



中铁一局集团(圭亚那)有限公司
CHINA RAILWAY FIRST GROUP(GUYANA) INC.

China Railway First Group Co., Ltd.



Project Summary

For

**Construction of Four (4) Lane Highway from
Craig to Land of Canaan, East Bank Demerara,
Region No. 4 – Lot 6**

December 5, 2025



1. Project Description

(i) Project Location and Site Characteristics

- Project Location: Lot 8, part of the North Half of Plantation Relief and Support, East Bank of Demerara, Guyana. (Note: Within Lot 6 of the Craig–Land of Canaan Four-Lane Highway Project, EBD, Region 4.)

- Coordinates: 6.6246920, -58.2016179

- Nearest Settlements:

- Craig Town: 1.5–2.0 km south
- Grove Community: approx. 3.0 km south
- Land of Canaan: approx. 2.0 km north

- Nearest Residential Areas:

Scattered houses along E Bank Public Road to the west, approx. 500–1200 m away.

- Watercourses:

Agricultural drains to the north (150–300 m), Demerara River (1.8–2.5 km west).

No natural creeks cross the work zone; all surface water is man-made drainage.

- Land Use: Agriculture, transportation corridor, scattered residential.

- Land Tenure: The batching plant and precast yard occupy idle private land legally leased by the Employer. No land disputes.

(ii) Alternatives Considered

- Option 1 – Near the construction alignment: rejected due to soft soil, drainage difficulty, high cost, environmental risk.
- Option 2 – Adjacent to Project Department (selected): stable ground, good utility access, manageable environmental impact.
- Option 3 – Outskirts of Land of Canaan or Craig: far transport distance, poor drainage, need extra land acquisition. Not recommended.

(iii) Baseline Environment

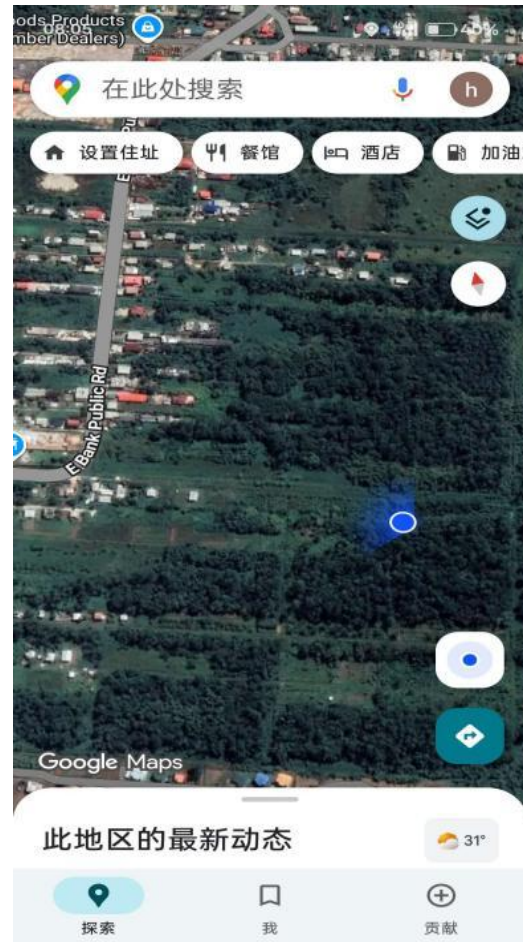
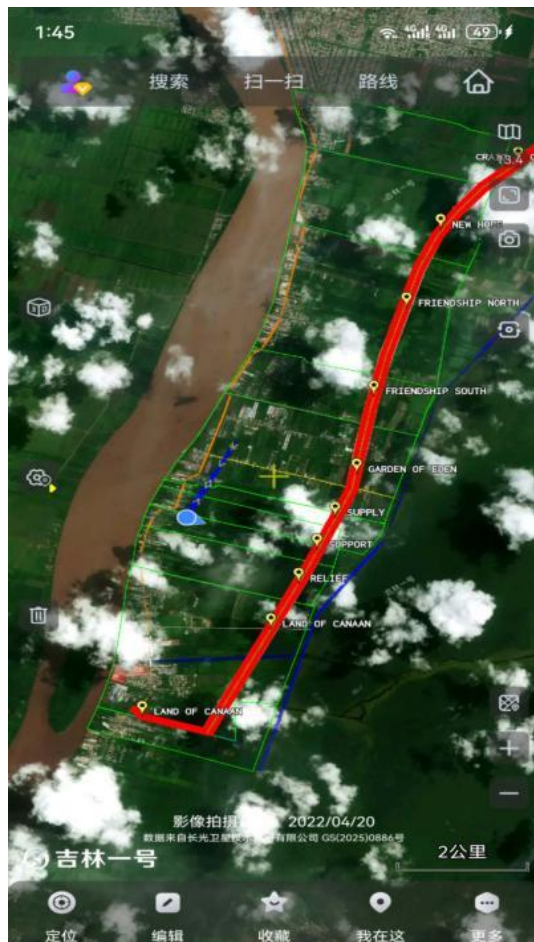
- Terrain: Flat alluvial plains, roadside drainage.



