



# Plans in Place to Move Potash to Market

Port Moody open house

There are significant hurdles to overcome when planning a transportation system for the first greenfield potash mine in Saskatchewan in almost 40 years. For example, there are no facilities in place at the West Coast to receive and handle the millions of tonnes of potash the Legacy mine will be producing in future years. In addition, the mine site is located about 40 km from a rail network capable of transporting product to port.

Today, the transportation plan is coming together and all elements are scheduled to be in place when the mine begins production in the latter part of 2016. And while starting from scratch took a great deal of work and planning, it did bring benefits. One of them relates to the new 30 km Belle Plaine Spur line that Canadian Pacific (CP) is constructing to link the Legacy mine to its rail network near Belle Plaine.

“With a unit train loop track and high speed loading capabilities, the Legacy Project will have the most modern rail infrastructure of all the Saskatchewan potash mines,” says John Brooks, Vice President Marketing & Sales Bulk for Canadian Pacific. “CP’s expertise in the efficient movement of bulk products and our ability to offer the shortest route from the mine to K+S’s domestic and export markets make us a natural transportation partner.”

Eric Cline, Vice President Corporate Social Activity for K+S Potash Canada (KSPC), says the new Belle Plaine Spur represents a substantial investment by CP and brings a note of optimism to a rural Saskatchewan where rail line abandonment and other reduced services are often the norm.

**“The spur line is a symbol of the vibrant economic activity that’s happening in the Bethune region,” says Cline.**

In addition to the new spur line, KSPC and CP entered into a logistics agreement in 2013 that gives the railroad an exclusive, long-term, volume-based contract for carrying Legacy’s potash products to a western Canadian port—which has since been determined to be Port Moody, B.C. The trains that will haul Legacy potash through the Rocky Mountains and on to Port Moody two times each week will be impressive in length.

“The freight trains will consist of a mind-boggling 177 cars pulled across the Rockies by five locomotives, adding up to a total length of about 2.6 kilometres,” says Steffen Brill, Senior Manager, Logistics and Supply

Chain Management for KSPC. “Each trip of about 1,800 km will take three to four days,” adds Brill.

He says the trains will be unloaded automatically into a warehouse or directly onto a ship. According to an agreement signed last year between KSPC and Pacific Coast Terminals Co. Ltd. (PCT), the parties will construct a new railcar unloading station, new covered conveyor systems, systems to control dust emissions and a new warehouse. PCT will handle operations. Brill, who’s stationed in Vancouver, says KSPC will have access to some of PCT’s existing equipment, including a ship loader. Depending on terms of sale, KSPC will also be involved in shipping potash, he says. However, the company has not yet entered into any agreements with shipping companies.

At 160,000 tonnes capacity, the new Port Moody warehouse will be about three football fields in length and provide storage space equivalent to nine trainloads of potash. Commissioning and mechanical completion of the new facilities are scheduled for fall 2016.

PCT organized an open house in Port Moody in September to publicize details of the new project, which is expected to generate about 300 construction jobs and 60 permanent jobs in the west coast community.

## Huge Vessels Lumbering to Legacy Site

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As impressive as these giant vessels are, KSPC also understands transporting them to site has an impact on local roadways and the people who use them.

“We appreciate the public’s patience during this extremely busy construction period,” says Sam Farris, Vice President and General Manager of Operations for KSPC.

KSPC has signed a number of gravel road upgrading, maintenance, closure and compensation agreements with the Rural Municipality of Dufferin, according to information from Gene Cochrane, Construction Superintendent for KSPC. The RM will maintain all upgraded roads except the former Township Road 200—the main entrance road leading from Highway 11 to the mine site. KSPC maintains this 20 km route during the project period and uses it for all heavy hauls.

In addition to the agreements, Cochrane notifies RM officials when large loads will be arriving so they can warn residents of potential traffic disruptions.

“The Legacy Project does everything it can to avoid heavy haul deliveries coming at peak traffic times,” says Cochrane.



## K+S Potash Canada

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## Huge Vessels Lumbering to Legacy Site

Fans of futuristic movies might say they look like twin propulsion units from a colossal spacecraft. But the two enormous vessels that were lumbering along Saskatchewan highways on flatbed trucks in November are actually evaporators that will be used to process potash at the K+S Potash Canada (KSPC) solution mine near Bethune. They may be the largest items ever transported on Saskatchewan highways, and there is more big equipment to come.

The two units, which are supplied by Veolia Water and were assembled in the Babcock & Wilcox (B&W) plant in Melville, SK, are 30 metres (100 feet) long, 10.5 metres (35 feet) wide, 11 metres (36 feet) high and weigh an astounding 209,000 kg (460,000 pounds) each. “Due to their girth, SaskPower provided an escort to ensure their safe navigation under and near power lines,” says Olaf Goitzsch, Logistics Manager for KSPC. He says four more evaporators are on the way.

“We ordered six evaporators of this size. Two are delivered, and the rest will come in sections to be assembled on site,” says Goitzsch.

