



PROJECT SUMMARY

ASPHALT PLANT



JANUARY 22, 2026

PURAN BROTHERS DISPOSAL INC.
PLANTATION RUIMZEIGHT, WEST COAST DEMERARA

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EXECUTIVE SUMMARY

The document is a project summary for the establishment of an asphalt plant by Puran Brothers Disposal Inc. in Plantation Ruimzeight, Guyana, detailing its environmental considerations and compliance requirements.

Project Overview and Purpose

Puran Brothers Disposal Inc. plans to expand its operations by establishing an asphalt batch mix plant in Guyana to support construction and infrastructure development.

- The project is located at Plantation Ruimzeight, West Coast Demerara, on approximately 6.738 acres.
- The asphalt plant will produce 160 tonnes per hour (TPH) of asphalt.
- Environmental authorization is sought from the Environmental Protection Agency (EPA) to ensure compliance with regulations.

Project Location and Surrounding Environment

The asphalt plant will be situated in an area characterized by mixed land use, primarily industrial and agricultural.

- Geographic coordinates: Latitude 6°50'23.65" N, Longitude 58°13'52.54" W.
- Surrounding land uses include light industrial, commercial, and limited residential developments.
- Sensitive receptors, such as schools and healthcare facilities, are not within 300 meters of the site.

Baseline Environmental Conditions

The environmental conditions at the project site reflect a previously disturbed agricultural landscape with moderate air quality.

- Existing air quality is influenced by nearby industrial activities and agricultural operations.
- Soil quality is generally good, with no known contamination from previous land use.
- Surface water quality is affected by agricultural runoff, with no significant industrial contaminants present.

Project Description and Key Components

The project involves the installation of a modern asphalt batch mix plant with various components for efficient operation.

- Key components include aggregate cold feed bins, a dryer, a mixing unit, bitumen storage, and an air pollution control system.
- The plant will utilize a bag-house filter system to control emissions and ensure compliance with environmental standards.

Potential Environmental Impacts and Mitigation Measures

The project may generate air emissions, noise, and potential water contamination, but mitigation measures are in place to address these concerns.

- Air quality impacts include emissions of particulate matter, nitrogen oxides, and carbon monoxide.
- Noise levels from machinery are expected to range from 75-85 dB(A) near equipment, with measures to minimize disturbance.
- A comprehensive waste management plan will be implemented to handle solid and hazardous waste appropriately.

Utilities and Resource Use

The project will require various resources for operation, including raw materials, fuel, electricity, and water.

- Key raw materials include aggregates and bitumen.
- Limited water use is anticipated for domestic purposes and dust suppression.

Environmental Management Commitment

The proponent is committed to implementing environmental management practices to minimize impacts and comply with regulations.

- Operations will adhere to the Environmental Protection Act and any conditions attached to the Environmental Permit.
- Continuous monitoring and maintenance will be conducted to ensure compliance with environmental standards.

Conclusion on Project Viability

The asphalt batch mix plant is deemed a necessary investment for national development, with manageable environmental impacts.

- The project is expected to operate responsibly with modern pollution control technologies.
- Anticipated impacts are considered minor to moderate and can be mitigated effectively.

INTRODUCTION

Puran Disposal Brothers, Top Mix arm is a well-established ready-mix concrete business in Guyana, operating with environmentally regulated practices at Lot 2B, La Union, West Bank Demerara, and Great Diamond, East Bank Demerara.

The Company intends to expand its operation in the construction sector to include the production of asphalt via an asphalt batch mix plant (hereafter referred to as the **Project**) at Letter “Y” portion of Lot 01, Section A, part of Plantation Ruimzeight, within the Nouvelle Flander–La Jalousie Village District, West Coast Demerara, Region No. 3, Guyana.

To ensure compliance with environmental regulations, Puran Brothers Top Mix is seeking environmental authorization from the Environmental Protection Agency (EPA) for the production of asphalt at Plantation Ruimzeight, Nouvelle Flanders, La Jalousie Village, West Bank Demerara. This Project Summary supports the application.

