DROMINC
Dromos Mining and Construction Inc

ASPHALT PLANT

DEVELOPED BY

DROMOS Mining and Construction Inc. (DROMINC)

Company Registration No.15486
Lot 1 Croal Street, Stabroek
Georgetown, Guyana

PREPARED BY

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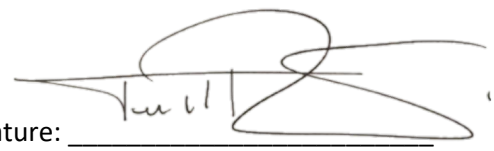
Signature: 

2. Description of the Proposed Project

DROMOS Mining and Construction Inc – DROMINC is establishing and operating a modern asphalt plant in the Soesdyke area of Guyana. The primary objective of the project is to produce and supply asphalt mix, while also offering paving services for infrastructure and civil works. The plant is designed to serve a variety of sectors, adapting to the needs of different clients.

The land for the project was officially granted to the company, and project development began approximately one year ago. While operations have not yet commenced, the final stages of construction and setup are currently being completed. Its long-term continuity will depend on the renewal of the current 50-year lease agreement with the State of Guyana for the land.

2 (i). Project Location

The asphalt plant is located on a parcel of land with an approximate area of 12 acres, situated approximately 28 km southeast of Georgetown, on the eastern side of the Soesdyke–Linden Highway, between the Kuru Kururu and Madewini Creek Lots. Access to the site is provided via an existing access road located approximately 5.5 km from the Soesdyke Junction in the direction of Linden.

The site has been secured through a long-term lease agreement with the Government of Guyana and is designated exclusively for industrial use. The property is a former sand pit area and forms part of a broader zone intended for industrial development. Several industrial facilities are already operating in the vicinity. In particular, the property immediately north of the project site accommodates an existing asphalt plant, a concrete batching plant, and associated office and accommodation container facilities.

A review of the surrounding area indicates that the site is located within an established industrial corridor and is separated from residential and community sensitive land uses. No schools, hospitals, health centres, daycare facilities, or other sensitive receptors are located in the immediate vicinity of the proposed development.

An aerial photograph of the project site and its surroundings is presented below:

The approximate centroid coordinates of the property are:

- East: 369972 m
- North: 719800 m

The Google Maps location is the following:

The nearest identified receptors and features (settlement, residence, watercourse (creeks), resorts, and other industrial facilities) are summarized below:

Receptor/Feature	Approximate Distance from Site
Madewini Creek	0.99 km
Splashmins Fun Park and Resort	1.3 km
Kuru Kururu Settlement	2.8 km
Existing Asphalt Plant (North of Site)	250 m
Existing Concrete Plant (North of Site)	250 m
Demerara River	5.7 km

Please find below a map illustrating the location of nearby settlements, industrial facilities, watercourses, and recreational facilities:

A Site Layout Plan is attached to this project summary, where the coordinates of the principal site components are summarized.

Given the industrial character of the surrounding area, the absence of nearby sensitive community facilities, and the separation distances from residential receptors, the proposed development is considered compatible with existing and planned land uses in the area.

2 (ii). Non-Dispute Nature of the Land

The site is under the lease No. A28910 with the State of Guyana and is legally designated for industrial use of 50 years. There are no disputes over ownership or usage, and the lease agreement clearly authorizes the operation of an asphalt plant on the property.

2 (iii). Description of Alternatives

With respect to the alternatives considered for the proposed development, the Company's business plan has always contemplated the establishment, in this land, of an asphalt production facility as the primary and preferred option. Consequently, the site selection process focused on identifying a suitable property that could accommodate the operational, environmental, logistical, and regulatory requirements of an asphalt plant. Therefore, while different site options were assessed during the planning stage, no alternative industrial activity was considered. This process extended over several months and involved the evaluation of multiple locations before the current site was selected.

The site selection criteria included the availability of the extension of the land area to accommodate the asphalt plant and its associated infrastructure, including aggregate stockpiles, fuel storage, circulation areas, offices, workshops, and future operational expansions. Particular consideration was also given to the site's proximity to major transportation corridors and road development areas, as well as travel times to current and foreseen infrastructure projects. These factors are critical to ensuring efficient transportation of raw materials and finished asphalt mix, reducing operational costs, and maintaining timely service to clients.

The alternative sites evaluated by the Company were generally comparable from an operational, technological, and environmental perspective. Therefore, no significant differences were identified among the alternatives with respect to production methodology, emissions control, resource consumption, or operational practices. These factors provided both operational and economic advantages while maintaining environmental impacts comparable to those associated with the alternative sites considered.

In addition, the selected property offered the advantage of being available under a long-term lease arrangement with the Government of Guyana. This leasing structure provides significant benefits to the Company's investment strategy by reducing the initial capital outlay associated with land acquisition, while still ensuring long-term

security of tenure and allowing resources to be directed toward the development of operational infrastructure, equipment, and future business growth.

It should be noted that, during the early stages of the Company's planning process, an alternative project involving the installation of an aggregate crushing plant was also considered. However, this option was evaluated independently and in a different context, as aggregate crushing operations are most efficiently located in close proximity to the source quarries in order to minimize transportation costs and handling requirements.

Consequently, this alternative was assessed at locations near existing quarry operations and was never considered a viable alternative to the current asphalt plant project or to the selected site. Given the fundamentally different nature, objectives, and location requirements of the two activities, the aggregate crushing plant cannot be regarded as a comparable development alternative for the purposes of this assessment.

2 (iv). Existing Baseline

A review of available records was undertaken to identify any existing environmental baseline studies for the project site. However, no comprehensive baseline studies specific to the property were found. The only historical information available indicates that the site was previously utilized as a sand extraction pit. As a result of these past activities, the land has already been significantly disturbed and does not represent a natural or undisturbed environment. The site currently consists predominantly of exposed sandy soils with sparse vegetation.

2 (v). Existing Permits

DROMOS Mining and Construction Inc – DROMINC has already obtained the Planning Permission for Building Works from the **Central Housing and Planning Authority** (CH&PA). The Company has also received a No Objection Letter from the relevant Neighbourhood Democratic Council (NDC) for the proposed development.

In addition, DROMINC has obtained approval from the Guyana Fire Service (GFS) for the storage of fuel required for the operation of the facility. The corresponding Fire Service Licence is attached to this application as supporting documentation.

The Company is currently in the process of obtaining Environmental Authorization from the Environmental Protection Agency (EPA).

With regard to fuel storage authorization, the application process with the Guyana Energy Agency (GEA) has already been initiated. The GEA has reviewed the proposed fuel storage arrangements, has a copy of the Licence given by the GFS and has provided its preliminary no-objection to the project. However, the Agency has advised that the final authorization process will be completed once the Environmental Authorization from the EPA has been issued.

The Company will also has done the processes at the Guyana Water Incorporated (GWI) and the Hydrometeorological Service.

2 (vi). Previous Application EPA Permit

The Company initially expressed its interest in applying for an environmental permit in 2024 for a different parcel of land that was, at that time, the preferred location for the project. However, after further evaluation, that option was no longer feasible for the Company's operational requirements and the project did not proceed at that location. Consequently, the permit application was not formally submitted. Following the identification and acquisition of the current site, the Company resumed the permitting process for the proposed development at this new location.

2 (vii). Layout of the project

Please find attached to this permit application the complete project layout, as approved by the Central Housing and Planning Authority (CH&PA).

The layout plan illustrates the site boundaries, utility areas and the location of all principal project components. These include the asphalt plant, aggregate stockpile areas, fuel storage facilities, workshop and maintenance areas, administrative and operational buildings, water supply facilities, and other supporting infrastructure required for the operation of the plant.

