Project Summary

THE M GROUP (GUYANA) LIMITED

PRE-CAST CONCRETE PRODUCTS PLANT

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THE M GROUP (GUYANA) LIMITED| 6 URQUHART, GEORGETOWN

Contents

1.0 Background

The M Group (Guyana) Limited has applied to the Environmental Protection Agency (EPA) for an Environmental Permit to establish and operate a modern Pre-Cast Concrete Mixing Plant. The project involves constructing a state-of-the-art facility designed to supply high-quality structural and civil components that will support Guyana's infrastructural development, particularly in Georgetown and surrounding areas. The project aims to provide durable, standardized precast concrete products for government infrastructure, housing developments, bridges, roads, utility distribution and public structures. It will also support the growth and modernization of communities by ensuring timely availability of essential pre-cast materials. Moreover, it will promote local employment, skills development, and long-term industrial sustainability.

Located at Sublot X, Versailles, West Bank Demerara, the project site is accessible via the new Schoonard - Parika four lane highway, as well as the old access road. It lies within a mixed-use zone of industrial, commercial, and residential activity, with the outfall to the Essequibo River to the north, Guyana Power & Light Plant to the east, and vacant lots to the south and west.

The facility will operate six (6) days per week from 08:00 to 16:00 hours, employing approximately 20 staff during construction and 100 during the operational phase, including engineers, skilled and semi-skilled workers, health, safety and environmental personnel, drivers, and support staff. Expected benefits include job creation, reduced reliance on imported concrete products, improved climate resilience through standardized engineered structures, and strengthened national supply chains. The construction of the Plant is scheduled to be completed with 2-3 months and become fully operational in the first quarter of 2026, with an anticipated lifespan of five years at the project location.

2.0 Project Site

The modern Pre-Cast Concrete Products Plant will be developed on approximately eight (8) acres of land situated within unoccupied areas, ensuring that no sensitive receptors such as schools, day care centres or hospitals fall within the project's area of influence.

The facility is also intended to provide concrete for the construction of houses to support the development of a sustainable community with all modern amenities in the vacant area adjacent to the project site. In this regard, the project is designed to ensure that future developments are considered and mitigated.

The surrounding lands are largely vacant, except for the Guyana Power and Light (GPL) Plant located to the east. The site itself is predominantly flat with clayey soil and will accommodate several key facilities, including a raw materials storage area, maintenance shop, fabrication zone, square pile prefabrication section, storage bond, laboratory, settling pond, administrative and accommodation buildings, and designated parking areas. Water will be collected and stored onsite in water storage tanks. Work has commenced on the project site, which includes construction of the foundation, erection of building and installation of the Pre-Cast HZS90 Concrete Mixing Plant (see Appendix 3). This is being done with assistance of technically advanced equipment and machinery such as a cement mixing pile driver which enables wet concrete to be poured to the depths required for the pile and hardened in place to avoid noise and vibrations from traditional pile driving activities.

The Plant will be state-of-the art and very efficient with baghouse filters for dust containment. Wastewater and cement slurry generated by the plant will be directed through the facility's drainage system to a tertiary sedimentation tank, where treatment will occur before discharge. Furthermore, a network of concrete drains will be installed to prevent flooding and ensure effective stormwater management.

3.0 Project Design

The Concrete Mixing Plant will consist of a steel structure main building, a mixing system, an aggregate batching system, a conveyor belt system, a weighing system, a water supply system, a pneumatic system, a powder storage and conveying system, a control room, an electronic control system and other systems. All powdery materials will be processed in a closed state from feeding, batching, metering, adding to the mixer to discharging. The fully enclosed aggregate conveyor greatly reduces the pollution to the environment caused by dust and noise. The main building structure will be composed of a full-steel structure and adopt an advanced modular combined structure. It will feature a standardized structure, simplified installation, convenient maintenance, low noise, earthquake resistance, and easy loading, unloading and transportation.

The materials, equipment and machinery for assembling of the plant will be sourced overseas, while raw materials, including aggregates, wood, and water, to support the operations will be sourced locally and stored in designated onsite areas (refer to site plan in Appendix 2). Cement production will be demand-driven, utilizing the plant's advanced mixing system to optimize accuracy and minimize waste. The project will also entail fuel storage onsite for the generators. A maximum volume of 1000 litres of diesel will be stored in accordance with the Guyana EPA and Guyana Energy Agency (GEA) Regulations.

