Reclamation at Aggregate Mining Sites

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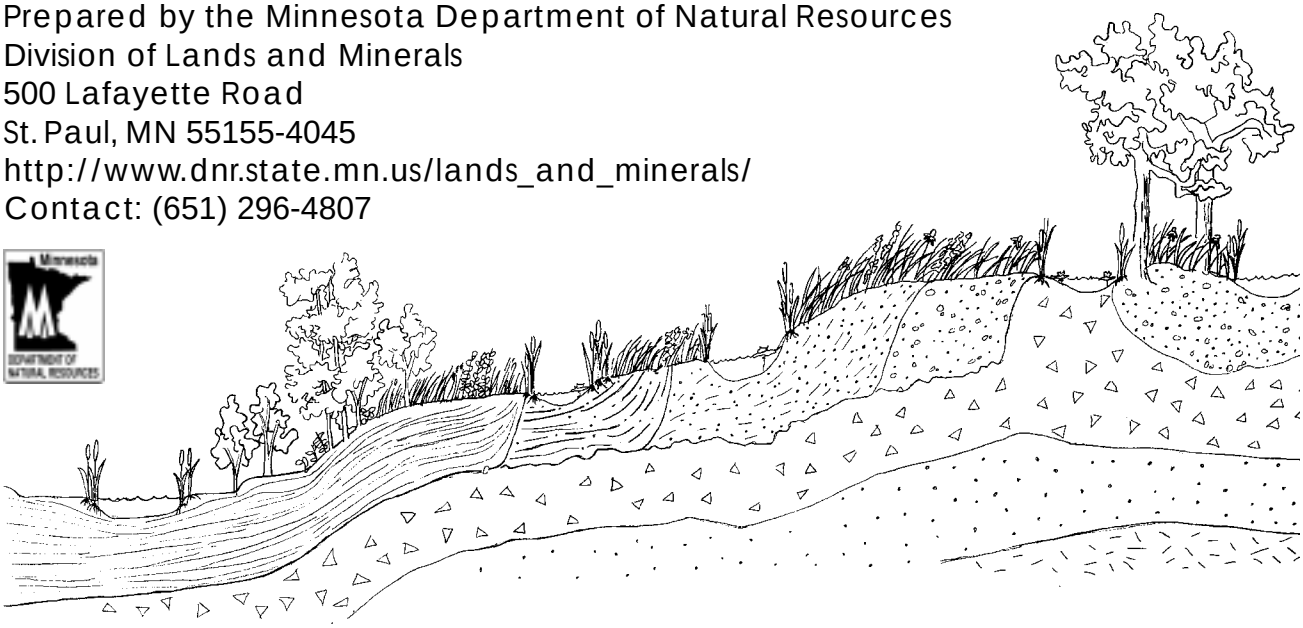

WHAT IS RECLAMATION?

Reclamation, at its most basic level, is a process that results in a safe and non-polluting mining site that will retain some land value. For example, gravel operations may be graded after closure to remove hazardous steep slopes. Revegetation, erosion control, and site cleanup are included in basic reclamation operations.

Sometimes reclamation is employed to prepare a site for a subsequent use ("end use") after mining operations are completed. For example, if the planned end use of a site is for green space, landscaping may be used to restore the site to a state that is aesthetically pleasing, or if the site will be used for residential development, areas may be left unfilled to prepare for installation of water and sewer connections.

A mining plan, when required, would normally include a description of post-mining management necessary to support the end use. It would also identify the party responsible for conducting it.

IS RECLAMATION OF AGGREGATE MINING SITES REQUIRED?

Currently, there is no state or federal mining permit in Minnesota that requires aggregate mining operations to be reclaimed. Reclamation at active aggregate mining sites is most often addressed in a local permit or through leasing agreements between landowners and mining companies. The most extensive review of aggregate mining operations takes place at the local unit of government –county, township or municipality. In Minnesota, there are 87 counties, 1,792 townships and 853 cities. Each of these entities has the authority to regulate aggregate mining through zoning ordinances and land use planning. Operating concerns such as view, noise, dust, hours of operation, traffic, and final reclamation are frequently addressed in local permits. There are differ-

ences in the ways in which local governments regulate aggregate mining and final reclamation. The standards for reclamation vary by county, township, and city.

RECLAMATION IS A PUBLIC CONCERN

Aggregate mining is the most common form of mining in Minnesota. Because aggregate is relatively inexpensive to mine but expensive to transport, most operations are located close to where the resource will be used. As a result, aggregate sites are found in every county and are highly visible along roadways. There are an estimated 4,000 gravel pits and 1,500 rock quarries in Minnesota.

Whether in populated areas or in rural settings across the state, aggregate mining is often regarded as an unwelcome neighbor. Conflicts between aggregate mining and other land uses are escalating. At the same time, the need for aggregate materials for construction projects and infrastructure is increasing commensurate with the strong economy and burgeoning population in Minnesota. Reclamation is a key concern voiced by the public.

RECLAMATION AT ACTIVE MINING OPERATIONS

Methods used to reclaim active operations can differ greatly from those used to reclaim abandoned sites. Although the precise numbers change yearly, an estimated 1,500 of the 4,000 gravel pits and about 150 of the 1,500 quarries are active operations where public concerns are usually addressed through a local permit. For active operations, final reclamation is most often considered in a local permit or through leasing agreements between landowners and mining companies.

RECLAMATION AT ABANDONED OR INACTIVE MINING OPERATIONS

Prior to the 1980s, reclamation of aggregate mining sites was not a routine practice. Today, there are an estimated 2,500 gravel pits and 1,350 rock quarries in Minnesota that are either permanently abandoned or intermittently active and often fall outside the regulatory authority of the counties. Problems associated with these sites may include: 1) safety concerns such as steep pit walls and deep water, 2) colonization by noxious weeds and other unwanted vegetation, and 3) unauthorized activities such as illegal dumping, target shooting, off-road vehicle use, and parties. There are increased problems at unreclaimed sites.

Abandoned sites are difficult to reclaim. When reclaimed, the results can be disappointing compared to reclamation done at the time of mine closure as part of a mining plan. There may be no responsible party and/or no money to do reclamation on abandoned sites. Costs to reclaim these sites may be higher because unwanted vegetation must be cleared and landforms reconstructed. Topsoil is needed for revegetation, and often the topsoil has been removed from unreclaimed sites.

AGGREGATE MATERIAL TAX

In Minnesota, a possible funding source for reclaiming abandoned pits on public land is the Aggregate Material Tax (Minn. Stat 298.75) which is a production tax on the removal of aggregate material. At present, 23 of the 87 counties in Minnesota have authority to collect the tax. In

1998, three townships in St. Louis County were authorized to collect the tax. In 1999, a total of $2,885,716 was collected by those counties and townships. The tax imposed on operators is ten cents per cubic yard. According to the statute, 90 percent of the tax is distributed to county or township road funds and the remaining 10 percent is allocated to individual county reserve funds for restoring abandoned pits or quarries on public land in those counties that collect the tax.

The reserve funds have not been frequently used for reclamation in part because few proposals have been identified. There is relatively little experience in the public or private sector in reclaiming aggregate sites that have been abandoned for a long period of time.

To add to the existing expertise and experience in the state, the DNR Division of Lands and Minerals initiated and managed several reclamation projects involving abandoned aggregate sites on public lands in northwestern Minnesota using partnerships and revenue generated by the aggregate material tax. This work is an effort to develop cost effective methods for reclaiming active and abandoned aggregate sites using conventional and native plant materials.