



PROJECT SUMMARY

GAS STATION



JANUARY 30, 2025
PURAN BROTHERS DISPOSAL INC.
Lot 7 BELLA DAM, KLIEN POWDEROYEN, WBD

INTRODUCTION

Puran Brothers Disposal Inc. intends to construct and operate a gas station for petroleum products retailing. As local regulations require, the company has prepared an application for environmental authorization to submit to the Environmental Protection Agency (EPA).

PROJECT LOCATION

The Gas Station will be located at Lots 37, 38, 39, 40, 41, and 42 Schoonord Crane Highway, West Bank Demerara. This area occupies approximately 8 acres of commercial land. The Project (Gas Station) will be sited within 1 acre of the total land area.

The project location is currently undeveloped and covered with shrubby vegetation given that the area and surrounding lands were previously cultivated for rice crops. The newly constructed Schoonord Crane four-lane Highway is east of the project site and is the only existing development within a 500-meter radius of the project.

The closest residents are located 897 meters west of the project while the closest waterway is the irrigation canal 104 meters north.

Figures 1-3 are Google maps of the project location depicting proximity to residences and waterways.



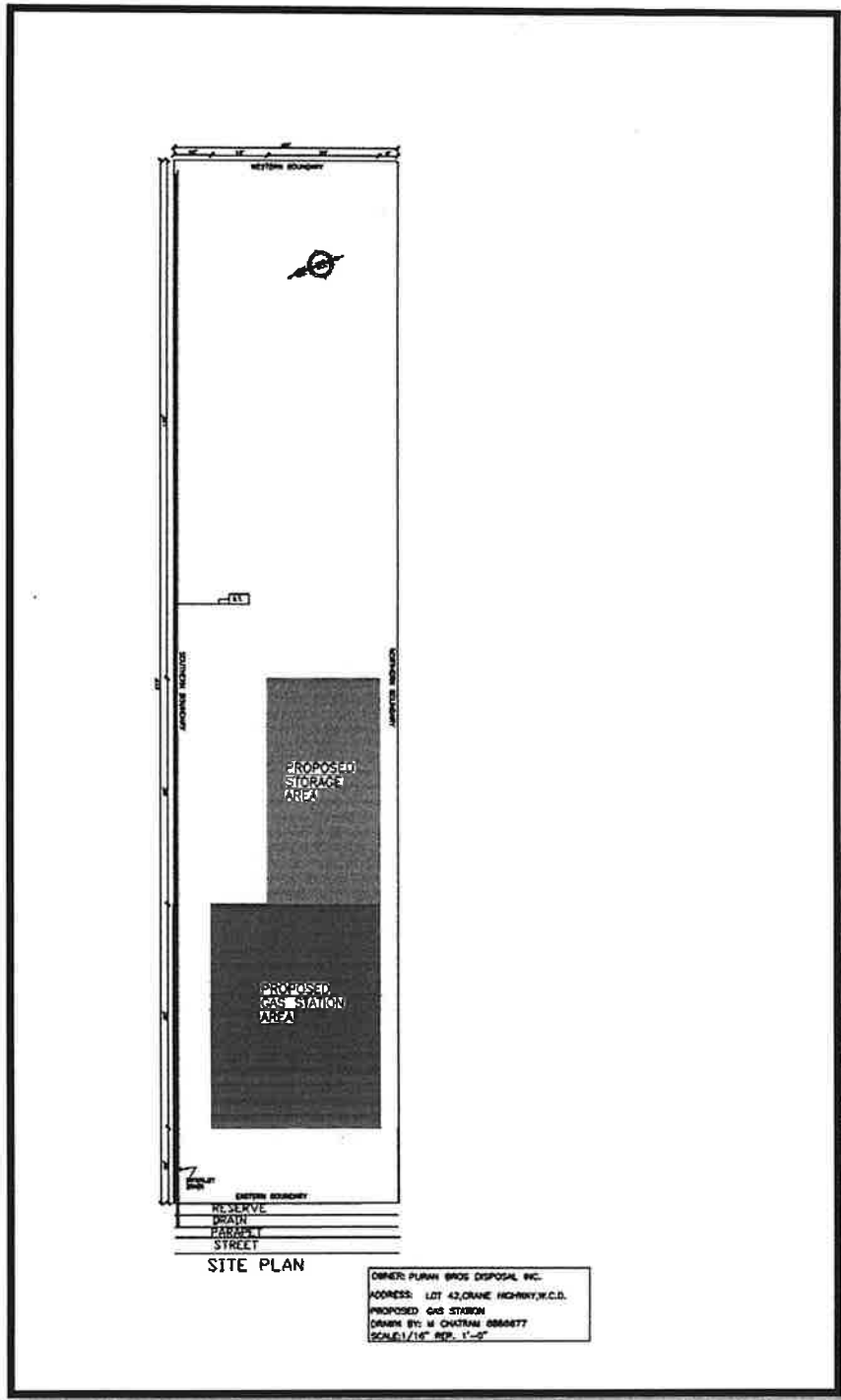
Google Map 1



Google Map 2



Google Map 3



OWNER: PLUMM BROS DISPOSAL INC.
 ADDRESS: LOT 42, CRANE HIGHWAY, W.C.D.
