	7.26
6	Total Suspended Solids (TSS)	mg/L	80	86	75
7	Chloride	mg/L	350	18,675	11,925
8	Nitrate	mg/L	7	<0.10	<0.10
9	Ammonia*	mg/L	0.06	0.20	0.71
10	Phosphate*	mg/L	0.025	<0.20	0.33
SECONDARY					
1	Surfactant	mg/L	1.5	0.37	1.50
2	Oil and Grease	mg/L	2	<1.0	<1.0

Notes: Red Mark means exceedance with Water Quality Guideline as per DAO 2016-08/DAO 2021-19.

\* Parameters that have updated Water Quality Guidelines and General Effluent Standards as stipulated in DAO 2021-19. Parameters without \* are stipulated in DAO 2016-08.



## b. Marine Water (Manila Bay) – August 7, 2023

No.	Parameters	Unit	Water Quality Guidelines (Class SB)	Stations
				MW-1
PRIMARY				
1	Chemical Oxygen Demand (COD)	mg/L	-	37
2	Color (True)	CU	50	15
3	Dissolved Oxygen (DO)	mg/L	-	5.93
4	Fecal Coliform*	MPN/ 100mL	100	3,500
5	pH	-	7.8-8.5	7.89
6	Total Suspended Solids (TSS)	mg/L	50	75
SECONDARY				
1	Oil and Grease	mg/L	2	<1.0

Notes: Red Mark means exceedance with Water Quality Guideline as per DAO 2016-08/DAO 2021-19.

\* Parameters that have updated Water Quality Guidelines and General Effluent Standards as stipulated in DAO 2021-19.

Parameters without \* are stipulated in DAO 2016-08.

## 2.2.2 Air Quality

## (1) Environmental Standards

Pollutant	Short Term <sup>(a)</sup>			Long Term <sup>(b)</sup>		
	µg/NCM	ppm	Averaging Time	µg/NCM	ppm	Averaging Time
Suspended Particulate Matter <sup>(c)</sup> - TSP	230 <sup>(d)</sup>		24 hours	90		1 year <sup>(e)</sup>
Particulate Matter (PM)10	150 <sup>(f)</sup>		24 hours	60		1 year <sup>(e)</sup>
Sulfur Dioxide <sup>(c)</sup>	180	0.07	24 hours	80	0.03	1 year
Nitrogen Dioxide	150	0.08	24 hours	--	--	--
Carbon Monoxide	35	30	1 hour			
	10	9	8 hours			

Notes)

1. Pursuant to Section 12 of Republic Act 8749, the initial set of National Ambient Air Quality Guideline Values (NAAQGV) necessary to protect public health and safety and general welfare shall be as follows:

(a) Maximum limits represented by ninety-eight percentile (98%) values not to exceed more than once a year.

(b) Arithmetic mean

(c) SO<sub>2</sub> and Suspended Particulate are sampled once every six days when using the manual methods. A minimum number of twelve sampling days per quarter or forty-eight sampling days each year is required for these methods. Daily sampling may be done in the future once continuous analyzers are procured and become available.

(d) Limits for Total Suspended Particulate Matter with mass median diameter less than 25-50 µm.

(e) Annual Geometric Mean.

(f) Provisional limits for Suspended Particulate Matter with mass median diameter less than 10 µm and below until sufficient monitoring data are gathered to base a proper guideline.

2. The applicable methods for sampling and measurement of the above pollutants are as follows:

TSP - High Volume – Gravimetric, USEPA 40 CFR, Part 50, Appendix B

PM10 - High Volume with 10-micron particle-size inlet; Gravimetric, USEPA 40 CFR, Part 50, Appendix J

Sulfur Dioxide – Gas Bubbler and Pararosaniline Method (West and Gaeke Method), or Flame Photometric Detector, USEPA 40 CFR, Part 50, Appendix A

Nitrogen Dioxide – Gas Bubbler Griess-Saltzman, or Chemiluminescence Method, USEPA 40 CFR, Part 50, Appendix F

Carbon Monoxide – Non- dispersive Infra-red Spectrophotometry (NDIR), USEPA 40 CFR, Part 50, Appendix C

3. An analyzer based on the principles and methods cited above will be considered a reference method only if it has been designated as a reference method in accordance with 40 CFR, Part 53.