The evaporators were “modularized” at the Melville plant from components manufactured in the U.S., according to information from B&W. About 80 Melville employees worked full time for 18 months on the project. B&W says extensive preparations for the move started two years ago and involved assistance from Saskatchewan ministries of the Economy and Highways and Infrastructure, as well as other agencies. Crews delivering the components left the plant in Melville on November 17, 2014 travelling west on Highway 15 to Raymore, where they spent the night. On November 18, they continued on to Highway 2 and then headed south to Highway 11. They entered the mine site via the heavy haul Legacy road.

The evaporators are not the only large pieces of equipment KSPC is trucking into the Legacy mine site — three large dryer drums from a different manufacturer are already on site, and two vessels called crystallizers were delivered on November 22, 2014 and January 8, 2015. “All these very large loads require time-, weight- and route-specific permits and accommodations that take months to finalize,” says Goitzsch.

“The evaporators and dryer drums, along with the crystallizers, will form the heart of the plant at KSPC’s potash solution mining operation,” says Karl Krenn, Area Manager, Evaporation, Clarification and Crystallization at KSPC.

“We get the liquid out of the earth and we evaporate and do the crystallization. That’s the first time we have the product in our hands,” says Krenn, “the rest is fine-tuning.”

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Senior officials of CP Rail visit Legacy site.



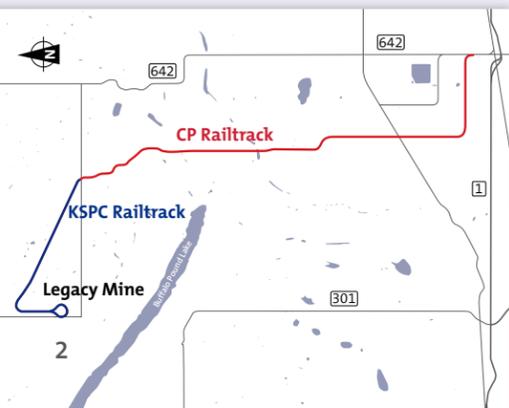
## Canadian Pacific Officials Visit Legacy Site

Canadian Pacific (CP) officials visited the Legacy mine site on October 28, 2014 to get a first-hand view of a project that will make K+S Potash Canada (KSPC) an important customer for many years to come.

A long-term agreement signed in the summer of 2013 will see CP serve as exclusive rail carrier of KSPC potash bound for international markets through Port Moody on the west coast of British Columbia and into the United States via efficient route options. CP will construct a 30 km Belle Plaine Spur line linking the Legacy site to existing CP trackage near Belle Plaine.

KSPC will construct a 14 km line that links the Belle Plaine Spur to a loop at the potash mine's shipping facilities and will build about 6 km of storage track adjacent to its line.

"Both parties are engaged in detailed engineering work for the track," says Jan Grommas, Legacy Program Coordinator at KSPC. "The first construction activities will begin next summer, and everything is expected to be operational by the second half of 2016, close to the start-up time for our potash operation."



## Wanted: Tradespeople and Operators for the Opportunity of a Lifetime

K+S Potash Canada (KSPC) is ramping up hiring at the Legacy site, a move that could mean dream jobs for many.

"It's an opportunity to be part of a legacy," says Maryann Deutscher, Manager, Employee Services at KSPC. "We have a lot of recruitment ahead of us and we're interested in talking to people who would like to work for us."

KSPC's Legacy Project is the first greenfield potash mine in Saskatchewan in almost 40 years. The company, one of Saskatchewan's Top Employers, plans to fill more than 140 new positions in 2015. Trades opportunities will include industrial mechanics, instrumentation mechanics, electricians, pipefitters, welders and power engineers. A large majority of the production positions will be of interest to those with a Grade 12 education and previous industrial experience, looking to join KSPC as process operators.

**"Our online application process is just a few clicks, and then you'll have your resume and cover letter in front of a recruiter," says Deutscher.**

KSPC offers competitive pay, great benefits, employee recognition and training and development. It also offers job seekers an opportunity to live and work close to home – employees living in Moose Jaw and Regina have the opportunity to take a chartered bus daily to and from the mine site. Deutscher says a close-to-home job in the resource sector is a big plus for people who wish to remain near friends and family.

Deutscher says a job at KSPC also gives people a chance to be part of a large, new potash operation that will grow in prominence as time goes by.

What is it like to work at KSPC? Deutscher says a good way to find out is to ask someone who works for the company.

"You can see them around hockey arenas, soccer facilities and in shopping malls – just look for the K+S jackets, ball caps, etc. People enjoy talking about what it's like to work here."

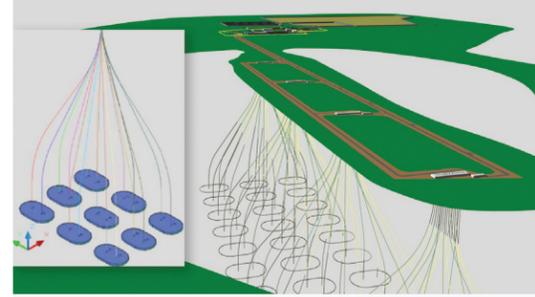
## Opportunities with K+S and Contractors

Interested individuals may apply for posted jobs and keep an eye out for new ones on KSPC's career page at [ks-potashcanada.com/#opportunities](http://ks-potashcanada.com/#opportunities)

Additional information on jobs, job fairs, information sessions and company culture are available by following links to KSPC's Facebook, Twitter and LinkedIn accounts.



