September 01, 2023

Concrete Plant

Project Description (Summary)

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Background

L'Heureuse Construction and Services Inc. (LCSI) was incorporated in 2017 and has thus been in operation for over 5 years now, mainly in the construction industry. The Company was awarded a number of contracts with the Government of Guyana for various roads and bridges. Most recently, LCSI was awarded to construct a section of the Four Lane Highway between Crane and Schoonord on the West Bank of Demerara.

Based on the knowledge and expertise gathered from the numerous projects, the Company saw the need for a concrete plant on the West Bank of Demerara in Region Three, and has thus embarked on this new venture. LCSI aims to install a 30 tons per hour wet mix concrete batching plant at Canal #1 Polder, West Bank Demerara. The Company forecasts that this plant will significantly reduce the cost and time of production for any concrete related infrastructure in Region Three, particularly large projects.

Executive Summary

L'Heureuse Construction and Services Inc. (LCSI) is pleased with the extent that this beautiful country; Guyana, has ramped up its infrastructural development works. LCSI also has expressed confidence in the growth in the economy by expanding its operations to include a concrete plant in its operations. LCSI mainly operates in the construction industry and has found it necessary to have this additional operation added to its portfolio.

The plant will be located at Canal No. 1 Polder, West Bank Demerara, with a site area of approximately one (1) acre. Thus far, the land has been cleared by leveling and removing of debris. The estimated implementation period is during October 2023, with an expected life of atleast ten (10) years. At most, the project aims to employ 30 persons. The cost of the project is approximately G$250 million and expects an annual turnover of G$2 billion.

There will be no significant impact on the environment from the project's activities. However, any possible impacts will be mitigated in accordance with the Environmental Management Plan that will be implemented. This is the first time that LCSI is applying for an EPA Permit, and no other permit or licence from any other Government entity is required or have been obtained.

Location

The Concrete Plant will be located at Lot 8 and 9 Section "A" Plantation Vauxhall, Canal No. 1 Polder, West Bank Demerara. The GPS Coordinates are 364040.01 m E and 747571.44 m. The Transport No. 1425/97 for the land was made in full and as a free property. The project falls under the Canals Polder NDC. There are no alternative site locations for this project.

The site area is approximately one (1) acre and it is currently an empty land, with 25 percent of the area to be cleared of vegetation. The site area is generally a flat land with clay and does not flood. To the north of the intended site, there is vegetation and poultry pen, to the east and south farm lands, and to the west wild vegetation. The site area is approximately 101-500 metres from residences and a place of worship. Its 501-1000 metres from a school, and more than 1 kilometre from sensitive ecosystems, protected areas, major water courses, threatened or endangered flora and fauna, hospitals and river/sea defence. The site will require filling, power generating, telecommunication and sewage system.

Project Development

The concrete plant is slated to be commissioned in October 2023. The expected lifetime of the project will be atleast ten (10) years. The technical persons on the project are currently Stephan Cheong (Project Engineer) and Marvin Cheong (Operation Manager). The phases of the Concrete Plant Project, along with their respective estimated workforce and duration are as follow:

Phases	Estimated Workforce	Estimated Duration
Phase I: Land Clearing - Leveling and Removing Debris	5	Completed
Phase II: Setting up Foundation and Sand Filling	20	30 Days
Phase III: Installation of the Concrete Plant and Erection of Office Building	30	60 Days
Phase IV: Operation	25	Continuous

Appendix C provides a detailed breakdown of the cost and quantities of resources that will be utilized for each phase of the project. Phase IV: The Operation Phase, will be utilizing the following raw materials: sand, stone and cement, to produce the final product (concrete). The operating processes involve mixing, transporting, pouring and storage. The operation will require the use of a 113 KVA generator and 42 m^3 per day in water. Approximately 3,600 cubic yard of concrete is estimated to be produced on a monthly basis. About 1 litre per cubic yard in related chemicals is expected to be used during the operation process.

The Company estimates that its office waste, mainly paper-based, will be 2 metric tons per year, which will be disposed at an Environmental Protection Agency (EPA) approved dump site. Other waste entail empty plastic containers, which will be 10 metric tons annually. The containers will be reused for storage. The Company intends to use an internal sewage system to filter any wastewater.

The Company is expected to own and operate 4 cement trucks, of which 2 are DAF and 2 are Sinotruk, each having a capacity of 10 cubic metric. The Company is also expected to own and operate 10 trucks to transport materials such as sand, stone and cement, each having a capacity of 17 cubic metric.

