

# UNIMEK SDN. BHD.

## ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR PROPOSED OFFSITE USED BATTERIES STORAGE FACILITY ON PART OF CL.015594279, MILE 7 ½, JALAN TUARAN, INANAM, KOTA KINABALU, SABAH



**FINAL REPORT  
OCTOBER 2025  
ENVS/4/04/G/641/23**



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# **EXECUTIVE SUMMARY**



# EXECUTIVE SUMMARY

## ENVIRONMENTAL IMPACT ASSESSMENT (FIRST SCHEDULE) PROPOSED OFFSITE USED BATTERIES STORAGE FACILITY ON PART OF CL.015594279, MILE 7 ½, JALAN TUARAN, INANAM, KOTA KINABALU, SABAH

### PROJECT PROPONENT

**UNIMEK SDN. BHD.**  
CL.015594279, Mile 7 1/2,  
Jalan Tuaran, Inanam,  
88450 Kota Kinabalu, Sabah.  
Tel: 019-951 3550

Contact Person:

- **Mr. Sun Tien Loi** [Director]
- **Mr. Tiong Meng Ching** [Manager]

Email:

- [unimeksdnbhd@gmail.com](mailto:unimeksdnbhd@gmail.com)

### EIA CONSULTANT

**ENVSOLVE SDN. BHD.**  
1st Floor, No. 3,  
Lorong Kilang F, Kolombong,  
88450 Kota Kinabalu, Sabah.  
Tel: 088-388 791  
Fax: 088-388 792

Contact Person:

- **Ir. Ts. Burhanudin bin Abu Bakar** [EIA Team Leader]
- **ChM. Lo Su Mui** [Assistant Consultant]

Email:

- [envsolve@gmail.com](mailto:envsolve@gmail.com); [info@envsolve.com](mailto:info@envsolve.com)

## OVERVIEW



### Location

Located on part of land parcel  
CL.015594279, Mile 7 1/2, Jalan Tuaran,  
Inanam, Kota Kinabalu, Sabah



### Zoning

General Industry (G1) - by *Jabatan  
Perancangan Bandaraya, Dewan  
Bandaraya Kota Kinabalu*



### Main Activity

Reception, storage and transportation of  
scheduled wastes (used batteries) to  
their designated final disposal facility



### Statement of Need

- Provide a proper, efficient, and convenient storage facility for scheduled wastes.
- Prevent improper and indiscriminate dumping of scheduled wastes.
- Contribute to sustainable development and the local environment.

## QUALIFIED PERSON



### 1

**IR. TS. BURHANUDIN BIN ABU BAKAR**  
EIA Consultant [CS0168]

### 2

**ADNAN BIN YUSOP ALI**  
Subject Specialist [SS0038]

### 3

**PROF. MADYA DR. ZAINI SAKAWI**  
Subject Specialist [SS0357]

### 4

**LO SU MUI**  
Assistant Consultant [AC0923]

## LEGISLATIVE REQUIREMENT

### Section 34A, Environmental Quality Act, 1974

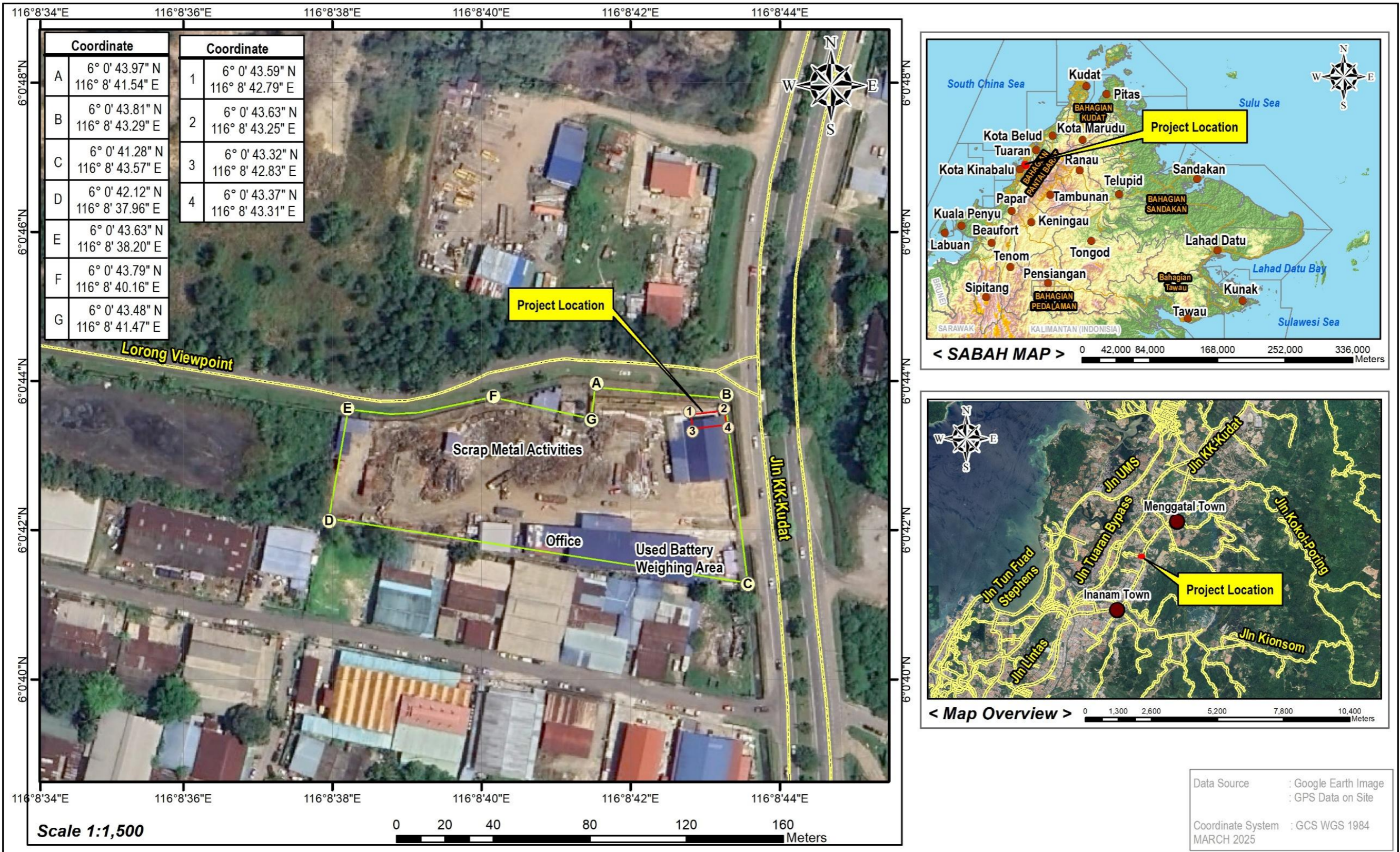
Environmental Quality (Prescribed Activities)  
(Environmental Impact Assessment) Order 2015

#### First Schedule





#### 14. Waste Treatment and Disposal (a) Scheduled Waste

(iii) Construction of storage facility (off-site)

EIA report is therefore required for submission to the DOE for approval prior to Project implementation.

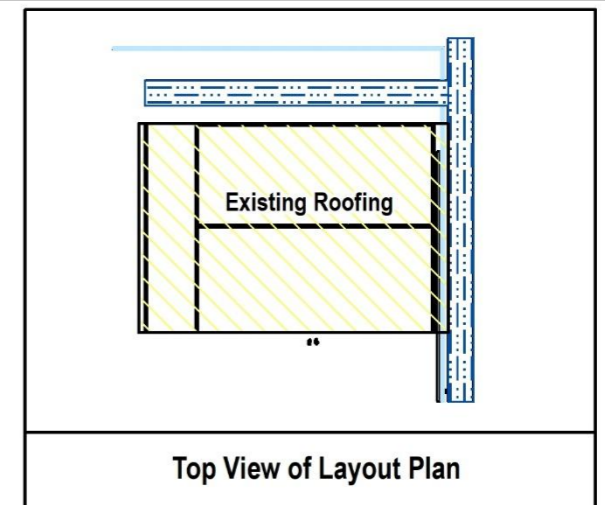
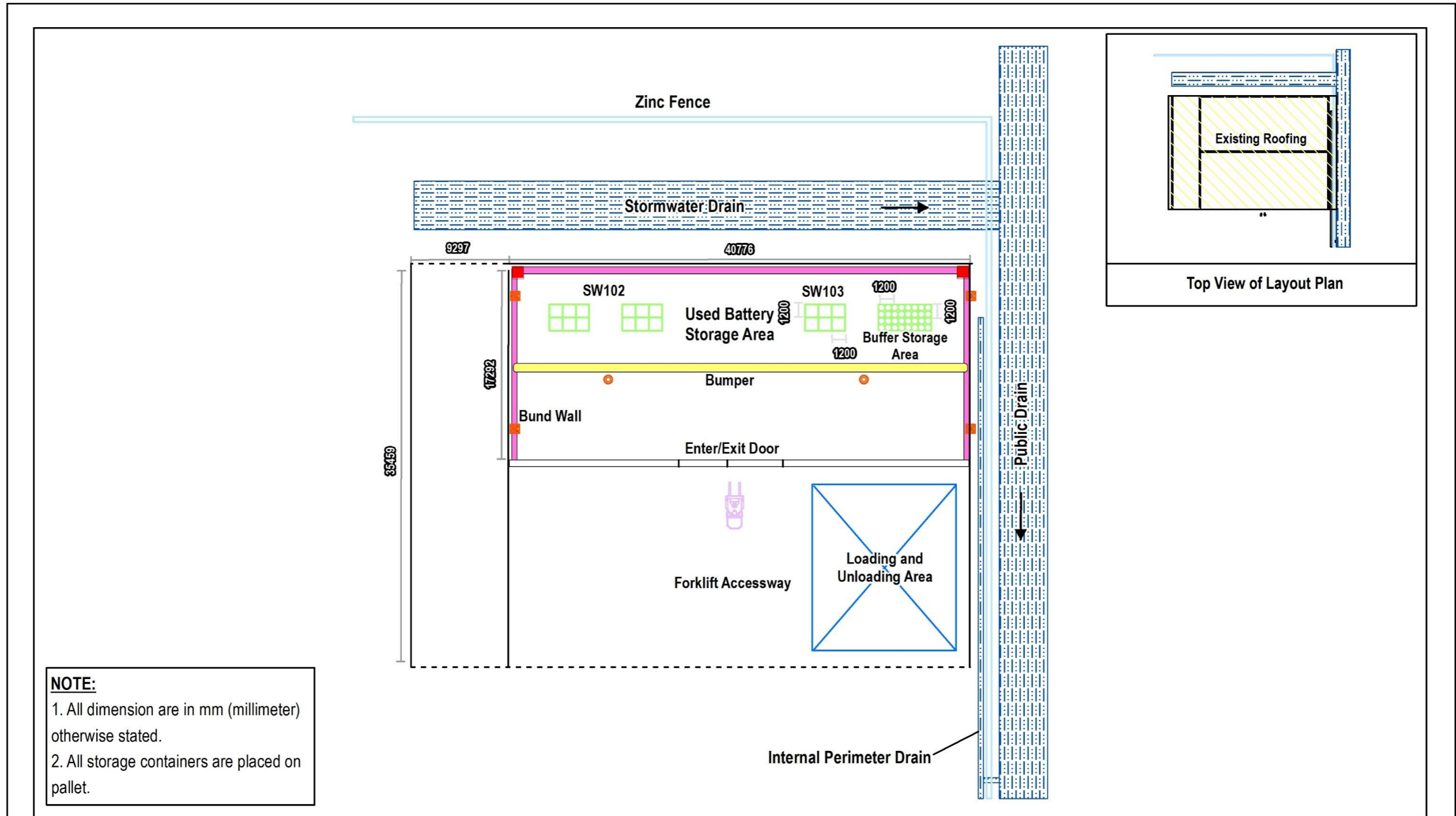


**Project Title**  
 Proposed Offsite Used Batteries Storage Facility on Part of CL.015594279, Mile 7 ½, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah

Legend	
	Project Boundary
	Unimek Sdn Bhd
	Road
	Town

Project Location	
Project Proponent: Unimek Sdn. Bhd.	
Environmental Consultant: Envsolve Sdn Bhd	
Reference Number: ENVS/4/04/G/641/23	Drawn By : Aina

**Figure ES-1**



**NOTE:**  
 1. All dimension are in mm (millimeter) otherwise stated.  
 2. All storage containers are placed on pallet.