PROJECT LOCATION

The Asphalt Production operation will be located on approximately 6.738 acres of land situated at the Letter “Y” portion of Lot 01, Section A, part of Plantation Ruimzeight, within the Nouvelle Flander–La Jalousie Village District, West Coast Demerara, Region No. 3, Guyana.

The project location will be accessible via the existing public road networks along the West Coast Demerara corridor and is located within an area that supports light to medium industrial activities. The surrounding land uses comprise a mix of industrial, commercial, and limited residential developments.

The approximate geographic coordinates of the project’s location are:

- ✓ Latitude: 6°50'23.65" North
- ✓ Longitude: 58°13'52.54" West



Figure 1: Location of Asphalt Plant Operation

Surrounding Land Use

The proposed project will be located within the **Nouvelle Flander–La Jalousie Village District**, West Coast Demerara, an area characterized by **mixed land use**. Land use patterns in the vicinity of the project site reflect a transition from traditional agricultural activities to light and medium industrial, commercial, and residential developments.

- **North:** Immediately north of the project location is the secondary access road, followed by an inactive and old rice milling operation. Beyond the aforementioned uses, the areas north are predominantly agricultural lands and open areas, with scattered residential dwellings set back from the main access routes.
- **South:** Light industrial and commercial activities, including material storage yards and service-related operations.
- **East:** Immediately east of the project location is an existing asphalt plant and utility corridors providing access to nearby communities, with intermittent residential properties. **The nearest resident to the project is located approximately 187 meters east, upwind of the project location.**
- **West:** Agricultural lands and undeveloped open spaces, with drainage canals associated with former plantation layouts.

Sensitive receptors, such as schools, health facilities, and places of worship, are not within the project's immediate vicinity (300 meters) and, where present, are generally separated from the site by roadways, open lands, or drainage features. The surrounding land uses are considered compatible with the proposed asphalt batch mix plant, provided that appropriate environmental management and mitigation measures are implemented.

Previous Land Use

Historically, the project's location formed part of **Plantation Ruimzeight**, where land use was primarily **agricultural**, supporting plantation-related activities consistent with the historic land management practices of the West Coast Demerara region.

In recent years, the location has remained largely **undeveloped or underutilized**, with portions of the land used intermittently for open storage and access purposes. No records indicate the presence of permanent structures, intensive industrial activity, or environmentally sensitive operations on the site before the proposed development.

There is no known history of significant soil contamination or hazardous waste disposal associated with previous land use. The conversion of the site from agricultural/open land to an industrial use is consistent with ongoing land-use trends in the surrounding area.

Sensitive Receptors within a 500-Metre Radius

A review of the surrounding environment within a **500-metre radius** of the proposed project site was conducted to identify potential **sensitive receptors**, including residential dwellings, educational

institutions, healthcare facilities, places of worship, and other locations where prolonged human occupancy may occur.

Identified Receptors

✓ **Residential Areas:**

Scattered residential dwellings are present within the wider Nouvelle Flander–La Jalousie Village District. However, residential structures within the immediate 500-metre radius are **limited and generally set back** from the project site, separated by open lands, drainage canals, and roadways.

✓ **Educational and Healthcare Facilities:**

Schools, nurseries, hospitals, clinics, or elderly care facilities were not identified within the immediate 500-metre radius of the proposed site.

✓ **Places of Worship and Community Facilities:**

Churches, temples, community centers, or recreational facilities were not identified within the immediate 500-metre radius of the project location.

✓ **Ecologically Sensitive Areas:**

There are no known protected areas, wetlands of ecological significance, or designated conservation sites within the 500-metre radius. Existing drainage canals associated with former plantation lands are present, but are not classified as sensitive environmental receptors.

Receptor Sensitivity Assessment

Given the predominantly agricultural, open, and lightly industrialized land use surrounding the project's location, the density of sensitive receptors within 500 meters is considered low. The separation distances, combined with the asphalt plant emission controls and operational mitigation measures, are expected to significantly reduce potential impacts on nearby receptors.