4. Other equivalent methods approved by the Department may be adopted.

## (2) Monitoring Results

For CP1 to CP4 - August, 2023

Parameter	Unit	NAAQGV*	Monitoring Results						
			AQ1	AQ2	AQ3	AQ5	AQ6	AQ7	AQ8
TSP	µg/Ncm	230	200.03	174.84	133.13	33.78	33.30	84.84	90.01
PM <sub>10</sub>	µg/Ncm	150	76.19	73.91	56.66	20.84	25.59	47.39	44.02
SO <sub>2</sub>	µg/Ncm	180	0.96	0.28	0.46	1.18	0.96	1.94	0.70



NO <sub>2</sub>	µg/Ncm	150	0.50	0.18	0.50	0.36	0.49	0.18	0.89
CO	ppm	9	2	1	1	1	1	1	<0.5

Note) Red Mark means exceedance with National Ambient Air Quality Guideline Values (NAAQGV).

The monitoring location and date of monitoring for ambient air quality and ambient noise level is as follows:

- AQ1 was conducted on August 6 - 7, 2023,
- AQ2 was conducted on August 5 - 6, 2023,
- AQ3 was conducted on August 8 - 9, 2023,
- AQ5 was conducted on August 2 - 3, 2023,
- AQ6 was conducted on August 3 - 4, 2023,
- AQ7 was conducted on August 9 - 10, 2023,
- AQ8 was conducted on August 7 - 8, 2023.

#### For CP5 - August, 2023

Parameter	Unit	NAAQGV*	Monitoring Results	
			AQ1	AQ2
TSP	µg/Ncm	230	43.63	42.15
PM <sub>10</sub>	µg/Ncm	150	23.34	24.95
SO <sub>2</sub>	µg/Ncm	180	0.99	1.23
NO <sub>2</sub>	µg/Ncm	150	0.26	0.37
CO	ppm	9	1	2

Note) Red Mark means exceedance with National Ambient Air Quality Guideline Values (NAAQGV).

The monitoring location and date of monitoring for ambient air quality and ambient noise level is as follows:

- AQ1 was conducted on August 10 - 11, 2023,
- AQ2 was conducted on August 11 - 12, 2023.

## 2.2.3 Noise and Vibration

### (1) Environmental Standards

#### a. Noise Standards for General Areas

Time	Class				
	AA	A	B	C	D
Daytime (0900-1800Hr)	50	55	65	70	75
Evening (1800-2200Hr)	45	50	60	65	70
Nighttime (2200-0500Hr)	40	45	55	60	65
Morning (0500-0900Hr)	45	50	60	65	70

Class AA – a section of contiguous area which requires quietness, such as areas within 100 meters from school sites, nursery schools, hospitals and special homes for the aged.

Class A – a section or contiguous area which is primarily used for residential purposes.

Class B – a section or contiguous area which is primarily a commercial area.

Class C – a section primarily zoned or used as light industrial area.

Class D – a section which is primarily reserved, zoned or used as a heavy industrial area

Correction factor:

- Areas directly fronting or facing a four-lane road: +5 dBA
- Areas directly fronting or facing a four-lane or wider road : +10 dBA

Source: National Pollution Control Commission (NPCC) - Memorandum Circular (MC) No.002 of 1980.