1 Pad = 9 Caverns = 18 Wells



Aerial View of Legacy site

## Mine Caverns Under Development at Legacy Site

More than 30 cranes reach into the prairie sky above the Legacy mine site as people in hardhats below erect steel structures for a project that will employ almost five times the amount of steel used to build the Eiffel Tower. A few kilometres east of these structures, some of the largest and most important developments in the K+S Potash Canada Legacy Project are occurring, according to Kevin Brown, Project Director for Amec Foster Wheeler.

There, six well pads spaced a couple of kilometres from each other sit above a rich potash ore body. When the Legacy mine goes into production in the latter half of 2016, each well pad will house the control centre for nine caverns situated 1,500 m (one mile) below it, where the solution mining will occur. Two of these well pads have been commissioned and their 18 caverns will soon be enlarged to production size. "That's the key milestone for us right now," says Brown. "Over the next two years, we will develop all the solution-mining caverns required to reach commercial production."

Sam Farris, Vice President and General Manager of Operations for K+S Potash Canada (KSPC), says the caverns are formed using directional drilling and water injection. He says the process is more like an oilfield operation than conventional potash mining; where people work underground extracting ore and hauling it up to the surface for processing. The caverns will be enormous when completed, "each one of them will be bigger than an entire football stadium," Farris says.

"At a cost of \$4.1 billion, the Legacy Project is the largest capital enterprise occurring in the Canadian mining industry," says Brown; adding, "work is proceeding on time and on budget." Brown says the construction workforce numbers will begin to ramp up this spring and peak at about 2,250 people later in the year.

"The steel erection program launched in October is the primary 'above ground' construction effort this winter," Brown says.

In addition to 35,000 tons of steel required to build the mine, workers will pour 75,000 cubic metres of foundation concrete – over 100,000 cubic metres including piling, backfilling and other applications – before the project is finished. "The project has its own concrete batch plant right on site," he says.

Much of the steel and foundation work is taking place at the processing, production and storage facilities where potash contained in solution extracted from the caverns will go through an evaporation and crystallization process before being dried, sized and shipped to customers. A "tank farm" used to exchange fluids in the mining process is being constructed earlier than other parts of the final processing plant because it's needed to manage the water and brine used in cavern development. Elsewhere, construction is well underway on 100,000 and 40,000 tonne product storage facilities. Brown says preparation work has begun for the rail tracks required to move product from the mine site to Canadian Pacific's rail network and off to market. Track construction is scheduled to get underway later this year.

The construction site also hosts giant vessels needed for processing potash in an operation of this magnitude. Some stand or lie awaiting placement, while others are in the process of being fabricated on site because the finished product is too big to be transported here by truck. One colossal evaporator – the largest of all these vessels – stands like an abbreviated NASA rocket beside segments of another awaiting fabrication. "We've got a massive influx of equipment happening right now," says Brown. "A lot of what has been purchased has been manufactured off site and is arriving now on a daily basis."

"Large pieces of equipment are set in place during steel erection," he says; adding, "it's the only way to get certain equipment into the building." The giant vessels seemingly biding their time around the construction site will soon be shunted to their workstations.

## Transload Facility Enables Rail Delivery

A transload facility under construction at the Last Mountain Railway (LMR) line south of Bethune will give the Legacy Project access to rail delivery by way of the heavy-haul Legacy road. "The idea for the facility grew out of a challenge K+S Potash Canada (KSPC) faced when we began planning construction of a 14 km rail line at the mine site," says Eric Cline, Vice President Corporate Social Activity for KSPC.

"We had to figure out how we were going to get the big volumes of ballast, ties and rails we needed when we didn't have a railway to bring it in," says Cline. "The transload gives us a place to unload all this material from the train and haul it the rest of the way by truck." The 30 acre facility currently under construction will not require a railroad siding as use of LMR is limited. The railway runs 136 km between Regina and Davidson, a section of the line between Regina and Saskatoon that LMR acquired from Canadian National Railway (CN).

KSPC will use the transload for the remainder of the Legacy Project construction period and intends to employ it over the long-term as a means of delivering heavy goods to the mine. Cline says KSPC would like to share the amenity as a permanent new infrastructure item for the area.

"We hope the transload facility will come in handy for the local community. We'd like to say to people, 'if this is helpful, you're welcome to use it.'"

"With the transload in place, LMR can be used to deliver goods transported by Canadian Pacific to Regina or through the CN line that runs from Saskatoon to Davidson," says Cline.

In any event, the new facility will allow KSPC to channel traffic carrying rail construction materials off area roads such as Highway 11 and onto the railroad, from which it's a short haul to the construction site.

"It will decrease truck traffic and increase public safety," says Cline.

If you have questions or concerns about the Legacy Project, please call the K+S Community Hotline at:

1-855-385-8686 ext. 2999