

## Kingsbury Castings Kingsbury, Indiana

Kingsbury Castings in Kingsbury, Indiana, is a division of Accurate Castings that produces ductile iron castings. The corporation has been producing quality castings in gray, ductile, and high alloy irons, brass, bronze, and aluminum since 1946.

The Kingsbury Castings facility sells approximately 2,000 to 5,000 tons of spent shell foundry sand per year for use in manufactured potting soil. A nearby potting soil facility blends local peat moss and the foundry sand that comes from the Kingsbury facility, which is classified as an Indiana Type IV foundry sand. During the process, the foundry sand is screened to remove metallic pieces and break up chunks of sand. The final product is bagged and sold to home improvement stores.

This beneficial reuse project has been undertaken by Kingsbury Castings because it costs less to reuse the sand than to dispose of the sand in a landfill. Costs come in the form of ongoing hauling costs to the potting soil plant and a sand characterization expense that occurs every five years. The cost of hauling the sand to the potting soil plant is less than \$2 per ton, with the potting soil facility reimbursing part of that amount to help offset the transportation costs. The cost to characterize the waste streams as Type IV (Indiana) is between \$5,000 and \$10,000 every five years (length of the permit). If Kingsbury landfilled the sand at their facility, they would have to absorb the cost of mounding and covering the sand with topsoil and seeding.

Advantages of the project cited by Kingsbury include not having to landfill the sand at their landfill and saving money. The potting soil facility also benefits because it is less expensive to blend the sand into a mixture than to use 100% peat moss.



### Important Notes

Kingsbury Castings noted that screening the sand is very important to maintaining good quality. One limiting factor for the project is the fact that the potting soil facility cannot accept sand every day of the year. Following rainstorms, the dirt access roads become too saturated to drive on. In these instances, the sand must be landfilled because it is cost prohibitive to dump the sand somewhere temporarily and scoop it back up into a dump truck again for a second hauling. Finally, the spent shell foundry sand is gray in color, but the potting soil facility initially indicated that they would prefer black sand. When the sand is mixed with the peat moss, however, the color has not been found to be a significant issue.





## Case Study: Kingsbury Castings: Foundry Sand as a Manufactured Potting Soil

<b>Personnel</b>	<b>Foundry:</b> Kingsbury Castings (Division of Accurate Castings) <b>Engineers:</b> Kingsbury Castings
<b>Site</b>	<b>Location:</b> Kingsbury, Indiana <b>Site Description:</b> A nearby potting soil facility blends local peat moss and Indiana Type IV foundry sand from the Kingsbury facility to produce manufactured potting soil. The final product is bagged and sold to home improvement stores.
<b>Materials Utilized</b>	Approximately 2,000 to 5,000 tons per year of spent shell foundry sand.
<b>Project Costs and Benefits</b>	<b>Costs Include:</b> <ul style="list-style-type: none"><li>• Between \$5,000 and \$10,000 to characterize waste stream as Type IV (Indiana)</li><li>• Transportation to the potting soil plant of less than \$2 per ton</li></ul> <b>Benefits Include:</b> <ul style="list-style-type: none"><li>• Diversion of 2,000 to 5,000 tons of sand per year from the Kingsbury landfill</li><li>• The potting soil plant reimburses Kingsbury Castings for part of the transportation costs</li><li>• The potting soil facility can blend in some sand instead of 100% pure peat moss in their potting soil mix</li></ul>