The major equipment/machinery to be used in the construction and operation includes:

- Concrete mixers
- Steel, aluminum, or fiberglass molds
- Battery molds
- Table casting systems:
- Overhead cranes
- Forklifts and loaders
- Compression testing machines
- Excavator
- Bobcat
- Generator set

3.1 Stages of the production process

The Plant will manufacture a range of high strength, reinforced pre-cast concrete products including:

1. Pre-cast concrete drains and drain covers
2. Pre-cast concrete houses and housing components
3. Concrete utility poles
4. Pre-cast concrete piles
5. Pre-cast concrete bridge structures and related elements

The main construction activities will be:

1. Site preparation – land clearing and groundwork
2. Laying of the foundation for the plant structures
3. Construction of supporting buildings
4. Installation of the structural framework such as walls and roof
5. Installation of equipment such as batchers, mixers, conveyors etc.
6. Complete electrical and plumbing work
7. Testing and commissioning to ensure the plant reaches the required local and international standards

The main stages in the operation of the plant will comprise of:

1. Feeding of aggregates from the stockyard via the loader which shovels the aggregates into aggregate storage hoppers of the batching system.
2. Aggregate batching: Each aggregate bin is equipped with an independent aggregate scale, which can automatically complete the batching of aggregates according to the different ratios set by the user.
3. Prepared aggregates are moved by conveyor to the hopper above the mixer. From there, they are released into the mixing drum for blending.
4. Powder material conveying: All powder materials are stored in powder hoppers and conveyed by screw conveyors. Once weighed, the powder materials are sent to the mixer for blending.

5. Water is pumped into the water scale for measurement.
6. The entire process of aggregate preparation and mixing is automatically completed by a control system composed of a computer and programmable logic controller (PLC) with the availability of manual control as well.

4.0 Sources of Utility

Electricity

Electricity for the facility will be supplied primarily by generators to ensure uninterrupted operations, with supplemental power by Guyana Power and Light (GPL).

Water Supply

Potable water for the facility will be supplied by Guyana Water Inc. (GWI). To ensure a continuous and reliable supply, the plant will also be equipped with storage tanks designed to collect and store rainwater. A network of strategically installed pipes will distribute water efficiently throughout the site, supporting both operational and domestic needs.

Communication

Telephone and internet services will be provided by a local telecommunications company, ensuring reliable connectivity to support both administrative functions and operational activities across the facility.

Waste Management

Appropriate bins and waste receptacles will be strategically placed within the facility and will be managed by a registered disposal service for both municipal and hazardous waste. The processes of the facility will generate minimal waste, however, below are some waste products likely to be generated and managed.

Construction waste

- **Construction material cutoffs**: Steel reinforcement bars, formwork timber, and unused aggregates.
- **Packaging waste**: Pallets, plastic wrapping, and cardboard from delivered equipment and materials.
- **General construction debris**: Broken bricks, tiles, and miscellaneous building materials.

Operational waste

- **Excess concrete**: Produced from over-batching, spillage during mold filling, or leftover material after production runs.
- **Slurry and wash water**: Generated during washing of concrete mixing trucks, often containing cement particles and admixtures.
- **Dust emissions**: From cement handling, aggregate transfer, and cutting/grinding of precast elements.
- **Broken or rejected precast units**: Defective products due to cracks, misalignment, or poor curing.
- **Steel reinforcement waste**: Offcuts and scrap from rebar preparation.
- **Packaging materials**: Continued use of pallets, plastic, and cardboard for raw material deliveries.
- **Maintenance waste**: Oils, lubricants, and filters from machinery

5.0 Non-technical Explanation

The M Group (Guyana) Limited is setting up a modern Pre-Cast Concrete Products Plant on the West Bank of Demerara. This factory will make ready-to-use concrete products such as drains, utility poles, piles, bridge parts, and housing components. These products will help speed up construction projects in Georgetown and nearby areas, while also reducing the need to import concrete materials.

The plant will cover about eight acres of land in Versailles, in an area with mostly empty lots nearby. It will include storage areas for raw materials, workshops, a laboratory, offices, parking, and a settling pond to manage wastewater. Special systems will recycle water and cement slurry to reduce waste, and concrete drains will be installed to prevent flooding.

