



# NON - HAZARDOUS WASTE LANDFILL IN AUGUSTA

The landfill is located within the industrial area of Augusta and receives waste generated by the Municipality of Priolo and Garallo and neighbouring towns reducing costs and improving previous waste management solutions. The design provides the construction of a landfill situated in an area of about 83.000 m<sup>2</sup>, with a disposal capacity of 660.000 m<sup>3</sup> serving about 175.000 citizens for 6 years.

Each cell will be waterproofed in order to preserve the environmental matrices equipped with a double collection system for leachate generated within the landfill, this system counts with a main upper-network for regular leachate accumulation and a secondary lower-network which serves as a backup. Leachate collection pipe network counts with separate sumps where leachate is conveyed by pumping it into two separated steel tanks, in order to allow separately temporary storage before periodical transportation to final disposal authorised plants.

The plant is completed by the landfill gas management system for the extraction, collection and upgrading of the biogas generated by the landfill during operation and post-closure periods. This system allows energy recovery by converting biogas in a bio-fuel which can be injected in the natural gas grid and eventually be used as a fuel for the transportation sector. The transformation of bio-wastes into clean energy helps societies to make progress toward becoming circular economies.

The monitoring of the environmental conditions will be done during the operation and the post-mortem phases according to the Legislative Decree D.Lgs. No. 36/2003.

## DESIGN DATA

### Private client

Joint venture for the management of the environmental hygiene service in Priolo Gargallo S.p.A.

### Tasks assigned and carried out

Final design, Environmental Impact Assessment and Integrated Environmental Authorization application

**Cost** € 8.846.356,46

**Location** Augusta (SR)

**UTM Coord. (Zone 33S)** 512,458

E - 4,121,347 N

**Site area** 83.000 m<sup>2</sup>

**Surface of the landfill basin**

45.200 m<sup>2</sup>

**Total volume** 660.000 m<sup>3</sup>

**Designing period** 2008

## TECHNICAL DATA

Operations according to Encl. B and C referring to Part IV of Law Decree No. 152/06 (D.Lgs. 152/06) and further amendments: D1, D15.

**Maximum potentiality:** 98.000 t/year

**Expected operating life:**

6 years

**Maximum production of leachate expected:** 9 m<sup>3</sup>/d

**Maximum theoretical biogas production expected:** 1.068

Nm<sup>3</sup>/h

## ACCESSORY EQUIPMENT

### Biogas suction system:

- 36 vertical wells for biogas collection;
- 36 secondary supply lines;
- Three main feed lines;
- Three regulation substations;
- One suction substation.

### Energy recovery system:

three internal combustion engine, 600 kW each