BASELINE ENVIRONMENTAL CONDITIONS

Existing Air Quality Characteristics

Ambient air quality at the project location reflects a rural–agricultural coastal environment with industrial influence. Air quality is primarily affected by:

- An existing asphalt plant operation is located approximately 25 meters west of the project location and downwind of residents.
- Agricultural machinery and seasonal farming operations
- Vehicular traffic on nearby access roads
- Wind-blown dust from exposed soils and embankments
- Occasional biomass burning associated with agricultural practices

Based on the surrounding land use, the ambient air quality is considered to be moderate, with pollutant concentrations typically within acceptable limits for industrial zones.

Air Pollutants of Concern

Based on the land use and regional activities, the following pollutants are present at background concentrations:

- Particulate Matter (PM₁₀ and PM_{2.5}): Generated from soil disturbance and traffic
- Carbon Monoxide (CO): Low-level, intermittent vehicular emissions
- Nitrogen Oxides (NO_x): From combustion engines
- Sulfur Dioxide (SO₂): Minimal, associated with fuel combustion
- Volatile Organic Compounds (VOCs): Trace levels from fuel handling and agricultural chemicals

Continuous ambient air quality monitoring stations are not currently at the project location; however, there are no known reports of persistent air quality exceedances or air pollution complaints in the area.

Meteorological Conditions Influencing Air Quality

Local meteorological conditions play a key role in determining air quality dispersion:

- *Prevailing winds*: Generally moderate, aiding dispersion of airborne pollutants
- *Rainfall*: Frequent rainfall contributes to the natural suppression of dust and particulates
- *Temperature*: Warm tropical conditions promote atmospheric mixing

These conditions are favorable for effective dilution and dispersion of emissions, reducing the likelihood of pollutant accumulation under normal operating conditions.

Odour Environment

Odour conditions are typical of former and current agricultural settings and include:

- Soil and organic matter disturbance
- Fertilizer application residues
- Drainage canal stagnation during dry periods

Odours are episodic, localized, and non-persistent, with no recorded nuisance complaints.

Ambient Noise Environment

Existing noise levels are influenced by:

- Agricultural machinery
- Vehicular movement
- Occasional industrial activity

Baseline noise conditions are consistent with rural–industrial transition zones, with no continuous high-noise sources. Ambient noise levels are considered acceptable and non-intrusive at receptor locations.

Soil Environment - Soil Characteristics

Soils in the project area are typical of coastal alluvial plains, characterized by:

- Fine-grained silty clay to clay textures
- Moderate to poor natural drainage
- High moisture content during wet seasons
- Historical exposure to fertilizers and agricultural amendments

These soils have low permeability, which is advantageous for industrial development when properly managed.

Existing Soil Quality

Given the historical use for rice farming, soils may contain residual nutrients but are not known to be contaminated with hazardous substances. No prior industrial contamination has been recorded for the site.

Surface Water and Drainage - Surface Water Features

The location is served by agricultural drainage canals, which are part of the regional water management system used to control flooding and irrigation.

Surface water characteristics include:

- Slow-moving or stagnant conditions during dry seasons
- Increased turbidity during rainfall events

- Agricultural runoff influences

Ambient Water Quality

Ambient surface water quality reflects agricultural runoff conditions, including:

- Elevated nutrients (nitrogen and phosphorus)
- Suspended sediments during rainfall
- No known industrial contaminants

No surface water bodies are used directly for potable supply in the immediate vicinity.

Groundwater Environment

Groundwater in the coastal plain is generally:

- Shallow
- Influenced by rainfall and tidal conditions
- Of limited potable quality without treatment

There is no evidence of groundwater abstraction for drinking purposes near the project location. Groundwater sensitivity is considered moderate, necessitating proper containment and liner systems for industrial operations.

Ecological Environment

The ecological value of the site is low, dominated by:

- Modified agricultural landscapes
- Drainage vegetation
- Common bird and small mammal species

No threatened or endangered species, critical habitats, or biodiversity hotspots were identified within the project footprint.