The facility will run six days a week (Monday to Saturday), from 8:00 h to 16:00h., and is expected to employ about 20 people during construction and around 100 once it is fully operational. Jobs will range from engineers and skilled workers to drivers and support staff. Electricity will come from generators with supplementary electricity by the Guyana Power and Light, while water will be supplied by Guyana Water Inc. and supplemented by rainwater storage tanks. Telephone and internet services will be provided by a local telecom company.

Construction is expected to conclude within two to three months after commencement, with the plant becoming fully operational in early 2026. The project is designed to be efficient, environmentally responsible, and easy to relocate if needed. It will bring benefits such as job creation, stronger local supply chains, and more reliable access to durable concrete products for housing, drainage, roads, bridges, and other infrastructure projects across Guyana.

6.0 Duration of the Project

The operation of the project is expected to operate for approximately five (5) years at its present location.

7.0 Potential Environmental and Social Impacts and Mitigation

Construction and operation of Pre-cast Concrete Products Plant		
Potential impact	**Activities**	**Mitigation Measures**
	Environmental and Social Impacts	
Air Emission	• Dust from cement handling, aggregate storage, and cutting/grinding of precast units. • Fugitive dust emissions may occur during the storage and handling of sand and aggregates, particularly under dry and windy conditions.	• The Plant will be fully enclosed, therefore there will be no dust emissions from the operation cement plant. • Dust suppression systems such as water sprays or misting units will be installed at storage and handling points. • Aggregate stockpiles will be covered to reduce wind-blown dust. • Regular air quality monitoring will be conducted to ensure compliance with environmental standards.

		• Handling activities will be scheduled during periods of lower wind speeds where possible.
Noise Emissions/vibrations	• Heavy machinery, mixers, and transport trucks during construction and operation.	• The facility will be operated to ensure compliance with the **Guyana National Bureau of Standards (GNBS)** guidelines for acceptable noise emission levels applicable to industrial operations. • Noise-reducing equipment (e.g., silencers, mufflers) will be installed on machinery where possible. • Acoustic barriers or enclosures will be constructed around high-noise areas where applicable.

		• The plant will operate during daytime hours to minimize disturbance. • Regular noise monitoring will be conducted, and records will be maintained to demonstrate compliance • Appropriate Personal Protective Equipment (PPE), including earplugs or earmuffs, will be provided to all workers in noisy areas. • Regular training sessions on the correct use and maintenance of PPE will be conducted.
Impact on Soil and water quality	• Spillage of aggregates or cement during loading and transport may result in contamination of surrounding soil and nearby surface water bodies.	• Proper handling procedures and spill prevention protocols will be implemented during material transfer.

	• Runoff containing cement slurry from the mixing station or washing areas may enter nearby drains or water bodies, potentially causing water pollution and increased sedimentation.	• The plant has been designed to ensure mixing is conducted in an enclosed structure. • Containment systems will be installed around storage and handling zones. • Spill response equipment will be provided on site, and employees will be trained in spill prevention and response • The plant and immediate surroundings will be inspected regularly to ensure compliance with environmental standards. • Drainage channels and sediment traps will be constructed to capture slurry before it reaches natural water bodies. • Sedimentation tanks or other appropriate treatment systems

		will be developed to manage and treat wastewater. • An area with impermeable flooring and containment will be designated as a washing area to prevent uncontrolled runoff. • Effluent discharges from the facility will be monitored periodically to ensure compliance with the GNBS effluent discharge standards.
Oil spills	• Leakage or accidental discharge from vehicles, generators, or machinery can contaminate soil and potentially enter nearby drainage systems or water bodies. • Spills during refuelling and servicing of vehicles and generators, if not properly managed, may cause localized pollution and pose health hazards.	• Standard Operating Procedures (SOPs) for land transportation, refuelling, and maintenance activities will be developed to minimize spill risks. • Fuel will be stored in a concrete bund capable of holding 110% of the maximum fuel volume to effectively contain leaks.

