

# Yard Waste Composting & Gravel Pit Reclamation

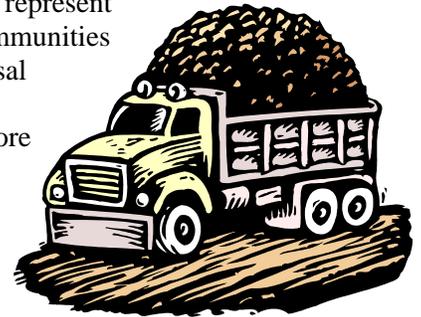
## "A Natural Fit"

### Introduction

It's one of those rare opportunities to score a win for local government, the environment, and the taxpayer all at the same time. By establishing a centralized composting site for yard wastes, Waukesha County has addressed a need expressed by many local communities. At the same time, the project is producing a topsoil substitute badly needed to restore a county-owned gravel pit on the same site. It's a natural fit. By going beyond the minimum reclamation laws and using innovative erosion control techniques, the county is setting a good example for the mining and construction industries. Processing yard wastes for a dozen communities also shows how local governments can effectively work together. Taken all together, it demonstrates some creative problem solving while saving money for the taxpayer.

### Background on the Project

- Yard wastes have been banned from Wisconsin landfills since 1993, but still represent 15% of the county residential waste stream by weight. About half of the communities in the county still provide a drop-off site and/or collection service, but disposal options are a constant challenge. With each community on their own, and handling costs rising, many local leaders asked the county to coordinate a more cost-effective solution.
- Starting in 2001, state law requires all owners of active gravel pits and other nonmetallic mines to implement reclamation plans to control soil erosion and runoff from the site and to plan for a future use of the property. Counties are required to lead local regulatory efforts. Since Waukesha County is also an owner of a gravel pit, the county too needed to comply with the law – or better. However, to reclaim the entire county gravel pit would have required purchasing about 30,000 cubic yards of topsoil (\$450,000) for reclamation purposes, making it cost prohibitive.
- An estimated 1.5 million cubic yards of sand and gravel resources were still available for extraction from the county gravel pit. Each year these types of mineral resources are becoming more limited while demand from a fast-growing county increases. Since the sand and gravel is easily accessible at the county pit, several private companies had expressed an interest in mining the site.



### What was Done?

To address all three of the above issues, the county issued a request for proposals in 2002 to the private sector that would require a 10-year contract to:

- 1) Manage a yard waste composting operation in a county-owned agricultural field adjacent to the county gravel pit;
- 2) Mine the gravel pit in accordance with approved site grading plans and permits; and
- 3) Reclaim the entire property after each phase of mining, using the compost as a topsoil substitute to complete the reclamation plan.

The competitive process resulted in the county executing a 10-year contract with Johnson Sand and Gravel, Inc. (JSG) from New Berlin to oversee the project. The contract contains many details on operating restrictions, applicable permits and regulations, and requirements for insurance and bonding. While the project allows the county to demonstrate innovative reclamation techniques, it also presented some significant technical challenges. A summary of some of the challenges and basic contract components is provided below.

### Overview of the Site and Associated Challenges:

The county-owned 102-acre parcel is located in the northwest corner of the Town of Genesee, near the center of the county at W339S1742 CTH C. The gravel pit is on the north end of the property and the south end was converted from farmland to host the composting operation, including a new entrance, haul road, scale house and landscape berms (see map). All site improvements were completed and paid for by Johnson Sand & Gravel in accordance with their contract with the county. Under the approved post-mining land use plan, an industrial park on the north end of the property would be extended south through the county property. A 1-acre county-owned closed landfill is located on top of a 40-foot high hill on the north end, directly in line with the proposed road extension. This landfill severely reduced the property's value by preventing well installations on the entire north half of the property and limiting grading needed in the area to install the proposed road. Therefore, the county obtained a permit from DNR to remove the landfill and mine the surrounding materials. Plans were also prepared and permits issued for storm water management, erosion control and mine reclamation. A conditional use permit and plan of operations were required under general zoning, which ended up specifying 87 conditions for the project, addressing issues such as: security, traffic, dust, noise, safety, groundwater, odors, aesthetics, landscaping, hours of operation, site maintenance, etc. The county negotiated a three-way agreement with JSG and an adjoining mining operation to: 1) coordinate grading plans along shared property boundaries; 2) specify future maintenance obligations for shared storm water basins; 3) share water resources for a proposed aggregate wash operation; and 4) install monitoring wells to track the impacts on groundwater in the area. This agreement was recorded on both property deeds, satisfying several permit conditions.

### Composting Basics:

S & R Composting is the subcontractor for yard waste composting services. Only municipalities are allowed to deliver yard wastes, not individual residents. S & R is allowed to grind larger wood wastes and sell it for landscape mulch. Otherwise, all other material is ground up and composted on site, to be used as a topsoil substitute for land reclamation after each phase of mining is completed. No compost is allowed to leave the site. Since opening in October 2004 through 2012, twenty municipalities have trucked almost 59,000 tons of yard wastes to the site. Once delivered, the yard waste is ground up, placed in 8-foot high windrows and turned periodically with special equipment to encourage decomposition and control odors. This process results in a finished compost product within 12 months. A grass filter strip and storm water basins treat and infiltrate all the runoff from the site, with no off-site discharge allowed. Water from the storm water ponds and future wash operation can be applied to the compost piles if needed during extended dry periods.

### Mining/Reclamation Basics:

Johnson Sand & Gravel is completing all mining and reclamation activities, which must be done in designated phases over the contract period. JSG must follow approved plans and permits, based on the post-mining land use plan (industrial park). They must also use all the final compost material as a topsoil substitute while implementing the reclamation plan. The entire property will be reclaimed, including 40 acres that is exempt because it was mined prior to the enactment of the state reclamation law. Test plots and field tours have been hosted on the site to demonstrate the methods for other communities.



### Project Funding and Summary:

No county tax levy funds support any component of the project. The county has utilized state Recycling Efficiency Incentive grants to pay for all composting operation costs, resulting in a significant savings for the participating communities. The county also receives annual royalties from JSG for the exclusive rights to mine the site until reclamation is completed. (Note: Due to the economic recession starting in 2008, the JSG mining contract was extended.) These funds help support county land conservation programs, saving county tax dollars.

**In summary, this public-private partnership produces a resource from a waste product; provides a requested community service; utilizes limited mineral resources; improves property values; demonstrates intergovernmental cooperation; implements sound land use planning, and saves tax dollars - all at the same time.**