The layout also identifies the dimensions and capacities of the main project components, including fuel storage tanks, aggregate stockpiles, asphalt plant units, workshop facilities, office buildings, and the water well. The site layout has been designed to ensure safe and efficient operations, facilitate vehicle circulation and material handling, provide adequate separation between operational areas, and allow enough space for future improvements and expansion of supporting infrastructure, if required.

3. Main Processes and Resource Use

3 (i). Process generating discharges

The asphalt production process involves mixing crushed aggregates, sand and asphalt bitumen. Notably, the operation does not require water in the production process, and no significant use of natural resources is anticipated beyond the raw materials listed.

3 (ii). Drainage plan and stormwater management

The area where the asphalt plant will be located consists of predominantly sandy terrain. This type of soil is characterized by high macroporosity and elevated hydraulic conductivity, which grants excellent natural permeability.

Due to this high infiltration rate, the surface runoff generated on the site is expected to be minimal. Rainwater permeates rapidly through the soil profile, which acts as a natural filter. Consequently, the construction of conventional drainage infrastructure (such as concrete-lined ditches and large settling ponds) is not technically necessary and not environmentally justidied, as it would alter the site's natural hydrological dynamics without providing significant benefits to stormwater management.

The site layout has been designed to maintain natural drainage patterns to the greatest extent practicable. Surface grading will promote controlled runoff toward permeable areas where rainfall can infiltrate naturally into the ground. Existing natural drainage pathways will be preserved, and site development will avoid the obstruction of natural water flow.

The asphalt storage areas, fuel tanks, mixing areas, and loading/unloading zones will be situated on platforms made of asphalt pads to protect the soil in the event of a spill. Fuel storage tanks will be located within appropriate containment areas capable of retaining potential spills, thereby preventing contamination of stormwater and groundwater resources.

Additional stormwater management measures to be implemented at the facility include:

- Routine inspection and maintenance of site grading and drainage pathways.
- Good housekeeping practices to prevent the accumulation of waste materials that could be mobilized by rainfall
- Immediate cleanup of any spills or leaks occurring within operational areas.
- Regular inspection of fuel storage, bitumen storage, and equipment maintenance areas to prevent contamination of runoff.
- Implementation of spill prevention and response procedures as part of the facility's Environmental Management Plan.

Given the highly permeable nature of the site soils and the proposed operational controls, stormwater is expected to be effectively managed through natural infiltration and preventive environmental management measures. The proposed development is therefore not anticipated to result in significant changes to local drainage patterns or increase the risk of flooding, erosion, or off-site sediment transport.

3 (ii). Structures to handle discharges

For the storage of hydrocarbons (asphalt cement and diesel fuel), there are metal tanks enclosed within containment dikes that have a storage capacity exceeding that of the tanks. The dikes are built with structural masonry using hydraulic cement mortar blocks.

Asphalt Mixture Production Plant

- Two asphalt cement tanks with a capacity of 35.1 m^3 each, for a total of 70.2 m^3. Contained within a 7.74 m x 13.32 m x 0.84 m bund, providing a dike capacity of 86.1 m^3, which is 23% greater than the capacity of the tanks.
- One No. 1 fuel tank of 37.9 m^3. Contained within a 4.41 m x 10.18 m x 1.06 m bund, providing a dike capacity of 47.4 m^3, which is 25% greater than the capacity of the tank.

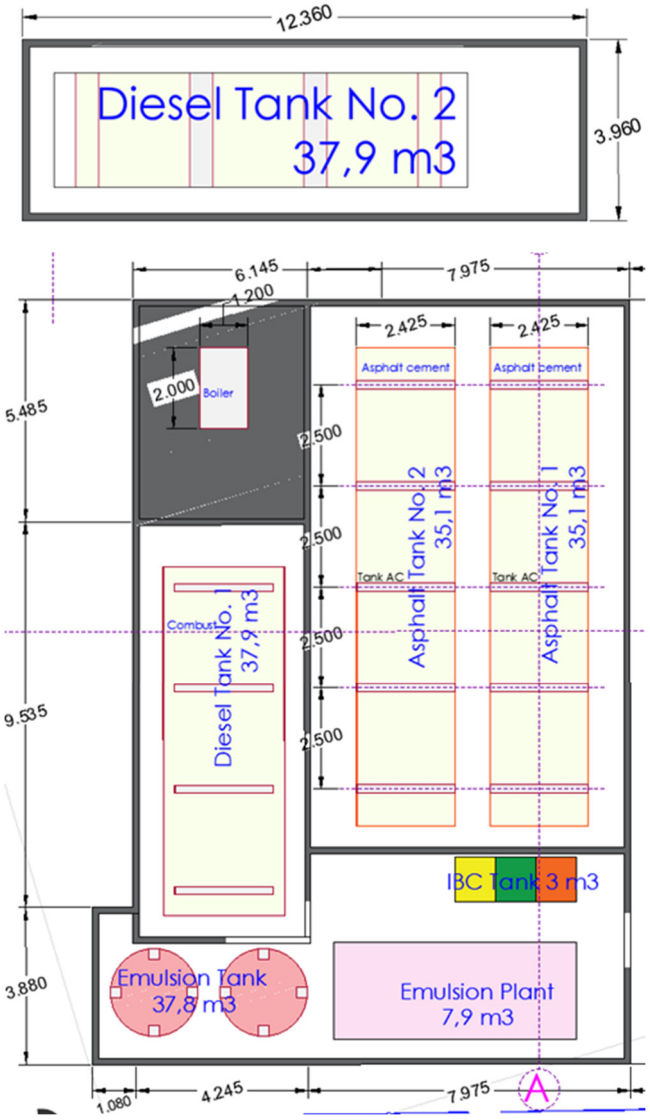
Emulsion Production Plant

- One soap solution tank of 7.9 m^3.
- Three ISO tanks for a total of 3.0 m^3.
- Two storage tanks of 18.9 m^3 each, for a total of 37.8 m^3.
- These tanks are contained within dikes measuring 5.04 m x 7.75 m x 1.03 m and 2.99 m x 5.24 m x 1.06 m, for a total bund volume of 53.8 m^3, which is 10% greater than the capacity of the emulsion plant tanks.

Warehouse

- One fuel storage tank of 37.9 m^3. Contained within a 3.64 m x 12.05 m x 1.15 m bund, providing a total bund volume of 46.5 m^3, which is 23% greater than the capacity of the tank.

Storage	Width (m)	Large (m)	Height (m)	Volume (m3)	Tank capacity (m3)	Bund capacity
Diesel Tank 2	12,36	3,96	1,2	58,73	37,9	155%
Diesel Tank 1	10,18	4,41	1,06	47,59	37,9	126%
Asphalt Tank 1	13,32	7,74	0,84	86,60	35,1	123%
Asphalt Tank 2	13,80	7,98	1,06	116,66	35,1	166%
Emulsion Tank	13,30	5,10	1,04	70,54	48,7	145%



Secondary Containment Design and Engineering Details

The secondary containment systems (bunds/dikes) are designed as impervious structures to ensure full retention of any accidental spills or leaks from hydrocarbon and chemical storage tanks. All containment areas are constructed using masonry walls with hydraulic cement mortar blocks and are provided with an impervious concrete base slab to prevent infiltration into the underlying soil.

Each bund is designed to contain at least 110% of the volume of the largest tank within the respective containment area, in compliance with good international industry practice for fuel and bitumen storage facilities. The internal floor of each bund is graded towards a low-point collection sump to allow controlled removal of accumulated rainwater. Any water collected within the containment areas is inspected prior to discharge to ensure it is free from hydrocarbons.

