

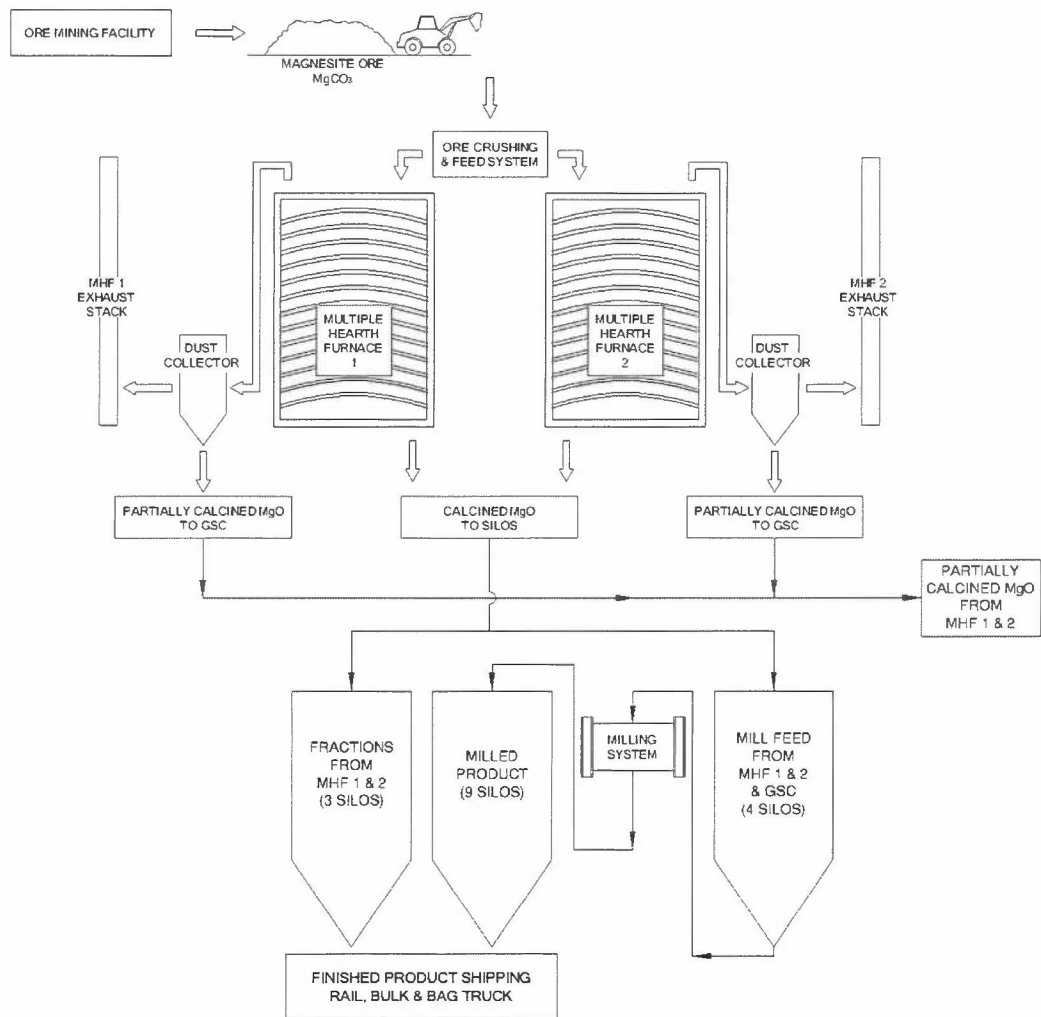
BAYMAG UPDATE 2019

Baymag Expansion Project

- Increase production capacity by 30000 tpy
- 25% increase over existing production rates
- Same products produced as existing operation
- Expected increases in efficiency and overall CO2 emission intensity reduction