	• Servicing generators on unprotected surfaces increases the risk of oil and fuel residues seeping into the ground, negatively affecting soil quality and groundwater.	• A special area will be designated for servicing vehicles and will include spill containment features to safely capture and manage accidental discharges during maintenance. • Emergency contact information will be displayed prominently at key locations across the site. • Spill response equipment, including spill trays, and sorbent pads will be readily available for immediate use in the event of a spill.
Waste Management (Non-hazardous)	• Broken or rejected precast units, packaging materials, and construction debris. • Improper handling of defective products and litter may lead to environmental pollution, health	• Defective precast units will be reused as recycled aggregate to minimize waste generation. • The Company will comply with the provisions of the Environmental Protection (Litter Enforcement)

	risks, and reduced operational efficiency.	**Regulations, 2013** to prevent littering and maintain site cleanliness. • Covered waste receptacles will be placed at strategic locations throughout the facility to reduce exposure and prevent littering. • Good hygiene and sanitation practices will be maintained across all operational areas. • An approved service provider will be engaged for regular collection and proper disposal of all waste generated. • Employees will be trained in effective waste management procedures and environmental best practices.

Waste Management (Hazardous waste)	• Accidental spills may lead to fuel and oily waste contamination of soil and water resources. • Improper storage of containers storing hazardous materials poses risks of leakage, fire hazards, and environmental pollution. • The use and disposal of cleaning chemicals may create potential environmental and health hazards if not properly managed.	• Hazardous waste will be segregated from non-hazardous waste and be disposed in accordance with the specifications outlined in the Safety Data Sheets (SDS) or as directed by the EPA • The Company will adhere to the provisions of the Environmental Protection **(Hazardous Waste Management) Regulations, 2000** for safe handling, storage, and disposal of hazardous waste. • Hazardous waste cleanup kits will be available onsite to enable immediate response to accidental spills. • Employees will be provided with appropriate Personal Protective Equipment (PPE)

		when handling hazardous materials and waste to minimize exposure risks.
Fire/explosion	• Smoking by patrons and employees may create health and safety risks, including fire hazards and exposure to second-hand smoke. • Fire and explosion may result from storing incompatible chemicals together	• No-smoking signage will be erected in designated areas. • Firefighting equipment (e.g., sand buckets, fire extinguishers) will be acquired and strategically placed throughout the facility in accordance with guidance from the Guyana Fire Service. • Chemical storage will be guided by the compatibility chart to avoid storing incompatible chemicals together • Muster point signage will be installed to ensure clear communication during emergencies. • Personnel and visitors will be informed about emergency

		procedures, including muster points and emergency exits, upon entry to the facility.
Energy Consumption	• High electricity demand for mixers, curing chambers, and lighting.	• As far as possible, low-carbon materials and energy-efficient equipment will be used within plant operations
Carbon Emissions	• Concrete production can be a major source of carbon dioxide emissions	• Aggregates and water will be sourced locally to reduce transport emissions. • Green buffers such as trees and landscaping will be maintained around the plant.
	Socioeconomic Impacts and Mitigation	
Health and Safety Risks:	• Workers and visitors may face the risk of injury from heavy machinery operation or falling objects within the facility. • There is potential for vehicular accidents occurring within or near	• The mandatory use of Personal Protective Equipment (PPE) such as helmets, boots, and masks will be enforced for all workers onsite. • Regular safety briefings and training sessions will be

	the facility site due to increased traffic and equipment movement.	conducted to ensure staff remain aware of potential hazards and safe work practices. • Strict safety protocols for the operation of heavy machinery will be implemented, including scheduled equipment maintenance and comprehensive operator training.
Road damage	• Increased movement of trucks and heavy-duty vehicles may contribute to road damage and safety risks within and around the facility.	• Speed limits and designated vehicle routes within the facility will be implemented to enhance safety • Access roads will be paved and maintained • Clear signage and traffic management controls will be implemented to ensure safe interactions between vehicles and pedestrians.