Typical Cross-Section of Bunded Areas

The bund structures generally consist of the following layers and elements:

- Masonry perimeter walls constructed with hydraulic cement mortar blocks
- Wall height ranging between approximately 0.84 m and 1.15 m depending on tank configuration
- Minimum wall thickness sufficient to ensure structural stability against hydrostatic pressure
- Reinforced concrete base slab forming an impermeable containment floor
- Internal surface sloped towards a collection sump located at the lowest point of the bund

These design measures ensure that all hydrocarbon storage areas are fully contained and that any accidental release is retained within a controlled and impermeable system, thereby preventing soil and groundwater contamination.

3 (iii). Description of discharges

The discharges expected from the project are the following:

- **Air Emissions**

The air emissions associated with the operation of the asphalt plant include particulate matter (dust), carbon dioxide (CO_2), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOCs), and minimal traces of sulfur oxides (SO_x), primarily associated with combustion processes and material handling activities.

A simplified Process Flow Diagram for the asphalt plant is included. The diagram illustrates the main stages of the production process, including aggregate receiving and stockpiling, cold feed system, drying and heating in the rotary drum, mixing with bitumen in the mixing unit, storage of finished asphalt mix, and loading operations.

AGGREGATES (Quarry Supply)

↓

STOCKPILE AREA (SP-01)

Fugitive emissions: windblown dust (F-01)

↓

COLD FEED SYSTEM (CF-01)

(Bins and conveyor system)

↓

DRYER DRUM UNIT (DD-01)

(Burner system for aggregate heating and drying)

↓

STACK EMISSIONS (E-01) PM_{10} | $PM_{2.5}$ | NO_x | SO_x | CO | CO_2

↓

HOT ELEVATOR (HE-01)

↓

MIXING TOWER (MT-01)

(Bitumen injection and asphalt mixing)

Connected to Bitumen Storage Tank (BT-01)

↓

ASPHALT STORAGE SILO (AS-01)

↓

TRUCK LOADING AREA (TL-01)

↓

ROAD TRANSPORT

FUGITIVE EMISSION SOURCES

F-01 – Aggregate stockpiles (wind erosion)

F-02 – Conveyor transfer points

F-03 – Cold feed system handling

F-04 – Internal vehicle movement and unpaved roads

F-05 – Truck loading operations

F-06 – Fuel storage and handling areas

EMISSION SOURCE SUMMARY

E-01 – Dryer drum stack (main point source emissions)

F-01 to F-06 – Fugitive dust and operational emissions sources

The facility includes both point and fugitive emission sources, as summarized below:

Point Sources:

- Dryer drum stack (aggregate drying and heating system)
- Bitumen heating system vent
- Emulsion production unit vent (where applicable)

Fugitive Sources:

- Aggregate stockpiles (wind erosion)
- Cold aggregate handling and feeding systems
- Conveyor transfer points
- Loading of trucks with asphalt mix
- Internal haul roads and vehicle movement
- Fuel storage and handling areas
- Conservative worst-case scenario assumptions to ensure environmental robustness of the assessment

Stack Parameters

Main dryer drum stack:

- Stack height: **18 m above ground level**
- Stack diameter: **1.2 m**
- Exhaust gas temperature: **160–180 °C**
- Exhaust gas flow rate: **45,000 Nm³/h (at full production load)**

Auxiliary vents (bitumen heating system):

- Height: 6–8 m
- Low-flow controlled venting systems integrated into heating units

Estimated Emission Rates (100–120 TPH asphalt plant)

Pollutant	Estimated Emission Rate	Basis
PM_{10}	**1.8 kg/hr**	AP-42 asphalt drum mix factors
$PM_{2.5}$	**0.5 kg/hr**	Fraction of PM_{10} (≈25–30%)
NO_x	**12 kg/hr**	Burner fuel combustion
SO_x	**1.2 kg/hr**	Diesel sulfur content
CO	**4 kg/hr**	Incomplete combustion
VOCs	**0.8 kg/hr**	Bitumen handling + combustion losses
CO_2	**650 kg/hr**	Fuel-based emission factor

Methodology for Emission Estimation

Emission estimates were developed using:

- US EPA AP-42 emission factors for hot mix asphalt drum mix plants
- Fuel consumption-based calculations for combustion-related pollutants
- Carbon emission factors based on diesel fuel usage
- $PM_{2.5}$ estimated as a fraction of PM_{10} (25–30%)
- Design production capacity of approximately 100–120 tons/hour
- Continuous operation scenario (worst-case emission conditions)

Fugitive dust emissions were assessed qualitatively considering material handling practices, site layout, and natural soil conditions. Dust control measures such as water spraying of stockpiles, controlled loading operations, and maintenance of operational areas are assumed as standard mitigation practices.

- **Solid Waste**

Solid waste generated by the project includes maintenance-related waste such as used filters, oily rags, and spent lubricants, as well as hardened asphalt residues and empty containers from additives and lubricants. All waste will be collected, stored in designated areas, and disposed of or recycled through authorized waste management contractors in accordance with applicable regulations.

- **Domestic Wastewater**

Domestic wastewater will be generated from restroom facilities located within the administrative office area, including toilets, handwashing stations, and office amenities. This wastewater will be managed through appropriate on-site sanitation systems (such as a septic tank system designed for the expected workforce load. The system will have an estimated design capacity of approximately 8–12 m^3, which is sufficient to accommodate peak daily usage under normal operational conditions..

Sludge removal frequency: every 6 to 12 months, depending on occupancy and usage rates, or earlier if required based on inspection results. Sludge removal will be carried out by a licensed sanitation contractor.

3 (iv). Project size

The project will employ approximately 25 staff members, including plant operators, technical staff, and administrative personnel.

The estimated investment for establishing and operating the plant is USD 2.5 million., which includes the purchase of the plant itself, as well as the purchase of all the accessories of it, machinery and equipment.

3 (v). Activities associated

The production process basically is a mixture of all the raw materials used, that is done within the asphalt plant. The aggregates are heated to a defined temperature so the humidity in this material is reduced, and once the specified humidity is reached, the aggregates are mixed with the asphalt bitumen in order to create the asphalt mixture.

3 (vi). Use of Natural Resources

It is estimated that approximately 7,000 tons of aggregates will be required on a monthly basis for the production of asphalt mix. These aggregates will be sourced from licensed quarries located within Guyana.

In addition, an estimated 1,000 tons of asphalt bitumen will be required per month to support the planned production levels. This material will be imported, as Guyana currently does not have a refinery for local production of bitumen. The bitumen will be sourced from international suppliers, which may include countries such as Colombia, Guatemala, Trinidad and Tobago, Suriname, and Iraq.

3 (vii). Source of Utility Services

- **Groundwater monitoring plan**

The groundwater monitoring plan for this project will focus exclusively on the plant's intake and supply well. The objective of the monitoring is to ensure the technical viability of the water for industrial processes and guarantee safe conditions for sanitary use by personnel under a zero-human consumption scheme.

Periodic analyses of the extracted raw water will be performed to verify parameters of industrial interest, such as pH, hardness, alkalinity, and total suspended solids. This is vital since the asphalt emulsion plant requires water with specific characteristics to avoid altering the quality of the mixtures and emulsions or damaging the equipment.

Since the extracted water will be used for washing operational areas, maintenance, and supplying restrooms, the monitoring will include basic parameters (such as total coliforms) to ensure that the water is suitable for external contact and general cleaning of the facilities.