Scale 1:50,000,000,000



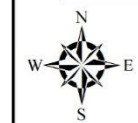
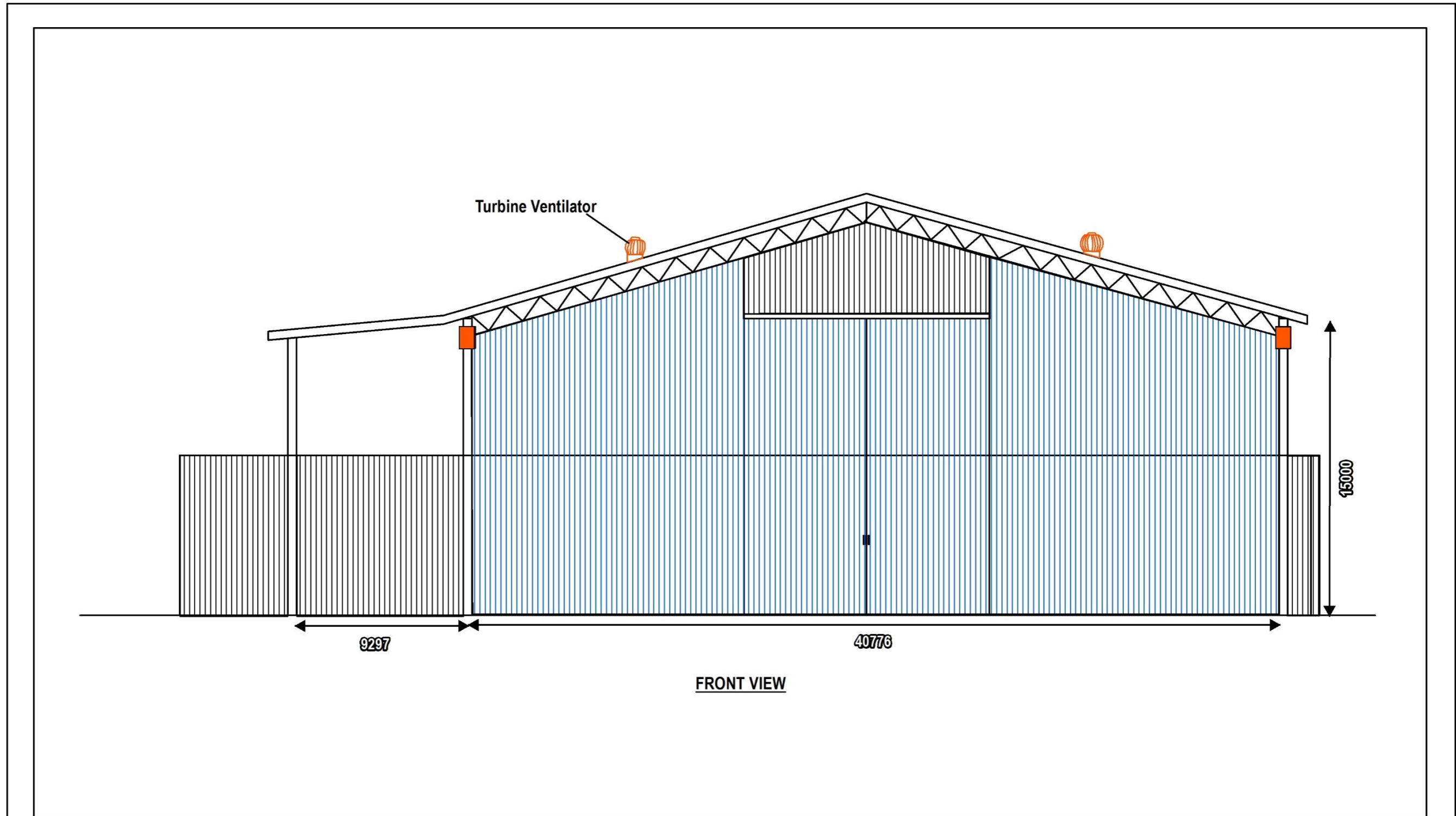
Data Source : Storage Facility Layout Plan Unimek/ENVS/001/25  
 Coordinate System : GCS WGS 1984  
 March 2024

**Project Title**  
 Proposed Offsite Used Batteries Storage Facility on Part of CL.015594279, Mile 7 ½, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah

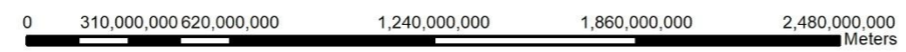
Legend	
	Jumbo Bag with Wooden Pallet
	Existing Roofing
	Bund Wall (900mm height, 150mm width)
	Sump
	Bumper (300mm width, 60mm height)
	Loading and Unloading Area
	Buffer Storage
	Zinc Fence
	Turbine Ventilator
	Wall-Mounted Exhaust Fan



**Proposed Storage Facility Layout Plan (Plan View)**  
 Project Proponent: Unimek Sdn. Bhd.  
 Environmental Consultant: Envsolve Sdn Bhd  
 Reference Number: ENVS/4/04/G/641/23  
 Drawn By : Aina



Scale 1:50,000,000,000



Data Source : Storage Facility Layout Plan Unimek/ENVS/001/25  
 Coordinate System : GCS WGS 1984  
 March 2024

**Project Title**  
 Proposed Offsite Used Batteries Storage Facility on Part of CL.015594279, Mile 7 ½, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah

Legend	
	Zinc Fence
	Wall-Mounted Exhaust Fan

Figure ES-2(b)

Proposed Storage Facility Layout Plan (Top View)	
Project Proponent:	Unimek Sdn. Bhd.
Environmental Consultant:	Envsolve Sdn Bhd
Reference Number:	ENVS/4/04/G/641/23
Drawn By :	Aina

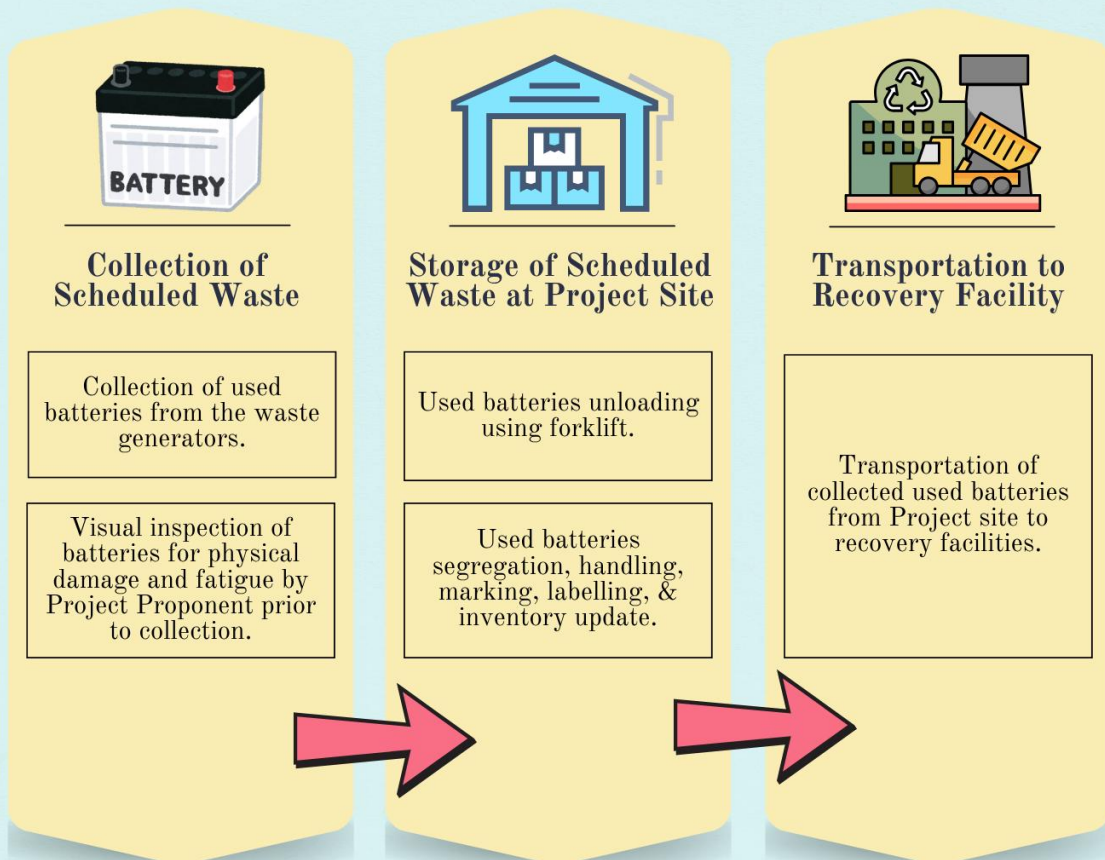


# PROJECT CONCEPT

## LIST OF SCHEDULED WASTE COLLECTION

SCHEDULED WASTE CODE	WASTE TYPE	QUANTITY (MT/MONTH)
SW102	Lead-acid batteries; commonly used in automotive applications	14
SW103	Button, rechargeable, or lithium-ion batteries; commonly used in portable electronics	6
<b>TOTAL CAPACITY</b>		<b>20</b>

## PROCESS FLOW FOR OPERATION AT OFFSITE STORAGE FACILITY



# PROJECT ACTIVITY



## PRE-CONSTRUCTION / RENOVATION

- EIA study.
- Preparation of relevant site plans / drawings.

# 1

# 2

## CONSTRUCTION / RENOVATION

- Mobilization of equipment, workers, and construction materials.
- Renovation works to convert the existing warehouse into a used batteries storage facility.



## OPERATIONAL AND MAINTENANCE

- Collection of used batteries from waste generators/ customers.
- Sorting and labelling based on waste type.
- Temporary storage at offsite storage facility.
- Transportation of used batteries from offsite storage facility to final recovery or disposal facility:
  - Intercedar Industry (M) Sdn Bhd - SW102
  - Econili Battery New Energy Sdn Bhd - SW103



## ABANDONMENT

- Site restoration.
- Submission of Abandonment Plan to DOE.