Baseline Environmental Sensitivity Summary

Environmental Component	Sensitivity Rating
Air Quality	Moderate
Noise	Low
Soil	Low–Moderate
Surface Water	Moderate
Groundwater	Moderate
Ecology	Low
Social Receptors	Low

Baseline Conclusion

The baseline environmental conditions at Plantation Ruimzeight, West Coast Demerara, reflect a previously disturbed agricultural landscape with:

- Moderate ambient air quality
- Low ecological sensitivity
- Adequate separation from sensitive receptors
- Sufficient land area for buffers and environmental controls

These conditions are considered suitable for the proposed asphalt plant, provided all engineering controls, mitigation measures, and monitoring requirements are fully implemented.

PROJECT DESCRIPTION

The project's development involves the installation and operation of a 160 tonnes-per-hour (TPH) Asphalt Batch Mix Plant, intended to support road construction, rehabilitation, and infrastructure development projects within Guyana.

The plant will include, but is not limited to, the following key components:

- ✓ Aggregate cold feed bins
- ✓ Aggregate dryer and heating system
- ✓ Asphalt mixing unit
- ✓ Bitumen storage and handling system
- ✓ Finished asphalt storage and loading facilities
- ✓ Air pollution control system (baghouse filter unit)
- ✓ Emission stack and associated ducting
- ✓ Ancillary infrastructure, such as internal access roads, drainage, utilities, and staff facilities

Operations will be conducted in accordance with manufacturer specifications and applicable environmental and occupational safety standards.

Asphalt Plant Specifications

- Asphalt Batch Mix plant with Bag House Type Pollution Control Unit
- Model No. ABP – 160
- Capacity – 160 TPH

Plant Output Capacity @ 05 % moisture		160 tph
@ 10 % moisture		140 tph
@ 15 % moisture		120 tph
Batch Cycle		Max. 80 cycles / hour
Batch Size		2000 kg/batch
Ambient operating temperature		20 to 45°C
Altitude		Sea level
Atmospheric pressure		760 mm Hg
Moisture in Cold Material for 160 Tones/hr. Capacity		3% maximum
Residual moisture content at drier outlet		<0.50%
Aggregates specific heat		0.21 Kcal/Kg
Aggregates density		1.65t/m ³
Specific heat of Aggregates.		0.2 Kcal/kg
Aggregates Properties		IS 2386 (Part I, III, IV, V)
Maximum aggregates size (The particle shape must not be elongated as provided by the international standards)		40mm
Mineral drying/heating process @ 3%moisture		150°C
Sand content		Max. 40%(0-4mm)
Number of mineral components		4
Binding agent content at 160°		<7.5%
Filler content of cold aggregates		<10%
Wind speed		<25 m/s
Earthquake	< 0.9 m/s ² horizontal	peak ground acceleration
Ready-mix without above Percentage additives which can extend the batch cycle.		

Submission of Air Emission Characteristics and Concentration Levels Asphalt Batch Mix Plant – 160 TPH (For Environmental Protection Agency, Guyana)

In accordance with the requirements of the Environmental Protection Agency (EPA), Guyana, we hereby submit the air emission characteristics and anticipated emission concentration levels of the proposed 160 TPH - Asphalt Batch Mix Plant for PURAN BROS. TOP MIX INC.

Emission Stack Design Parameters

Stack Diameter	900 mm
Stack Height	12 meters
Exhaust Gas Temperature	55°C – 60°C
Stack Exit Velocity	Approx. 16 m/sec
Emission Control System	Baghouse Type Filter Unit

Anticipated Emission Concentration Levels

Operating Condition	Production Rate	Mix Temp (°C) TPH	PM (mg/Nm ³)	NOx (ppm)	CO (ppm)	SO ₂ (ppm)
Low Load	80	140–150	10–15	120–150	50–80	≤20
Normal Load	120	155–165	15–20	150–180	70–100	≤20
Full Load	160	165–180	20–25	180–220	90–120	≤20

The proponent confirms that the Asphalt Batch Mix Plant is designed and shall be operated to comply with applicable environmental requirements of Guyana.