 PROPOSED GAS STATION
 DRAWN BY: M. CHITING 0864877
 SCALE: 1/4" = 1'-0"

Figure 4: Layout of the Project within the 1-acre land area.

PROJECT DESCRIPTION

Puran Brothers Disposal Inc. Gas Station project encompasses two phases:

1. Construction Phase
2. Operation Phase

The construction phase entails clearing the land of vegetation, backfilling and compacting for the foundation, installation of an irrigation drainage network, construction of ingress and egress access to the project site, construction of the retailing station and offices, and installation of above-ground tanks and underground steel tanks, pipe works system and dispensers. The construction phase has an expected duration of 6-9 months. The operation phase is primarily the retailing of petroleum products.

Installation of underground tanks

The project intends to install two underground double-skinned steel tanks with a storage capacity of 10,000 gallons each. Double-skinned tanks provide added protection because of the ability to contain any release of product from the primary tank shell and, in addition, allow the inclusion of a monitoring system that will indicate a failure of either skin. Properly installed and maintained, double-skinned tanks pose a very low risk to the environment and safety.

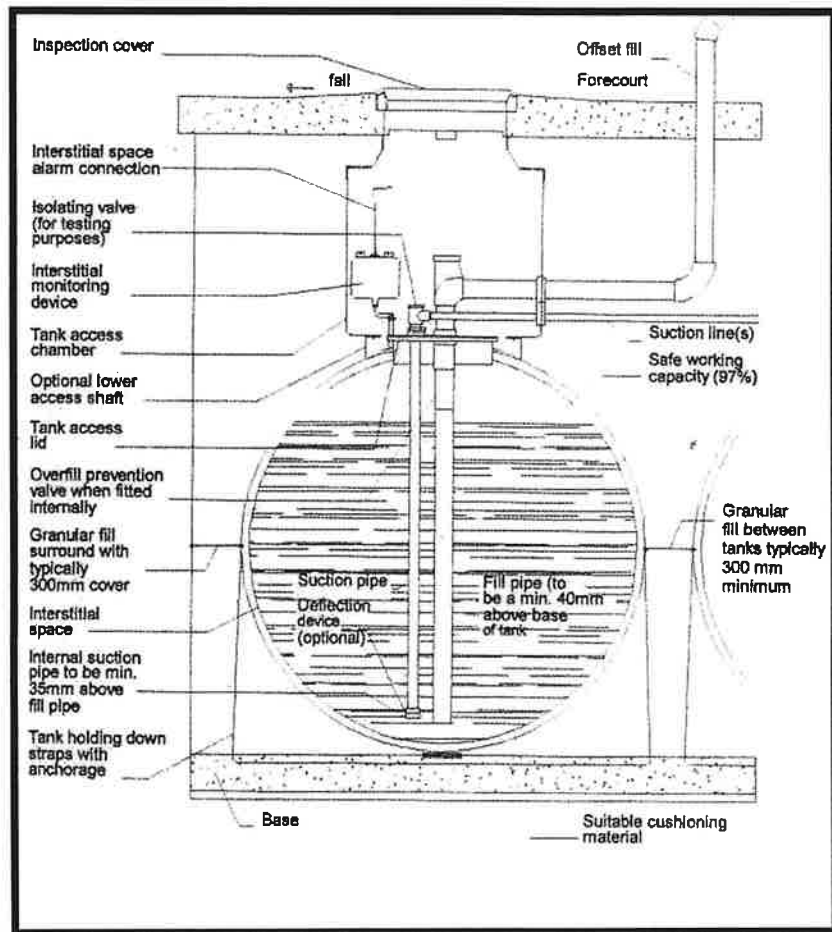


Figure 5: Typical installation of double-skinned steel tanks with underground suction lines