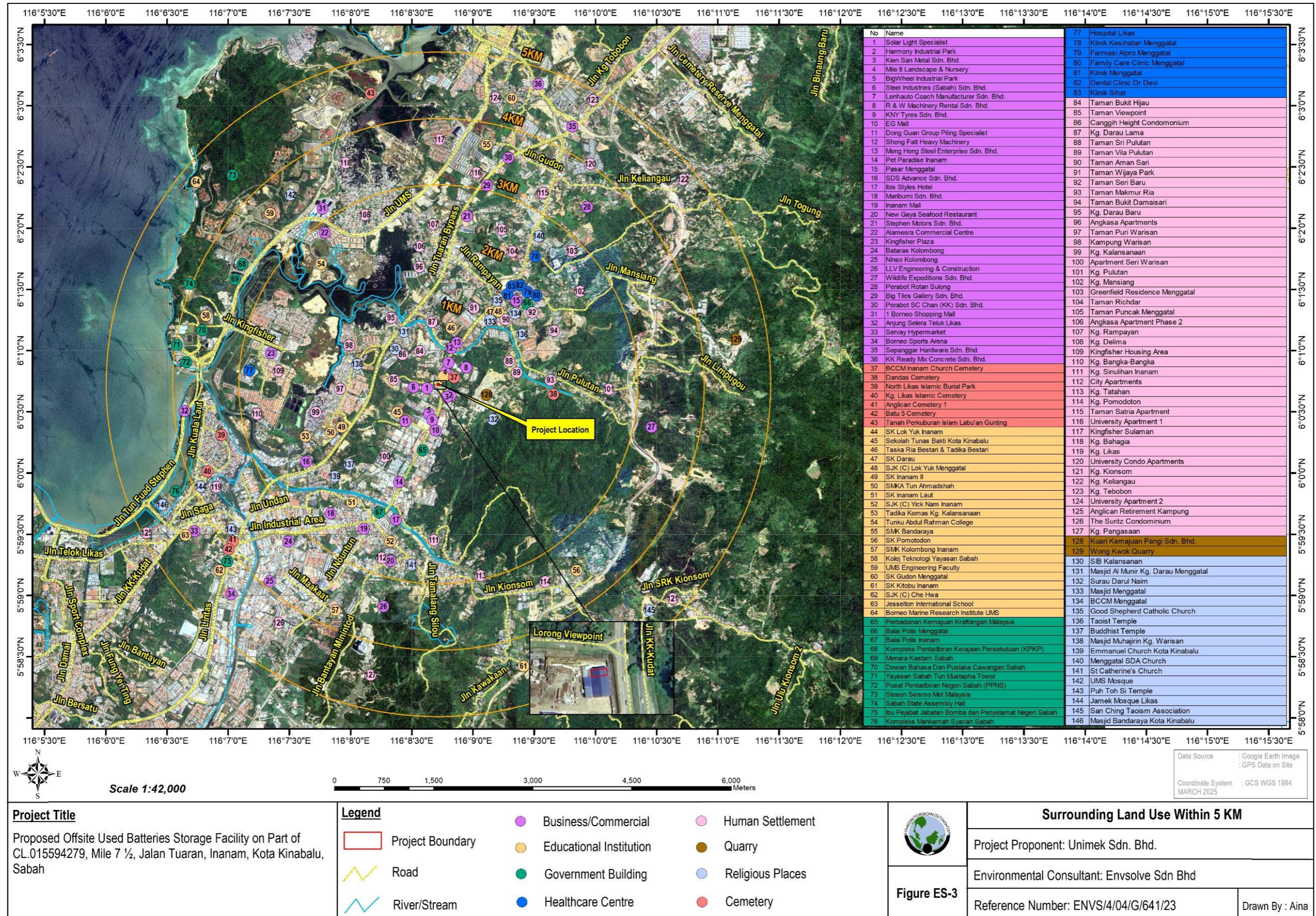
# 4





## EXISTING ENVIRONMENT

<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>TOPOGRAPHY</b></p> </div> <ul style="list-style-type: none"> <li>◆ Relatively flat.</li> <li>◆ Surrounded by other industrial companies.</li> </ul>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p style="text-align: center;"><b>HYDROLOGY</b></p> </div> <ul style="list-style-type: none"> <li>◆ No major rivers or tributaries crossing the boundaries of the Project site.</li> <li>◆ The nearest river, Sg. Darau and Sg. Inanam, located about 560 m north and 1.98 km southwest of the Project site, respectively.</li> </ul>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>GEOLOGY</b></p> </div> <ul style="list-style-type: none"> <li>◆ <b>Geological Setting:</b> Comprised of Eocene - Oligocene.</li> <li>◆ <b>Soil Component:</b> Dalit Association.</li> </ul>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p style="text-align: center;"><b>METEOROLOGY</b></p> </div> <ul style="list-style-type: none"> <li>◆ <b>Rainfall</b> <ul style="list-style-type: none"> <li>• Ranges between 2031.4 mm - 3584.8 mm</li> </ul> </li> <li>◆ <b>Temperature</b> <ul style="list-style-type: none"> <li>• Ranges between 25.6 °C - 29.4 °C</li> </ul> </li> <li>◆ <b>Humidity</b> <ul style="list-style-type: none"> <li>• Ranges between 67.0 % - 87.1 %</li> </ul> </li> <li>◆ <b>Wind Speed</b> <ul style="list-style-type: none"> <li>• Ranges between 1.7 - 2.7 m/s</li> </ul> </li> </ul>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>HUMAN ENVIRONMENT</b></p> </div> <ul style="list-style-type: none"> <li>◆ Socio-economic surveys were conducted on: 11-13<sup>th</sup> June 2024, 24<sup>th</sup> March 2025 &amp; 10<sup>th</sup> April 2025.</li> <li>◆ A total of 132 respondents within 1 km radius from Project boundary were interviewed.</li> <li>◆ The respondent have highlighted concerns regarding air, water and soil pollution as well as safety issues.</li> </ul>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p style="text-align: center;"><b>FLORA</b></p> </div> <ul style="list-style-type: none"> <li>◆ No rare or protected flora within Project vicinity.</li> <li>◆ Domestic vegetation profiles, eg. grasses and shrubs.</li> </ul>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>SURROUNDING LAND USE</b></p> </div> <ul style="list-style-type: none"> <li>◆ The nearest sensitive receptors are neighboring premises within scrap metal boundary (Unimek Sdn. Bhd.)</li> <li>◆ 500 m study boundary comprises of businesses/commercials, educational institutions and cemeteries.</li> <li>◆ 5 km study boundary comprises of businesses/commercials, human settlements, educational institutions, government buildings, health centers, religious places, cemeteries, and infrastructure/utility.</li> </ul>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p style="text-align: center;"><b>FAUNA</b></p> </div> <ul style="list-style-type: none"> <li>◆ No significant fauna values found at and surrounding the Project site.</li> </ul>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>TRAFFIC AND TRANSPORTATION</b></p> </div> <ul style="list-style-type: none"> <li>◆ Mostly private vehicles of employees of the surrounding premises.</li> </ul>	





# ENVIRONMENTAL BASELINE SAMPLING



## SURFACE WATER QUALITY MONITORING



Most of the measured parameters comply with the **National Water Quality Standards Malaysia - Class IIB**.

Non-compliance was recorded for parameters:-

Sampling Location	Parameter
SW1	Mn, NO <sub>2</sub> , P, NH <sub>3</sub> -N, FCC & TCC
SW2	Mn, NO <sub>2</sub> , FCC & TCC
SW3	Mn, NO <sub>2</sub> , NH <sub>3</sub> -N, FCC & TCC

## GROUNDWATER QUALITY MONITORING



Most of the measured parameters comply with the **National Groundwater Quality Standards for Industrial Use**.

Non-compliance was recorded for parameters:-

Sampling Location	Parameter
GW1	Fe, Mn, TSS & Total Silica

## AIR QUALITY MONITORING



Baseline air quality monitoring was conducted, and the results for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, and CO were compared to the **Malaysia Ambient Air Quality Standards (MAAQS)**.

Non-compliance was recorded for parameters:-

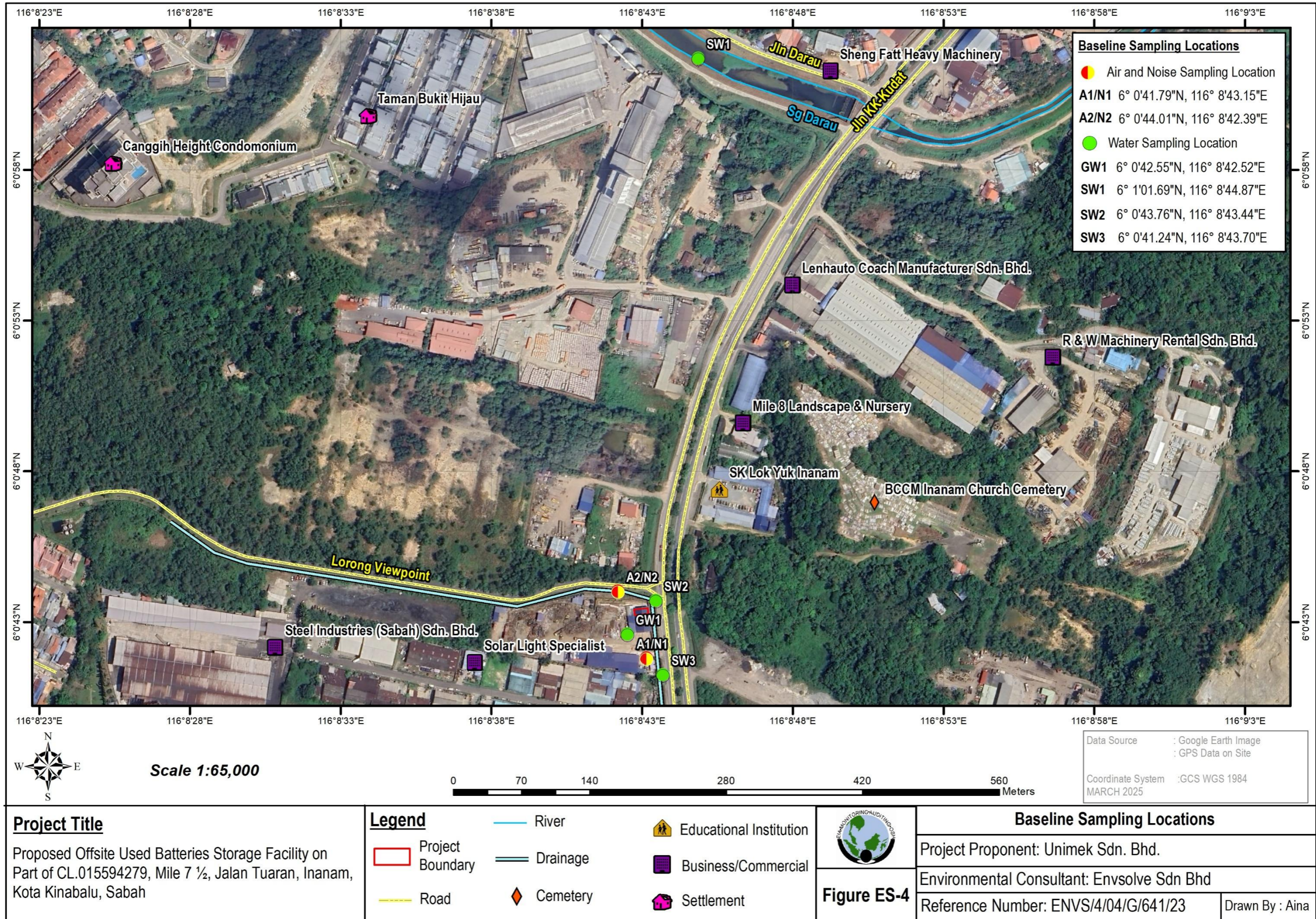
Sampling Location	Parameter
A1	PM <sub>2.5</sub>
A2	PM <sub>2.5</sub>



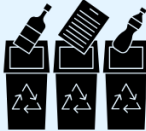

## NOISE LEVEL MONITORING





Existing noise levels for both day-time and night-time were measured and all the results complied with the recommended levels specified by DOE in the **Guidelines for Environmental Noise Limits and Control (First Schedule of the Permissible Sound Levels by Receiving Land Use for New Development for Industrial Zones)**.

Noise level limit: Day-time = 70 dB(A); Night-time = 65 dB(A)


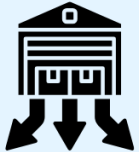





SIGNIFICANT POTENTIAL IMPACTS		IMPACT MAGNITUDE	P2M2	PAGES
<b>CONSTRUCTION/RENOVATION PHASE</b>				
1	<u>Air Pollution</u> 	Minor	<ul style="list-style-type: none"> <li>• Avoid any construction activities during severe weather.</li> <li>• Speed limit restricted to 30-40km/hr at Project vicinity and main access road.</li> <li>• Ensure workers use the respiratory protection equipment.</li> </ul>	8-1 to 8-2
2	<u>Noise Pollution</u> 	Minor	<ul style="list-style-type: none"> <li>• Regularly maintain the equipment.</li> <li>• Working hours only on daytime, ideally from 8:00 a.m. to 5:00 p.m.</li> <li>• Provide workers with earmuffs and earplugs at high noise level areas.</li> <li>• Turn off or idle machines at low noise levels when not in use.</li> <li>• Provide workers with proper training and briefing.</li> <li>• Regularly monitor noise level at Project vicinity.</li> </ul>	8-2
3	<u>Waste Generation</u> 	Minor	<ul style="list-style-type: none"> <li>• Ensure proper segregation of waste.</li> <li>• Strictly prohibited indiscriminate dumping of waste.</li> <li>• Provide waste bin at strategic locations.</li> <li>• Regular disposed of waste at approved areas.</li> <li>• Use reusable items and avoid using disposable items like plastics often.</li> <li>• Conduct awareness programs for workers.</li> <li>• Proper maintenance for existing worker's toilets.</li> </ul>	8-2 to 8-3
4	<u>Occupational Safety and Health</u> 	Minor	<ul style="list-style-type: none"> <li>• All workers shall attend relevant security, safety, and health courses.</li> <li>• Provide suitable PPE for workers.</li> <li>• Maintain sufficient supply of First Aid Kit on-site.</li> <li>• Create procedures to transport injured workers to the nearest hospital. Brief all workers about these procedures.</li> </ul>	8-3 to 8-4



SIGNIFICANT POTENTIAL IMPACTS	IMPACT MAGNITUDE	P2M2	PAGES	
<b>CONSTRUCTION/RENOVATION PHASE</b>				
			<ul style="list-style-type: none"> <li>• Provide approved fire extinguishers in vehicles and rest areas.</li> <li>• Ensure no employees are exposed continuously to noise level above 85 dB(A) or legal limits.</li> </ul>	
5	<p><b>Abandonment</b></p> 	Minor	<ul style="list-style-type: none"> <li>• Restore the site to its original condition as much as possible.</li> <li>• Remove machinery, equipment, and waste from the site.</li> <li>• Block the Project's entry.</li> <li>• Ensure all vehicles are demobilized from Project site.</li> </ul>	8-4
<b>OPERATIONAL PHASE</b>				
1	<p><b>Water Pollution</b></p> 	Minor	<p>Collection and Handling of Used Batteries :-</p> <ul style="list-style-type: none"> <li>• Personnel handling used batteries must be trained or have adequate experience.</li> <li>• All workers must undergo yearly training on SOP, safety, and ERP.</li> <li>• Ensure workers use proper PPE.</li> <li>• The reception area must have an impermeable surface and containment.</li> <li>• Loading and unloading must be done only in designated areas.</li> <li>• The designated area must be stable and level ground.</li> <li>• The loading/unloading area floor must be concrete with a non-slip, epoxy coating.</li> </ul> <p>Storing of Used Batteries and Storage Facility :-</p> <ul style="list-style-type: none"> <li>• Storage of used batteries must follow Malaysia's guidelines for scheduled waste.</li> <li>• Containers must have clear warning labels.</li> </ul>	8-4 to 8-6