- Soil: Clayey soil with local sand lenses.
- Water: High groundwater; surface water from roadside drains.
- Air: No major industrial sources; generally good.
- Ecology: Agricultural vegetation; no recorded rare species.
- Social: Local livelihood in small agriculture and trade; project provides benefits.

(iv) Site Layout

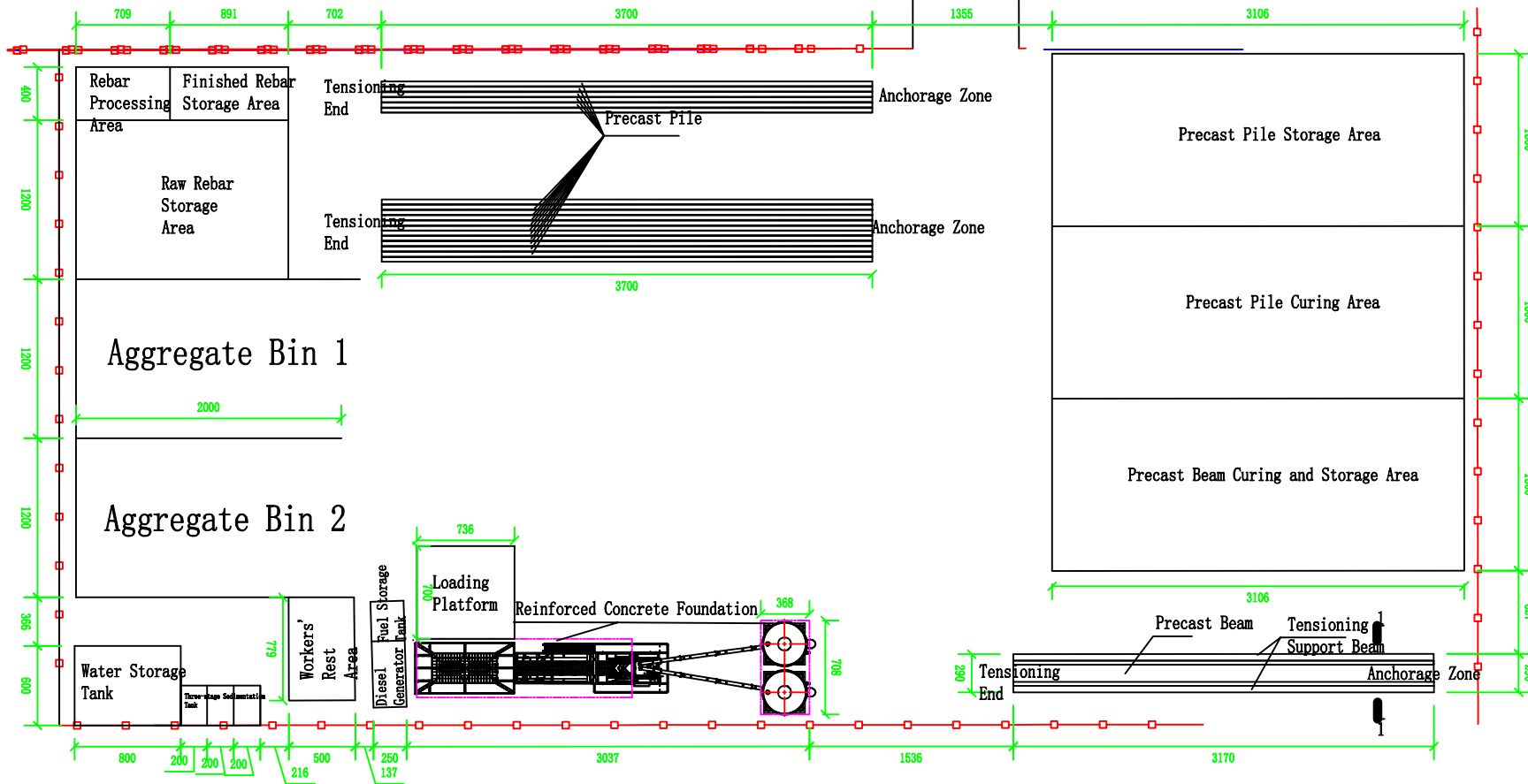
The batching plant and precast yard are located within Lot 6 near the Project Department - Lot 8, part of the North Half of Plantation Relief and Support, East Bank of Demerara, Guyana.





