



SECURING AND LANDSCAPING

OF EMBANKMENTS

MOSCOW ORBITAL HIGHWAY



PROJECT REPORT





TITLE: Moscow Orbital Highway

EMPLOYER: City Council of Moscow

DURATION: April 1996 – September 1998

PROJECT: The 120 km long, two lane orbital highway surrounding the city of Moscow has been extended since 1996 to eight lanes. All slopes along this highway are a mixture of shingle, sand and loam. The aim was a fast recultivation of the slopes harmonizing with the existing landscape.

THE PROBLEM: Due to the climate predominant in Moscow there are frequently very heavy and sudden rainfalls after long spells of dry weather in spring and summer. These can cause severe damage to the slopes.

Without the addition of a sufficient layer of top soil the newly prepared slopes cannot be greenend down in a lasting and secure manner. Suitable top soil is not available in or around Moscow, and it is very expensive to obtain.

THE SOLUTION: To ensure stability of the cut slopes and especially the support embankments of the highway, the Moscow planning administration agreed to the proposal of the executive building company's engineers to use **GREENFIELDS** erosion control blankets type S-100-P and C-100-P for securing and greening down of the slopes.

The use of **GREENFIELDS** erosion control blankets on a layer of black peat, fertilizer and soil improver offered the most economical solution for revegetation as well as for erosion protection.

Especially exposed areas like entries and exits as well as highway junctions were to be greened down quickly for attractiveness and to prevent possible erosion damage, with some sections being very steep and up to 25 m long.



PROCEDURE: On top of the prepared slope first a **GREENFIELDS** S-100-P erosion control blanket of straw was applied, upon which a 5 cm thick layer of organic growing medium was added consisting of a mixture of Russian black peat, fertilizer, soil improver and seeds. This mixture was then firmed down. Finally a **GREENFIELDS** C-100-P erosion control blanket of coir fibre was laid over the entire area and fixed with steel pins.

The above solution ensures that the newly cut slope and the added layer of growing medium are safely protected from erosion, and within a short period of time a vegetation cover will grow that resists the winter weather conditions in Moscow. The size of 2,40 m wide by 50 m long made the handling and installation of the erosion control blankets very practical.



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