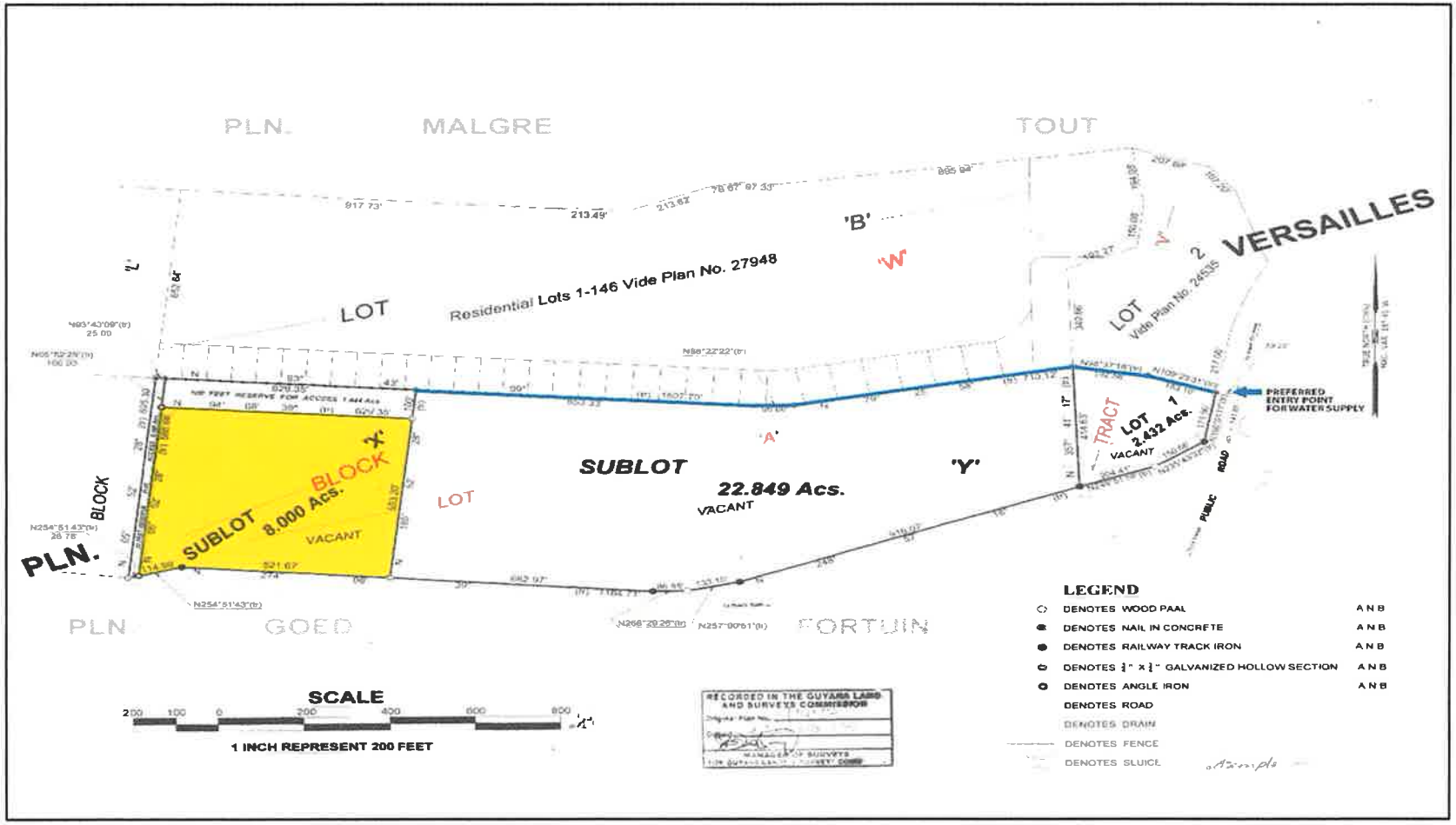
		• Drivers and site staff will be trained on safe vehicle operation and traffic protocols to reduce accident risks.
Impact on Aesthetics	• If not properly maintained and managed, the facility may appear unsightly, negatively affecting the visual landscape and overall perception of the site.	• Fencing will be erected and trees planted to provide effective visual screening around the facility • The project site will be maintained regularly, ensuring it remains well-organised, clean, and free from untidiness. • Proper waste disposal practices will be implemented to keep the site visually appealing and environmentally responsible

Disturbance to emerging communities	• Currently, there are no surrounding communities. However, as the area develops, potential challenges may arise from facility operations, including noise, dust emissions, increased traffic, road deterioration, and other disturbances that could affect nearby residents.	• Facility operations will be limited to daytime hours to minimize noise and disturbance during evenings and nights. • Nearby communities will be engaged regularly to maintain open communication and proactively address concerns which may arise • A grievance redress mechanism will be developed to provide residents with a clear and accessible process for reporting issues and resolving complaints. • Traffic and road conditions will be monitored to identify and mitigate deterioration caused by facility operations.