#### b. Noise Standards for Construction Activities

Class	Description	Standard (dBA)
1	Work which requires pile drivers (excluding manual type), file extractions, reveting hammers or combination thereof. It does not include pile drivers used in combination with earth augers.	90
2	Work which requires rock drills, or similar equipment like jack hammers or pavement breakers.	85
3	Work which requires air compressor (limited to those compressors which use power other than electric motors with a rated output of 15 KW or more). Air compressors powering rock drills, jack hammers, pavement breakers are excluded.	75



Class	Description	Standard (dBA)
4	Operation involving batching plant (limited to those with a mixer capacity of 0.5 or more cubic meters) and/or asphalt plants (limited to those with mixer capacity of 200kg or more). Batching plants for the making of mortar are excluded.	75

Source: National Pollution Control Commission (NPCC) - Memorandum Circular (MC) No.002 of 1980.

### c. Vibration Standards

No standard or guideline is given in the Philippines for now. The displacement velocity of 2.5 mm/s for ground vibration is used as maximum allowable peak value under the Project, which is the level not to cause adverse effects to residential and sensitive structures (e.g., hospital, school) in most cases.

## (2) Monitoring Results

### a. Noise

#### For CP1 to CP4 - August, 2023

Station (Class)	Date of Monitoring	Unit	Morning	Daytime	Evening	Nighttime
AQ1 (Class A)	August 6 - 7, 2023	dBA	54.3	56.6	56.3	47.9
AQ2 (Class AA)	August 5 - 6, 2023	dBA	60.0	63.5	64.1	58.6
AQ3 (Class A)	August 8 - 9, 2023	dBA	57.1	58.9	60.4	57.2
AQ5 (Class A)	August 2 - 3, 2023	dBA	56.5	55.5	53.6	51.8
AQ6 (Class A)	August 3 - 4, 2023	dBA	55.8	61.1	56.0	50.7
AQ7 (Class A)	August 9 - 10, 2023	dBA	64.7	68.4	65.0	58.1
AQ8 (Class A)	August 7 - 8, 2023	dBA	51.3	59.0	58.4	49.3
Noise Standards (Class A)		dBA	50	55	50	45
Noise Standards (Class AA)		dBA	45	50	45	40

Notes) Red mark means exceedance of the standard stipulated in the NPCC MC 1980-002.

#### For CP5 - August, 2023

Station (Class)	Date of Monitoring	Unit	Morning	Daytime	Evening	Nighttime
AQ1 (Class A)	August 10 - 11, 2023	dBA	48.8	52.2	49.9	48.7
AQ2 (Class AA)	August 11 - 12, 2023	dBA	48.1	56.0	52.7	45.9
Noise Standards (Class A)		dBA	50	55	50	45
Noise Standards (Class AA)		dBA	45	50	45	40

Notes) Red mark means exceedance of the standard stipulated in the NPCC MC 1980-002.

### b. Vibration (Monitored only for CP1 to CP4)

#### For CP1 to CP4 - August, 2023

Station	Date of Monitoring	Displacement Velocity (mm/s)			
		Min		Max	
		Baseline (2022)	August 2023	Baseline (2022)	May 2023
AQ1	May 5, 2023 – morning & afternoon	0.4	1.1	0.6	1.4
AQ2	May 5, 2023 – morning & afternoon	0.5	1.7	0.8	2.8
AQ3	May 5, 2023 – morning & afternoon	0.4	0.7	0.6	1.2
AQ5	May 5, 2023 – morning & afternoon	0.8	0.3	1.4	0.5
AQ6	May 5, 2023 – morning & afternoon	0.3	0.1	0.5	0.2
AQ7	May 5, 2023 – morning & afternoon	0.7	0.9	1.2	1.3
AQ8	May 5, 2023 – morning & afternoon	0.6	1.0	0.9	2.1
Maximum Allowable Peak Velocity for Ground Vibration: 2.5 mm/s.					