Capital Investment/Projections

The cost of the project is approximately G$250 million. Capital investments were allocated for equipment and infrastructure. Equipment costs included the procurement of a 30 tons per hour concrete batching plant, two (2) 50 tons silos, ready-mix trucks, excavator for stockpiling, front end loader for loading of bins, and 113 KVA generator. Infrastructure costs entailed monies spent on the construction of the access road for the plant. Our bank has provided a statement as evidence of our financial capability to carry this project.

An annual turnover of G$2 billion is projected from the plant activities, providing that 3,600 cubic yard of concrete is demanded and supplied on a monthly basis.

Environmental Impacts

The Company regards environmental protection very seriously since any adverse risks can have a negative impact on the safe operation of the project and wider community. The Company vows to adhere to the Guyana's Environmental Protection Act 1996, Part V: Prevention and Control of Pollution, Section 19(1): Prevention of pollution.

Land

- There will be minor disturbances to land during the construction phase.
- Fuel will be stored at the site in a tank with secondary storage at the bottom to catch any spillage.
- Chemicals will be stored in a bonded area with secondary protection.
- Cement (maximum of 1,000 tons) will be stored in the silo and concrete bond. Any spillage on the concrete floor will be spaded and reused so there will be no wastage.
- Servicing of trucks will be conducted at an off-site workshop.
- The Company will have approximately 3 spill kits at the site.

Air

- The project will not routinely produce odours from its activities. However, air emissions are expected to be minimal due to the closed system approach. To reduce the impact of this, monitoring of air emission will be done.
- Sand will be stockpiled at the site at 20 feet. Mitigation measures from sand dust due to wind will include the wetting of the sand and placing of dust nets around the stockpile, particularly the open areas where there are no vegetations.
- When transporting materials, the trucks will be covered with tarpaulin to avoid dust pollution.
- The generator is EURO2 emission standard.

Noise

- The activities from the concrete plant will not generate significant levels of noise but noise emissions from the plant and generator will be monitored for compliance with Guyana National Bureau of Standards (GNBS) Guidelines.
- The 113 KVA generator that will be used for the project will be enclosed in a noise prevention box. Thus, noise will not be generated from our generator.
- The truck drivers be advised to adhere to strict speed limits, particularly when entering the internal road to the concrete plant to avoid vibrations and noise pollutions.

Water

- Empty chemical containers will be triple rinsed with water, where the liquid substance will be treated in our waste water treatment. The containers will then be disposed of by a local garbage collector.
- When the cement trucks are washed, the wastage will be treated in our waste water treatment.

Emergency Response Plan

Fire Emergency

In the event of a fire, the following are the responses in no particular order and are non-exhaustive:

- Pull the fire alarm
- Use of fire extinguisher(s)
- Use of exit lit areas to evacuate the buildings/compound to the designated assembly point
- Call emergency contact(s).

Medical Emergency

In the event of a medical emergency, the following are the responses in no particular order and are non-exhaustive:

- Persons likely to be affected by existing or imminent conditions will be alerted
- Emergency responders will be summoned
- If necessary, the injured will be transported to the nearest hospital
- Kin of the injured will be informed.

Spill Emergency

In the event of any spill, the following are the responses in no particular order and are non-exhaustive:

- Stop the flow, if possible
- Notify the relevant personnel/authorities
- Prevent the movement of people or vehicles into the affected area
- Ensure all activities are restricted in the vicinity to reduce any risk of ignition

- Treat the spill with absorbent material and bund formed, if possible, to prevent spill spreading and contaminating of soil and water
- Collect absorbent materials and place in a secured area
- Notify the Environmental Protection Agency as soon as possible and seek guidance on disposal of absorbent material.

Conclusion

LCSI is embarking on implementing a concrete plant at Lot 8 and 9 Section "A" Plantation Vauxhall, Canal No. 1 Polder, West Bank Demerara during October 2023, and has an estimated lifetime of ten (10) years. This is the sole proposed site area, which measures approximately one (1) acre of empty land. The site is closest to residences and a place of worship by approximately 101-500 metres.

Sand, stone and cement will be used to produce concrete. The operating processes involve mixing, transporting, pouring and storage. The maximum number of persons that will be employed by the Company at any one time is 30.

The project costs approximately G$250 million for equipment and infrastructure. Providing that 3,600 cubic yard of concrete is produced on a monthly basis, an annual turnover of G$2 billion is projected from the concrete plant activities.

Potential impacts to land, air, noise and water, and their mitigation measures were explored. Details of the concrete plant's Emergency Response Plan was provided.

Non-Technical Summary

L'Heureuse Construction and Services Inc. operates in the construction industry and is currently embarking on a new business venture. This venture entails the setting up and operation of a concrete plant at Lot 8 and 9 Section "A" Plantation Vauxhall, Canal No. 1 Polder, West Bank Demerara.

