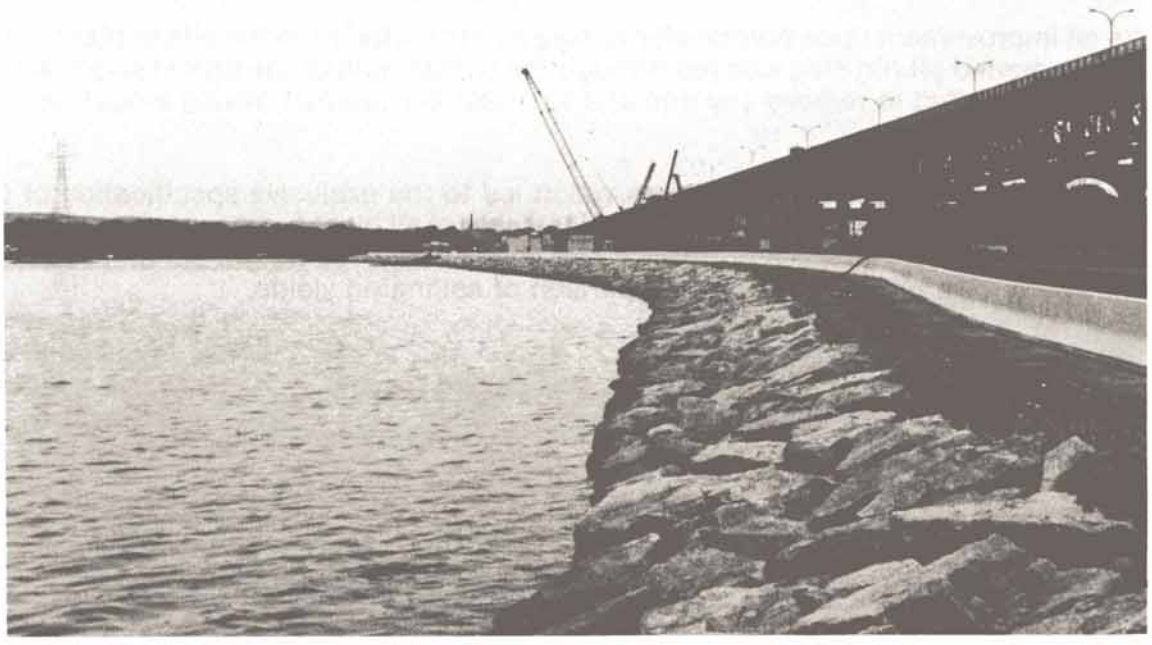
ANOTHER

SLAG SUCCESS STORY

THE ALL-PURPOSE CONSTRUCTION AGGREGATE

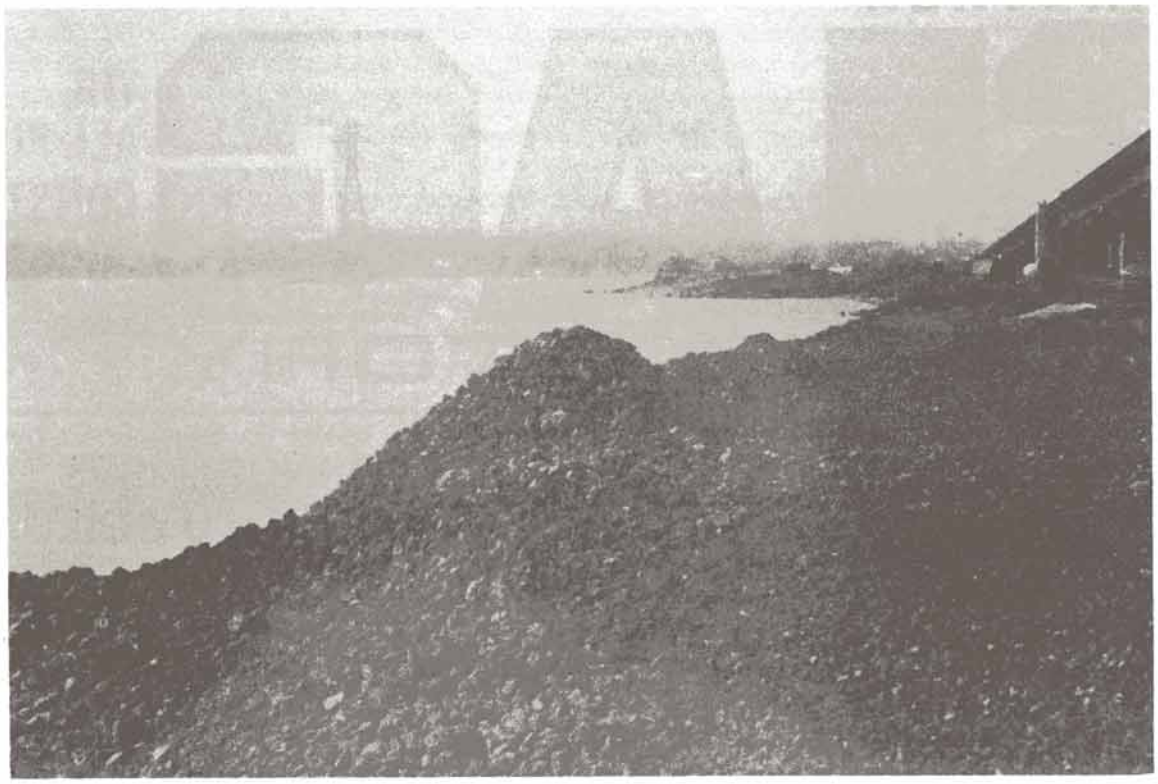
OPEN-GRADED PIT-RUN SLAG INCREASES BEARING CAPACITY OF WEAK IN-SITU SOILS

The by-pass and service roads, which are being constructed in conjunction with the "twinning" of the Skyway Bridge at the entrance to Hamilton Harbour, Ontario, are using open-graded pit-run (OGPR) blast-furnace slag as a base to overcome potential problems due to weak underlying soils.



COMPLETED ROAD PROTECTED BY RIP RAP

The Ministry of Transportation and Communications, Ontario, specified slag for this project, as past experience from other projects under similar conditions had proven that pit-run slag, when used as a sub-base, provided a superior material for distributing the applied loads to these types of sensitive subgrades. Not only is the dead load much reduced due to the low unit weight of the product itself, but the distribution of load is wider due to the degree of interlocking obtained from the rough-textured slag.



GENERAL VIEW OF BASE CONSTRUCTION

As an improvement upon normal pit-run slag as excavated from the pits at blast furnaces, the open-graded pit-run slag was fed through the primary end of the processing plant of National Slag Limited to remove any iron and to produce a product having a nominal 12" - 2" range.

Apart from the technical advantages which led to the exclusive specification of OGPR, the economics which result from the superior yields of all blast-furnace slags are further accentuated. Each ton of OGPR provides a higher yield, i.e., less weight per unit volume is required, as shown by the following comparison of estimated yields.

	Loose Density #/c.ft.	Compacted Density #/c.ft.	Tons Required to Fill 1,000 c.yd. volume (compacted)
Open-Graded Pit-Run Slag (12" - 2")	70	85	1,150 ± tons
¾" Crusher Run - Natural Aggregate	115	145	1,950 ± tons

Thus, approximately 70% more tons of material would be required if crushed dense-graded material aggregate had been used as compared with OGPR.

The first of these contracts issued by the Ministry of Transportation and Communications in the Hamilton Harbour area utilized approximately 85,000 tons of slag sub-base and was completed in the summer of 1984. A second project requiring in excess of 120,000 tons will be completed in 1985.