## 2.2.4 Terrestrial Flora

- For CP1-CP4:
  - For CP1 - Documents for a tree cutting permit application were received by the PENRO office on 16 May 2023. Currently, it is under evaluation of the PENRO foresters.
  - For CP3 – Issuance of the Tree Cutting Permit on 21 September 2023.
- For CP5:
  - Earth balling and replanting of the remaining mangrove trees were made during this reporting period (July – September 2023). Seedlings are already requested as replacements to offset those mangrove trees affected within the project site.

### Summary of Monitoring Results for this Monitoring Period, July – September 2023

Monitoring Item	Monitoring Results during Report Period
<p>Quarterly monitoring conducted by the Consultants for the project areas for Contract Packages 1 to 4 (CP-1 to 4) and Contract Package 5 (CP5) including the following parameters:</p> <ul style="list-style-type: none"> <li>• Water quality (surface water (river water) and marine water),</li> <li>• Air quality,</li> <li>• Noise and vibration, and</li> <li>• Terrestrial flora.</li> </ul>	<p>1. Water Quality</p> <p>Surface water for Contract Packages 1 – 4:</p> <ul style="list-style-type: none"> <li>• Monitoring was conducted at five (5) stations. One station (SW-3) was not allowed to monitor by the mayor of General Trias City.</li> <li>• Parameters of BOD, DO, Fecal coliform and TSS did not meet the prescribed water quality guidelines at all stations or partially.</li> </ul> <p>Surface water for Contract Package 5:</p> <ul style="list-style-type: none"> <li>• Monitoring was conducted at two (2) stations near the project area.</li> <li>• Parameters of BOD, TSS, Chloride, Ammonia, and Phosphate exceeded the prescribed water quality guidelines at all stations or partially.</li> </ul> <p>Marine water:</p> <ul style="list-style-type: none"> <li>• Monitoring was conducted at one (1) station established near the river month of San Juan Diversion Channel to be constructed.</li> <li>• Parameter of Facal coliform and TSS exceeded the prescribed water quality guidelines.</li> </ul> <p>2. Air Quality</p> <ul style="list-style-type: none"> <li>• Monitoring was conducted at seven (7) stations. One station (AQ4) was not allowed to monitor by the mayor of General Trias City.</li> <li>• All monitoring stations are within the set standard.</li> </ul> <p>3. Noise Quality</p> <p>Surface water for Contract Packages 1 – 4:</p> <ul style="list-style-type: none"> <li>• Monitoring was conducted at the same locations as air quality.</li> <li>• All the monitoring results exceeded the standard values of ambient noise level.</li> </ul> <p>Surface water for Contract Packages 5:</p> <ul style="list-style-type: none"> <li>• Monitoring was conducted at the same locations as air quality.</li> </ul>



Monitoring Item	Monitoring Results during Report Period
	<ul style="list-style-type: none"> <li>Monitoring results of AQ2 exceeded the standard values for all the time regime, while at AQ1, only the monitoring result of the nighttime exceeded the standard value.</li> </ul> <p>4. Vibration</p> <ul style="list-style-type: none"> <li>Vibration level was monitored for PC1 to 4 at the same location as noise since the pile driving work is included under the PC1 to 4..</li> <li>All the monitoring results were within the maximum allowable peak velocity for the ground vibration except at one (1) location, where no construction works of the Project was not being done.</li> </ul> <p>5. Terrestrial Flora</p> <ul style="list-style-type: none"> <li>For CP1 - Documents for a tree cutting permit application were received by the PENRO office on 16 May 2023. Currently, it is under evaluation of the PENRO foresters.</li> <li>For CP3 – Issuance of the Tree Cutting Permit on 21 September 2023.</li> <li>For CP5 - Earth balling and replanting of the remaining mangrove trees were made during this reporting period (July – September 2023). Seedlings are already requested as replacements to offset those mangrove trees affected within the project site.</li> </ul>