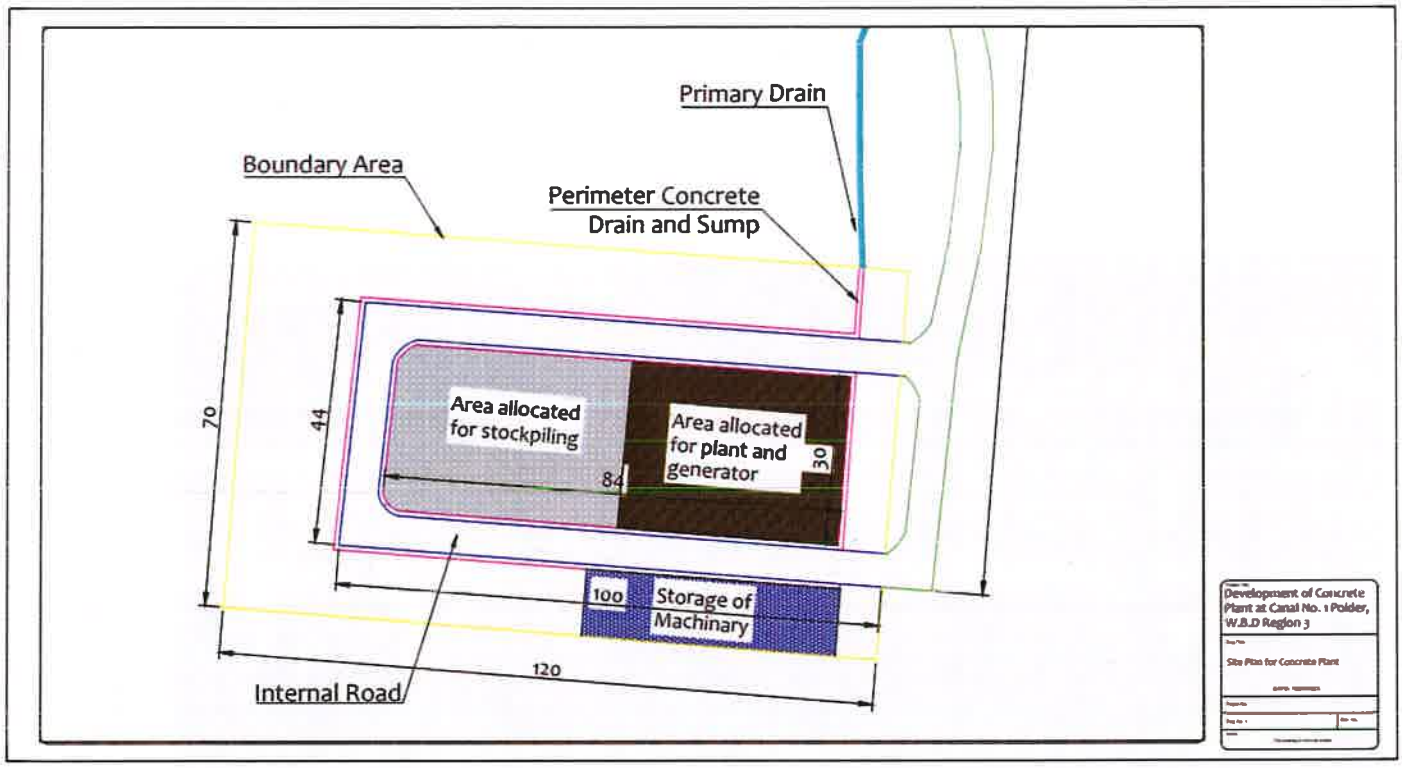
The Company estimates that this investment will cost approximately G$250 million, and expects to gain in revenue G$2 billion. This summary gives details of the four (4) phases of the project such as duration period, number of employees that are expected to be employed, the quantities of resources that are expected to be utilized, and any environmental impacts and their mitigation measures.