Figure 2: Air Emission Characteristics and Concentration Levels for the Asphalt Plant

Project Activities

Key activities associated with the project include:

- ✓ Site preparation and civil works
- ✓ Installation of asphalt plant machinery and equipment
- ✓ Commissioning and operational testing
- ✓ Routine production of asphalt mixtures
- ✓ Storage and handling of raw materials and finished products
- ✓ Maintenance of equipment and pollution control

The proposed project will involve the installation and operation of a **VINAYAK Asphalt Batch Mix Plant, Model ABP-160**, with a rated production capacity of up to 160 tonnes per hour. Key equipment and infrastructure include:

- ✓ **Cold Aggregate Feeding System:** Four (4) aggregate bins with variable speed drives and conveyor belts for controlled material feed.



Figure 3: Aggregate Feeding System specifications

- ✓ **Conveying and Screening Systems:** Gathering conveyor, slinger conveyor, and single-deck vibratory screen for oversized material removal.
- ✓ **Dryer Drum Unit:** Counter-flow, glass wool insulated rotary dryer drum (1.8 m diameter × 9.0 m length) fitted with a fully automatic, low-noise burner operating on diesel or ASTM D396 No. 4 fuel oil.
- ✓ **Burner System:** High-pressure fuel atomizing burner with integrated turbo blower and flame monitoring system.



Burner

Model	:	15 K
Type	:	High pressure fuel atomizing short flame, wide turn-down, low noise Burner with automatic ignition device and automatic flame control unit.
Fuel	:	Diesel fuel oil or ASTM D396 No.4 fuel oil
Capacity	:	300 to 1150 l/h

Fuel Pump

Type	:	Gear pump
Connected Power	:	5.5 KW x 4 P

Control Motor

Type	:	AC Motor with potentiometer feedback
Connected Power	:	0.0746 kW (5 Kg-Mtrs torque)

Blower

Type	:	Low noise turbo fan
Connected Power	:	18.5 KW x 4P

Figures 4 and 5: Main Burner (auto) Photo and Specifications

- ✓ **Pollution Control System:** Two-stage dust control comprising cyclonic pre-separators and a high-efficiency bag-house filter unit (315 Meta-Aramid filter bags).