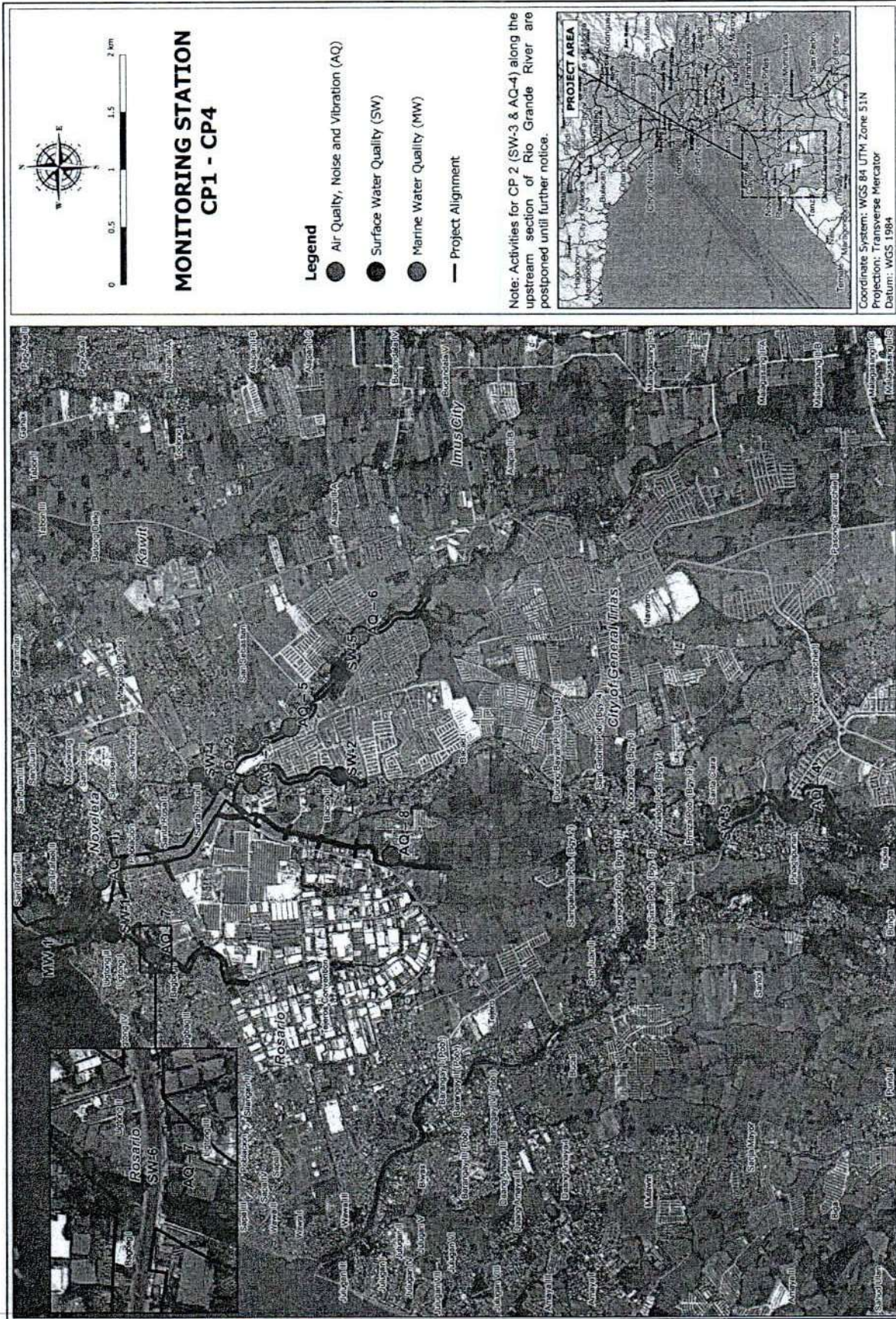


Figure 1 Location Map of Monitoring Stations for CP-1 to 4