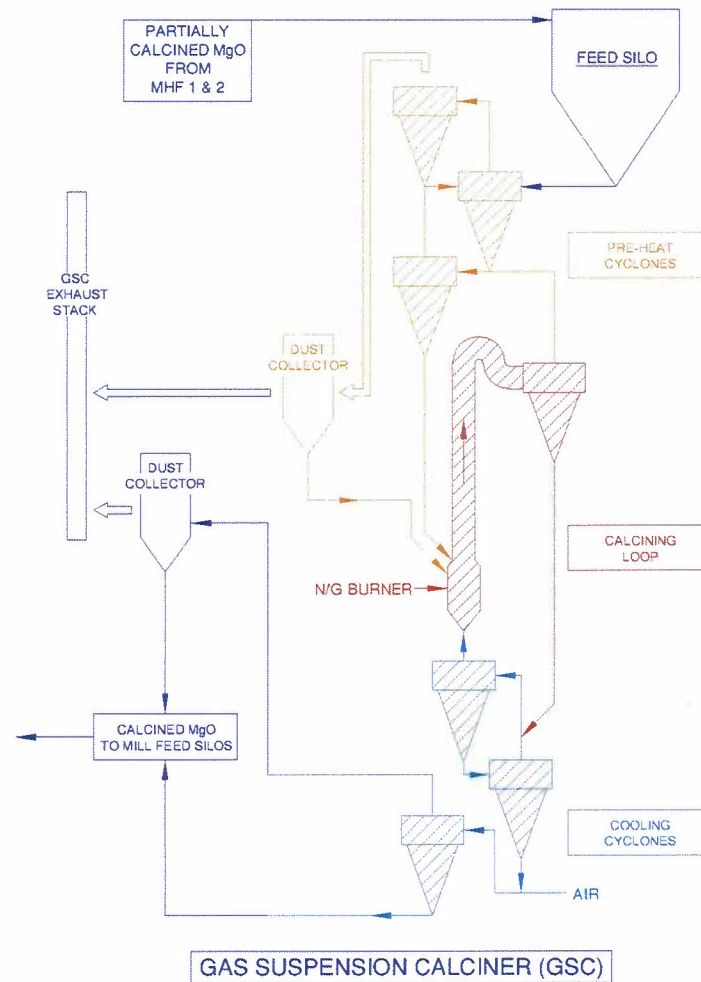
Process changes

- Removing partially calcined material from existing Multiple Hearth Furnaces (MHF) and complete calcination in Gas Suspension Calciner (GSC)
- Allows increased feed rate to MHF's



Gas Suspension Calciner (GSC)

- Gas Suspension Calciner (GSC) technology will be utilized
- More effective for calcining fine particulate
- Similar to preheat tower in cement and lime industries
- Consists of preheat cyclones, calciner leg followed by cooling cyclones



Emissions

- Natural Gas fired
- No change in feedstock
- Baghouse technology will be used
- Emissions expected to be the same as existing MHF's
- Lower specific energy consumption
- Lower specific CO₂ emissions intensity

Associated equipment

- Feed silo
- Pneumatic conveyors to transport feed and finished product
- All GSC and associated equipment enclosed in a process building
- 4 new finished product storage silos
- Existing crushing, milling, bagging and shipping systems adequate to handle extra capacity