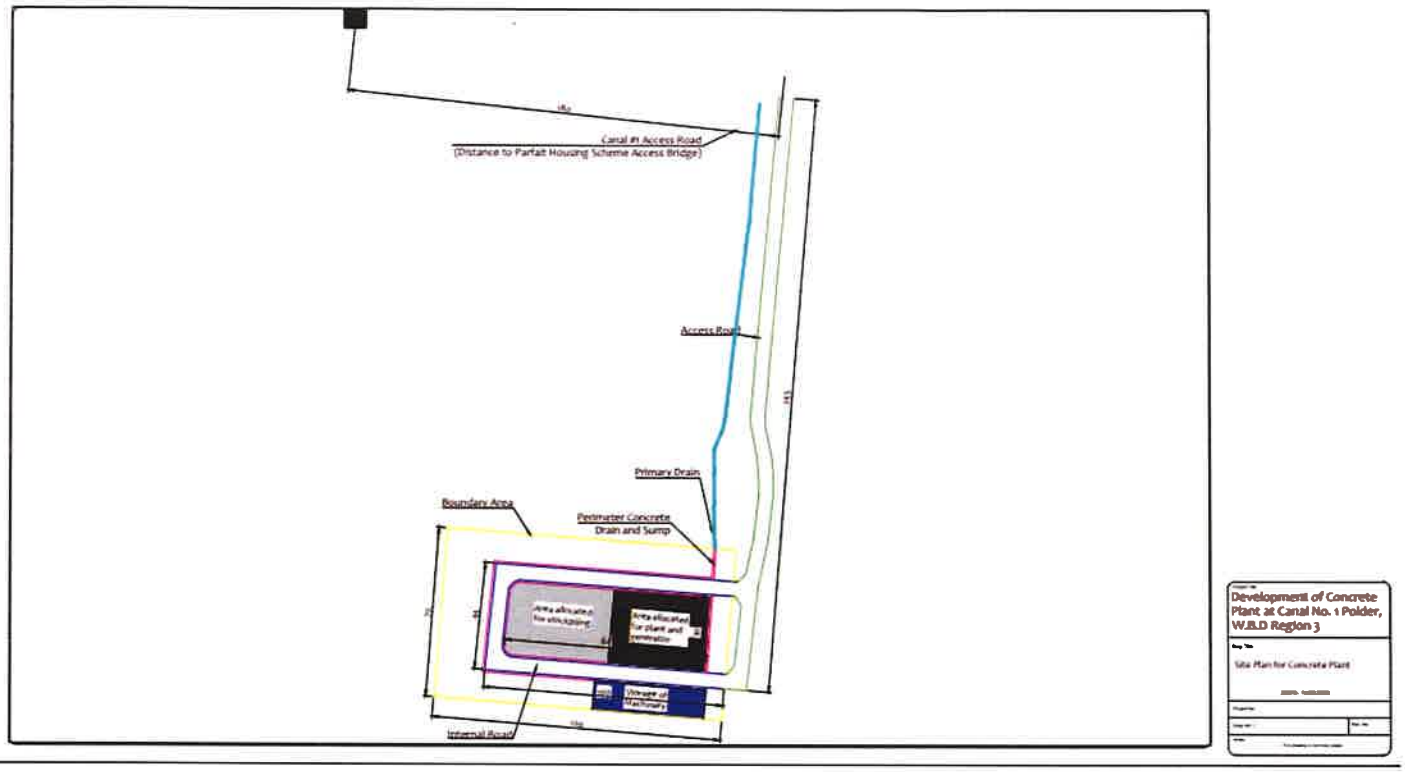
The Company is therefore requesting an EPA Permit for the respective concrete plant operation. This is the first time the Company is applying for an EPA Permit.