	• Dust suppression measures (e.g., water spraying, covered transport) will be implemented to reduce air quality impacts. • Access roads will be paved and maintained.

8.0 Appendices

Appendix 1: Map of Surrounding Land Uses



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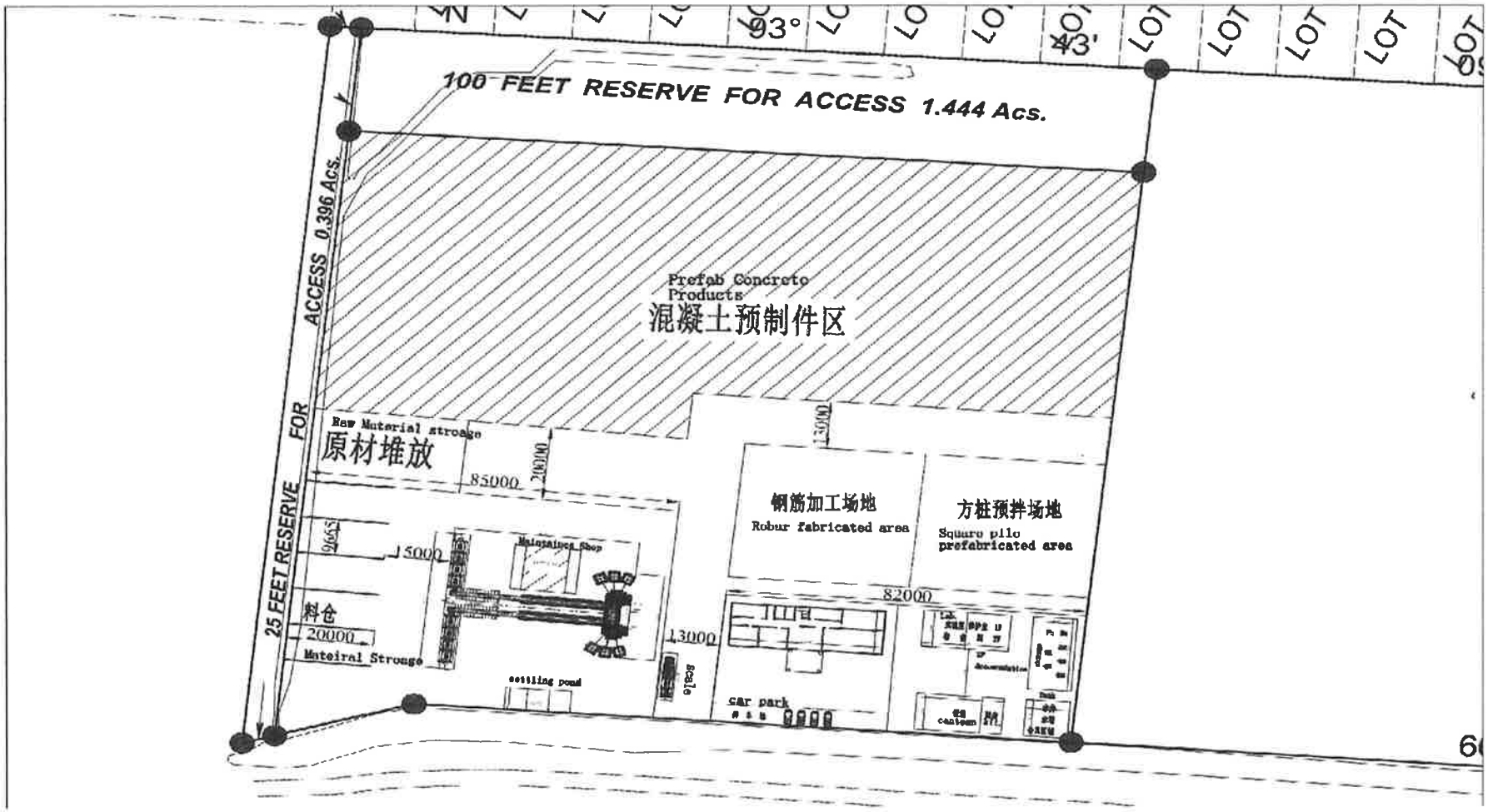
Appendix 2: Surveyed Site Plan



Appendix 3: Site Plan

Appendix 4: Artist Impression of the Pre-Cast Concrete Products Plant