A flow meter will be installed on the well discharge line to record the daily/monthly volumes of extracted water. This record ensures rational management of water resources, demonstrating to the environmental authority that there is no overexploitation of the local aquifer.

- **Water quality protection measures**

For **DROMINC**, protecting water resources, specifically groundwater, given the high permeability of the site's sandy soil, is an operational priority. Protective measures are based on spill prevention, containment of hazardous substances, and proper runoff management.

The main measures to be implemented are:

- Secondary Containment Systems (Physical Isolation): All storage tanks for fuel (diesel), emulsions, and asphalt cement will be located on impermeable concrete platforms and surrounded by perimeter containment dikes. These dikes will have a volumetric retention capacity of 110% of the largest tank, ensuring that any cracks or collapses do not reach the natural ground.

- Runoff Separation and Treatment: As indicated in the hydrological plan, rainwater that encounters high-risk operational areas (asphalt loading and fuel unloading zones) will be channeled to an oil-water separator (hydrocarbon trap). This unit will retain traces of oils and greases before the water is released, protecting the quality of any water that may infiltrate the ground.

- Strict Control of Domestic Wastewater: Wastewater (from restrooms) will not come into contact with the soil. It will be contained in a closed and watertight septic tank system. Sludge and treated water will be removed by pumping (vacuum truck) through an authorized waste management company, eliminating the risk of leaching pathogens or nutrients into the aquifer.

- Operational and Maintenance Protocols:

    - Daily visual inspection of valves, asphalt transfer pipes, and hoses to detect micro-leaks preventively.
    - Strict prohibition on washing heavy machinery or dump trucks in unsealed areas of the project.
    - Immediate availability of spill response kits (absorbent booms, pads, and granular material) in liquid transfer areas, along with ongoing training for operational personnel.

- **Electricity**

The electricity for the plant, equipment, and offices is currently generated by two diesel generators. The main generator has a capacity of 320 kW / 400 kVA (Prime) or 350 kW / 437 kVA (Standby), while the secondary generator has a capacity of 72 kW / 90 kVA (Prime) or 80 kW / 100 kVA (Standby). Both generators are intended to operate for approximately 8 hours per day, depending on operational demand.

Based on typical specific fuel consumption values for diesel generators under load (approximately 0.22–0.27 liters per kWh), the estimated diesel consumption can be calculated as follows:

- Main generator (approx. 320 kW average load): Estimated consumption ≈ 70–85 liters per hour
- Secondary generator (approx. 72 kW average load): Estimated consumption ≈ 15–20 liters per hour

Accordingly, the combined daily diesel consumption for both generators operating for approximately 8 hours per day is estimated at:

- Main generator: 560–680 liters/day
- Secondary generator: 120–160 liters/day

Total estimated diesel consumption: approximately 680–840 liters per day, depending on actual load conditions and operational variability. It´s important to mention that these values are indicative and may vary depending on load factor, maintenance condition of the equipment, and operating efficiency.

In addition to the current power supply arrangement, the Company has initiated the process to connect the facility to the main electricity grid operated by Guyana Power and Light Inc. (GPL). Once this connection is completed, the grid supply will serve as the primary source of electricity for the plant, while the existing diesel generators will be operated as backup power systems to ensure continuity of operations in the event of grid blackouts or maintenance interruptions.

3 (viii). Waste Production

- **Hazardous waste types and storage arrangements**

Estimated Waste Generation Rates

The project is expected to generate limited quantities of solid and hazardous waste associated primarily with maintenance activities, operational housekeeping, and administrative functions. Estimated waste generation rates are as follows:

- Used lubricating oil and waste oil: 50–80 L/month
- Used oil and air filters: 5–10 units/month
- Contaminated rags, absorbents, and cleaning materials: 15–20 kg/month
- End-of-life PPE (gloves, masks, coveralls, boots): 5–10 kg/month
- General non-hazardous solid waste (office and domestic): 0.5–1.0 m^3/month

These quantities are indicative and may vary depending on operational intensity and maintenance schedules.

- Used or burnt oil: From routine maintenance, lubrication, and oil changes of heavy machinery, vehicles, and equipment at the plant.
- Used air and oil filters: Generated during the periodic replacement of filtration systems in combustion engines and associated equipment.
- Contaminated solid material: Includes rags, cloths, and absorbent materials (such as barriers, sand, or sawdust) that become impregnated with hydrocarbons, asphalt, grease, or oil during cleaning operations or the response to minor incidents.

- Personal Protective Equipment (PPE): Gloves, masks, coveralls, and safety footwear that have reached the end of their useful life and are impregnated with chemicals, asphalt, or hydrocarbons.

Hazardous Waste Types and Storage Arrangements

The project will generate the following waste streams classified as hazardous or requiring special handling:

- Used or waste oil generated from routine maintenance, lubrication, and servicing of heavy machinery, vehicles, and plant equipment
- Used oil and air filters from combustion engines and mechanical systems
- Contaminated solid materials such as rags, absorbents, sand, and sawdust used in spill response or cleaning activities
- End-of-life personal protective equipment (PPE) including gloves, coveralls, masks, and safety boots contaminated with hydrocarbons or chemicals

All hazardous waste will be segregated at source and stored in a dedicated **Hazardous Waste Temporary Storage Area**, which will be:

- Clearly labelled and access-controlled
- Provided with an impermeable concrete floor
- Equipped with secondary containment to prevent soil and groundwater contamination
- Covered to prevent rainwater ingress and runoff contamination

The storage area will be managed under strict operational procedures until collection and final disposal.

Final Disposal Method and Licensed Contractors

All hazardous waste will be collected, transported, and disposed of or treated exclusively by licensed and authorized waste management contractors in Guyana, in accordance with applicable environmental regulations.

Waste oil and used filters will be sent for recovery, recycling, or approved disposal through authorized facilities. Contaminated solid waste and PPE will be disposed of at licensed waste management sites approved by the relevant regulatory authorities.

Non-hazardous solid waste will be collected and disposed of through municipal or licensed private waste collection services.

- **Effluent monitoring parameters**

No routine industrial effluent monitoring program is proposed, as the asphalt plant does not generate process wastewater or liquid industrial discharges. The justification is based on the following:

- The asphalt production process is a dry process and does not involve water-based processing or liquid effluent generation
- No discharge of process water into the environment occurs under normal or abnormal operating conditions
- Water use at the facility is limited to domestic consumption and minor operational activities (e.g., cleaning and dust suppression)
- The only wastewater generated by the project is domestic wastewater (from restrooms and employee handwashing stations). This domestic wastewater will be conveyed and treated comprehensively in the company's septic tank system. This system is designed for on-site control of organic loads.
- Instead of effluent monitoring, DROMINC will implement operational control based on routine maintenance. The septic tank will be inspected regularly, and sludge removal will be carried out by pumping through an authorized external contractor, preventing any direct discharge into surface water bodies that would require physicochemical characterization.

Domestic wastewater is fully contained and treated on-site via the septic system described above. As such, monitoring will be based on operational control and maintenance rather than laboratory effluent testing.

Nevertheless, the Company will implement the following control measures:

- Routine inspection of septic system integrity
- Periodic desludging by licensed contractors
- Visual inspection of any soakaway or infiltration areas for signs of overflow or leakage
- Immediate corrective action in the event of system malfunction

These measures ensure that no untreated wastewater is discharged into surface water bodies or the surrounding environment.