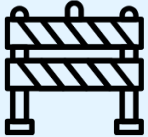


SIGNIFICANT POTENTIAL IMPACTS	IMPACT MAGNITUDE	P2M2	PAGES
<b>OPERATIONAL PHASE</b>			
		<ul style="list-style-type: none"><li>• A containment system must surround the storage facility.</li><li>• A sump pit shall be installed to collect leaks.</li><li>• A proper work procedure must be in place for daily operations.</li><li>• Only trained personnel shall handle the operation of storage facility.</li><li>• Any leaked battery content during loading/unloading must be cleaned immediately.</li><li>• The storage floor must be concrete with a non-slip epoxy coating.</li><li>• The floor must support the weight of stored materials and equipment.</li><li>• Conduct regular inspection for the storage containers.</li><li>• Storage arrangement must allow space for forklifts and cleaning activities.</li><li>• Clear signage must indicate “Incoming Used Batteries Storage Area” and “Used Batteries Storage Area”.</li><li>• Storage areas must be marked as “No Smoking” and “No Eating and Drinking” zones.</li></ul> <p>Leakage during Transportation Activity :-</p> <ul style="list-style-type: none"><li>• Transportation of used batteries shall follow SOP.</li><li>• Conduct transportation activity during daytime only.</li><li>• Only DOE-licensed vehicles can be used for transport.</li><li>• Vehicles shall be clearly marked with hazardous waste label.</li><li>• Vehicles shall be equipped with containment trays and emergency response kits.</li></ul>	

SIGNIFICANT POTENTIAL IMPACTS	IMPACT MAGNITUDE	P2M2	PAGES	
<b>OPERATIONAL PHASE</b>				
			<ul style="list-style-type: none"> <li>• Used batteries shall be properly arranged in vehicles.</li> <li>• Transportation activity shall be accompanied by a waste card as in Malaysia's guidelines for scheduled waste.</li> </ul>	
2	<p><u>Flooding Impact</u></p> 	Minor	<ul style="list-style-type: none"> <li>• Construct bund walls and sump pits in storage areas.</li> <li>• Develop a Flood Emergency Response Plan with clear evacuation and containment measures.</li> <li>• Provide water pumps with backup power to quickly remove floodwater.</li> <li>• Maintain good housekeeping and regular maintenance to prevent drainage blockages.</li> </ul>	8-6 to 8-7
3	<p><u>Air Pollution</u></p> 	Minor	<ul style="list-style-type: none"> <li>• Good housekeeping practices and regular inspection for any leakage.</li> <li>• Provide good ventilation systems in the storage area.</li> <li>• Limit vehicles speeds to 30-40 m/hr.</li> <li>• Respiratory protection equipment must be provided and used by on-site workers.</li> </ul>	8-7
4	<p><u>Noise Pollution</u></p> 	Minor	<p>Noise Control :-</p> <ul style="list-style-type: none"> <li>• Ensure noise levels do not exceed 70 dB(A) during the day and 65 dB(A) at night.</li> <li>• Follow permissible exposure limits for workers and provide ear protection when needed.</li> <li>• Limit transportation and distribution activities to the approved schedule only.</li> </ul> <p>Transportation Practices :-</p> <ul style="list-style-type: none"> <li>• Adopt proper transportation practices.</li> <li>• Do not speed or honk unnecessarily when passing through sensitive areas.</li> </ul>	8-8

SIGNIFICANT POTENTIAL IMPACTS	IMPACT MAGNITUDE	P2M2	PAGES	
<b>OPERATIONAL PHASE</b>				
5	<p><b><u>Traffic and Transportation</u></b></p> 	<p><b>Minor</b></p>	<p>Safe Road Environment :-</p> <ul style="list-style-type: none"> <li>• Speed limits and other traffic laws should be strictly observed.</li> <li>• Heavy vehicles travelling along public roads shall maintain speeds between 30 - 40 km/hr.</li> </ul> <hr/> <p>Transportation Practice :-</p> <ul style="list-style-type: none"> <li>• Drivers should practice road courtesy and safe driving at all times.</li> <li>• Schedules for the transportation of used batteries shall avoid during peak hours.</li> </ul> <hr/> <p>Transportation Schedule :-</p> <ul style="list-style-type: none"> <li>• Offsite transportation of construction materials should be scheduled.</li> </ul>	<p>8-8 to 8-9</p>
6	<p><b><u>Socio - Economic Impact</u></b></p> 	<p><b>Minor</b></p>	<p>Environmental Pollution and Safety Issues :-</p> <ul style="list-style-type: none"> <li>• Conduct regular inspections of the storage area.</li> <li>• Provide proper PPE for workers.</li> <li>• Follow established SOP and ERP during handling of used batteries.</li> </ul> <hr/> <p>Public Nuisance Control :-</p> <ul style="list-style-type: none"> <li>• Record and address community complaints.</li> <li>• On-site management should monitor and engage with the local community on any issues.</li> <li>• Control environmental impacts.</li> </ul>	<p>8-9 to 8-10</p>

SIGNIFICANT POTENTIAL IMPACTS	IMPACT MAGNITUDE	P2M2	PAGES	
<b>OPERATIONAL PHASE</b>				
<p>7</p>	<p><b><u>Waste Generation</u></b></p> 	<p><b>Minor</b></p>	<p>Solid Waste :-</p> <ul style="list-style-type: none"> <li>• Waste collection bins should be provided and emptied regularly at the designated waste disposal area.</li> <li>• Non-recyclable materials that cannot be salvaged should be properly collected and disposed of at approved disposal area.</li> </ul> <p>Sewage Waste :-</p> <ul style="list-style-type: none"> <li>• Good housekeeping practices should be followed.</li> <li>• Regular inspection and maintenance of the sewer pipeline system should be conducted.</li> <li>• The Project Proponent must ensure that the Project site is clean and well-managed.</li> </ul> <p>Scheduled Waste :-</p> <ul style="list-style-type: none"> <li>• Update the scheduled waste (used batteries) inventory monthly as per regulations.</li> <li>• Notify DOE of any scheduled waste generation following the required procedures.</li> </ul>	<p>8-10 to 8-11</p>
<p>8</p>	<p><b><u>Occupational Safety and Health</u></b></p> 	<p><b>Minor</b></p>	<ul style="list-style-type: none"> <li>• Maintain a sufficient supply of first aid kits, medicines, and medical equipment on site.</li> <li>• Provide ERP at the office and formal framework.</li> <li>• Regular visual inspection of areas between the premises and neighbouring premises.</li> <li>• Regular check on electrical wiring on the premises.</li> <li>• Equip adequate fire extinguishing equipment at storage facility.</li> </ul>	<p>8-11</p>

SIGNIFICANT POTENTIAL IMPACTS	IMPACT MAGNITUDE	P2M2	PAGES	
<b>OPERATIONAL PHASE</b>				
9	<p><u>Qualitative Risk Assessment (QRA)</u></p> 	Minor	<ul style="list-style-type: none"> <li>• Inspect damage of batteries prior to acceptance.</li> <li>• Store used batteries in a cool, dry and well-ventilated area.</li> <li>• Avoid storing batteries directly from sunlight, heat source and moisture.</li> <li>• Keep storage area free from flammable materials.</li> <li>• Install intrinsically safe or explosion-proof electrical devices.</li> <li>• Establish segregation of used batteries,</li> <li>• Implement ERP in case of emergency.</li> <li>• Conduct regular training and induction sessions.</li> <li>• Ensure portable fire extinguishers are accessible on-site.</li> </ul>	8-12
10	<p><u>Abandonment</u></p> 	Minor	<ul style="list-style-type: none"> <li>• An abandonment plan must be submitted to the DOE at least 120 days before demolition begins.</li> <li>• The Project site should be cleaned up carefully, and safe work procedures should be prepared.</li> <li>• The Project entry point should be properly barricaded.</li> <li>• Any remaining scheduled waste stored on-site must be collected and removed by a DOE licensed contractor.</li> </ul>	8-12 to 8-13



# ENVIRONMENTAL MONITORING PROGRAM

## PERFORMANCE MONITORING (PM)



These activities are regularly performed to maintain compliance with scheduled waste management standards and ensure the safety and appropriate handling of scheduled waste on-site.

- ✓ Used battery storage facility

## COMPLIANCE MONITORING (CM)



The proposed Project only involves the temporary storage of used batteries and does not entail the release of air pollutants or wastewater discharges. As a result, there is no explicit obligation for compliance monitoring.

## IMPACT MONITORING (IM)



### SURFACE WATER QUALITY

- One (1) surface water quality monitoring station.
- Adhere to Class IIB of National Water Quality Standards for Malaysia (NWQSM).
- Report to be submitted to DOE Sabah quarterly.

### GROUNDWATER QUALITY

- One (1) groundwater quality monitoring station.
- Adhere to National Groundwater Quality Standards (NGQS) for Industrial Use.
- Report to be submitted to DOE Sabah yearly.

### AIR QUALITY

- One (1) air quality monitoring station.
- Monitoring parameter: PM10
- Adhere to Malaysia Ambient Air Quality Standards (MAAQS).
- Report to be submitted to DOE Sabah quarterly.

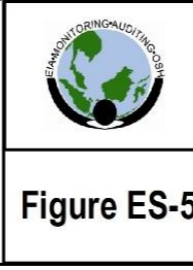
### NOISE LEVEL

- One (1) noise level monitoring station.
- Adhere to First Schedule of Guidelines for Environmental Noise Limits and Control, Third Edition 2019.
- Report to be submitted to DOE Sabah quarterly.



**Project Title**  
 Proposed Offsite Used Batteries Storage Facility on Part of CL.015594279, Mile 7 ½, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah

Legend	
Project Boundary	Drainage
Road	Business/Commercial



Proposed Environmental Monitoring Locations (Operational Phase)	
Project Proponent: Unimek Sdn. Bhd.	
Environmental Consultant: Envsolve Sdn Bhd	
Reference Number: ENVS/4/04/G/641/23	Drawn By : Aina

# **RINGKASAN EKSEKUTIF**



# RINGKASAN EKSEKUTIF

## PENILAIAN KESAN KEPADA ALAM SEKITAR (JADUAL PERTAMA) PROPOSED OFFSITE USED BATTERIES STORAGE FACILITY ON PART OF CL.015594279, MILE 7 ½, JALAN TUARAN, INANAM, KOTA KINABALU, SABAH

### PENGERAK PROJEK

**UNIMEK SDN. BHD.**  
CL.015594279, Mile 7 1/2,  
Jalan Tuaran, Inanam,  
88450 Kota Kinabalu, Sabah.  
Tel: 019-951 3550

Pegawai untuk dihubungi:

- **Mr. Sun Tien Loi** [Pegarah]
- **Mr. Tiong Meng Ching** [Pengurus]

Email:

- [unimeksdnbhd@gmail.com](mailto:unimeksdnbhd@gmail.com)

### PERUNDING EIA

**ENVSOLVE SDN. BHD.**  
1st Floor, No. 3,  
Lorong Kilang F, Kolombong,  
88450 Kota Kinabalu, Sabah.  
Tel: 088-388 791  
Fax: 088-388 792

Pegawai untuk dihubungi:

- **Ir. Ts. Burhanudin bin Abu Bakar** [Ketua Pasukan EIA]
- **ChM. Lo Su Mui** [Pembantu Perunding]

Email:

- [envsolve@gmail.com](mailto:envsolve@gmail.com); [info@envsolve.com](mailto:info@envsolve.com)

## PENGENALAN



### Lokasi

Terletak di sebahagian daripada lot tanah CL.015594279, Batu 7 1/2, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah



### Zon

Industri Am (GI) - oleh Jabatan Perancangan Bandaraya, Dewan Bandaraya Kota Kinabalu



### Aktiviti Utama

Penerimaan, penyimpanan dan pengangkutan buangan terjadual (bateri terpakai) ke fasiliti pelupusan akhir yang ditetapkan



### Penyata Keperluan

- Menyediakan kemudahan penyimpanan buangan terjadual yang sesuai, cekap, dan mudah.
- Mencegah pembuangan buangan terjadual yang tidak wajar dan sembarangan.
- Menyumbang kepada pembangunan lestari dan kelestarian alam sekitar tempatan.