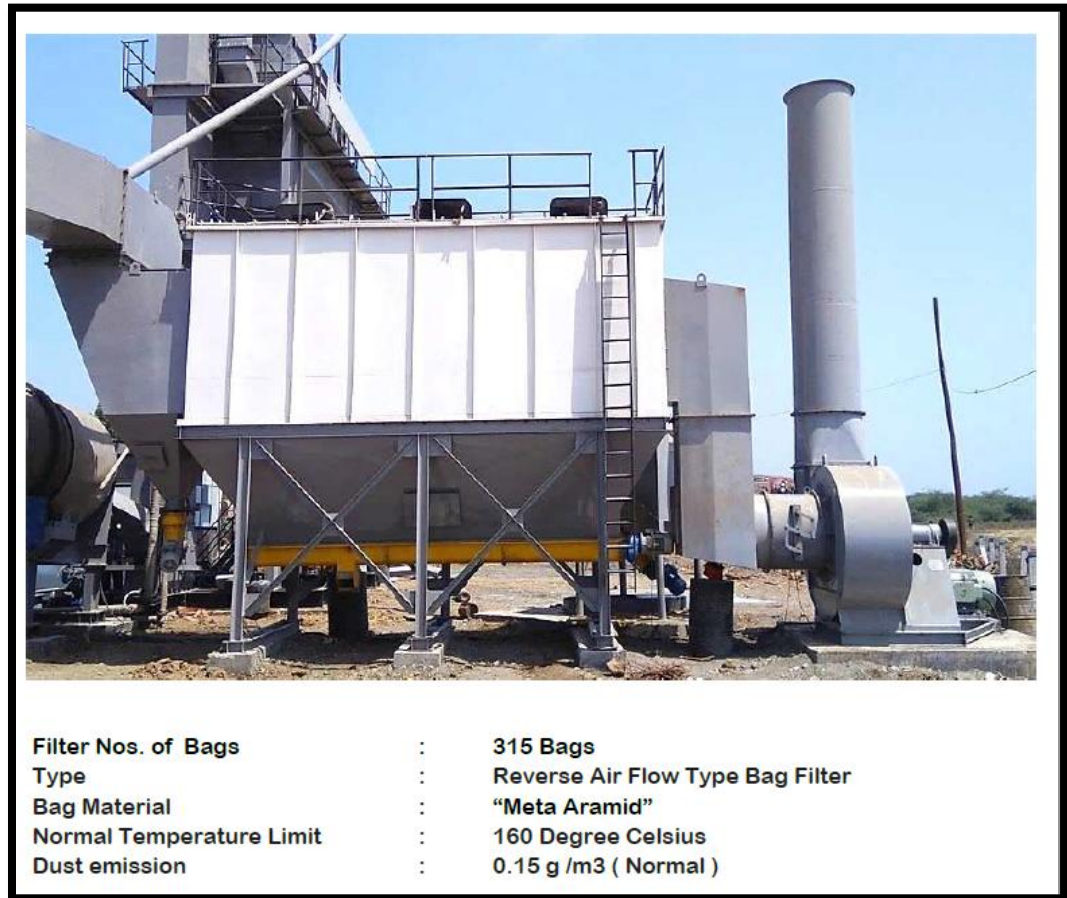


Figure 6: Bag House Filter Unit Specifications

- ✓ Batching and Mixing Tower: Enclosed batching tower with hot aggregate bins, weighing hoppers, twin-shaft mill mixer (2000 kg/batch), and bitumen spraying system.

Type	:	Centrifugal discharge type bucket elevator.
Capacity	:	160 t/h
Connected power	:	18.5 KW x 4 P x 1/20



Figure 7: Batching Tower

- ✓ Bitumen Storage and Heating System: Four (4) insulated bitumen storage tanks (30 MT each) with indirect thermal oil heating.
- ✓ Ancillary Systems: Thermic fluid oil heater, mineral filler feeding system, control cabin with PLC-based automated controls, and optional 400 kVA diesel generator.

Noise (Decibel Levels)

Noise will primarily be generated from rotating machinery, conveyors, vibratory screens, exhaust fans, burner blowers, and generators (if used). Typical operational noise levels for asphalt batch plants of this type are expected to range between:

- ✓ 75–85 dB(A) near major equipment such as dryer drums, blowers, and screens.
- ✓ ≤70 dB(A) at the control cabin and administrative areas.
- ✓ ≤55–65 dB(A) at the site boundary, subject to distance, topography, and shielding.

Noise levels are expected to comply with applicable occupational exposure standards within the plant and national environmental noise limits at sensitive receptors, following the implementation of mitigation measures.

POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This section identifies and describes the potential adverse environmental impacts of the project. Mitigation measures are described in detail to reduce or mitigate the identified impacts.

Air Quality Impacts

The asphalt batch mix plant is designed with an efficient bag-house-type air pollution control system to capture particulate matter generated during aggregate drying and mixing processes. Emissions will be discharged through a dedicated stack designed to ensure adequate dispersion.

Anticipated emissions include particulate matter (PM), nitrogen oxides (NO_x), carbon monoxide (CO), and sulphur dioxide (SO₂), with projected concentrations designed to remain within applicable environmental limits. Regular maintenance and monitoring of the emission control system will be undertaken to ensure continued compliance.

Air Emissions

Air emissions associated with the project will arise mainly from aggregate drying, fuel combustion, and material handling. These include:

- ✓ Particulate Matter (PM) from aggregate drying and transfer operations.
- ✓ Combustion Gases including nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂), and trace sulfur oxides (SO_x), depending on fuel sulfur content.
- ✓ Fugitive Dust from aggregate stockpiles, vehicle movement, and material loading/unloading.

Anticipated Emission Concentration Levels

Operating Condition	Production Rate	Mix Temp (°C) TPH	PM (mg/Nm ³)	NO _x (ppm)	CO (ppm)	SO ₂ (ppm)
Low Load	80	140–150	10–15	120–150	50–80	≤20
Normal Load	120	155–165	15–20	150–180	70–100	≤20
Full Load	160	165–180	20–25	180–220	90–120	≤20

The installed bag-house filter system is designed to achieve a dust emission concentration of approximately 0.15 g/m³, which is consistent with international best practice for asphalt plants.