Impacts

- Ore deliveries – increase of 5 trucks per day from mine

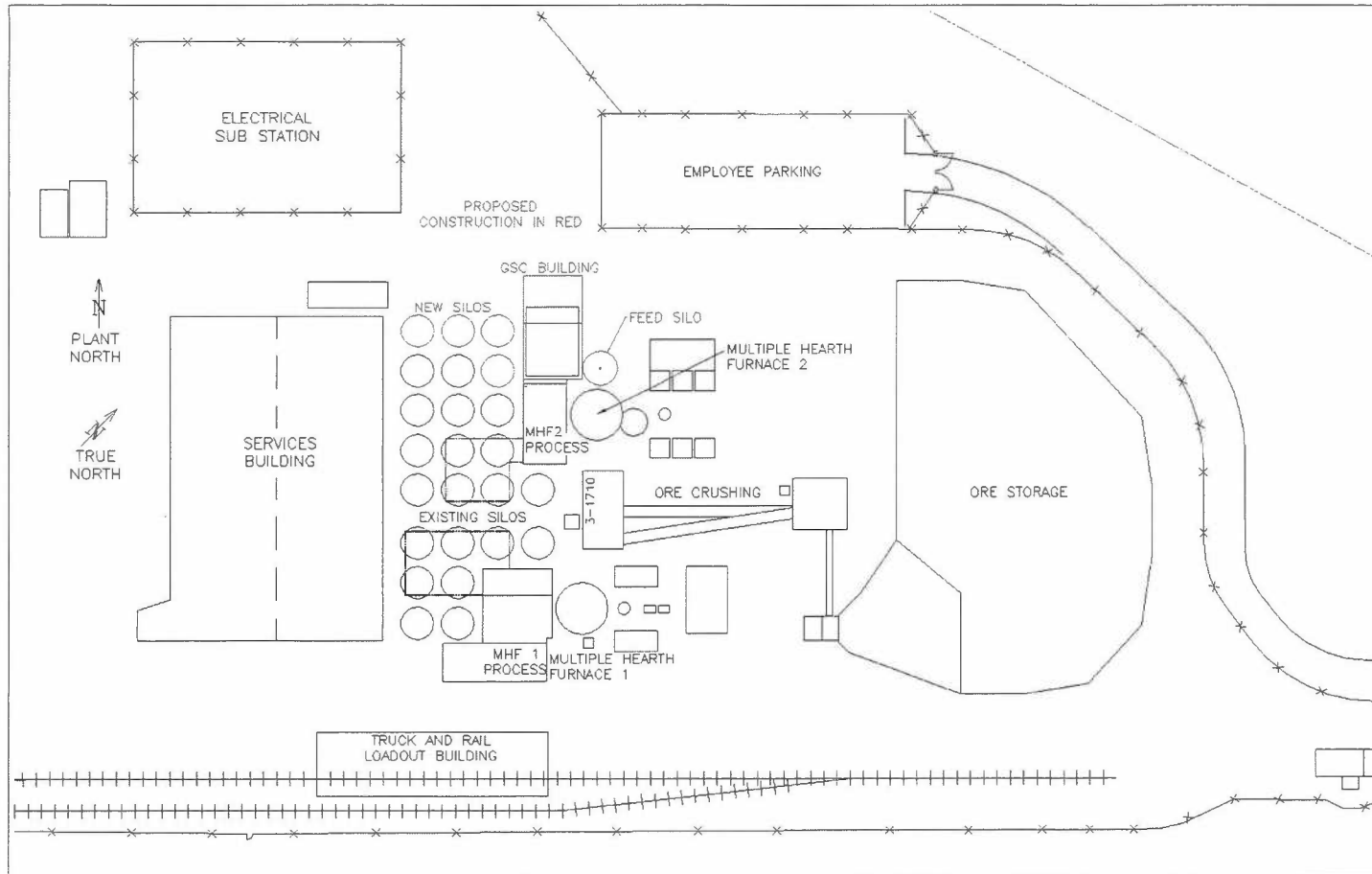
- Estimated increased product shipments (on average)
 - Railcars – 2 per week
 - Bulk trucks – 8 per week
 - Bag trucks – 9 per week

Construction

- thyssenkrupp Industrial Solutions (Calgary) will design and construct project
- 16 month construction schedule (approx)
- All construction equipment and laydown areas will be on existing plant site