## ORANG BERWIBAWA

### 1

IR. TS. BURHANUDIN BIN ABU BAKAR  
Perunding EIA [CS0168]

### 2

ADNAN BIN YUSOP ALI  
Pakar Subjek [SS0038]

### 3

PROF. MADYA DR. ZAINI SAKAWI  
Pakar Subjek [SS0357]

### 4

LO SU MUI  
Pembantu Perunding [AC0923]

## KEPERLUAN PERUNDANGAN

### Seksyen 34A, Akta Kualiti Alam Sekitar, 1974

Perintah Kualiti Alam Sekeliling (Aktiviti Yang Ditetapkan) (Penilaian Kesan kepada Alam Sekeliling) 2015

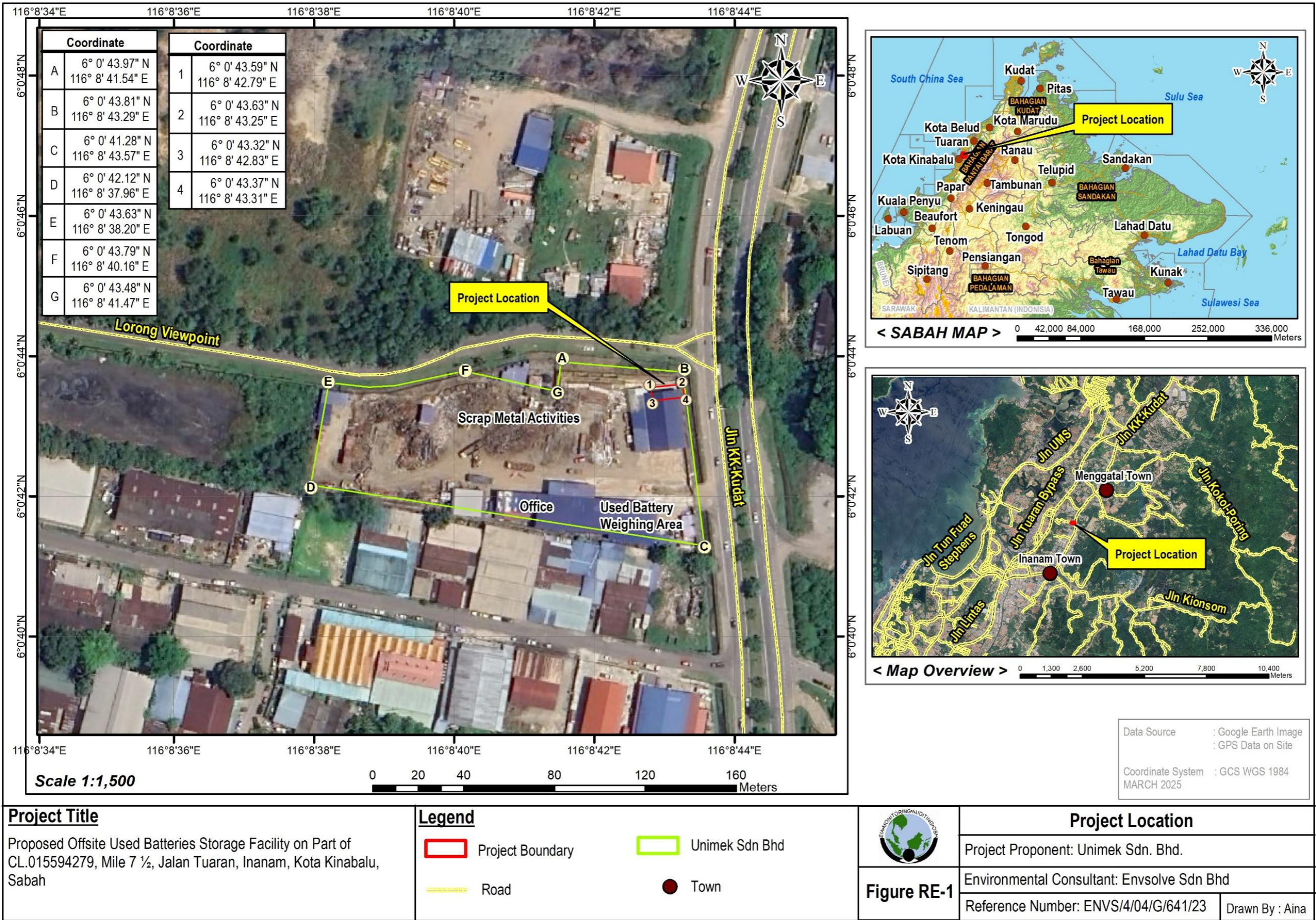
### Jadual Pertama

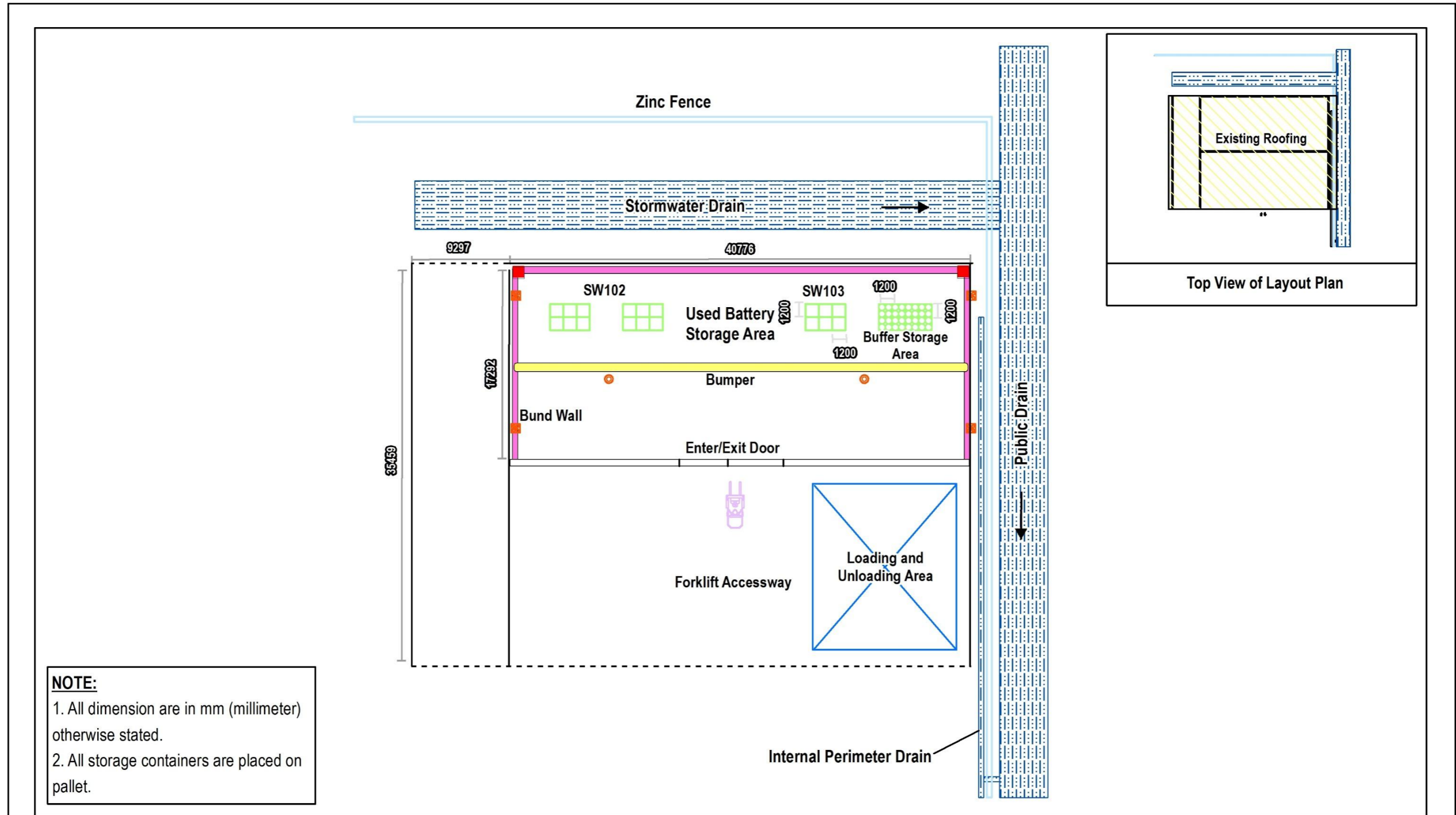
#### 14. Pengolahan dan Pelupusan Buangan

##### (a) Buangan Terjadual

(iii) Pembinaan kemudahan penyimpanan (luar tapak)

Oleh itu, laporan EIA perlu diserahkan kepada JAS untuk kelulusan sebelum pelaksanaan Projek.





**NOTE:**  
 1. All dimension are in mm (millimeter) otherwise stated.  
 2. All storage containers are placed on pallet.

Data Source : Storage Facility Layout Plan Unimek/ENVS/001/25  
 Coordinate System : GCS WGS 1984  
 March 2024



Scale 1:50,000,000,000

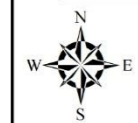
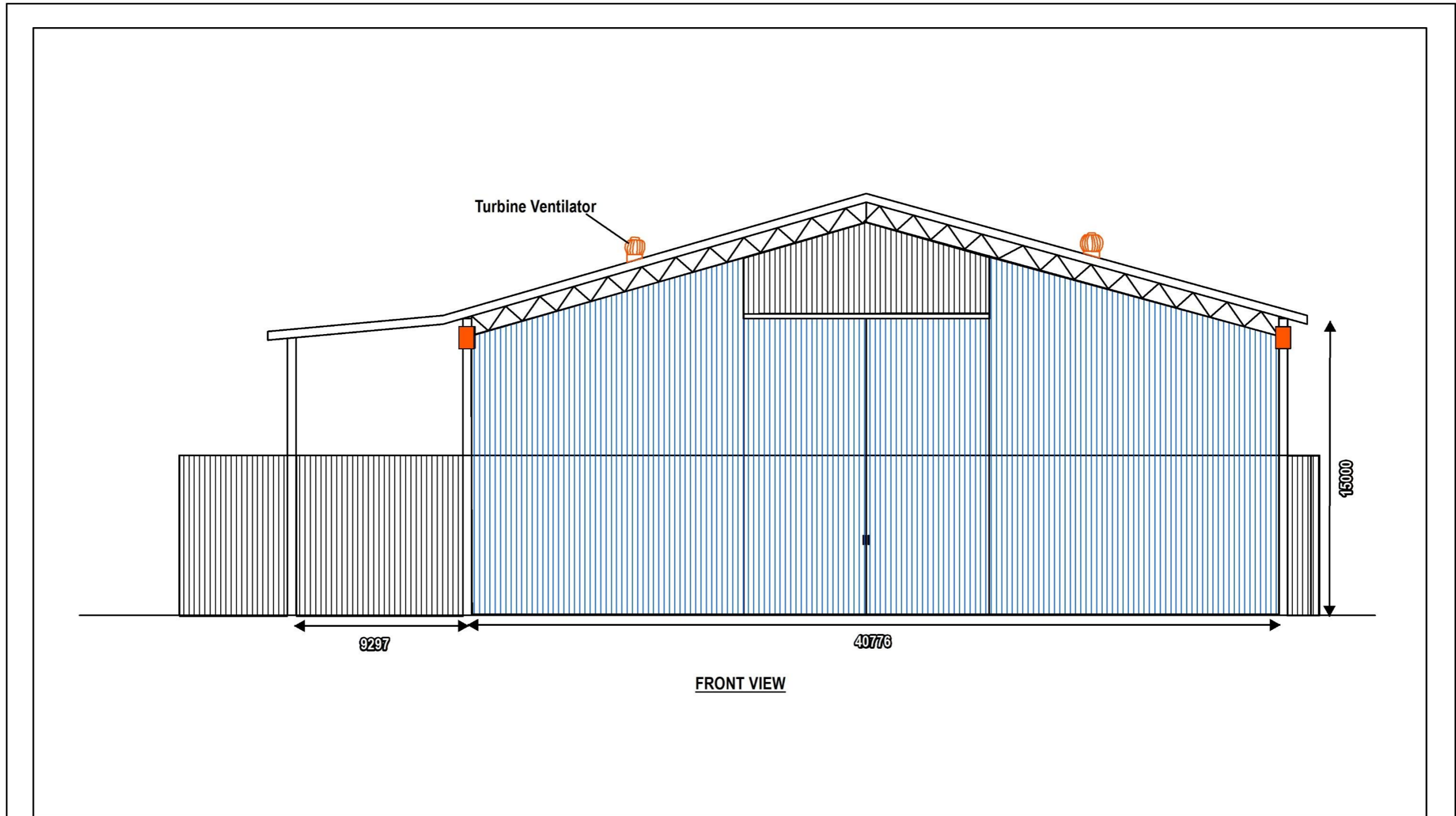