3 (ix). Energy Use and Greenhouse Gas Emissions

Estimated Electricity Demand

The estimated electricity demand for the asphalt plant, including production equipment, lighting, offices, and auxiliary systems, is approximately:

- **Average demand:** 1,800–2,200 kWh/day

- **Monthly demand:** 54,000–66,000 kWh/month

Diesel Consumption Estimates

Based on generator performance and expected operating hours (8 hours/day for primary use and backup use as needed):

- Main generator (320 kW): 70–85 L/hour
- Secondary generator (72 kW): 15–20 L/hour

Estimated consumption:

- Daily: 680–840 L/day
- Monthly: 20,000–25,000 L/month
- Annual: 240,000–300,000 L/year

Estimated GHG Emissions

Using standard emission factor for diesel combustion (2.68 kg CO_2/L):

- Annual diesel consumption: 270,000 L/year (average)
- Annual CO_2 emissions: 723 tCO_2/year

Additional minor emissions from operational vehicles and auxiliary equipment are estimated at:

- Total GHG emissions: 750–800 tCO_2e/year

Energy Efficiency and Mitigation Measures

The project incorporates the following measures to reduce energy consumption and emissions:

- Transition from diesel generation to grid electricity connection (GPL) once infrastructure is available.
- Diesel generators will remain as backup systems only, reducing fuel consumption significantly.
- Use of energy-efficient motors and optimized burner systems.
- Preventive maintenance to maximize combustion efficiency and reduce fuel waste.
- Operational scheduling to avoid unnecessary idle running of equipment.

Renewable energy potential:
The installation of solar PV systems for office buildings and auxiliary loads will be evaluated during the operational phase.

3 (x). Air Quality Control Measures

Baghouse Filtration System

The asphalt plant will be equipped with a high-efficiency fabric filter (baghouse system) connected to the dryer drum.

- Filtration efficiency: 99.5% for particulate matter (PM10 and PM2.5)
- Designed to capture fine dust from aggregate drying and recycling it back into the mix
- Continuous automatic pulse-jet cleaning system for optimal performance

Dust Control Design Parameters

- Stockpiles covered and/or sheltered
- Water spraying system for unpaved areas during dry conditions
- Covered truck loading system

Monitoring Programme

Parameter	Location	Frequency
PM10 / PM2.5	Plant boundary / nearest receptor	Quarterly
NOx / SOx	Stack emission point (E-01)	Annual or as required
Visible dust	Stockpiles and roads	Weekly inspection

Action Thresholds

- Visible dust beyond site boundary → Immediate dust suppression
- PM exceedance of guideline values → Operational adjustment (reduce throughput, increase moisture control)
- Equipment malfunction → Immediate shutdown of affected unit

3 (xi). Fuel Storage and Hazardous Materials (ADDITION)

- Bund capacity: minimum **110% of largest tank volume**
- Construction: masonry, impermeable, chemically resistant
- Leak detection: daily visual inspection + weekly integrity checks

- Drain valves: normally closed and locked

Spill response plan:

- Spill kits located at all fuel and chemical handling areas
- Trained emergency response team assigned on-site
- Immediate containment, recovery, and reporting protocol

3 (xii). Water Well and Groundwater Protection

- Well depth: approx. 80 m
- Yield: estimated 2–5 m^3/day (domestic use only)

Protection measures:

- Minimum 30 m separation from fuel storage and hazardous areas
- Concrete protective apron around wellhead
- No chemical storage within protection radius

Groundwater monitoring:

- Annual water quality testing (pH, turbidity, hydrocarbons, coliforms)
- Baseline sampling prior to operation

3 (xiil). Noise and Vibration (ADDITION)

- Predicted noise levels at boundary: 55–65 dB(A) during operation
- Nearest receptor levels expected below WHO industrial guideline limits (70 dB(A))

Mitigation:

- Equipment mufflers and acoustic enclosures
- Restricted operating hours (daytime operations only where possible)
- Preventive maintenance of rotating machinery

Monitoring:

- Quarterly noise measurements at site boundary and nearest receptor locations

3 (xiv). Duration of the Project

The operation of the asphalt plant is intended to have a minimum operational lifespan of ten (10) years. This timeframe reflects the Company's medium to long term business strategy and the planned recovery of the initial investment through sustained production and supply of asphalt materials for infrastructure development projects in Guyana. Throughout the operational phase, the Company plans to implement routine maintenance, periodic equipment upgrades, and potential expansion of supporting infrastructure in order to ensure continued efficiency of operations over time.

4. Potential Impacts and its Significance

4 (i). Extent of the Impact or Area of Influence

The direct area of influence includes the plant site and its immediate surroundings, such as access roads and nearby residential zones. Considering the current distance to residential zones, no direct impact is foreseen.

4 (ii) Description of Environmental Impacts

- **Magnitude and Complexity:** The magnitude of impacts varies depending on the project phase. During operation, impacts are ongoing and require continuous management.
- **Sources of Substances:** Emissions may include particulate matter, volatile organic compound, sulfur dioxide (SO_2), nitrogen oxides (NO_x), and other by-products from bitumen handling.
- **Mitigation Measures:**
    - Installation of particulate filters and extraction systems.
    - Paving and regular watering of internal roads to reduce dust.
    - Proper handling of hazardous waste and implementation of secondary containment systems.
    - Periodic monitoring of air, soil, and water quality.

4 (iii). Financial Capability for Remedial Works

DROMINC has sufficient financial capacity to carry out all necessary remedial measures. This includes a dedicated environmental budget for mitigation, continuous monitoring, and emergency response plans.

4 (iv). Transfrontier Nature of the Impact

The project does not have a transboundary impact. There is no expected direct effect on ecosystems, water bodies, or populations located outside the national territory.

4 (v). Probability of the Impact

Most identified impacts have a **medium to high probability** of occurrence if control measures are not applied. However, with the proposed mitigation strategies, the likelihood of occurrence is significantly reduced, particularly in relation to air emissions, spills, and noise.

4 (vi). Duration, Frequency, and Reversibility of the Impact

- **Duration:** Some impacts are temporary (construction phase), while others are continuous (operation phase).
- **Frequency:** Emissions and other operational impacts are continuous during plant activity.
- **Reversibility:** Most impacts are reversible if properly managed.

4 (vii) Cumulative Impacts with Other Projects

An evaluation of existing and planned developments in the surrounding area has been conducted in a preliminary manner based on available information and site reconnaissance.

The project area is located within an established industrial corridor along the Soesdyke–Linden Highway, where similar industrial activities already exist, including asphalt production, concrete batching, aggregate handling, and associated logistics operations.

A preliminary screening of cumulative impacts indicates the following:

- **Air Quality:** Potential cumulative contributions from particulate matter and combustion emissions from nearby industrial facilities and increased truck traffic along the highway corridor. However, dispersion is expected to remain localized due to vegetation buffers and the spacing between facilities.
- **Noise:** Incremental increases in ambient noise levels due to combined operations of nearby industrial plants and transport activities.

- **Traffic:** Cumulative increase in heavy-duty vehicle movements along the Soesdyke–Linden corridor, particularly during peak construction and production periods.
- **Water Resources:** No significant cumulative impacts anticipated, as operations are closed-process systems with no industrial wastewater discharge.

Given the industrial nature of the surrounding area, cumulative impacts are considered moderate but manageable with the implementation of standard mitigation measures.

5. Waste and Emissions Management

As part of the plant's commitment to environmental responsibility, types of emissions and waste will be carefully managed during operations:

5(i). Air Emissions

•Types: Particulate matter (dust), carbon dioxide (CO_2), nitrogen oxides (NO_x), and minimal traces of sulfur oxides (SO_x).

