

Shelby County crushes old concrete into aggregate

SHELBY COUNTY has recycled 6,500 tons of old concrete into aggregate, reducing its need for new limestone aggregate.

The process

The county hired a portable concrete crushing plant to crush accumulated road slabs, curbs, culvert pipe, sidewalks, and other miscellaneous concrete.

Concrete crushing plants vary in function, size, etc. The plant used by Shelby County had a 24 x 30-inch bin, which was filled by a loader; an excavator was used to break up large pieces before loading. During processing, the plant separated dirt from the concrete.

Many crushers can create different grades, or sizes, of aggregate. Large pieces can be recycled as stabilizing agent; smaller pieces can be used as road aggregate.

Shelby County has used crushed concrete as roadbed base aggregate. Dan Ahart, Shelby County engineer, says that the durability of the recycled concrete base is comparable to limestone and that he and his engineers are satisfied with its performance.

Lessons learned

Ahart says that he and his staff learned several lessons about crushing concrete into usable material:

1. Monitor input of the concrete into the crusher. Dirt and debris can clog the machine. The crushing company may even refuse to process concrete containing too much dirt and debris.
2. Remove concrete that may contain metal. Some culvert pipe, for example, has a metal mesh that helps it hold its shape. If used as aggregate, the exposed metal may puncture vehicle tires.
3. Select a crusher that fits your needs. Criteria may include bin size, gradation capability, and mobility.

Cost

At \$5.50 to \$6.50 a ton, recycled concrete can save more than two dollars per ton compared to new limestone. Limestone costs about \$7.50 per ton, plus transportation costs of 12–14 cents per mile.

For more information

Contact Dan Ahart, Shelby County engineer, 712-755-5954, dahart@shco.org.

Durability of the recycled concrete base is comparable to limestone.

Building accessible sidewalks

HAVE YOU EVER WALKED a mile in someone else's shoes? Or ridden in someone else's wheelchair?

City planners and engineers can design more accessible sidewalks after seeing the hazards of unsafe and inaccessible sidewalks through the eyes of a disabled pedestrian.

Now this is possible through a video created by the Access Board, a federal agency developing and enforcing accessibility guidelines—such as Section 508. The video, *Accessible Sidewalks: Design Issues for Pedestrians with Disabilities*, shows how people with disabilities experience different sidewalk and pedestrian crossing designs.

The 40-minute video is divided into four sections focusing on issues for pedestrians with different accessibility requirements, as follows:

- pedestrians who use wheelchairs
- pedestrians with ambulatory impairments
- pedestrians with low vision
- pedestrians who are blind

Each section explores the specific needs of that group. For example, the section dealing with accessibility for blind pedestrians discusses the importance of auditory crossing signals, while the section for those who use wheelchairs shows the importance of wide sidewalks and gradual slopes from the street to the sidewalk.

To check out the video, contact Jim Hogan, library coordinator, 515-294-9481, hoganj@iastate.edu. For more information about accessibility requirements, visit www.access-board.gov.