



BRINDISI SUD EMBANKMENTS

Italy, 1996

PROJECT CHARACTERISTICS

Works: reinforced, vegetated soil structures and local road over soft peats and across swamp

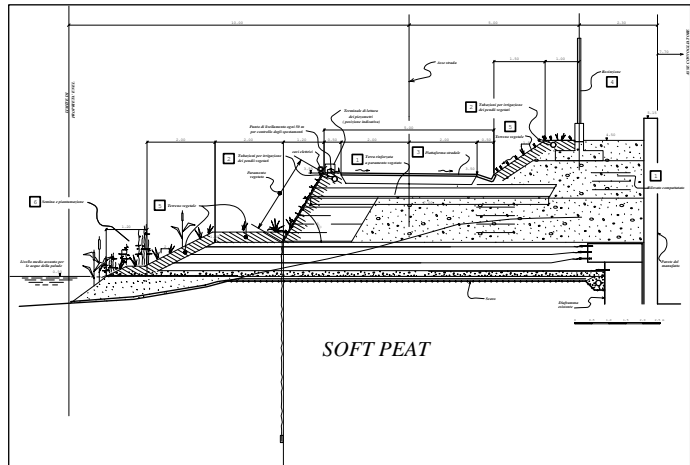
Purpose: Masking a concrete structure to eliminate unacceptable environmental impact in correspondence of 3 large swamps, part of a protected area and bird sanctuary

Dimensions:

- height: 4 m
- fill volume: 25 000 m³
- length: 600 m
- slopes up to 60° over the horizontal

Materials:

- foundation: soft peats over 12 m deep
- reinforced embankment: calcarenite fill, geotextile as separator, mono and bi-directional geogrids as reinforcement
- reinforced soil slope: non woven geotextile as reinforcement, geotextile as containment of the vegetated soil



PROFESSIONAL SERVICES PERFORMED

Conceptual design, stability computations, technical specifications, tender documents, construction drawings and construction supervision

In 1996, within the works for Brindisi South Thermal Power Plant, in Southern Italy, a 20 x 5 m concrete U-shaped structure over 8 km long was built, across wild ground and swamps to carry a feeder conveyor belt and pipelines. In order to mask the concrete, of the feeder, the construction of 3 reinforced, vegetated (green) soil structures was decided where the concrete structure crossed 3 large swamps.

The reinforced soil structure is made up of 3 elements: - a gravel toe dumped underwater so as to form a dry working platform; - a platform for loads spreading and reducing the shear stresses transmitted to the weak foundation soils. The platform is reinforced with 4 layers of high resistance mono and bi-directional geogrids; - a reinforced soil block with outer slope at 60° reinforced with 6 layers of non-woven geotextiles. Geotechnical investigations were carried out as part of the construction process and foundation pore pressure monitoring was continuous throughout construction.