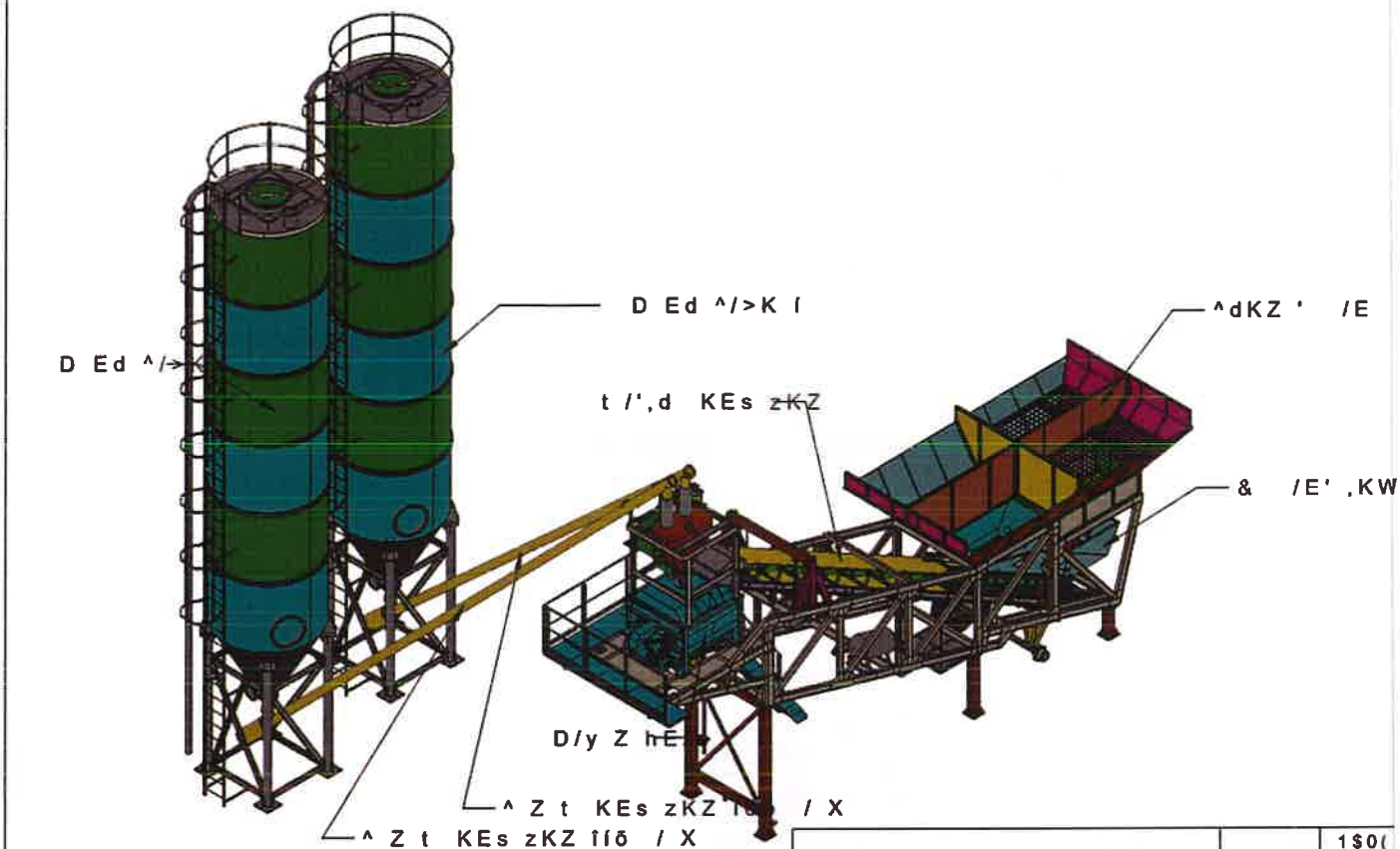
Appendices

Appendix A: Map of Concrete Plant Area & its Surroundings

Appendix B: Concrete Plant Layout


Primary Drain
Boundary Area
Perimeter Concrete
Drain and Sump
70
44
Area allocated
for stockpiling
Area allocated
for plant and
generator
84
30
100
Storage of
Machinary
120
Internal Road
Development of Concrete
Plant at Canal No. 1 Polder,
W.B.D Region 3
Site Plan for Concrete Plant


Canal #1 Access Road
(Distance to Parfait Housing Scheme Access Bridge)
Access Road
Primary Drain
Boundary Area
Perimeter Concrete
Drain and Sump
Area allocated for plant and operation
Internal Road
Development of Concrete Plant at Canal No. 1 Polder, W.B.D Region 3
Site Plan for Concrete Plant