Potential Environmental Impacts

The operation of the asphalt batch mix plant may result in emissions of particulate matter (PM), nitrogen oxides (NO_x), carbon monoxide (CO), and sulphur dioxide (SO₂). Dust may also be generated during aggregate handling, material transfer, and vehicular movement within the facility. If uncontrolled, these emissions may affect ambient air quality and nearby receptors.

- ✓ **Air Quality Impacts:** Without controls, emissions could temporarily affect ambient air quality in the immediate vicinity of the plant.
- ✓ **Noise Impacts:** Elevated noise levels may affect on-site workers and, to a lesser extent, nearby receptors during operational hours.

- ✓ **Occupational Health and Safety:** Exposure to noise, heat, and airborne particulates presents potential risks to workers if unmanaged.
- ✓ **Localized Nuisance:** Dust and noise may cause short-term nuisance during peak production periods.

Mitigation Measures:

- ✓ Install and maintain a bag-house-type dust filtration system designed to achieve high particulate removal efficiency.
- ✓ Construct the emission stack at the approved height and diameter to promote effective dispersion of exhaust gases.
- ✓ Conduct routine inspection and maintenance of burners, filters, ducting, and fans to prevent fugitive emissions.
- ✓ Implement water spraying or misting on unpaved surfaces and aggregate stockpiles during dry conditions.
- ✓ Enforce speed limits for vehicles within the site to reduce dust generation.
- ✓ Use covered or enclosed conveyors and transfer points where feasible.
- ✓ Undertake periodic air quality monitoring in accordance with EPA requirements to demonstrate compliance.
- ✓ Installation and operation of a high-efficiency bag-house filter system and cyclonic pre-separators to control particulate emissions.
- ✓ Regular inspection, maintenance, and timely replacement of filter bags.
- ✓ Enclosure of material transfer points and batching tower components.
- ✓ Water spraying or other dust suppression methods for aggregate stockpiles and haul roads.
- ✓ Use of low-sulfur fuel where available and proper burner tuning to ensure efficient combustion.

Noise and Vibration Impacts

Potential Impacts:

Noise may be generated from plant machinery, aggregate handling equipment, generators, and vehicular traffic. Prolonged exposure to elevated noise levels may cause nuisance to nearby communities and discomfort to workers.

Mitigation Measures:

- ✓ Install noise-dampening enclosures and silencers on major equipment and generators.
- ✓ Restrict operations to approved working hours, where practicable, to minimize disturbance.
- ✓ Maintain all mechanical equipment in good working condition to prevent excessive noise.
- ✓ Provide personal protective equipment (PPE), including hearing protection, to on-site workers.
- ✓ Conduct noise monitoring if required by the EPA or if complaints are received.
- ✓ Use of low-noise burner systems and well-maintained mechanical components.
- ✓ Installation of silencers, acoustic enclosures, or barriers around high-noise equipment where feasible.
- ✓ Scheduling of high-noise activities during daytime hours.
- ✓ Provision of personal protective equipment (PPE), including hearing protection, for workers in high-noise areas.

Water Resources and Drainage

Potential Impacts:

Surface runoff from the site may contain suspended solids, oil residues, or bitumen traces, potentially affecting nearby drains or watercourses. Accidental spills of fuels or bitumen could contaminate soil and water.

Mitigation Measures:

- ✓ Design and maintain an effective site drainage system to control and direct runoff.
- ✓ Install oil and grease traps in areas where machinery is serviced or fuel is stored.
- ✓ Store fuels, bitumen, and chemicals in bunded and impervious areas.
- ✓ Implement a spill prevention and response plan, including availability of spill kits and trained personnel.
- ✓ Prohibit direct discharge of untreated effluent into natural waterways.

Soil and Land Quality

Potential Impacts:

Soil contamination may occur from accidental spills, improper waste handling, or prolonged exposure to hydrocarbons. Land degradation may result from uncontrolled storage of materials.