•Management: The plant is equipped with high-efficiency bag filters that capture particulate matter and prevent its release into the atmosphere. In addition, good operational practices and preventive maintenance programs are implemented to ensure efficient combustion and minimize the emission of air pollutants. SOx emissions are minimal due to the low sulfur content of the materials used.

Air quality: enhanced mitigation actions for dust emissions from stockpile storage and exhaust emissions from plant operations

•Control of Particulate Matter Stockpiles

Aggregate materials will be stored under a roofed structure to ensure proper moisture control and to minimize emissions, which are expected to be low due to their granulometric characteristics. Additionally, perimeter shade mesh barriers will be installed around these areas, with a height greater than that of the stockpiles. This physical barrier is essential to reduce wind speed acting directly on the materials and to mitigate the dispersion of particulate matter.

•Internal Roadway Control

The internal roads for the circulation of dump trucks for asphalt mix loading are paved, resulting in minimal emissions. In other areas where the roads are composed of sand and granular material, they will be used occasionally for maintenance activities, with vehicle speeds limited to 10 km/h.

•Control in Asphalt Plant Operations

The hot asphalt mix production plant is equipped with a particulate matter emission control system, consisting of a baghouse filter that captures the fine fraction of the mineral aggregates and reintegrates it into the mix through screw conveyors for transport, thereby preventing particulate matter emissions into the atmosphere.

- **Dump Truck Management**

Dump trucks must leave the plant properly tarped, ensuring that the tarp fully covers the bed and extends down the sides to prevent material spillage and particulate matter emissions caused by wind.

5(ii). Solid Waste

Types: Maintenance-related waste (used filters, contaminated rags), hardened asphalt residues, and empty containers from additives or lubricants.

Management: Waste will be properly sorted at the source, stored temporarily in designated areas, and handed over to authorized waste handlers. Where technically and environmentally feasible, asphalt residues will be reintegrated into the production process.

- **Management and storage of residual oil**

Collection and Storage Area

The designated storage area will be fully covered to prevent rainwater from coming into contact with the containers and causing potential releases to the soil. Temporary storage will be conducted using 55-gallon drums, after which the residual oil will be reused in the dryer burner of the asphalt plant's material-drying process and for lubricating the dump trucks that transport the asphalt mixture.

The storage surface will be constructed with an impermeable material. A secondary containment system will be provided, consisting of a spill-prevention berm with a capacity to retain at least 110% of the stored volume.

Management and Handling

The handling and storage areas will be equipped with a spill-response kit that includes absorbent materials (specialized sawdust, sand, oleophilic absorbent booms), non-sparking shovels, epoxy putty, personal protective equipment, and red bags for the disposal of contaminated materials after cleanup activities.

Personnel responsible for handling residual oil must use the appropriate Personal Protective Equipment (PPE)—including nitrile gloves, safety goggles, and non-slip boots—and must be fully trained on the contingency procedures to be followed in the event of an incident.

Disposal

The final disposal of the used oil will be carried out through its reuse in the burner of the asphalt plant.

Fuel management and storage, including proposed spill mitigation measures.

Storage Area

The storage surface will be constructed of concrete or another impermeable, crack-free material to prevent potential spills from percolating into the soil. Fuel will be stored in two 10,000-gallon tanks, each equipped with a roof hatch, an access ladder with handrails, and lower structural supports. A secondary containment system will also be in place, consisting of a spill-prevention berm.

5(iii) Domestic Wastewater

•Types: Wastewater generated by restroom facilities at the administrative offices.

•Management: This will be collected in a specially designed septic tank, which will be regularly serviced by certified contractors in compliance with local environmental regulations.

In general, the plant's operations will be guided by a preventive, compliant and continuous improvement approach, with the goal of minimizing environmental impact and ensuring responsible waste and emission management throughout the project's life cycle.

Well management

• Drinking Water Quality

Drinking water will be supplied through bottled potable water purchased from an authorized provider certified for the distribution of water intended for human consumption.

• Physical Protection of the Well

The wellhead must be protected and roofed. The well area will be properly demarcated and signposted to prevent access by animals and unauthorized personnel.

The well area must also be located at a safe distance from machinery maintenance zones, fuel and/or chemical storage areas, sanitary units or sewerage systems, and hazardous waste storage sites.

Noise management

•Preventive Maintenance of Machinery and Equipment

A preventive maintenance program is in place, which includes lubrication and adjustment of moving parts to significantly reduce noise from friction and vibration. Additionally, periodic inspections of the condition of the silencers are carried out on all heavy machinery (loaders and dump trucks). Each piece of equipment has a record sheet documenting performed maintenance, lubrication, part replacements, and other relevant activities.

6. Public Consultation

DROMINC recognizes the importance of stakeholder engagement and transparent communication with relevant authorities and local communities.

As part of the project development process, the Neighbourhood Democratic Council (NDC) has already issued its No Objection Letter for the proposed development, confirming that the project has been formally reviewed at the local governance level and has no objection from a planning and land-use perspective.

In addition, preliminary engagement with the surrounding community has been undertaken, and the local population within the immediate area of influence is aware of the proposed project and its intended operations. These interactions have contributed to early dissemination of project information and initial feedback regarding community concerns.

A structured Stakeholder Engagement and Public Consultation Plan will continue to be implemented throughout the project lifecycle, including:

- Formal information disclosure to relevant stakeholders and regulatory authorities
- Community information sessions along the Soesdyke–Linden Highway corridor
- Documentation of comments, concerns, and responses
- Implementation of a grievance mechanism accessible during construction and operation phases

All consultation activities will be properly documented, including attendance records, meeting minutes, and summaries of issues raised, which will be made available to the Environmental Protection Agency (EPA) upon request.

6(i). Stakeholder Consultation Proposal

A structured consultation process will be implemented including:

- Public disclosure of project information
- Engagement with nearby communities and highway users
- Meetings with regional authorities
- Documentation of concerns and responses
- Establishment of grievance mechanism (hotline / contact person)

7. Assumptions, uncertainties and gaps in knowledge.

Assumptions

- Plant will operate at an average capacity of 100–120 tons/hour.
- Diesel generators will operate primarily as backup once grid connection is established.
- Standard emission factors (EPA AP-42) are representative of operational conditions.
- Soil conditions remain consistent with sandy, high-permeability profiles identified during site reconnaissance.
- No sensitive receptors will be established in the immediate vicinity during the project lifecycle.

Identified Data Gaps

- Lack of site-specific air dispersion modelling results.
- No baseline ambient air quality measurements at receptor locations.
- No measured background noise levels in the project area.
- Limited hydrogeological data regarding groundwater flow direction and seasonal variation.
- No quantified traffic baseline counts for Soesdyke–Linden Highway corridor.

Plan to Address Gaps

- Air quality and noise baseline monitoring.
- Groundwater and soil monitoring wells.
- Traffic assessment

8. Non-Technical Summary of the Project

This project involves the construction and operation of an **asphalt plant**, which is a facility used to produce asphalt, a material commonly used to build and repair roads.

The plant will mix materials such as aggregates, sand, and asphalt bitumen to create. The production process will be carried out using modern equipment that heats and mixes these materials in a controlled environment.

The main goal of this project is to support local and regional infrastructure development by providing a reliable supply of high-quality asphalt. The plant will help improve road conditions, reduce transportation costs, and contribute to the economic growth of Guyana.

To minimize environmental impacts, the plant will include dust control systems, noise reduction measures, and proper waste management practices.

