

MAP CODE
BERM

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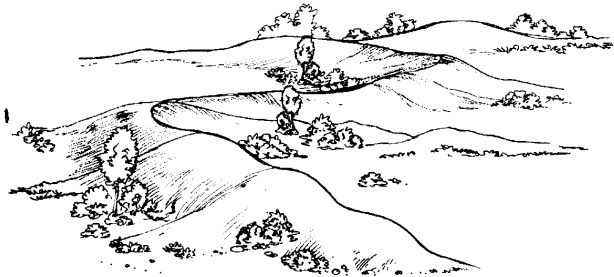
USE
Dust
Noise
Landscape

What

➤ An elongated, raised barrier constructed of overburden, topsoil or aggregate by-product, commonly seeded with grass and topped with shrubs, trees and/or a fence.

Purpose

- To intercept noise, dust and the views of an operation.
- For site security by deterring trespass.
- A storage option for overburden, waste rock or by-products and, at times, product.
- When well designed, constructed and vegetated, berms can help the operation to blend in with the landscape and the local community.



Where

YES: Adjacent to noise, dust or visual impact sources; adjacent to areas sensitive to impacts (e.g., wetlands, schools, residential areas); around the perimeter of the property; most commonly located anywhere between operations and residential areas or public roads.

Materials, Equipment & Costs

- Overburden, pit run, waste rock, aggregate by-products, sand or gravel, trees, shrubs, grass seed and fencing materials. Constructing a berm out of top soil may restrict the topsoil's availability for reclamation work.
- ✂ Haul truck, bulldozer, front-end loader and labour to plant vegetation and build fences.
- \$ Medium.

Plans & Specs

- The slope, size, shape, grade and vegetation of the berm should blend into the local landscape and be similar to what is naturally found. Poorly planned and constructed berms may actually be an eyesore.
- Berm height to width ratios range from 1:5 to 1:10; tops are usually at least 2.0 metres above adjacent surfaces.
- Choose fertile, non-droughty soil materials to minimize the need for watering and ensure successful revegetation.
- A landscape architect or designer can be enlisted to help ensure the berms achieve their design goals, and can assist with the landscape planning.

- Examples of well-designed berms can often be found on golf courses.
- To achieve a more natural appearance, vary the height of the berms, widen them out or otherwise change their shape, and give them gentle curves.
- Round off the crest to facilitate planting.
- Blend the base into existing grades.
- Use landscaping to further blur the berm-grade line. For example, a lawn that exactly follows the toe of the slope is a dead giveaway. Instead, allow the lawn to cross the line in natural "mowable" curves.
- Retaining walls of concrete blocks can form the back of berms in tight spaces.
- Establish ground cover quickly, using sod if appropriate. Use geotextiles, straw matting, shrubs and trees to further reduce the erosion potential of the berm. Refer to Erosion Control Blanket BMP.

Vegetation & Planting

- For noise and dust control and visual screening, plant a mix of fast-growing shrubs and deciduous trees with slower-growing evergreens. Weeping willow trees or various native willow shrubs add diversity.
- Before planting, consider the expected life span of the berm (5 year, 20 year, "permanent") and take into account the final land use and the role of the berm after the completion of the mine.
- For a more natural look, plant trees or shrubs in a staggered pattern off the crest of the berm, and plant in groupings rather than in rows.
- Berms usually drain well and dry out quickly, so select plants that are relatively drought tolerant or fit the mound with a drip irrigation or sprinkler system. Sprinklers also have the advantage of dust suppression abilities.
- For detailed information, refer to the Land Reserve Commission's (LRC) publication "[Landscape Buffer Specifications](#)," available at <http://www.landcommission.gov.bc.ca> under "Publications/ALR Topics". This document was written for the agricultural industry, but also can be useful for aggregate operations.

Maintenance

- Plants, shrubs and trees require maintenance such as fertilization, thinning and pruning. In creating inconspicuous buffers, consider a natural but neat look. Both finely sculpted hedges and dead snags may be undesirable.
- A regular program of irrigation, fertilization and weed control may be required.

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