Mitigation Measures:

- ✓ Use impervious surfaces in fuel storage, bitumen handling, and maintenance areas.
- ✓ Immediately clean up any spills using approved containment and disposal methods.
- ✓ Dispose of contaminated materials through EPA-approved waste management facilities.
- ✓ Limit disturbance to areas strictly required for project activities.

Solid and Hazardous Waste Management

Potential Impacts:

Solid waste such as packaging, used filters, and general refuse may be generated. Small quantities of hazardous waste (e.g., used oils, oily rags) may also arise.

Mitigation Measures:

- ✓ Implement a waste segregation system for recyclable, non-hazardous, and hazardous waste.
- ✓ Store hazardous waste in labelled, sealed containers in designated areas.
- ✓ Engage EPA-licensed waste disposal contractors for the collection and disposal of hazardous waste.
- ✓ Maintain records of waste generation and disposal.

Traffic and Road Safety

Potential Impacts:

Increased movement of heavy-duty vehicles transporting raw materials and asphalt products may contribute to traffic congestion, road wear, and safety risks along access routes.

Mitigation Measures:

- ✓ Develop and implement a traffic management plan for site operations.
- ✓ Schedule deliveries to avoid peak traffic periods where possible.
- ✓ Ensure all trucks are properly maintained and loads are securely covered.
- ✓ Install appropriate signage at site entrances and exits.

Occupational Health and Safety**Potential Impacts:**

Workers may be exposed to high temperatures, dust, noise, and moving machinery, which could pose health and safety risks.

Mitigation Measures:

- ✓ Enforce a comprehensive Occupational Health and Safety (OHS) Plan.
- ✓ Provide appropriate PPE, including helmets, gloves, safety boots, respirators, and hearing protection.
- ✓ Conduct regular training and safety briefings for all employees.
- ✓ Clearly mark restricted areas and install safety guards on machinery.

Socio-Economic Impacts**Potential Impacts:**

The project may result in temporary nuisance (noise, dust) but will also provide economic benefits through employment and improved infrastructure support.

Mitigation Measures:

- ✓ Maintain open communication with nearby communities and address complaints promptly.
- ✓ Prioritize local employment where feasible.
- ✓ Implement good housekeeping practices to minimize community disturbance.

Cumulative and Residual Impacts**Potential Impacts:**

When combined with other existing or planned developments in the area, cumulative impacts may arise, particularly related to air quality and traffic. With the proposed mitigation measures fully implemented, residual impacts related to air emissions and noise are expected to be minor to moderate, localized, and within acceptable regulatory limits. The project is therefore not anticipated to result in significant long-term adverse environmental impacts.

Mitigation Measures:

- ✓ Ensure continuous compliance with emission standards and permit conditions.

- ✓ Periodically review and update environmental management practices.
- ✓ Cooperate with the EPA in cumulative impact assessments if required.

Utilities and Resource Use

1. Raw materials: aggregates, bitumen, and additives
2. Fuel: required for aggregate drying and plant operations
3. Electricity: for plant operation, lighting, and auxiliary systems
4. Water: limited use for domestic purposes and dust suppression

Waste Generation and Management

The project is expected to generate minimal solid and liquid waste. Waste management measures will include:

- ✓ Proper collection and disposal of solid waste
- ✓ Reuse or recycling of suitable materials where practicable
- ✓ Controlled handling of any hazardous materials in accordance with EPA guidelines

ENVIRONMENTAL MANAGEMENT COMMITMENT

The Proponent commits to implementing appropriate environmental management and mitigation measures to minimize impacts on air quality, noise levels, and surrounding land uses. Operations will comply with the Environmental Protection Act and Regulations of Guyana, as well as any conditions attached to the Environmental Permit.

CONCLUSION

The proposed asphalt batch mix plant represents a necessary infrastructure investment to support national development objectives. With the implementation of modern pollution control technologies and adherence to environmental best practices, the project is expected to operate in an environmentally responsible manner with manageable and mitigable impacts.