- **Key environmental risks**

The operation of the asphalt plant and its related activities present environmental risks that have been identified for their proper prevention and mitigation. The key risks are classified into the following components:

Air Component:

- Particulate Matter Emissions (PM10 and PM2.5): Dust generation from the movement of heavy machinery, the handling and stockpiling of aggregates, and the drying process in the dryer-mixer drum.
- Combustion Gases and VOCs: Emissions of gases (NOx, SOx, CO) derived from fuel combustion in the plant's burner and electrical generators, as well as the potential emission of Volatile Organic Compounds (VOCs) and offensive odors associated with the heating of asphalt cement.

Soil Component:

- Spill Contamination: Given the high permeability of the project's sandy soil, there is a risk of rapid infiltration and contamination of the underlying aquifer in the event of accidental spills of hydrocarbons (diesel, lubricating oils), asphalt emulsions, or asphalt cement during loading, unloading, or storage operations.

Physical Risks and Sustainable Environment:

- Noise Levels: Increased ambient noise due to the continuous operation of the dryer drum, extractors, vibrating screens, and the constant flow of dump trucks and loaders, which may disturb local wildlife or nearby communities (if any).

Industrial Safety Risks and Contingencies:

- Fires or Explosions: Inherent risk from the storage of liquid fuels and the handling of materials at high temperatures (asphalt cement at over 150°C) near ignition sources.

- **Principal mitigation measures**

To ensure that environmental impacts remain within permissible limits and to protect the project environment, the following key mitigation measures will be implemented, aligned with the identified risks:

Mitigation for Air Quality and Emissions:

- Particulate Matter Control: Operation of a high-efficiency emissions control system connected to the dryer-mixer drum to capture dust before it exits through the chimney.
- Gas and VOC Control: Strict preventive maintenance and periodic calibration of burners to ensure complete and efficient combustion, minimizing emissions of polluting gases.
- Fugitive Dust: Establishment of speed limits of 20 km/h for dump trucks on internal roads and use of tarpaulins or covers for vehicles transporting aggregate.

Mitigation for Soil and Groundwater (Critical due to infiltration):

- Secondary Containment: Construction of impermeable containment dikes around the fuel and asphalt storage tanks. These dikes have a minimum retention capacity of 110% of the largest tank's volume, ensuring that no leaks reach the sandy soil.
- Watertight Operating Zones: Use of paved platforms in asphalt loading and fuel unloading areas.
- Spill Control Kits: Permanent availability of spill control kits and staff training for immediate incident response.

Noise Mitigation:

- Periodic maintenance of engines and inspection of heavy machinery mufflers. Operation restricted to established hours to avoid disturbances.

Safety and Contingency Mitigation:

- Implementation of an Emergency Preparedness and Response Plan.
- Installation of strategically located fire protection systems (multipurpose and satellite extinguishers) and grounding systems for equipment and tanks.

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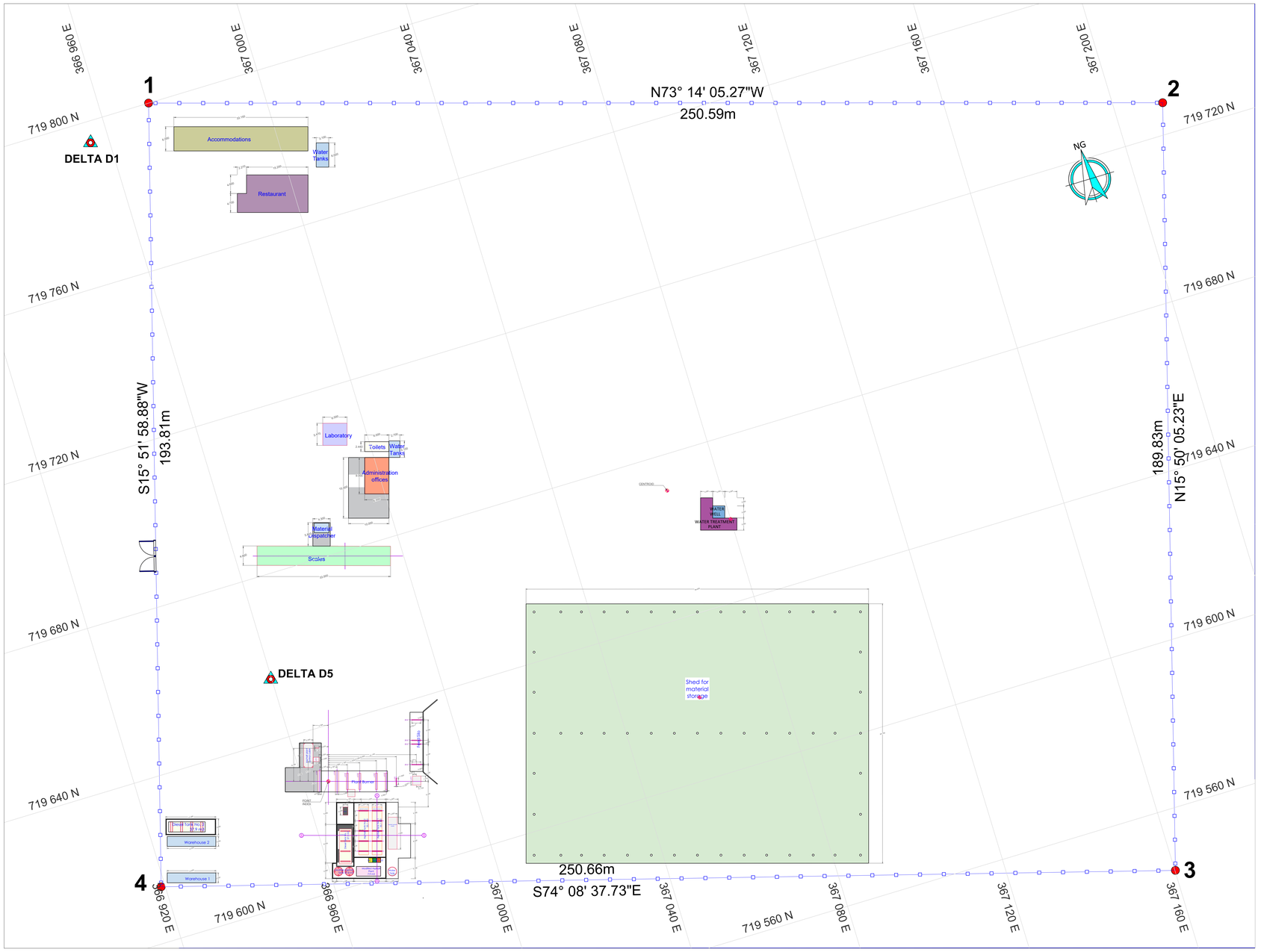
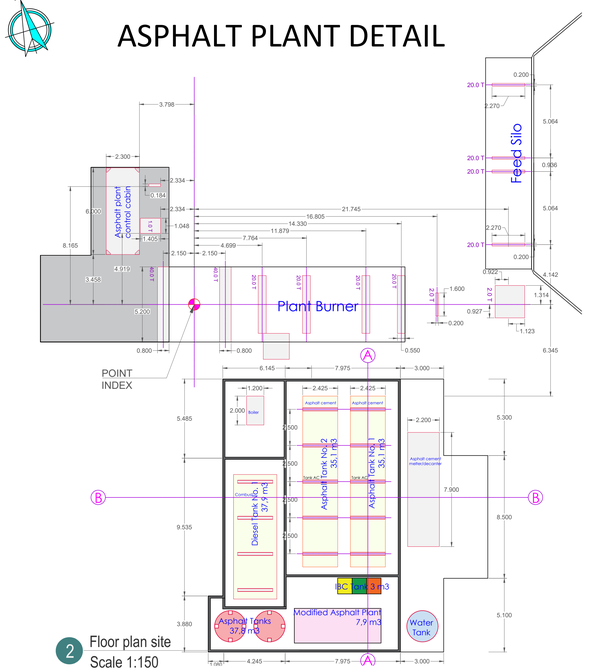