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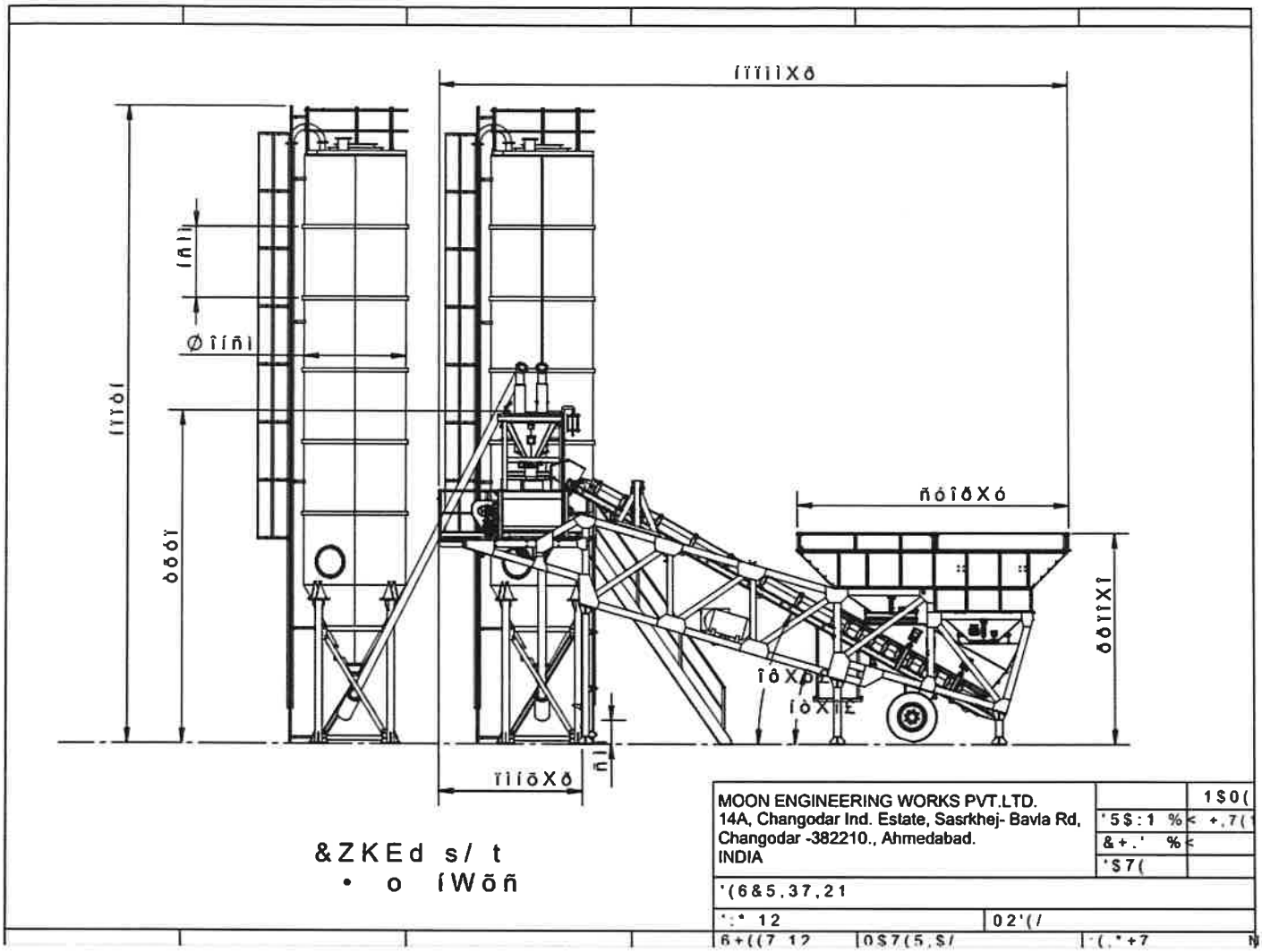
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