The installation of the underground tanks will follow the Guyana National Bureau of Standards requirements for Gas Stations in the following areas:

- ✓ Tank handling
- ✓ Preparation
- ✓ Excavation
- ✓ Water ingress in excavations
- ✓ Backfill
- ✓ Tank access chambers

Above-Ground Storage Tanks

The project will also include two above-ground storage tanks with a capacity of 500-1000 litres each. The above-ground tank will store high flashpoint petroleum products such as diesel fuel, gas oil, and kerosene. These tanks will be located as depicted in Figure 4, where they can be inspected externally for corrosion or leaks and suitably protected against corrosion for the duration of their operating life.

Every part of the tanks will be contained within a secondary bund, including all valves, filters, filling points, and pipe vents. Further, the installation of the above-ground tanks will follow the GNBS requirements for corrosion protection and earthing.

Pipework Systems

Pipework systems will be designed, constructed, and installed to protect the public and the environment against the effects of any release of the product, following the GNBS standard. When installing the pipework systems, characteristics such as mechanical strength, stability, and resistance to degradation will be of significant importance to retain the pipework system's integrity for the entire duration of its design life.

All pipes and fittings will be constructed following the GNBS standards and of materials fit for the purpose and suitably protected from external corrosion or environmental degradation.

Installation of Dispenser

The dispersed dispenser system will be installed where a suction dispenser additionally supplies one or more remotely located hose and nozzle assemblies via a pressure line. Dispensers will be securely mounted on islands and protected against damage from vehicles. All pipework connections to the dispenser will be liquid-tight. Electrical connections will follow the manufacturer's instructions and will maintain the integrity of the explosion protection. Additionally, the following features and accessories will be included as integral parts of the installation of the dispensers:

- ✓ Pipework connections
- ✓ Leak-proof membranes and sumps
- ✓ Non-return or check valves
- ✓ Break couplings
- ✓ Hoses
- ✓ Nozzles

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.

Project Activities	Potential Environmental Impacts	Mitigation Measures
<p>Above-ground Storage Tanks; Below-ground Storage Tanks; Vent pipes for storage tanks; and Dispensing</p>	<p>Soil and water contamination from a spill and accidental release of waste oil into the environment.</p> <p>Petroleum/hydrocarbon products are hazardous because they contain polycyclic aromatic hydrocarbons (PAHs), which are acutely toxic to animals including humans.</p> <p>Emissions into the atmosphere</p> <p>Fuel storage operations can release atmospheric emissions of volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and other air pollutants. These pollutants can contribute to air quality issues.</p> <p>Leaks and Spills: Leaks and spills of petroleum products and other hazardous liquids can contaminate soil, groundwater, and surface water bodies. This can have a devastating impact on wildlife, ecosystems, and human health.</p> <p>Fires and Explosions: Storage tanks can be susceptible to fires and explosions, which can cause property damage, personal injuries, and environmental contamination.</p>	<p>Corrosion Protection</p> <p>Metal tanks are generally protected against corrosion by the application of an external protective coating.</p> <p>Corrosion control will also be provided by cathodic protection in which sacrificial anodes are used.</p> <p>Leak-proof membranes and sumps for Dispensers:</p> <p>A leak-proof drip tray or sump shall be installed/arranged under the dispenser to ensure that product from internal leaks flows onto the impervious surface where it will be noticed.</p> <p>Vapour emission control systems</p> <p>Vapour emission control systems are designed to reduce the emission of vapours to the atmosphere during the filling of vehicle fuel tanks. This may be accomplished by returning the vapours to the site storage tanks.</p>

In addition to the vapour control system, the Project will install:

- Overfill prevention device,
- Overspill prevention device, and
- Vent emission control devices

Bund – Secondary Containment

The base or foundation of the waste oil and fuel storage areas will be constructed with an impervious base to reduce soil contamination.

Storage tanks will be equipped with secondary containment systems to capture and contain any leaks or spills.

Emergency Plans: the project will develop and implement emergency plans to respond to leaks, spills, fires, explosions, and other potential risks.

Staff Training: employees will receive training on the environmental risks associated with their activities and the safety and environmental protection measures they need to implement.