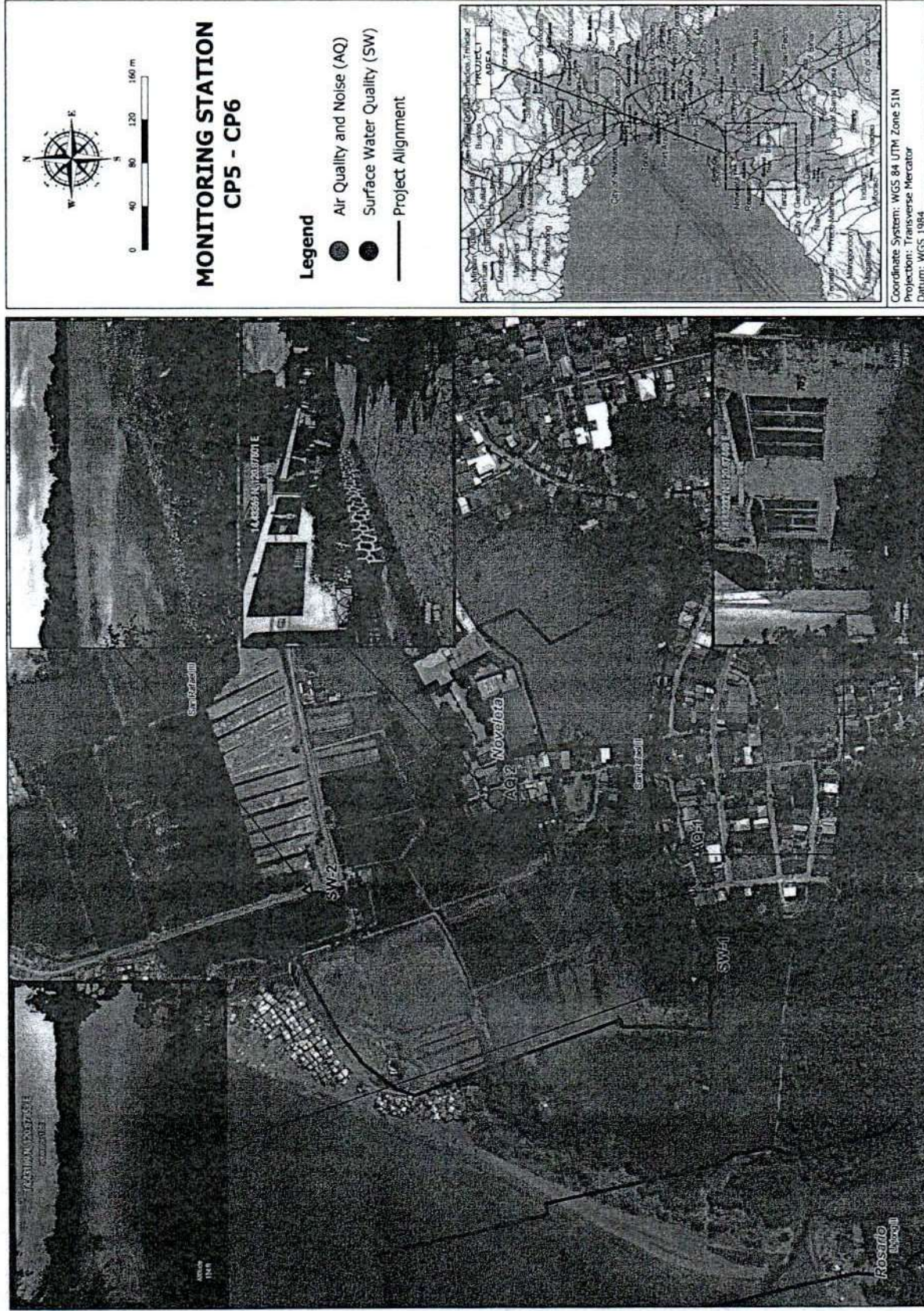


Figure 2 Location Map of Monitoring Stations for CP-5