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Case study



Engineering of Saskatchewan's first potash mine in 40 years

Image courtesy: PotashWorks

Amec Foster Wheeler is currently delivering the Bethune Mine Project (formerly known as the Legacy Project), Saskatchewan's first new potash mine in more than 40 years.

As K+S Potash Canada's design and project management partner, we are responsible for leading an integrated execution team tasked with delivering all aspects of engineering, procurement, construction and commissioning for this solution mine and processing facility. Our work has included the management of complex third-party design-supply technology packages for key components of the plant.

More 4 Less

Applying our innovative [More 4 Less efficiency](#) approach at the preliminary design stage has resulted in streamlined engineering and significant cost reductions, while maintaining high safety standards. We densified the mill's layout to reduce the building's footprint and volume by 45%, thereby reducing the installed cost of concrete by roughly \$100M. We also implemented modular design principles to maximise opportunities for pre-assembly, including 42 conveyor

galleries, 71 pipe rack modules and 27 E-room modules. Benefits to the project included a smaller construction workforce, reduced construction costs and a shorter timeline to first production.

Safety first

Safety is Amec Foster Wheeler's top priority. In collaboration with K+S Potash Canada, we have successfully managed health, safety, security and environmental aspects of the project as it has evolved from a pure greenfield site to a fully operational production facility.

With a site workforce that peaked above 3,000 people in a complex and changing work environment, it was paramount that every individual contribute to a safe and sustainable workplace. As a result, the project team achieved more than 10 million hours without a lost time injury, a clear demonstration of what can be accomplished through collective and resolute commitment to HSSE leadership.

Project highlights

- 10 million hours without a lost time injury
- Significant reduction in buildings footprint and volume resulted in \$100 million savings in concrete
- 17.3% overall reduction in Capex through More 4 Less approach
- Modular design approach maximised opportunities for pre-assembly – reducing construction costs and timeline to first production





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You must intervene

On a large and diverse site, empowering people to step in and correct unsafe acts and/or to report unsafe conditions is a challenge. Amec Foster Wheeler's Harm Elimination and Recognition Training (HEART) and FIRST Step safety leadership skills programme which focus on developing intervention skills and improving safety through personal action, are core to meeting that challenge.

The project rolled out FIRST Step training to management and senior supervisory levels to provide insight on the barriers that prevent people from taking action and offer intervention skills development. That training was then cascaded to the workforce through front-line supervisor training and workforce coaching programme specifically tailored to the needs of our contractors. Elements of the training were also embedded in our general site orientation and within the annual Fresh Stand and Clean Finish refresher sessions.

To reinforce intervention requirements we introduced recognition programmes directly tied to acts of intervention such as 'Ticket to Safety' and Project Director's HSSE awards, which were promoted through site-wide awareness initiatives.

Our overall safety message and challenge for all the workers was 'thousands of pairs of eyes available each day to make us better by observing, intervening and reporting'.

Project sustainability framework

Human & Labour Rights	Environment	Anti-bribery & Corruption	Community
Diversity & Inclusion	Environmental Management	Code of Business Conduct and Ethics	Stakeholder Engagement
Human Rights	Carbon Management	Anti-bribery & Corruption	Local Content
Health & Safety	Efficiency and Innovation	Supply Chain	Community
Resiliency			