**Project Title**  
 Proposed Offsite Used Batteries Storage Facility on Part of CL.015594279, Mile 7 ½, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah

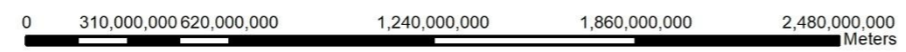
Legend	
	Jumbo Bag with Wooden Pallet
	Existing Roofing
	Loading and Unloading Area
	Sump
	Bumper (300mm width, 60mm height)
	Bund Wall (900mm height, 150mm width)
	Buffer Storage
	Zinc Fence
	Turbine Ventilator
	Wall-Mounted Exhaust Fan

Figure RE-2(a)

**Proposed Storage Facility Layout Plan (Plan View)**  
 Project Proponent: Unimek Sdn. Bhd.  
 Environmental Consultant: Envsolve Sdn Bhd  
 Reference Number: ENVS/4/04/G/641/23  
 Drawn By : Aina



Scale 1:50,000,000,000



Data Source : Storage Facility Layout Plan Unimek/ENVS/001/25  
 Coordinate System : GCS WGS 1984  
 March 2024

**Project Title**  
 Proposed Offsite Used Batteries Storage Facility on Part of CL.015594279, Mile 7 ½, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah

Legend	
	Zinc Fence
	Wall-Mounted Exhaust Fan

Figure RE-2(b)

Proposed Storage Facility Layout Plan (Top View)	
Project Proponent:	Unimek Sdn. Bhd.
Environmental Consultant:	Envsolve Sdn Bhd
Reference Number:	ENVS/4/04/G/641/23
Drawn By :	Aina

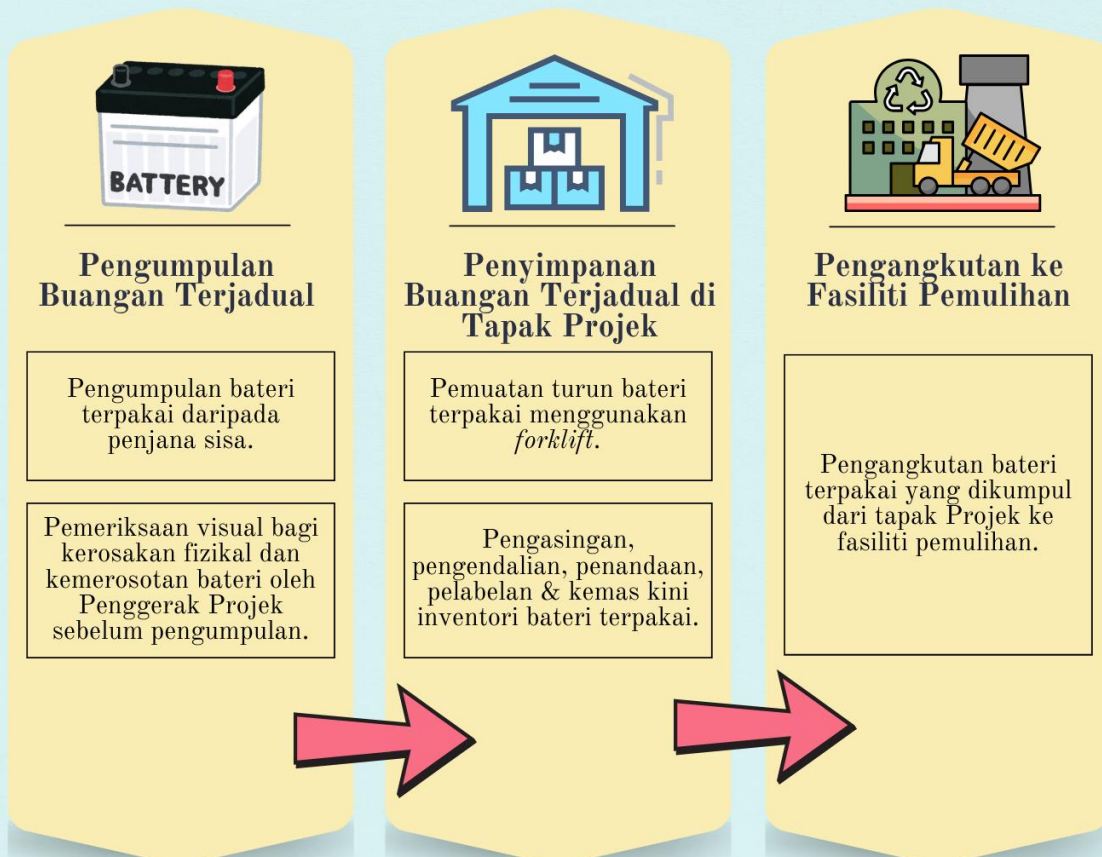


# KONSEP PROJEK

## SENARAI PENGUMPULAN BUANGAN TERJADUAL

KOD BUANGAN TERJADUAL	JENIS BUANGAN	KUANTITI (MT/BULAN)
SW102	Bateri asid plumbum; lazimnya digunakan dalam aplikasi automotif	14
SW103	Bateri butang, boleh dicas semula, atau litium-ion; lazimnya digunakan dalam elektronik mudah alih	6
JUMLAH KAPASITI		20

## ALIRAN PROSES OPERASI DI KEMUDAHAN PENYIMPANAN LUAR TAPAK





# AKTIVITI PROJEK



## FASA PRA-PEMBINAAN/PENGUBAHSUAIAN

- Kajian EIA.
- Penyediaan pelan / lukisan tapak yang berkaitan.

# 1

# 2

## FASA PEMBINAAN/PENGUBAHSUAIAN

- Mobilisasi peralatan, pekerja, dan bahan binaan.
- Kerja-kerja pengubahsuaian untuk menukar gudang sedia ada kepada fasiliti penyimpanan bateri terpakai.



## FASA OPERASI DAN PENYELENGGARAAN

# 3

- Pengumpulan bateri terpakai daripada penjana sisa/ pelanggan.
- Pengasingan dan pelabelan mengikut jenis sisa.
- Penyimpanan sementara di fasiliti penyimpanan luar tapak.
- Pengangkutan bateri terpakai dari fasiliti penyimpanan luar tapak ke fasiliti pemulihan akhir atau pelupusan:
  - Intercedar Industry (M) Sdn Bhd - SW102
  - Econili Battery New Energy Sdn Bhd - SW103

## FASA PENGABAIAN

- Pemulihan tapak.
- Penyerahan Rancangan Pengabaian kepada JAS.


# 4






## PERSEKITARAN SEDIA ADA

### TOPOGRAFI




- ◆ Rata.
- ◆ Dikelilingi oleh syarikat industri lain.

### HIDROLOGI




- ◆ Tiada sungai atau anak sungai utama yang melintasi sempadan tapak Projek.
- ◆ Sungai terdekat, iaitu Sg. Darau dan Sg. Inanam, di mana masing-masing terletak kira-kira 560 m ke arah utara dan 1.98 km ke arah barat daya dari tapak Projek.

### GEOLOGI




- ◆ **Tetapan Geologi:** Terdiri daripada *Eocene - Oligocene*.
- ◆ **Komponen Tanah:** *Dalit Association*.

### METEOROLOGI




- ◆ **Hujan**
  - Julat antara 2031.4 mm - 3584.8 mm
- ◆ **Suhu**
  - Julat antara 25.6 °C - 29.4 °C
- ◆ **Kelembapan**
  - Julat antara 67.0 % - 87.1 %
- ◆ **Kelajuan Angin**
  - Julat antara 1.7 - 2.7 m/s

### FLORA




- ◆ Tiada flora yang jarang ditemui atau dilindungi di persekitaran Projek.
- ◆ Profil tumbuhan domestik seperti rumput dan pokok renek.

### FAUNA




- ◆ Tiada nilai fauna yang ketara ditemui di sekitar tapak Projek.

### PERSEKITARAN MANUSIA




- ◆ Tinjauan sosio-ekonomi telah dijalankan pada: 11-13 Jun 2024, 24 Mac 2025 & 10 April 2025.
- ◆ Seramai 132 responden dalam radius 1 km dari sempadan Projek telah ditemu bual.
- ◆ Responden telah mengetengahkan kebimbangan terhadap pencemaran udara, air dan tanah, serta isu keselamatan.

### KEGUNAAN TANAH SEKELING

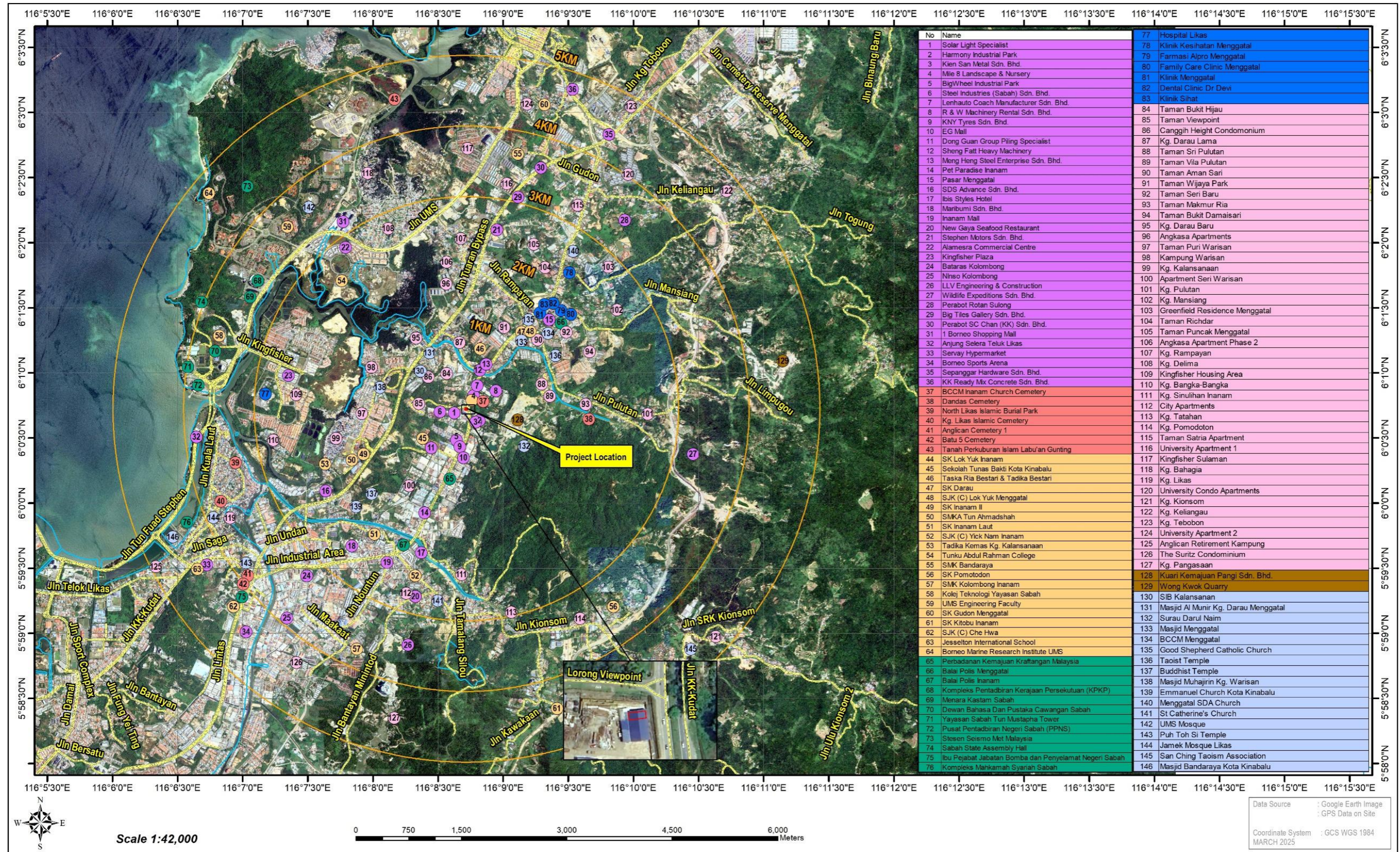


- ◆ Reseptor sensitif terdekat adalah premis berdekatan dalam sempadan logam buruk (Unimek Sdn. Bhd.).
- ◆ 500 m sempadan kajian terdiri daripada premis perniagaan, institusi pendidikan dan tanah perkuburan.
- ◆ 5 km sempadan kajian merangkumi premis perniagaan, penempatan manusia, institusi pendidikan, bangunan kerajaan, pusat kesihatan, tempat ibadah, tanah perkuburan dan infrastruktur/utiliti.