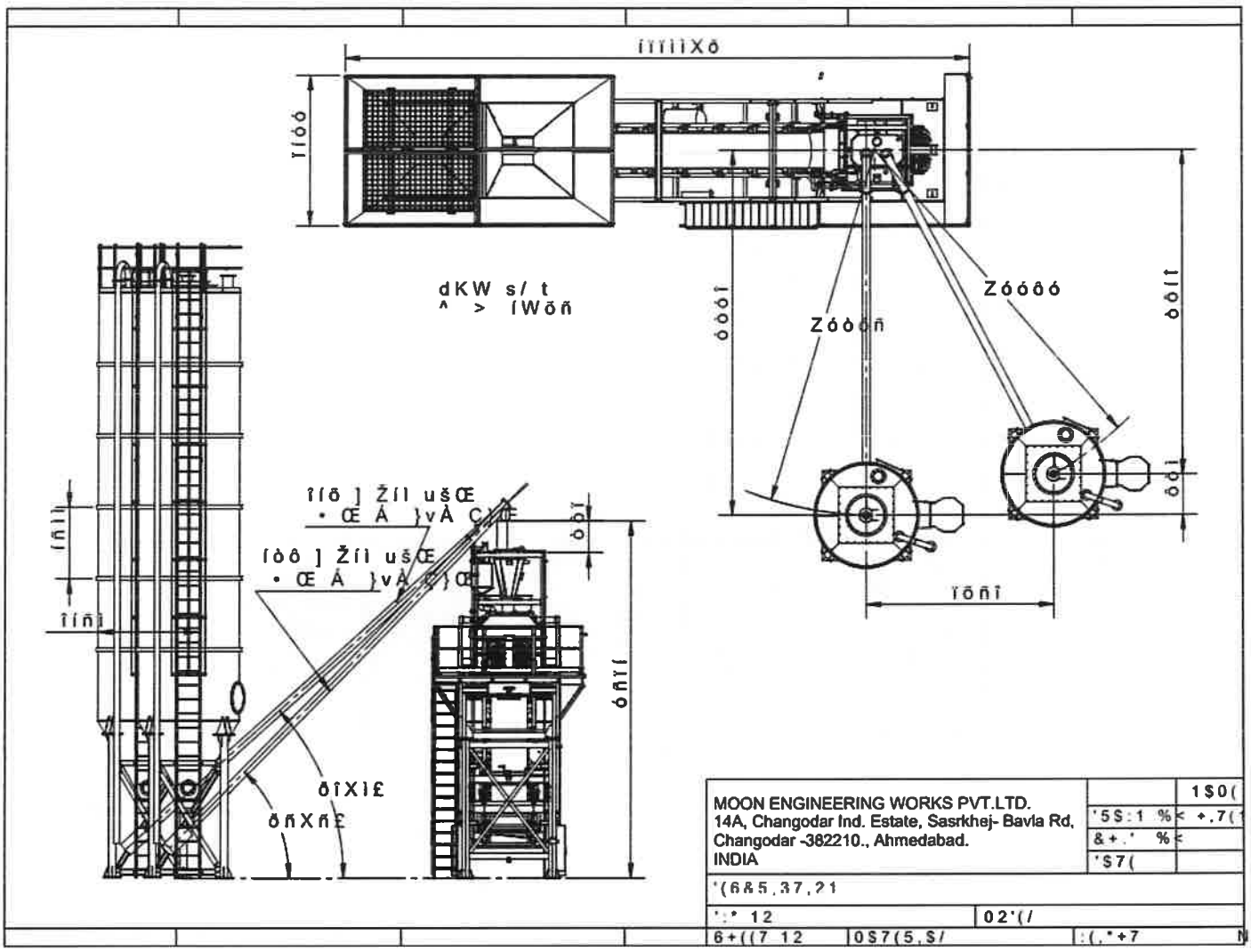
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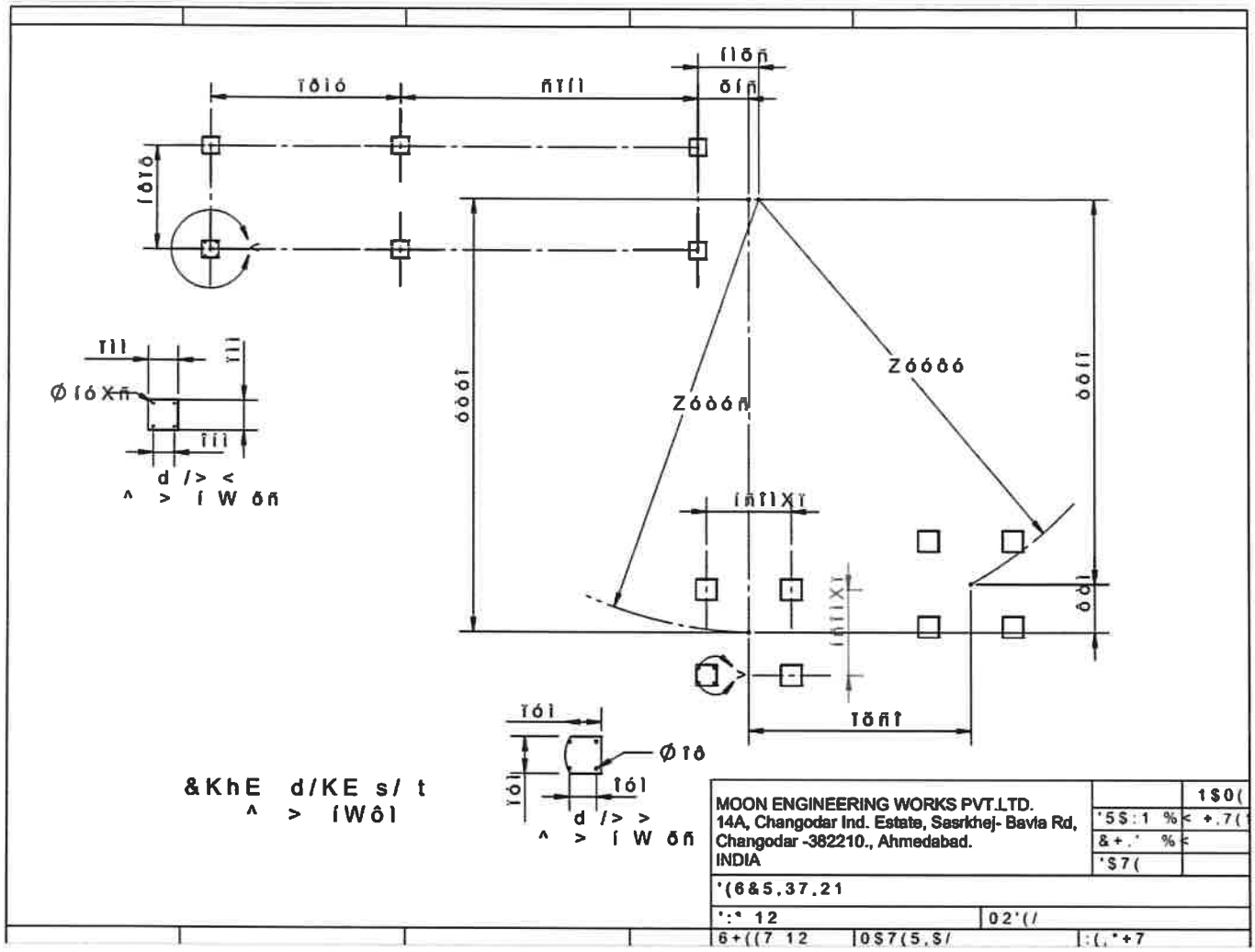

