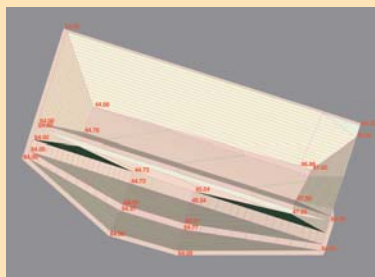
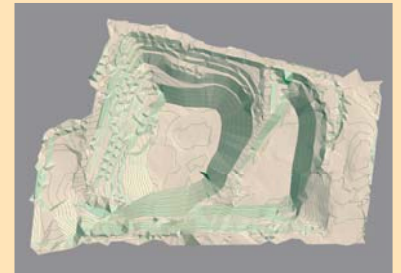


The IuT Group

# Landfill



**design & construction**

[www.theiutgroup.com](http://www.theiutgroup.com)

# SOLID WASTE MANAGEMENT

## THE COMPANY



The IuT Group and its worldwide network of companies have more than 25 years experience in developing solid waste management and treatment technologies for municipalities, urban areas and entire regions.

As an environmental technology services company we operate in a highly sensitive environment. Natural resources are limited and their sustainable use is one of the obligations we have towards future generations.

Our approach to solid waste management relies primarily on waste reduction, reuse, recycling and recovery, depending on our clients' actual needs.

We design for our clients cost-effective and environmentally friendly solid waste treatment facilities based on solutions representing a well-balanced mix of waste reduction, reuse, recycling, and recovery.

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### THE IUT GROUP'S PRODUCTS AND SERVICES:

#### Landfill technology

- Landfill design and construction
- LFG plants with cogeneration
- Sustainable landfill remediation & mining
- Landfill aeration with SMELL WELL System

#### Processing technology

- Separation technology
- Sorting technology
- RDF production

#### Biological treatment

- Aerobic treatment
- Anaerobic treatment





## OUR AIM IS TO PROVIDE SOLUTIONS:



### **DO YOU NEED TO DESIGN A NEW OR ADDITIONAL LANDFILL CELL/DEGASSING SYSTEM/LANDFILL COVER/LANDFILL MINING PROJECT?**

Design, study, analysis, carbon footprint (CDM), bill of quantities, construction supervision

### **DO YOU NEED TO CONSTRUCT A NEW LANDFILL CELL?**

Earthworks, sealing layer, leachate collection system and evaporation pond, landfill gas collection system, use for the landfill gas

### **DO YOU OPERATE A LANDFILL?**

Reclamation or partial reclamation of land, landfill cover, additional landfill degassing system, monitoring program and work, yearly landfill monitoring report, consulting for cost-effective operation

### **DO YOU OWN A CLOSED, OLD LANDFILL OR DUMP SITE?**

Remediation, mining, aeration with the patent registered SMELL WELL System, treatment of waste, closure of remediated landfill, monitoring after completion, aftercare procedure





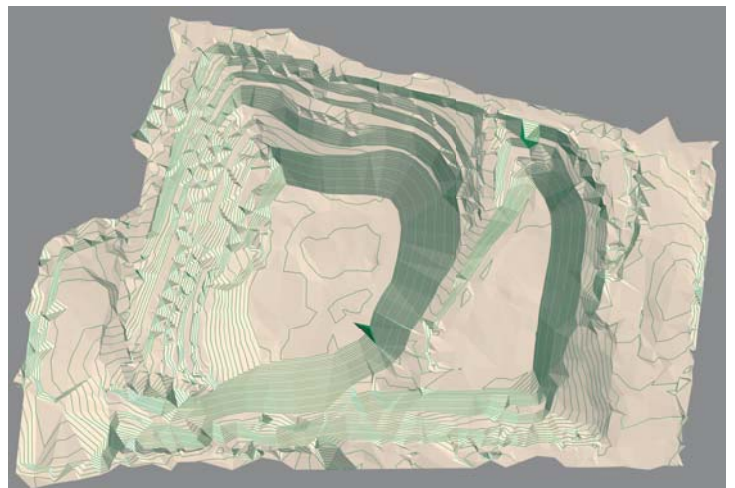
## THE SCOPE OF OUR SERVICES:



### SITE INSPECTION AND SURVEYS

We offer our clients geological surveys focusing on the geologic and hydrogeologic conditions of sites and the contamination of sub-soils and groundwater in construction areas and old hazardous sites, as well as landfill gas sampling and analysis.

- ◆ Waste sampling and analysis, waste classification
- ◆ Soil and groundwater investigation, sampling, analysis
- ◆ Contamination of the atmosphere, surface water runoff, groundwater, sub-soils
- ◆ Analysis of locally available materials for landfilling construction (sub-base, lining system, drainage system)
- ◆ Stability calculations
- ◆ Evaluation of risk factors



# LANDFILL DESIGN – PLANNING

The IUT Group offers solutions for old landfill sites as well as new sanitary landfills ranging from the first investigations to the final detailed design.

Our experience includes the detailed design of inert, non-hazardous and hazardous waste landfill sites, the design of leachate water collection systems, surface water run-off, landfill gas collection, operation and filling plans, closure plans, and the design, construction and operation of monitoring systems for water and landfill gas.

Three-dimensional digital terrain mapping allows the exact

and detailed calculation of earthworks balance levels, material requirements, free space capacity and stability based on topographical survey data sheets.

Our design work includes the preparation of landfill operation manuals, monitoring and filling plans, and plans for the required quantities of cover material.

We also provide landfill closure plans, solutions for leachate water, surface water run-off and landfill gas management. Monitoring systems for water, soil, landfill gas and groundwater complement the

package of services needed by landfill operation managers.

We offer a full-service team capable of taking the design of a facility from the functional planning stage to preliminary and detailed design, construction, commissioning, and operator training. In addition, we provide complete project management and construction management services.

In preparing our design our specialists consider the client's technological requirements and the balance required between capital engaged and operation and maintenance costs.





## PRE-DESIGN STAGE – PROJECT PREPARATION

- ◆ Feasibility study, master plan
- ◆ Complete site evaluation, risk analysis, in-place containment, impact of external conditions, regulatory requirements in waste management, EIA
- ◆ Economic analysis and business plans for project realisation and operation

## DESIGN STAGE – PLANNING

Our scope of work includes the procurement of permits, engineering work as well as the detailed design of the solutions proposed.

## REALISATION – CONSTRUCTION PHASE

- ◆ Technical and administrative support for tender procedure
- ◆ Detailed bills of quantities with cost evaluation
- ◆ Authorised technical and eco-monitoring of the construction process
- ◆ Construction and delivery plans, time schedules
- ◆ Construction site organisation and monitoring
- ◆ As built documentation



## OPERATION PHASE

- ◆ Cost-effective and environmentally friendly operation of landfill sites, water management, landfill gas management
- ◆ Annual monitoring procedure, environmental impacts of operations, evaluation of results with implementation into operating plans
- ◆ Implementation of regulatory requirements into operating processes

## POST-OPERATION PHASE – REMEDICATION AND MONITORING

- ◆ Preparatory work includes surface survey, waste composition study, geological and hydrogeological investigations
- ◆ The landfill body to be excavated is stabilised with the patented SMELL WELL System to reduce gas and odour emissions
- ◆ Excavation and transportation / site logistics
- ◆ Treatment of excavated waste in treatment plants
- ◆ Backfilling of the inert fraction



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