### TRAFIK DAN PENGANGKUTAN



- ◆ Kebanyakannya adalah kenderaan peribadi milik pekerja di persekitaran premis.



<b>Project Title</b> Proposed Offsite Used Batteries Storage Facility on Part of CL.015594279, Mile 7 ½, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah	<b>Legend</b> Project Boundary Road River/Stream Business/Commercial Educational Institution Government Building Healthcare Centre Human Settlement Quarry Religious Places Cemetery		<b>Surrounding Land Use Within 5 KM</b>	
			Project Proponent: Unimek Sdn. Bhd. Environmental Consultant: Envsolve Sdn Bhd Reference Number: ENVS/4/04/G/641/23	Drawn By : Aina



# KAJIAN DASAR ALAM SEKITAR



## PEMANTAUAN KUALITI AIR PERMUKAAN

Kebanyakan parameter yang diukur mematuhi **Piawaian Kualiti Air Kebangsaan Malaysia - Kelas IIB**.

Ketidakpatuhan direkodkan bagi parameter:-

Lokasi Persampelan	Parameter
SW1	Mn, NO <sub>2</sub> , P, NH <sub>3</sub> -N, FCC & TCC
SW2	Mn, NO <sub>2</sub> , FCC & TCC
SW3	Mn, NO <sub>2</sub> , NH <sub>3</sub> -N, FCC & TCC



## PEMANTAUAN KUALITI AIR BAWAH TANAH

Kebanyakan parameter yang diukur mematuhi **Piawaian Kualiti Air Bawah Tanah Kebangsaan untuk Kegunaan Industri**.

Ketidakpatuhan direkodkan bagi parameter:-

Lokasi Persampelan	Parameter
GW1	Fe, Mn, TSS & Jumlah Silika



## PEMANTAUAN KUALITI UDARA

Pemantauan kualiti udara asas telah dijalankan, dan keputusan bagi PM10, PM2.5, SO<sub>2</sub>, NO<sub>2</sub>, dan CO dibandingkan dengan **Piawaian Kualiti Udara Ambien Malaysia (MAAQS)**.

Ketidakpatuhan direkodkan bagi parameter:-

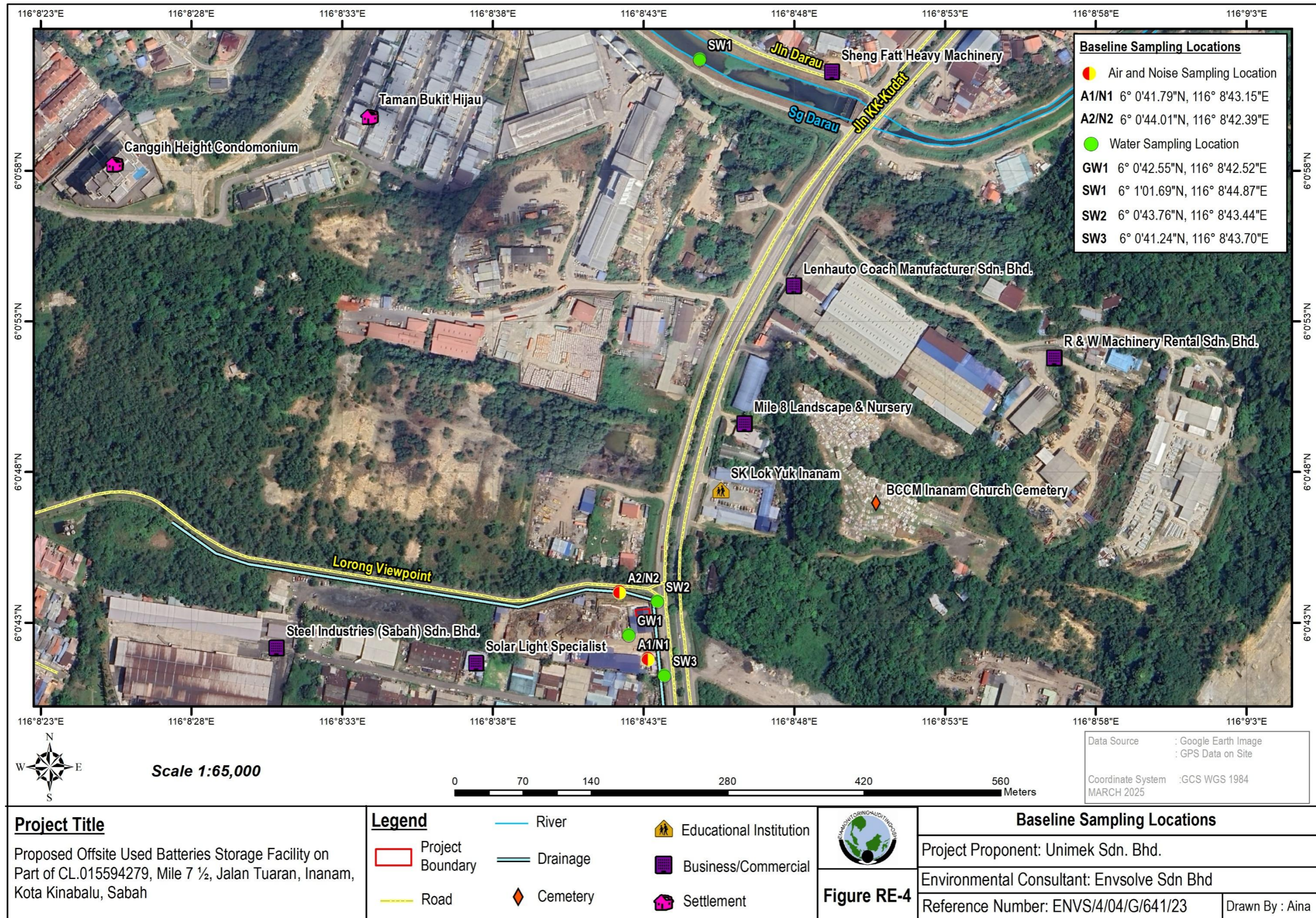
Lokasi Persampelan	Parameter
A1	PM2.5
A2	PM2.5









## PEMANTAUAN TAHAP BUNYI

Tahap bunyi sedia ada untuk waktu siang dan malam telah diukur dan semua keputusan mematuhi tahap yang ditetapkan oleh JAS dalam **Garis Panduan Had dan Kawalan Bunyi Alam Sekitar (Jadual Pertama Aras Bunyi Yang Dibenarkan dengan Menerima Penggunaan Tanah untuk Pembangunan Baru untuk Zon Perindustrian)**.

Had tahap bunyi: Waktu siang = 70 dB(A); Waktu malam = 65 dB(A)


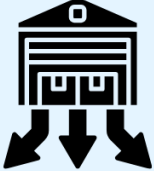





KESAN POTENSI KETARA	KESAN MAGNITUD	P2M2	HALAMAN	
<b>FASA PEMBINAAN/PENGUBAHSUAIAN</b>				
1	<u>Pencemaran Udara</u> 	Minor	<ul style="list-style-type: none"> <li>• Elakkan sebarang aktiviti pembinaan semasa cuaca buruk.</li> <li>• Had laju dihadkan kepada 30-40km/j di kawasan sekitar Projek dan jalan masuk utama.</li> <li>• Pastikan pekerja menggunakan peralatan perlindungan pernafasan.</li> </ul>	8-1 hingga 8-2
2	<u>Pencemaran Bunyi</u> 	Minor	<ul style="list-style-type: none"> <li>• Sentiasa menyelenggara peralatan.</li> <li>• Waktu bekerja hanya pada waktu siang, sebaiknya dari 8:00 pagi hingga 5:00 petang.</li> <li>• Sediakan penutup dan penyumbat telinga bagi pekerja di kawasan tahap bunyi yang tinggi.</li> <li>• Matikan atau biarkan mesin pada tahap bunyi rendah apabila tidak digunakan.</li> <li>• Sediakan pekerja dengan latihan dan taklimat yang betul.</li> <li>• Sentiasa memantau tahap bunyi di sekitar Projek.</li> </ul>	8-2
3	<u>Penjanaan Sisa</u> 	Minor	<ul style="list-style-type: none"> <li>• Pastikan pengasingan sisa yang betul.</li> <li>• Melarang pembuangan sampah secara sembarangan.</li> <li>• Sediakan tong sampah di lokasi yang strategik.</li> <li>• Sentiasa membuang sisa di kawasan yang diluluskan.</li> <li>• Gunakan barang boleh guna semula dan elak menggunakan barang pakai buang secara kerap.</li> <li>• Mengadakan program kesedaran untuk pekerja.</li> <li>• Penyelenggaraan yang betul bagi tandas pekerja sedia ada.</li> </ul>	8-2 hingga 8-3
4	<u>Pekerjaan Keselamatan dan Kesihatan</u> 	Minor	<ul style="list-style-type: none"> <li>• Semua pekerja perlu menghadiri kursus pekerjaan, keselamatan dan kesihatan yang berkaitan.</li> <li>• Sediakan 'PPE' yang sesuai untuk pekerja.</li> <li>• Kekalkan bekalan Kit Pertolongan Cemas yang mencukupi di tapak Projek.</li> <li>• Sediakan prosedur untuk menghantar pekerja yang cedera ke hospital terdekat. Sampaikan taklimat mengenai prosedur ini kepada semua pekerja.</li> </ul>	8-3 hingga 8-4



KESAN POTENSI KETARA	KESAN MAGNITUD	P2M2	HALAMAN
<b>FASA PEMBINAAN/PENGUBAHSUAIAN</b>			
		<ul style="list-style-type: none"> <li>Sediakan alat pemadam api yang diluluskan di kenderaan dan kawasan rehat.</li> <li>Pastikan tiada pekerja terdedah secara berterusan kepada tahap bunyi melebihi 85 dB(A) atau had undang-undang.</li> </ul>	
5	<b>Pengabaian</b> 	Minor <ul style="list-style-type: none"> <li>Kembalikan tapak kepada keadaan asalnya.</li> <li>Alihkan mesin, peralatan dan sisa dari tapak.</li> <li>Sekat pintu masuk Projek.</li> <li>Pastikan semua kenderaan dialihkan dari tapak Projek.</li> </ul>	8-4
<b>FASA OPERASI</b>			
1	<b>Pencemaran Air dan Tanah</b> 	Minor <p>Penerimaan dan Pengendalian Bateri Terpakai :-</p> <ul style="list-style-type: none"> <li>Pekerja yang mengendalikan bateri terpakai mesti dilatih atau mempunyai pengalaman yang mencukupi untuk mengurangkan risiko kemalangan.</li> <li>Semua pekerja mesti menjalani latihan tahunan mengenai 'SOP,' keselamatan, dan 'ERP'.</li> <li>Pastikan pekerja menggunakan 'PPE' yang sesuai.</li> <li>Kawasan penerimaan mesti mempunyai permukaan kalis resapan dan sistem pembendungan.</li> <li>Aktiviti pemuatan dan pemunggahan hanya boleh dilakukan di kawasan yang ditetapkan.</li> <li>Kawasan yang ditetapkan mesti stabil dan rata.</li> <li>Lantai kawasan pemuatan/pemunggahan mesti diperbuat daripada konkrit dengan salutan anti-gelincir dan epoksi.</li> <li>Pastikan bateri disimpan di atas permukaan yang tidak telap dan terlindung untuk mengelakkan kontak secara langsung</li> </ul> <p>Penyimpanan Bateri Terpakai dan Fasiliti Penyimpanan :-</p> <ul style="list-style-type: none"> <li>Penyimpanan bateri terpakai perlu mematuhi garis panduan buangan terjadual di Malaysia.</li> <li>Semua bekas penyimpanan mesti mempunyai label amaran yang jelas.</li> </ul>	8-4 hingga 8-6