1 Floor plan site
Scale 1:400

ASPHALT PLANT DETAIL



2 Floor plan site
Scale 1:150

Point Table

Description	Northing	Easting	Description
D1	719794.756	366955.437	BM
D5	719654.902	366959.773	BM
1	719800.000	366972.000	ENCLOSURE
2	719727.718	367211.937	ENCLOSURE
3	719545.087	367160.138	ENCLOSURE
4	719613.574	366919.014	ENCLOSURE
Asphalt Plant	719627.119	366962.603	INDEX POINT
Water plant	719660.000	367080.000	INDEX POINT
Workshop	719617.366	366928.744	INDEX POINT
Fuel Storage	719626.269	366928.744	INDEX POINT
Shed	719620.000	367060.000	INDEX POINT
Centroid	719671.250	367067.024	INDEX POINT

Lot Area Table

Area	Perimeter	Segment Lengths	Segment Bearings
48072.24m^2	884.89	250.662 193.810 250.588 189.834	N74° 08' 37.73"W N15° 51' 58.88"E S73° 14' 05.27"E S15° 50' 05.23"W

CLIENT

DROMINC
Dromos Mining and Construction Inc

SURVEY

NOTES

A) COORDINATE SYSTEM USED UTM-WGS 1984 DATUM, ZONE 21 NORTH, METER; CENT. MERIDIAN 57D W.

B) ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN METERS.

PROJECT DESIGNER: ENG. MISAEL TAVERA

DRAFSTMAN: SURVEYOR. HERMAN DARIO DUARTE

REVIEWED: ENG. JUAN CARLOS DUQUE

APPROVED:

PROJECT: MOUNTING MODULAR BATCH PLANT ASTEC BG 1800

TITLE: ASPHALT PLANT SITE LAYOUT

CLAVE: **B-01**

SCALE: Indicated in the drawings

FILE: **PLANOS TOPOGRÁFICOS DROMINC 16-03-2026.DWG**

DATE: 16 march 2026

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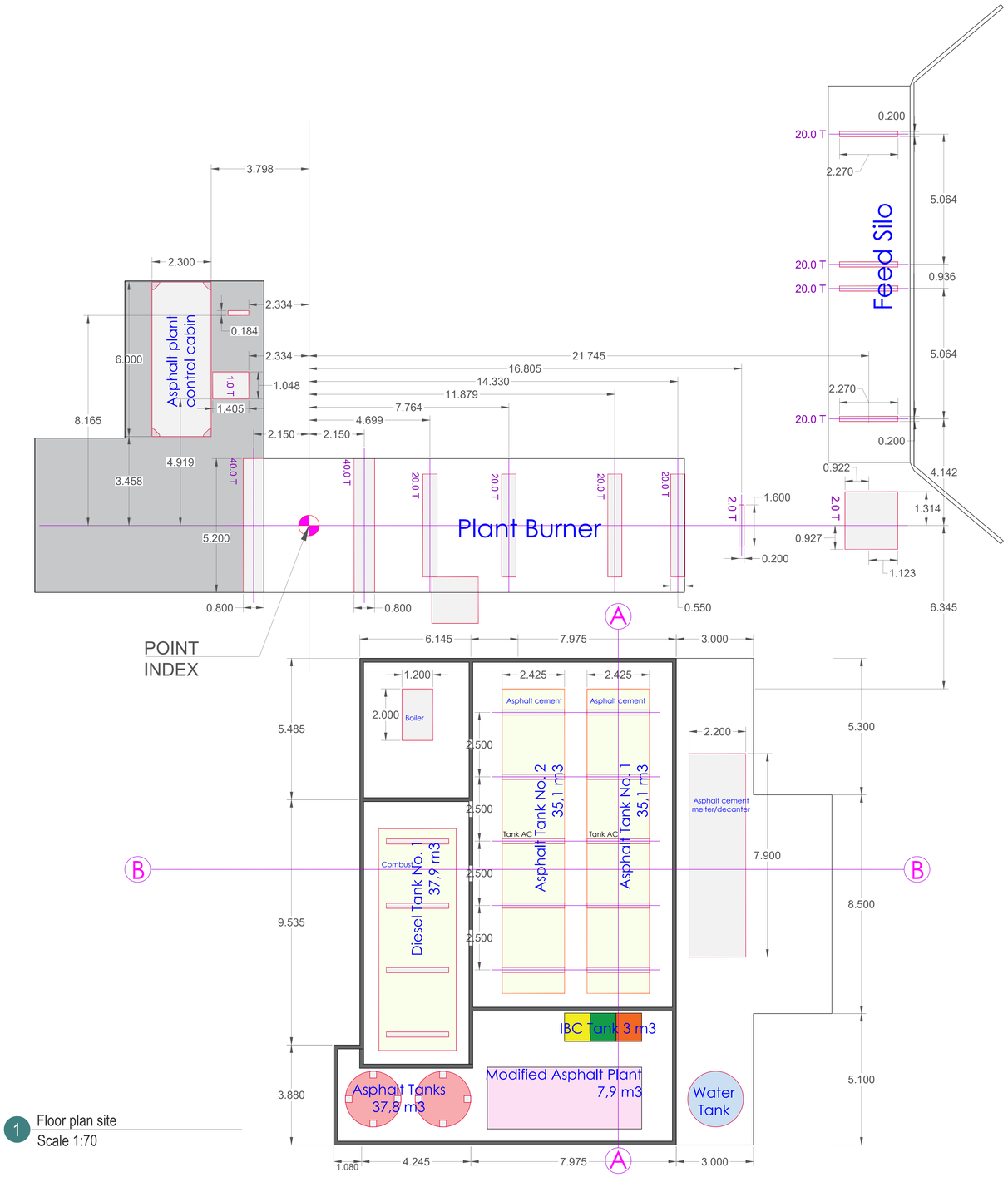

1 Floor plan site
Scale 1:70

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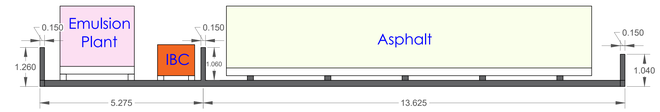
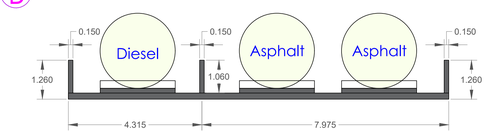
Section Ⓐ—Ⓐ



Section Ⓑ—Ⓑ



CLIENT DROMINC Dromos Mining and Construction Inc	SURVEY	NOTES A) COORDINATE SYSTEM USED UTM-WGS 1984 DATUM, ZONE 21 NORTH, METER; CENT. MERIDIAN 57D W. B) ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN METERS.	PROJECT DESIGNER: ENG. MISAEL TAVERA DRAFSTMAN: SURVEYOR. HERMAN DARIO DUARTE REVIEWED: ENG. JUAN CARLOS DUQUE APPROVED:	PROJECT MOUNTING MODULAR BATCH PLANT ASTEC BG 1800 TITLE ASPHALT PLANT FOUNDATIONS DETAIL	CLAVE: **B-02** SCALE: Indicated in the drawings FILE: **PLANOS TOPOGRÁFICOS DROMINC 16-03-2026.DWG** DATE: 16 march 2026

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