Appendix C: Estimated Costs and Resource Utilization by Project Phases

Contractor: L'Heureuse Construction and Services Inc.

Subject: Development and Installation of 30 Tons per hour wet mix concrete batching plant

Item No.	Description	Unit	Quantity	Rate	Total
Phase 1 - Land Clearing and Removal of Debris					
1.1	Provision of machinery and personnel for land clearing and preparation and grubbing of top soil	Acres	2.0	$ 500,000	$ 1,000,000
1.2	Carting away of Debris to landfill site	Trips	15.0	$ 20,000	$ 300,000
SUB-TOTAL					**$ 1,300,000**
Phase 2 - Setting up Foundation and Sandfilling					
2.1	Construction of Access Road - 600mm thickness White Sand for subbase (500m @6.10m width)	cum.	1830	$ 6,000	$ 10,980,000
2.2	Construction of Access Road - 200mm thickness White Sand/Sand Clay for lower base (500m @6.10m width)	cum.	610	$ 7,000	$ 4,270,000
2.3	Construction of Access Road - 100mm thickness Aggregate base (500 @6.10m width)	cum.	305	$ 35,000	$ 10,675,000
2.4	Provision of machinery for construction of road (Excavator and Roller)	Sum	-	-	$ 2,000,000
2.5	Provision of 450mm thickness White Sand for land filling o internal land	cum.	3642	$ 6,000	$ 21,852,000
2.6	Provision of Concrete Perimeter Drain (0.6m	m	340	$ 32,000	$ 10,880,000
2.7	Provision of Concrete Boundary Fence and Gate	m	340	$ 40,000	$ 13,600,000
2.8	Provision for excavation and sandfill for silos base	Sum			$ 250,000
2.9	16mm and 12mm Steel Reinforcement for base and column for silos and plant	kg	3600	$ 400	$ 1,440,000
2.10	Concrete for silos bases and foundation for plant\ inclusive of formwork	cum.	17	$ 75,000	$ 1,275,000
SUB-TOTAL					**$ 77,222,000**

Phase 3 - Installation of Concrete Plant and Erection of Office Building					
3.1	Provision of machinary and personnel for the erection and installation of concrete plant infrastructure	Sum			$ 2,500,000
3.2	Provision for Construction of Two Storey Adminstrative building for plant (1200sqft) inclusive of finishing	Sum	-	-	$ 28,800,000
SUB-TOTAL					**$ 31,300,000**
Phase 4 - Operation					
4.1	Stone material required for producing 3600 cyd of concrete per month	tons.	3600	$ 15,500	$ 55,800,000
4.2	Sand material required for producing 3600 cyd of concrete per month	tons.	2160	$ 2,500	$ 5,400,000
4.3	Cement material required for producing 3600 cyd of concrete per month	sacks	28800	$ 1,900	$ 54,720,000
4.4	Operation Personnel for the duration of the month	no.	25	$ 235,000	$ 5,875,000
SUB-TOTAL					**$ 121,795,000**

Project Summary					
Bill No.	**Bill Name**	**Unit**	**Qty**	**Rate**	**Total**
1	Phase 1 - Land Clearing and Removal of Debris	Sum			$ 1,300,000
2	Phase 2 - Setting up Foundation and Sandfilling	Sum			$ 77,222,000
3	Phase 3 - Installation of Concrete Plant and Erection of Office Building	Sum			$ 31,300,000
4	Phase 4 - Operation	Sum			$ 121,795,000
				GRAND TOTAL	**$ 231,617,000**