Site Access Road

Side Drain



- Notes:
- All dimensions shown in this drawing are in centimeters (cm).
 - Driving surface structural layers within the batching plant area consist of:
 - 0.7 m white sand layer,
 - 0.2 m mixed sand-clay layer,
 - 0.2 m graded crushed stone layer.
 - The precast beam casting beds, precast beam stressing support beams, and precast pile casting platforms are constructed using C30 reinforced concrete, reinforced with $\phi 12$ mm steel bars arranged in double layers and double directions at 20 cm spacing.
 - The batching mixer foundation consists of 0.3 m thick C30 reinforced concrete, reinforced with $\phi 12$ mm steel bars arranged in double layers and double directions at 20 cm spacing.
 - The aggregate storage bin has a clear height of 8 m:
 - The lower structure consists of 2 m high, 0.3 m thick C30 reinforced concrete walls, reinforced with $\phi 12$ mm steel bars, double layers, double directions, 20 cm spacing.
 - The upper structure consists of 6 m high light steel framing, with color steel sheet roofing, and front, gable, and rear walls enclosed using color steel panels.
 - The water storage tank is a sunken structure, with an effective capacity of 200 m³, constructed with 0.2 m thick brick masonry walls.
 - The three-stage sedimentation tanks are sunken structures, each with an effective capacity of 24 m³, constructed with 0.2 m thick brick masonry walls. Wastewater flows through all three stages for sedimentation before being discharged into the water storage tank for recycling and reuse.

Drawing Title	Batching Plant Layout Plan
Drafting	
Reviewed by	
Approved by	



2. Design & Project Description

(i) Main Functions

- Concrete production for bridges, culverts, and pavement.
- Precast fabrication including piles, slabs, pipe sections, etc.

(ii) Project Scale & Resources

- Investment: Contractor-funded temporary facilities.
- Workforce: 30–40 during construction; 10–20 during operations.
- Capacity: 40–60 m³/h concrete; precast output depends on component type.
- **Transport Route: Via Lot 6 access roads.**

(iii) Main Activities

- Raw material receiving, screening, storage
- Automated concrete mixing
- Concrete transport and casting
- Precast mould installation, casting, curing
- Storage and transport of finished components

(iv) Natural Resource Use

- Sand, stone, cement stored per monthly demand
- Water for mixing and cleaning (recycled)
- Electricity via generator + possible grid connection

(v) Utilities

- Power: generator plus potential grid connection
- Water: tankers + recycled treated water
- Communication: Starlink

(vi) Waste Management

- Wastewater:



- Three-stage sedimentation pond
- Recycled for washing and dust control
- Zero discharge
- Solid Waste:
 - Hardened concrete reused for access road repair
 - Domestic waste collected and transported to landfill
 - Waste oil handled by licensed entity
- Dust & Noise:
 - Water spraying
 - Mufflers on equipment
 - No night operations

(vii) Schedule

- Construction of temporary facilities: ~1 month
- Operations: aligned with main project schedule
- Removal: upon project completion

(viii) Demobilization

- Removal of all facilities
- Waste cleanup
- Site grading and restoration
- Drainage cleaning

3. Potential Environmental Impacts

- Soil disturbance, dust, vehicle noise
- Improper wastewater handling could affect drains
- Minimal ecological impact (abandoned farmland)
- Social: creates jobs, supports infrastructure development



- Cumulative impacts manageable with mitigation.

4. Mitigation Measures

- Three-stage sedimentation pond
- Covered, lined material stockyards
- Dust suppression
- Noise control
- Waste classification, hazardous waste management
- Environmental officer for monitoring

5. Public Consultation

Local communities support the project and request avoidance of nighttime noise, which will be implemented.

6. Assumptions & Knowledge Gaps

- Need evaluation of sedimentation pond capacity during rainy season
- Additional ecological survey needed in wet season
- EPA monitoring points to be finalized

7. Non-Technical Summary

The temporary concrete batching plant and precast yard for Lot 6 of the Craig–Land of Canaan Highway will supply concrete and precast components for road and bridge construction. With implemented mitigation such as sedimentation ponds, dust control, noise management, and waste handling, environmental impacts are controllable. The project contributes positively to regional transportation and economic development.