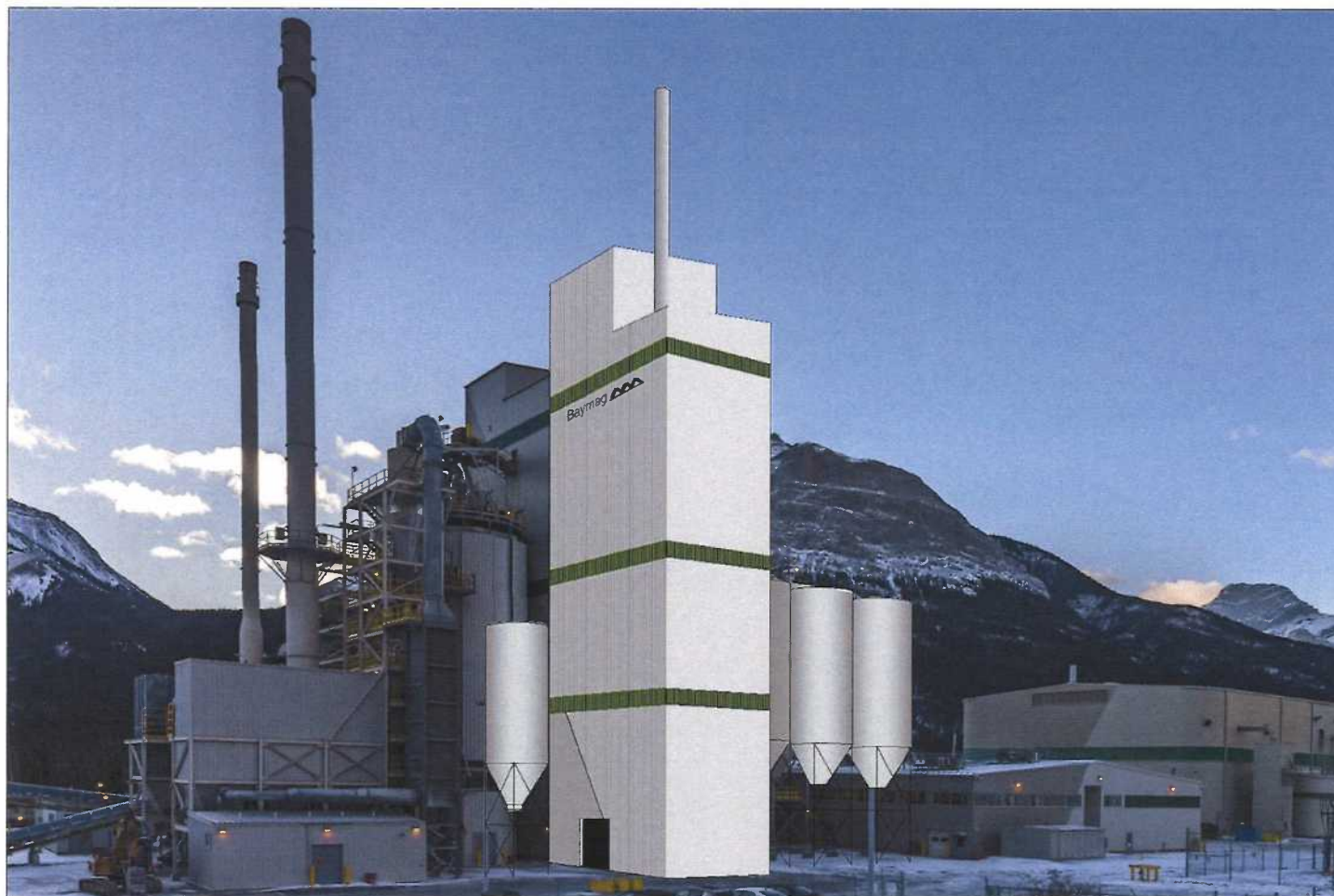
Current status

- Approval amendment application submitted to AEP
- Process engineering in progress
- Foundations to start soon after AEP approval





View of Plant: Preconstruction



View of Plant: Post construction