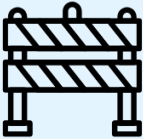


POTENSI KESAN KETARA	KESAN MAGNITUD	P2M2	HALAMAN
<b>FASA OPERASI</b>			
		<ul style="list-style-type: none"><li>• Sistem pembendungan mesti dibina di sekitar fasiliti penyimpanan.</li><li>• Kolam takungan perlu dipasang untuk mengumpul kebocoran.</li><li>• Prosedur kerja yang betul mesti disediakan untuk operasi harian fasiliti penyimpanan.</li><li>• Hanya pekerja terlatih dibenarkan mengendalikan operasi fasiliti penyimpanan.</li><li>• Sebarang kebocoran bateri semasa pemuatan/pemunggaan mesti dibersihkan serta-merta.</li><li>• Lantai kawasan penyimpanan mesti diperbuat daripada konkrit dengan salutan epoksi anti-gelincir.</li><li>• Kapasiti lantai mesti direka untuk menampung berat bahan dan peralatan yang disimpan.</li><li>• Pemeriksaan berkala bagi bekas penyimpanan mesti dilakukan.</li><li>• Susunan bateri terpakai dalam kawasan penyimpanan mesti membenarkan ruang untuk pergerakan 'forklift' dan aktiviti pembersihan.</li><li>• Papan tanda jelas seperti "Kawasan Penyimpanan Bateri Terpakai Masuk" dan "Kawasan Penyimpanan Bateri Terpakai" mesti diletakkan di lokasi strategik.</li><li>• Kawasan penyimpanan mesti ditetapkan sebagai zon "Dilarang Merokok" dan "Dilarang Makan dan Minum."</li></ul>	
		<p>Kebocoran semasa Aktiviti Pengangkutan :-</p> <ul style="list-style-type: none"><li>• Pengangkutan bateri terpakai perlu ikuti 'SOP'.</li><li>• Aktiviti pengangkutan perlu dijalankan waktu siang.</li><li>• Pengangkutan hanya menggunakan kenderaan yang dilesenkan oleh JAS.</li><li>• Kenderaan perlu dilabel dengan jelas sebagai membawa buangan berbahaya.</li><li>• Kenderaan perlu dilengkapi dengan dulang pembendungan dan kit tindak balas kecemasan.</li></ul>	

POTENSI KESAN KETARA	KESAN MAGNITUD	P2M2	HALAMAN
<b>FASA OPERASI</b>			
		<ul style="list-style-type: none"> <li>Bateri terpakai perlu disusun dengan kemas di dalam kenderaan.</li> <li>Aktiviti pengangkutan hendaklah disertakan dengan kad buangan seperti yang dinyatakan dalam garis panduan buangan terjadual di Malaysia.</li> </ul>	
2	<p><u>Impak Banjir</u></p> 	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>Bina sistem pembendungan dan kolam takungan di kawasan simpanan.</li> <li>Sediakan Pelan Tindak Balas Kecemasan Banjir dengan langkah-langkah pemindahan dan kawalan yang jelas.</li> <li>Sediakan pam air dengan bekalan kuasa sokongan untuk mempercepatkan proses pembuangan air banjir.</li> <li>Laksanakan amalan kebersihan dan penyelenggaraan yang baik bagi mengelakkan saliran tersumbat.</li> </ul>	8-6 hingga 8-7
3	<p><u>Pencemaran Udara</u></p> 	<p><b>Minor</b></p> <ul style="list-style-type: none"> <li>Amalkan pengemasan yang baik dan pemeriksaan berkala untuk sebarang kebocoran.</li> <li>Sediakan sistem pengudaraan yang baik di kawasan penyimpanan.</li> <li>Hadkan kelajuan kenderaan kepada 30-40 m/j.</li> <li>Peralatan perlindungan pernafasan mesti disediakan dan digunakan oleh pekerja di tapak.</li> </ul>	8-7
4	<p><u>Pencemaran Bunyi</u></p> 	<p><b>Minor</b></p> <p>Kawalan Bunyi :-</p> <ul style="list-style-type: none"> <li>Pastikan tahap bunyi tidak melebihi 70 dB(A) pada waktu siang dan 65 dB(A) pada waktu malam.</li> <li>Ikuti had pendedahan yang dibenarkan untuk pekerja dan sediakan penutup telinga apabila diperlukan.</li> <li>Hadkan aktiviti pengangkutan dan penghantaran mengikut kepada jadual yang diluluskan sahaja.</li> </ul> <p>Amalan Pengangkutan :-</p> <ul style="list-style-type: none"> <li>Amalkan amalan pengangkutan yang betul.</li> <li>Elakkan memecut atau membunyikan hon yang tidak perlu apabila melalui kawasan sensitif.</li> </ul>	8-8

KESAN POTENSI KETARA	KESAN MAGNITUD	P2M2	HALAMAN	
<b>FASA OPERASI</b>				
5	<p style="text-align: center;"><b>Trafik dan Pengangkutan</b></p> 	<p style="text-align: center;"><b>Minor</b></p>	<p>Persekitaran Jalan Selamat :-</p> <ul style="list-style-type: none"> <li>• Had laju dan undang-undang jalan raya yang lain harus dipatuhi dengan ketat.</li> <li>• Kenderaan berat yang melalui jalan awam hendaklah mengekalkan kelajuan antara 30 - 40 km/j.</li> </ul> <hr/> <p>Amalan Pengangkutan :-</p> <ul style="list-style-type: none"> <li>• Pemandu harus mengamalkan tatatertib jalan raya dan pemanduan selamat sepanjang masa.</li> <li>• Jadual untuk pengangkutan bateri terpakai haruslah dielakkan pada waktu puncak.</li> </ul> <hr/> <p>Jadual Pengangkutan :-</p> <ul style="list-style-type: none"> <li>• Pengangkutan bahan binaan di luar tapak hendaklah dijadualkan.</li> </ul>	<p style="text-align: center;">8-8 hingga 8-9</p>
6	<p style="text-align: center;"><b>Kesan Sosio-Ekonomi</b></p> 	<p style="text-align: center;"><b>Minor</b></p>	<p>Isu Keselamatan :-</p> <ul style="list-style-type: none"> <li>• Lakukan pemeriksaan berkala di kawasan penyimpanan.</li> <li>• Sediakan 'PPE' yang sesuai bagi pekerja.</li> <li>• Patuhi 'SOP' dan 'ERP' yang ditetapkan semasa mengendalikan bateri terpakai.</li> </ul> <hr/> <p>Kawalan Gangguan Awam :-</p> <ul style="list-style-type: none"> <li>• Rekod dan tangani aduan komuniti.</li> <li>• Pihak pengurusan di tapak mesti memantau dan berhubung dengan komuniti setempat mengenai sebarang isu.</li> <li>• Kawal impak alam sekitar.</li> </ul>	<p style="text-align: center;">8-9 hingga 8-10</p>

KESAN POTENSI KETARA	KESAN MAGNITUD	P2M2	HALAMAN
<b>FASA OPERASI</b>			
7	<p><u>Penjanaan Sisa</u></p> 	<p>Minor</p>	<p>8-10 hingga 8-11</p>
		<p>Sisa Pepejal :-</p> <ul style="list-style-type: none"> <li>• Tong sampah hendaklah disediakan dan dikosongkan secara berkala.</li> <li>• Bahan yang tidak boleh dikitar semula perlu dikumpul dan dilupuskan dengan betul di kawasan pelupusan yang diluluskan.</li> </ul> <p>Sisa Kumbahan :-</p> <ul style="list-style-type: none"> <li>• Amalan pengemasan yang baik harus diikuti.</li> <li>• Pemeriksaan berkala dan penyelenggaraan sistem saluran paip pembedung perlu dijalankan.</li> <li>• Pihak Penggerak Projek hendaklah memastikan tapak Projek bersih dan terurus.</li> </ul> <p>Buangan Terjadual :-</p> <ul style="list-style-type: none"> <li>• Kemaskini inventori buangan terjadual (bateri terpakai) setiap bulan mengikut peraturan.</li> <li>• Maklumkan kepada JAS mengenai sebarang penghasilan buangan terjadual mengikut prosedur yang ditetapkan.</li> </ul>	
8	<p><u>Pekerjaan Keselamatan dan Kesihatan</u></p> 	<p>Minor</p>	<p>8-11</p>
		<ul style="list-style-type: none"> <li>• Sediakan bekalan peti pertolongan cemas, beserta ubat-ubatan dan peralatan yang mencukupi di tapak.</li> <li>• Sediakan 'ERP' di pejabat dan rangka kerja rasmi.</li> <li>• Pemeriksaan visual yang kerap di kawasan antara premis dan premis bersebelahan.</li> <li>• Pemeriksaan berkala pada pendawaian elektrik di premis.</li> <li>• Sediakan peralatan pemadam api yang mencukupi di kemudahan penyimpanan.</li> </ul>	

KESAN POTENSI KETARA	KESAN MAGNITUD	P2M2	HALAMAN	
<b>FASA OPERASI</b>				
9	<p style="text-align: center;"><b>Penilaian Risiko Kualitatif</b></p> 	<p style="text-align: center;"><b>Minor</b></p>	<ul style="list-style-type: none"> <li>• Periksa kerosakan pada bateri sebelum penerimaan.</li> <li>• Simpan bateri terpakai di tempat sejuk, kering dan berventilasi baik.</li> <li>• Elak pendedahan kepada haba, cahaya matahari dan kelembapan.</li> <li>• Jauhkan daripada bahan mudah terbakar.</li> <li>• Guna peranti elektrik kalis letupan.</li> <li>• Asingkan bateri terpakai.</li> <li>• Laksanakan ERP semasa kecemasan.</li> <li>• Jalankan latihan dan induksi berkala.</li> <li>• Pastikan alat pemadam api mudah alih mudah diakses.</li> </ul>	<p style="text-align: center;">8-12</p>
10	<p style="text-align: center;"><b>Pengabaian</b></p> 	<p style="text-align: center;"><b>Minor</b></p>	<ul style="list-style-type: none"> <li>• Pelan pengabaian hendaklah dikemukakan kepada JAS sekurang-kurangnya 120 hari sebelum perobohan bermula.</li> <li>• Tapak Projek hendaklah dibersihkan dengan teliti, dan prosedur kerja yang selamat perlu disediakan.</li> <li>• Pintu masuk Projek hendaklah dihalang dengan betul.</li> <li>• Sebarang buangan terjadual yang disimpan di tapak hendaklah dikutip dan dikeluarkan oleh kontraktor berlesen JAS.</li> </ul>	<p style="text-align: center;">8-12 to 8-13</p>

# PROGRAM PEMANTAUAN ALAM SEKITAR

## PEMANTAUAN PRESTASI (PM)



Aktiviti ini kerap dilakukan untuk mengekalkan pematuhan piawaian pengurusan buangan terjadual dan memastikan keselamatan dan pengendalian yang sesuai bagi buangan terjadual di tapak.

- ✓ Fasiliti penyimpanan bateri terpakai.

## PEMANTAUAN PEMATUHAN (CM)



Projek yang dicadangkan hanya melibatkan penyimpanan sementara buangan terjadual dan tidak melibatkan pembebasan bahan pencemar udara atau pelepasan air sisa. Oleh itu, tiada kewajipan yang jelas untuk pemantauan pematuhan.

## PEMANTAUAN IMPAK (IM)



### KUALITI PERMUKAAN AIR

- Satu (1) stesen pemantauan kualiti air permukaan.
- Mematuhi Kelas IIB Piawaian Kualiti Air Kebangsaan untuk Malaysia (NWQSM).
- Laporan perlu diserahkan kepada JAS Sabah setiap suku tahun.

### KUALITI AIR BAWAH TANAH

- Satu (1) stesen pemantauan kualiti air bawah tanah.
- Mematuhi Piawaian Kualiti Air Bawah Tanah Kebangsaan untuk Kegunaan Industri.
- Laporan perlu dikemukakan kepada JAS Sabah setiap tahun.

### KUALITI UDARA

- Satu (1) stesen pemantauan kualiti udara.
- Parameter pemantauan: PM10
- Mematuhi Piawaian Kualiti Udara Ambien Malaysia (MAAQS).
- Laporan perlu diserahkan kepada JAS Sabah setiap suku tahun.

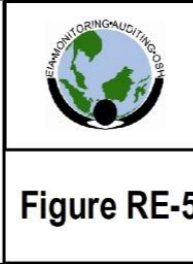
### TAHAP BUNYI

- Satu (1) stesen pemantauan tahap bunyi.
- Mematuhi Jadual Pertama Garis Panduan untuk Had dan Kawalan Bunyi Persekitaran, Edisi Ketiga 2019.
- Laporan perlu diserahkan kepada JAS Sabah setiap suku tahun.



**Project Title**  
 Proposed Offsite Used Batteries Storage Facility on Part of CL.015594279, Mile 7 ½, Jalan Tuaran, Inanam, Kota Kinabalu, Sabah

Legend	
Project Boundary	Drainage
Road	Business/Commercial



Proposed Environmental Monitoring Locations (Operational Phase)	
Project Proponent: Unimek Sdn. Bhd.	
Environmental Consultant: Envsolve Sdn Bhd	
Reference Number: ENVS/4/04/G/641/23	Drawn By : Aina